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Phase Two Environmental Site Assessment
3043 Dunning Road
Ottawa, Ontario

GEMTEC Project: 100117.056

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Submitted to:

Laplante Poultry Farms Limited
3105 Dunning Road
Sarsfield, Ontario
K0A 3E0

Phase Two Environmental Site Assessment
3043 Dunning Road
Ottawa, Ontario

September 6, 2024
GEMTEC Project: 100117.056

experience • knowledge • integrity

GEMTEC Consulting Engineers and Scientists Limited
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Ottawa, ON, Canada
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September 6, 2024 File: 100117.056

Laplante Poultry Farms Limited
3105 Dunning Road
Sarsfield, Ontario
K0A 3E0

Attention: Jamie Batchelor, Planner

Re: Phase Two Environmental Site Assessment
3043 Dunning Road
Ottawa, Ontario

Please find enclosed GEMTEC's Phase Two Environmental Site Assessment per our proposal dated June 14, 2024. The Phase Two ESA was completed in general accordance with Ontario Regulation 153/04 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.

Jeffrey Gauthier, B.Eng.
Environmental Technician

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

JG/NS

Enclosures

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by J.L. Richards & Associates (JLR) 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 5360 Bank Street, in Ottawa, Ontario (hereafter referred to as the "Site"). The site plan is provided in Figure 1, Appendix A.

Based on GEMTEC's Report entitled "Phase One Environmental Site Assessment, Proposed Chicken Processing Plant. 3043 Dunning Road. Ottawa, Ontario", prepared by GEMTEC, dated June 2024 (2024 Phase One ESA).", three areas of potential environmental concern (APECs) were identified for further investigation on the Phase Two Property:

APEC #	APEC	Location of APEC on the Site	COPCs
1	Two ASTs identified on the subject site north of the existing chicken barn	Northwest section along barn	PHC F1-F4, BTEX, Metals, PAHs
2	Pole-mounted electrical transformer identified north of existing chicken barn	Northwest from barn	PCBs
3	One AST identified about 10m south of subject site	South of the Site. Northwest section along barn on 3085 Dunning	PHC F1-F4, BTEX, Metals, PAHs

Notes:
COPCs – Contaminants of Potential Environmental Concern
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
BTEX – Benzene, Toluene, Ethylbenzene, and Xylene
PAHs – Polycyclic Aromatic Hydrocarbons
PCBs - Polycyclic Biphenyls

As part of the Phase Two ESA investigation, a total of two boreholes completed as groundwater monitoring wells (BH/MW24-03 and BH/MW24-04), were advanced with a Geoprobe drill rig to enable soil quality sampling.

A total of six soil samples and three groundwater samples were collected and analyzed for the following contaminants of potential concern (COPCs): Metals, PAHs, and/or PHCs F1-F4 and BTEX.

Through completion of the Phase Two ESA investigation, the following can be summarized:

- The overburden observed at the Site during the subsurface investigation can generally be described as silty clay, followed by glacial till, consisting of a heterogeneous mix of all grain sizes.
- The reported concentrations of all soil and groundwater samples were compared to the Ministry of Environment Conservations and Parks (MECP) Table 2 Agricultural/Other (Agr/Ot) Site Condition Standards (SCS).

- The reported concentrations of all soil samples where metals were sampled exceeded the applicable MECP Table 2 Agr/Ot SCS for Cobalt and Vanadium but are considered to be naturally occurring. All other soil samples analyzed met the MECP Table 2 Agr/Ot SCS.
- The reported concentrations of all groundwater samples met the Table 2.

The Phase Two ESA investigated the APECs identified in the Phase One ESA. Based on the results of the soil samples and groundwater samples submitted as part of this Phase Two ESA no impacts were identified. Accordingly, no further work is recommended at this time.

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by J.L. Richards & Associates (JLR) 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 3043 Dunning Road, in Ottawa, Ontario (hereafter referred to as the "Site"). The site plan is provided on Figure A.1, Appendix A.

1.1 Site Description

The Site is municipally addressed as 3043 Dunning Road in Ottawa, Ontario and has an area of approximately 1.7 hectares (4.2 acres). The Phase Two Property is currently owned and operated by Laplante Poultry Farms Limited as a chicken farm which raises poultry. The property consists of one large barn for the poultry. Directly adjacent to the north side of the barn are two fuel storage tanks. Most of the land is occupied by grass and a gravel roadway to the south. The site is connected to the southern adjacent property (also owned and operated by Laplante) with a gravel road. The site is bound to the north and east by 3105 Dunning which is an agricultural land parcel. The site is bound to the south by 3085 Dunning which is an agricultural land parcel with a chicken barn. The site is bound to the west by Dunning Road.

1.2 Property Ownership

Pertinent details of the Site are provided in Table 1.1.

Table 1.1: Summary of Phase Two Property

Detail	Information
Legal Description	PT LT 7 CON 4 CUMBERLAND PT 1, 4R11019; CUMBERLAND.
Municipal Address	3043 Dunning Road Ottawa, ON K0A 3E0
Parcel Identification Number (PIN)	14512-0120 (LT)
Current Owner	Ferme Gerald LaPlante et Fils Ltee
Owner Contact Information	Robert Laplante 3085 Dunning Road Sarsfield, Ontario K0A 3E0 Office: 613-794-7902 Email: robertlaplante@rogers.com
Site Area	1.7 hectares
Current Zoning	AG – Agricultural
Centroid UTM Coordinate	45.4541, -75.3659

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

1.3 Current and Proposed Future Uses

The Site is currently used for poultry raising. It is GEMTEC's understanding that the Site is to be developed into a chicken processing plant and thus will remain an agricultural property use.

1.4 Applicable Site Condition 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 most sensitive land use for the Site is agricultural.
- Soil Texture: Section 42(2) of O.Reg. 153/04 defines coarse textured soil as "soil that contains more than 50 percent by mass of particles that are 75 micrometres or larger in mean diameter". Based on the soil logged during the investigation, the soils across the site are considered "coarse textured".
- 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;

  Based on the results of the field program completed during the environmental investigation, more than 2 metres of overburden was encountered in the advanced borehole locations without encountering bedrock to the depth of the borehole. Therefore, it is inferred that the Site is not considered a shallow soil property.

  (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.

  No water bodies are present onsite or within 30m of the site.
- Groundwater Use: Potable water at the Site and surrounding properties is supplied by private wells. Therefore, the potable groundwater condition applies at the Site.
- 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 the pH value of the soils is between 6.71 and 7.71. Following a review of areas of natural significance, no areas were identified on, adjacent to or within 30 metres of the Site. 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:

- 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 for full depth soils in a Potable Groundwater Condition.*

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The Subject Site has a relatively flat topography and is at an elevation of approximately 88 m (metres) above sea level (ASL). The Subject Site has no discernable topographic high points. The Jules Potvin Drain is east of the Subject Site and is a topographic low point. Surface water is assumed to drain into the Jules Potvin Drain which flows into the Rolland Dutrisac Drain north of the Subject Site.

Surficial and bedrock geology maps of the Canada indicate that the overburden in the Phase Two study area generally consists of fine-textured glaciomarine deposits (i.e., silt and clay, minor sand and gravel) and is massive to well laminated.

Groundwater flow often reflects topographic features and typically flows towards nearby lakes, rivers, and wetland areas. Based on previous hydrogeological reports completed by GEMTEC, it is anticipated regional groundwater typically flows towards the east-southeast, generally coinciding with local topography. However, through review of groundwater elevations presented herein, local groundwater flow has a northern component.

2.2 Past Investigations

To GEMTEC's knowledge, two environmental investigations have been completed at the Site. The Hydrogeological Investigation & Terrain Analysis report completed by GEMTEC in 2024 and the Phase One ESA completed by GEMTEC in 2024.

The Phase One ESA conducted by GEMTEC included a review of available historical information on the Site and surrounding area, interviews with persons familiar with the Site and a Site reconnaissance. Based on this report, three APECs were identified for the Site.

Figure A.3, Appendix A illustrates the location of the APECs. The APECs identified in the Phase One ESA (GEMTEC, June 2024) are summarized in Table 2.1.

Table 2.1: APECs as per Phase One ESA

APEC #	APEC	Location of APEC on the Site	COPCs	Investigation Location
1	Two ASTs identified on the subject site north of the existing chicken barn	Northwest section along barn	PHC F1-F4, BTEX, Metals, PAHs	BH/MW24-03
2	Pole-mounted electrical transformer identified north of existing chicken barn	Northwest from barn	PCBs	BH/MW24-03
3	One AST identified about 10m south of subject site	South of the Site. Northwest section along barn on 3085 Dunning	PHC F1-F4, BTEX, Metals, PAHs	BH/MW24-04

Notes:

APEC - Area(s) of Potential Environmental Concern
COPCs – Contaminants of Potential Environmental Concern
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
BTEX – Benzene, Toluene, Ethylbenzene, and Xylene
PAHs – Polycyclic Aromatic Hydrocarbons
PCBs - Polycyclic Biphenyls

3.0 SCOPE OF THE INVESTIGATION

3.1 Overview of Phase Two ESA Investigation

The Phase Two ESA investigation activities were completed between July 22nd, 2024 and August 1st, 2024. The Phase Two ESA included the following tasks:

- **Health and Safety Plan:** Preparation of a Health and Safety Plan for internal and subcontractor use prior to initiating any field work at the Site;
- **Utility Clearances:** Coordination of utility clearances with local utility companies along with retaining the services of a private locator to assess for possible services in the areas of the proposed borehole locations;
- **Sampling and Analysis Plan (SAP):** Preparation of an informal SAP to document the purpose, rationale, number and location of samples to be recovered as part of the Phase Two ESA investigation. More details are available in Section 4.2;

- **Borehole Advancement and Monitoring Well Installation:** The Phase Two ESA investigation activities included the drilling of two boreholes and completion two monitoring wells. The locations of the boreholes and monitoring well are provided in Figure A.4, Appendix A;
- **Soil Sampling:** Soil samples were collected on July 22nd, 2024, from the boreholes. Six soil samples, including the toxicity characteristic leaching procedure (TCLP), were submitted for chemical analysis of one or more of the following COPCs:
    - Petroleum Hydrocarbon (PHC) Four Fractions (F1-F4);
    - Volatile Organic Compounds (VOCs);
    - All Metals;
    - Metals and Inorganics;
    - Polychlorinated Biphenyls;
    - pH;
    - Polycyclic Aromatic Hydrocarbons (PAHs); and,
    - Benzene, Toluene, Ethylbenzene, and Xylene (BTEX).
- **Groundwater Monitoring and Sampling:** Three groundwater samples were collected on August 1st, 2024 from the monitoring wells. The groundwater samples were submitted for chemical analysis of one or more of the following COPCs:
    - PAHs;
    - PHC F1-F4;
    - BTEX;
    - VOCs;
    - Metals (including hydrides); and,
    - Field Blank and Trip Blank for PHC F1/VOCs.
- **Surveying:** An elevation survey for boreholes and monitoring wells was completed using a high precision digital GPS (Trimble R10); and,
- **Reporting:** GEMTEC compiled and assessed the field and laboratory results from the above-noted activities into this report.

The Phase Two ESA was completed to assess the soil and groundwater quality on Site within the APECs identified during the Phase One ESA (GEMTEC, 2024). The investigation was completed in general accordance with O.Reg. 153/04, to support a site plan application.

3.2 Media Investigated

The Phase Two ESA field program included sampling of soil from boreholes and groundwater from the monitoring wells to address the potential environmental issues identified in the Phase One ESA.

No sediment was present at the Site and, therefore, no sediment sampling was completed.

3.3 Phase One ESA Conceptual Model

The following describes the Phase One ESA Conceptual Site Model (CSM) based on the information obtained and reviewed as part of the Phase One ESA (GEMTEC, 2024).

- The Site is located at 3043 Dunning Road in Ottawa, Ontario with an approximate area of 17,000 square meters. One structure is present on the site. Site features are shown in Figure A.2, Appendix 2.
- Based on aerial photographs and the Site assessment, the Site has not developed substantially since the initial development. There is currently a single structure which is used to house chickens. The land use at the Site was agricultural.
- Current surrounding land uses include, agricultural, community, and residential.
- The Site is serviced by overhead hydro, a water well, furnace oil for heating, and diesel for the generator.
- The Subject Site has a relatively flat topography and is at an elevation of approximately 88 m above sea level (m asl). The Subject Site has no discernable topographic high points. The Jules Potvin Drain is east of the Subject Site and is a topographic low point. Surface water is assumed to drain into the Jules Potvin Drain which flows into the Rolland Dutrisac Drain north of the Subject 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) and is massive to well laminated.
- Shallow groundwater direction is interpreted to be to the eastwards towards the Jules Potvin Drain.
- No ANSIs were identified on the Site or within the study area; and,
- Based on the review of records, the interview and the Site reconnaissance completed as part of the Phase One ESA, GEMTEC identified several PCAs resulting in three APECs on the Site. These APECs include:
    - APEC 1 – Presence of ASTs. Two aboveground storage tanks were identified north of existing chicken barn. The COPCs are PHC F1-F4, BTEX, and PAHs in soil and groundwater.
    - APEC 2 – Presence of Transformer. This APEC is limited to the western building line of Storage Shed (Structure 3). The COPCs PCBs in soil and groundwater.
    - APEC 3 – Presence of ASTs. One AST identified on the southern property, about 10m south of the Subject Site. The COPCs are PHC F1-F4, BTEX, and PAHs in soil and groundwater.

3.4 Deviations from Sampling and Analysis Plan

No deviations to the sampling and analysis plan occurred during the Phase Two ESA investigation.

3.5 Impediments

No physical impediments to the Phase Two ESA investigation were encountered.

4.0 INVESTIGATION METHODOLOGY

4.1 General

Prior to initiating the intrusive investigation, any underground utilities were cleared by the locates subcontractor (USL) to identify the location of buried utilities on-site. Public and private utilities including telephone, gas, hydro, and municipal services were cleared.

4.2 Borehole Drilling

The borehole investigation and soil sampling program were carried out on July 22, 2024. A total of two boreholes (BH23-03 and BH23-04) were advanced on-site by George Downing Estate Drilling LTD. using a CME-55LC drill rig to practical auger refusal, which was approximately 14.7 m below ground surface (bgs) for one borehole, and approximately 6.7 m bgs for the second borehole. The drilling program was supervised by GEMTEC staff.

4.3 Soil Sampling

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 borehole was advanced, Y is the borehole identifier, and Z is the sample identifier. For example, BH24-03 SA2 indicates the borehole was constructed in 2024 and is identified as sample number 2 of borehole 3.

A summary of the soil samples which were collected from each location for laboratory analyses is summarized in Table 4.1.

Table 4.1: Summary of Soil Samples Submitted for Laboratory Analysis

Borehole	Sample	Depth of Sample (mbgs)	Soil Description	Laboratory Analyses
BH24-03	SA2	0.76 - 1.37	Stiff to very stiff grey, brown silty clay	PHCs F1-F4, BTEX, Metals, PAHs
BH24-03	SA4/104	2.28 - 2.89	Firm to stiff grey silty clay	PHCs F1-F4, BTEX, Metals, PAHs

Borehole	Sample	Depth of Sample (mbgs)	Soil Description	Laboratory Analyses
BH24-04	SA1	0.00 - 0.60	Stiff to very stiff grey, brown silty clay	PHCs F1-F4, BTEX, Metals, PAHs
BH24-04	SA5	3.04 - 3.65	Grey silty clay	PHCs F1-F4, BTEX, Metals, PAHs
BH24-04	SA2	0.76 - 1.37	Stiff to very stiff grey, brown silty clay	PCBs

Notes: mbgs – metres below ground surface

4.4 Field Screening Measurements

Field measurements of sample headspace concentration were made using the equipment detailed in Table 4.2.

Table 4.2: RKI Eagle 2 details for field screening

Equipment	Parameters Detected	Detection Limit	Precision	Accuracy	Calibration Standard
RKI Eagle 2	Combustible gas	0-50,000 ppm	NA	±5%	Hexane (1650 ppm)
	Total organic vapour	0-2,000 ppm	NA	±5%	Isobutylene (100 ppm)

Hexane readings varied between 5 ppm and 60 ppm whereas IBL readings were 0 ppm. The results of soil headspace screening measurements are provided in the Record of Borehole Logs in Appendix B.

Soil samples at each sampling location were selected for laboratory analysis based on the field headspace screening measurements, visual observations (e.g., staining, discoloration and/or free product, if any), and olfactory observations (if any). Soil samples were submitted to the analytical laboratory under chain-of-custody procedures. No staining, discoloration or free product was noted during the investigation.

4.5 Groundwater - Monitoring Well Installment

Groundwater monitoring wells were installed by George Downing Estate Drilling LTD using threaded 51 mm diameter at MW23-03 and MW23-04, schedule 40, polyvinyl chloride (PVC) well screens and riser pipe, which were brought to the Site in sealed plastic bags. 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 flush-mounted protective well casing. The riser pipes were sealed with a J-plug.

Four previous groundwater monitoring wells (MW24-01S, MW24-01D, MW24-02S, MW24-02D) were installed January 2024 as part of the hydrogeological investigation undertaken by GEMTEC. The corresponding report and monitoring wells were used as a reference for the purpose of this report

4.6 Groundwater - Field Measurements for Water Quality Parameters

The field measurements for the groundwater monitoring wells were taken on July 29, 2024. The measurements included measurement of the water level and the bottom of the monitoring well from the top of the riser pipe using an electronic water level tape.

Physical parameters including pH, temperature, conductivity (EC), dissolved oxygen (DO), and oxidation redox potential (ORP) were monitored during groundwater collection using a Horiba Water Quality Meter.

4.7 Groundwater - Development, Purging and Sampling

Following drilling, the monitoring wells were developed on July 29, 2024, by removing three well volumes, or until the well was pumped dry, using dedicated Waterra® tubing and inertial pumps. During monitoring well development, qualitative observations were made of water colour, clarity, and the presence or absence of any hydrocarbon sheen or odours.

The depth to water in each well was measured using an electronic water level tape prior to purging. Monitoring wells were sampled using low flow techniques using a GeoPump peristaltic pump. Physical parameters pH, temperature, EC, DO, and 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 below.

Table 4.3: 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
BH/MW23-03	4.6	Grey, brown silty clay, grey silty sand	None	PHCs F1-F4, BTEX, PAHs, Metals
BH/MW23-04	4.6	Brown silt, some clay	None	PHCs F1-F4, BTEX, PAHs, Metals

4.8 Sediment Sampling

No sediment samples were collected as part of this investigation as no surface water bodies were identified at the Site.

4.9 Laboratory Analytical Program

All samples were stored and transported in laboratory supplied coolers with ice. Soil and groundwater 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.

4.10 Residue Management

All soil from drilling operations were collected for screening and sampling. Any additional cuttings were put back into the drilled hole. Water generated during monitoring well development and sampling was disposed on-site.

4.11 Surveying

GEMTEC completed a geodetic survey of each drilling location. The survey included the location and elevation (both the top of the flush mounted well cap and the top of the riser pipe) for each monitoring well. The elevation data is available in borehole logs in appendix B.

The boreholes were positioned to strategically assess potential impacts within the identified APECs. The coordinate locations and ground surface elevations were recorded using a Trimble R10 global positioning system referenced to NAD83 (CSRS) Epoch 2010, vertical network CGVD28 and are considered accurate within the tolerance of the instrument. The elevations of the top of each well casing were also documented using the same technique. The locations of the boreholes advanced on-site are shown on Figure A.4 in Appendix A.

4.12 Quality Assurance / Quality Control Program

GEMTEC's quality assurance program for environmental investigations was implemented to ensure that analytical data obtained by the investigation were valid and representative. The quality assurance program included the following measures:

- The use of standard operating procedures for all field investigation activities;
- Soil samples were handled and stored in accordance with the sample collection and preservation requirement of the MECP "Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.I of the Environmental Protection Act", July 1,

2011. Samples were collected directly into pre-cleaned, laboratory-supplied sample containers with the appropriate preservative for the analyte group. Upon collection, samples were placed in insulated coolers with ice for storage and transport to the analytical laboratory under chain-of-custody;

- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples;
- The monitoring wells were to be developed following installation to remove fine particles from the filter pack and any fluids introduced during drilling;
- Monitoring wells were to be appropriately purged prior to groundwater sample collection to remove stagnant water from the well bore and improve sample representativeness, minimizing sample agitation and aeration to the extent practicable;
- A field blank and a trip blank were collected for PHC F1 and VOCs during the groundwater sampling event;
- Clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination;
- Detailed field records documenting the methods and circumstances of collection for each field sample were prepared at the time of sample collection. Each sample was assigned a unique sample identification number recorded in the field notes, along with the date and time of sample collection, the sample matrix, and the requested analyses; and,
- The submission of samples to the analytical laboratory in accordance with standard chain of custody procedures.

5.0 REVIEW AND EVALUATION

This section of the report presents a review and evaluation of the results of the drilling, monitoring, and sampling activities conducted as part of the Phase Two ESA.

5.1 Geology

The surficial geology of the Phase Two Property was visually observed and logged during the borehole program. The soil conditions identified in the boreholes advanced as part of this investigation are provided on the borehole logs in Appendix B. The borehole logs indicate the subsurface conditions encountered at the specific test locations only, conditions at other than the test locations may vary. Boundaries between zones on the logs are often not distinct, but rather are transitional and have been interpreted based on observations by GEMTEC field personnel.

A layer of grey, brown silty clay was encountered at the ground surface in all borehole locations, extending to a depth of 13.92 m bgs, underlain by grey silty clay and gravel (Glacial Till) in one of the boreholes to a depth of 14.48 m bgs.

5.2 Groundwater – Elevations and Flow Direction

Groundwater elevations were calculated based on depth to groundwater measurements collected on August 1st, 2024. Groundwater depths were measured directly from the top of each monitoring well riser using an electronic 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.

The location of these monitoring wells is shown in Figure A.4, Appendix A. The details of these monitoring wells are provided in Table 5.1.

Table 5.1: Monitoring Well details

MW ID	Soil stratigraphy at Screen	Water Level (m Top of Casing)	Height of riser pipe (m)	Ground Elevation (m)	GW Elevation (m)
MW24-01S	Overburden	1.46	0.89	86.10	85.53
MW24-02S	Overburden	1.45	0.91	86.48	85.94
MW24-3	Overburden	2.78	1.06	86.28	84.56
MW24-4	Overburden	1.25	0.98	86.27	85.99

Groundwater elevations ranged from 84.56 to 85.99 m asl on August 1st, 2024. In inferred groundwater direction of shallow groundwater is generally to the north/northeast based on the interpreted groundwater elevation contours presented in Figure A.5, Appendix A.

Seasonal fluctuation in water levels on the Site should be expected. Considering groundwater monitoring event, seasonal trends may have been identified. Based on the water levels taken in January 31st, 2024, July 29th, and August 1st, 2024, the water levels were lowest in January monitoring event. This can indicate seasonal fluctuations between Winter and Summer where water levels are higher in the summer months compared to the winter months.

5.3 Groundwater – Hydraulic Gradients

The horizontal hydraulic gradient between well sets is presented in Table 5.2. The horizontal and vertical hydraulic gradient was estimated for shallow groundwater conditions based on water levels measured on August 1st, 2024, and the inferred groundwater contours are presented in Figure A.5, Appendix A.

Table 5.2: Horizontal Hydraulic gradients between monitoring well sets

MW ID	MW ID	Distance between MWs (m)	Difference in GW elevation (m)	Horizontal Hydraulic Gradient (m/m)
BH/MW24-02S	BH/MW24-03	151	1.38	0.00914
BH/MW24-03	BH/MW24-04	41	1.43	0.03487
BH/MW24-04	BH/MW24-01S	122	0.46	0.00377
BH/MW24-01S	BH/MW24-03	114	0.97	0.00851

The average horizontal hydraulic gradient for shallow groundwater conditions was 0.01407 m/m.

Table 5.3: Vertical Hydraulic gradients between nested monitoring wells

MW ID	MW ID	Shallow Depth (m asl)	Deep Depth (m asl)	Difference in GW elevation (m)	Vertical Hydraulic Gradient (m/m)
BH/MW24-01S	BH/MW24-01D	85.53	84.96	0.57	0.05667
BH/MW24-02S	BH/MW24-02D	85.94	85.51	0.43	0.05532

The average vertical hydraulic gradient for shallow groundwater conditions measured on August 1st, 2024 was 0.5560 m/m.

5.4 Soil Texture

The predominant soil grain size at the Site was assumed to be coarse-textured based on the observations made during the field investigation.

5.5 Soil – Field Screening

Headspace vapour measurements were conducted on the soil samples collected from each of the boreholes advanced at the Site. The results of headspace vapour measurements are presented in the Record of Borehole Logs in Appendix B.

5.6 Soil - Quality Results

Soil samples were selected for laboratory analysis based on visual, olfactory and tactile evidence of impact. A total of 6 soil samples, including a TCLP sample, were submitted to AGAT for analysis of the COPCs including Metals, EC, SAR, PAHs, PHCs F1-F4 and BTEX.

- There were two reported exceedances to MECP Table 2 SCS.
    - Cobalt exceeded Table 2 Agri at all boreholes except BH24-4 SA2 (which did not test for metals).
    - Vanadium exceeded Table 2 Agri at all boreholes except BH24-4 SA2 (which did not test for metals).

The analytical results are summarized in Table 5.1 below and are presented in Appendix C.

Table 5.4: Soil Exceedance to applicable Site Condition Standards

Sample ID	MECP Table 2 Agri SCS
BH24-3 SA2	Cobalt, Vanadium
BH24-3 SA4	Cobalt, Vanadium
BH24-3 SA104	Cobalt, Vanadium
BH24-4 SA1	Cobalt, Vanadium
BH24-4 SA5	Cobalt, Vanadium
BH24-4 SA2	None

Notes:

MECP Table 2 SCS: Generic Site Condition Standards (SCS) for full depth soils in Potable Groundwater Agricultural or Other Property Use (Agri) land use, coarse textured soils. (MECP, 2011).

Table 5.5: Summary of Toxicity Characteristic Leachate Procedure Analytical Results

Sample ID	O.Reg. 558 Exceedances
TCLP-COMP	None

Notes:

O.Reg 558: Ontario Regulation 558 Schedule 4 Leachate Quality Criteria.

5.6.1 Naturally Occurring Elevated Background Metals

In addition to MECP SCS specified above, the analytical results for select metals were also compared to the values provided in “Background Metals in Champlain Sea Sediments: Updated from 2019 Drilling and Sampling Program” (Geofirma, 2023). Accordingly, samples taken from within the Project Area, were compared to the proposed naturally occurring elevated cobalt, and vanadium concentrations of 28 µg/g, and 122 µg/g, respectively. Reliance on naturally occurring

concentrations is accepted by the MECP as the MECP has recommended that future updates to the Site Condition Standards consider geo-regional approaches.

Based on this geo-regional approach, all of the soil samples collected that exceeded cobalt and vanadium when compared to the MECP Table 2.1 Ag/Ot met the proposed geo-regional values and are therefore not considered exceedances on the subject site.

5.7 Groundwater - Quality Results

Groundwater samples were submitted from both wells in addition to a duplicate sample, a trip blank sample, and a field blank sample. A total of three groundwater samples were submitted to AGAT for analysis of the COPCs including Metals, PAHs, PHCs F1-F4, and BTEX. Exceedances to the selected MECP SCS Tables are summarized in Table 5.2 below and are presented in Figure A.2 of Appendix A.

Table 5.6: Groundwater exceedances to applicable Site Condition Standards

Sample ID	MECP Table 2 Agri SCS
MW24-03	None
MW24-103	None
MW24-04	None

Notes:

MECP Table 2 SCS: Generic Site Condition Standards (SCS) for groundwater in Potable Groundwater Condition Agricultural or Other Property Use (Agri) land use, coarse textured soils. (MECP, 2011).

5.8 Sediment – Quality Results

No sediment samples were collected as part of this investigation.

5.9 Quality Assurance / Quality Control

The quality assurance assessment of the field duplicate sample results was conducted according to the MECP document “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act”, March 9, 2004 (amended in July 2009 and effective as of July 1, 2011) (“Analytical Protocol”).

To determine the precision of the analytical methods and field sampling procedures, blind duplicate samples were collected during soil and groundwater sampling. Precision is determined by the relative percent difference (“RPD”) between the duplicate and original samples and was calculated as follows:

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

Where x_1 initial sample results

x_2 duplicate sample results
x_m mean of x_1, x_2

RPDs were calculated for all parameters with concentrations above the reporting level. No parameters in soil or groundwater duplicate pairs returned concentrations above reporting levels.

It is noted that the trip blank sample was found to have no detectable concentrations during groundwater sampling event. The quality of the analytical results is further supported by analytical laboratory's internal quality assurance program that includes laboratory blanks, spikes, surrogates, and duplicate samples.

All certificates of analysis or analytical reports received pursuant to clause 47 (2) (b) of the regulation comply with subsection 47(3). A certificate of analysis or analytical report has been received for each sample submitted for analysis and is provided in Appendix D.

Accordingly, the analytical data generated during the investigation are valid and representative and may be used in this Phase Two ESA without further qualification.

5.10 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 (O. Reg. 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 Site Features
Figure A.3 PCAs and APECs
Figure A.4 Borehole and Monitoring Well Locations
Figure A.5 Groundwater Elevations and Inferred Flow
Figure A.6 Soil Quality Results

5.10.1 Property Description and History

The Site has an area of 1.7 hectares and is located at 3043 Dunning Road in Ottawa, Ontario. The Phase Two Property is currently owned and operated by 'Laplante Poultry Farms Limited' for the purpose of poultry raising. The property consists of one large barn which is used to house the chickens. A gravel path is present from Dunning Road to the barn and connecting to the southern property, which is also owned and operated by 'Laplante Poultry Farms Limited'. All adjacent properties are agricultural. Site features are shown in Figure A.2. Table 6.1 provides details about the Phase Two Property.

Table 5.7: Phase Two Property Details

Detail	Source / Reference	Information
Legal Description	Service Ontario Parcel Register	PT LT 7 CON 4 CUMBERLAND PT 1, 4R11019; CUMBERLAND.
Municipal Address	Client	3043 Dunning Road Ottawa, ON K0A 3E0
Parcel Identification Number (PIN)	Service Ontario Parcel Register	14512-0120 (LT)
Current Owner	Service Ontario Parcel Register	Ferme Gerald LaPlante et Fils Ltee
Owner Contact Information	Client	Robert Laplante 3085 Dunning Road Sarsfield, Ontario K0A 3E0 Office: 613-794-7902 Email: robertlaplante@rogers.com
Site Area	GeoOttawa Mapping	1.7 ha
Current Zoning	GeoOttawa Mapping	AG – Agricultural
Centroid UTM Co-ordinate	Google Maps	45.4541, -75.3659

A summary of the current and past uses, based on the information reviewed as part of the 2023 Phase One ESA, is provided below:

Table 5.8: Current and Past Property Uses

Year	Owner	Description of Property Use
Prior to 1961 to present	Ferme Gerald LaPlante et Fils Ltee.	Agricultural

As noted above, the Phase Two Property is currently owned by Ferme Gerald LaPlante et Fils Ltee.

5.10.2 Previous Investigation

The following lists the previous reports available for the Site. The Phase One ESA formed the basis for completing this Phase Two ESA.

- “Phase One Environmental Site Assessment, Proposed Chicken Processing Plant. 3043 Dunning Road. Ottawa, Ontario”, prepared by GEMTEC, dated June 2024 (2024 Phase One ESA).”

- "Hydrogeological Investigation & Terrain Analysis, Proposed Chicken Processing Facility. Part of Lot 7, Concession 4 (3043 Dunning Road). Ottawa, Ontario.", prepared by GEMTEC, dated February 2024.

Based on GEMTEC's Report entitled "Phase One Environmental Site Assessment, Proposed Chicken Processing Plant. 3043 Dunning Road. Ottawa, Ontario", dated June 2024, three areas of potential environmental concern (APECs) were identified on the Phase Two Property.

5.10.3 Potentially Contaminating Activities

The potentially contaminating activities (PCAs) identified via the 2023 Phase One ESA are summarized in Table 6.3 below. The PCAs identified resulted in 11 area of potential environmental concern (APECs).

Table 5.9: Summary of Potentially Contaminating Activities

PCA ID	Type of PCA	Address / Location	Information source	PCA Description	PCA Results in APEC
28	Presence of ASTs	On-Site	Aerial Photographs Site Reconnaissance	Presence of ASTs for heating barn	Yes – APEC 1 As per O.Reg 153/04, as amended, on-Site PCA leads to an APEC.
55	Use of Transformer	On-Site	Site Reconnaissance	Presence of pole mounted transformer	Yes – APEC 2 As per O.Reg 153/04, as amended, on-Site PCA leads to an APEC.
28	Presence of ASTs	3085 Dunning Road	Site Reconnaissance	Presence of ASTs for heating barn. Similar to that on-site	Yes – APEC 3 As per O.Reg 153/04, as amended, on-Site PCA leads to an APEC.
40	Bulk Storage and Large Scale Applications of Pesticides	3105, 3032 Dunning Road	Interview	Application of pesticides for agricultural purposes	No Based on PCA not being on-Site
30	Importation of Fill Material of Unknown Quality	3105 Dunning Road	Aerial Photographs	Use of fill to fill an excavated section south of site.	No Based on PCA not being on-Site

Notes:

28. Gasoline and Associated Products Storage in Fixed Tanks
30. Importation of Fill Material of Unknown Quality
40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications
55. Transformer Manufacturing, Processing and Bulk Storage

5.10.4 Areas of Potential Environmental Concern

The areas of potential environmental concern (APECs) identified based on the PCAs and as set out in the 2024 Phase One ESA are summarized in Table 6.4 below. The borehole/monitoring well locations completed to investigate each of these APECs are also identified. Figure A.3 indicates the location of the APECs and Figure A.4 provides the investigation locations in relation to the APECs.

Table 5.10: Summary of APECs

APEC #	APEC	Location of APEC on the Site	COPCs	Investigation Location
1	Two ASTs identified on the subject site north of the existing chicken barn	Northwest section along barn	PHC F1-F4, BTEX, Metals, PAHs	BH/MW24-03
2	Pole-mounted electrical transformer identified north of existing chicken barn	Northwest from barn	PCBs	BH/MW24-03
3	One AST identified about 10m south of subject site	South of the Site. Northwest section along barn on 3085 Dunning	PHC F1-F4, BTEX, Metals, PAHs	BH/MW24-04

Notes:

28. Gasoline and Associated Products Storage in Fixed Tanks
55. Transformer Manufacturing, Processing and Bulk Storage
PCA – Potentially Contaminating Activities
COPCs – Contaminants of Potential Environmental Concern
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
BTEX – Benzene, Toluene, Ethylbenzene, and Xylene
PAHs – Polycyclic Aromatic Hydrocarbons
PCBs - Polycyclic Biphenyls

5.10.5 Subsurface Structures and Utilities

Buried utility service locates were completed prior to the drilling program and did not indicate any buried utility services.

Given the conditions encountered during drilling and the lab results, buried services are not considered to have facilitated the migration of contaminants at the Site.

5.10.6 Physical Setting

5.10.6.1 Topography

The Subject Site has a relatively flat topography and is at an elevation of approximately 88 m above sea level (m asl). The Subject Site has no discernable topographic high points. The Jules

Potvin Drain is east of the Subject Site and is a topographic low point. Surface water is assumed to drain into the Jules Potvin Drain which flows into the Rolland Dutrisac Drain north of the Subject Site.

Surficial and bedrock geology maps of the Canada indicate that the overburden in Phase Two Study Area generally consists of fine-textured glaciomarine deposits (i.e., silt and clay, minor sand and gravel) and is massive to well laminated.

Groundwater flow often reflects topographic features and typically flows towards nearby lakes, rivers, and wetland areas. Based on previous hydrogeological reports completed by GEMTEC, local groundwater typically flows towards the east-southeast, generally coinciding with local topography.

5.10.6.2 Stratigraphy - Boreholes

In general, the subsurface soil conditions encountered in the boreholes and monitoring wells advanced as part of this Phase Two ESA included a layer of stiff to very stiff, grey-brown silty clay, followed by firm to stiff grey silty clay, which was followed by grey silty sand and gravel (TILL) in one borehole. The material can generally be described as silty clay, followed by glacial till, consisting of a heterogeneous mix of all grain sizes. BH24-03 was advanced to a depth of 14.47 mbgs and BH24-04 was advanced to a depth of 6.70 mbgs.

5.10.6.3 Depth to Bedrock

Bedrock was not encountered during the Phase Two ESA which extended boreholes to depths between 6.70 and 14.47 mbgs. However, previous boreholes made by GEMTEC on the Phase Two site indicate that bedrock, likely grey limestone, was encountered at 15.32 and 17.35 mbgs.

5.10.6.4 Hydrogeological Characteristics

Based on the topography of the area and local drains, it is expected that the local shallow groundwater flow will trend to the east-southeast towards the Jules Potvin drain.

To determining groundwater flow, the two shallow monitoring wells previously installed for GEMTEC's Hydrogeological Investigation & Terrain Analysis due to their depth being similar to the two wells installed for the Phase Two ESA. Based on the interpreted groundwater elevation contours for water level measured on July 29th, 2024 and August 1st, 2024, the inferred direction of shallow groundwater flow is generally to the north/northeast.

5.10.6.5 Depth to Groundwater

Water levels measured from the two shallow and two Phase Two monitoring wells on the Phase Two property ranged from 0.45 to 1.52 mbgs on the July 29, 2024 monitoring event, followed by a range from 0.29 to 1.72 mbgs on the August 1, 2024 monitoring event. Groundwater elevations

ranged from 84.56 to 87.04 meters above sea level (m asl) relative to the geodetic datum on July 29 and August 1, 2024.

5.10.6.6 Environmentally Sensitive Areas

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

5.10.6.7 Shallow Soil Property or Water Body

Based on the results of the field program completed during the environmental investigation, more than 2 metres of overburden was encountered in the advanced borehole locations without encountering bedrock to the depth of the borehole. Therefore, it is inferred that the Site is not considered a shallow soil property. Therefore, Section 43.1(a) of the Regulation does not apply to the Phase Two Property.

Jules Potvin Municipal Drain is located on the Phase Two site area. This drain acts as a channel that conducts water that runs off the Site property and adjacent properties. The channel is located on the Site as it intersects the eastern property and continues to flow along the east boundary of the Site. GEMTEC only observed water running within the channel but is likely to only have significant amounts of water after rainfall events/spring thaw. The assumption is that this drain is not permanent. For the purposes of this report, this municipal drain will not be considered a 'waterbody'. Therefore, Section 43.1(b) of thew regulation does not apply to the Phase Two Property.

5.10.6.8 Excess Soil

No evidence of stockpiled fill material or fill with debris or deleterious material was observed on the Phase Two Property during the Phase One site reconnaissance.

5.10.7 Site Condition 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 most sensitive land use for the Site is agricultural.
- Soil Texture: Section 42(2) of O.Reg. 153/04 defines coarse textured soil as "soil that contains more than 50 percent by mass of particles that are 75 micrometres or larger in mean diameter". The results of grain size analysis and the findings of the investigation indicate that at least 1/3 of the soil at the Site is considered "coarse textured".

- 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:

    - the property is a shallow soil property;

    Based on the results of the field program completed during the environmental investigation, more than 2 metres of overburden was encountered in the advanced borehole locations without encountering bedrock to the depth of the borehole. Therefore, it is inferred that the Site is not considered a shallow soil property.

    - 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.

    Jules Potvin Municipal Drain is located on the Phase Two site area. This drain acts as a channel that conducts water that runs off the Site property and adjacent properties. The channel is located on the Site as it intersects the eastern property and continues to flow along the east boundary of the Site. GEMTEC only observed water running within the channel but is likely to only have significant amounts of water after rainfall events/spring thaw. The assumption is that this drain is not permanent.

    For the purposes of this report, this municipal drain will not be considered a ‘waterbody’.

- Groundwater Use: Potable water at the Site and surrounding properties is supplied by private wells. Therefore, the potable groundwater condition applies at the Site.

- 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 the pH value of the soils is between 6.71 and 7.71. Following a review of areas of natural significance, no areas were identified on, adjacent to or within 30 metres of the Site. 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:

- 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 for full depth soils in a Potable Groundwater Condition*

5.10.8 Contaminated Media

The Phase Two ESA identified two exceedances of the applicable standard for soil or groundwater in both boreholes. Elevated concentrations of cobalt and vanadium are likely to be naturally occurring and not a result of past or present activity on the Phase Two site.

5.10.9 Description of Areas of Contamination on the Site

No areas of soil or groundwater contamination were identified on the Site.

5.10.10 Potential Influence of Utilities on Contaminant Migration

No underground utilities are 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.

5.10.11 Contaminant Migration

No significant exceedances of the applicable standards were present on the Site after review of laboratory results. Based on this, contaminant migration is not a concern.

5.10.12 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. Considering groundwater monitoring event, seasonal trends may have been identified. Based on the water levels taken in January 31st, 2024, July 29th 2024, and August 1st, 2024, the water levels were lowest in January monitoring event. This can indicate seasonal fluctuations between Winter and Summer where water levels are higher in the summer months compared to the winter months. 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.

5.10.13 Potential Exposure Pathways and Receptors

Given no significant exceedances of the applicable standards were identified in the laboratory results, potential exposure to ecological and human receptors is not a concern.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The Phase Two ESA investigated the APECs identified in the Phase One ESA. Based on the results of the soil samples and groundwater samples submitted as part of this Phase Two ESA no impacts were identified. Accordingly, no further work is recommended at this time.

7.0 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 J.L. Richards & Associates 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 J.L. Richards & Associates. 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.

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8.0 REFERENCES

Phase One Environmental Site Assessment, Proposed Chicken Processing Plant. 3043 Dunning Road. Ottawa, Ontario", prepared by GEMTEC, dated June 2024 (2024 Phase One ESA)."

Hydrogeological Investigation & Terrain Analysis, Proposed Chicken Processing Facility. Part of Lot 7, Concession 4 (3043 Dunning Road). Ottawa, Ontario.", prepared by GEMTEC, dated February 2024.

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. Updated January 1, 2024.

Background Metals in Champlain Sea Sediments: Updates from 2019 Drilling and Sampling Program, Eastern Ontario – Ottawa Region. Geofirma Engineering. November 30, 2023.

9.0 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,

GEMTEC Consulting Engineers and Scientists Limited

Jeffrey Gauthier, B.Eng.
Environmental Technician

Nicole Soucy, M.A.Sc., P.Eng, QP$_{ESA}$
Environmental Engineer

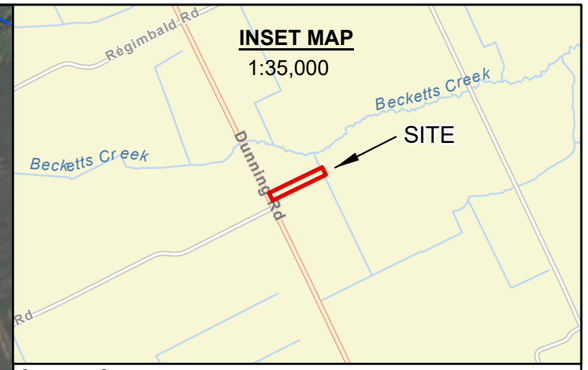
JG/NS



APPENDIX A

Figures





Legend

####	CIVIC ADDRESS NUMBER
BH##	NESTED WELL ID
	WATERCOURSE
	APPROXIMATE PROPERTY BOUNDARY
	250M RADIUS FROM PROPERTY BOUNDARY
	PARCEL BOUNDARY
	WATERCOURSE

NOTES:

1. Coordinate system: NAD 1983 UTM Zone 18N
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Contains information licensed under the Open Government Licence – City of Ottawa.
5. Service Layer Credits: World Street Map City of Ottawa, Province of Ontario, Ville de Gatineau, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada
City of Ottawa 2022 Imagery

Scale:
1:3,000

0 30 60 120 180 240 Meters

Drawing
PHASE TWO PROPERTY AND PHASE ONE STUDY AREA

Client:
LAPLANTE POULTRY FARMS LIMITED

Project
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024		**FIGURE A.1**

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ottawa@gemtec.ca

Folder: N:\Projects\100100\100117.056\06_Civil Drafting\ESA TWO R0\



Legend

APPROXIMATE PROPERTY BOUNDARY

NOTES:

1. Coordinate system: NAD 1983 UTM Zone 18N
2. Geographic dataset source: Ontario GeoHub.
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Scale:

1:1,500

0 15 30 60 90 120 Meters

Drawing

SITE FEATURES

Client:

LAPLANTE POULTRY FARMS LIMITED

Project

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024		**FIGURE A.2**

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Legend

APPROXIMATE PROPERTY BOUNDARY

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

APEC 1
APEC 2
APEC 3

APEC #	DESCRIPTION
APEC 1	Two above ground storage tanks identified on the subject site north of the existing chicken barn structure.
APEC 2	One pole mounted transformer identified on the subject site north of the existing chicken barn structure.
APEC 3	An above ground storage tank identified on the property adjacent south, approximately 10 m south of the Subject Site.

NOTES:

1. Coordinate system: NAD 1983 UTM Zone 18N
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
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5. Service Layer Credits:City of Ottawa 2022 Imagery

Scale:
1:1,500
0 15 30 60 90 120 Meters

Drawing
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

Client:
LAPLANTE POULTRY FARMS LIMITED

Project
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024	**FIGURE A.3**	

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Legend

BH# — BOREHOLE ID
XX.XX — GROUND SURFACE ELEVATIONS (m)
XX.XX — GROUND WATER ELEVATION (m asl)

BOREHOLE LOCATION

APPROXIMATE PROPERTY BOUNDARY

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

APEC 1
APEC 2
APEC 3

APEC #	DESCRIPTION
APEC 1	Two above ground storage tanks identified on the subject site north of the existing chicken barn structure.
APEC 2	One pole mounted transformer identified on the subject site north of the existing chicken barn structure.
APEC 3	An above ground storage tank identified on the property adjacent south, approximately 10 m south of the Subject Site.

NOTES:

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2. Geographic dataset source: Ontario GeoHub.
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Scale:

1:1,500

0 15 30 60 90 120 Meters

Drawing

BOREHOLE AND MONITORING WELL LOCATIONS

Client:

LAPLANTE POULTRY FARMS LIMITED

Project

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024	**FIGURE A.4**	

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Legend

- BH# — BOREHOLE ID
- XX.XX — GROUND SURFACE ELEVATIONS (m)
- XX.XX — GROUND WATER ELEVATION (m asl)
- BOREHOLE LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER CONTOUR (m)
- WATERCOURSE
- GROUND WATER FLOW DIRECTION
- ROADS
- BOUNDING_BOX

NOTES:

1. Coordinate system: NAD 1983 UTM Zone 18N
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Contains information licensed under the Open Government Licence – City of Ottawa.
5. Service Layer Credits:City of Ottawa 2022 Imagery

Scale:

1:1,500

0 15 30 60 90 120 Meters

Drawing

GROUNDWATER ELEVATIONS AND INFERRED FLOW

Client:

LAPLANTE POULTRY FARMS LIMITED

Project

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024		**FIGURE A.5**

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Sample ID:	BH24-03 SA2	BH24-03 SA4	BH24-03 SA104
Sample Depth (mbgs):	0.76 - 1.37	2.28 - 2.89	2.28 - 2.89
Parameter			
Metals and Inorganics			
Cobalt	26	25.8	25.9
Vanadium	110	120	118

Sample ID:	BH24-04 SA1	BH24-04 SA5
Sample Depth (mbgs):	0.00 - 0.60	3.04 - 3.65
Parameter		
Metals and Inorganics		
Cobalt	23	24.9
Vanadium	91.9	117

Legend

BH# — BOREHOLE ID
XXXX — GROUND SURFACE ELEVATIONS (m)

- BOREHOLE LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- WATERCOURSE
- ELEVATION CONTOUR (IN METRES)

Parameter	MECP Table 2 Agri Property Use[1]
Metals and Inorganics	
Cobalt	22
Vanadium	86

Notes:

mbgs - Metres Below Ground Surface

1 - MECP Table 2 SCS: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, Agriculture or Other Property Use with Coarse textured soils (MECP, 2011)

Grey - Exceeds MECP Table 2 Agri SCS

NOTES:

1. Coordinate system: NAD 1983 UTM Zone 18N
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
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5. Service Layer Credits:RVCA_Topography_Service Rideau Valley Conservation Authority (RVCA)
World Imagery SDG Counties, Maxar, Microsoft
City of Ottawa 2022 Imagery

Scale: 1:1,500

0 15 30 60 90 120 Meters

Drawing: SOIL QUALITY RESULTS

Client: LAPLANTE POULTRY FARMS LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED CHICKEN PROCESSING PLANT
3043 DUNNING ROAD
OTTAWA, ONTARIO

Drwn By:	S.L.	Chkd By:	N.S.
Project No.	100117.056	Revision No.	0
Date	SEPTEMBER 2024		**FIGURE A.6**

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APPENDIX B

Borehole Logs

RECORD OF BOREHOLE 24-03

CLIENT: Laplante Poultry Farms Limited
PROJECT: Geotechnical Investigation, Proposed Chicken Processing Plant, 3043 Dunning Road, Sarsfield, Ontario
JOB#: 100117.056
LOCATION: See Appendix A, Figure A.1

SHEET: 1 OF 2
DATUM: CGVD28
BORING DATE: Jul 22 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
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		86.28									
		TOPSOIL		86.23 / 0.05									
		Stiff to very stiff, grey brown SILTY CLAY (WEATHERED CRUST)			1	SS	0	7	SA1	N/A			Bentonite seal
1					2	SS	510	8	SA2	HEX: 60 IBL: 0			Filter sand
2					3	SS	610	8	SA3	HEX: 35 IBL: 0			
					4	SS	610	4	SA4	HEX: 35 IBL: 0			
3		Firm to stiff, grey SILTY CLAY		83.38 / 2.90	5	SS	610	2	SA5	HEX: 5 IBL: 0			50 mm diameter PVC screen
4													
5					6	TO	610	PM	SA6	HEX: 5 IBL: 0			
6					7	SS	560	WH	SA7	HEX: 0 IBL: 0			
7													Auger cuttings
8					8	TO	610	PM	SA8	HEX: 0 IBL: 0			
9													

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LOGGED: CD
CHECKED: PS

ENV - BOREHOLE LOG 100117.056_CHICKEN FARM_BHLOGS_2024-09-05ENV.GPJ GEMTEC 2018.GDT 24/9/6

RECORD OF BOREHOLE 24-03

CLIENT: Laplante Poultry Farms Limited
PROJECT: Geotechnical Investigation, Proposed Chicken Processing Plant, 3043 Dunning Road, Sarsfield, Ontario
JOB#: 100117.056
LOCATION: See Appendix A, Figure A.1

SHEET: 2 OF 2
DATUM: CGVD28
BORING DATE: Jul 22 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
					9	SS	610	WH	SA9	HEX: 0 IBL: 0			
10	Power Auger Hollow Stem Auger (210mm OD)	Firm to stiff, grey SILTY CLAY		76.28 / 10.00									
11					10	SS	610	WH	SA10	HEX: 0 IBL: 0			
12													Auger cuttings
					11	SS	610	WH	SA11	HEX: 0 IBL: 0			
13				73.07									
		Dense to very dense, grey GRAVEL and SAND, some silt, trace clay, with cobbles and boulders (GLACIAL TILL)		13.21	12	SS	610	44	SA12				
14					13	SS	355	82	SA13				
		End of Borehole Auger Refusal		71.80 / 14.48									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Jul. 29/24	1.52 ▽	84.76
Aug. 01/24	1.72 ▼	84.56

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LOGGED: CD
CHECKED: PS

ENV - BOREHOLE LOG 100117.056_CHICKEN FARM_BHLOGS_2024-09-05ENV.GPJ GEMTEC 2018.GDT 24/9/6

RECORD OF BOREHOLE 24-04

CLIENT: Laplante Poultry Farms Limited
PROJECT: Geotechnical Investigation, Proposed Chicken Processing Plant, 3043 Dunning Road, Sarsfield, Ontario
JOB#: 100117.056
LOCATION: See Appendix A, Figure A.1

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Jul 22 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		86.27									
0	Power Auger / Hollow Stem Auger (210mm OD)	TOPSOIL		86.22 / 0.05									
		Stiff to very stiff, grey brown SILTY CLAY (WEATHERED CRUST)			1	SS	355	5	SA1	HEX: 30 IBL: 0			Bentonite seal
1					2	SS	405	8	SA2	HEX: 15 IBL: 0			Filter sand
					3	SS	610	5	SA3	HEX: 5 IBL: 0			
2					4	SS	610	2	SA4	HEX: 5 IBL: 0			
3		Grey SILTY CLAY		83.22 / 3.05	5	SS	610	3	SA5	HEX: 5 IBL: 0			50 mm diameter PVC screen
					6	SS	610	WH	SA6	HEX: 15 IBL: 0			
4					7	SS	610	WH	SA7	HEX: 0 IBL: 0			
5					8	SS	610	WH	SA8	HEX: 0 IBL: 0			Auger cuttings
					9	SS	610	WH	SA9	HEX: 0 IBL: 0			
6		End of Borehole		79.56 / 6.71									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Jul. 29/24	0.44 ▽	85.83
Aug. 01/24	0.27 ▼	86.00

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Consulting Engineers and Scientists

LOGGED: CD
CHECKED: PS

ENV - BOREHOLE LOG 100117.056_CHICKEN FARM_BHLOGS_2024-09-05ENV.GPJ GEMTEC 2018.GDT 24/9/6

APPENDIX C

Summary of Analytical Results

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Table D.1: Summary of Soil Analytical Results
Metals, Inorganics, and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 Agri or Other Property Use - Coarse	Reporting Detection Limit	Sample ID	BH24-3 SA2	BH24-3 SA4	BH24-3 SA104	BH24-4 SA1	BH24-4 SA5	BH24-4 SA2
			Sample Depth (mbgs)	0.76 - 1.37	2.28 - 2.89	2.28 - 2.89	0.00 - 0.60	3.04 - 3.65	0.76 - 1.37
			Lab ID	6024141	6024154	6024163	6024166	6024172	6024172
			Sampling Date	2024-07-22	2024-07-22	2024-07-22	2024-07-22	2024-07-22	2024-07-22
			Units						
Metals and Inorganics - Soil									
Antimony	7.5	0.8	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	N/A
Arsenic	11	1	µg/g	3	2	3	3	2	N/A
Barium	390	2	µg/g	255	304	263	231	289	N/A
Beryllium	4	0.5	µg/g	0.9	0.8	0.8	0.9	0.8	N/A
Boron	120	5	µg/g	10	11	13	9	11	N/A
Boron (Hot Water Soluable)	1.5	0.1	µg/g	0.34	1.05	0.81	0.17	1.14	N/A
Cadmium	1	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	N/A
Chromium	160	5	µg/g	141	147	145	120	140	N/A
Cobalt	22	0.8	µg/g	**26**	**25.8**	**25.9**	**23**	**24.9**	N/A
Copper	140	1	µg/g	55.3	46.6	51.9	39.6	52	N/A
Lead	45	1	µg/g	11	9	10	12	9	N/A
Molybdenum	6.9	0.5	µg/g	0.6	0.8	0.7	0.5	0.8	N/A
Nickel	100	1	µg/g	79	79	80	67	77	N/A
Selenium	2.4	0.8	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	N/A
Silver	20	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	N/A
Thallium	1	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	N/A
Uranium	23	0.5	µg/g	1.36	1.7	1.74	1.8	2.02	N/A
Vanadium	86	2	µg/g	**110**	**120**	**118**	**91.9**	**117**	N/A
Zinc	340	5	µg/g	123	134	130	106	130	N/A
Chromium VI	160	0.2	µg/g	<0.2	<0.2	<0.2	<0.2	<0.2	N/A
Mercury	0.25	0.1	µg/g	<0.10	<0.10	<0.10	<0.10	<0.10	N/A
pH	Surface Soil: 5-9 Subsurface Soil: 5-11	-	pH Units	6.71	6.88	N/A	6.78	7.71	N/A
Polycyclic Aromatic Hydrocarbons - Soil									
Naphthalene	0.6	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Acenaphthylene	0.15	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Acenaphthene	7.9	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Fluorene	62	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Phenanthrene	6.2	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Anthracene	0.67	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Fluoranthene	0.69	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Pyrene	78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Benzo[a]anthracene	0.5	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Chrysene	7	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Benzo[b]fluoranthene	0.78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Benzo[k]fluoranthene	0.78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Benzo[a]pyrene	0.078	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Indeno [1,2,3-cd] pyrene	0.38	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Dibenzo[a,h]anthracene	0.1	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
Benzo[g,h,i]perylene	6.6	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
1,2-Methylnaphthalene	0.99	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	N/A
PCBs - Soil									
Polychlorinated Biphenyls	0.35	0.1	µg/g	N/A	N/A	N/A	<0.1	<0.1	<0.1

Notes:
AGRI - Agricultural or Other Property Use
'mbgs' - Metres Below Ground Surface

'NA' - Not Analyzed

'<' - Non-Detect Sample

MECP Table 2 SCS: 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, Agriculture or Other Property Use with Coarse textured soils (MECP, 2011).

BOLD - Exceeds MECP Table 2 Agri SCS

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Table D.2: Summary of Soil Analytical Results
Petroleum Hydrocarbon Four Fractions and Benzene, Toluene, Ethylbenzene and Xylene
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 Agri or Other Property Use - Coarse	Reporting Detection Limit	Sample ID Sample Depth (mbgs) Lab ID Sampling Date Units	BH24-3 SA2 0.76 - 1.37 6024141 2024-07-22	BH24-3 SA4 2.28 - 2.89 6024154 2024-07-22	BH24-3 SA104 2.28 - 2.89 6024163 2024-07-22	BH24-4 SA1 0.00 - 0.60 6024166 2024-07-22	BH24-4 SA5 3.04 - 3.65 6024172 2024-07-22
Petroleum Hydrocarbons - Soil								
F1 PHCs (C6-C10)	55	5	µg/g	<5	<5	<5	<5	<5
F1 PHCs (C6-C10) - BTEX	NS	5	µg/g	<5	<5	<5	<5	<5
F2 PHCs (C10-C16)	98	10	µg/g	<10	<10	<10	<10	<10
F2 PHCs (C10-C16) - Naphthalene	NS	10	µg/g	<10	<10	<10	<10	<10
F3 PHCs (C16-C34)	300	50	µg/g	<50	<50	<50	<50	<50
F3 PHCs (C16-C34) - PAHs	NS	50	µg/g	<50	<50	<50	<50	<50
F4 PHCs (C34-C50)	2800	50	µg/g	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	NS	50	µg/g	N/A	N/A	N/A	N/A	N/A
Volatile Organic Compounds - Soil								
Benzene	0.21	0.02	µg/g	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	2.3	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	1.1	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05
m/p-Xylene	NS	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	NS	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes, total	3.1	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:
'mbgs' - Metres Below Ground Surface
'NS' - No Standard
<' - Non-Detect Sample

MECP Table 2 SCS: 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, Agriculture or Other Property Use with Coarse textured soils (MECP, 2011).

BOLD	- Exceeds MECP Table 2 RPI Agri SCS

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Table D.3: Summary of TCLP Analytical Results
Metals and Inorganics Leachate
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

Contaminants of Concern	O.Reg. 558 Schedule 4 Leachate Quality Criteria	Reporting Detection Limit	Sample ID Lab ID Sampling Date Units	TCLP - COMP 6024177 2024-07-22
Metals and Inorganics - Leachate				
Arsenic Leachate	2.5	0.010	mg/L	<0.010
Barium Leachate	100	0.020	mg/L	0.149
Boron Leachate	500	0.050	mg/L	<0.050
Cadmium Leachate	0.5	0.010	mg/L	<0.010
Chromium Leachate	5	0.050	mg/L	<0.050
Lead Leachate	5	0.010	mg/L	<0.010
Mercury Leachate	0.1	0.01	mg/L	<0.01
Selenium Leachate	1	0.020	mg/L	<0.020
Silver Leachate	5	0.010	mg/L	<0.010
Uranium Leachate	10	0.050	mg/L	<0.050
Fluoride Leachate	150	0.10	mg/L	0.13
Cyanide Leachate	20	0.05	mg/L	<0.05
(Nitrate + Nitrite) as N Leachate	1000	0.70	mg/L	<0.70
Benzo(a)pyrene Leachate	0.001	0.0001	mg/L	<0.001

Notes:
<' - Non-Detect Sample

BOLD	Exceeds O.Reg. 558 Schedule 4 Leachate Quality Criteria

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Table D.4: Summary of Groundwater Analytical Results
Metals, Inorganics, and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 Agri or Other Property Use - Coarse	Reporting Detection Limit	Sample ID	BH24-3 SA2	BH24-3 SA4	BH24-3 SA104
			Sample Depth (mbgs)	0.76 - 1.37	2.28 - 2.89	2.28 - 2.89
			Lab ID	6024141	6024154	6024163
			Sampling Date	2024-07-22	2024-07-22	2024-07-22
			Units			
Metals and Inorganics - Groundwater						
Dissolved Antimony	6	1.0	µg/L	<1.0	<1.0	<1.0
Dissolved Arsenic	25	1.0	µg/L	<1.0	1.4	1.4
Dissolved Barium	1000	2.0	µg/L	67.7	63.9	56.3
Dissolved Beryllium	4	0.50	µg/L	<0.50	<0.50	<0.50
Dissolved Boron	5000	10.0	µg/L	284	413	282
Dissolved Cadmium	2.7	0.20	µg/L	<0.20	<0.20	<0.20
Dissolved Chromium	25	2.0	µg/L	<2.0	<2.0	<2.0
Dissolved Cobalt	3.8	0.50	µg/L	<0.50	<0.50	<0.50
Dissolved Copper	87	1.0	µg/L	1.5	1.6	1.2
Dissolved Lead	10	0.50	µg/L	<0.50	<0.50	<0.50
Dissolved Molybdenum	70	0.50	µg/L	6.75	4.71	11.5
Dissolved Nickel	100	1.0	µg/L	4.4	2.1	<1.0
Dissolved Selenium	10	1.0	µg/L	<1.0	<1.0	<1.0
Dissolved Silver	1.5	0.20	µg/L	<0.20	<0.20	<0.20
Dissolved Thallium	2	0.30	µg/L	<0.30	<0.30	<0.30
Dissolved Uranium	20	0.50	µg/L	5.42	5.05	9.8
Dissolved Vanadium	6.2	0.40	µg/L	2.47	1.58	2.24
Dissolved Zinc	1100	5.0	µg/L	<5.0	<5.0	<5.0
Conductivity	N/A	0.005	mS/cm	NA	NA	0.249
Polycyclic Aromatic Hydrocarbons - Groundwater						
Naphthalene	11	0.2	µg/L	<0.2	<0.2	<0.2
Acenaphthylene	1	0.2	µg/L	<0.2	<0.2	<0.2
Acenaphthene	4.1	0.2	µg/L	<0.2	<0.2	<0.2
Fluorene	120	0.2	µg/L	<0.2	<0.2	<0.2
Phenanthrene	1	0.1	µg/L	<0.1	<0.1	<0.1
Anthracene	2.4	0.1	µg/L	<0.1	<0.1	<0.1
Fluoranthene	0.41	0.2	µg/L	<0.2	<0.2	<0.2
Pyrene	4.1	0.2	µg/L	<0.2	<0.2	<0.2
Benzo[a]anthracene	1	0.2	µg/L	<0.2	<0.2	<0.2
Chrysene	0.1	0.1	µg/L	<0.1	<0.1	<0.1
Benzo[b]fluoranthene	0.1	0.1	µg/L	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	0.1	0.1	µg/L	<0.1	<0.1	<0.1
Benzo[a]pyrene	0.01	0.01	µg/L	<0.01	<0.01	<0.01
Indeno [1,2,3-cd] pyrene	0.2	0.2	µg/L	<0.2	<0.2	<0.2
Dibenzo[a,h]anthracene	0.2	0.2	µg/L	<0.2	<0.2	<0.2
Benzo[g,h,i]perylene	0.2	0.2	µg/L	<0.2	<0.2	<0.2
1,2-Methylnaphthalene	3.2	0.2	µg/L	<0.2	<0.2	<0.2

Notes:
RPI - Residential/Parkland/Institutional
'mbgs' - Metres Below Ground Surface
'NA' - Not Analyzed
<' - Non-Detect Sample

MECP Table 2 SCS: 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, RPI Property Use with Coarse textured soils (MECP, 2011).

BOLD - Exceeds MECP Table 2 RPI Agri SCS

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Table D.5: Summary of Groundwater Analytical Results
Petroleum Hydrocarbon Four Fractions and Benzene, Toluene, Ethylbenzene and Xylene
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 Agri or Other Property Use - Coarse	Reporting Detection Limit	Sample ID Lab ID Sampling Date Units	BH23-03 6047067 2024-08-01	BH24-103 6047067 2024-08-01	BH24-4 6047073 2024-08-01	Field Blank 6047082 2024-08-01	Trip Blank 6047089 2024-08-01
Petroleum Hydrocarbons - Groundwater								
F1 PHCs (C6-C10)	NS	25	µg/L	<25	<25	<25	<25	<25
F1 PHCs (C6-C10) - BTEX	750	25	µg/L	<25	<25	<25	<25	<25
F2 PHCs (C10-C16)	150	100	µg/L	<100	<100	<100	N/A	N/A
F2 PHCs (C10-C16) - Naphthalene	NS	100	µg/L	<100	<100	<100	N/A	N/A
F3 PHCs (C16-C34)	500	100	µg/L	<100	<100	<100	N/A	N/A
F3 PHCs (C16-C34) - PAHs	NS	100	µg/L	<100	<100	<100	N/A	N/A
F4 PHCs (C34-C50)	500	100	µg/L	<100	<100	<100	N/A	N/A
Gravimetric Heavy Hydrocarbons	NS	500	µg/L	N/A	N/A	N/A	N/A	N/A
Volatile Organic Compounds - Groundwater								
Benzene	5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	24	0.2	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	2.4	0.1	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
m/p-Xylene	NS	0.2	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	NS	0.1	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes, total	300	0.2	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:
'mbgs' - Metres Below Ground Surface
'NS' - No Standard
<' - Non-Detect Sample

MECP Table 2 SCS: 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, RPI Property Use with Coarse textured soils (MECP, 2011).

BOLD	- Exceeds MECP Table 2 RPI Agri SCS

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Table D.6: Summary of Soil Analytical Results
Quality Control
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

	Units	Reporting Limit	5*Reporting Limit	Sample ID: Laboratory ID: Date Sampled: Sample Depth (mbgs): MECP Alert Criteria	BH24-3 SA4 6024154 2024-07-22 2.28 - 2.89	BH24-3 SA104 6024163 2024-07-22 2.28 - 2.89	RPD
Metals and Inorganics (Soil)							
Antimony	ug/g	0.8	4	30%	<0.8	<0.8	-
Arsenic	ug/g	1	5	30%	2	3	-
Barium	ug/g	2	10	30%	304	263	14.5%
Beryllium	ug/g	0.5	2.5	30%	0.8	0.8	-
Boron	ug/g	5	25	30%	11	13	-
Boron (HWS)	ug/g	0.1	0.5	40%	1.05	0.81	25.8%
Cadmium	ug/g	0.5	2.5	30%	<0.5	<0.5	-
Chromium	ug/g	5	25	30%	147	145	1.4%
Cobalt	ug/g	0.8	4	30%	25.8	25.9	0.4%
Copper	ug/g	1	5	30%	46.6	51.9	10.8%
Lead	ug/g	1	5	30%	9	10	10.5%
Molybdenum	ug/g	0.5	-	30%	0.8	0.7	-
Nickel	ug/g	1	5	30%	79	80	1.3%
Selenium	ug/g	0.8	-	30%	<0.8	<0.8	-
Silver	ug/g	0.5	2.5	30%	<0.5	<0.5	-
Thallium	ug/g	0.5	2.5	30%	<0.5	<0.5	-
Uranium	ug/g	0.5		30%	1.7	1.74	-
Vanadium	ug/g	2	10	30%	120	118	1.7%
Zinc	ug/g	5	25	30%	134	130	3.0%
Chromium VI	ug/g	0.2	1	35%	<0.2	<0.2	-
Mercury	ug/g	0.1	0.5	30%	<0.10	<0.10	-
Volatile Organic Compounds (Soil)							
Benzene	ug/g	0.02	0.1	50%	<0.02	<0.02	-
Ethylbenzene	ug/g	0.05	0.25	50%	<0.05	<0.05	-
Toluene	ug/g	0.05	0.25	50%	<0.05	<0.05	-
m-Xylene & p-Xylene	ug/g	0.05	0.25	50%	<0.05	<0.05	-
o-Xylene	ug/g	0.05	0.25	50%	<0.05	<0.05	-
Total Xylenes	ug/g	0.05	0.25	50%	<0.05	<0.05	-
Petroleum Hydrocarbons (Soil)							
F1 (C6-C10)	ug/g	5	25	30%	<5	<5	-
F1 (C6-C10) - BTEX	ug/g	5	25	30%	<5	<5	-
F2 (C10-C16)	ug/g	10	50	30%	<10	<10	-
F3 (C16-C34)	ug/g	50	250	30%	<50	<50	-
F4 (C34-C50)	ug/g	50	250	30%	<50	<50	-
Polycyclic Aromatic Hydrocarbons (Soil)							
Naphthalene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Acenaphthylene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Acenaphthene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Fluorene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Phenanthrene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Anthracene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Fluoranthene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Pyrene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Benz(a)anthracene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Chrysene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Benzo(b)fluoranthene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Benzo(k)fluoranthene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Benzo(a)pyrene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Indeno(1,2,3-cd)pyrene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Dibenz(a,h)anthracene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
Benzo(g,h,i)perylene	ug/g	0.05	0.25	40%	<0.05	<0.05	-
1 and 2 Methlynaphthalene	ug/g	0.05	0.25	40%	<0.05	<0.05	-

Notes:
'-': Not Analyzed
'<' : Non Detect
'mbgs' : metres below ground surface
BOLD Exceeds MECP Alert Criteria

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Table D.7: Summary of Groundwater Analytical Results
Quality Control
Phase Two Environmental Site Assessment
3043 Dunning Road, Ottawa, Ontario

				Sample ID:	BH24-03	BH24-103	
				Laboratory ID:	6047067	6047072	
				Date Sampled:	2024-08-01	2024-08-01	
	Units	Reporting Limit	5*Reporting Limit	MECP Alert Criteria			RPD
PHCs F1 - F4 (with PAHs) (Water)							
Benzene	µg/L	0.2	1	30%	<0.20	<0.20	-
Toluene	µg/L	0.2	1	30%	<0.20	<0.20	-
Ethylbenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
m & p-Xylene	µg/L	0.2	1	30%	<0.20	<0.20	-
o-Xylene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
F1 (C6 to C10)	µg/L	25	125	40%	<25	<25	-
F2 (C10 to C16)	µg/L	100	500	30%	< 100	< 100	-
F3 (C16 to C34)	µg/L	100	500	30%	< 100	< 100	-
F4 (C34 to C50)	µg/L	100	500	30%	< 100	< 100	-
PAHs (Water)							
Naphthalene	µg/L	0.2	1	30%	<0.20	<0.20	-
Acenaphthylene	µg/L	0.2	1	30%	<0.20	<0.20	-
Acenaphthene	µg/L	0.2	1	30%	<0.20	<0.20	-
Fluorene	µg/L	0.2	1	30%	<0.20	<0.20	-
Phenanthrene	µg/L	0.1	0.5	30%	0.11	0.11	-
Anthracene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Fluoranthene	µg/L	0.2	1	30%	<0.20	<0.20	-
Pyrene	µg/L	0.2	1	30%	<0.20	<0.20	-
Benzo(a)anthracene	µg/L	0.2	1	30%	<0.20	<0.20	-
Chrysene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Benzo(b)fluoranthene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Benzo(k)fluoranthene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Benzo(a)pyrene	µg/L	0.01	0.05	30%	<0.01	<0.01	-
Indeno(1,2,3-cd)pyrene	µg/L	0.2	1	30%	<0.20	<0.20	-
Dibenz(a,h)anthracene	µg/L	0.2	1	30%	<0.20	<0.20	-
Benzo(g,h,i)perylene	µg/L	0.2	1	30%	<0.20	<0.20	-
1,2-Methylnaphthalene	µg/L	0.2	1	30%	<0.2	<0.2	
PHCs F1/BTEX (Water)							
Benzene	µg/L	0.2	1	30%	<0.20	<0.20	-
Toluene	µg/L	0.2	1	30%	<0.20	<0.20	-
Ethylbenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
m & p-Xylene	µg/L	0.2	1	30%	<0.20	<0.20	-
o-Xylene	µg/L	0.2	1	30%	<0.10	<0.10	-
F1 (C6 to C10)	µg/L	25	125	40%	<25	<25	-
ORPs (Water)							
pH	pH Units			N/A	7.55	7.9	4.5%
Metals (Including Hydrides) (Water) - Lab Filtered							
Dissolved Antimony	µg/L	1.0	5	20%	<1.0	<1.0	-
Dissolved Arsenic	µg/L	1.0	5	20%	<1.0	<1.0	-
Dissolved Barium	µg/L	2.0	10	20%	83.5	83.4	0.1%
Dissolved Beryllium	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Boron	µg/L	10.0	50	20%	181	155	15.5%
Dissolved Cadmium	µg/L	0.20	1	20%	<0.20	<0.20	-
Dissolved Chromium	µg/L	2.0	10	20%	<2.0	<2.0	-
Dissolved Cobalt	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Copper	µg/L	1.0	5	20%	<1.0	<1.0	-
Dissolved Lead	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Molybdenum	µg/L	0.50	2.5	20%	0.64	0.76	-
Dissolved Nickel	µg/L	1.0	5	20%	2.4	1.4	-
Dissolved Selenium	µg/L	1.0	5	20%	1	<1.0	-
Dissolved Silver	µg/L	0.20	1	20%	<0.20	<0.20	-
Dissolved Thallium	µg/L	0.30	1.5	20%	<0.30	<0.30	-
Dissolved Uranium	µg/L	0.50	2.5	20%	0.78	0.8	-
Dissolved Vanadium	µg/L	0.40	2	20%	<0.40	<0.40	-
Dissolved Zinc	µg/L	5.0	25	20%	5.1	<5.0	-
Metals (Including Hydrides) (Water) - Lab Filtered							
Dissolved Antimony	µg/L	1.0	5	20%	<1.0	<1.0	-
Dissolved Arsenic	µg/L	1.0	5	20%	<1.0	<1.0	-
Dissolved Barium	µg/L	2.0	10	20%	107	107	0.0%
Dissolved Beryllium	µg/L	0.50	2.5	20%	<4.00	<4.00	-
Dissolved Boron	µg/L	10.0	50	20%	253	293	14.7%
Dissolved Cadmium	µg/L	0.20	1	20%	<0.20	<0.20	-
Dissolved Chromium	µg/L	2.0	10	20%	<2.0	<2.0	-
Dissolved Cobalt	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Copper	µg/L	1.0	5	20%	1.3	1.4	-
Dissolved Lead	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Molybdenum	µg/L	0.50	2.5	20%	7.46	8.75	15.9%
Dissolved Nickel	µg/L	1.0	5	20%	1.4	1.3	-
Dissolved Selenium	µg/L	1.0	5	20%	1.6	1.1	-
Dissolved Silver	µg/L	0.20	1	20%	<0.20	<0.20	-
Dissolved Thallium	µg/L	0.30	1.5	20%	<0.30	<0.30	-
Dissolved Uranium	µg/L	0.50	2.5	20%	<0.50	<0.50	-
Dissolved Vanadium	µg/L	0.40	2	20%	<0.40	<0.40	-
Dissolved Zinc	µg/L	5.0	25	20%	13.3	9.9	-

Notes:
'-': Not Analyzed
'<' : Non Detect
'mbgs' : metres below ground surface
BOLD Exceeds MECP Alert Criteria

APPENDIX D

Laboratory Certificates of Analysis

AGAT Laboratories

5835 COOPERS AVENUE
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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Mohit Bhargav
PROJECT: 100117.056
AGAT WORK ORDER: 24Z176895
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Jul 31, 2024
PAGES (INCLUDING COVER): 21
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.*
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- *All reportable information is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.*
- *This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.*
- *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)
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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2024-07-23

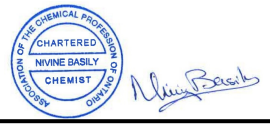
DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		BH24-3 SA2	BH24-3 SA4	BH24-3 SA104	BH24-4 SA1	BH24-4 SA5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-22	2024-07-22	2024-07-22	2024-07-22	2024-07-22
Parameter	Unit	G / S	RDL	6024141	6024154	6024163	6024166	6024172
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	3	2	3	3	2
Barium	µg/g		2.0	255	304	263	231	289
Beryllium	µg/g		0.5	0.9	0.8	0.8	0.9	0.8
Boron	µg/g		5	10	11	13	9	11
Boron (Hot Water Soluble)	µg/g		0.10	0.34	1.05	0.81	0.17	1.14
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		5	141	147	145	120	140
Cobalt	µg/g		0.8	26.0	25.8	25.9	23.0	24.9
Copper	µg/g		1.0	55.3	46.6	51.9	39.6	52.0
Lead	µg/g		1	11	9	10	12	9
Molybdenum	µg/g		0.5	0.6	0.8	0.7	0.5	0.8
Nickel	µg/g		1	79	79	80	67	77
Selenium	µg/g		0.8	<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		0.5	0.5	0.6	<0.5	<0.5	0.5
Uranium	µg/g		0.50	1.36	1.70	1.74	1.80	2.02
Vanadium	µg/g		2.0	110	120	118	91.9	117
Zinc	µg/g		5	123	134	130	106	130
Chromium, Hexavalent	µg/g		0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury	µg/g		0.10	<0.10	<0.10	<0.10	<0.10	<0.10

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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		BH24-3 SA2	BH24-3 SA4	BH24-4 SA1	BH24-4 SA5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-22	2024-07-22	2024-07-22	2024-07-22
Parameter	Unit	G / S	RDL	6024141	6024154	6024166	6024172
pH, 2:1 CaCl2 Extraction	pH Units		NA	6.71	6.88	6.78	7.71

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

6024141-6024172 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:



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Certificate of Analysis

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

O. Reg. 558 - Metals & Inorganics

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		TCLP-COMP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-22
Parameter	Unit	G / S	RDL	6024177
Arsenic Leachate	mg/L	2.5	0.010	<0.010
Barium Leachate	mg/L	100	0.020	0.149
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	0.13
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:



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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

Flash Point Analysis

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		TCLP-COMP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-22
Parameter	Unit	G / S	RDL	6024177
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: N Popnikolof

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

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Certificate of Analysis

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-23 **DATE REPORTED: 2024-07-31**

		SAMPLE DESCRIPTION:		BH24-3 SA2	BH24-3 SA4	BH24-3 SA104	BH24-4 SA1	BH24-4 SA5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-22	2024-07-22	2024-07-22	2024-07-22	2024-07-22
Parameter	**Unit**	**G / S**	**RDL**	**6024141**	**6024154**	**6024163**	**6024166**	**6024172**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g		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
Phenanthrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-and 1-methyl Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	26.2	35.1	32.1	24.1	39.2
Surrogate	**Unit**	**Acceptable Limits**						
Naphthalene-d8	%	50-140		70	88	74	77	98
Acridine-d9	%	50-140		79	91	70	74	91
Terphenyl-d14	%	50-140		74	85	85	71	86

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

6024141-6024172 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

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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		BH24-4 SA1	BH24-4 SA5	BH24-4 SA2
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-07-22	2024-07-22	2024-07-22
Parameter	**Unit**	**G / S**	**RDL**	**6024166**	**6024172**	**6024176**
Polychlorinated Biphenyls	µg/g		0.1	<0.1	<0.1	<0.1
Moisture Content	%		0.1	24.1	39.2	26.1
Surrogate	**Unit**	**Acceptable Limits**				
Decachlorobiphenyl	%	50-140		80	112	116

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

6024166-6024176 Results are based on the dry weight of soil extracted.
PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260.
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: N Popnikolof

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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-23 **DATE REPORTED: 2024-07-31**

		SAMPLE DESCRIPTION:		BH24-3 SA2	BH24-3 SA4	BH24-3 SA104	BH24-4 SA1	BH24-4 SA5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-22	2024-07-22	2024-07-22	2024-07-22	2024-07-22
Parameter	**Unit**	**G / S**	**RDL**	**6024141**	**6024154**	**6024163**	**6024166**	**6024172**
Benzene	µg/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	26.2	35.1	32.1	24.1	39.2
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	60-140		74	76	71	78	78
Terphenyl	%	60-140		96	93	69	91	88

Certified By: NPopowich

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

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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-23 **DATE REPORTED: 2024-07-31**

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

6024141-6024172 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are 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: N Popnikolof

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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

O. Reg. 558 - Benzo(a)pyrene

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		TCLP-COMP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-22
Parameter	**Unit**	**G / S**	**RDL**	**6024177**
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	**Unit**	**Acceptable Limits**		
Acridine-d9	%	50-140		90
Naphthalene-d8	%	50-140		85
Terphenyl-d14	%	50-140		85

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.

6024177 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: N Popowkolof

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

AGAT Laboratories

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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

O. Reg. 558 - VOCs

DATE RECEIVED: 2024-07-23

DATE REPORTED: 2024-07-31

		SAMPLE DESCRIPTION:		TCLP-COMP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-22
Parameter	Unit	G / S	RDL	6024177
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		88
4-Bromofluorobenzene	% Recovery	50-140		92

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.

6024177 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 24Z176895
PROJECT: 100117.056
ATTENTION TO: Mohit Bhargav
SAMPLING SITE:Dunning
SAMPLED BY:CD

Soil Analysis

RPT Date: Jul 31, 2024			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) - All Metals (Soil)															
Antimony	6029751		<0.8	<0.8	NA	< 0.8	122%	70%	130%	108%	80%	120%	108%	70%	130%
Arsenic	6029751		5	5	0.0%	< 1	118%	70%	130%	109%	80%	120%	107%	70%	130%
Barium	6029751		134	137	2.2%	< 2.0	100%	70%	130%	104%	80%	120%	103%	70%	130%
Beryllium	6029751		1.2	1.2	NA	< 0.5	102%	70%	130%	108%	80%	120%	111%	70%	130%
Boron	6029751		8	8	NA	< 5	88%	70%	130%	106%	80%	120%	87%	70%	130%
Boron (Hot Water Soluble)	6033591		0.50	0.47	NA	< 0.10	122%	60%	140%	106%	70%	130%	110%	60%	140%
Cadmium	6029751		<0.5	<0.5	NA	< 0.5	117%	70%	130%	105%	80%	120%	107%	70%	130%
Chromium	6029751		32	32	0.0%	< 5	104%	70%	130%	104%	80%	120%	101%	70%	130%
Cobalt	6029751		15.6	16.1	3.2%	< 0.8	104%	70%	130%	101%	80%	120%	101%	70%	130%
Copper	6029751		18.8	19.1	1.6%	< 1.0	96%	70%	130%	104%	80%	120%	100%	70%	130%
Lead	6029751		18	18	0.0%	< 1	123%	70%	130%	97%	80%	120%	103%	70%	130%
Molybdenum	6029751		0.8	0.9	NA	< 0.5	112%	70%	130%	105%	80%	120%	103%	70%	130%
Nickel	6029751		27	28	3.6%	< 1	108%	70%	130%	106%	80%	120%	102%	70%	130%
Selenium	6029751		0.8	<0.8	NA	< 0.8	124%	70%	130%	100%	80%	120%	91%	70%	130%
Silver	6029751		<0.5	<0.5	NA	< 0.5	105%	70%	130%	106%	80%	120%	103%	70%	130%
Thallium	6029751		<0.5	<0.5	NA	< 0.5	117%	70%	130%	106%	80%	120%	116%	70%	130%
Uranium	6029751		0.93	0.91	NA	< 0.50	123%	70%	130%	104%	80%	120%	119%	70%	130%
Vanadium	6029751		48.2	49.5	2.7%	< 2.0	116%	70%	130%	108%	80%	120%	112%	70%	130%
Zinc	6029751		90	94	4.3%	< 5	107%	70%	130%	109%	80%	120%	114%	70%	130%
Chromium, Hexavalent	6025019		<0.2	<0.2	NA	< 0.2	106%	70%	130%	98%	80%	120%	88%	70%	130%
Mercury	6029751		<0.10	<0.10	NA	< 0.10	116%	70%	130%	97%	80%	120%	113%	70%	130%

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

O. Reg. 153(511) - ORPs (Soil)															
pH, 2:1 CaCl2 Extraction	6024141	6024141	6.71	6.70	0.2%	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.

O. Reg. 558 - Metals & Inorganics															
Arsenic Leachate	6023492		<0.010	<0.010	NA	< 0.010	103%	70%	130%	118%	80%	120%	120%	70%	130%
Barium Leachate	6023492		0.416	0.390	6.5%	< 0.020	98%	70%	130%	99%	80%	120%	99%	70%	130%
Boron Leachate	6023492		<0.050	<0.050	NA	< 0.050	97%	70%	130%	98%	80%	120%	97%	70%	130%
Cadmium Leachate	6023492		<0.010	<0.010	NA	< 0.010	99%	70%	130%	110%	80%	120%	110%	70%	130%
Chromium Leachate	6023492		<0.050	<0.050	NA	< 0.050	99%	70%	130%	100%	80%	120%	94%	70%	130%
Lead Leachate	6023492		0.015	0.014	NA	< 0.010	94%	70%	130%	96%	80%	120%	94%	70%	130%
Mercury Leachate	6023492		<0.01	<0.01	NA	< 0.01	101%	70%	130%	106%	80%	120%	90%	70%	130%
Selenium Leachate	6023492		<0.020	<0.020	NA	< 0.020	99%	70%	130%	120%	80%	120%	122%	70%	130%
Silver Leachate	6023492		<0.010	<0.010	NA	< 0.010	99%	70%	130%	107%	80%	120%	102%	70%	130%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

Soil Analysis (Continued)

RPT Date: Jul 31, 2024			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
Uranium Leachate	6023492		<0.050	<0.050	NA	< 0.050	94%	70%	130%	100%	80%	120%	98%	70%	130%
Fluoride Leachate	6023492		0.24	0.24	NA	< 0.10	107%	90%	110%	109%	90%	110%	109%	70%	130%
Cyanide Leachate	6023492		<0.05	<0.05	NA	< 0.05	107%	70%	130%	103%	80%	120%	94%	70%	130%
(Nitrate + Nitrite) as N Leachate	6023492		<0.70	<0.70	NA	< 0.70	102%	80%	120%	106%	80%	120%	104%	70%	130%

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

Certified By:



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AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

Trace Organics Analysis

RPT Date: Jul 31, 2024			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) (Soil)															
Benzene	6024351		<0.02	<0.02	NA	< 0.02	91%	60%	140%	80%	60%	140%	97%	60%	140%
Toluene	6024351		<0.05	<0.05	NA	< 0.05	114%	60%	140%	109%	60%	140%	82%	60%	140%
Ethylbenzene	6024351		<0.05	<0.05	NA	< 0.05	98%	60%	140%	104%	60%	140%	81%	60%	140%
m & p-Xylene	6024351		<0.05	<0.05	NA	< 0.05	110%	60%	140%	115%	60%	140%	88%	60%	140%
o-Xylene	6024351		<0.05	<0.05	NA	< 0.05	115%	60%	140%	118%	60%	140%	89%	60%	140%
F1 (C6 to C10)	6024351		<5	<5	NA	< 5	97%	60%	140%	87%	60%	140%	82%	60%	140%
F2 (C10 to C16)	6032577		< 10	< 10	NA	< 10	111%	60%	140%	111%	60%	140%	119%	60%	140%
F3 (C16 to C34)	6032577		< 50	< 50	NA	< 50	109%	60%	140%	123%	60%	140%	126%	60%	140%
F4 (C34 to C50)	6032577		< 50	< 50	NA	< 50	72%	60%	140%	92%	60%	140%	82%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	6032463		< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	107%	50%	140%	88%	50%	140%
Acenaphthylene	6032463		< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	124%	50%	140%	81%	50%	140%
Acenaphthene	6032463		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	93%	50%	140%	83%	50%	140%
Fluorene	6032463		< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	86%	50%	140%	80%	50%	140%
Phenanthrene	6032463		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	78%	50%	140%	74%	50%	140%
Anthracene	6032463		< 0.05	< 0.05	NA	< 0.05	69%	50%	140%	82%	50%	140%	78%	50%	140%
Fluoranthene	6032463		< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	83%	50%	140%	85%	50%	140%
Pyrene	6032463		< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	81%	50%	140%	83%	50%	140%
Benzo(a)anthracene	6032463		< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	85%	50%	140%	73%	50%	140%
Chrysene	6032463		< 0.05	< 0.05	NA	< 0.05	97%	50%	140%	104%	50%	140%	105%	50%	140%
Benzo(b)fluoranthene	6032463		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	84%	50%	140%	80%	50%	140%
Benzo(k)fluoranthene	6032463		< 0.05	< 0.05	NA	< 0.05	81%	50%	140%	93%	50%	140%	88%	50%	140%
Benzo(a)pyrene	6032463		< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	83%	50%	140%	77%	50%	140%
Indeno(1,2,3-cd)pyrene	6032463		< 0.05	< 0.05	NA	< 0.05	81%	50%	140%	69%	50%	140%	65%	50%	140%
Dibenz(a,h)anthracene	6032463		< 0.05	< 0.05	NA	< 0.05	76%	50%	140%	66%	50%	140%	84%	50%	140%
Benzo(g,h,i)perylene	6032463		< 0.05	< 0.05	NA	< 0.05	77%	50%	140%	71%	50%	140%	71%	50%	140%
O. Reg. 153(511) - PCBs (Soil)															
Polychlorinated Biphenyls	6026654		< 0.1	< 0.1	NA	< 0.1	103%	50%	140%	91%	50%	140%	89%	50%	140%
O. Reg. 558 - VOCs															
Vinyl Chloride Leachate	5977473		<0.030	<0.030	NA	< 0.030	94%	50%	140%	69%	50%	140%	77%	50%	140%
1,1 Dichloroethene Leachate	5977473		<0.020	<0.020	NA	< 0.020	64%	50%	140%	100%	60%	130%	80%	50%	140%
Dichloromethane Leachate	5977473		<0.030	<0.030	NA	< 0.030	76%	50%	140%	111%	60%	130%	114%	50%	140%
Methyl Ethyl Ketone Leachate	5977473		<0.090	<0.090	NA	< 0.090	106%	50%	140%	106%	50%	140%	98%	50%	140%
Chloroform Leachate	5977473		<0.020	<0.020	NA	< 0.020	96%	50%	140%	120%	60%	130%	54%	50%	140%
1,2-Dichloroethane Leachate	5977473		<0.020	<0.020	NA	< 0.020	72%	50%	140%	97%	60%	130%	97%	50%	140%
Carbon Tetrachloride Leachate	5977473		<0.020	<0.020	NA	< 0.020	89%	50%	140%	106%	60%	130%	105%	50%	140%
Benzene Leachate	5977473		<0.020	<0.020	NA	< 0.020	73%	50%	140%	102%	60%	130%	103%	50%	140%
Trichloroethene Leachate	5977473		<0.020	<0.020	NA	< 0.020	72%	50%	140%	105%	60%	130%	98%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z176895

PROJECT: 100117.056

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Dunning

SAMPLED BY:CD

Trace Organics Analysis (Continued)

RPT Date: Jul 31, 2024			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
Tetrachloroethene Leachate	5977473		<0.050	<0.050	NA	< 0.050	67%	50%	140%	119%	60%	130%	98%	50%	140%
Chlorobenzene Leachate	5977473		<0.010	<0.010	NA	< 0.010	78%	50%	140%	106%	60%	130%	105%	50%	140%
1,2-Dichlorobenzene Leachate	5977473		<0.010	<0.010	NA	< 0.010	82%	50%	140%	95%	60%	130%	108%	50%	140%
1,4-Dichlorobenzene Leachate	5977473		<0.010	<0.010	NA	< 0.010	79%	50%	140%	100%	60%	130%	108%	50%	140%
Flash Point Analysis															
Flash Point (Deg C) (Cgy)	4108	Butanol	35	35	NA		100%	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: N Popnikolof

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Method Summary

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PROJECT: 100117.056 | **ATTENTION TO: Mohit Bhargav**

SAMPLING SITE:Dunning | **SAMPLED BY:CD**

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
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
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

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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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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
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
Benzo(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
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3570 & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082A	GC/ECD
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
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

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 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
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

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
Mississauga, Ontario L4Z 1Y2
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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 #: 24Z176895

Cooler Quantity: one ice packs

Arrival Temperatures: 8.2 | 7.0 | 6.9

Depot Temperatures: 15.5 | 15.3 | 15.5

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: BT

Report Information:

Company: GEMTEC

Contact: MOHIT BHARGAV

Address: 32 STEACIE DRIVE
OTTAWA ONTARIO K2K2A9

Phone: 5068970427 Fax:

Reports to be sent to:

1. Email: mohit.bhargav@gemtec.ca

2. Email: nicole.lowry@gemtec.ca

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): ☐ Ind/Com ☐ Res/Park ☐ Agriculture

☐ 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 (RSC)**? ☐ 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 CSR

Project Information:

Project: 100117.056

Site Location: Dunning

Sampled By: CD

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:

Legal Sample ☐

Sample Matrix Legend

GW	Ground Water	**SD**	Sediment
O	Oil	**SW**	Surface Water
P	Paint	**R**	Rock/Shale
S	Soil		

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	Metals - ☐CrVI, ☑Hg, ☑HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs: Arocolors ☐	O. Reg 406: Regulation 406 Characterization Package	pH, Metals, BTEX, F1-F4	EC, SAR	Regulation 406 SPLP Rainwater Leach	mSPLP: ☐ Metals ☐ VOCs ☐ SVOCs ☐ OC	O. Reg 558: Landfill Disposal Characterization TCLP:	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Corrosivity: ☐ Moisture ☐ Sulphide	I &	Potentially Hazardous or High Concentration (Y/N)
1. BH24-3 SA2	22 July 24	AM	3	SOIL	1x250 ml; 1x120 ml; 1x vial			✓	✓		✓										✓	
2. BH24-3 SA4	"	"	4	"	1x AGAT Bag; 2x120 ml; 1x vial			✓	✓		✓										✓	
3. BH24-3 SA104	"	"	4	"	"			✓	✓		✓											
4. BH24-4 SA1	"	"	3	"	1x 250 ml; 1x 120 ml; 1x vial			✓	✓		✓	✓									✓	
5. BH24-4 SA5	"	"	4	"	1x AGAT Bag; 2x 120 ml; 1x vial			✓	✓		✓	✓									✓	
6. BH24-4 SA2	"	"	1	"	1x 250 ml							✓										
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
Mohit Bhargav.	23 July 24	11 am	C Griffiths	07/23/24	13h10
CC to Pam	07/23/24	1800		July 24	8:40am

Page 1 of 2

N°: T-159789

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Document ID: DIV-78-1513.023

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Date Issued: Jun 18, 2024

AGAT Laboratories

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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: Mohit Bhargav
Address: 32 Steacie Drive Ottawa Ontario K2K 2A9
Phone: 5068970427 Fax:
Reports to be sent to:
1. Email: mohit.bhargav@gemtec.ca
2. Email: nicole.soucy@gemtec.ca

Project Information:

Project: 100117.056
Site Location: Dunning
Sampled By: CD
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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 24Z1768895
Cooler Quantity: ONE - ICE PACKS
Arrival Temperatures: 15.5 | 15.3 | 15.5 / 8.2 | 7.0 | 6.9
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: B / T

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 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: ☑ Metal ☑ SVOCs ☐ 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	Flashpoint	Potentially Hazardous or High Concentration (Y/N)
TCLP-COMP	22 July 24	AM / PM	4	SOIL	2x120 ml; 2x250 ml								☑				☑	
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																
		AM / PM																

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Mohit Bhargav	23 July 2024	11 am	C. Griffiths	07/23/24	BNO
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
C. to Driver	07/23/24	15h00	Tiffin	23 July 24	8:40 am
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 2 of 2
N°:

Document ID: DN-TB-1511.021

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Date Issued: March 9, 2021

AGAT Laboratories

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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: Nicole Soucy
PROJECT: 100117.056
AGAT WORK ORDER: 24Z180906
TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer
WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Lab Operation Manager
DATE REPORTED: Aug 09, 2024
PAGES (INCLUDING COVER): 15
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 is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.*
- *This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.*
- *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)

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: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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

DATE RECEIVED: 2024-08-01

DATE REPORTED: 2024-08-09

		SAMPLE DESCRIPTION:		BH24-03	BH24-103	BH24-04
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		2024-08-01 11:55	2024-08-01 11:55	2024-08-01 10:50
Parameter	**Unit**	**G / S**	**RDL**	**6047067**	**6047072**	**6047073**
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 Napthalene	µg/L		0.20	<0.20	<0.20	<0.20
Sediment				1	1	1
Surrogate	**Unit**	**Acceptable Limits**				
Naphthalene-d8	%	50-140		82	110	81
Acridine-d9	%	50-140		94	122	80
Terphenyl-d14	%	50-140		103	86	104

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

6047067-6047073 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: Pinkal Patel

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

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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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

DATE RECEIVED: 2024-08-01

DATE REPORTED: 2024-08-09

		SAMPLE DESCRIPTION:		**BH24-03**	**BH24-103**	**BH24-04**
		SAMPLE TYPE:		**Water**	**Water**	**Water**
		DATE SAMPLED:		**2024-08-01 11:55**	**2024-08-01 11:55**	**2024-08-01 10:50**
Parameter	**Unit**	**G / S**	**RDL**	**6047067**	**6047072**	**6047073**
Benzene	µg/L		0.20	<0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10
Xylenes (Total)	µg/L		0.20	<0.20	<0.20	<0.20
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				1	1	1
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	60-140		97	91	102
Terphenyl	% Recovery	60-140		80	86	93

Certified By:

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

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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

DATE RECEIVED: 2024-08-01 **DATE REPORTED: 2024-08-09**

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

6047067-6047073 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
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are 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:



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

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Certificate of Analysis

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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

DATE RECEIVED: 2024-08-01

DATE REPORTED: 2024-08-09

				SAMPLE DESCRIPTION:	Field Blank	Trip Blank
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2024-08-01 13:00	2024-08-01 12:00
Parameter	**Unit**	**G / S**	**RDL**		**6047082**	**6047089**
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			98	106

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

6047082-6047089 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:



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Certificate of Analysis

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

O. Reg. 153(511) - Metals (Including Hydrides) (Water) - Lab Filtered

DATE RECEIVED: 2024-08-01

DATE REPORTED: 2024-08-09

		SAMPLE DESCRIPTION:		BH24-03	BH24-103	BH24-04
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		2024-08-01 11:55	2024-08-01 11:55	2024-08-01 10:50
Parameter	Unit	G / S	RDL	6047067	6047072	6047073
Dissolved Antimony	µg/L		1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L		1.0	<1.0	1.4	1.4
Dissolved Barium	µg/L		2.0	67.7	63.9	56.3
Dissolved Beryllium	µg/L		0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L		10.0	284	413	282
Dissolved Cadmium	µg/L		0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L		2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L		0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L		1.0	1.5	1.6	1.2
Dissolved Lead	µg/L		0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L		0.50	6.75	4.71	11.5
Dissolved Nickel	µg/L		1.0	4.4	2.1	<1.0
Dissolved Selenium	µg/L		1.0	<1.0	<1.0	<1.0
Dissolved Silver	µg/L		0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L		0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L		0.50	5.42	5.05	9.80
Dissolved Vanadium	µg/L		0.40	2.47	1.58	2.24
Dissolved Zinc	µg/L		5.0	<5.0	<5.0	<5.0
Lab Filtration Metals				1	1	1

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

6047067-6047073 Metals analysis completed on a lab filtered sample.

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Certificate of Analysis

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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

DATE RECEIVED: 2024-08-01 **DATE REPORTED: 2024-08-09**

				SAMPLE DESCRIPTION:	BH24-03	BH24-04
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2024-08-01 11:55	2024-08-01 10:50
Parameter	Unit	G / S	RDL		6047067	6047073
pH	pH Units		NA		8.07	8.05

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

6047067-6047073 pH is a recommended field analysis taken within 15 minutes of sample collection. Due to the potential for rapid change in sample equilibrium chemistry laboratory results may differ from field measured results.

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Quality Assurance

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AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

Trace Organics Analysis

RPT Date: Aug 09, 2024			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) (Water)															
Benzene	6049754		<0.20	<0.20	NA	< 0.20	105%	60%	140%	99%	60%	140%	83%	60%	140%
Toluene	6049754		<0.20	<0.20	NA	< 0.20	97%	60%	140%	104%	60%	140%	85%	60%	140%
Ethylbenzene	6049754		<0.10	<0.10	NA	< 0.10	94%	60%	140%	96%	60%	140%	80%	60%	140%
m & p-Xylene	6049754		<0.20	<0.20	NA	< 0.20	103%	60%	140%	89%	60%	140%	82%	60%	140%
o-Xylene	6049754		<0.10	<0.10	NA	< 0.10	110%	60%	140%	95%	60%	140%	88%	60%	140%
F1 (C6 to C10)	6049754		<25	<25	NA	< 25	91%	60%	140%	83%	60%	140%	83%	60%	140%
F2 (C10 to C16)	6045268		< 100	< 100	NA	< 100	128%	60%	140%	73%	60%	140%	70%	60%	140%
F3 (C16 to C34)	6045268		< 100	< 100	NA	< 100	116%	60%	140%	79%	60%	140%	69%	60%	140%
F4 (C34 to C50)	6045268		< 100	< 100	NA	< 100	67%	60%	140%	68%	60%	140%	98%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	6047072	6047072	<0.20	<0.20	NA	< 0.20	103%	50%	140%	82%	50%	140%	100%	50%	140%
Acenaphthylene	6047072	6047072	<0.20	<0.20	NA	< 0.20	95%	50%	140%	74%	50%	140%	87%	50%	140%
Acenaphthene	6047072	6047072	<0.20	<0.20	NA	< 0.20	90%	50%	140%	80%	50%	140%	100%	50%	140%
Fluorene	6047072	6047072	<0.20	<0.20	NA	< 0.20	91%	50%	140%	80%	50%	140%	98%	50%	140%
Phenanthrene	6047072	6047072	0.11	0.11	NA	< 0.10	89%	50%	140%	80%	50%	140%	102%	50%	140%
Anthracene	6047072	6047072	<0.10	<0.10	NA	< 0.10	75%	50%	140%	85%	50%	140%	109%	50%	140%
Fluoranthene	6047072	6047072	<0.20	<0.20	NA	< 0.20	93%	50%	140%	84%	50%	140%	111%	50%	140%
Pyrene	6047072	6047072	<0.20	<0.20	NA	< 0.20	91%	50%	140%	82%	50%	140%	111%	50%	140%
Benzo(a)anthracene	6047072	6047072	<0.20	<0.20	NA	< 0.20	72%	50%	140%	78%	50%	140%	73%	50%	140%
Chrysene	6047072	6047072	<0.10	<0.10	NA	< 0.10	114%	50%	140%	95%	50%	140%	88%	50%	140%
Benzo(b)fluoranthene	6047072	6047072	<0.10	<0.10	NA	< 0.10	72%	50%	140%	90%	50%	140%	97%	50%	140%
Benzo(k)fluoranthene	6047072	6047072	<0.10	<0.10	NA	< 0.10	132%	50%	140%	90%	50%	140%	92%	50%	140%
Benzo(a)pyrene	6047072	6047072	<0.01	<0.01	NA	< 0.01	96%	50%	140%	104%	50%	140%	96%	50%	140%
Indeno(1,2,3-cd)pyrene	6047072	6047072	<0.20	<0.20	NA	< 0.20	77%	50%	140%	114%	50%	140%	73%	50%	140%
Dibenz(a,h)anthracene	6047072	6047072	<0.20	<0.20	NA	< 0.20	74%	50%	140%	62%	50%	140%	73%	50%	140%
Benzo(g,h,i)perylene	6047072	6047072	<0.20	<0.20	NA	< 0.20	99%	50%	140%	119%	50%	140%	80%	50%	140%
O. Reg. 153(511) - PHCs F1/BTEX (Water)															
Benzene	6049754		<0.20	<0.20	NA	< 0.20	105%	60%	140%	99%	60%	140%	83%	60%	140%
Toluene	6049754		<0.20	<0.20	NA	< 0.20	97%	60%	140%	104%	60%	140%	85%	60%	140%
Ethylbenzene	6049754		<0.10	<0.10	NA	< 0.10	94%	60%	140%	96%	60%	140%	80%	60%	140%
m & p-Xylene	6049754		<0.20	<0.20	NA	< 0.20	103%	60%	140%	89%	60%	140%	82%	60%	140%
o-Xylene	6049754		<0.10	<0.10	NA	< 0.10	110%	60%	140%	95%	60%	140%	88%	60%	140%
F1 (C6 to C10)	6049754		<25	<25	NA	< 25	91%	60%	140%	83%	60%	140%	83%	60%	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).

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

Trace Organics Analysis (Continued)

RPT Date: Aug 09, 2024			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

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PROJECT: 100117.056

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

Water Analysis

RPT Date: Aug 09, 2024			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 (Water)															
pH	6047129		7.55	7.90	4.5%	NA	100%	90%	110%	NA			NA		
O. Reg. 153(511) - Metals (Including Hydrides) (Water) - Lab Filtered															
Dissolved Antimony	6048503		<1.0	<1.0	NA	< 1.0	102%	70%	130%	105%	80%	120%	105%	70%	130%
Dissolved Arsenic	6048503		<1.0	<1.0	NA	< 1.0	101%	70%	130%	105%	80%	120%	104%	70%	130%
Dissolved Barium	6048503		83.5	83.4	0.1%	< 2.0	100%	70%	130%	102%	80%	120%	100%	70%	130%
Dissolved Beryllium	6042951		<0.50	<0.50	NA	< 0.50	108%	70%	130%	109%	80%	120%	111%	70%	130%
Dissolved Boron	6048503		181	155	15.5%	< 10.0	98%	70%	130%	120%	80%	120%	110%	70%	130%
Dissolved Cadmium	6048503		<0.20	<0.20	NA	< 0.20	100%	70%	130%	101%	80%	120%	102%	70%	130%
Dissolved Chromium	6048503		<2.0	<2.0	NA	< 2.0	100%	70%	130%	104%	80%	120%	101%	70%	130%
Dissolved Cobalt	6048503		<0.50	<0.50	NA	< 0.50	101%	70%	130%	102%	80%	120%	102%	70%	130%
Dissolved Copper	6048503		<1.0	<1.0	NA	< 1.0	101%	70%	130%	102%	80%	120%	100%	70%	130%
Dissolved Lead	6048503		<0.50	<0.50	NA	< 0.50	97%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Molybdenum	6048503		0.64	0.76	NA	< 0.50	104%	70%	130%	107%	80%	120%	107%	70%	130%
Dissolved Nickel	6048503		2.4	1.4	NA	< 1.0	102%	70%	130%	103%	80%	120%	100%	70%	130%
Dissolved Selenium	6048503		1.0	<1.0	NA	< 1.0	103%	70%	130%	106%	80%	120%	103%	70%	130%
Dissolved Silver	6048503		<0.20	<0.20	NA	< 0.20	102%	70%	130%	102%	80%	120%	101%	70%	130%
Dissolved Thallium	6048503		<0.30	<0.30	NA	< 0.30	99%	70%	130%	100%	80%	120%	100%	70%	130%
Dissolved Uranium	6048503		0.78	0.80	NA	< 0.50	97%	70%	130%	100%	80%	120%	101%	70%	130%
Dissolved Vanadium	6048503		<0.40	<0.40	NA	< 0.40	103%	70%	130%	107%	80%	120%	106%	70%	130%
Dissolved Zinc	6048503		5.1	<5.0	NA	< 5.0	102%	70%	130%	106%	80%	120%	99%	70%	130%
O. Reg. 153(511) - Metals (Including Hydrides) (Water) - Lab Filtered															
Dissolved Antimony	6042951		<1.0	<1.0	NA	< 1.0	101%	70%	130%	104%	80%	120%	109%	70%	130%
Dissolved Arsenic	6042951		<1.0	<1.0	NA	< 1.0	110%	70%	130%	101%	80%	120%	109%	70%	130%
Dissolved Barium	6042951		107	107	0.2%	< 2.0	96%	70%	130%	100%	80%	120%	102%	70%	130%
Dissolved Beryllium	6042951		<4.00	<4.00	NA	< 0.50	108%	70%	130%	109%	80%	120%	111%	70%	130%
Dissolved Boron	6042951		253	293	14.5%	< 10.0	101%	70%	130%	117%	80%	120%	120%	70%	130%
Dissolved Cadmium	6042951		<0.20	<0.20	NA	< 0.20	100%	70%	130%	100%	80%	120%	105%	70%	130%
Dissolved Chromium	6042951		<2.0	<2.0	NA	< 2.0	100%	70%	130%	102%	80%	120%	102%	70%	130%
Dissolved Cobalt	6042951		<0.50	<0.50	NA	< 0.50	100%	70%	130%	103%	80%	120%	102%	70%	130%
Dissolved Copper	6042951		1.3	1.4	NA	< 1.0	100%	70%	130%	100%	80%	120%	100%	70%	130%
Dissolved Lead	6042951		<0.50	<0.50	NA	< 0.50	97%	70%	130%	103%	80%	120%	97%	70%	130%
Dissolved Molybdenum	6042951		7.46	8.75	16%	< 0.50	104%	70%	130%	108%	80%	120%	109%	70%	130%
Dissolved Nickel	6042951		1.4	1.3	NA	< 1.0	100%	70%	130%	101%	80%	120%	101%	70%	130%

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

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

Water Analysis (Continued)

RPT Date: Aug 09, 2024			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
Dissolved Selenium	6042951		1.6	1.1	NA	< 1.0	110%	70%	130%	110%	80%	120%	109%	70%	130%
Dissolved Silver	6042951		<0.20	<0.20	NA	< 0.20	104%	70%	130%	104%	80%	120%	99%	70%	130%
Dissolved Thallium	6042951		<0.30	<0.30	NA	< 0.30	98%	70%	130%	105%	80%	120%	99%	70%	130%
Dissolved Uranium	6042951		<0.50	<0.50	NA	< 0.50	102%	70%	130%	117%	80%	120%	104%	70%	130%
Dissolved Vanadium	6042951		<0.40	<0.40	NA	< 0.40	98%	70%	130%	104%	80%	120%	108%	70%	130%
Dissolved Zinc	6042951		13.3	9.9	NA	< 5.0	101%	70%	130%	100%	80%	120%	100%	70%	130%

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

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

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SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

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 Napthalene	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
Benzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Toluene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
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-91-5010	modified from MOE PHC-E3421	(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

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

AGAT Laboratories

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

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z180906

PROJECT: 100117.056

ATTENTION TO: Nicole Soucy

SAMPLING SITE:3043 Dunning Road

SAMPLED BY:Jeffrey Gauthier

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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

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

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Lab Filtration Metals	SR-78-9001		FILTRATION
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24Z180906

Cooler Quantity: ONE - ICE PACKED

Arrival Temperatures: 3.5 | 3.8 | 4.0

Depot Temperatures: 24.9 | 24.6 | 24.4

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: GEMTEC

Contact: Nicole Soucy

Address: 32 Steacie Drive

Phone: 613 929 5670 Fax:

Reports to be sent to:

1. Email: Nicole.Soucy@gemtec.ca
2. Email: Jeffrey.Gauthier@gemtec.ca

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) — ☐ Ind/Com ☐ Res/Park ☐ Agriculture

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other (Indicate One)

Don't report

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 CSR

Project Information:

Project: 100117.056

Site Location: 3043 Draning Road

Sampled By: Jeffrey Gauthier

AGAT Quote #: PO:

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

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

Report Guideline on Certificate of Analysis ☐ Yes ☒ No

Invoice Information: Bill To Same: Yes ☐ No ☐

Company:

Contact:

Address:

Email:

Legal Sample ☐

Sample Matrix Legend

GW	Ground Water	SD	Sediment
O	Oil	SW	Surface Water
P	Paint	R	Rock/Shale
S	Soil		

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	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs: Arocolors ☐	O. Reg 406: Regulation 406 Characterization Package pH, Metals, BTEX, F1-F4	EC, SAR	Regulation 406 SPLP Rainwater Leach mSPLP: ☐ Metals ☐ VOCs ☐ SVOCs ☐ OC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Corrosivity: ☐ Moisture ☐ Sulphide	pH	Metals						Potentially Hazardous or High Concentration (Y/N)
1.	BH24-03	Aug 1/24	11:55 AM/PM	9	GW				/		/							/	/						
2.	BH24-103		11:55 AM/PM	9					/		/								/						
3.	BH24-04		10:50 AM/PM	9					/		/							/	/						
4.	Field Blank		13:00 AM/PM	3		PHC F1 & BTEX only			/																
5.	Trip Blank		AM/PM	3					/																
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
Jeffrey Gauthier	Aug 1/24	13:10		08/01/24	13h20
CC to Dino	08/01/24	15h00		Aug 2	8:45am

Page 1 of 1

N°: T-160291

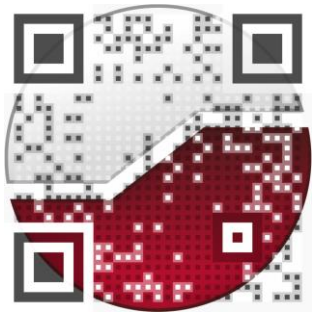
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Date Issued: Jan 18, 2024

experience • knowledge • integrity



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

expérience • connaissance • intégrité