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Phase Two Environmental Site Assessment

1508 Thomas Argue Road
Ottawa, Ontario

GEMTEC Project: 102638.002

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Submitted to:

BigSteelBoxCorporation
100-1631 Dickson Avenue
Kelowna, British Columbia
V1T 0B5

DRAFT

Phase Two Environmental Site Assessment

1508 Thomas Argue Road
Ottawa, Ontario

March 10, 2025
GEMTEC Project: 102638.002

GEMTEC Consulting Engineers and Scientists Limited
32 Steacie Drive
Ottawa, ON, Canada
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March 10, 2025 File: 102638.002

BigSteelBox Corporation
1000-1631 Dickson Avenue
Kelowna, British Columbia
V1T 0B5

Attention: Mr. Dan Oldfield, Operations Manager, Infrastructure

Re: Phase Two Environmental Site Assessment
Proposed Lot Severance
1508 Thomas Argue Road
Ottawa, Ontario

Please find enclosed GEMTEC's Phase Two Environmental Site Assessment (ESA) per our proposal dated November 3, 2023. The Phase Two ESA was completed in general accordance with Ontario Regulation (O.Reg) 153/04, as amended, and describes the interpreted environmental conditions at the above-noted property at the time the investigation was completed.

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



Nicole Soucy, M.A.Sc., P.Eng, QP_{ESA}
Environmental Engineer
AW/NS/MK



Mike Kosiw, B.Sc., EP, $CESA_{II}$
Contaminated Sites Lead

EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by BigSteelBox Corporation to carry out a Phase Two Environmental Site Assessment (ESA) in accordance with Ontario Regulation (O.Reg.) 153/04, as amended, for the property located at 1508 Thomas Argue Road in Ottawa, Ontario (hereafter referred to as the "Site") – for which a consent to sever application has been previously granted. The Site plan is provided in Figure 1, Appendix A.

GEMTEC completed a Phase One ESA at the Site, November 2023. The findings of the Phase One ESA are provided under a separate cover entitled:

- "*Phase One Environmental Site Assessment, Proposed Lot Severance, 1508 Thomas Argue Road, Ottawa, Ontario*". Project Number 102638.002.

Based on the review of the Phase One ESA findings, a Phase Two ESA was recommended to address the two areas of potential of environmental concern (APECs) identified on the Site. The APECs identified during the Phase One ESA investigation are provided in Table 1 below.

Table 1: Summary of Areas of Potential Environmental Concern

APEC	PCA ID	Description	Area of APEC	Media Impacted	COPCs
1	30	Considering the historical development, fill of unknown quality is a potential concern.	Limited to the northwestern portion of the Site (north of the gravel roadway which is oriented east to west)	Soil	PHC F1-F4, VOCs, PAHs, Metals, and ORP
2	28	The presence of a network of historical tanks and a pump island adjacent to the Site	Limited to the northeastern portion of the Site (north of the gravel roadway)	Soil and Groundwater	PHC F1-F4, VOCs, PAHs

Notes:
PHC F1-F4 – Petroleum Hydrocarbons F1 to F4
PAHs – Polycyclic Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds
ORP – Other Regulated Parameters such as Electrical Conductivity, Sodium Adsorption Ratio, pH and Cyanide.

As part of the Phase Two ESA investigation, six boreholes (BH23-01 to BH23-06), were initially advanced using a track mounted hollow stem auger drill rig supplied and operated by CCC Group of Ottawa, Ontario. Samples of the soils encountered were recovered using a 50-millimetre diameter split spoon sampler. Three groundwater monitoring wells were advanced as part of the investigation.

A total of six soil samples and three groundwater samples were collected and analyzed for the following contaminants of potential concern (COPCs): Metals and Inorganics (M&I), which include pH, Electrical Conductivity (EC) and Sodium Adsorption Ratio (SAR), Petroleum Hydrocarbons Fractions F1-F4 (PHC F1-F4), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs).

An additional field program was completed to investigate exceedances observed during the first round. Eleven additional boreholes were advanced on Site by a track mounted drill rig supplied and operated by Strata Drilling Group of Carleton Place, Ontario. Samples collected and analyzed for pH and PAHs.

Results from the two investigation programs indicated that:

- The overburden observed at the Site during the subsurface investigation was generally described as sand and silt, with trace clay north of the gravel road while the southern section observed silty clay and more shallow depths.
- The reported concentrations of all soil and groundwater samples were compared to the Ministry of Environment Conservation and Parks (MECP) Table 2 Industrial, Commercial, Community (ICC) Site Condition Standards (SCS).
- Summary of Soil Sample results indicated that:
    - Sample BH23-04 SA3 exceeded MECP T2 SCS for Electrical Conductivity and pH;
    - Sample BH23-06 SA1 exceeded MECP T2 SCS for benz(a)anthracene, and Benzo(a)pyrene;
    - Sample BH24-109 SA1-1 exceeded MECP T2 for acenaphthylene and benzo(a)pyrene; and,
    - Sample BH23-02 SA3, BH23-03 SA5, BH23-05 SA2, and BH23-105 SA2 met the MECP Table 2 SCS for all parameters analyzed.
- As per O. Reg. 153/04, s. 48 (2); O. Reg. 407/19, s. 19 (2), averaging was applied to the following parameters:
    - pH at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 8.63, and therefore would not be considered an exceedance in this location on the Site;
    - Electrical Conductivity at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 1.01, and therefore would not be considered an exceedance in this location on the Site;
    - Acenaphthylene at BH24-109 SA1-1 was averaged with BH24-108 SA1-1, BH24-108 SA1-101, BH24-109 SA1-1 and BH23-06 SA1 resulting in value of 0.12, and therefore would not be considered an exceedance in this location on the Site;

    - Benz(a)anthracene at BH23-06 SA1 was averaged with BH24-106 SA1-1, BH24-108 SA1-1, BH24-108 SA1-101 and BH24-109 SA1-1 resulting in value of 0.56, and therefore would not be considered an exceedance in this location on the Site; and
    - Benzo(a)pyrene at BH23-06 SA1 and BH24-109 SA1-1 was averaged BH24-106 SA1-1, BH24-108 SA1-1, and BH24-108 SA1-101 resulting in value of 0.29, and therefore would not be considered an exceedance in this location on the Site.
- The reported concentrations of all groundwater samples met the Table 2 ICC SCS; and,
- No exceedances of O.Reg. 347/558 Schedule 4 were identified in the TCLP sample submitted.

Based on the above-noted findings, no additional work is recommended at this time.

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by BigSteelBox Corporation to conduct a Phase Two Environmental Site Assessment (ESA) in accordance with Ontario Regulation (O.Reg) 153/04, as amended, for the property located at 1508 Thomas Argue Road, in Ottawa, Ontario (hereafter referred to as the "Site") – for which a consent to sever application has been previously granted.. The Site plan is provided on Figure A.1, Appendix A.

Plans are being prepared to support a site plan control application with the City of Ottawa. The following is known about the Site:

- The existing parcel of land from which the lot will be severed is currently located on the east side of Thomas Argue Road just north of the intersection of Wingover Private at 1508 Thomas Argue Road;
- The proposed site is trapezoidal in shape with plan dimensions of about 100 metres by 140 metres (approximately 1.2 hectares in size);
- Based on digital aerial imagery, the Site two has two small buildings on the northeast perimeter and a gravel roadway through the northern portion; and,
- Based on the information provided, the proposed land will be used for a commercial development that will include a Storage Yard with an associated Mini Storage business. The proposed office building will be made our of a converted shipping container, placed on the grade of the site (i.e., no basement level).

1.1 Site Description

The Site consists of a land parcel approximately 1.2 hectares in size and was occupied by two vacant structures including an office building, 'Borden Building' and a material storage building that were demolished prior to the Phase Two investigation. Pertinent details of the Site are provided in the table below:

Table 1.1: Summary of Phase Two Property

Detail	Source / Reference	Information
Legal Description	Service Ontario Parcel Register	PART LOTS 12, 13, 14 AND 15, CONCESSION 3, HUNTLEY, PART LOTS 13 AND 14, CONCESSION 4, HUNTLEY, PART OF THE ROAD ALLOWANCE BETWEEN CONCESSION 3 AND 4, (AS CLOSED), HUNTLEY; SUBJECT TO AN EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1043 AS IN OC2117895; TOGETHER WITH AN EASEMENT OVER PART BLOCK 16, 4M-1511, PARTS 12 AND 14, PLAN 4R-33191 AS IN OC2343117; TOGETHER WITH AN EASEMENT OVER BLOCK 9, PLAN 4M1511 AS IN OC2345053; TOGETHER WITH AN EASEMENT OVER PART BLOCK 15, PLAN 4M-1511, PART 9, PLAN 4R-33191 AND PART BLOCK 16, PLAN 4M-1511, PART 10, PLAN 4R-33191 AS IN OC2374821; SUBJECT TO AN

Detail	Source / Reference	Information
		EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1093 AS IN OC2534676; SUBJECT TO AN EASEMENT OVER PART 2, PLAN 34R-34929 IN FAVOUR OF PART LOT 14, CONCESSION 3, HUNTLEY, PARTS 1 AND 3, PLAN 4R-34929 AS IN OC2573214; SUBJECT TO AN EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1100 AS IN OC2622174; CITY OF OTTAWA[1]
Municipal Address	Client	1508 Thomas Argue Road Ottawa, ON K0A 1L0
Parcel Identification Number (PIN)	Service Ontario Parcel Register	04538-1085 (LT)
Current Owner	Service Ontario Parcel Register	1514947 ONTARIO INC.
Site Area	GeoOttawa Mapping	3.11 acres (1.26 ha)
Current Zoning	GeoOttawa Mapping	T1B – Air Transportation Facility Zone
Centroid Lat/Long Co-ordinate	Google Earth Pro	45.282176, -75.618211

Note:

1. The legal description provided for the Site also includes the legal description for 1500 Thomas Argue Road, a much larger land parcel.

The location of the Site is shown on Figure A.1, Appendix A.

1.2 Current and Proposed Future Uses

The Site is currently a relatively flat, vacant grassed area with a gravel roadway (oriented east to west) that transects the Site. The existing parcel of land from which the lot will be severed is currently located on the east side of Thomas Argue Road, just north of the intersection of Wingover Private at 1508 Thomas Argue Road. The proposed site is trapezoidal in shape with plan dimensions of about 100 metres by 140 metres (approximately 1.3 hectares in size). It is GEMTEC's understanding that the Site is to be developed for future commercial use that will include an office building, drive lanes, containers, and a mini storage area. No details on the proposed office building were available at this time, however, it is assumed that it will be one storey in height and slab on grade construction (i.e., no basement level).

1.3 Applicable Site Condition Standards

The selection of applicable provincial standards for comparison to soil analytical data was based on a review of various Site characteristics.

1.3.1 Bulk Soil and Groundwater Standards

Site Condition Standards (SCS) were selected for the Site in accordance with the requirements of O.Reg. 153/04, Record of Site Condition – Part XV.1 of the Environmental Protection Act (O. Reg. 153/04, Ministry of Environment and Climate Change (MECP), October 31, 2011), as amended.

The relevant Site characteristics were considered in the selection of the applicable regulatory criteria are as follows:

- Land Use: The land use for the Site is considered industrial/commercial/community.
- Soil Texture: Based on visual observations made during the field program and grain size analysis completed on samples submitted as part of the geotechnical investigation completed concurrently, coarse grained soils are present on-Site. Coarse textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter”. Accordingly, coarse textured soils have been considered applicable for the Site.
- Soil Thickness and Proximity to Water Body: For the purposes of selection of the appropriate provincial standard, Section 43.1 of O. Reg.153/04 identifies specific SCS be applied if any of the following circumstances exist:

  (a) The property is a shallow soil property (i.e., at least 1/3 or more of the property area contains less than 2 metres depth of overburden); or

  (b) The property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

  Based on a review of the surficial and bedrock geology maps of the area, and results obtained from the intrusive investigation, the Site is not considered a shallow soil property (as bedrock at depth of 2.0 metres or less was not identified across the majority of the Site). The property does not include a water body nor is it located within 30 metres of a water body.

- Groundwater Use: Potable water in the area of the Site is supplied by the City of Ottawa. Through review of the Ontario Water Well records, potable domestic wells were identified within 250 m the of the Site. Accordingly, the Site has been considered to be situated within a potable water well zone.
- Environmentally Sensitive Site: Environmental sensitivity is considered in the selection of appropriate provincial standards for comparison. Section 41 of O.Reg.153/04 states that a property is to be considered environmentally sensitive if any of the following are applicable:

  (1) the property is,

  (i) within an area of natural significance;

(ii) includes or is adjacent to an area of natural significance or part of such an area; or

(iii) includes land that is within 30 metres of an area of natural significance or part of such an area;

(2) the soil at the property has a pH value as follows:

(i) for surface soil, less than 5 or greater than 9;

(ii) for sub surface soil, less than 5 or greater than 11; or

(3) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of Site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property.

Through a review of samples submitted for analysis during the environmental investigation one of the samples had a pH value of 12.5, however, additional samples were taken at this Site and averaged as per O.Reg 153/04 – following averaging the pH values were confirmed to be within normal range. Therefore, the Site is not considered to be an environmentally sensitive Site.

Based on the review of Site characteristics, the following provincial standards were considered to be applicable to the environmental results obtained during the investigation:

- Soil: MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. ***Table 2:*** *Full Depth Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) land use.*
- Groundwater: MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. ***Table 2:*** *Full Depth Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) land use.*

1.3.2 Soil Waste Classification for Off-Site Disposal

Considering disposal of excess soils off-Site, if required, the following provincial standards were considered to be applicable to the soil quality results obtained during the environmental investigation:

- Off-Site Disposal as non-hazardous waste:
  - MECP Ontario Regulation (O.Reg.) 347/558 Schedule 4, Leachate Quality Criteria, to evaluate waste classification (hazardous or non-hazardous waste) for on-Site soils.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The Site has a relatively flat topography and is at an elevation of approximately 114 metres (m) above sea level (asl). Surrounding local topography generally slopes gradually downwards towards Carp River which is located approximately 2.1 kilometres (km) north of the Site.

Surficial and bedrock geology maps of the Canada indicate that the overburden in Phase One Study Area generally consists of fine-textured glaciomarine deposits (i.e., silt and clay, minor sand and gravel) with a thickness ranging from 25 to 50 m. The bedrock is mapped as shale, limestone, dolostone, siltstone of Georgian Bay Formation, Blue Mountain Formation, and Billings Formation.

Groundwater flow often reflects topographic features and typically flows towards nearby lakes, rivers, and wetland areas. Based on the topography and hydrogeological features, it is anticipated that local shallow groundwater would flow northwards towards the Carp River.

2.2 Past Investigations

GEMTEC completed a Phase One ESA at the Site in November 2023. The findings of the Phase One ESA are provided under separate covers entitled:

- "DRAFT *Phase One Environmental Site Assessment, Proposed Lot Severance, 1508 Thomas Argue Road, Ottawa, Ontario*". File Number 102638.002.

Based on the review of the Phase One ESA findings, a Phase Two ESA was recommended to address the following two areas of potential of environmental concern (APECs) identified on the Site.

Table 2.1: Summary of Areas of Potential Environmental Concern

APEC	PCA ID	Description	Area of APEC	Media Impacted	COPCs
1	30	Considering the historical development, fill of unknown quality is a potential concern.	Limited to the northwestern portion of the Site (north of the gravel roadway which is oriented east to west	Soil	PHC F1-F4, VOCs, PAHs, Metals, and ORP
2	28	The presence of a network of historical tanks and a pump island adjacent to the Site.	Limited to the northeastern portion of the Site (north of the gravel roadway)	Soil and Groundwater	PHC F1-F4, VOCs, PAHs

Notes:
PHC F1-F4 – Petroleum Hydrocarbons F1 to F4
PAHs – Polycyclic Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds
ORP – Other Regulated Parameters such as Electrical Conductivity, Sodium Adsorption Ratio, pH and Cyanide.

GEMTEC has completed environmental work in the vicinity of the Site and the information is summarized below:

- Groundwater was measured between 0.54 and 0.71 m below the ground surface (bgs);
- Fill material was encountered in one borehole and no signs of staining or odors were identified;
- The subsurface conditions at the Site were identified as topsoil (brown silty sand with rootlets) underlain by brown clayey silt; and,
- No signs of staining or odor were reported. Non detect values were reported for volatile organics compounds and petroleum hydrocarbons F1-F4.

3.0 OBJECTIVE AND SCOPE

3.1 Study Objectives and Scope of Work

The objective of the work proposed was to provide subsurface information relative to the potential environmental impacts related to the identified APECs (GEMTEC, 2023). Environmental sampling was carried out to characterize the quality of soil and groundwater within the Site APECs. Any deviations from the proposed scope of work have been noted. The investigation was completed in general accordance with O.Reg. 153/04, to support a Site plan application with the City of Ottawa.

Two environmental sampling programs were carried out on Site, the first to characterize the soil and groundwater quality within APECs 1 and 2 on the Site, the second field program was completed to investigate exceedances observed during the first set of results.

The primary scope of work as outlined in GEMTEC's proposal included the following:

- Advancement of three boreholes to 6 meters below ground surface (mbgs) with monitoring wells via truck mounted drill rig to enable collection of soil and groundwater quality samples, and triangulate groundwater flow direction;
- Advancement of three boreholes to 1.5 mbgs to enable collection of soil and quality samples ;
- Submission of six soil samples for laboratory analysis of one or more of the COPCs identified in the Phase One ESA;
- Submission of two groundwater samples for laboratory analysis of the COPCs identified in the Phase One ESA;
- Submission of one toxicity characteristic leaching procedure (TCLP) soil sample to support soil disposal;

- Submission of one duplicate soil sample, one groundwater duplicate sample, one groundwater field plan, and one groundwater trip blank sample for the same COPCs as part of the field program Quality Assurance / Quality Control (QA/QC) requirements;

The supplemental soil sampling program included:

- Advance 11 environmental boreholes adjacent to borehole 23-04, to depths of approximately 3 metres below the ground surface, into the clay layer, for the collection of soil samples;
    - Three of the boreholes will be completed to investigate the elevated pH value at borehole 23-04. These boreholes will also be used to investigate possible PAH impacts, should the elevated pH values be confirmed;
    - Four boreholes will be advanced within about 2 metres of borehole 23-06 to investigate the PAH impacts;
    - Four additional boreholes will be advanced at a distance of approximately 7.5 metres from borehole 23-06 and will be used to delineate the extent of PAH exceedances. Samples from these locations will only be submitted if the PAH soil quality results from the boreholes advanced within 2 metres of borehole 23-06 identify impacts; and,
    - Two soil samples (one from each stratigraphic unit) will be submitted for grain size analysis.
- Advanced two geotechnical boreholes along Thomas Argue Road to a depth of about 3 metres below the existing ground surface.

3.2 Media Investigated

Boreholes and monitoring wells were advanced on Site during completion of the original field program to assess if soil and groundwater conditions at selected test locations satisfied the applicable MECP SCS for the investigated Contaminants of Potential Environmental Concern (COPCs). COPCs identified in the Phase One ESA (GEMTEC, 2023) included: metals and inorganics (M&I) – including Other Regulated Parameters (ORPs), petroleum hydrocarbon four fractions (PHC F1-F4), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs). However, it is noted that upon review of the soil quality results obtained from the initial field investigation the COPCs list was significantly reduced to specific soil stratigraphic zones in certain areas of the Site.

The groundwater investigation program consisted of development of the newly installed wells, the measurement of depth to groundwater table, and collection of groundwater samples for laboratory analysis of the COPCs. Where volume and yield allowed, groundwater field duplicate samples were collected and analyzed for QA/QC purposes. Groundwater trip/field blanks for volatiles was also collected as part of the QA/QC program.

As no water bodies are present on the Site, no sediment or surface water sampling was conducted as part of the investigation.

3.3 PCAs, APECs and COPCs

Based on the review of the Phase One ESA (GEMTEC, 2023) 9 PCAs were identified within the Phase I ESA study area. GEMTEC identified 2 APECs at the Site resulting from the on-Site and off-Site PCAs with a potential to result in contamination to soil and/or groundwater on the Site.

3.4 Impediments and Deviations from Sampling and Analysis Plan

No impediments or deviations were identified through the completion of the field investigations.

4.0 INVESTIGATION METHODOLOGY

4.1 General

Prior to initiating the intrusive investigation, underground utilities were cleared by USL-1 Underground Service Locators of Ottawa, Ontario to identify the location of buried utilities on-Site. Utilities including telephone, gas, hydro, municipal services and private utilities were cleared through these services.

4.2 Borehole Advancement

The borehole investigation and soil sampling program were carried out on November 20 and 21, 2023. A total of six boreholes (BH23-01 through BH23-06) were advanced on-Site by a track mounted hollow stem auger drill rig supplied and operated by CCC Group of Ottawa, Ontario. Due to exceedances of pH and/or PAHs at boreholes BH23-04 and BH23-06, supplemental sampling was completed on February 27, 2024. 11 additional boreholes were advanced on Site by a track mounted drill rig supplied and operated by Strata Drilling Group of Carleton Place, Ontario. The drilling programs were supervised by GEMTEC staff.

4.3 Monitoring Well Installment

Three groundwater monitoring wells were installed by CCC Group of Ottawa, Ontario (BH23-01, BH23-02 and BH23-03). Monitoring wells were installed with 38 mm diameter schedule 40, polyvinyl chloride (PVC) well screens and riser pipe, which were brought to the Site in sealed plastic. The annular space was filled with silica filter sand to at least 0.3 m above the well screen. The monitoring well was sealed with bentonite seal from the top of the sand pack and completed with a stick up well protective well casing. The riser pipe was sealed with a J-plug.

4.4 Field Methodology

4.4.1 Field Screening Measurements

During both investigations, soil samples were screened in the field using an RKI Eagle 2, which operates as a photoionization detector (PID) and combustible gas indicator (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 Record of Borehole Sheets (Appendix B).

The PID was equipped with a 10.6 electron-volt (eV) lamp, which was calibrated with a known concertation 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. Site calibration of the field instrument was completed by GEMTEC field technicians each day according to the manufacturer's instructions.

4.4.2 Soil Sampling

During both intrusive investigations, soil samples were recovered at regular intervals during drilling advancement following the *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (MOE, 1996). Soil samples were recovered at regular intervals during drilling as well as when changes in soil texture, colour or evidence of contamination were observed. The soil samples were examined for texture and screened for visual and olfactory evidence of contamination in the field. Clean gloves were worn and changed between each sample to prevent cross contamination.

Borehole locations were identified as BHX -Y SAZ where X indicates the year the hole was advanced, Y is the hole identifier, and Z is the sample identifier. For example, BH23-02 SA1 indicates the borehole was constructed in 2023 and is identified as sample number 1 of borehole 2.

Soil samples were inspected in the field for visual, tactile and olfactory evidence of impact, and following a period of equilibration to ambient temperature, soil sample vapours were screened using a combustible gas detector (RKI Eagle combustible gas detector calibrated to hexane standards, with methane elimination enabled). The results of the soil vapour readings are provided on the Record of Borehole Sheets in Appendix B.

Soil samples were selected based on soil vapour concentrations, visual, olfactory and tactile evidence of impact, and proximity to APECs considering the pertinent COPCs. For soil samples collected for the analysis of PHC F1-F4 and VOCs, a core of soil was placed in a pre-weighed laboratory-prepared vial containing a measured amount of methanol. Samples were submitted to AGAT Laboratories of Ottawa, Ontario (a CALA-certified analytical laboratory), under standard chain-of-custody protocols and in accordance with GEMTEC QA/QC procedures. The soil samples submitted for analysis, during both intrusive investigations completed, are summarized in Table 4.1.

Table 4.1: Summary of Soil Samples Submitted for Laboratory Analysis

Location	Sample	Depth of Sample (mbgs)	Soil Description	Vapour Readings	Laboratory Analyses
BH23-02 SA3	SA3	1.22-1.83	Light brown sandy silt, trace grey silty sand	HEX: 5 IBI: 0	VOC, PAH, PHCs F1-F4
BH23-03 SA5	SA5	2.44-3.05	Grey silty clay	HEX: 50 IBI: 0	VOC, PAHs, PHCs F1-F4
BH23-04 SA3	SA3	1.22-1.83	Light brown sandy silt, trace clay	HEX: 25 IBI: 0	M&I, ORP, VOC, PAHs, PHCs F1-F4
BH23-05 SA2	SA2	0.61-1.22	Brown sandy silt	HEX: 10 IBI: 0	M&I, ORP, VOC, PAH, PHCs F1-F4
BH23-105 SA2	SA2	0.61-1.22	Grey silty clay	HEX: 10 IBI: 0	M&I, ORP, VOC, PAHs, PHCs F1-F4
BH23-06 SA1	SA1	0.05–0.61	Brown sandy silt	HEX: 30 IBI: 0	M&I, PAHs, BTEX, PHCs F1-F4
BH24-103	SA2-1	1.52-2.13	Grey, brown silty clay, with sand seams	HEX:105 IBI: 0	EC, SAR
BH24-103	SA2-101	1.52-2.13	Grey, brown silty clay, with sand seams	HEX: 105 IBI: 0	EC, SAR
BH24-104	SA2-1	1.52-1.98	Grey, brown silty clay, with sand seams	HEX: 10 IBI: 0	EC, SAR
BH24-105	SA2-1	1.52-1.98	Grey, brown silty clay,	HEX: 0	EC, SAR

Location	Sample	Depth of Sample (mbgs)	Soil Description	Vapour Readings	Laboratory Analyses
			with sand seams	IBI: 0	
BH24-106	SA1-1	0.00-0.61	Dark brown silty sand, with rootlets	HEX: 5 IBI: 0	PAHs
BH24-107	SA1-1	0.00-0.61	Dark brown silty sand, with rootlets	HEX: 5 IBI: 0	PAHs
BH24-108	SA1-1	0.00-0.61	Dark brown silty sand, trace clay	HEX: 10 IBI: 0	PAHs
BH24-108	SA1-101	0.00-0.61	Dark brown silty sand, trace clay	HEX: 10 IBI: 0	PAHs
BH24-109	SA1-1	0.00-0.61	Dark brown silty sand, with rootlets	HEX: 5 IBI: 0	PAHs

Notes: mbgs – metres below ground surface
PAH – Polycyclic aromatic Hydrocarbons
PHC F1-F4 – Petroleum Hydrocarbons Four Fractions
VOCs – Volatile Organic Compounds
EC- Electrical Conductivity
SAR – Sodium Adsorption Ratio
M&I – Metals and Inorganics
ORP – Other Regulated Parameters such as Electrical Conductivity, Sodium Adsorption Ratio, pH and Cyanide

One composite TCLP sample was also submitted for analytical analyses of Metals, Benzo[a]pyrene, Volatile Organic Compounds, and Flashpoint.

4.4.3 Groundwater Sampling

Following drilling, the monitoring wells were developed on November 28, 2023, by removing ten well volumes, using dedicated Waterra® tubing and inertial pumps. Each monitoring well was developed by removing a minimum of three well volumes or to dry three times from each location shortly after wells had been installed by the drilling contractor. Well development activities were performed using dedicated Waterra inertial hand pumps. Groundwater samples were subsequently collected, after allowing for a period of aquifer stabilization, using low-flow sampling techniques to allow for the collection of samples which were representative of formation conditions. Groundwater samples were collected from the monitoring wells directly into laboratory supplied bottles using a peristaltic pump with disposable tubing.

The depth to water was measured using an electronic water level tape prior to sampling. The monitoring well was sampled using low flow techniques using a GeoPump peristaltic pump. Physical parameters pH, temperature, conductivity (EC), dissolved oxygen (DO), and oxidation redox potential (ORP) are monitored with samples collected upon stabilization. During purging and sampling, qualitative observations were made of water colour, clarity, and the presence of hydrocarbon sheen or odour.

Groundwater samples were placed in laboratory-prepared containers and stored on ice in a cooler until delivery to the analytical laboratory under chain-of-custody procedures. A summary of the groundwater samples submitted for analysis is presented in Table 4.2.

Table 4.2: Summary of Groundwater Samples Submitted for Laboratory Analysis

Monitoring Well/ Sample ID	Well Depth (m bgs)	Soil Description of Screened Interval	Evidence of Petroleum Hydrocarbon Product	Laboratory Analyses
MW23-02	6.00	Overburden	None	VOCs, PAHs, PHCs F1-F4
MW23-03	6.00	Overburden	None	VOCs, PAHs, PHCs F1-F4
MW23-03 Dup	6.00	Overburden	None	VOCs, PAHs, PHCs F1-F4
Trip Blank	-	-	-	VOCs, PHCs F1-F4
Field Blank	-	-	-	VOCs, PHCs F1-F4

Notes:

PHC F1-F4 – Petroleum Hydrocarbons Four Fractions
VOCs – Volatile Organic Compounds
M&I – Metals and Inorganics
PAHs – Polyaromatic Hydrocarbons
ORP – Other Regulated Parameters such as Electrical Conductivity, Sodium Adsorption Ratio, pH and Cyanide

4.5 Laboratory Analytical Program

All samples were stored and transported in laboratory supplied coolers with ice. Soil samples were submitted to AGAT Laboratories Ltd. (AGAT) of Ottawa, Ontario, for analysis of the COPCs. AGAT 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. The laboratory meets the ISO/IEC 17025 (2017) standards and employs 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.

4.6 Surveying

The borehole locations were selected by GEMTEC personnel during completion of the field investigations, and were constrained by accessibility and underground service locations. The ground surface elevations at the location of the boreholes (ground surface) and monitoring wells (with elevations from the PVC risers) were determined using a Trimble R10 global positioning system. The coordinates of the boreholes are referenced to NAD83 (CSRS) Epoch 2010, vertical network CGVD28 and are considered to be accurate within the tolerance of the instrument. The locations of the boreholes and monitoring wells advanced on-Site are shown on Figure A.1 in Appendix A.

4.7 Quality Assurance / Quality Control Program

Quality assurance and quality control of the soil samples was maintained by adherence to the following:

- The field investigation was completed under GEMTEC standard operating procedures (SOPs) for intrusive investigations;
- 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 and groundwater 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;
- A VOCs QA/QC blank was transported to the project limits during the groundwater sampling event, and analyzed at the laboratory;
- 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.

5.0 RESULTS

5.1 Site Stratigraphy

The surficial geology of the Phase Two Property was visually observed and logged during the borehole program. The soil conditions observed in the boreholes advanced as part of this investigation are provided on the Record of Borehole Sheets contained in Appendix B. The Record of Borehole Sheets indicate the subsurface conditions encountered at the specific test

locations only. Boundaries between zones on the logs are often not distinct, but rather are transitional and have been interpreted based on observations by trained GEMTEC field personnel. The precision with which subsurface conditions are indicated depends on the method of drilling, the frequency and recovery of samples, the method of sampling, and the uniformity of the subsurface conditions. Subsurface conditions at other than the test locations may vary from the conditions encountered in the boreholes. The following presents an overview of the subsurface conditions encountered in the boreholes advanced as part of this investigation.

Soil encountered in the holes generally consisted of brown sand, gravel, silt and clay (topsoil) underlain by brown sandy silt to silty sand with trace gravel. Grey silty clay was observed at greater depths.

5.2 Groundwater Elevations and Flow Direction

Groundwater elevations presented below were calculated based on depth to groundwater measurements collected on December 5, 2023. Groundwater depths were measured directly from the top of each monitoring well riser using an electronic contact water level tape. Depth measurements were converted to groundwater elevations by subtracting the measured depth from the elevation of the top of each monitoring well riser.

Table 5.1: Summary of Groundwater Levels

Borehole	Groundwater Depth (metres)	Groundwater Elevation (metres)	Date of Reading
23-01	5.7	105.3	December 5, 2023
23-02	0.8	110.6	December 5, 2023
23-03	0.7	110.5	December 5, 2023

Based on the groundwater elevations presented in Table 5.1 above and on Figure A.4 in Appendix A, groundwater flow direction within the shallow bedrock beneath the Site is primarily directed in a south-southwest direction.

5.3 Analytical Results

5.3.1 Bulk Soil Quality Results

Soil samples were selected for laboratory analysis based on visual, olfactory and tactile evidence of impact. A total of fifteen soil samples were submitted to AGAT for analysis of some or all of the COPCs including M&I, VOCs, PAHs, and PHCs F1-F4.

The exceedances as compared to the MECP Table 2 ICC SCS are summarized below:

- Sample BH23-04 SA3 exceeded MECP T2 SCS for Electrical Conductivity and pH;

- Sample BH23-06 SA1 exceeded MECP T2 SCS for benz(a)anthracene, and Benzo(a)pyrene;

- Sample BH24-109 SA1-1 exceeded MECP T2 for acenaphthylene and benzo(a)pyrene; and,

- Sample BH23-02 SA3, BH23-03 SA5, BH23-05 SA2, and BH23-105 SA2 met the MECP Table 2 SCS for all parameters analyzed.

A full set of soil results from the analytical sampling program are presented in Appendix C, Table C1. The laboratory certificates of analysis are provided in Appendix D.

5.3.1.1 Averaging

As per O. Reg. 153/04, s. 48 (2); O. Reg. 407/19, s. 19 (2) if two or more samples of soil are taken from sampling points at the same sampling location that are at the same depth under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances. Based on this consideration, averaging was applied to the following parameters:

- pH at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 8.63, and therefore would not be considered an exceedance in this location on the Site;

- Electrical Conductivity at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 1.01, and therefore would not be considered an exceedance in this location on the Site;

- Acenaphthylene at BH24-109 SA1-1 was averaged with BH24-108 SA1-1, BH24-108 SA1-101, BH24-109 SA1-1 and BH23-06 SA1 resulting in value of 0.12, and therefore would not be considered an exceedance in this location on the Site;

- Benz(a)anthracene at BH23-06 SA1 was averaged with BH24-106 SA1-1, BH24-108 SA1-1, BH24-108 SA1-101 and BH24-109 SA1-1 resulting in value of 0.56, and therefore would not be considered an exceedance in this location on the Site; and

- Benzo(a)pyrene at BH23-06 SA1 and BH24-109 SA1-1 was averaged BH24-106 SA1-1, BH24-108 SA1-1, and BH24-108 SA1-101 resulting in value of 0.29, and therefore would not be considered an exceedance in this location on the Site.

5.3.2 Leachate Soil Quality Results

No exceedances of O.Reg. 347/558 Schedule 4 were identified in the TCLP sample submitted.

The complete analytical results are included in Appendix C, Table C2. The laboratory certificate of analysis is provided in Appendix D.

5.3.3 Groundwater Quality Results

Two groundwater samples were submitted for analysis in addition to one duplicate sample, a field blank sample, and trip blank sample. A total of five groundwater samples were submitted to AGAT for analysis for some of all of the COPCs including VOCs, PAHs, and PHCs F1-F4. Groundwater samples met the applicable MECP Table 2 ICC SCS for all parameters analyzed.

A full set of groundwater results from the analytical sampling program are presented in Appendix C, Table C3. The laboratory certificate of analysis is provided in Appendix D.

5.4 Quality Assurance / Quality Control

5.4.1 Blind Field Duplicates

A quality assurance/quality control (QA/QC) program was implemented during the investigation. The QA/QC program consisted of the use of industry standard field protocols and the collection of blind field duplicates. Blind duplicates are submitted for laboratory analysis to evaluate laboratory precision and the field sampling and handling procedures, in addition to sample homogeneity. The relative percent difference (RPD) is:

$$RPD = \frac{|x_1 - x_2|}{x_m}$$

x_1 initial sample results
x_2 duplicate sample results
x_m mean of x_1, x_2

It is used to assess the validity of the field and laboratory analytical procedures. Calculations of the 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 concentrations in the sample and its field duplicate are greater than five times the laboratory reportable detection limit (RDL).

Three parent - duplicate soil sample sets and one parent-duplicate groundwater set was completed as part of the Phase II ESA investigation. One parent -duplicate soil set was collected as part of the Updated Phase II ESA investigation. The RPDs were calculated for all parameters where the original and duplicate sample concentrations exceeded five times the reportable detection limits (RDL). The RPD value ranges for parent – duplicate sets were as follows:

Soil Sample Duplicates

- BH23-05 SA2 & BH23-105 SA2

- All of the calculated RPDs were within the acceptable range for soils with the exception of pH, EC, and nickel (MOE, 2011), despite exceeding the MECP alert criteria, the values themselves did not surpass the levels outlined in MECP Table 2 SCS.

- BH24-103 SA2-1 & BH24-103 SA2-101
  - All of the calculated RPDs were within the acceptable range for soils with the exception of EC (MOE, 2011), despite exceeding the MECP alert criteria, the values themselves did not surpass the levels outlined in MECP Table 2 SCS.

- BH24-108 SA1-1 & BH24-108 SA1-101
  - All of the calculated RPDs were within the acceptable range for soils with the exception of fluoranthene, pyrene and chrysene (MOE, 2011). This variability is likely due to the natural heterogeneous nature of soil (MOE, 2011).

However, despite exceeding the MECP alert criteria, the values themselves did not surpass the levels outlined in MECP Table 2 SCS. Consequently, the data remains reliable for interpretation and assessment purposes.

Groundwater Sample Duplicates

- MW23-02 & MW23-102
  - RPDs could not be calculated as all analytical results were non-detect.

5.4.2 QA/QC blanks

Trip/Field blanks are samples that are transported to the Site in the same shipping containers used for the transport of the collected groundwater samples and prepared in the laboratory or field using distilled water supplied by the lab. The analysis of blanks is completed to determine if sample collection, shipping or storage procedures have possibly influenced the analytical results. Three groundwater blanks were collected as part of the field program.

The concentration of all parameters analyzed were less than the laboratory reportable detection limits in the blank samples. These results indicate that the data quality is considered reliable, with no evidence of cross-contamination during groundwater sample transport to the laboratory.

5.4.3 Analytical Laboratory QA/QC

The analytical laboratories (i.e, AGAT and Paracel) completed all analysis in accordance with internal laboratory QA/QC which includes standardized analytical methods and procedures, in accordance with O.Reg 153/04, as amended. GEMTECs review of AGAT's QA/QC notes indicate no indications of internal QA/QC issues. GEMTECs review of Paracel's QA/QC notes indicate no indications of internal QA/QC issues.

5.4.4 QA/QC Summary

Based on the measures discussed above, considering the inherent heterogeneity of soil, sample collection and handling protocols are considered acceptable and associated analytical results are considered reliable. The sample collection methods and duplicates do not suggest inconsistencies in the field collection, transport, or in the laboratory analysis methods.

6.0 PHASE TWO CONCEPTUAL SITE MODEL

The Phase Two ESA conceptual Site model (CSM) is presented in the following sections.

The Phase Two CSM was prepared in accordance with Schedule E, Part V, Table 1, Section 6, of Ontario Regulation 153/04 and is described in the text below and in the following figures:

Figure A.1 Phase Two Property and Phase One Study Area;
Figure A.2 Borehole and Monitoring Well Location Plan;
Figure A.3 Soil Quality Results; and,
Figure A.4 Groundwater Quality Results, Groundwater Elevations and Inferred Flow.

6.1 Property Description and History

The Site consists of a land parcel approximately 1.3 hectares in size and was occupied by two vacant structures including an office building, 'Borden Building' and a material storage building that were demolished prior to the Phase Two investigation. The Site is a relatively flat, vacant grassed area that with a gravel roadway that transects the Site. The Phase Two Property is currently owned by 1514947 ONTARIO INC. The contact person for the Site is Mr. Josh Blockhuis, Project Manager of Sheldon Creek Developments.

Pertinent details of the Site are provided in the table below:

Table 6.1: CSM – Phase Two Property Details

Detail	Source / Reference	Information
Legal Description[1]	Service Ontario Parcel Register	PART LOTS 12, 13, 14 AND 15, CONCESSION 3, HUNTLEY, PART LOTS 13 AND 14, CONCESSION 4, HUNTLEY, PART OF THE ROAD ALLOWANCE BETWEEN CONCESSION 3 AND 4, (AS CLOSED), HUNTLEY; SUBJECT TO AN EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1043 AS IN OC2117895; TOGETHER WITH AN EASEMENT OVER PART BLOCK 16, 4M-1511, PARTS 12 AND 14, PLAN 4R-33191 AS IN OC2343117; TOGETHER WITH AN EASEMENT OVER BLOCK 9, PLAN 4M1511 AS IN OC2345053; TOGETHER WITH AN EASEMENT OVER PART BLOCK 15, PLAN 4M-1511, PART 9, PLAN 4R-33191 AND PART BLOCK 16, PLAN 4M-1511, PART 10, PLAN 4R-33191 AS IN OC2374821; SUBJECT TO AN EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1093 AS IN OC2534676; SUBJECT TO AN EASEMENT OVER PART 2,

Detail	Source / Reference	Information
		PLAN 34R-34929 IN FAVOUR OF PART LOT 14, CONCESSION 3, HUNTLEY, PARTS 1 AND 3, PLAN 4R-34929 AS IN OC2573214; SUBJECT TO AN EASEMENT OVER PART 9, PLAN 4R-30836 IN FAVOUR OF OCCP1100 AS IN OC2622174; CITY OF OTTAWA
Municipal Address	Client	1508 Thomas Argue Road Ottawa, ON K0A 1L0
Parcel Identification Number (PIN)	Service Ontario Parcel Register	04538-1085 (LT)
Current Owner	Service Ontario Parcel Register	1514947 ONTARIO INC.
Site Area	GeoOttawa Mapping	3.11 acres (1.26 ha)
Current Zoning	GeoOttawa Mapping	T1 – Air Transportation Facility Zone
Centroid Lat/Long Co-ordinate	Google Earth Pro	45.282176, -75.618211

Note:
1. The legal description provided for the Site also includes the legal description for 1500 Thomas Argue Road, a much larger land parcel.

The location of the Site is shown on Figure A.1, Appendix A.

6.2 Current and Proposed Future Uses

The Site consists of a land parcel with an approximate area of 1.3 hectares. Two structures located on the Site were recently demolished prior to the start of the Phase Two ESA investigation. A gravel roadway (oriented east to west) transects the Site. The southern portion of the land parcel is grassed and undeveloped. It is GEMTEC's understanding that the Site is to be developed for future commercial land use.

The Site has a relatively flat topography and is at an elevation of between approximately 114 metres above sea level. Surrounding topography is relatively flat but generally slopes downwards towards the Carp River located approximately 2.1 km north of the Site.

6.3 Previous Investigation

GEMTEC completed a Phase One ESA at the Site in November 2023. The findings of the Phase One ESA are provided under separate covers entitled:

- "DRAFT *Phase One Environmental Site Assessment, Proposed Lot Severance, 1508 Thomas Argue Road, Ottawa, Ontario*". File Number 102638.002.

Based on the review of the Phase One ESA findings, a Phase Two ESA was recommended to address the following two areas of potential of environmental concern (APECs) identified on the Site.

Table 6.2: CSM – Summary of Areas of Potential Environmental Concern

APEC	PCA ID	Description	Area of APEC	Media Impacted	COPCs
1	30	Considering the historical development, fill of unknown quality is a potential concern.	Limited to the northwestern portion of the Site (north of the gravel roadway which is oriented east to west	Soil	PHC F1-F4, VOCs, PAHs, Metals, and ORP
2	28	The presence of a network of historical tanks and a pump island adjacent to the Site.	Limited to the northeastern portion of the Site (north of the gravel roadway)	Soil and Groundwater	PHC F1-F4, VOCs, PAHs

Notes:
PHC F1-F4 – Petroleum Hydrocarbons F1 to F4
PAHs – Polycyclic Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds
ORP – Other Regulated Parameters such as Electrical Conductivity, Sodium Adsorption Ratio, pH and Cyanide.

GEMTEC has completed environmental work in the vicinity of the Site and the information is summarized below:

- Groundwater was measured between 0.54 and 0.71 m below the ground surface (bgs);
- Fill material was encountered in one borehole and no signs of staining or odors were identified;
- The subsurface conditions at the Site were identified as topsoil (brown silty sand with rootlets) underlain by brown clayey silt; and,
- No signs of staining or odor were reported. Non detect values were reported for volatile organics compounds and petroleum hydrocarbons F1-F4.

6.4 Subsurface Structures and Utilities

Prior to initiating the intrusive investigation, underground utilities were cleared by USL-1 Underground Service Locators of Ottawa, Ontario to identify the location of buried utilities on-Site. Utilities including telephone, gas, hydro, municipal services and private utilities were cleared through these services. One underground utility present on Site.

6.5 Physical Setting

Topography

The Site has a relatively flat topography and is at an elevation of approximately 114 metres above sea level (mASL). Surrounding local topography gradually slopes downwards towards Carp River which is located approximately 2.1 kilometres (km) north of the Site.

Surficial soil and bedrock geology maps of Canada indicate that the overburden in the Study Area generally consists of fine-textured glaciomarine deposits (i.e., silt and clay, minor sand and gravel) with a thickness ranging between 25 and 50 m. The bedrock is mapped as shale, limestone, dolostone, siltstone of the Georgian Bay Formation, Blue Mountain Formation, and Billings Formation.

Groundwater flow often reflects topographic features and typically flows toward nearby lakes, drains, rivers and wetland areas. Based on the topography of the area and local surface water features, it is expected that the local shallow groundwater flow will trend northwards towards the Carp River (GeoOttawa, 2017).

Stratigraphy - Boreholes

In general, the subsurface soil conditions encountered in the boreholes and monitoring wells included a topsoil layer with a thickness of about 60 millimetres (mm). A layer of brown silty sand with gravel was then encountered in all boreholes with varying amount of gravel and clay and extending to depths between 0.6 and 1.22 m bgs. Light brown sandy silt with trace clay in was then observed in all boreholes except BH23-03 and extended to the end of the boreholes. Grey Silty clay was only observed in BH23-03 and extended to the end of the borehole at 4.572 m bgs. Boreholes were advanced to depths between 1.5 and 4.57 m bgs respectively.

Depth to Bedrock

Bedrock was not encountered during the Phase Two ESA field investigation.

Depth to Groundwater

The static water levels were measured in the installed monitoring wells. On Site observations are presented in Table 7.1 below.

Table 6.3 CSM – Groundwater levels

Borehole	Groundwater Depth (metres)	Groundwater Elevation (metres)	Date of Reading
23-01	5.7	105.3	December 5, 2023
23-02	0.8	110.6	December 5, 2023
23-03	0.7	110.5	December 5, 2023

6.6 Environmentally Sensitive Areas

No areas of natural significance were identified on the Site or within the Phase Two Study Area.

6.7 Site Condition Standards

The selection of applicable provincial standards for comparison to soil analytical data was based on a review of various Site characteristics.

6.7.1 Bulk Soil and Groundwater Standards

Site Condition Standards (SCS) were selected for the Site in accordance with the requirements of O.Reg. 153/04, Record of Site Condition – Part XV.1 of the Environmental Protection Act (O. Reg. 153/04, Ministry of Environment and Climate Change (MECP), October 31, 2011), as amended.

The relevant Site characteristics were considered in the selection of the applicable regulatory criteria are as follows:

- Land Use: The land use for the Site is considered industrial/commercial/community.
- Soil Texture: Based on visual observations made during the field program and grain size analysis completed on samples submitted as part of the geotechnical investigation completed concurrently, coarse grained soils are present on-Site. Coarse textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter”. Accordingly, coarse textured soils have been considered applicable for the Site.
- Soil Thickness and Proximity to Water Body: For the purposes of selection of the appropriate provincial standard, Section 43.1 of O. Reg.153/04 identifies specific SCS be applied if any of the following circumstances exist:

    (a) The property is a shallow soil property (i.e., at least 1/3 or more of the property area contains less than 2 metres depth of overburden); or

    (b) The property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

    Based on a review of the surficial and bedrock geology maps of the area, and results obtained from the intrusive investigation, the Site not is considered a shallow soil property (as bedrock at depth of 2.0 metres or less was not identified across the majority of the Site). The property does not include a water body nor is it located within 30 metres of a water body.

- Groundwater Use: Potable water in the area of the Site is supplied by the City of Ottawa. Through review of the Ontario Water Well records, potable domestic wells were identified within 250 m the of the Site. Accordingly, the Site has been considered to be situated within a potable water well zone.

- Environmentally Sensitive Site: Environmental sensitivity is considered in the selection of appropriate provincial standards for comparison. Section 41 of O.Reg.153/04 states that a property is to be considered environmentally sensitive if any of the following are applicable:

  (1) the property is,

  (i) within an area of natural significance;

  (ii) includes or is adjacent to an area of natural significance or part of such an area; or

  (iii) includes land that is within 30 metres of an area of natural significance or part of such an area;

  (2) the soil at the property has a pH value as follows:

  (i) for surface soil, less than 5 or greater than 9;

  (ii) for sub surface soil, less than 5 or greater than 11; or

  (3) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of Site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property.

Through a review of samples submitted for analysis during the environmental investigation one of the samples had a pH value of 12.5, however additional samples were taken at this Site and averaged as per O.Reg 153/04 – following averaging the pH values were confirmed to be within normal range. Therefore, the Site is not considered to be an environmentally sensitive Site.

Based on the review of Site characteristics, the following provincial standards were considered to be applicable to the environmental results obtained during the investigation:

- Soil: MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. ***Table 2:*** *Full Depth Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) land use.*
- Groundwater: MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. ***Table 2:*** *Full Depth Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) land use.*

6.7.2 Soil Waste Classification for Off-Site Disposal

- Considering disposal of excess soils off-Site, if required, the following provincial standards were considered to be applicable to the soil quality results obtained during the environmental investigation:
- Off-Site Disposal as non-hazardous waste:

- MECP Ontario Regulation (O.Reg.) 347/558 Schedule 4, Leachate Quality Criteria, to evaluate waste classification (hazardous or non-hazardous waste) for on-Site soils.

6.8 Contaminated Media

The initial round of sampling to support the Phase Two ESA identified multiple PAH, one pH and one EC exceedance of the Table 2 SCS for soil. However, following the second round of sampling as per O. Reg. 153/04, s. 48 (2); O. Reg. 407/19, s. 19 (2) averaging methods were applied to the impacted soil and was able to illustrate that none of the parameters should be considered for further investigation Siteat the Site.

6.9 Potential Influence of Utilities on Contaminant Migration

Multiple underground utilities were present on Site based on the locates reviewed prior to drilling. Given the conditions encountered during drilling and laboratory results, buried services are not considered to have facilitated the migration of contaminants at the Site.

6.10 Contaminant Migration

Though exceedances were present on Site after review of laboratory results, it is of GEMTEC's opinion that the risk of contaminant migration is minimal and should not be considered a concern.

6.11 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. Considering one groundwater monitoring event, seasonal trends could not be identified. Shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. Given no exceedances of the applicable standards were identified in the laboratory results for groundwater, the results are not considered to have been influenced by metrological or climate conditions.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analytical results of the Phase Two ESA, GEMTEC offers the following conclusions:

- The overburden observed at the Site during the subsurface investigation was generally described as sand and silt, with trace clay north of the gravel road while the southern section observed silty clay and more shallow depths.
- The reported concentrations of all soil and groundwater samples were compared to the Ministry of Environment Conservation and Parks (MECP) Table 2 Industrial, Commercial, Community (ICC) Site Condition Standards (SCS).
- Summary of Soil Sample results indicated that:

- Sample BH23-04 SA3 exceeded MECP T2 SCS for Electrical Conductivity and pH;
- Sample BH23-06 SA1 exceeded MECP T2 SCS for benz(a)anthracene, and Benzo(a)pyrene;
- Sample BH24-109 SA1-1 exceeded MECP T2 for acenaphthylene and benzo(a)pyrene; and,
- Sample BH23-02 SA3, BH23-03 SA5, BH23-05 SA2, and BH23-105 SA2 met the MECP Table 2 SCS for all parameters analyzed.

- As per O. Reg. 153/04, s. 48 (2); O. Reg. 407/19, s. 19 (2), averaging was applied to the following parameters:
  - pH at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 8.63, and therefore would not be considered an exceedance in this location on the Site;
  - Electrical Conductivity at BH23-04 SA3 was averaged with BH24-103 SA2-1, BH24-103 SA2-101, BH24-104 SA2-1, and BH24-105 2-1 resulting in value of 1.01, and therefore would not be considered an exceedance in this location on the Site;
  - Acenaphthylene at BH24-109 SA1-1 was averaged with BH24-108 SA1-1, BH24-108 SA1-101, BH24-109 SA1-1 and BH23-06 SA1 resulting in value of 0.12, and therefore would not be considered an exceedance in this location on the Site;
  - Benz(a)anthracene at BH23-06 SA1 was averaged with BH24-106 SA1-1, BH24-108 SA1-1, BH24-108 SA1-101 and BH24-109 SA1-1 resulting in value of 0.56, and therefore would not be considered an exceedance in this location on the Site; and
  - Benzo(a)pyrene at BH23-06 SA1 and BH24-109 SA1-1 was averaged BH24-106 SA1-1, BH24-108 SA1-1, and BH24-108 SA1-101 resulting in value of 0.29, and therefore would not be considered an exceedance in this location on the Site.
- The reported concentrations of all groundwater samples met the Table 2 ICC SCS; and,
- No exceedances of O.Reg. 347/558 Schedule 4 were identified in the TCLP sample submitted.

8.0 LIMITATION OF LIABILITY

The Phase Two Environmental Site Assessment has been supervised and reviewed by a qualified person. This Phase Two ESA was carried out in general with Ontario Regulation 153/04 made under the Environmental Protection Act and meets the requirements of Part VII (Sections 23 to 31) and Schedule D of the regulation.

The results of this Phase Two ESA should in no way be construed as a warranty that the Phase Two Property is free from any and all contaminants other than those noted in this report, nor that all compliance issues have been addressed.

This report was prepared for the exclusive use of BigSteelBox Corporation and is based on data and information collected during the Phase Two ESA of the property conducted by GEMTEC. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and BigSteelBox Corporation. In evaluating this Phase Two Property, GEMTEC has relied in good faith on information provided by others. We accept no responsibility for any deficiencies or inaccuracies in this report as a result of omissions, misinterpretations, or fraudulent acts of others.

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.

9.0 REFERENCES

GEMTEC. DRAFT Phase One Environmental Site Assessment, Proposed Land Severance, 1508 Thomas Argue Road, Ottawa, Ontario. November 3, 2023.

Geography Network Canada (GNC). October 2004. Ontario Basic Mapping Accessed: December 2020 & January 2021. Available: http://www.geographynetwork.ca/webSite/obm/viewer.htm.

Google Earth™ Satellite Imagery, 2019.

Ontario Ministry of the Environment and Climate Change (MOE). Guidance on sampling and analytical methods for use at contaminated Sites in Ontario. Revised December 1996.

Ontario Ministry of the Environment, Laboratory Services Branch (MOE). Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. March 9, 2004, amended as of July 1, 2011.

Ontario Ministry of the Environment, Conservation and Parks (MECP). Ontario Regulation 153/04, Made under the Environmental Protection Act, Part XV.1 – Records of Site Condition. October 31, 2011 updated January 1, 2014.

The City of Ottawa (GeoOttawa). 2000, last updated 2017.

10.0 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 our office.

Sincerely,



Nicole Soucy, M.A.Sc., P.Eng, QP_{ESA}
Environmental Engineer

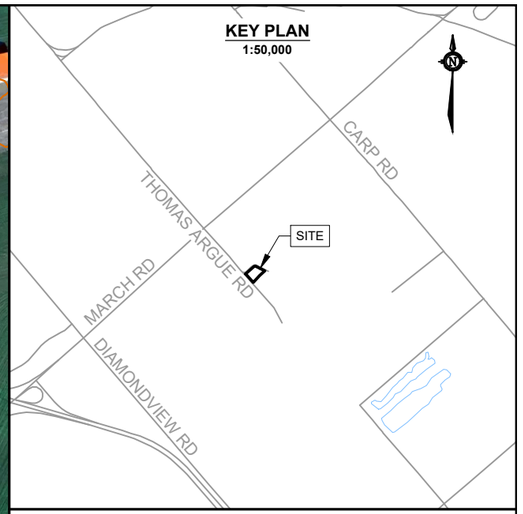


Mike Kosiw, B.Sc., EP, $CESA_{II}$
Contaminated Sites Lead

APPENDIX A

Figures





LEGEND

APPROXIMATE SITE BOUNDARY

STUDY AREA
(250 METRE RADIUS AROUND THE SITE BOUNDARY)

110 GROUND SURFACE ELEVATION
(IN METRES)

AREA OF POTENTIAL ENVIRONMENTAL CONCERN

APEC 1	PRESENCE OF FILL MATERIAL BASED ON HISTORICAL DEVELOPMENT AT THE SITE
APEC 2	PRESENCE OF MULTIPLE HISTORICAL TANKS AND PUMP ISLAND ADJACENT TO THE SITE

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18
2. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
2. All boundaries and dimensions are approximate
3. Contains information licensed under the Open Government Licence - Ontario
4. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
5. Geographic dataset source: Ontario GeoHub

SCALE
1:2,500
0 50 100 150m

DRAWING
PHASE TWO PROPERTY AND PHASE ONE STUDY AREA

CLIENT
BIGSTEELBOX CORPORATION

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
1508 THOMAS ARGUE ROAD
CARP, ONTARIO

DRAWN BY	CHECKED BY
S.L.	N.S.
PROJECT NO.	REVISION NO.
102638.002	0
DATE	FIGURE NO.
MARCH 2025	FIGURE A.1

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LEGEND

- **BH/MW #** ← BOREHOLE/ MONITORING WELL ID
- **BOREHOLE LOCATION** (CURRENT INVESTIGATION BY GEMTEC - ROUND 2)
- **BOREHOLE/ MONITORING WELL LOCATION** (CURRENT INVESTIGATION BY GEMTEC - ROUND 1)
- **APPROXIMATE SITE BOUNDARY**

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18
2. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
2. All boundaries and dimensions are approximate
3. Contains information licensed under the Open Government Licence - Ontario
4. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
5. Geographic dataset source: Ontario GeoHub

SCALE

1:750

0 15 30 45m

DRAWING
BOREHOLE AND MONITORING WELL LOCATION PLAN

CLIENT
BIGSTEELBOX CORPORATION

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
1508 THOMAS ARGUE ROAD
CARP, ONTARIO

DRAWN BY	CHECKED BY
S.L.	N.S.
PROJECT NO.	REVISION NO.
102638.002	0
DATE	FIGURE NO.
MARCH 2025	FIGURE A.2

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Parameter	Units	RDL	Sample ID: / Sample Depth (m bgs): MECP Table 2 ICC	BH23-06 SA1 0.05–0.61
Polyaromatic Hydrocarbons				
Benz(a)anthracene	µg/g	0.05	0.96	**1.24**
Benzo(a)pyrene	µg/g	0.05	0.3	**0.32**

Parameter	Units	RDL	Sample ID: / Sample Depth (m bgs): MECP Table 2 ICC SCS	BH23-04 SA3 1.22-1.83
Metals and Inorganics				
Electrical Conductivity	µg/g	0.005	1.4	**3.58**
pH	pH units	N/A	5.0-9.0	**12.5**

Parameter	Units	RDL	Sample ID: / Sample Depth (m bgs): MECP Table 2 ICC	BH24-109 SA1-1 0.00-0.61
Polyaromatic Hydrocarbons				
Acenaphthylene	µg/g	0.05	0.15	**0.16**
Benzo(a)pyrene	µg/g	0.05	0.3	**0.58**

LEGEND

BH/MW # ← BOREHOLE/ MONITORING WELL ID

BOREHOLE LOCATION
(CURRENT INVESTIGATION BY GEMTEC - ROUND 2)

BOREHOLE/ MONITORING WELL LOCATION
(CURRENT INVESTIGATION BY GEMTEC - ROUND 1)

APPROXIMATE SITE BOUNDARY

NOTES:

mbgs - meters below ground surface

Table 2 SCS: MECP, 2011. Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 2: Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) Land Use.

Bolded - Exceeds O.Reg 153/04 Table 2 ICC SCS.

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18
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4. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
5. Geographic dataset source: Ontario GeoHub

SCALE

1:750

0 15 30 45m

DRAWING

SOIL QUALITY RESULTS

CLIENT

BIGSTEELBOX CORPORATION

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
1508 THOMAS ARGUE ROAD
CARP, ONTARIO

DRAWN BY	CHECKED BY
S.L.	N.S.
PROJECT NO.	REVISION NO.
102638.002	0
DATE	FIGURE NO.
MARCH 2025	FIGURE A.3

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LEGEND

BH/MW # ← BOREHOLE/ MONITORING WELL ID

BOREHOLE LOCATION
(current geotechnical investigation by GEMTEC)

MONITORING WELL LOCATION
(current environmental investigation by GEMTEC)

APPROXIMATE SITE BOUNDARY

110.0 **GROUNDWATER ELEVATION, IN METRES**

INFERRED GROUNDWATER DIRECTIONAL FLOW

NOTE: Presented Groundwater levels and inferred groundwater flow are based on December 2023 dataset.

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18
2. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
2. All boundaries and dimensions are approximate
3. Contains information licensed under the Open Government Licence - Ontario
4. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
5. Geographic dataset source: Ontario GeoHub
6. Groundwater Samples met MECP Table 2 ICC SCS

SCALE
1:750
0 15 30 45m

DRAWING
GROUNDWATER QUALITY RESULTS,
GROUNDWATER ELEVATIONS AND INFERRED FLOW

CLIENT
BIGSTEELBOX CORPORATION

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
1508 THOMAS ARGUE ROAD
CARP, ONTARIO

DRAWN BY	CHECKED BY
S.L.	N.S.
PROJECT NO.	REVISION NO.
102638.002	0
DATE	FIGURE NO.
MARCH 2025	FIGURE A.4

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APPENDIX B

Borehole Logs

RECORD OF BOREHOLE 23-01

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 2
DATUM: CGVD28
BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
0		Ground Surface		111.01									
		TOPSOIL		0.06									Bentonite seal
		Brown silty sand, some clay (FILL MATERIAL)		110.25									
1		Firm to stiff, grey brown SILTY CLAY, trace sand (WEATHERED CRUST)		0.76	1	SS	533	3					
					2	SS	559	WH					
2					3	SS	610	WH					
3				107.96									
		Firm, grey SILTY CLAY		3.05	4	SS	483	WH					
4													
					5	SS	610	WH					Soil cuttings
5													
6					6	SS	610	WH					
7													
8					7	SS	610	WH					
				102.78									
		Firm to stiff, grey SILTY CLAY		8.23									
9													

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Consulting Engineers and Scientists

LOGGED: AW
CHECKED: W.A.M

RECORD OF BOREHOLE 23-01

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 2 OF 2
DATUM: CGVD28
BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
					8	SS	610	WH					
10				101.01									
		Firm to sitff, grey SILTY CLAY		10.00									Soil cuttings
11					9	SS	610	WH					
													Bentonite seal
12													Filter sand
					10	SS	610	WH					
13													
													Filter sand, 50 millimetre diameter well screen
14					11	SS	610	WH					
15				95.77									
		Compact, grey SILTY SAND, some gravel, some clay, with cobbles and boulders (GLACIAL TILL)		15.24	12	SS	254	14					
				95.16									
		End of Borehole		15.85									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Dec. 05/23	5.68 ▽	105.33
Feb. 27/24	-0.27 ▼	111.28

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LOGGED: AW
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 23-02

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Nov 21 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.41									
0		TOPSOIL		0.05									
		Dark brown silty sand, some clay, with rootlets (FILL MATERIAL)			1	SS		-					
				110.49	2	SS		-					
1		Grey brown SILTY CLAY, trace sand (WEATHERED CRUST)		0.92	3	SS		-	VOC, PAH, PHCs F1-F4	HEX 5/ IBI 0			
2					4	SS		-					
					5	SS		-					
3				108.36									
		Probable grey SILTY CLAY		3.05									
4													
				106.84									
		End of Borehole		4.57									

Bentonite Seal

Filter Sand

Filter Sand, 50 millimetre diameter well screen

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Nov. 21/23	0.82 ▽	110.59
Feb. 27/24	0.50 ▼	110.91

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LOGGED: AW
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 23-03

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Nov 21 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.21									
0		TOPSOIL		0.05									
		Dark brown silty sand, trace clay, with rootlets (FILL MATERIAL)		110.60	1	SS		-		HEX 30/ IBL 0			
		Grey brown SILTY CLAY (WEATHERED CRUST)		0.61	2	SS		-		HEX 25/ IBL 0			
1					3	SS		-		HEX 35/ IBL 0			
2					4	SS		-		HEX 35/ IBL 0			
				108.77									
		Grey SILTY CLAY		2.44	5	SS		-	VOC, PAHs, PHCs F1-F4	HEX 50/ IBL 0			
3					6	GS		-					
					7	GS		-					
4				106.94									
		Probable grey SILTY CLAY		4.27									
				106.64									
		End of Borehole		4.57									

Bentonite Seal

Filter Sand

Filter Sand, 50 millimetre diameter well screen

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Nov. 21/23	0.74 ▽	110.47
Feb. 27/24	0.50 ▼	110.71

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LOGGED: AW
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 23-04

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.11									
0		TOPSOIL		0.05									
		Dark brown SILTY SAND, trace clay, with rootlets (FILL MATERIAL)		110.50	1	SS		-					
		Grey brown SILTY CLAY (WEATHERED CRUST)		0.61	2	SS		-					
1					3	SS		-	M&I, ORP, VOC, PAHs, PHCs F1-F4	HEX 25/ IBL 0			Backfilled with auger cuttings
				109.28									
		End of Borehole		1.83									

GEMTEC
Consulting Engineers and Scientists

LOGGED: AW
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 23-05

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.28									
0		TOPSOIL		0.05									
		Brown silty sand, some clay (FILL MATERIAL)			1	SS		-					
					2	SS		-	M&I, ORP, VOC, PAH, PHCs F1-F4	HEX 10/ IBL 0			Backfilled with auger cuttings
1				110.06									
		Brown sandy silt, trace clay (FILL MATERIAL)		1.22	3	SS		-					
				109.45									
		End of Borehole		1.83									

GEMTEC
Consulting Engineers and Scientists

LOGGED: AW
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 23-06

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.43									
0		TOPSOIL		0.05									
		Dark brown silty sand, trace clay (FILL MATERIAL)			1	SS		-	M&I, PAHs, BTEX, PHCs F1-F4	HEX 30/ IBL 0			
					2	SS		-					Backfilled with auger cuttings
1				110.21									
		Brown SILTY CLAY, some sand (WEATHERED CRUST)		1.22	3	SS		-					
				109.60									
		End of Borehole		1.83									

GEMTEC
Consulting Engineers and Scientists

LOGGED: AW
CHECKED: W.A.M

RECORD OF BOREHOLE 24-101

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.19									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, with rootlets (FILL MATERIAL)		110.86									
		Grey brown silty clay (FILL MATERIAL)		0.33 / 110.58									
		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.61	1	D.O	965	-					
1													Bentonite seal
2					2	D.O	1320	-					
3				108.14									
		End of Borehole		3.05									

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: W.A.M

RECORD OF BOREHOLE 24-102

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.27									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, with rootlets (FILL MATERIAL)		110.71									
		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.56	1	D.O	815	-					
1													
													Bentonite seal
2					2	D.O	1475	-					
3				108.22									
		End of Borehole		3.05									

GEMTEC
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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-103

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.57									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, trace clay, with rootlets (FILL MATERIAL)		0.06 110.66	1	D.O	1270	-					
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.91									Bentonite seal
2					2	D.O	1520	-	EC, SAR + duplicate	HEX 105/ IBL 0			
3		End of Borehole		108.52 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-104

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.60									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, trace to some gravel, with rootlets (FILL MATERIAL)		0.06									
		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		110.84 0.76	1	D.O	1020	-					
1													
2					2	D.O	1520	-	EC, SAR	HEX 10/ IBL 0			Bentonite seal
3		End of Borehole		108.55 3.05									

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-105

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.57									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, with rootlets (FILL MATERIAL)		0.06	1	D.O	1520	-					
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		110.63 0.94	2	D.O	1520	-	EC, SAR	HEX 0 / IBL 0			Bentonite seal
2													
3		End of Borehole		108.52 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-106

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.39									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, with rootlets (FILL MATERIAL)		0.06 110.68									
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.71	1	D.O	1170	-	PAHs	HEX 5/ IBL 0			Bentonite seal
2					2	D.O	1520	-					
3		End of Borehole		108.34 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-107

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.32									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, with rootlets (FILL MATERIAL)		110.41	1	D.O	1270	-	PAHs	HEX 5/ IBL 0			
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.91 / 109.80									
		Probable grey brown SILTY CLAY (WEATHERED CRUST)		1.52	2	D.O	0	-					Bentonite seal
2													
3				108.27									
		End of Borehole		3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-108

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.35									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, trace clay (FILL MATERIAL)		0.06	1	D.O	760	-	PAHs + Duplicate	HEX 10/ IBL 0			Bentonite seal
1		End of Borehole Casing Refusal		110.33 1.02									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-109

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.34									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, with rootlets (FILL MATERIAL)		110.68									
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.66	1	D.O	875	-	PAHs	HEX 5/ IBL 0			
2					2	D.O	1520	-					Bentonite seal
3		End of Borehole		108.29 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-110

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.35									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, some clay, with rootlets (FILL MATERIAL)		110.74									
		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.61	1	D.O	1520	-					
1													Bentonite seal
2					2	D.O	1520	-					
3		End of Borehole		108.30 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-111

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.35									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, with rootlets (FILL MATERIAL)		110.44	1	D.O	1520	-					
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.91									Bentonite seal
2					2	D.O	1270	-					
3		End of Borehole		108.30 3.05									

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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-112

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.36									
0	Direct Push Casing (57mm OD)	TOPSOIL Dark brown silty sand, trace to some clay, with rootlets (FILL MATERIAL)		0.06 110.75									
1		Grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		0.61	1	D.O	1170	-					Bentonite seal
2					2	D.O	1520	-					
3		End of Borehole		108.31 3.05									

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

RECORD OF BOREHOLE 24-113

CLIENT: BigSteelBox Corporation
PROJECT: Geotechnical Investigation, Proposed Commercial Development, 1508 Thomas Argue Road, Ottawa, Ontario
JOB#: 102638.002
LOCATION: See Figure A.1: Phase Two Property and Phase One Study Area

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 27 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		111.33									
0	Direct Push Casing (57mm OD)	TOPSOIL		0.06									
		Dark brown silty sand, trace clay, with rootlets (FILL MATERIAL)		110.72									
		Dark brown silty sand, some gravel (FILL MATERIAL)		0.61	1	D.O	1270	-					
1				109.81									Bentonite seal
		Probable grey brown SILTY CLAY, with sand seams (WEATHERED CRUST)		1.52	2	D.O	0	-					
2													
3		End of Borehole		108.28 3.05									

GEMTEC
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LOGGED: CC
CHECKED: W.A.M

ENV - BOREHOLE LOG 102638.002_BH LOGS_2024-03-01_ENVIRO.GPJ GEMTEC 2018.GDT 1/5/24

APPENDIX C

Summary of Analytical Results

C.1 Soil Analytical Results- Bulk
Phase Two Envrionmental Site Assessment
1508 Thomas Argue Road
Ottawa, Ontario

Parameter	Units	RDL	MECP Table 2 ICC SCS	Sample ID:	BH23-02 SA3	BH23-03 SA5	BH23-04 SA3	BH23-05 SA2	BH23-105 SA2	BH23-06 SA1	BH24-03 SA2-1	BH24-03 SA2-101	BH24-04 SA2-1	BH24-05 SA2-1	BH24-06 SA1-1	BH24-07 SA1-1	BH24-08 SA1-1	BH24-08 SA1-101	BH24-09 SA1-1
				Laboratory Sample ID:	5491059	5491061	5491071	5491080	5491082	5491081	5687224	5687231	5687232	5687233	5687234	5687238	5687239	5687240	5687241
				Date Sampled (yyyy-mm-dd):	2023-11-21	2023-11-21	2023-11-20	2023-11-20	2023-11-20	2023-11-20	2024-07-27	2024-07-27	2024-07-27	2024-07-27	2024-07-27	2024-07-27	2024-07-27	2024-07-27	2024-07-27
				Sample depth (m bgs):	0.61-1.22	0.05–0.61	1.22-1.83	2.44-3.05	0.61-1.22	1.22-1.83	1.52-2.13	1.52-2.13	1.52-1.98	1.52-1.98	0.00-0.61	0.00-0.61	0.00-0.61	0.00-0.61	0.00-0.61
Metals and Inorganics																			
Antimony	µg/g	0.8	40		NA	NA	<0.8	<0.8	<0.8	<0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/g	1	18		NA	NA	3	1	1	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/g	2	670		NA	NA	76.6	34.8	42.1	77.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/g	0.4	8		NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	µg/g	5	120		NA	NA	14	<5	<5	6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Hot Water Soluble)	µg/g	0.1	2		NA	NA	<0.10	<0.10	<0.10	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/g	0.5	1.9		NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/g	5	160		NA	NA	17	8	9	20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/g	0.5	80		NA	NA	6	2.7	3.1	4.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/g	1	230		NA	NA	13.6	5	5.7	13.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/g	1	120		NA	NA	7	3	4	9	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/g	0.5	40		NA	NA	0.6	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/g	1	270		NA	NA	9	2	3	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/g	0.8	5.5		NA	NA	<0.8	<0.8	<0.8	<0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/g	0.5	40		NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/g	0.5	3.3		NA	NA	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	µg/g	0.5	33		NA	NA	0.79	<0.50	<0.50	0.51	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/g	0.4	86		NA	NA	26.9	9.8	10.7	28.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/g	5	340		NA	NA	47	12	11	57	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI	µg/g	0.2	8		NA	NA	<0.2	<0.2	<0.2	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, WAD	µg/g	0.04	0.051		NA	NA	<0.040	<0.040	<0.040	<0.040	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/g	0.1	3.9		NA	NA	<0.10	<0.10	<0.10	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Electrical Conductivity	µg/g	0.005	1.4		NA	NA	**3.58**	0.3	0.245	0.159	0.177	0.151	0.148	0.162	NA	NA	NA	NA	NA
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	N/A	12		NA	NA	0.366	0.52	0.484	0.286	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH, 2:1 CaCl2 Extraction	pH units	N/A	5.0-9.0		NA	NA	**12.5**	7.86	7.45	7.31	7.53	7.34	7.16	7.41	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs)																			
Dichlorodifluoromethane	µg/g	0.05	16		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	µg/g	0.02	0.032		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	µg/g	0.05	4		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	µg/g	0.5	16		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethylene	µg/g	0.05	0.064		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	µg/g	0.05	1.6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trans- 1,2-Dichloroethylene	µg/g	0.05	1.3		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl Ether	µg/g	0.05	1.6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	µg/g	0.02	0.47		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Ethyl Ketone	µg/g	0.5	70		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cis- 1,2-Dichloroethylene	µg/g	0.02	1.9		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	µg/g	0.04	0.47		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	µg/g	0.03	0.05		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/g	0.05	6.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/g	0.05	0.21		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	µg/g	0.02	0.32		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	µg/g	0.03	0.16		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	µg/g	0.03	0.55		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	µg/g	0.05	1.5		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Isobutyl Ketone	µg/g	0.5	31		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	µg/g	0.04	0.05		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/g	0.05	6.4		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	µg/g	0.05	2.3		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene Dibromide	µg/g	0.04	0.05		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	µg/g	0.05	1.9		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	µg/g	0.04	0.087		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	µg/g	0.05	2.4		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	µg/g	0.05	1.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
m & p-Xylene	µg/g	0.05	NV		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	µg/g	0.05	0.61		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	µg/g	0.05	34		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	µg/g	0.05	NV		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	µg/g	0.05	9.6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	µg/g	0.05	0.2		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	µg/g	0.05	1.2		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (Total)	µg/g	0.05	26		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.059		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Hexane	µg/g	0.05	46		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene	µg/g	0.05	9.6		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.05	0.15		<0.05	<0.05	0.09	<0.05	<0.05	0.14	NA	NA	NA	NA	<0.05	0.07	<0.05	0.09	**0.16**
Acenaphthene	µg/g	0.05	21		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.05	62		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.05	12		<0.05	<0.05	0.08	<0.05	<0.05	0.28	NA	NA	NA	NA	0.08	0.22	0.11	0.28	0.28
Anthracene	µg/g	0.05	0.67		<0.05	<0.05	<0.05	<0.05	<0.05	0.14	NA	NA	NA	NA	<0.05	0.11	<0.05	0.12	0.15
Fluoranthene	µg/g	0.05	9.6		<0.05	<0.05	0.95	<0.05	<0.05	2.07	NA	NA	NA	NA	0.27	1.16	0.28	0.96	1.2
Pyrene	µg/g	0.05	96		<0.05	<0.05	0.78	<0.05	<0.05	1.78	NA	NA	NA	NA	0.22	0.92	0.22	0.76	0.96
Benz(a)anthracene	µg/g	0.05	0.96		<0.05	<0.05	0.48	<0.05	<0.05	**1.24**	NA	NA	NA	NA	0.09	0.37	0.11	0.4	0.66
Chrysene	µg/g	0.05	9.6		<0.05	<0.05	0.22	<0.05	<0.05	0.6	NA	NA	NA	NA	0.14	0.48	0.13	0.53	0.81
Benzo(b)fluoranthene	µg/g	0.05	0.96		<0.05	<0.05	0.2	<0.05	<0.05	0.75	NA	NA	NA	NA	0.09	0.31	0.08	0.39	0.77
Benzo(k)fluoranthene	µg/g	0.05	0.96		<0.05	<0.05	0.08	<0.05	<0.05	0.28	NA	NA	NA	NA	0.11	0.35	0.08	0.43	0.75
Benzo(a)pyrene	µg/g	0.05	0.3		<0.05	<0.05	0.08	<0.05	<0.05	**0.32**	NA	NA	NA	NA	0.08	0.26	0.05	0.27	**0.58**
Indeno(1,2,3-cd)pyrene	µg/g	0.05	0.76		<0.05	<0.05	0.08	<0.05	<0.05	0.24	NA	NA	NA	NA	<0.05	<0.05	<0.05	0.05	0.14
Dibenz(a,h)anthracene	µg/g	0.05	0.1		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.05	9.6		<0.05	<0.05	0.12	<0.05	<0.05	0.34	NA	NA	NA	NA	<0.05	<0.05	<0.05	0.05	0.14
1 and 2 Methlynaphthalene	µg/g	0.05	NV		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05
Petroleum Hydrocarbons (PHCs)																			
F1 (C6 - C10)	µg/g	5	55		<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
F1 (C6 to C10) minus BTEX	µg/g	5	55		<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
F2 (C10 to C16)	µg/g	10	230		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
F2 (C10 to C16) minus Naphthalene	µg/g	10	230		<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
F3 (C16 to C34)	µg/g	50	1700		<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
F3 (C16 to C34) minus PAHs	µg/g	50	1700		<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA
F4 (C34 to C50)	µg/g	50	2800		<50	<50	<50	<50	<50	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
RDL - Reportable Detection Limit
'm bgs' - Metres Below Ground Surface
'NV' - No Standard/ Guideline Value
'NA' - Not Analyzed
'<' - Below RDL

Table 2 SCS: MECP, 2011. Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 2: Generic Site Condition Standards in a Potable Ground Water Condition. Industrial, Commercial, Community (ICC) Land Use.

Bold Exceeds MECP Table 2 ICC SCS

C.2 Groundwater Analytical Results
Phase Two Envrionmental Site Assessment
1508 Thomas Argue Road
Ottawa, Ontario

			Sample ID:	MW23-02	MW23-102	MW23-03	Field Blank	Trip Blank
			Laboratory Sample ID:	5539147	5539160	5539161	5539238	5539297
			Date Sampled (yyyy-mm-dd):	2023-12-11	2023-12-11	2023-12-11	2023-12-11	2023-12-11
Parameter	Units	RDL	MECP Table 2 ICC SCS					
Volatile Organic Compounds								
Dichlorodifluoromethane	µg/L	0.4	590	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.17	0.5	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.2	0.89	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	0.4	150	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	1	2700	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.3	1.6	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	0.3	50	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	0.2	1.6	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	0.2	15	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	0.3	5	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1	1800	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	0.2	1.6	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	0.2	2.4	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.2	1.6	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	0.3	200	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.79	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.2	5	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.2	5	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.2	1.6	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	0.2	16	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	1	640	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.2	4.7	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.2	24	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	0.1	25	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.1	0.2	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.2	1.6	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	0.1	1.1	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.1	30	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.1	2.4	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L	0.2		<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	0.1	25	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	0.1	5.4	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.1	1	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L	0.1						
1,3-Dichlorobenzene	µg/L	0.1	59	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.1	1	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.1	3	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.3	0.5	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	0.2	NV	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	0.2	51	<0.20	<0.20	<0.20	<0.20	<0.20
Petroleum Hydrocarbons (PHCs)								
F1 (C6 to C10)	µg/L	25	750	<25	<25	<25	-	-
F1 (C6 to C10) minus BTEX	µg/L	25	750	<25	<25	<25	-	-
F2 (C10 to C16)	µg/L	100	150	<100	<100	<100	-	-
F3 (C16 to C34)	µg/L	100	500	<100	<100	<100	-	-
F4 (C34 to C50)	µg/L	100	500	<100	<100	<100	-	-

APPENDIX D

Laboratory Certificates of Analysis

AGAT Laboratories

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Adrian Williams
PROJECT: 102638.002
AGAT WORK ORDER: 23Z096565
SOIL ANALYSIS REVIEWED BY: Sukhwinder Randhawa, Inorganic Team Lead
TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor
DATE REPORTED: Dec 04, 2023
PAGES (INCLUDING COVER): 16
VERSION*: 1

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

Notes

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Certificate of Analysis

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

SAMPLE DESCRIPTION:				BH23-04 SA3	BH23-05 SA2	BH23-06 SA1	BH23-105 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00
Parameter	Unit	G / S	RDL	5491071	5491080	5491081	5491082
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	3	1	3	1
Barium	µg/g	220	2.0	76.6	34.8	77.9	42.1
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	5	14	<5	6	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10	<0.10	0.26	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	17	8	20	9
Cobalt	µg/g	21	0.8	6.0	2.7	4.8	3.1
Copper	µg/g	92	1.0	13.6	5.0	13.1	5.7
Lead	µg/g	120	1	7	3	9	4
Molybdenum	µg/g	2	0.5	0.6	<0.5	<0.5	<0.5
Nickel	µg/g	82	1	9	2	11	3
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.79	<0.50	0.51	<0.50
Vanadium	µg/g	86	2.0	26.9	9.8	28.6	10.7
Zinc	µg/g	290	5	47	12	57	11
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	**3.58**	0.300	0.159	0.245
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.366	0.520	0.286	0.484
pH, 2:1 CaCl2 Extraction	pH Units		NA	12.5	7.86	7.31	7.45

Certified By:



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

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Certificate of Analysis

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23 **DATE REPORTED: 2023-12-04**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5491071-5491080 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.
EC&SAR; Data reported confirmed by re-analysis

5491081-5491082 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

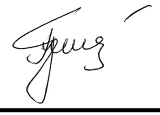
				SAMPLE DESCRIPTION:	BH23-02 SA3	BH23-03 SA5	BH23-04 SA3	BH23-05 SA2	BH23-06 SA1	BH23-105 SA2
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-11-21	2023-11-21	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00
Parameter	**Unit**	**G / S**	**RDL**		**5491059**	**5491061**	**5491071**	**5491080**	**5491081**	**5491082**
Naphthalene	µg/g	0.09	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05		<0.05	<0.05	0.09	<0.05	**0.14**	<0.05
Acenaphthene	µg/g	0.072	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.69	0.05		<0.05	<0.05	0.08	<0.05	0.28	<0.05
Anthracene	µg/g	0.16	0.05		<0.05	<0.05	<0.05	<0.05	0.14	<0.05
Fluoranthene	µg/g	0.56	0.05		<0.05	<0.05	**0.95**	<0.05	**2.07**	<0.05
Pyrene	µg/g	1	0.05		<0.05	<0.05	0.78	<0.05	**1.78**	<0.05
Benz(a)anthracene	µg/g	0.36	0.05		<0.05	<0.05	**0.48**	<0.05	**1.24**	<0.05
Chrysene	µg/g	2.8	0.05		<0.05	<0.05	0.22	<0.05	0.60	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05		<0.05	<0.05	0.20	<0.05	**0.75**	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05		<0.05	<0.05	0.08	<0.05	0.28	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05		<0.05	<0.05	0.08	<0.05	**0.32**	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.05		<0.05	<0.05	0.08	<0.05	**0.24**	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05		<0.05	<0.05	0.12	<0.05	0.34	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		25.4	26.3	22.4	13.1	20.5	13.6
Surrogate	**Unit**	**Acceptable Limits**								
Naphthalene-d8	%	50-140			80	105	70	85	70	75
Acridine-d9	%	50-140			100	70	90	75	95	80
Terphenyl-d14	%	50-140			85	110	115	100	105	115

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5491059-5491082 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

		SAMPLE DESCRIPTION:		BH23-02 SA3	BH23-03 SA5	BH23-04 SA3	BH23-05 SA2	BH23-06 SA1	BH23-105 SA2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-11-21	2023-11-21	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00
Parameter	**Unit**	**G / S**	**RDL**	**5491059**	**5491061**	**5491071**	**5491080**	**5491081**	**5491082**
F1 (C6 to C10)	µg/g	25	5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	25.4	26.3	22.4	13.1	20.5	13.6
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	%	50-140		104	108	107	114	108	105
Terphenyl	%	60-140		68	84	78	68	69	91

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5491059-5491082 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

SAMPLE DESCRIPTION:				BH23-02 SA3	BH23-03 SA5	BH23-04 SA3	BH23-05 SA2	BH23-06 SA1	BH23-105 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-11-21	2023-11-21	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00
Parameter	Unit	G / S	RDL	5491059	5491061	5491071	5491080	5491081	5491082
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

				SAMPLE DESCRIPTION:	BH23-02 SA3	BH23-03 SA5	BH23-04 SA3	BH23-05 SA2	BH23-06 SA1	BH23-105 SA2
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-11-21	2023-11-21	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00	2023-11-20 12:00
Parameter	**Unit**	**G / S**	**RDL**		**5491059**	**5491061**	**5491071**	**5491080**	**5491081**	**5491082**
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		25.4	26.3	22.4	13.1	20.5	13.6
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	% Recovery	50-140			104	108	107	114	108	105
4-Bromofluorobenzene	% Recovery	50-140			86	89	86	92	92	86

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5491059-5491082 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Exceedance Summary

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5491071	BH23-04 SA3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	3.58
5491071	BH23-04 SA3	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.36	0.48
5491071	BH23-04 SA3	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.56	0.95
5491071	BH23-04 SA3	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Benzo(a)anthracene	µg/g	0.36	0.48
5491071	BH23-04 SA3	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Fluoranthene	µg/g	0.56	0.95
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Acenaphthylene	µg/g	0.093	0.14
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.36	1.24
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.3	0.32
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benzo(b)fluoranthene	µg/g	0.47	0.75
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.56	2.07
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.24
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	1	1.78
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Benzo(a)anthracene	µg/g	0.36	1.24
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Benzo(a)pyrene	µg/g	0.3	0.32
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Benzo(b)fluoranthene	µg/g	0.47	0.75
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Fluoranthene	µg/g	0.56	2.07
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.24
5491081	BH23-06 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	Pyrene	µg/g	1	1.78

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 23Z096565
PROJECT: 102638.002
ATTENTION TO: Adrian Williams
SAMPLING SITE:Carp
SAMPLED BY:AW

Soil Analysis

RPT Date: Dec 04, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	5491377		6.3	5.6	11.8%	< 0.8	104%	70%	130%	97%	80%	120%	95%	70%	130%
Arsenic	5491377		15	15	0.0%	< 1	101%	70%	130%	100%	80%	120%	98%	70%	130%
Barium	5491377		184	194	5.3%	< 2.0	118%	70%	130%	100%	80%	120%	109%	70%	130%
Beryllium	5491377		1.2	1.3	NA	< 0.5	114%	70%	130%	104%	80%	120%	103%	70%	130%
Boron	5491377		29	29	0.0%	< 5	98%	70%	130%	104%	80%	120%	101%	70%	130%
Boron (Hot Water Soluble)	5491368		0.38	0.37	NA	< 0.10	95%	60%	140%	90%	70%	130%	91%	60%	140%
Cadmium	5491377		3.4	3.7	8.5%	< 0.5	113%	70%	130%	102%	80%	120%	74%	70%	130%
Chromium	5491377		19	19	NA	< 5	118%	70%	130%	93%	80%	120%	92%	70%	130%
Cobalt	5491377		7.5	7.8	3.9%	< 0.8	104%	70%	130%	92%	80%	120%	93%	70%	130%
Copper	5491377		101	104	2.9%	< 1.0	113%	70%	130%	102%	80%	120%	98%	70%	130%
Lead	5491377		841	857	1.9%	< 1	111%	70%	130%	91%	80%	120%	111%	70%	130%
Molybdenum	5491377		2.2	2.2	NA	< 0.5	109%	70%	130%	106%	80%	120%	105%	70%	130%
Nickel	5491377		20	20	0.0%	< 1	111%	70%	130%	102%	80%	120%	96%	70%	130%
Selenium	5491377		<0.8	<0.8	NA	< 0.8	100%	70%	130%	101%	80%	120%	101%	70%	130%
Silver	5491377		<0.5	<0.5	NA	< 0.5	101%	70%	130%	98%	80%	120%	88%	70%	130%
Thallium	5491377		0.5	0.5	NA	< 0.5	92%	70%	130%	101%	80%	120%	92%	70%	130%
Uranium	5491377		0.72	0.75	NA	< 0.50	94%	70%	130%	86%	80%	120%	83%	70%	130%
Vanadium	5491377		27.1	27.7	2.2%	< 2.0	109%	70%	130%	84%	80%	120%	107%	70%	130%
Zinc	5491377		225	229	1.8%	< 5	126%	70%	130%	105%	80%	120%	87%	70%	130%
Chromium, Hexavalent	5491368		<0.2	<0.2	NA	< 0.2	102%	70%	130%	93%	80%	120%	79%	70%	130%
Cyanide, WAD	5488449		<0.040	<0.040	NA	< 0.040	94%	70%	130%	87%	80%	120%	97%	70%	130%
Mercury	5491377		0.16	0.15	NA	< 0.10	106%	70%	130%	103%	80%	120%	94%	70%	130%
Electrical Conductivity (2:1)	5491351		0.314	0.287	9.0%	< 0.005	91%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5491351		0.281	0.290	3.2%	NA									
pH, 2:1 CaCl2 Extraction	5488445		6.96	7.21	3.5%	NA	101%	80%	120%						

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

O. Reg. 153(511) - Metals & Inorganics (Soil)															
Electrical Conductivity (2:1)	5506050		0.035	0.037	5.6%	< 0.005	95%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5497629		11	11.2	1.8%	NA									

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

Certified By:

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

Trace Organics Analysis

RPT Date: Dec 04, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 to C10)	5488164		<5	<5	NA	< 5	106%	60%	140%	97%	60%	140%	89%	60%	140%
F2 (C10 to C16)	5487797		< 10	< 10	NA	< 10	110%	60%	140%	96%	60%	140%	119%	60%	140%
F3 (C16 to C34)	5487797		< 50	< 50	NA	< 50	107%	60%	140%	112%	60%	140%	124%	60%	140%
F4 (C34 to C50)	5487797		< 50	< 50	NA	< 50	69%	60%	140%	88%	60%	140%	106%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5483418		<0.05	<0.05	NA	< 0.05	95%	50%	140%	80%	50%	140%	88%	50%	140%
Acenaphthylene	5483418		<0.05	<0.05	NA	< 0.05	107%	50%	140%	78%	50%	140%	80%	50%	140%
Acenaphthene	5483418		<0.05	<0.05	NA	< 0.05	91%	50%	140%	83%	50%	140%	98%	50%	140%
Fluorene	5483418		<0.05	<0.05	NA	< 0.05	80%	50%	140%	73%	50%	140%	95%	50%	140%
Phenanthrene	5483418		<0.05	<0.05	NA	< 0.05	78%	50%	140%	85%	50%	140%	103%	50%	140%
Anthracene	5483418		<0.05	<0.05	NA	< 0.05	84%	50%	140%	85%	50%	140%	110%	50%	140%
Fluoranthene	5483418		<0.05	<0.05	NA	< 0.05	91%	50%	140%	80%	50%	140%	90%	50%	140%
Pyrene	5483418		<0.05	<0.05	NA	< 0.05	92%	50%	140%	73%	50%	140%	88%	50%	140%
Benz(a)anthracene	5483418		<0.05	<0.05	NA	< 0.05	90%	50%	140%	78%	50%	140%	70%	50%	140%
Chrysene	5483418		<0.05	<0.05	NA	< 0.05	95%	50%	140%	98%	50%	140%	73%	50%	140%
Benzo(b)fluoranthene	5483418		<0.05	<0.05	NA	< 0.05	109%	50%	140%	78%	50%	140%	83%	50%	140%
Benzo(k)fluoranthene	5483418		<0.05	<0.05	NA	< 0.05	102%	50%	140%	73%	50%	140%	95%	50%	140%
Benzo(a)pyrene	5483418		<0.05	<0.05	NA	< 0.05	74%	50%	140%	100%	50%	140%	90%	50%	140%
Indeno(1,2,3-cd)pyrene	5483418		<0.05	<0.05	NA	< 0.05	76%	50%	140%	78%	50%	140%	78%	50%	140%
Dibenz(a,h)anthracene	5483418		<0.05	<0.05	NA	< 0.05	62%	50%	140%	75%	50%	140%	85%	50%	140%
Benzo(g,h,i)perylene	5483418		<0.05	<0.05	NA	< 0.05	109%	50%	140%	103%	50%	140%	93%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5488164		<0.05	<0.05	NA	< 0.05	111%	50%	140%	105%	50%	140%	86%	50%	140%
Vinyl Chloride	5488164		<0.02	<0.02	NA	< 0.02	97%	50%	140%	101%	50%	140%	98%	50%	140%
Bromomethane	5488164		<0.05	<0.05	NA	< 0.05	111%	50%	140%	106%	50%	140%	108%	50%	140%
Trichlorofluoromethane	5488164		<0.05	<0.05	NA	< 0.05	106%	50%	140%	98%	50%	140%	93%	50%	140%
Acetone	5488164		<0.50	<0.50	NA	< 0.50	108%	50%	140%	105%	50%	140%	97%	50%	140%
1,1-Dichloroethylene	5488164		<0.05	<0.05	NA	< 0.05	99%	50%	140%	96%	60%	130%	106%	50%	140%
Methylene Chloride	5488164		<0.05	<0.05	NA	< 0.05	95%	50%	140%	92%	60%	130%	94%	50%	140%
Trans- 1,2-Dichloroethylene	5488164		<0.05	<0.05	NA	< 0.05	86%	50%	140%	95%	60%	130%	78%	50%	140%
Methyl tert-butyl Ether	5488164		<0.05	<0.05	NA	< 0.05	81%	50%	140%	81%	60%	130%	80%	50%	140%
1,1-Dichloroethane	5488164		<0.02	<0.02	NA	< 0.02	102%	50%	140%	97%	60%	130%	97%	50%	140%
Methyl Ethyl Ketone	5488164		<0.50	<0.50	NA	< 0.50	101%	50%	140%	101%	50%	140%	111%	50%	140%
Cis- 1,2-Dichloroethylene	5488164		<0.02	<0.02	NA	< 0.02	96%	50%	140%	103%	60%	130%	99%	50%	140%
Chloroform	5488164		<0.04	<0.04	NA	< 0.04	96%	50%	140%	98%	60%	130%	91%	50%	140%
1,2-Dichloroethane	5488164		<0.03	<0.03	NA	< 0.03	98%	50%	140%	89%	60%	130%	90%	50%	140%
1,1,1-Trichloroethane	5488164		<0.05	<0.05	NA	< 0.05	98%	50%	140%	92%	60%	130%	94%	50%	140%
Carbon Tetrachloride	5488164		<0.05	<0.05	NA	< 0.05	101%	50%	140%	97%	60%	130%	94%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 23Z096565
PROJECT: 102638.002
ATTENTION TO: Adrian Williams
SAMPLING SITE:Carp
SAMPLED BY:AW

Trace Organics Analysis (Continued)

RPT Date: Dec 04, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5488164		<0.02	<0.02	NA	< 0.02	98%	50%	140%	87%	60%	130%	97%	50%	140%
1,2-Dichloropropane	5488164		<0.03	<0.03	NA	< 0.03	96%	50%	140%	93%	60%	130%	99%	50%	140%
Trichloroethylene	5488164		<0.03	<0.03	NA	< 0.03	98%	50%	140%	85%	60%	130%	90%	50%	140%
Bromodichloromethane	5488164		<0.05	<0.05	NA	< 0.05	90%	50%	140%	94%	60%	130%	98%	50%	140%
Methyl Isobutyl Ketone	5488164		<0.50	<0.50	NA	< 0.50	106%	50%	140%	103%	50%	140%	101%	50%	140%
1,1,2-Trichloroethane	5488164		<0.04	<0.04	NA	< 0.04	91%	50%	140%	89%	60%	130%	88%	50%	140%
Toluene	5488164		<0.05	<0.05	NA	< 0.05	97%	50%	140%	92%	60%	130%	92%	50%	140%
Dibromochloromethane	5488164		<0.05	<0.05	NA	< 0.05	95%	50%	140%	101%	60%	130%	101%	50%	140%
Ethylene Dibromide	5488164		<0.04	<0.04	NA	< 0.04	90%	50%	140%	98%	60%	130%	88%	50%	140%
Tetrachloroethylene	5488164		<0.05	<0.05	NA	< 0.05	78%	50%	140%	90%	60%	130%	80%	50%	140%
1,1,1,2-Tetrachloroethane	5488164		<0.04	<0.04	NA	< 0.04	95%	50%	140%	89%	60%	130%	82%	50%	140%
Chlorobenzene	5488164		<0.05	<0.05	NA	< 0.05	96%	50%	140%	91%	60%	130%	91%	50%	140%
Ethylbenzene	5488164		<0.05	<0.05	NA	< 0.05	99%	50%	140%	83%	60%	130%	90%	50%	140%
m & p-Xylene	5488164		<0.05	<0.05	NA	< 0.05	104%	50%	140%	103%	60%	130%	104%	50%	140%
Bromoform	5488164		<0.05	<0.05	NA	< 0.05	87%	50%	140%	99%	60%	130%	95%	50%	140%
Styrene	5488164		<0.05	<0.05	NA	< 0.05	92%	50%	140%	86%	60%	130%	71%	50%	140%
1,1,2,2-Tetrachloroethane	5488164		<0.05	<0.05	NA	< 0.05	94%	50%	140%	95%	60%	130%	101%	50%	140%
o-Xylene	5488164		<0.05	<0.05	NA	< 0.05	99%	50%	140%	94%	60%	130%	102%	50%	140%
1,3-Dichlorobenzene	5488164		<0.05	<0.05	NA	< 0.05	95%	50%	140%	92%	60%	130%	98%	50%	140%
1,4-Dichlorobenzene	5488164		<0.05	<0.05	NA	< 0.05	98%	50%	140%	89%	60%	130%	98%	50%	140%
1,2-Dichlorobenzene	5488164		<0.05	<0.05	NA	< 0.05	91%	50%	140%	82%	60%	130%	92%	50%	140%
n-Hexane	5488164		<0.05	<0.05	NA	< 0.05	100%	50%	140%	101%	60%	130%	95%	50%	140%

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

Certified By:

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 to C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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

AGAT Laboratories

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096565

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

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Have feedback? Scan here for a quick survey!

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Chain of Custody Record

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

Report Information:

Company: GEMTEC
Contact: Adrian Williams
Address: 32 Steacie Drive
Phone: 343.597.1308 Fax:
Reports to be sent to:
1. Email: adrian.williams@gemtec.ca
2. Email: nicole.soucy@gemtec.ca

Project Information:

Project: 102638.002
Site Location: Carp
Sampled By: AW
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 (Indicate One) — ☑ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) — ☑ Coarse ☐ Fine

☐ Regulation 406
Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

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

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 23209655 65

Cooler Quantity: One - Ice packs
Arrival Temperatures: 9.7 | 9.9 | 9.8 | 3.1 | 3.0 | 3.2
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: bags ind.

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☒ M&I ☒ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	DHC						Potentially Hazardous or High Concentration (Y/N)
1. BH23-02 SA3	Nov21	AM	3	S						X	X							X						
2. BH23-03 SA5	Nov21	AM								X	X							X						
3. BH23-04 SA3	Nov20	PM					X			X	X							X						
4. BH23-05 SA2	Nov20	PM					X			X	X							X						
5. BH23-06 SA1	Nov20	PM					X			X	X							X						
6. BH23-105 SA2	Nov20	PM					X			X	X							X						
7. ~~Fet P~~													X											
8.																								
9.																								
10.																								
11.																								

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Adrian Williams	Nov23	12pm	C. Griffith	11/23/23	11h43
CC to Paul	11/23/23	15h30		Nov 24	7:20am

Page ____ of ____

N°: T-150529

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

Document ID: DIV-78-1511.022 Any and all products and/or services provided by AGAT Labs are pursuant to the terms and conditions as set forth at www.agatlabs.com/termsandconditions unless otherwise agreed in a current written contractual document. Rev 0, 2023

AGAT Laboratories

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Adrian Williams, Nicole Soucy
PROJECT: 102638.002
AGAT WORK ORDER: 23Z103056
TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor
DATE REPORTED: Dec 19, 2023
PAGES (INCLUDING COVER): 12
VERSION*: 1

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

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

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

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-12-12

DATE REPORTED: 2023-12-19

		SAMPLE DESCRIPTION:		MMW23-02	MMW23-102	MMW23-03
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		2023-12-11	2023-12-11	2023-12-11
Parameter	Unit	G / S	RDL	5539147	5539160	5539161
Naphthalene	µg/L		0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L		0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L		0.20	<0.20	<0.20	<0.20
Fluorene	µg/L		0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L		0.10	<0.10	<0.10	<0.10
Anthracene	µg/L		0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L		0.20	<0.20	<0.20	<0.20
Pyrene	µg/L		0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L		0.20	<0.20	<0.20	<0.20
Chrysene	µg/L		0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L		0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L		0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L		0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L		0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L		0.20	<0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L		0.20	<0.20	<0.20	<0.20
Sediment				3	3	3
Surrogate	**Unit**	**Acceptable Limits**				
Naphthalene-d8	%	50-140		73	99	117
Acridine-d9	%	50-140		66	63	99
Terphenyl-d14	%	50-140		84	100	100

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

5539147-5539161 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-12-12

DATE REPORTED: 2023-12-19

		SAMPLE DESCRIPTION:		MMW23-02	MMW23-102	MMW23-03
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		2023-12-11	2023-12-11	2023-12-11
Parameter	Unit	G / S	RDL	5539147	5539160	5539161
F1 (C6 to C10)	µg/L		25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25	<25
F2 (C10 to C16)	µg/L		100	<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100	<100
F3 (C16 to C34)	µg/L		100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100	<100
F4 (C34 to C50)	µg/L		100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA
Sediment				3	3	3
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	%	50-140		100	95	106
Terphenyl	% Recovery	60-140		65	92	74

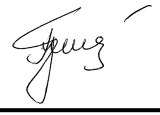
Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5539147-5539161 The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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

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Certificate of Analysis

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-12-12

DATE REPORTED: 2023-12-19

		SAMPLE DESCRIPTION:		Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2023-12-11	2023-12-11
Parameter	**Unit**	**G / S**	**RDL**	**5539238**	**5539297**
Benzene	µg/L		0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20
o-Xylene	µg/L		0.10	<0.10	<0.10
Xylenes (Total)	µg/L		0.20	<0.20	<0.20
F1 (C6 to C10)	µg/L		25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	60-140		84.5	121

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

5539238-5539297 The C6-C10 fraction is calculated using Toluene response factor.
Total C6-C10 results are corrected for BTEX contributions.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
Extraction and holding times were met for this sample.
NA = Not Applicable

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-12-12

DATE REPORTED: 2023-12-19

SAMPLE DESCRIPTION:				MMW23-02	MMW23-102	MMW23-03	Field Blank	Trip Blank
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2023-12-11	2023-12-11	2023-12-11	2023-12-11	2023-12-11
Parameter	Unit	G / S	RDL	5539147	5539160	5539161	5539238	5539297
Dichlorodifluoromethane	µg/L		0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L		0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Certified By:

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

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AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

DATE RECEIVED: 2023-12-12 **DATE REPORTED: 2023-12-19**

		SAMPLE DESCRIPTION:		MMW23-02	MMW23-102	MMW23-03	Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-12-11	2023-12-11	2023-12-11	2023-12-11	2023-12-11
Parameter	**Unit**	**G / S**	**RDL**	**5539147**	**5539160**	**5539161**	**5539238**	**5539297**
Bromoform	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140		100	95	106	101	92
4-Bromofluorobenzene	% Recovery	50-140		66	63	66	64	60

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

5539147-5539297 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

Trace Organics Analysis

RPT Date: Dec 19, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	5539160	5539160	<0.20	<0.20	NA	< 0.20	101%	50%	140%	78%	50%	140%	103%	50%	140%
Acenaphthylene	5539160	5539160	<0.20	<0.20	NA	< 0.20	118%	50%	140%	75%	50%	140%	89%	50%	140%
Acenaphthene	5539160	5539160	<0.20	<0.20	NA	< 0.20	117%	50%	140%	88%	50%	140%	95%	50%	140%
Fluorene	5539160	5539160	<0.20	<0.20	NA	< 0.20	114%	50%	140%	92%	50%	140%	106%	50%	140%
Phenanthrene	5539160	5539160	<0.10	<0.10	NA	< 0.10	114%	50%	140%	82%	50%	140%	115%	50%	140%
Anthracene	5539160	5539160	<0.10	<0.10	NA	< 0.10	103%	50%	140%	71%	50%	140%	117%	50%	140%
Fluoranthene	5539160	5539160	<0.20	<0.20	NA	< 0.20	113%	50%	140%	74%	50%	140%	102%	50%	140%
Pyrene	5539160	5539160	<0.20	<0.20	NA	< 0.20	109%	50%	140%	73%	50%	140%	119%	50%	140%
Benzo(a)anthracene	5539160	5539160	<0.20	<0.20	NA	< 0.20	76%	50%	140%	76%	50%	140%	106%	50%	140%
Chrysene	5539160	5539160	<0.10	<0.10	NA	< 0.10	92%	50%	140%	72%	50%	140%	105%	50%	140%
Benzo(b)fluoranthene	5539160	5539160	<0.10	<0.10	NA	< 0.10	87%	50%	140%	91%	50%	140%	111%	50%	140%
Benzo(k)fluoranthene	5539160	5539160	<0.10	<0.10	NA	< 0.10	119%	50%	140%	76%	50%	140%	95%	50%	140%
Benzo(a)pyrene	5539160	5539160	<0.01	<0.01	NA	< 0.01	90%	50%	140%	71%	50%	140%	99%	50%	140%
Indeno(1,2,3-cd)pyrene	5539160	5539160	<0.20	<0.20	NA	< 0.20	80%	50%	140%	90%	50%	140%	86%	50%	140%
Dibenz(a,h)anthracene	5539160	5539160	<0.20	<0.20	NA	< 0.20	76%	50%	140%	89%	50%	140%	105%	50%	140%
Benzo(g,h,i)perylene	5539160	5539160	<0.20	<0.20	NA	< 0.20	112%	50%	140%	94%	50%	140%	93%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5544695		<0.40	<0.40	NA	< 0.40	110%	50%	140%	109%	50%	140%	105%	50%	140%
Vinyl Chloride	5544695		<0.17	<0.17	NA	< 0.17	78%	50%	140%	89%	50%	140%	64%	50%	140%
Bromomethane	5544695		<0.20	<0.20	NA	< 0.20	92%	50%	140%	79%	50%	140%	78%	50%	140%
Trichlorofluoromethane	5544695		<0.40	<0.40	NA	< 0.40	99%	50%	140%	100%	50%	140%	110%	50%	140%
Acetone	5544695		<1.0	<1.0	NA	< 1.0	101%	50%	140%	102%	50%	140%	89%	50%	140%
1,1-Dichloroethylene	5544695		<0.30	<0.30	NA	< 0.30	71%	50%	140%	76%	60%	130%	77%	50%	140%
Methylene Chloride	5544695		<0.30	<0.30	NA	< 0.30	99%	50%	140%	74%	60%	130%	93%	50%	140%
trans- 1,2-Dichloroethylene	5544695		<0.20	<0.20	NA	< 0.20	83%	50%	140%	103%	60%	130%	92%	50%	140%
Methyl tert-butyl ether	5544695		<0.20	<0.20	NA	< 0.20	100%	50%	140%	85%	60%	130%	118%	50%	140%
1,1-Dichloroethane	5544695		<0.30	<0.30	NA	< 0.30	89%	50%	140%	90%	60%	130%	85%	50%	140%
Methyl Ethyl Ketone	5544695		<1.0	<1.0	NA	< 1.0	117%	50%	140%	81%	50%	140%	78%	50%	140%
cis- 1,2-Dichloroethylene	5544695		<0.20	<0.20	NA	< 0.20	97%	50%	140%	100%	60%	130%	104%	50%	140%
Chloroform	5544695		<0.20	<0.20	NA	< 0.20	98%	50%	140%	112%	60%	130%	109%	50%	140%
1,2-Dichloroethane	5544695		<0.20	<0.20	NA	< 0.20	86%	50%	140%	97%	60%	130%	95%	50%	140%
1,1,1-Trichloroethane	5544695		<0.30	<0.30	NA	< 0.30	90%	50%	140%	112%	60%	130%	88%	50%	140%
Carbon Tetrachloride	5544695		<0.20	<0.20	NA	< 0.20	92%	50%	140%	113%	60%	130%	112%	50%	140%
Benzene	5544695		<0.20	<0.20	NA	< 0.20	95%	50%	140%	114%	60%	130%	103%	50%	140%
1,2-Dichloropropane	5544695		<0.20	<0.20	NA	< 0.20	102%	50%	140%	97%	60%	130%	104%	50%	140%
Trichloroethylene	5544695		<0.20	<0.20	NA	< 0.20	88%	50%	140%	83%	60%	130%	96%	50%	140%
Bromodichloromethane	5544695		<0.20	<0.20	NA	< 0.20	98%	50%	140%	101%	60%	130%	110%	50%	140%
Methyl Isobutyl Ketone	5544695		<1.0	<1.0	NA	< 1.0	87%	50%	140%	106%	50%	140%	99%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

Trace Organics Analysis (Continued)

RPT Date: Dec 19, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,1,2-Trichloroethane	5544695		<0.20	<0.20	NA	< 0.20	94%	50%	140%	99%	60%	130%	107%	50%	140%
Toluene	5544695		<0.20	<0.20	NA	< 0.20	108%	50%	140%	119%	60%	130%	101%	50%	140%
Dibromochloromethane	5544695		<0.10	<0.10	NA	< 0.10	112%	50%	140%	117%	60%	130%	119%	50%	140%
Ethylene Dibromide	5544695		<0.10	<0.10	NA	< 0.10	77%	50%	140%	90%	60%	130%	109%	50%	140%
Tetrachloroethylene	5544695		<0.20	<0.20	NA	< 0.20	103%	50%	140%	101%	60%	130%	89%	50%	140%
1,1,1,2-Tetrachloroethane	5544695		<0.10	<0.10	NA	< 0.10	98%	50%	140%	103%	60%	130%	109%	50%	140%
Chlorobenzene	5544695		<0.10	<0.10	NA	< 0.10	104%	50%	140%	111%	60%	130%	95%	50%	140%
Ethylbenzene	5544695		<0.10	<0.10	NA	< 0.10	94%	50%	140%	104%	60%	130%	91%	50%	140%
m & p-Xylene	5544695		<0.20	<0.20	NA	< 0.20	110%	50%	140%	95%	60%	130%	116%	50%	140%
Bromoform	5544695		<0.10	<0.10	NA	< 0.10	92%	50%	140%	90%	60%	130%	112%	50%	140%
Styrene	5544695		<0.10	<0.10	NA	< 0.10	83%	50%	140%	91%	60%	130%	119%	50%	140%
1,1,2,2-Tetrachloroethane	5544695		<0.10	<0.10	NA	< 0.10	87%	50%	140%	90%	60%	130%	72%	50%	140%
o-Xylene	5544695		<0.10	<0.10	NA	< 0.10	99%	50%	140%	110%	60%	130%	113%	50%	140%
1,3-Dichlorobenzene	5544695		<0.10	<0.10	NA	< 0.10	115%	50%	140%	113%	60%	130%	102%	50%	140%
1,4-Dichlorobenzene	5544695		<0.10	<0.10	NA	< 0.10	115%	50%	140%	112%	60%	130%	102%	50%	140%
1,2-Dichlorobenzene	5544695		<0.10	<0.10	NA	< 0.10	111%	50%	140%	108%	60%	130%	97%	50%	140%
n-Hexane	5544695		<0.20	<0.20	NA	< 0.20	93%	50%	140%	100%	60%	130%	70%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6 to C10)	5544695		<25	<25	NA	< 25	96%	60%	140%	90%	60%	140%	77%	60%	140%
F2 (C10 to C16)	5534924		< 100	< 100	NA	< 100	98%	60%	140%	76%	60%	140%	75%	60%	140%
F3 (C16 to C34)	5534924		< 500	< 500	NA	< 100	102%	60%	140%	83%	60%	140%	95%	60%	140%
F4 (C34 to C50)	5534924		< 500	< 500	NA	< 100	78%	60%	140%	81%	60%	140%	110%	60%	140%
O. Reg. 153(511) - PHCs F1/BTEX (Water)															
Benzene	5542528		<0.20	<0.20	NA	< 0.20	114%	60%	140%	94%	60%	140%	111%	60%	140%
Toluene	5542528		<0.20	<0.20	NA	< 0.20	106%	60%	140%	90%	60%	140%	105%	60%	140%
Ethylbenzene	5542528		<0.10	<0.10	NA	< 0.10	107%	60%	140%	90%	60%	140%	104%	60%	140%
m & p-Xylene	5542528		<0.20	<0.20	NA	< 0.20	108%	60%	140%	90%	60%	140%	100%	60%	140%
o-Xylene	5542528		<0.10	<0.10	NA	< 0.10	109%	60%	140%	92%	60%	140%	96%	60%	140%
F1 (C6 to C10)	5542528		<25	<25	NA	< 25	102%	60%	140%	93%	60%	140%	98%	60%	140%
Toluene-d8	5544695		102	100	2.2%	< 1	NA			NA			79%		

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

Certified By:

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			N/A
F1 (C6 to C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Benzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS

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

AGAT Laboratories

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http://www.agatlabs.com

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 to C10)	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z103056

PROJECT: 102638.002

ATTENTION TO: Adrian Williams, Nicole Soucy

SAMPLING SITE:Corp

SAMPLED BY:AW

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

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

AGAT Laboratories

Have feedback? Scan here for a quick survey!

5835 Coopers Avenue
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webearth.agatlabs.com

Chain of Custody Record

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

Report Information:

Company: GEMTEC
Contact: Adrian Williams, Nicole Saucy
Address: 32 Steacie

Phone: 343.597.1308 Fax:
Reports to be sent to:
1. Email: adrian.williams@gemtec.ca
2. Email: nicole.saucy@gemtec.ca

Project Information:

Project: 102638.002
Site Location: Carp
Sampled By: AW
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ Regulation 406
Table (Indicate One)
☐ Regulation 558
☐ CCME

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

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

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

Laboratory Use Only

Work Order #: 23710305G

Cooler Quantity: one - ice packs
Arrival Temperatures: 6.5 | 7.0 | 6.9
1-5 | 1-6 | 1-7
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: bagged ice

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	PHC F1-F4						Potentially Hazardous or High Concentration (Y/N)
1. MW23-02	Dec11	PM AM PM	7	GW						X	X							X						
2. MW23-102	Dec11	PM AM PM	7	GW						X	X							X						
3. MW23-03	Dec11	PM AM PM	7	GW						X	X							X						
4. Field Blank	Dec11	PM AM PM	3	GW						X								X						
5. Trip Blank	Dec11	PM AM PM	3							X								X						
6.		AM PM																						
7.		AM PM																						
8.		AM PM																						
9.		AM PM																						
10.		AM PM																						
11.		AM PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Adrian Williams	Dec12	8:20am	C Griffith	12/12/23	08h30
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
C to Aurel	12/12/23	15h30	TK	Dec 13	9 AM
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page _____ of _____

N°: T-147983

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

Document ID: DAV-FR-1511.022

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Nicole Soucy
PROJECT: 102638.002
AGAT WORK ORDER: 24Z124638
SOIL ANALYSIS REVIEWED BY: Chuandi Zhang, Inorganic Supervisor
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Mar 06, 2024
PAGES (INCLUDING COVER): 8
VERSION*: 1

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

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

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

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:Thomas Argue Road

SAMPLED BY:CC

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

DATE RECEIVED: 2024-02-28

DATE REPORTED: 2024-03-06

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: BH24-103 SA2-1	BH24-103 SA2-101	BH24-104 SA2-1	BH24-105 SA2-1
				SAMPLE TYPE: Soil	Soil	Soil	Soil
				DATE SAMPLED: 2024-02-27	2024-02-27	2024-02-27	2024-02-27
				5687224	5687231	5687232	5687233
Electrical Conductivity (2:1)	mS/cm	0.47	0.005	0.177	0.151	0.148	0.162
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.53	7.34	7.16	7.41

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5687224-5687233 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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

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Certificate of Analysis

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:Thomas Argue Road

SAMPLED BY:CC

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

DATE RECEIVED: 2024-02-28

DATE REPORTED: 2024-03-06

SAMPLE DESCRIPTION:				BH24-106 SA1-1	BH24-107 SA1-1	BH24-108 SA1-1	BH24-108 SA1-101	BH24-109 SA1-1
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2024-02-27	2024-02-27	2024-02-27	2024-02-27	2024-02-27
Parameter	**Unit**	**G / S**	**RDL**	**5687234**	**5687238**	**5687239**	**5687240**	**5687241**
Naphthalene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	0.07	<0.05	0.09	**0.16**
Acenaphthene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.19	0.05	0.08	**0.22**	0.11	**0.28**	**0.28**
Anthracene	µg/g	0.05	0.05	<0.05	**0.11**	<0.05	**0.12**	**0.15**
Fluoranthene	µg/g	0.24	0.05	**0.27**	**1.16**	**0.28**	**0.96**	**1.20**
Pyrene	µg/g	0.19	0.05	**0.22**	**0.92**	**0.22**	**0.76**	**0.96**
Benz(a)anthracene	µg/g	0.095	0.05	0.09	**0.37**	**0.11**	**0.40**	**0.66**
Chrysene	µg/g	0.18	0.05	0.14	**0.48**	0.13	**0.53**	**0.81**
Benzo(b)fluoranthene	µg/g	0.3	0.05	0.09	**0.31**	0.08	**0.39**	**0.77**
Benzo(k)fluoranthene	µg/g	0.05	0.05	**0.11**	**0.35**	**0.08**	**0.43**	**0.75**
Benzo(a)pyrene	µg/g	0.05	0.05	**0.08**	**0.26**	0.05	**0.27**	**0.58**
Indeno(1,2,3-cd)pyrene	µg/g	0.11	0.05	<0.05	<0.05	<0.05	0.05	**0.14**
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	0.05	0.14
2-and 1-methyl Naphthalene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	8.8	9.9	12.2	12.2	5.5
Surrogate	**Unit**	**Acceptable Limits**						
Naphthalene-d8	%	50-140		80	80	70	75	85
Acridine-d9	%	50-140		70	70	70	125	65
Terphenyl-d14	%	50-140		85	90	90	90	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Agricultural or Other Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5687234-5687241 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowich

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

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Exceedance Summary

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5687234	BH24-106 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.05	0.08
5687234	BH24-106 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(k)fluoranthene	µg/g	0.05	0.11
5687234	BH24-106 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.24	0.27
5687234	BH24-106 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	0.19	0.22
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Anthracene	µg/g	0.05	0.11
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.095	0.37
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.05	0.26
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(b)fluoranthene	µg/g	0.3	0.31
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(k)fluoranthene	µg/g	0.05	0.35
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Chrysene	µg/g	0.18	0.48
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.24	1.16
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Phenanthrene	µg/g	0.19	0.22
5687238	BH24-107 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	0.19	0.92
5687239	BH24-108 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.095	0.11
5687239	BH24-108 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(k)fluoranthene	µg/g	0.05	0.08
5687239	BH24-108 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.24	0.28
5687239	BH24-108 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	0.19	0.22
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Anthracene	µg/g	0.05	0.12
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.095	0.40
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.05	0.27
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(b)fluoranthene	µg/g	0.3	0.39
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(k)fluoranthene	µg/g	0.05	0.43
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Chrysene	µg/g	0.18	0.53
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.24	0.96
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Phenanthrene	µg/g	0.19	0.28
5687240	BH24-108 SA1-101	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	0.19	0.76
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Acenaphthylene	µg/g	0.093	0.16
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Anthracene	µg/g	0.05	0.15
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.095	0.66
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.05	0.58
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(b)fluoranthene	µg/g	0.3	0.77
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Benzo(k)fluoranthene	µg/g	0.05	0.75
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Chrysene	µg/g	0.18	0.81
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.24	1.20
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Indeno(1,2,3-cd)pyrene	µg/g	0.11	0.14
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Phenanthrene	µg/g	0.19	0.28
5687241	BH24-109 SA1-1	ON T1 S AG	O. Reg. 153(511) - PAHs (Soil)	Pyrene	µg/g	0.19	0.96

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

Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

ATTENTION TO: Nicole Soucy

SAMPLING SITE:Thomas Argue Road

SAMPLED BY:CC

Soil Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - ORPs (Soil)															
Electrical Conductivity (2:1)	5698631		2.35	2.43	3.2%	< 0.005	110%	80%	120%						
pH, 2:1 CaCl2 Extraction	5687232	5687232	7.16	7.35	2.7%		100%	80%	120%						

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

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

Certified By:

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

ATTENTION TO: Nicole Soucy

SAMPLING SITE:Thomas Argue Road

SAMPLED BY:CC

Trace Organics Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5677882		<0.05	<0.05	NA	< 0.05	97%	50%	140%	100%	50%	140%	80%	50%	140%
Acenaphthylene	5677882		<0.05	<0.05	NA	< 0.05	96%	50%	140%	93%	50%	140%	68%	50%	140%
Acenaphthene	5677882		<0.05	<0.05	NA	< 0.05	102%	50%	140%	110%	50%	140%	68%	50%	140%
Fluorene	5677882		<0.05	<0.05	NA	< 0.05	107%	50%	140%	108%	50%	140%	68%	50%	140%
Phenanthrene	5677882		<0.05	<0.05	NA	< 0.05	113%	50%	140%	103%	50%	140%	73%	50%	140%
Anthracene	5677882		<0.05	<0.05	NA	< 0.05	106%	50%	140%	100%	50%	140%	70%	50%	140%
Fluoranthene	5677882		<0.05	<0.05	NA	< 0.05	116%	50%	140%	108%	50%	140%	70%	50%	140%
Pyrene	5677882		<0.05	<0.05	NA	< 0.05	113%	50%	140%	110%	50%	140%	70%	50%	140%
Benz(a)anthracene	5677882		<0.05	<0.05	NA	< 0.05	85%	50%	140%	70%	50%	140%	90%	50%	140%
Chrysene	5677882		<0.05	<0.05	NA	< 0.05	116%	50%	140%	118%	50%	140%	75%	50%	140%
Benzo(b)fluoranthene	5677882		<0.05	<0.05	NA	< 0.05	70%	50%	140%	88%	50%	140%	88%	50%	140%
Benzo(k)fluoranthene	5677882		<0.05	<0.05	NA	< 0.05	114%	50%	140%	108%	50%	140%	83%	50%	140%
Benzo(a)pyrene	5677882		<0.05	<0.05	NA	< 0.05	82%	50%	140%	98%	50%	140%	90%	50%	140%
Indeno(1,2,3-cd)pyrene	5677882		<0.05	<0.05	NA	< 0.05	100%	50%	140%	78%	50%	140%	75%	50%	140%
Dibenz(a,h)anthracene	5677882		<0.05	<0.05	NA	< 0.05	73%	50%	140%	65%	50%	140%	63%	50%	140%
Benzo(g,h,i)perylene	5677882		<0.05	<0.05	NA	< 0.05	75%	50%	140%	73%	50%	140%	65%	50%	140%

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

Certified By: N Popowich

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

AGAT Laboratories

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z124638

PROJECT: 102638.002

ATTENTION TO: Nicole Soucy

SAMPLING SITE:Thomas Argue Road

SAMPLED BY:CC

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE

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AGAT Laboratories

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24721l638

Cooler Quantity: One - no ice packs

Arrival Temperatures: 10.6 | 10.3 | 10.4
3.1 | 3.5 | 3.6

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: bagged.

Report Information:

Company: GEMTEC
Contact: NS
Address: 32 Stecie Drive
Kanata, ON
Phone: K2K 2A9 Fax:
Reports to be sent to:
1. Email: adrian.williams@gemtec.ca
2. Email: nicole.soucy@gemtec.ca

Project Information:

Project: 102638.002
Site Location: Thomas Argue Road
Sampled By: CC
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☐Ind/Com
☐Res/Park
☑Agriculture
Soil Texture *(Check One)*
☑Coarse
☐Fine

☐ Excess Soils R406
Table *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐Sanitary ☐Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

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

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

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	pH	EC						Potentially Hazardous or High Concentration (Y/N)
BH24-103 SA2-1	2024-02-27	AM PM	2	S													☑	☑						
BH24-103 SA102	2024-02-27	AM PM	2	S													☑	☑						
BH24-104 SA2-1	2024-02-27	AM PM	2	S													☑	☑						
BH24-105 SA2-1	2024-02-27	AM PM	2	S													☑	☑						
BH24-106 SA1-1	2024-02-27	AM PM	2	S						☑														
BH24-107 SA1-1	2024-02-27	AM PM	2	S						☑														
BH24-108 SA1-1	2024-02-27	AM PM	2	S						☑														
BH24-108 SA1-101	2024-02-27	AM PM	2	S						☑														
BH24-109 SA1-1	2024-02-27	AM PM	2	S						☑														
		AM PM																						
		AM PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date 02/28/24	Time 19h09
Samples Relinquished By (Print Name and Sign): C. to Pure	Date 02/28/24	Time 15h00	Samples Received By (Print Name and Sign):	Date Feb 29	Time 8:55
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

N°:

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

Document ID: DIV-784511-021

Date Issued: March 9, 2021

AGAT Laboratories

2215 27 Ave NE
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http://www.agatlabs.com

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Adrian Williams
PROJECT: 102638.002
AGAT WORK ORDER: 23Z096569
SOIL ANALYSIS REVIEWED BY: Sukhwinder Randhawa, Inorganic Team Lead
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
DATE REPORTED: Dec 04, 2023
PAGES (INCLUDING COVER): 10
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 291-4682

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

O. Reg. 558 - Metals & Inorganics

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-11-21 12:00
Parameter	Unit	G / S	RDL	5491237
Arsenic Leachate	mg/L	2.5	0.010	<0.010
Barium Leachate	mg/L	100	0.020	0.431
Boron Leachate	mg/L	500	0.050	<0.050
Cadmium Leachate	mg/L	0.5	0.010	<0.010
Chromium Leachate	mg/L	5	0.050	<0.050
Lead Leachate	mg/L	5	0.010	<0.010
Mercury Leachate	mg/L	0.1	0.01	<0.01
Selenium Leachate	mg/L	1	0.020	<0.020
Silver Leachate	mg/L	5	0.010	<0.010
Uranium Leachate	mg/L	10	0.050	<0.050
Fluoride Leachate	mg/L	150	0.10	0.10
Cyanide Leachate	mg/L	20	0.05	<0.05
(Nitrate + Nitrite) as N Leachate	mg/L	1000	0.70	<0.70

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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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

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Certificate of Analysis

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

Flash Point Analysis

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

				SAMPLE DESCRIPTION:	TCLP
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2023-11-21 12:00
Parameter	**Unit**	**G / S**	**RDL**	**5491237**	
Flash point (Pensky Martin Closed Cup)	Deg C		NA	>100	

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

Analysis performed at AGAT Calgary (unless marked by *)

Certified By: R. Chakraberty

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-11-21 12:00
Parameter	**Unit**	**G / S**	**RDL**	**5491237**
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	**Unit**	**Acceptable Limits**		
Acridine-d9	%	50-140		112
Naphthalene-d8	%	50-140		73
Terphenyl-d14	%	50-140		67

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

5491237 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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SAMPLING SITE:Carp

SAMPLED BY:AW

O. Reg. 558 - VOCs

DATE RECEIVED: 2023-11-23

DATE REPORTED: 2023-12-04

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-11-21 12:00
Parameter	**Unit**	**G / S**	**RDL**	**5491237**
Vinyl Chloride Leachate	mg/L	0.2	0.030	<0.030
1,1 Dichloroethene Leachate	mg/L	1.4	0.020	<0.020
Dichloromethane Leachate	mg/L	5.0	0.030	<0.030
Methyl Ethyl Ketone Leachate	mg/L	200	0.090	<0.090
Chloroform Leachate	mg/L	10.0	0.020	<0.020
1,2-Dichloroethane Leachate	mg/L	0.5	0.020	<0.020
Carbon Tetrachloride Leachate	mg/L	0.5	0.020	<0.020
Benzene Leachate	mg/L	0.5	0.020	<0.020
Trichloroethene Leachate	mg/L	5.0	0.020	<0.020
Tetrachloroethene Leachate	mg/L	3.0	0.050	<0.050
Chlorobenzene Leachate	mg/L	8.0	0.010	<0.010
1,2-Dichlorobenzene Leachate	mg/L	20.0	0.010	<0.010
1,4-Dichlorobenzene Leachate	mg/L	0.5	0.010	<0.010
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		100
4-Bromofluorobenzene	% Recovery	50-140		65

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

5491237 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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

AGAT Laboratories

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

Soil Analysis

RPT Date: Dec 04, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 - Metals & Inorganics															
Arsenic Leachate	5492981		<0.010	<0.010	NA	< 0.010	102%	70%	130%	111%	80%	120%	114%	70%	130%
Barium Leachate	5492981		0.335	0.377	11.8%	< 0.020	98%	70%	130%	99%	80%	120%	95%	70%	130%
Boron Leachate	5492981		0.069	0.071	NA	< 0.050	100%	70%	130%	100%	80%	120%	108%	70%	130%
Cadmium Leachate	5492981		<0.010	<0.010	NA	< 0.010	100%	70%	130%	101%	80%	120%	102%	70%	130%
Chromium Leachate	5492981		<0.050	<0.050	NA	< 0.050	99%	70%	130%	101%	80%	120%	101%	70%	130%
Lead Leachate	5492981		0.014	0.017	NA	< 0.010	96%	70%	130%	89%	80%	120%	89%	70%	130%
Mercury Leachate	5492981		<0.01	<0.01	NA	< 0.01	108%	70%	130%	99%	80%	120%	94%	70%	130%
Selenium Leachate	5492981		<0.020	<0.020	NA	< 0.020	102%	70%	130%	117%	80%	120%	121%	70%	130%
Silver Leachate	5492981		<0.010	<0.010	NA	< 0.010	98%	70%	130%	105%	80%	120%	97%	70%	130%
Uranium Leachate	5492981		<0.050	<0.050	NA	< 0.050	102%	70%	130%	98%	80%	120%	99%	70%	130%
Fluoride Leachate	5492981		0.23	0.24	NA	< 0.10	92%	90%	110%	101%	90%	110%	107%	70%	130%
Cyanide Leachate	5492981		<0.05	<0.05	NA	< 0.05	104%	70%	130%	105%	80%	120%	106%	70%	130%
(Nitrate + Nitrite) as N Leachate	5492981		<0.70	<0.70	NA	< 0.70	98%	80%	120%	98%	80%	120%	94%	70%	130%

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

Certified By:



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

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

Trace Organics Analysis

RPT Date: Dec 04, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 - Benzo(a) pyrene															
Benzo(a)pyrene Leachate	5468457		< 0.001	< 0.001	NA	< 0.001	75%	50%	140%	75%	50%	140%	61%	50%	140%
O. Reg. 558 - VOCs															
Vinyl Chloride Leachate	5498816		<0.030	<0.030	NA	< 0.030	92%	50%	140%	89%	50%	140%	119%	50%	140%
1,1 Dichloroethene Leachate	5498816		<0.020	<0.020	NA	< 0.020	92%	50%	140%	105%	60%	130%	114%	50%	140%
Dichloromethane Leachate	5498816		<0.030	<0.030	NA	< 0.030	110%	50%	140%	98%	60%	130%	100%	50%	140%
Methyl Ethyl Ketone Leachate	5498816		<0.090	<0.090	NA	< 0.090	107%	50%	140%	95%	50%	140%	91%	50%	140%
Chloroform Leachate	5498816		<0.020	<0.020	NA	< 0.020	111%	50%	140%	117%	60%	130%	119%	50%	140%
1,2-Dichloroethane Leachate	5498816		<0.020	<0.020	NA	< 0.020	94%	50%	140%	86%	60%	130%	96%	50%	140%
Carbon Tetrachloride Leachate	5498816		<0.020	<0.020	NA	< 0.020	113%	50%	140%	103%	60%	130%	94%	50%	140%
Benzene Leachate	5498816		<0.020	<0.020	NA	< 0.020	108%	50%	140%	105%	60%	130%	108%	50%	140%
Trichloroethene Leachate	5498816		<0.020	<0.020	NA	< 0.020	88%	50%	140%	91%	60%	130%	90%	50%	140%
Tetrachloroethene Leachate	5498816		<0.050	<0.050	NA	< 0.050	92%	50%	140%	100%	60%	130%	117%	50%	140%
Chlorobenzene Leachate	5498816		<0.010	<0.010	NA	< 0.010	104%	50%	140%	109%	60%	130%	103%	50%	140%
1,2-Dichlorobenzene Leachate	5498816		<0.010	<0.010	NA	< 0.010	103%	50%	140%	103%	60%	130%	95%	50%	140%
1,4-Dichlorobenzene Leachate	5498816		<0.010	<0.010	NA	< 0.010	105%	50%	140%	105%	60%	130%	102%	50%	140%

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

Flash Point Analysis

Flash Point (Deg C) (Cgy)	3907	Butanol	35	35	NA		101%	80%	120%

Comments: Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.
The sample spikes and dups are not from the same sample ID.

Certified By: R. Chakraberty

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Arsenic Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Barium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Boron Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Cadmium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Chromium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Lead Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Mercury Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Selenium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Silver Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Uranium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Fluoride Leachate	INOR-93-6000	EPA SW 846-1311; SM 4500F-C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA 1311 modified from MOE 3015 SM 4500 CN-I,G387	SEGMENTED FLOW ANALYSIS
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & modified from SM 4500 - NO3- I	LACHAT FIA

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23Z096569

PROJECT: 102638.002

ATTENTION TO: Adrian Williams

SAMPLING SITE:Carp

SAMPLED BY:AW

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Flash point (Pensky Martin Closed Cup)	TO 2210	ASTM D93	Pensky Martin Closed Cup
Benzo(a)pyrene Leachate	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Vinyl Chloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,1 Dichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Dichloromethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chloroform Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Benzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Trichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Tetrachloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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AGAT Laboratories

Have feedback? Scan here for a quick survey!

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

Chain of Custody Record

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

Report Information:

Company: GEMTEC
Contact: Adrian Williams
Address: 32 Steacie

Phone: 343.597.1308 Fax:

Reports to be sent to:
1. Email: adrian.williams@gemtec.ca
2. Email: nicole.soucy@gemtec.ca

Project Information:

Project: 102638.002
Site Location: Carp
Sampled By: AW
AGAT Quote #: PO:

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

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ Regulation 406
Table (Indicate One)
☐ Regulation 558
☐ CCME

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

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

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 23Z096569

Cooler Quantity: one - noice
Arrival Temperatures: 17.5 | 17.6 | 17.5
5.2 | 4.8 | 4.3
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: large bagged ice

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. TCLP	Nov 21	P.M AM PM	1	S	second jar to add volume for previous submission													
2.		AM PM																
3.		AM PM																
4.		AM PM																
5.		AM PM																
6.		AM PM																
7.		AM PM																
8.		AM PM																
9.		AM PM																
10.		AM PM																
11.		AM PM			1:10pm													

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Adrian Williams	Nov 26	~~12:00pm~~	CB Thelet/LB 2023-11-27		13h13
to Dave	23-11-27	15h30	C. VALENZUELA	11/28/23	8:37am
	Date	Time		Date	Time

Page ____ of ____

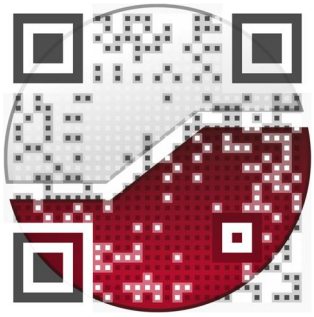
N°: T - 150286

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

Document ID: DW-TR-1511-022

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experience • knowledge • integrity



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geotechnical	géotechnique
environmental	environnement
structural	structures
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité