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Phase Two Environmental Site Assessment
Proposed Plan of Subdivision
3160 Carp Road
Ottawa, Ontario

GEMTEC Project: 102151.001

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Submitted to:

T & L Carroll Holdings Inc.
1380 Howie Road
Carp, Ontario
K0A 1L0

Phase Two Environmental Site Assessment
Proposed Plan of Subdivision
3160 Carp Road
Ottawa, Ontario

April 24, 2024
GEMTEC Project: 102151.001

GEMTEC Consulting Engineers and Scientists Limited
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April 24, 2024 File: 102151.001

T & L Carroll Holdings Inc.
1380 Howie Road
Carp, Ontario
K0A 1L0

Attention: Mr. Tom Carroll and Ms. Lois Carroll

Re: Phase Two Environmental Site Assessment
Proposed Plan of Subdivision
3160 Carp Road
Ottawa, Ontario

Enclosed is GEMTEC Consulting Engineers and Scientists Limited's Phase Two Environmental Site Assessment report for the above-noted project. The Phase Two ESA and reporting are based on the scope of work presented in our proposal dated January 31, 2024. This report was prepared by Mohit Bhargav, M.Sc.E., EIT, and reviewed by Mike Kosiw, B.Sc., EP, $CESA_{II}$ and Daniel Elliot, B.Sc., P.Geo., QP_{ESA}.

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

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MB/MK/DE

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by T & L Carroll Holdings Inc. to carry out a Phase Two Environmental Site Assessment (ESA) for the property located at 3160 Carp Road in Ottawa, Ontario (herein referred to as the 'Site'). GEMTEC understands that the Phase Two ESA is required in support of development and associated planning-related approvals. It is also our understanding that the land use of the Site will not be changing to a more sensitive land use, and therefore the filing of a Record of Site Condition (RSC) under Ontario Regulation (O.Reg.) 153/04 will not be required. The Phase Two ESA was carried out in general accordance with O.Reg. 153/04.

GEMTEC previously completed a Phase One ESA for the Site, the results of which were documented in the report titled *"Phase One Environmental Site Assessment, Proposed Plan of Subdivision, 3160 Carp Road, Ottawa, Ontario"* dated June 2023. Based on the findings of the Phase One ESA, GEMTEC recommended a Phase Two ESA investigation be completed at the Site.

GEMTEC identified four Areas of Potential Environmental Concern (APECs) during the Phase One ESA investigation:

- APEC 1 – Historical, large-scale application of pesticides on the Site;
- APEC 2 – Fill material of unknown origin from the historical building is expected on the north corner of the Site;
- APEC 3 – Imported fill material of unknown quality was observed during the Phase One Site visit; and,
- APEC 4 – An aboveground storage tank (AST) was noted approximately 20 metres south of the Site at 3108 Carp Road.

Utility locates were completed prior to the drilling program. On February 14, 2024, nine boreholes (BH24-1 to BH24-9) were advanced to depths ranging between 0.76 metres below ground surface (m bgs) and 3.35 m bgs. One borehole (BH/MW24-9) was completed as an overburden monitoring well to enable groundwater monitoring and sampling at the Site.

Soil and groundwater results were compared to Ministry of the Environment, Conservation, and Parks (MECP) Table 2 Residential/Parkland/Institutional (RPI) Site Condition Standards (SCS) with coarse textured soil. All soil samples met Table 2 RPI SCS. BH/MW24-9 was completed as a monitoring well at the Site to investigate APEC 4 (AST located at 3108 Carp Road). BH/MW24-9 was dry for the duration of this project, and as such, no groundwater samples were submitted for laboratory analysis. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the contaminants for soil sample (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.

Based on the above-noted results, no further work is recommended at this time. If the on-Site monitoring well is no longer required, it should be decommissioned by a licensed well contractor in accordance with O.Reg. 903, as amended.

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by T & L Carroll Holdings Inc. to carry out a Phase Two Environmental Site Assessment (ESA) for the property located at 3160 Carp Road in Ottawa, Ontario (herein referred to as the 'Site'). GEMTEC understands that the Phase Two ESA is required in support of development and associated planning-related approvals. It is also our understanding that the land use of the Site will not be changing to a more sensitive land use, and therefore the filing of a Record of Site Condition (RSC) under Ontario Regulation (O.Reg.) 153/04 will not be required. The Phase Two ESA was carried out in general accordance with O.Reg. 153/04.

GEMTEC previously completed a Phase One ESA for the Site, the results of which were documented in the report titled *"Phase One Environmental Site Assessment, Proposed Plan of Subdivision, 3160 Carp Road, Ottawa, Ontario"* dated June 2023. Based on the findings of the Phase One ESA, GEMTEC recommended a Phase Two ESA investigation be completed at the Site.

The approximate boundaries and the location of the Site are provided on Figure A.1, Appendix A.

1.1 Site Description

The Site has an approximate area of 23.03 hectares and is located at 3160 Carp Road in Ottawa, Ontario. The Site was previously developed sometime circa 1945 based on the earliest available aerial photograph from 1945. Based on a review of available historical aerial photographs, agricultural activities are visible on the Site prior to 1945. Historical land use adjacent to the Site was predominately rural residential and agricultural with community use roadway.

The legal description for the Site is:

- PT LT 11 CON 2 HUNTLEY; PT LT 12 CON 2 HUNTLEY AS IN NS47572 EXCEPT PTS 2 & 4, 5R7272, PT 1 5R4304, PT 1, 5R7483, PT 2 5R10733 & PTS 1 & 2, 5R11909; S/T N661110, N358106 ; WEST CARLETON.

The Site is currently owned by T & L Carroll Holdings Inc. The Site location and adjacent land uses are shown on Figure A.1, Appendix A.

1.2 Current and Proposed Future Uses

Currently the Site is vacant and undeveloped. The proposed future use for the Site is a residential subdivision.

1.3 Applicable Site Condition Standards

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 2 Full Depth Generic Site Condition Standards (SCS) for Residential/Parkland/Institutional (RPI) Property Use with coarse textured soil as presented in the Ministry of the Environment, Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" dated April 15, 2011. The applicable SCS were selected based on the following rationale:

- The Site is currently vacant and undeveloped and was previously used for agriculture, and the proposed future land use is residential;
- The Site and nearby residential properties rely on groundwater as the source of potable water;
- Based on visual observations made during the field program, the predominant soil type was silty sand which is inferred to be coarse-textured soil. A grain size determination completed on the soil sample from location BH24-3 which indicated the soil to be coarse-textured. Coarse-textured soil is defined by Section 42(1) of O. Reg.153/04 as "soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter";
- No water bodies or Areas of Natural and Scientific Interest (ANSIs) were identified on or within 30 m of the Site. One small (unnamed) pond was identified approximately 205 metres north of the Site;
- No features have been identified at the Site that would meet the conditions of an environmentally sensitive site, as described in Section 41 of O.Reg. 153/04;
- Based on sampling carried out as part of this Phase Two ESA, the pH of surface soil at the Site is between 5 and 9 and the pH of subsurface soil at the Site is between 5 and 11;
- The overburden thickness is greater than 2 metres for more than one-third of the Site. The measured depth to water measured from previously installed monitoring wells at the Site ranged from 1.54 to 4.49 m bgs. The depth of groundwater was not considered shallow when selecting the applicable SCS.

2.0 BACKGROUND INFORMATION

This section presents the background conditions of the Site including a description of the physical setting and a summary of past investigations conducted.

The objectives of the Phase Two ESA were to obtain information about environmental conditions in the soil and groundwater on, in or under the Site, and to develop the information necessary to complete the Phase Two ESA for the Site. The objectives of this Phase Two ESA were achieved by:

- Developing an understanding of the geological and hydrogeological conditions at the Site; and,

- Conducting field sampling for all contaminants of potential concern (COPCs) associated with the areas of potential environmental concern (APECs) identified in the Phase One ESA (GEMTEC, 2023).

2.1 Physical Setting

The Site has a relatively flat topography and is at an elevation of approximately 110 metres above sea level (m asl). Surrounding topography is relatively flat but generally slopes gradually downwards to the north. Overburden in the vicinity of the northeast portion of the Site generally consists of silt and clay, minor sand and gravel, whereas the overburden in the northwest portion of the Site consists of sand, gravel, minor silt and clay with littoral deposits. Overburden thickness varies between 5 and 15 m bgs. Bedrock is mapped as limestone, dolostone, shale, arkose, and sandstone from the Ottawa and Simcoe Groups and the Shadow Lake Formation.

Groundwater flow often reflects topographic features and typically flows towards nearby surface water features. Based on the topography and hydrogeological features, it is anticipated that local shallow groundwater would flow to the north. Based on the findings of this Phase Two ESA, shallow groundwater was interpreted to flow towards the north.

No provincially significant wetlands (PSWs) or ANSIs were identified on the Site.

2.2 Past Investigations

A previous Phase One ESA was completed by GEMTEC for the Site and is summarized below.

2.2.1 Phase One Environmental Site Assessment

GEMTEC conducted a Phase One ESA titled *"Phase One Environmental Site Assessment, Proposed Plan of Subdivision, 3160 Carp Road, Ottawa, Ontario"* dated June 2023 to assess the likelihood of soil and/or groundwater contamination resulting from historical or present activities at the Site and surrounding area. This 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 review, several potentially contaminating activities (PCAs) were identified resulting in four APECs at the Site.

Figure A.2 in Appendix A indicates the location of the PCAs and the APECs. The APECs identified in the Phase One ESA (GEMTEC, 2023) are summarized in Table 2.1.

Table 2.1: Borehole locations with investigated APECs as per APU (GEMTEC, 2023)

APEC	Location of APEC on the Site	PCA	Location of PCA	COCs	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1 Historical pesticide use on the Site.	Site wide	40	On-Site	OCPs, Metals	Soil
APEC 2 Fill material of unknown origin (historical structure)	North corner of the Site	30	On-Site	M&I, PHC F1-F4, BTEX, PAHs	Soil
APEC 3 Fill material of unknown origin (imported crushed rock)	Southwest portion of the Site	30	On-Site	M&I, PHC F1-F4, BTEX, PAHs	Soil
APEC 4 AST located at 3108 Carp Road	South portion of the Site	28	Off-Site	PHC F1-F4, BTEX	Soil and Groundwater

Notes:
OCPs – OrganoChlorine Pesticides
M&I – Metals and Inorganics
BTEX – Benzene, Toluene, Ethylbenzene, and Xylene
PAHs – Polycyclic Aromatic Hydrocarbons
AST – Aboveground Storage Tank
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
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

3.0 SCOPE OF THE INVESTIGATION

3.1 Overview of the Phase Two ESA Investigation

The Phase Two ESA investigation activities were completed between February 14, 2024, and February 28, 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 a 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 nine boreholes and completion of one as a monitoring well. The locations of the boreholes and monitoring well are provided in Figure A.3, Appendix A;
- **Soil Sampling**: Soil samples were collected on February 14, 2024, from the boreholes. Select worst-case soil samples were submitted for chemical analysis of one or more of the following COPCs:
    - Metals, hydride-forming metals, and other regulated parameters including electrical conductivity (EC), sodium adsorption ratio (SAR), hot water-soluble boron (HWS boron), cyanide (CN), hexavalent chromium (Cr-VI), mercury (Hg) and pH;
    - Petroleum Hydrocarbon (PHC) F1-F4;
    - Organochlorine Pesticides (OCPs);
    - Benzene, Toluene, Ethylbenzene and Xylene (BTEX); and,
    - Polycyclic Aromatic Hydrocarbons (PAHs).
- **Groundwater Monitoring and Sampling**: No groundwater sample was collected from the on-Site groundwater monitoring well (BH/MW24-9). BH/MW24-9 was advanced at the Site to investigate APEC 4 (AST located at 3108 Carp Road). BH/MW24-9 was dry for the duration of this project, and as such, no groundwater samples were submitted for laboratory analysis. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the COPCs in soil samples (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.
- **Surveying**: An elevation survey for boreholes, monitoring well and previously installed 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 investigation was carried out in general accordance with GEMTEC's standard operating procedures, which conform to the requirements of O. Reg. 153/04.

3.2 Media Investigated

To address the potential environmental issues identified in the Phase One ESA, the Phase Two ESA field program included sampling of subsurface soil from boreholes completed within the overburden at the Site. BH/MW24-9 was dry for the duration of this project, and as such, no groundwater samples were submitted for laboratory analysis. No sediment was present at the Site and, therefore, no sediment sampling was completed.

3.3 Phase One ESA Conceptual Site 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, 2023).

- The Site is located at 3160 Carp Road in Ottawa, Ontario. The Site is approximately 23.03 hectares in size with no structures present. At the time of Site reconnaissance, grading activities were underway in preparation for Site development with blast rock importing and stockpiling/hauling on the southwest portion. No environmental quality data was available for the blast rock that was being imported to the Site. A previous report for the blast rock source site was provided, however, the quality data was for overburden soil only. The data for the overburden soil indicated exceedances for metals and PAHs when compared to the O.Reg. 406/19 Table 2.1: Full Depth Excess Soil Quality Standards for a RPI Property Use in a Potable Ground Water Condition;
- Previous uses of the Site include agricultural operations. Aerial photographs indicate that the Site was used for agricultural operations prior to 1945;
- Current surrounding land uses include agricultural, community, commercial, and residential;
- The Site and nearby developed properties are serviced with natural gas and hydro. Groundwater is used as the source of potable water in the study area;
- The elevation of the Site approximately 110 m asl and is relatively flat. Topography in the study area appears to slope to the north;
- Surficial soil conditions consist of silt and clay, minor sand, and gravel for the northeast portion of the Site. The northwest portion of the Site consists of sand, gravel, minor silt, and clay with littoral deposits;
- Bedrock is mapped as limestone, dolostone, shale, arkose, and sandstone from the Ottawa and Simcoe Groups and the Shadow Lake Formation;
- Shallow groundwater direction is interpreted to be to the northwest;
- 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 four APECs on the Site. These APECs include:
    - APEC 1 – Historical, large-scale application of pesticides on the Site. Contaminants of Potential Concern (COPCs) include OCPs and metals with the potential for impacts in soil;
    - APEC 2 – Fill material of unknown origin from the historical building is expected on the north corner of the Site. COPCs include M&I, PHC F1-F4, BTEX, and PAHs with potential for impacts in soil;
    - APEC 3 – Imported fill material of unknown quality was observed during the Phase One Site visit. COPCs include M&I, PHC F1-F4, BTEX, and PAHs with potential for impacts in soil; and,

- APEC 4 – An AST was noted approximately 20 metres south of the Site at 3108 Carp Road. COPCs include PHC F1-F4 and BTEX with potential impacts in soil and groundwater.

3.4 Deviations from Sampling and Analysis Plan

Section 4.2 details the Sampling and Analysis Plan which provides the rationale for, number of and location of samples to be recovered as part of the Phase Two ESA investigation. One deviation was introduced in the field program because BH/MW24-9 was dry for the duration of this project and no groundwater sample could be collected. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the COPCs in soil sample(s) (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.

3.5 Impediments

No physical impediments to the Phase Two ESA investigation were encountered. Access to the Site was not denied or restricted.

4.0 INVESTIGATION METHOD

4.1 General

The following sections describe the field investigation methodology employed during the Phase Two ESA. The field work was conducted between February 14, 2024, and February 28, 2024.

Prior to initiating the field work, GEMTEC developed and implemented Site-specific protocols to protect the health and safety of its employees and subcontractors through the preparation of a Site-specific Health and Safety Plan. Additionally, prior to the drilling program, GEMTEC completed public and private utility clearances.

4.2 Borehole Drilling

On February 14, 2024, nine boreholes (BH24-1 to BH24-9) were advanced to depths ranging between 0.76 m bgs to 3.35 m bgs. Borehole locations (with respect to APECs) are provided in Figure A.3, Appendix A.

Boreholes BH24-1 to BH24-9 were advanced using a track mounted Geoprobe 7822DT supplied and operated by Strata Drilling Group. During drilling, a macro core soil sampling system utilizing direct-push technology with disposable 5.71 cm (2-1/4 inch) polyvinyl chloride (PVC) tube liners which fit inside a 6.26 cm (3-1/4 inch) outer stainless-steel tube were used to sample the overburden soil. The macro core soil samples were obtained at regular depth intervals and logged in the field noting subsurface.

Table 4.1 summarizes the location of boreholes advanced as part of the Phase Two ESA.

Table 4.1: Borehole locations with investigated APECs

Borehole ID	MW Installation Required	APECs
BH24-1	X	APEC 1
BH24-2	X	APEC 1
BH24-3	X	APEC 2
BH24-4	X	APEC 1
BH24-5	X	APEC 3
BH24-6	X	APEC 3
BH24-7	X	APEC 3
BH24-8	X	APEC 3
BH24-9	✓	APEC 4

Notes:
APEC 1 – Historical, large-scale application of pesticides on the Site.
APEC 2 – Fill material of unknown origin from the historical building is expected on the north corner of the Site.
APEC 3 – Imported fill material of unknown quality was observed during the Phase One Site visit.
APEC 4 – An AST was noted approximately 20 meters south of the Site at 3108 Carp Road.

4.3 Soil Sampling

Soil samples collected from the boreholes were split in the field into two components. One component was placed into laboratory prepared containers, one preserved with methanol and the other packed with soil for minimal headspace, then stored in a cooler for potential laboratory analysis. The second component was placed inside a plastic bag for field screening, consisting of the soil description, and noting the presence of any staining, odour and/or debris. A gas detector (RKI Eagle 2) was used to measure the total organic vapour and combustible gas concentrations in the headspace in the sealed plastic bag.

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 at the Site.

Geologic descriptions, visual and olfactory observations, and results of field headspace measurements are presented on the Record of Borehole Logs in Appendix B.

4.4 Soil Sampling - Field Screening

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)

The results of soil headspace screening measurements are provided in the Record of Borehole Logs in Appendix B.

4.5 Groundwater - Monitoring Well Installation

A groundwater monitoring well was installed by Strata using threaded 51 mm diameter, schedule 40, 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 0.30 m above the well screen. The monitoring well was sealed with bentonite from the top of the sand pack and completed with a stickup and a monument protective well casing. The riser pipe was sealed with a J-plug.

4.6 Groundwater - Field Measurements for Water Quality Parameters

BH/MW24-9 was dry for the duration of this project and no groundwater sample could be collected. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the COPCs in soil sample(s) (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.

Multiple Site visits, over a duration of 2 weeks, were conducted to check the water levels within the well installed at BH/MW24-9. BH/MW24-9 remained dry for the duration of this project.

4.7 Groundwater - Development, Purging and Sampling

No groundwater sample was collected from the on-Site groundwater monitoring well (BH/MW24-9).

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

Soil samples were submitted to AGAT during the environmental soil quality field investigation. AGAT completed a variety of internal QA/QC measures on the submitted soil samples. 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 approved by the SCC and registered with CALA. AGAT is accredited to the ISO/IEC 17025 standard and employ in-house quality assurance and quality control programs to govern sample analysis including the analysis of method blanks, spiked blanks, and the analysis of duplicates (10%) for each sample batch.

4.10 Residue Management

All soil from drilling operations were collected for screening and sampling, no additional cuttings were generated during borehole advancement.

As indicated above, BH/MW24-9 did not produce groundwater. As such, no groundwater purge water was generated during the investigation.

All equipment used for sampling was single use and/or disposable, therefore, no wash water was generated during the investigation.

4.11 Surveying

Elevations were determined by the use of Trimble R10 GPS survey equipment.

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 well was to be developed following installation to remove fine particles from the filter pack and any fluids introduced during drilling. However, monitoring well BH/MW24-9 was dry for the duration of the project;
- Monitoring well was 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. However, monitoring well BH/MW24-9 was dry for the duration of the project;

- A trip blank was to be collected for PHC F1 and BTEX during the groundwater sampling event. However, monitoring well BH/MW24-9 was dry for the duration of the project;
- 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.

Table 4.3 provides a summary of the parent and duplicate samples.

Table 4.3: Parent and duplicate samples

Date	Media	Sample ID	Duplicate ID
February 14, 2024	Soil	BH24-4 SA1	BH24-4 SA101

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 soil conditions encountered during the borehole drilling program are presented in the Record of Borehole Logs provided in Appendix B.

In general, the subsurface soil conditions encountered in the boreholes advanced as part of this Phase Two ESA (Boreholes BH24-1 through BH24-9) generally consisted of topsoil underlain by brown silty sand with trace clay and gravel. BH24-9 was advanced in a gravel graded parking lot and gravel was encountered up to 0.76 m bgs. The boreholes (BH24-1 to BH24-8) were advanced to depths ranging between 0.76 and 1.52 m bgs. BH/MW24-9 was advanced to the depth of 3.35 m bgs, refusal on inferred bedrock, and completed as a monitoring well.

5.2 Groundwater - Elevations and Flow Direction

The location of BH/MW24-9 was selected based on the location of APEC 4 and was installed to straddle the anticipated water table based on conditions observed during drilling. The well screen was located within the overburden. BH/MW24-9 was advanced to the depth of 3.35 m bgs, refusal at bedrock, and did not produce water for the duration of the project.

Water levels were measured in the monitoring wells which were advanced at the Site for geotechnical and hydrogeological investigations conducted by GEMTEC in the past. The location

of these monitoring wells is shown in Figure A.3, Appendix A. The details of these monitoring wells are provided in Table 5.1.

Table 5.1: Monitoring Well details from Geotechnical and Hydrogeological Investigations

MW ID	Depth of Well (m Top of Casing)	Strata at Screen	Water Level (m Top of Casing)	Height of Stickup (m)	Ground Elevation (m)	GW Elevation (m)
TW19-1S	3.20	Overburden	Dry	0.78	115.82	--
TW19-1D	7.11	Overburden	5.19	0.70	115.82	109.93
BH23-7	4.00	Overburden	2.45	0.91	112.82	109.46
TW19-3S	5.42	Overburden	4.67	0.77	115.27	109.83
TW19-3D	7.23	Overburden	4.30	0.70	115.27	110.27
TW19-4	5.50	Overburden	Dry	0.86	117.32	--
BH/MW24-9*	4.52	Overburden	Dry	0.80	117.49	--

Note:
BH/MW24-9 was drilled as part of Phase Two ESA. Other MWs were part of the past geotechnical and hydrogeological investigations at the Site.

Groundwater elevations ranged from 109.46 and 110.27 m asl on February 28, 2024. The inferred direction of shallow groundwater flow is generally to the northwest based on the interpreted groundwater elevation contours presented in Figure A.4, Appendix A.

Seasonal fluctuation in water levels at the Site should be expected. Considering only one monitoring event was conducted, seasonal trends could not be identified; however, shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter.

5.3 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient between well sets is presented in Table 5.2. The horizontal hydraulic gradient was estimated for shallow groundwater conditions based on water levels measured on February 28, 2024 and the inferred groundwater contours are presented in Figure A.4, Appendix A.

Table 5.2: Hydraulic gradients between monitoring well sets

MW ID	MW ID	Distance between MWs (m)	Difference in GW elevation (m)	Horizontal Hydraulic Gradient (m/m)
TW19-1D	BH23-7	660	0.47	0.000712

MW ID	MW ID	Distance between MWs (m)	Difference in GW elevation (m)	Horizontal Hydraulic Gradient (m/m)
BH23-7	TW19-3D	615	0.81	0.001317
TW19-3D	TW19-1D	1,035	0.34	0.000330

The average horizontal hydraulic gradient for shallow groundwater conditions was 0.000786 m/m. Vertical hydraulic gradient for shallow groundwater conditions were not calculated as nested monitoring wells were not installed at the Site.

5.4 Soil Texture

The predominant soil grain size at the Site is considered coarse-textured based on soil conditions encountered in the boreholes and a grain size analysis of soil at BH24-3. The information about grain size analysis for BH24-3 is provided in Appendix C.

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

The analytical results of soil samples are presented in Tables D.1 to Table D.3, Appendix D. Laboratory Certificates of Analysis for the soil samples are included in Appendix E.

Soil sampling at the Site was completed during borehole advancement on February 14, 2024. The soil samples were submitted to AGAT for analysis of one or more of the following parameters: metals, hydride forming metals, EC, SAR, HWS boron, CN, Cr-VI, Hg, pH, OCPs, PHC F1-F4, BTEX and/or PAHs.

No exceedances were identified based on the review of soil analytical results to MECP Table 2 RPI and coarse-textured soils SCS.

5.7 Groundwater – Quality

BH/MW24-9 was dry for the duration of this project and no groundwater sample could be collected. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the COPCs in soil sample(s) (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.

5.8 Sediment - Quality

No sediment samples were collected as part of this investigation.

5.9 Quality Assurance and Quality Control Results

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”).

One set of parent and duplicate samples was collected as per Table 5.3.

Table 5.3: Parent and duplicate samples

Date	Media	Sample ID	Duplicate ID
February 14, 2024	Soil	BH24-4 SA1	BH24-4 SA101

The analytical results of the parent and duplicate soil samples indicated a satisfactory correlation between the parent and duplicate samples and were within the 30% recommended control limit as per the Analytical Protocol. The Relative Percentage Difference is shown for the parent and the duplicate samples in Table D.4, Appendix D.

A certificate of analysis or analytical report has been received for each sample submitted for analysis and is provided in Appendix E. Laboratory QA/QC protocols were within acceptable limits and no analytical flags were provided.

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

6.0 PHASE TWO ESA 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, Sub-heading (x) of Ontario Regulation 153/04 (O. Reg. 153/04) and is described in the text below and in the following figures:

Figure A.1 Site and Study Area Features

Figure A.2 Potentially Contaminating Activities and Areas of Potential Environmental Concern

Figure A.3 Location of Boreholes with respect to APECs

Figure A.4 Groundwater Flow Direction

6.1 Property Description and History

The Site has an approximate area of 23.03 hectares and is located at 3160 Carp Road in Ottawa, Ontario. The Site was previously developed sometime circa 1945 based on the earliest available aerial photograph from 1945. Based on a review of available historical aerial photographs, agricultural activities are visible on the Site prior to 1945. Historical land use, adjacent to the Site, was predominately rural residential and agricultural with community use roadway.

At the time of the Site reconnaissance, grading activities were underway in preparation for Site development with blast rock importation and stockpiling/hauling on the southwest portion.

No structures were present on the Site. However, review of the historical aerials indicated the presence of a structure on the northern portion of the Site. This structure was last seen on the aerial photograph from 1955. No significant changes to the Site occurred between 1955 until the time of this Phase Two ESA investigation. The Site is currently not serviced. Roadside drainage ditches were identified along Carp Road. The study area (especially along Carp Road) has developed such that the primary land use at Carp Road is commercial and industrial.

The Site and associated Study Area Features are shown on Figure A.1, Appendix A. Pertinent identification information for the Site is provided in Table 6.1.

Table 6.1: Parent and duplicate samples

Site Information	
Legal Description	PT LT 11 CON 2 HUNTLEY; PT LT 12 CON 2 HUNTLEY AS IN NS47572 EXCEPT PTS 2 & 4, 5R7272, PT 1 5R4304, PT 1, 5R7483, PT 2 5R10733 & PTS 1 & 2, 5R11909; S/T N661110, N358106 ; WEST CARLETON
PIN	04537-0298 (LT)
Site Owner	T & L Carroll Holdings Inc.
Site Contact	Tom Carroll and Lois Carroll

6.2 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 Plan of Subdivision, 3160 Carp Road, Ottawa, Ontario prepared by GEMTEC and dated June 2023.

6.3 Potentially Contaminating Activities

The potentially contaminating activities (PCAs) identified in Phase One ESA (GEMTEC, 2023) are summarized in Table 6.2.

Table 6.2: Potentially Contaminating Activities

PCA	Address/ Location	PCA ID	Distance from Site	Description	APEC Rationale
1	3160 Carp Road	40	On-Site	Historical, large-scale pesticide use across the Site is inferred given the size of the Site and since the majority of the Site was used for agricultural purposes. Based on the interview, the Site representative did not have any information pertaining to pesticide use on the Site.	Yes PCA is located on the Phase One Property and must be identified as an APEC, as per O.Reg. 153/04.
2	3155 Carp Road	40	65 m west	Listed as a pesticide operator in 2022.	No This PCA was not considered to be an APEC due to the nature of the activity. It is expected that Thunderbolt Contacting utilizes pesticides off the property at other construction sites.
3	3096 Carp Road	28	90 m south	ERIS and the TSSA had records for a 4,350 L single wall, steel fuel oil tank at the property. The TSSA record included a report which noted confirmatory sampling during the tank removal in 2008. The report indicated that the confirmatory samples met the applicable Table 2 Site Condition Standards for industrial/commercial/community property use.	No Confirmatory soil samples collected during the tank removal indicated that the soil in the vicinity of the former tank were not impacted.
4	3075 Carp Road	40	175 m south	Listed as a pesticide operator in 2022.	No This PCA was not considered to be an APEC due to distance from the Site (175 m).
5	129 John Cavanaugh Road	47	235 m south	Described as being a resin and synthetic rubber manufacturer from 2006-2008.	No This PCA was not considered to be an APEC due to distance from the Site (235 m).

PCA	Address/ Location	PCA ID	Distance from Site	Description	APEC Rationale
6	119 John Cavanaugh Road	19	230 m south	Described as being an electrical equipment and component manufacturer in 2009.	No This PCA was not considered to be an APEC due to distance from the Site (230 m).
7	3160 Carp Road	30	On-Site	Based on the 1945 aerial photograph, a structure was previously present on the north portion of the Site. In the 1955 aerial photograph, the structure is no longer present and potential debris from the structure is visible. Based on this, there is potential for fill and/or debris to be present in the vicinity of the former structure.	Yes PCA is located on the Phase One Property and must be identified as an APEC, as per O.Reg. 153/04.
8	3160 Carp Road	30	On-Site	Imported, crushed rock was present across the southwest portion of the Site. Insufficient information was available to appropriately characterize the imported material.	Yes PCA is located on the Phase One Property and must be identified as an APEC, as per O.Reg. 153/04.
9	3108 Carp Road	28	20 m south of the Site	An AST was noted at 3108 Carp Road. The tank appeared to be in good condition. Construction activities in the vicinity limited further observations of the tank.	Yes The PCA is located in close proximity, upgradient to the Site.

Notes:

19. Electronic and Computer Equipment Manufacturing
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
47. Rubber Manufacturing and Processing

6.4 Areas of Potential Environmental Concern

The areas of potential environmental concern (APECs) identified based on the PCAs are summarized in Table 6.2. Figure A.2, Appendix A indicates the location of the APECs.

Table 6.3: Aeras of Potential Environmental Concern

APEC	Location of APEC on the Site	PCA	Location of PCA	COCs	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1 Historical pesticide use on the Site.	Site wide	40	On-Site	OCPs, Metals	Soil
APEC 2 Fill material of unknown origin (historical structure)	North corner of the Site	30	On-Site	M&I, PHC F1-F4, BTEX, PAHs	Soil
APEC 3 Fill material of unknown origin (imported crushed rock)	Southwest portion of the Site	30	On-Site	M&I, PHC F1-F4, BTEX, PAHs	Soil
APEC 4 AST located at 3108 Carp Road	South portion of the Site	28	Off-Site	PHC F1-F4, BTEX	Soil and Groundwater

Notes:
OCPs – OrganoChlorine Pesticides
M&I – Metals and Inorganics
BTEX – Benzene, Toluene, Ethylbenzene, and Xylene
PAHs – Polycyclic Aromatic Hydrocarbons
AST – Aboveground Storage Tank
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
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

6.5 Subsurface Structures and Utilities

Buried utility service locates were completed prior to the drilling program indicated public buried utility services are present along Carp Road. No underground utility drawings were provided for review.

6.6 Physical Setting

6.6.1 Topography

The Site has a relatively flat topography and is at an elevation of approximately 110 metres above sea level (m asl). Surrounding topography is relatively flat but generally slopes gradually downwards to the north.

Based on the topography and hydrogeological features, it is anticipated that local shallow groundwater would flow to the north. Based on the findings of this Phase Two ESA, shallow groundwater was interpreted to flow towards the north.

6.6.2 Stratigraphy – Boreholes

In general, the subsurface soil conditions encountered in the boreholes advanced as part of this Phase Two ESA (Boreholes BH24-1 through BH24-9) generally consisted of topsoil underlain by brown silty sand with trace clay and gravel. BH24-9 was advanced in a gravel graded parking lot and gravel was encountered up to 0.76 m bgs. The boreholes (BH24-1 to BH24-8) were advanced to depth ranging between 0.76 m bgs and 1.52 m bgs. BH/MW24-9 was advanced to the depth of 3.35 m bgs, refusal on inferred bedrock, and completed as a monitoring well.

6.6.3 Depth to Bedrock

Inferred bedrock was encountered at one location, BH/MW24-9, at a depth of 3.35 m bgs.

6.6.4 Hydrogeological Characteristics

Based on the topography of the Study Area, it is expected that the local shallow groundwater flow will trend north. Based on the interpreted groundwater elevation contours for water level measured on February 28, 2024, the inferred direction of shallow groundwater flow is generally to the northwest.

The average horizontal hydraulic gradient for shallow groundwater conditions was 0.000786 m/m. Vertical hydraulic gradient for shallow groundwater conditions were not calculated as nested monitoring wells were not installed at the Site.

6.6.5 Depth to Groundwater

The location of BH/MW24-9 was selected based on the location of APEC 4 and was installed to straddle the anticipated water table based on conditions observed during drilling. The well screen was located within the overburden. BH/MW24-9 was advanced to the depth of 3.35 m bgs, refusal at bedrock, and did not produce water for the duration of the project.

Water levels were measured in the monitoring wells which were advanced at the Site for geotechnical and hydrogeological investigations conducted by GEMTEC in the past. The location of these monitoring wells is shown on Figure A.3, Appendix A. Groundwater elevations ranged from 109.46 and 110.27 m asl on February 28, 2024. The inferred direction of shallow groundwater flow is generally to the northwest based on the interpreted groundwater elevation contours presented in Figure A.4, Appendix A.

6.6.6 Environmentally Sensitive Areas

No areas of natural significance (ANSIs) were identified on-Site or within the Study Area.

6.6.7 Shallow Soil Property or Water Body

The overburden thickness is greater than 2 m for more than one-third of the Site. The measured depth to water at the Site ranged from 2.45 to 5.29 m bgs. One small (unnamed) pond was identified approximately 205 m north of the Site. Therefore, Section 43.1(a) and 43.1(b) of O. Reg. 153/04 do not apply to the Site.

6.7 Site Condition Standards

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 2 Full Depth Generic Site Condition Standards (SCS) for Residential/Parkland/Institutional (RPI) Property Use with coarse textured soil as presented in the Ministry of the Environment, Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" dated April 15, 2011. The applicable SCS were selected based on the following rationale:

- The Site is currently vacant and undeveloped and was previously used for agriculture, and the proposed future land use is residential;
- The Site and nearby residential properties rely on groundwater as the source of potable water;
- Based on visual observations made during the field program, the predominant soil type was silty sand which is inferred to be coarse-textured soil. A grain size determination completed on the soil sample from location BH24-3 which indicated the soil to be coarse-textured. Coarse-textured soil is defined by Section 42(1) of O. Reg.153/04 as "soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter";
- No water bodies or Areas of Natural and Scientific Interest (ANSIs) were identified on or within 30 m of the Site. One small (unnamed) pond was identified approximately 205 metres north of the Site;
- No features have been identified at the Site that would meet the conditions of an environmentally sensitive site, as described in Section 41 of O.Reg. 153/04;
- Based on sampling carried out as part of this Phase Two ESA, the pH of surface soil at the Site is between 5 and 9 and the pH of subsurface soil at the Site is between 5 and 11;
- The overburden thickness is greater than 2 metres for more than one-third of the Site. The measured depth to water measured from previously installed monitoring wells at the Site ranged from 1.54 to 4.49 m bgs. The depth of groundwater was not considered shallow when selecting the applicable SCS.

6.8 Contaminated Media

Soil and groundwater results satisfied the Table 2 RPI SCS.

The location of BH/MW24-9 was selected based on the location of APEC 4 and was installed to straddle the anticipated water table based on conditions observed during drilling. The well screen was located within the overburden. BH/MW24-9 was advanced to the depth of 3.35 m bgs, refusal at bedrock, and did not produce water for the duration of the project.

6.9 Description of Areas of Contamination on the Property

No areas of identified soil and groundwater exceeding the Table 2 RPI SCS were identified at the Site.

6.10 Potential Influence of Utilities on Contaminant Migration

No areas of identified soil and groundwater exceeding the Table 2 RPI SCS were identified at the Site. As such, the potential influence of underground utilities is not an issue at the Site.

6.11 Contaminant Migration

No areas of identified soil and groundwater exceeding the Table 2 RPI SCS were identified at the Site. Therefore, contaminant migration is not considered an issue at this time.

6.12 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. Considering only one monitoring event was conducted, seasonal trends could not be identified; however, shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter.

6.13 Cross Sections – Lateral and Vertical Distribution of Contaminants

No cross sections were completed considering the absence of the contaminants at the tested locations on the Site.

7.0 CONCLUSIONS

The Phase Two ESA investigated the APECs identified in the Phase One ESA (GEMTEC, 2023). Based on the results of the soil samples submitted as part of this Phase Two ESA, no exceedances were identified.

BH/MW24-9 was dry for the duration of this project and no groundwater sample could be collected. Field observations at BH/MW24-9 did not indicate any staining or odours. Additionally, the concentration of the COPCs in soil sample(s) (BH24-9) were below the detection limits and did not indicate any exceedances to the MECP Table 2 RPI SCS.

No further work is recommended at this time. However, if the on-Site monitoring well is no longer required, it should be decommissioned by a licensed well contractor, in accordance with O.Reg. 903, as amended.

8.0 REFERENCES

GEMTEC Consulting Engineers and Scientist Limited. June 2023. Phase One Environmental Site Assessment, Proposed Plan of Subdivision, 3160 Carp Road, Ottawa, Ontario.

Ontario Ministry of the Environment (MOE). Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act. April 15, 2011.

Ontario Ministry of the Environment, Conservation and Parks. Ontario Regulation 153/04, Made under the Environmental Protection Act, Part XV.1 – Records of Site Condition.

9.0 LIMITATION OF LIABILITY

This report was prepared for the exclusive use of T & L Carroll Holdings Inc. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and T & L Carroll Holdings Inc. Nothing in this report is intended to provide a legal opinion. Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. GEMTEC accepts no responsibility for damages, if any, suffered by any third party (other than as noted above) as a result of decisions made or actions based on this report.

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.

This report provides a professional opinion and therefore no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

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.

10.0 CLOSURE

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

Regards,

Mohit Bhargav, M.Sc.E., EIT
Environmental Scientist

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

Daniel Elliot, B.Sc., P.Geo., QP_{ESA}
Senior Geoscientist

MB/MK/DE

January 27, 2025

APPENDIX A

Figures

RURAL COMMERCIAL

AGRICULTURAL

CARP ROAD

AIR TRANSPORTATION ZONE

VACANT

WILLIAM MOONEY ROAD

RURAL INDUSTRIAL

RURAL COMMERCIAL

RURAL COMMERCIAL

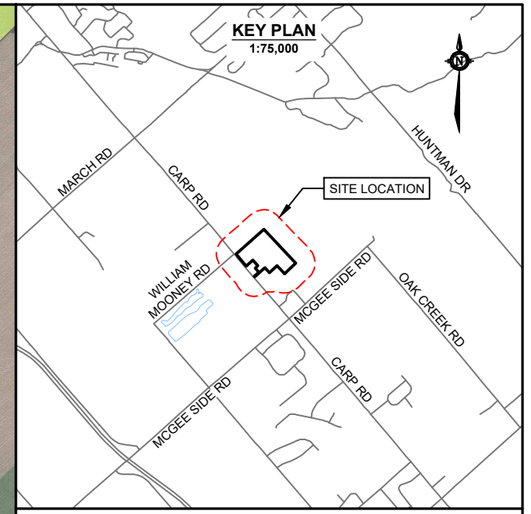
RURAL GENERAL INDUSTRIAL

CARP ROAD

JOHN CAVANAUGH DRIVE

MCGEE SIDE ROAD

KEY PLAN
1:75,000



LEGEND

- APPROXIMATE SITE BOUNDARY
- STUDY AREA (250 m RADIUS AROUND THE SITE BOUNDARY)
- WATERCOURSE
- WATERBODY
- WETLAND - UNEVALUATED
- MECP WATER WELL RECORD

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18N
2. Contains information licensed under the Open Government Licence – Ontario.
3. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
4. Geographic dataset source: Ontario GeoHub.

SCALE

1:5000

0 100 200 300m

DRAWING

SITE AND STUDY AREA FEATURES

CLIENT

T & L CARROLL HOLDINGS INC.

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
3160 CARP ROAD
OTTAWA, ONTARIO

DRAWN BY	CHECKED BY
S.L.	M.K./ D.E.
PROJECT NO.	REVISION NO.
102151.001	0
DATE	FIGURE NO.
APRIL 2024	FIGURE A.1

GEMTEC
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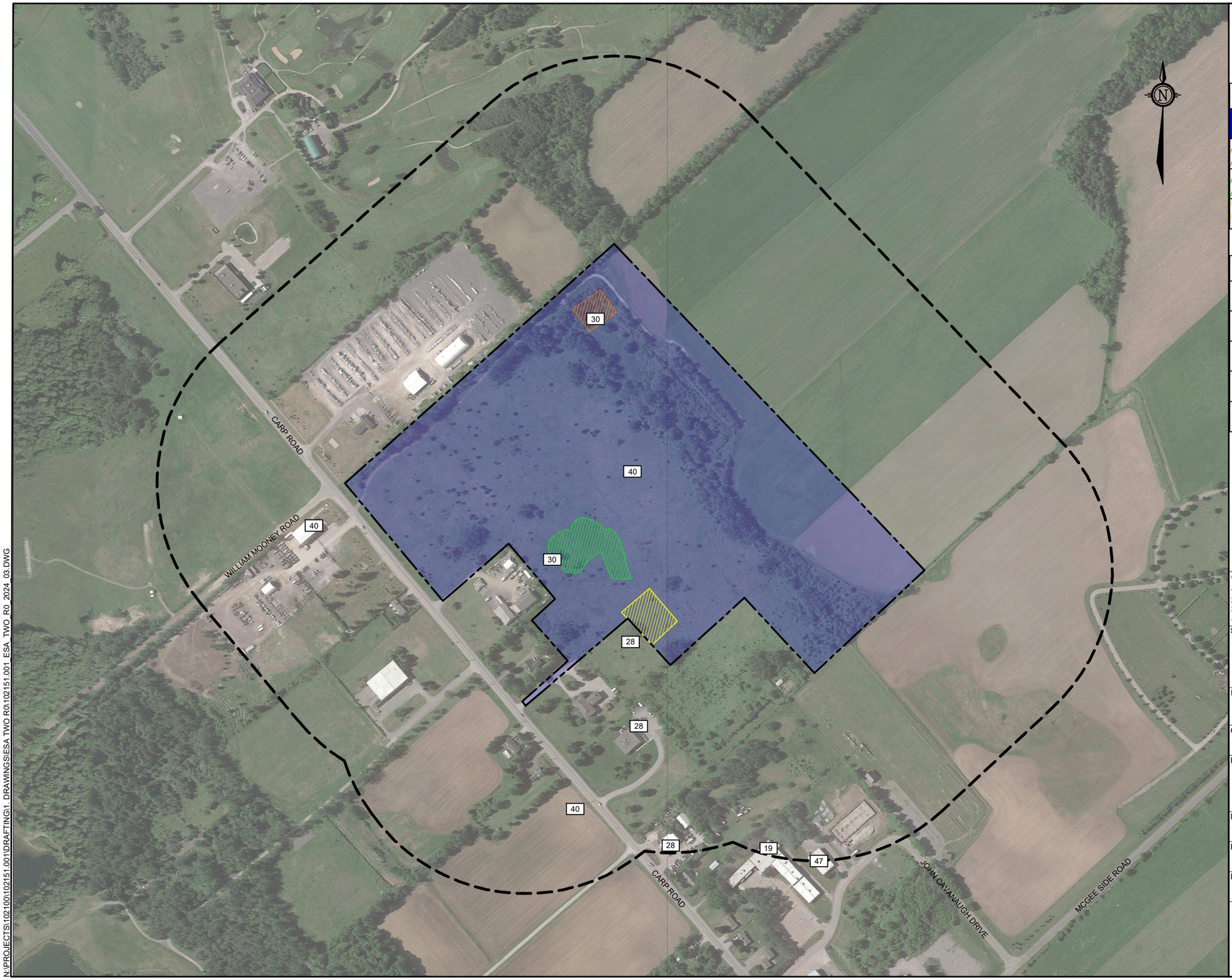

LEGEND

APPROXIMATE SITE BOUNDARY

STUDY AREA
(250 m RADIUS AROUND THE SITE BOUNDARY)

LABEL	AREA OF POTENTIAL ENVIRONMENTAL CONCERN
1	HISTORICAL PESTICIDE USE ON SITE
2	FILL MATERIAL OF UNKNOWN ORIGIN (HISTORICAL STRUCTURE)
3	FILL MATERIAL OF UNKNOWN ORIGIN (IMPORTED CRUSHED ROCK)
4	ABOVEGROUND STORAGE TANK AT 3108 CARP ROAD

LABEL	POTENTIALLY CONTAMINATING ACTIVITY
19	ELECTRONIC AND COMPUTER EQUIPMENT MANUFACTURING
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
47	RUBBER MANUFACTURING AND PROCESSING

GENERAL NOTE(S)

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

SCALE

1:5000

0 100 200 300m

DRAWING
POTENTIALLY CONTAMINATING ACTIVITIES AND AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

CLIENT
T & L CARROLL HOLDINGS INC.

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
3160 CARP ROAD
OTTAWA, ONTARIO

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DATE	FIGURE NO.
APRIL 2024	FIGURE A.2

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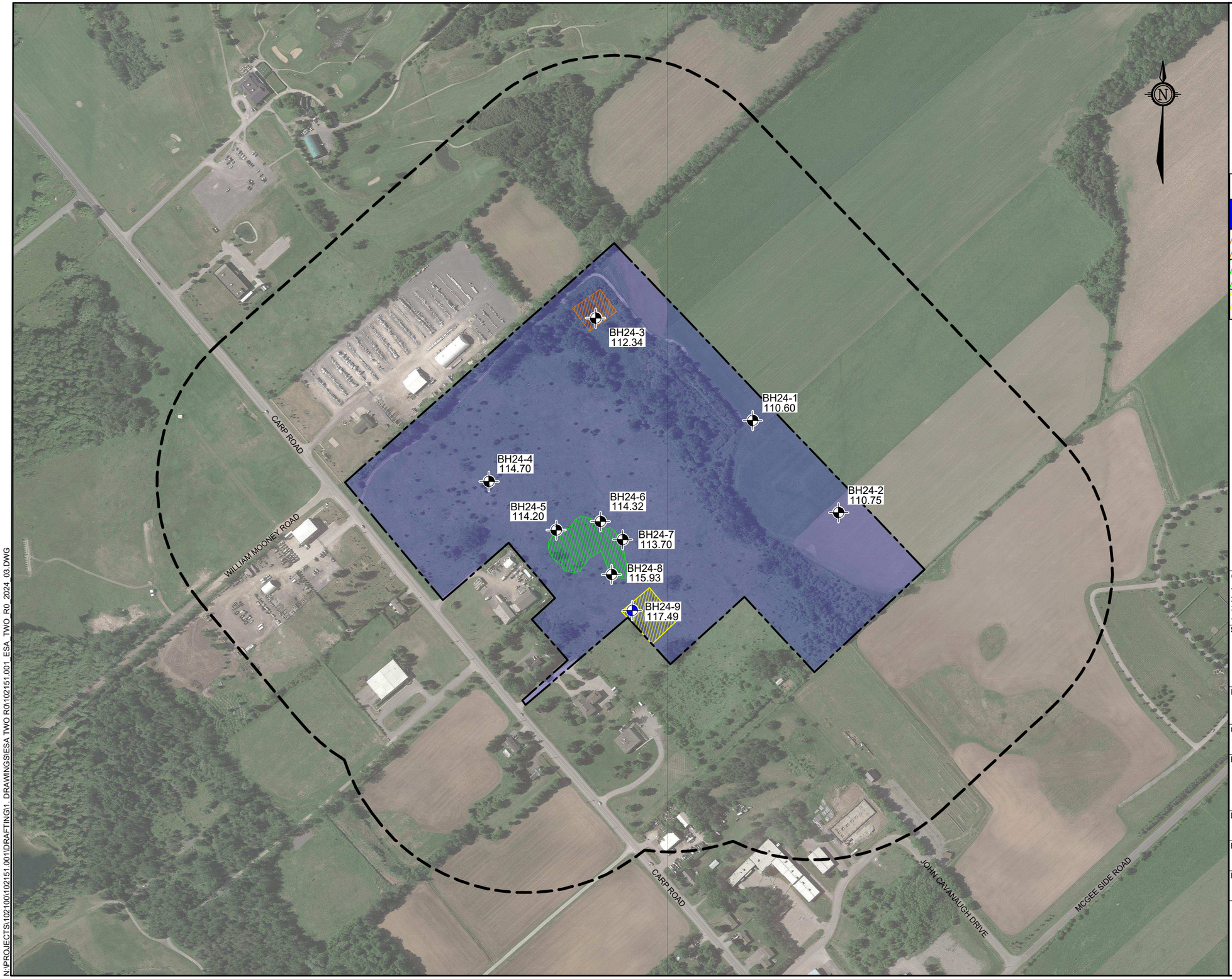

LEGEND

- BH # / XX.XX — BH/ TW ID; GROUND SURFACE ELEVATION, IN METRES GEODETIC DATUM
- **BOREHOLE LOCATION**
- **MONITORING WELL LOCATION**
- **APPROXIMATE SITE BOUNDARY**
- **STUDY AREA** (250 m RADIUS AROUND THE SITE BOUNDARY)

LABEL	AREA OF POTENTIAL ENVIRONMENTAL CONCERN
1	HISTORICAL PESTICIDE USE ON SITE
2	FILL MATERIAL OF UNKNOWN ORIGIN (HISTORICAL STRUCTURE)
3	FILL MATERIAL OF UNKNOWN ORIGIN (IMPORTED CRUSHED ROCK)
4	ABOVEGROUND STORAGE TANK AT 3108 CARP ROAD

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18N
2. Contains information licensed under the Open Government Licence – Ontario.
3. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
4. Geographic dataset source: Ontario GeoHub.

SCALE

1:5000

0 100 200 300m

DRAWING

LOCATION OF BOREHOLES WITH RESPECT TO APECS

CLIENT

T & L CARROLL HOLDINGS INC.

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
3160 CARP ROAD
OTTAWA, ONTARIO

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S.L.	M.K./ D.E.
PROJECT NO.	REVISION NO.
102151.001	0
DATE	FIGURE NO.
APRIL 2024	FIGURE A.3

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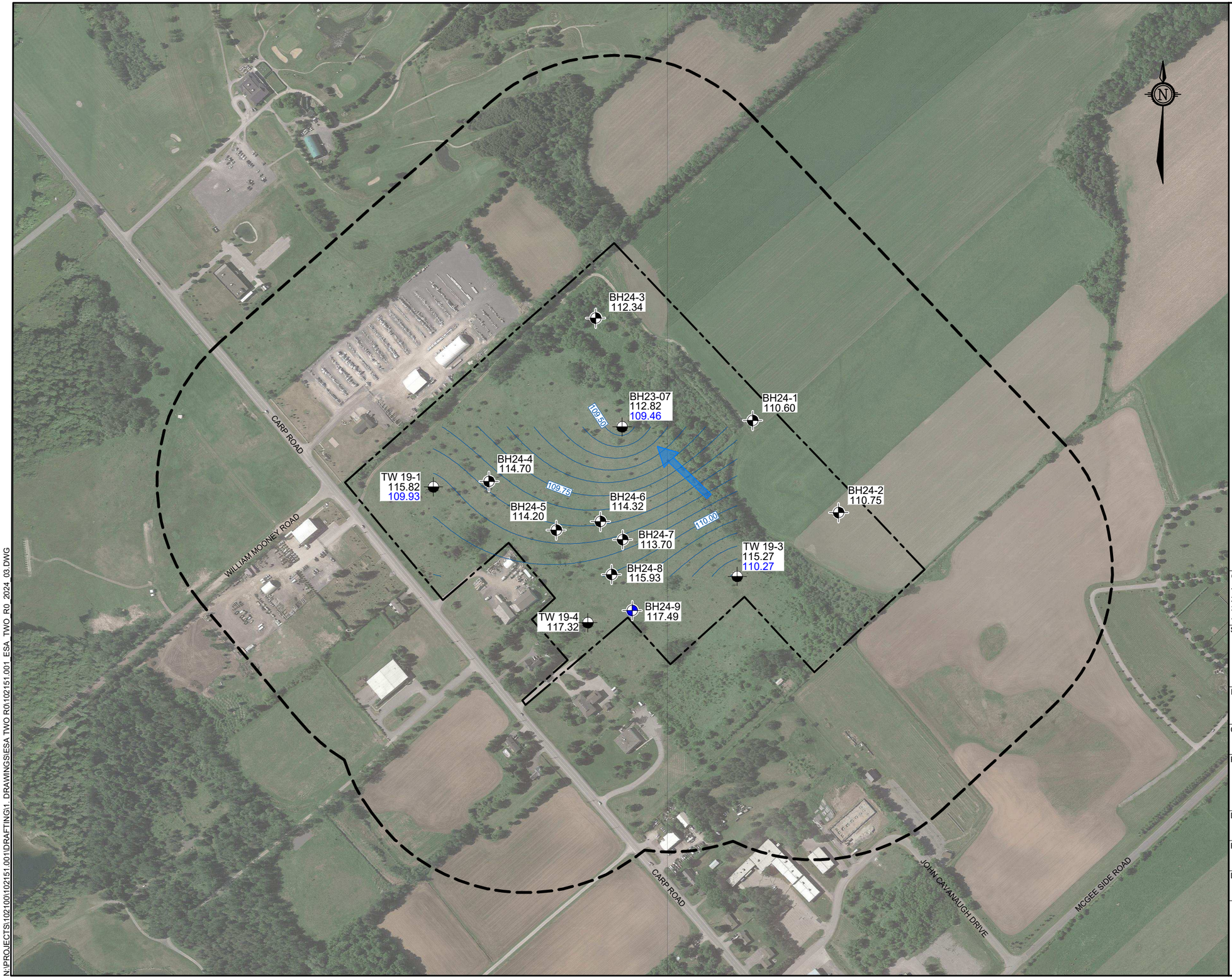

LEGEND

- BH/ TW # — BH/ TW ID
- XX.XX — GROUND SURFACE ELEVATION, IN METRES
- XX.XX — GROUNDWATER ELEVATION, IN METRES
- **BOREHOLE LOCATION**
- **MONITORING WELL LOCATION**
- **TEST WELL LOCATION** (PAST INVESTIGATION)
- **APPROXIMATE SITE BOUNDARY**
- **STUDY AREA** (250 m RADIUS AROUND THE SITE BOUNDARY)
- 110.00 — **GROUNDWATER ELEVATION** (IN METRES)
- **INFERRED GROUNDWATER DIRECTIONAL FLOW**

GENERAL NOTE(S)

1. Coordinate system: NAD83, UTM ZONE 18N
2. Contains information licensed under the Open Government Licence – Ontario.
3. Maps Data: Google, @2023 CNES / Airbus, First Base Solutions, Maxar Technologies
4. Geographic dataset source: Ontario GeoHub.

SCALE

1:5000

0 100 200 300m

DRAWING

GROUNDWATER FLOW DIRECTION

CLIENT

T & L CARROLL HOLDINGS INC.

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
3160 CARP ROAD
OTTAWA, ONTARIO

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S.L.	M.K./ D.E.
PROJECT NO.	REVISION NO.
102151.001	0
DATE	FIGURE NO.
APRIL 2024	FIGURE A.4

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APPENDIX B

Borehole Logs

RECORD OF BOREHOLE 24-1

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		114.70									
0	Direct Push	Topsoil		114.50									
		Brown silty sand with trace clay and some organics - Wet		0.20	1	SS	406		OC Pesticides, Metals	HEX: 40; IBL: 0	None		Native backfill
				113.94									
		End of borehole (No refusal)		0.76									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-2

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		114.20									
0	Direct Push	Topsoil		113.97									
		Brown silty sand with trace clay and some organics - Wet		0.23	1	SS	609		OC Pesticides, Metals	HEX: 15; IBL: 1	None		Native backfill
		End of borehole (No refusal)		113.44 0.76									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-3

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		112.34									
0	Direct Push	Topsoil		112.13									
		Brown silty sand with trace gravel and clay - Wet		0.21	1	SS	305		PHC F1-F4/BTEX, PAHs, M&Is	HEX: 10; IBL: 0	None		Native backfill
1					2	SS	305			HEX: 10; IBL: 0	None		
		End of borehole (No refusal)		110.82 1.52									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-4

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		110.56									
0	Direct Push	Topsoil		110.29									
		Brown silty sand with trace clay and some organics - Wet		0.27	1	SS	762		OC Pesticides, Metals	HEX: 5; IBL: 0	None		Native backfill
				109.80									
		End of borehole (No refusal)		0.76									

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LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-5

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		110.79									
0	Direct Push	Topsoil		110.59									
		Brown silty sand with trace gravel and clay - Wet		0.20	1	SS	203			HEX: 5; IBL: 0	None		Native backfill
1					2	SS	406		PHC F1-F4/BTEX, PAHs, M&Is	HEX: 10; IBL: 2	None		
		End of borehole (No refusal)		109.27 1.52									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-6

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		113.67									
0	Direct Push	Topsoil		113.42									
		Brown silty sand with trace gravel and clay - Wet		0.25	1	SS	304			HEX: 45; IBL: 3	None		Native backfill
1					2	SS	508		PHC F1-F4/BTEX, PAHs	HEX: 20; IBL: 2	None		
		End of Borehole (No refusal)		112.15 1.52									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-7

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		114.32									
0	Direct Push	Topsoil		114.07									
		Brown silty sand with trace gravel and clay- Wet		0.25	1	SS	406		PHC F1-F4/BTEX, PAHs, M&Is	HEX: 10; IBL: 2	None		Native backfill
1					2	SS	305			HEX: 0; IBL: 3	None		
		End of Borehole (No refusal)		112.80 1.52									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-8

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		115.93									
0	Direct Push	Topsoil		115.72									
		Brown silty sand with trace gravel and clay - Wet		0.21	1	SS	406			HEX: 10; IBL: 1	None		Native backfill
1					2	SS	406		PHC F1-F4/BTEX, PAHs	HEX: 10; IBL: 3	None		
				114.41									
		End of Borehole (No refusal)		1.52									

GEMTEC
Consulting Engineers and Scientists

LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

RECORD OF BOREHOLE 24-9

CLIENT: T & L Carroll Holdings Inc.
PROJECT: Phase Two Environmental Site Assessment
JOB#: 102151.001
LOCATION: 3160 Carp Road, Ottawa, Ontario

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Feb 14 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		117.49									
0	Direct Push	Gravel		116.73	1	SS	406		PHC F1-F4/BTEX	HEX: 5; IBL: 2	None		Bentonite Seal
1		Brown silty sand with trace gravel and clay		0.76 / 115.97	2	SS	210			HEX: 35; IBL: 1	None		Filter Sand
2		Silty sand with some gravel, rocks - Wet		1.52	3	SS	430			HEX: 0 ; IBL: 1	None		51 mm diameter 3.05 metre long well screen
					4	SS	365			HEX: 5; IBL: 1	None		
3				114.14	5	SS	150			HEX: 5; IBL: 1	None		
		End of Borehole - Auger Refusal at Inferred Bedrock		3.35									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Feb. 14/24	3.35 ▽	114.14
Feb. 23/24	3.35 ▼	114.14
Feb. 28/24	3.35 ▽	114.14

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LOGGED: M.B.
CHECKED: M.K.

ENV - BOREHOLE LOG 102151.001_LOGS_2024-03-16.GPJ GEMTEC 2018.GDT 4/10/24

APPENDIX C

Grain Size Analysis

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Client	TLC Holdings Inc
Project:	Geotechnical Investigation and Environmental Impact Sta
Project #:	102151001

Soils Sieve and Hydrometer

Sample #: SA 2	Description:
Borehole/Test Pit: 24-03	Depth: 0.76-2.13
Date/Time Sampled: 24/02/27 2:21:00 PM	Date/Time Tested: 24/03/01 2:22:16 PM

Material finer finer than - #200 : 33.0 %

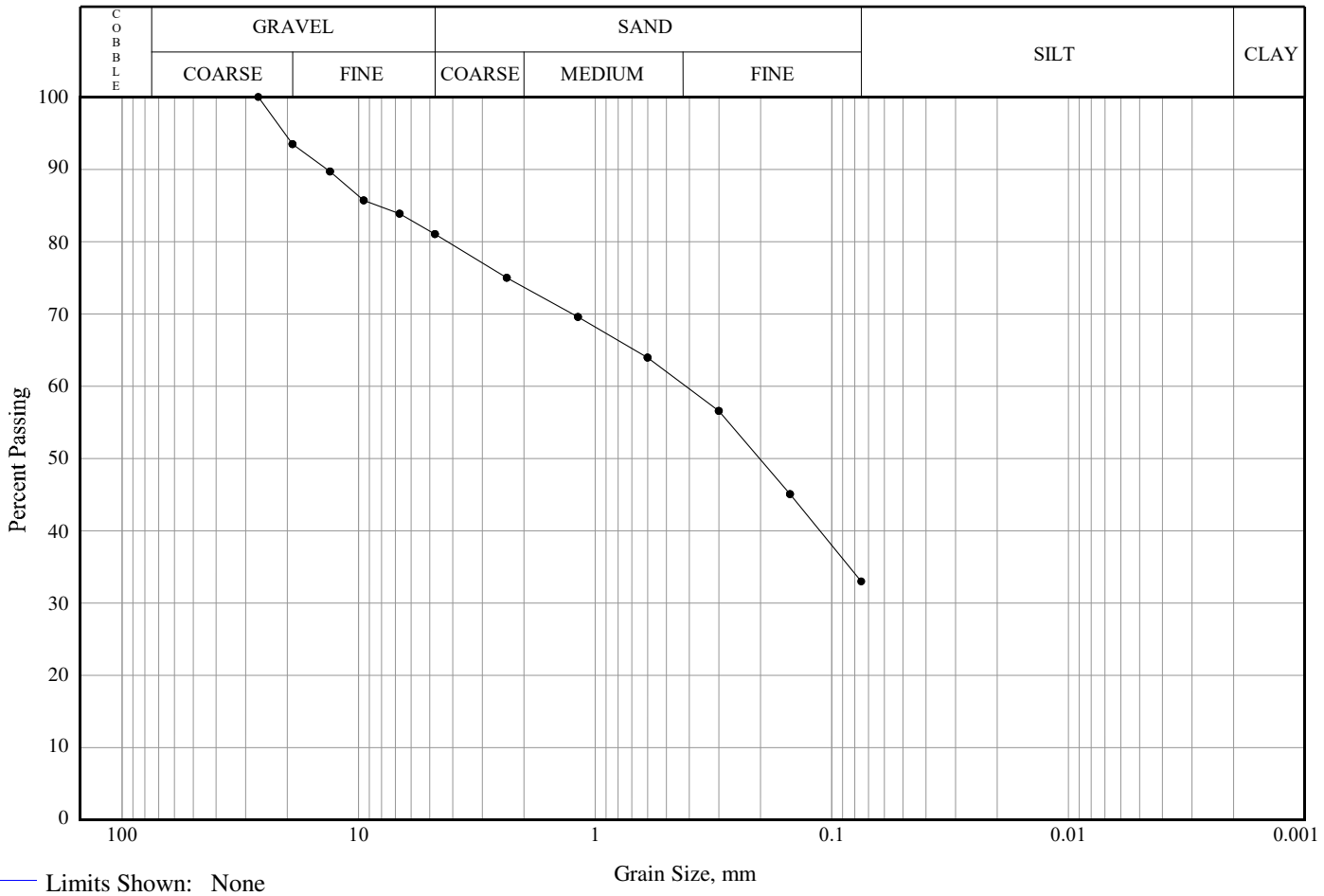
GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
	100.00
106	100.00
53	100.00
37.5	100.00
26.5	100.00
19	93.47
13.2	89.69
9.5	85.69
6.7	83.85
4.75	81.03
2.36	74.98
1.18	69.56
0.6	63.94
0.3	56.57
0.15	45.06
0.075	32.97

Interpolated:		
	0.0200	N/A
	0.0050	N/A
	0.0020	N/A

GEMTEC
Consulting Engineers and Scientists

Client:	TLC Holdings Inc
Project:	Geotechnical Investigation and Environmental Impact Sta
Project #:	102151001

Soils Grading Chart



Limits Shown: None

Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—		24-03	SA 2	0.76-2.13	19.0	48.1	33.0	

Line Symbol	CanFEM Classification	USCS Symbol	D_{10}	D_{15}	D_{30}	D_{50}	D_{60}	D_{85}	% 5-75µm
—●—	Silty sand , some gravel	N/A	---	---	---	0.20	0.41	8.33	---

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Client TLC Holdings Inc

Project: Geotechnical Investigation and Environmental Impact Statement, Proposed Plan of Subdivision, 3186 Ca

Project #: 102151001

Moisture Content and Density

Borehole / Testpit	Depth	Sample	Description	Date/Time Sampled	Moisture Content, %	Sample Volume, mm³	Wet Density, kg/m³	Dry Density, kg/m³
24-03	0.76-2.13	SA 2		24/02/27 2:21:00 PM	10.40			

APPENDIX D

Analytical Tables

GEMTEC
Consulting Engineers and Scientists

Table D.1: Summary of Soil Analytical Results
Metals, Inorganics, and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
3160 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 RPI Property Use - Coarse	Reporting Detection Limit	Sample ID	BH24-1 SA1	BH24-2 SA1	BH24-3 SA1	BH24-4 SA1	BH24-4 SA101	BH24-5 SA2	BH24-6 SA2	BH24-7 SA1	BH24-8 SA2	BH24-9 SA3
			Sample Depth (mbgs)	0.00 - 0.76	0.00 - 0.76	0.00 - 0.76	0.00 - 0.76	0.00 - 0.76	0.76 - 1.52	0.76 - 1.52	0.00 - 0.76	0.76 - 1.52	1.52 - 2.28
			Lab ID	5655334	5655335	5655338	5655346	5655347	5655348	5655350	5655352	5655354	5687277
			Sampling Date	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024
			Units										
Metals and Inorganics - Soil													
Antimony	7.5	0.8	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	NA	<0.8	NA	NA
Arsenic	18	1	µg/g	2	1	13	1	3	1	NA	1	NA	NA
Barium	390	2	µg/g	222	289	111	139	169	82.4	NA	113	NA	NA
Beryllium	4	0.5	µg/g	0.6	0.6	<0.5	0.5	0.6	<0.5	NA	0.6	NA	NA
Boron	120	5	µg/g	8	8	8	6	8	<5	NA	<5	NA	NA
Boron, available	1.5	0.1	µg/g	0.34	0.24	0.3	<0.10	<0.10	<0.10	NA	<0.10	NA	NA
Cadmium	1.2	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	NA
Chromium	160	5	µg/g	49	57	22	31	38	21	NA	29	NA	NA
Cobalt	22	0.8	µg/g	10	11	7.2	9.4	11.7	6.8	NA	8.6	NA	NA
Copper	140	1	µg/g	20.4	19.1	12.4	22.1	24.8	14.4	NA	14.1	NA	NA
Lead	120	1	µg/g	8	6	15	6	8	3	NA	4	NA	NA
Mercury	0.27	0.1	µg/g	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NA	<0.10	NA	NA
Molybdenum	6.9	0.5	µg/g	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	NA	<0.5	NA	NA
Nickel	100	1	µg/g	22	26	14	17	21	12	NA	14	NA	NA
Selenium	2.4	0.8	µg/g	0.9	<0.8	<0.8	<0.8	0.9	<0.8	NA	<0.8	NA	NA
Silver	20	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	NA
Thallium	1	0.5	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	NA
Uranium	23	0.5	µg/g	1.25	0.83	0.75	0.62	0.75	0.6	NA	0.71	NA	NA
Vanadium	86	2	µg/g	59.6	63.3	32.6	49.3	59.9	36.6	NA	46.5	NA	NA
Zinc	340	5	µg/g	93	83	52	47	63	34	NA	37	NA	NA
Chromium (VI)	8	0.2	µg/g	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	NA	NA
Cyanide, free	0.051	0.04	µg/g	NA	NA	<0.040	NA	NA	<0.040	NA	<0.040	NA	NA
Conductivity	700	0.005	mS/cm	NA	NA	0.249	NA	NA	0.114	NA	0.17	NA	NA
SAR	5	-	N/A	NA	NA	0.313	NA	NA	0.113	NA	0.287	NA	NA
pH	Surface Soil: 5-9 Subsurface Soil: 5-11	-	pH Units	NA	NA	7.58	NA	NA	7.73	NA	6.32	NA	7.76
Polycyclic Aromatic Hydrocarbons - Soil													
Naphthalene	0.6	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Acenaphthylene	0.15	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Acenaphthene	7.9	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Fluorene	62	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Phenanthrene	6.2	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Anthracene	0.67	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Fluoranthene	0.69	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Pyrene	78	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Benzo[a]anthracene	0.5	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Chrysene	7	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Benzo[b]fluoranthene	0.78	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Benzo[k]fluoranthene	0.78	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Benzo[a]pyrene	0.3	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Indeno [1,2,3-cd] pyrene	0.38	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Dibenzo[a,h]anthracene	0.1	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
Benzo[g,h,i]perylene	6.6	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA
1,2-Methylnaphthalene	0.99	0.05	µg/g	NA	NA	<0.05	NA	NA	<0.05	<0.05	<0.05	<0.05	NA

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 ICC 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
3160 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 RPI Property Use - Coarse	Reporting Detection Limit	Sample ID	BH24-3 SA1	BH24-5 SA2	BH24-6 SA2	BH24-7 SA1	BH24-8 SA2	BH24-9 SA2
			Sample Depth (mbgs)	0.00 - 0.76	0.76 - 1.52	0.76 - 1.52	0.00 - 0.76	0.76 - 1.52	0.76 - 1.52
			Lab ID	5655338	5655348	5655350	5655352	5655354	5655355
			Sampling Date	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024	02/14/2024
			Units						
Petroleum Hydrocarbons - Soil									
F1 PHCs (C6-C10)	55	5	µg/g	<5	<5	<5	<5	<5	<5
F1 PHCs (C6-C10) - BTEX	NS	5	µg/g	<5	<5	<5	<5	<5	<5
F2 PHCs (C10-C16)	98	10	µg/g	<10	<10	<10	<10	<10	<10
F3 PHCs (C16-C34)	300	50	µg/g	<50	<50	<50	<50	<50	<50
F4 PHCs (C34-C50)	2800	50	µg/g	<50	<50	<50	<50	<50	<50
Volatile Organic Compounds - Soil									
Benzene	0.21	0.02	µg/g	<0.02	<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	<0.05
Ethylbenzene	1.1	0.05	µg/g	<0.05	<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	<0.05
o-Xylene	NS	0.05	µg/g	<0.05	<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	<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 ICC SCS

GEMTEC
Consulting Engineers and Scientists

Table D.3: Summary of Soil Analytical Results
Organochlorine Pesticides
Phase Two Environmental Site Assessment
3160 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 2 RPI Property Use - Coarse	Reporting Detection Limit	Sample ID	BH24-1 SA1	BH24-2 SA1	BH24-4 SA1	BH24-4 SA101
			Sample Depth (mbgs)	0.00 - 0.76	0.00 - 0.76	0.00 - 0.76	0.00 - 0.76
			Lab ID	5655334	5655335	5655346	5655347
			Sampling Date	02/14/2024	02/14/2024	02/14/2024	02/14/2024
			Units				
Organochlorine Pesticides - Soil							
Hexachloroethane	0.089	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Hexachlorocyclohexane Gamma-	0.056	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Heptachlor	0.15	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Aldrin	0.05	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Heptachlor Epoxide	0.05	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Endosulfan I	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Endosulfan II	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Endosulfan	0.04	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
a-chlordane	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
g-chlordane	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Chlordane	0.05	0.007	µg/g	<0.007	<0.007	<0.007	<0.007
o,p-DDE	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
pp-DDE	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Total DDE	0.26	0.007	µg/g	<0.007	<0.007	<0.007	<0.007
op-DDD	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
pp-DDD	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Total DDD	3.3	0.007	µg/g	<0.007	<0.007	<0.007	<0.007
op-DDT	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
pp-DDT	NS	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Total DDT	1.4	0.007	µg/g	<0.007	<0.007	<0.007	<0.007
Dieldrin	0.05	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Endrin	0.04	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Methoxychlor	0.13	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Hexachlorobenzene	0.52	0.005	µg/g	<0.005	<0.005	<0.005	<0.005
Hexachlorobutadiene	0.012	0.01	µg/g	<0.01	<0.01	<0.01	<0.01

Notes:
RPI - Residential/Parkland/Institutional
'mbgs' - Metres Below Ground Surface
NS' - No Standard
'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 ICC SCS

Table D.4
Soil Analytical Results
Relative Percent Difference
Phase Two Environmental Site Assessment
3160 Carp Road, Ottawa, Ontario

Parameters	Units	Reporting Limit	5 X Peporting Limit	Sample ID: Laboratory ID: Date Sampled: Sample Depth (mbgs): MECP Alert Criteria	BH24-4 SA1 5655346 02/14/2024 0.00 - 0.76	BH24-4 SA101 5655347 02/14/2024 0.00 - 0.76	RPD
Metals and Inorganics (Soil)							
Antimony	µg/g	0.8	4	30%	<0.8	<0.8	-
Arsenic	µg/g	1	5	30%	1	3	-
Barium	µg/g	2	10	30%	139	169	19.5%
Beryllium	µg/g	0.5	2.5	30%	0.5	0.6	-
Boron	µg/g	5	25	30%	6	8	-
Boron, available	µg/g	0.1	0.5	40%	<0.10	<0.10	-
Cadmium	µg/g	0.5	2.5	30%	<0.5	<0.5	-
Chromium	µg/g	5	25	30%	31	38	20.3%
Cobalt	µg/g	0.8	4	30%	9.4	11.7	21.8%
Copper	µg/g	1	5	30%	22.1	24.8	11.5%
Lead	µg/g	1	5	30%	6	8	28.6%
Mercury	µg/g	0.1	0.5	30%	<0.10	<0.10	-
Molybdenum	µg/g	0.5	2.5	30%	<0.5	<0.5	-
Nickel	µg/g	1	5	30%	17	21	21.1%
Selenium	µg/g	0.8	4	30%	<0.8	0.9	-
Silver	µg/g	0.5	2.5	30%	<0.5	<0.5	-
Thallium	µg/g	0.5	2.5	30%	<0.5	<0.5	-
Uranium	µg/g	0.5	2.5	30%	0.62	0.75	-
Vanadium	µg/g	2	10	30%	49.3	59.9	19.4%
Zinc	µg/g	5	25	30%	47	63	29.1%
Chromium (VI)	µg/g	0.2	1	35%	<0.2	<0.2	-
Cyanide, free	µg/g	0.04	0.2	35%	NA	NA	-
Conductivity	mS/cm	0.005	0.025	10%	NA	NA	-
SAR	N/A	-	-	30%	NA	NA	-
pH	pH Units	-	-	30%	NA	NA	-

Notes:
'<' : Non Detect
'mbgs' : metres below ground surface
BOLD Exceeds MECP Alert Criteria

APPENDIX E

Laboratory Certificate of Analysis

AGAT Laboratories

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
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OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Mohit Bhargav
PROJECT: 102151.001
AGAT WORK ORDER: 24Z121264
SOIL ANALYSIS REVIEWED BY: Chuandi Zhang, Inorganic Supervisor
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Mar 06, 2024
PAGES (INCLUDING COVER): 26
VERSION*: 2

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

*Notes

VERSION 2:Version 2 issued 2024-03-06. Sample IDs updated by client request. Supersedes version 1 issued 2024-03-05. (LB)

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

		SAMPLE DESCRIPTION:		BH24-3 SA1	BH24-5 SA2	BH24-7 SA1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14
Parameter	Unit	G / S	RDL	5655338	5655348	5655352
Antimony	µg/g	1	0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	11	1	**13**	1	1
Barium	µg/g	210	2.0	111	82.4	113
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	0.6
Boron	µg/g	36	5	8	<5	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.30	<0.10	<0.10
Cadmium	µg/g	1	0.5	<0.5	<0.5	<0.5
Chromium	µg/g	67	5	22	21	29
Cobalt	µg/g	19	0.8	7.2	6.8	8.6
Copper	µg/g	62	1.0	12.4	14.4	14.1
Lead	µg/g	45	1	15	3	4
Mercury	µg/g	0.16	0.10	<0.10	<0.10	<0.10
Molybdenum	µg/g	2	0.5	1.2	<0.5	<0.5
Nickel	µg/g	37	1	14	12	14
Selenium	µg/g	1.2	0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5
Uranium	µg/g	1.9	0.50	0.75	0.60	0.71
Vanadium	µg/g	86	2.0	32.6	36.6	46.5
Zinc	µg/g	290	5	52	34	37
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040
Electrical Conductivity (2:1)	mS/cm	0.47	0.005	0.249	0.114	0.170
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	1	N/A	0.313	0.113	0.287
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.58	7.73	6.32

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15 **DATE REPORTED: 2024-03-06**

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

5655338-5655352 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

		SAMPLE DESCRIPTION:		BH24-1 SA1	BH24-2 SA1	BH24-4 SA1	BH24-4 SA101
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14	2024-02-14
Parameter	Unit	G / S	RDL	5655334	5655335	5655346	5655347
Antimony	µg/g	1	0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	11	1	2	1	1	3
Barium	µg/g	210	2.0	**222**	**289**	139	169
Beryllium	µg/g	2.5	0.5	0.6	0.6	0.5	0.6
Boron	µg/g	36	5	8	8	6	8
Cadmium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	67	5	49	57	31	38
Cobalt	µg/g	19	0.8	10.0	11.0	9.4	11.7
Copper	µg/g	62	1.0	20.4	19.1	22.1	24.8
Lead	µg/g	45	1	8	6	6	8
Mercury	µg/g	0.16	0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum	µg/g	2	0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g	37	1	22	26	17	21
Selenium	µg/g	1.2	0.8	0.9	<0.8	<0.8	0.9
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	1.9	0.50	1.25	0.83	0.62	0.75
Vanadium	µg/g	86	2.0	59.6	63.3	49.3	59.9
Zinc	µg/g	290	5	93	83	47	63

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

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

		SAMPLE DESCRIPTION:		BH24-1 SA1	BH24-2 SA1	BH24-4 SA1	BH24-4 SA101
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14	2024-02-14
Parameter	Unit	G / S	RDL	5655334	5655335	5655346	5655347
Boron (Hot Water Soluble)	µg/g		0.10	0.34	0.24	<0.10	<0.10
Chromium, Hexavalent	µg/g		0.2	<0.2	<0.2	<0.2	<0.2

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

5655334-5655347 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

		SAMPLE DESCRIPTION:		BH24-1 SA1	BH24-2 SA1	BH24-4 SA1	BH24-4 SA101
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14	2024-02-14
Parameter	**Unit**	**G / S**	**RDL**	**5655334**	**5655335**	**5655346**	**5655347**
Hexachloroethane	µg/g	0.01	0.005	<0.005	<0.005	<0.005	<0.005
Gamma-Hexachlorocyclohexane	µg/g	0.01	0.005	<0.005	<0.005	<0.005	<0.005
Heptachlor	µg/g	0.05	0.005	<0.005	<0.005	<0.005	<0.005
Aldrin	µg/g	0.05	0.005	<0.005	<0.005	<0.005	<0.005
Heptachlor Epoxide	µg/g	0.05	0.005	<0.005	<0.005	<0.005	<0.005
Endosulfan I	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
Endosulfan II	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
Endosulfan	µg/g	0.04	0.005	<0.005	<0.005	<0.005	<0.005
Alpha-Chlordane	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
gamma-Chlordane	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
Chlordane	µg/g	0.05	0.007	<0.007	<0.007	<0.007	<0.007
op'-DDE	ug/g		0.005	<0.005	<0.005	<0.005	<0.005
pp'-DDE	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
DDE	µg/g	0.05	0.007	<0.007	<0.007	<0.007	<0.007
op'-DDD	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
pp'-DDD	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
DDD	µg/g	0.05	0.007	<0.007	<0.007	<0.007	<0.007
op'-DDT	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
pp'-DDT	µg/g		0.005	<0.005	<0.005	<0.005	<0.005
DDT (Total)	µg/g	0.078	0.007	<0.007	<0.007	<0.007	<0.007
Dieldrin	µg/g	0.05	0.005	<0.005	<0.005	<0.005	<0.005
Endrin	µg/g	0.04	0.005	<0.005	<0.005	<0.005	<0.005
Methoxychlor	µg/g	0.05	0.005	<0.005	<0.005	<0.005	<0.005
Hexachlorobenzene	µg/g	0.01	0.005	<0.005	<0.005	<0.005	<0.005
Hexachlorobutadiene	µg/g	0.01	0.01	<0.01	<0.01	<0.01	<0.01
Moisture Content	%		0.1	22.8	22.5	27.6	27.6
wet weight OC	g		0.005	10.2	11.0	10.3	10.2
Surrogate	**Unit**	**Acceptable Limits**					
TCMX	%	50-140		70	74	78	91
Decachlorobiphenyl	%	50-140		102	87	109	101

Certified By: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

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

5655334-5655347 Results are based on the dry weight of the soil.
DDT total is a calculated parameter. The calculated value is the sum of op'DDT and pp'DDT.
DDD total is a calculated parameter. The calculated value is the sum of op'DDD and pp'DDD.
DDE total is a calculated parameter. The calculated value is the sum of op'DDE and pp'DDE.
Endosulfan total is a calculated parameter. The calculated value is the sum of Endosulfan I and Endosulfan II.
Chlordane total is a calculated parameter. The calculated value is the sum of Alpha-Chlordane and Gamma-Chlordane.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

AGAT Laboratories
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AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15 **DATE REPORTED: 2024-03-06**

		SAMPLE DESCRIPTION:		BH24-3 SA1	BH24-5 SA2	BH24-6 SA2	BH24-7 SA1	BH24-8 SA2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14	2024-02-14	2024-02-14
Parameter	**Unit**	**G / S**	**RDL**	**5655338**	**5655348**	**5655350**	**5655352**	**5655354**
Naphthalene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.19	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.24	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	0.19	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.095	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	0.18	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.3	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	<0.05
Benzo(a)pyrene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.11	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-and 1-methyl Naphthalene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	15.6	18.7	22.3	31.0	10.4
Surrogate	**Unit**	**Acceptable Limits**						
Naphthalene-d8	%	50-140		70	90	105	75	75
Acridine-d9	%	50-140		75	120	85	75	95
Terphenyl-d14	%	50-140		70	100	100	125	100

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

5655338-5655354 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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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15

DATE REPORTED: 2024-03-06

		SAMPLE DESCRIPTION:		BH24-9 SA2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-02-14
Parameter	**Unit**	**G / S**	**RDL**	**5655355**
Benzene	µg/g	0.02	0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05
o-Xylene	µg/g		0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05
F1 (C6 to C10)	µg/g	17	5	<5
F1 (C6 to C10) minus BTEX	µg/g	17	5	<5
F2 (C10 to C16)	µg/g	10	10	<10
F3 (C16 to C34)	µg/g	240	50	<50
F4 (C34 to C50)	µg/g	120	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA
Moisture Content	%		0.1	10.6
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	60-140		101
Terphenyl	%	60-140		84

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15 **DATE REPORTED: 2024-03-06**

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

5655355 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes 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 contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15 **DATE REPORTED: 2024-03-06**

		SAMPLE DESCRIPTION:		BH24-3 SA1	BH24-5 SA2	BH24-6 SA2	BH24-7 SA1	BH24-8 SA2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-02-14	2024-02-14	2024-02-14	2024-02-14	2024-02-14
Parameter	**Unit**	**G / S**	**RDL**	**5655338**	**5655348**	**5655350**	**5655352**	**5655354**
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	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	<0.05
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	17	5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	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	240	50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	240	50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	15.6	18.7	22.3	31.0	10.4
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	60-140		98	80	111	101	119
Terphenyl	%	60-140		82	82	86	75	95

Certified By:

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AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-15 **DATE REPORTED: 2024-03-06**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - Agriculture
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.

5655338-5655354 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 Popowkolof

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Exceedance Summary

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5655334	BH24-1 SA1	ON T1 S AG	O. Reg. 153(511) - Metals (Including Hydrides) (Soil)	Barium	µg/g	210	222
5655335	BH24-2 SA1	ON T1 S AG	O. Reg. 153(511) - Metals (Including Hydrides) (Soil)	Barium	µg/g	210	289
5655338	BH24-3 SA1	ON T1 S AG	O. Reg. 153(511) - Metals & Inorganics (Soil)	Arsenic	µg/g	11	13

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Soil Analysis

RPT Date: Mar 06, 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) - Metals (Including Hydrides) (Soil)															
Antimony	5655334	5655334	<0.8	<0.8	NA	< 0.8	118%	70%	130%	100%	80%	120%	100%	70%	130%
Arsenic	5655334	5655334	2	2	NA	< 1	118%	70%	130%	101%	80%	120%	99%	70%	130%
Barium	5655334	5655334	222	226	1.8%	< 2.0	108%	70%	130%	101%	80%	120%	105%	70%	130%
Beryllium	5655334	5655334	0.6	0.6	NA	< 0.5	78%	70%	130%	94%	80%	120%	97%	70%	130%
Boron	5655334	5655334	8	8	NA	< 5	78%	70%	130%	96%	80%	120%	95%	70%	130%
Cadmium	5655334	5655334	<0.5	<0.5	NA	< 0.5	91%	70%	130%	100%	80%	120%	98%	70%	130%
Chromium	5655334	5655334	49	48	2.1%	< 5	107%	70%	130%	103%	80%	120%	97%	70%	130%
Cobalt	5655334	5655334	10.0	10.1	1.0%	< 0.8	107%	70%	130%	102%	80%	120%	95%	70%	130%
Copper	5655334	5655334	20.4	20.5	0.5%	< 1.0	100%	70%	130%	106%	80%	120%	98%	70%	130%
Lead	5655334	5655334	8	8	0.0%	< 1	113%	70%	130%	103%	80%	120%	103%	70%	130%
Mercury	5655334	5655334	<0.10	<0.10	NA	< 0.10	118%	70%	130%	106%	80%	120%	109%	70%	130%
Molybdenum	5655334	5655334	<0.5	<0.5	NA	< 0.5	115%	70%	130%	107%	80%	120%	111%	70%	130%
Nickel	5655334	5655334	22	22	0.0%	< 1	105%	70%	130%	101%	80%	120%	92%	70%	130%
Selenium	5655334	5655334	0.9	1.0	NA	< 0.8	101%	70%	130%	101%	80%	120%	99%	70%	130%
Silver	5655334	5655334	<0.5	<0.5	NA	< 0.5	133%	70%	130%	100%	80%	120%	98%	70%	130%
Thallium	5655334	5655334	<0.5	<0.5	NA	< 0.5	126%	70%	130%	100%	80%	120%	101%	70%	130%
Uranium	5655334	5655334	1.25	1.26	NA	< 0.50	125%	70%	130%	107%	80%	120%	113%	70%	130%
Vanadium	5655334	5655334	59.6	59.3	0.5%	< 2.0	115%	70%	130%	103%	80%	120%	94%	70%	130%
Zinc	5655334	5655334	93	91	2.2%	< 5	109%	70%	130%	102%	80%	120%	108%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	5655334	5655334	<0.8	<0.8	NA	< 0.8	118%	70%	130%	100%	80%	120%	100%	70%	130%
Arsenic	5655334	5655334	2	2	NA	< 1	118%	70%	130%	101%	80%	120%	99%	70%	130%
Barium	5655334	5655334	222	226	1.8%	< 2.0	108%	70%	130%	101%	80%	120%	105%	70%	130%
Beryllium	5655334	5655334	0.6	0.6	NA	< 0.5	78%	70%	130%	94%	80%	120%	97%	70%	130%
Boron	5655334	5655334	8	8	NA	< 5	78%	70%	130%	96%	80%	120%	95%	70%	130%
Boron (Hot Water Soluble)	5668209		0.39	0.42	NA	< 0.10	113%	60%	140%	99%	70%	130%	88%	60%	140%
Cadmium	5655334	5655334	<0.5	<0.5	NA	< 0.5	91%	70%	130%	100%	80%	120%	98%	70%	130%
Chromium	5655334	5655334	49	48	2.1%	< 5	107%	70%	130%	103%	80%	120%	97%	70%	130%
Cobalt	5655334	5655334	10.0	10.1	1.0%	< 0.8	107%	70%	130%	102%	80%	120%	95%	70%	130%
Copper	5655334	5655334	20.4	20.5	0.5%	< 1.0	100%	70%	130%	106%	80%	120%	98%	70%	130%
Lead	5655334	5655334	8	8	0.0%	< 1	113%	70%	130%	103%	80%	120%	103%	70%	130%
Mercury	5655334	5655334	<0.10	<0.10	NA	< 0.10	118%	70%	130%	106%	80%	120%	109%	70%	130%
Molybdenum	5655334	5655334	<0.5	<0.5	NA	< 0.5	115%	70%	130%	107%	80%	120%	111%	70%	130%
Nickel	5655334	5655334	22	22	0.0%	< 1	105%	70%	130%	101%	80%	120%	92%	70%	130%
Selenium	5655334	5655334	0.9	1.0	NA	< 0.8	101%	70%	130%	101%	80%	120%	99%	70%	130%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Soil Analysis (Continued)

RPT Date: Mar 06, 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
Silver	5655334	5655334	<0.5	<0.5	NA	< 0.5	133%	70%	130%	100%	80%	120%	98%	70%	130%
Thallium	5655334	5655334	<0.5	<0.5	NA	< 0.5	126%	70%	130%	100%	80%	120%	101%	70%	130%
Uranium	5655334	5655334	1.25	1.26	NA	< 0.50	125%	70%	130%	107%	80%	120%	113%	70%	130%
Vanadium	5655334	5655334	59.6	59.3	0.5%	< 2.0	115%	70%	130%	103%	80%	120%	94%	70%	130%
Zinc	5655334	5655334	93	91	2.2%	< 5	109%	70%	130%	102%	80%	120%	108%	70%	130%
Chromium, Hexavalent	5668961		<0.2	<0.2	NA	< 0.2	97%	70%	130%	91%	80%	120%	71%	70%	130%
Cyanide, WAD	5655348	5655348	<0.040	<0.040	NA	< 0.040	100%	70%	130%	100%	80%	120%	84%	70%	130%
Electrical Conductivity (2:1)	5668209		1.77	1.62	8.8%	< 0.005	110%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5656171		7.93	8.43	6.2%	NA									
pH, 2:1 CaCl2 Extraction	5655338	5655338	7.58	7.50	1.0%	NA	100%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

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

Antimony	5653466	<0.8	<0.8	NA	< 0.8	114%	70%	130%	100%	80%	120%	105%	70%	130%
Arsenic	5653466	6	6	0.0%	< 1	119%	70%	130%	99%	80%	120%	99%	70%	130%
Barium	5653466	200	177	12.2%	< 2.0	110%	70%	130%	100%	80%	120%	109%	70%	130%
Beryllium	5653466	1.1	1.0	NA	< 0.5	95%	70%	130%	106%	80%	120%	112%	70%	130%
Boron	5653466	25	22	NA	< 5	87%	70%	130%	105%	80%	120%	99%	70%	130%
Cadmium	5653466	<0.5	<0.5	NA	< 0.5	98%	70%	130%	100%	80%	120%	102%	70%	130%
Chromium	5653466	39	36	8.0%	< 5	114%	70%	130%	109%	80%	120%	105%	70%	130%
Cobalt	5653466	19.3	18.7	3.2%	< 0.8	109%	70%	130%	103%	80%	120%	97%	70%	130%
Copper	5653466	25.9	25.1	3.1%	< 1.0	101%	70%	130%	104%	80%	120%	108%	70%	130%
Lead	5653466	13	12	8.0%	< 1	112%	70%	130%	97%	80%	120%	100%	70%	130%
Mercury	5653466	<0.10	<0.10	NA	< 0.10	112%	70%	130%	99%	80%	120%	109%	70%	130%
Molybdenum	5653466	0.9	1.0	NA	< 0.5	117%	70%	130%	111%	80%	120%	115%	70%	130%
Nickel	5653466	39	39	0.0%	< 1	110%	70%	130%	102%	80%	120%	95%	70%	130%
Selenium	5653466	<0.8	<0.8	NA	< 0.8	116%	70%	130%	97%	80%	120%	93%	70%	130%
Silver	5653466	<0.5	<0.5	NA	< 0.5	110%	70%	130%	103%	80%	120%	101%	70%	130%
Thallium	5653466	<0.5	<0.5	NA	< 0.5	99%	70%	130%	94%	80%	120%	97%	70%	130%
Uranium	5653466	1.11	1.08	NA	< 0.50	129%	70%	130%	109%	80%	120%	117%	70%	130%
Vanadium	5653466	53.4	49.2	8.2%	< 2.0	122%	70%	130%	106%	80%	120%	103%	70%	130%
Zinc	5653466	82	82	0.0%	< 5	110%	70%	130%	102%	80%	120%	101%	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)

Boron (Hot Water Soluble)	5680775	0.27	0.26	NA	< 0.10	92%	60%	140%	107%	70%	130%	97%	60%	140%
Chromium, Hexavalent	5677897	<0.2	<0.2	NA	< 0.2	86%	70%	130%	94%	80%	120%	71%	70%	130%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Soil Analysis (Continued)

RPT Date: Mar 06, 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

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

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

Certified By:

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Trace Organics Analysis

RPT Date: Mar 06, 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) - OC Pesticides (Soil)															
Hexachloroethane	5647761		< 0.005	< 0.005	NA	< 0.005	102%	50%	140%	87%	50%	140%	80%	50%	140%
Gamma-Hexachlorocyclohexane	5647761		< 0.005	< 0.005	NA	< 0.005	106%	50%	140%	85%	50%	140%	82%	50%	140%
Heptachlor	5647761		< 0.005	< 0.005	NA	< 0.005	107%	50%	140%	82%	50%	140%	77%	50%	140%
Aldrin	5647761		< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	87%	50%	140%	85%	50%	140%
Heptachlor Epoxide	5647761		< 0.005	< 0.005	NA	< 0.005	102%	50%	140%	82%	50%	140%	83%	50%	140%
Endosulfan I	5647761		< 0.005	< 0.005	NA	< 0.005	107%	50%	140%	80%	50%	140%	79%	50%	140%
Endosulfan II	5647761		< 0.005	< 0.005	NA	< 0.005	104%	50%	140%	90%	50%	140%	87%	50%	140%
Alpha-Chlordane	5647761		< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	77%	50%	140%	76%	50%	140%
gamma-Chlordane	5647761		< 0.005	< 0.005	NA	< 0.005	107%	50%	140%	81%	50%	140%	92%	50%	140%
op'-DDE	5647761		< 0.005	< 0.005	NA	< 0.005	118%	50%	140%	96%	50%	140%	92%	50%	140%
pp'-DDE	5647761		< 0.005	< 0.005	NA	< 0.005	106%	50%	140%	83%	50%	140%	96%	50%	140%
op'-DDD	5647761		< 0.005	< 0.005	NA	< 0.005	113%	50%	140%	101%	50%	140%	102%	50%	140%
pp'-DDD	5647761		< 0.005	< 0.005	NA	< 0.005	100%	50%	140%	80%	50%	140%	87%	50%	140%
op'-DDT	5647761		< 0.005	< 0.005	NA	< 0.005	103%	50%	140%	83%	50%	140%	92%	50%	140%
pp'-DDT	5647761		< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	84%	50%	140%	77%	50%	140%
Dieldrin	5647761		< 0.005	< 0.005	NA	< 0.005	104%	50%	140%	87%	50%	140%	82%	50%	140%
Endrin	5647761		< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	96%	50%	140%	90%	50%	140%
Methoxychlor	5647761		< 0.005	< 0.005	NA	< 0.005	108%	50%	140%	84%	50%	140%	92%	50%	140%
Hexachlorobenzene	5647761		< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	103%	50%	140%	102%	50%	140%
Hexachlorobutadiene	5647761		< 0.01	< 0.01	NA	< 0.01	105%	50%	140%	102%	50%	140%	98%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	5656221		<0.02	<0.02	NA	< 0.02	90%	60%	140%	110%	60%	140%	107%	60%	140%
Toluene	5656221		<0.05	<0.05	NA	< 0.05	92%	60%	140%	101%	60%	140%	108%	60%	140%
Ethylbenzene	5656221		<0.05	<0.05	NA	< 0.05	109%	60%	140%	80%	60%	140%	103%	60%	140%
m & p-Xylene	5656221		<0.05	<0.05	NA	< 0.05	108%	60%	140%	81%	60%	140%	96%	60%	140%
o-Xylene	5656221		<0.05	<0.05	NA	< 0.05	105%	60%	140%	83%	60%	140%	91%	60%	140%
F1 (C6 to C10)	5656221		<5	<5	NA	< 5	103%	60%	140%	91%	60%	140%	91%	60%	140%
F2 (C10 to C16)	5641607		< 10	< 10	NA	< 10	119%	60%	140%	82%	60%	140%	104%	60%	140%
F3 (C16 to C34)	5641607		< 50	< 50	NA	< 50	120%	60%	140%	89%	60%	140%	116%	60%	140%
F4 (C34 to C50)	5641607		< 50	< 50	NA	< 50	96%	60%	140%	64%	60%	140%	92%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5653314		<0.05	<0.05	NA	< 0.05	73%	50%	140%	83%	50%	140%	103%	50%	140%
Acenaphthylene	5653314		<0.05	<0.05	NA	< 0.05	77%	50%	140%	78%	50%	140%	95%	50%	140%
Acenaphthene	5653314		<0.05	<0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	73%	50%	140%
Fluorene	5653314		<0.05	<0.05	NA	< 0.05	90%	50%	140%	75%	50%	140%	93%	50%	140%
Phenanthrene	5653314		<0.05	<0.05	NA	< 0.05	82%	50%	140%	100%	50%	140%	95%	50%	140%
Anthracene	5653314		<0.05	<0.05	NA	< 0.05	114%	50%	140%	95%	50%	140%	93%	50%	140%
Fluoranthene	5653314		<0.05	<0.05	NA	< 0.05	93%	50%	140%	85%	50%	140%	88%	50%	140%
Pyrene	5653314		<0.05	<0.05	NA	< 0.05	95%	50%	140%	85%	50%	140%	73%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Trace Organics Analysis (Continued)

RPT Date: Mar 06, 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
Benz(a)anthracene	5653314		<0.05	<0.05	NA	< 0.05	101%	50%	140%	103%	50%	140%	88%	50%	140%
Chrysene	5653314		<0.05	<0.05	NA	< 0.05	88%	50%	140%	78%	50%	140%	93%	50%	140%
Benzo(b)fluoranthene	5653314		<0.05	<0.05	NA	< 0.05	87%	50%	140%	100%	50%	140%	108%	50%	140%
Benzo(k)fluoranthene	5653314		<0.05	<0.05	NA	< 0.05	103%	50%	140%	80%	50%	140%	95%	50%	140%
Benzo(a)pyrene	5653314		<0.05	<0.05	NA	< 0.05	97%	50%	140%	93%	50%	140%	98%	50%	140%
Indeno(1,2,3-cd)pyrene	5653314		<0.05	<0.05	NA	< 0.05	87%	50%	140%	110%	50%	140%	78%	50%	140%
Dibenz(a,h)anthracene	5653314		<0.05	<0.05	NA	< 0.05	92%	50%	140%	93%	50%	140%	103%	50%	140%
Benzo(g,h,i)perylene	5653314		<0.05	<0.05	NA	< 0.05	113%	50%	140%	95%	50%	140%	85%	50%	140%
Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).															
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	5656221		<0.02	<0.02	NA	< 0.02	90%	60%	140%	110%	60%	140%	107%	60%	140%
Toluene	5656221		<0.05	<0.05	NA	< 0.05	92%	60%	140%	101%	60%	140%	108%	60%	140%
Ethylbenzene	5656221		<0.05	<0.05	NA	< 0.05	109%	60%	140%	80%	60%	140%	103%	60%	140%
m & p-Xylene	5656221		<0.05	<0.05	NA	< 0.05	108%	60%	140%	81%	60%	140%	96%	60%	140%
o-Xylene	5656221		<0.05	<0.05	NA	< 0.05	105%	60%	140%	83%	60%	140%	91%	60%	140%
F1 (C6 to C10)	5656221		<5	<5	NA	< 5	103%	60%	140%	91%	60%	140%	91%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	5677736		<0.02	<0.02	NA	< 0.02	83%	60%	140%	80%	60%	140%	73%	60%	140%
Toluene	5677736		<0.05	<0.05	NA	< 0.05	106%	60%	140%	106%	60%	140%	111%	60%	140%
Ethylbenzene	5677736		<0.05	<0.05	NA	< 0.05	111%	60%	140%	109%	60%	140%	94%	60%	140%
m & p-Xylene	5677736		<0.05	<0.05	NA	< 0.05	106%	60%	140%	107%	60%	140%	79%	60%	140%
o-Xylene	5677736		<0.05	<0.05	NA	< 0.05	90%	60%	140%	107%	60%	140%	97%	60%	140%
F1 (C6 to C10)	5677736		<5	<5	NA	< 5	104%	60%	140%	97%	60%	140%	87%	60%	140%
F2 (C10 to C16)	5690135		< 10	< 10	NA	< 10	119%	60%	140%	99%	60%	140%	84%	60%	140%
F3 (C16 to C34)	5690135		< 50	< 50	NA	< 50	114%	60%	140%	124%	60%	140%	120%	60%	140%
F4 (C34 to C50)	5690135		< 50	< 50	NA	< 50	102%	60%	140%	105%	60%	140%	104%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5685762		<0.05	<0.05	NA	< 0.05	111%	50%	140%	108%	50%	140%	85%	50%	140%
Acenaphthylene	5685762		<0.05	<0.05	NA	< 0.05	106%	50%	140%	93%	50%	140%	73%	50%	140%
Acenaphthene	5685762		<0.05	<0.05	NA	< 0.05	107%	50%	140%	105%	50%	140%	75%	50%	140%
Fluorene	5685762		<0.05	<0.05	NA	< 0.05	103%	50%	140%	100%	50%	140%	75%	50%	140%
Phenanthrene	5685762		<0.05	<0.05	NA	< 0.05	111%	50%	140%	100%	50%	140%	83%	50%	140%
Anthracene	5685762		<0.05	<0.05	NA	< 0.05	98%	50%	140%	95%	50%	140%	80%	50%	140%
Fluoranthene	5685762		<0.05	<0.05	NA	< 0.05	101%	50%	140%	95%	50%	140%	103%	50%	140%
Pyrene	5685762		<0.05	<0.05	NA	< 0.05	98%	50%	140%	95%	50%	140%	85%	50%	140%
Benz(a)anthracene	5685762		<0.05	<0.05	NA	< 0.05	72%	50%	140%	80%	50%	140%	83%	50%	140%
Chrysene	5685762		<0.05	<0.05	NA	< 0.05	118%	50%	140%	103%	50%	140%	78%	50%	140%
Benzo(b)fluoranthene	5685762		<0.05	<0.05	NA	< 0.05	101%	50%	140%	90%	50%	140%	90%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

Trace Organics Analysis (Continued)

RPT Date: Mar 06, 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
Benzo(k)fluoranthene	5685762		<0.05	<0.05	NA	< 0.05	107%	50%	140%	108%	50%	140%	88%	50%	140%
Benzo(a)pyrene	5685762		<0.05	<0.05	NA	< 0.05	75%	50%	140%	78%	50%	140%	105%	50%	140%
Indeno(1,2,3-cd)pyrene	5685762		<0.05	<0.05	NA	< 0.05	69%	50%	140%	90%	50%	140%	95%	50%	140%
Dibenz(a,h)anthracene	5685762		<0.05	<0.05	NA	< 0.05	67%	50%	140%	88%	50%	140%	58%	50%	140%
Benzo(g,h,i)perylene	5685762		<0.05	<0.05	NA	< 0.05	76%	50%	140%	98%	50%	140%	78%	50%	140%

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

Certified By: N Popnikolof

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QC Exceedance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

RPT Date: Mar 06, 2024		REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Sample Id	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)										
Silver	5655334	133%	70%	130%	100%	80%	120%	98%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

O. Reg. 153(511) - Metals & Inorganics (Soil)										
Silver	5655334	133%	70%	130%	100%	80%	120%	98%	70%	130%

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

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
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Hexachloroethane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Gamma-Hexachlorocyclohexane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Aldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor Epoxide	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan I	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan II	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
Alpha-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
gamma-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
op'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDT (Total)	ORG-91-5113	modified from EPA 3570, 3620C & 8081B	CALCULATION
Dieldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Methoxychlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobenzene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobutadiene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
TCMX	ORG-91-5112	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE

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FAX (905)712-5122
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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
wet weight OC	ORG-91-5113		BALANCE
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
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
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
F3 (C16 to C34)	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

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TEL (905)712-5100
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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z121264

PROJECT: 102151.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:Carp

SAMPLED BY:MB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Terphenyl	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

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 #: 24Z121264

Cooler Quantity: 1 Large

Arrival Temperatures: 6.6 | 6.0 | 6.1

Custody Seal Intact: ☐ Yes ☐ No ☑ N/A

Notes: bagged ice

Report Information:

Company: GEMTEC Consulting
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: mike.kosiw@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)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
____ (Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
____ (Indicate One)

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

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

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Project Information:

Project: 102151.001
Site Location: Carp
Sampled By: MB
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:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide		OCPs	O.Reg. 153 Metals	O.Reg. 153 M&I			Potentially Hazardous or High Concentration (Y/N)
1. BH24-1 SA1	14 Feb 24	AM/PM	2	Soil															☑	☑				
2. BH24-2 SA1	14 Feb 24	AM/PM	2	Soil															☑	☑				
3. BH24-3 SA1	14 Feb 24	AM/PM	3	Soil																	☑			
4. BH24-4 SA1	14 Feb 24	AM/PM	2	Soil															☑	☑				
5. BH24-4 SA101	14 Feb 24	AM/PM	2	Soil															☑	☑				
6. ~~BH24-5 SA1~~	~~14 Feb 24~~	~~AM/PM~~	~~3~~	~~Soil~~					☑		☑										☑			
7. BH24-6 SA1	14 Feb 24	AM/PM	2	Soil					☑		☑													
8. BH24-7 SA1	14 Feb 24	AM/PM	3	Soil					☑		☑										☑			
9. BH24-8 SA1	14 Feb 24	AM/PM	2	Soil					☑		☑													
10. BH24-9 SA1	14 Feb 24	AM/PM	2	Soil					☑															
11.		AM/PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Mohit Bhargav	15 Feb 2024	4 pm	[signature]	Feb 16	9:20

Page 1 of 1

N°:

Gemtec.

contact Mohit B.

COC requested.

rec'd time: 13h35
2024-02-15

Temps: 6.3 / 6.4 / 6.4

on ice —

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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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: Mohit Bhargav

PROJECT: 102015.001

AGAT WORK ORDER: 24Z124635

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead

DATE REPORTED: Mar 06, 2024

PAGES (INCLUDING COVER): 5

VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 24Z124635
PROJECT: 102015.001

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
SAMPLING SITE:ON

ATTENTION TO: Mohit Bhargav
SAMPLED BY:MB

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

DATE RECEIVED: 2024-02-28 DATE REPORTED: 2024-03-06

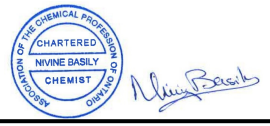
			SAMPLE DESCRIPTION:	BH24-9 SA3
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2024-02-14
Parameter	Unit	G / S	RDL	5687277
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.76

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

5687277 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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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z124635

PROJECT: 102015.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:ON

SAMPLED BY:MB

Soil Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - ORPs (Soil)															
pH, 2:1 CaCl2 Extraction	5686157		7.23	7.11	1.6%	NA	100%	80%	120%						

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

Certified By:

AGAT Laboratories

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

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z124635

PROJECT: 102015.001

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:ON

SAMPLED BY:MB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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

Laboratory Use Only
Work Order #: 24Z124635
Cooler Quantity: one - bagged ice
Arrival Temperatures: 18.0 | 18.9 | 18.0
3.1 | 3.5 | 3.6
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: bagged.

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: mike.kosiw@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

☐ Excess Soils R406
Table ___ (Indicate One)
☐ Regulation 558
☐ CCME

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

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

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

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply): ___

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

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

Project Information:
Project: 102015.001
Site Location: ON
Sampled By: MB
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:

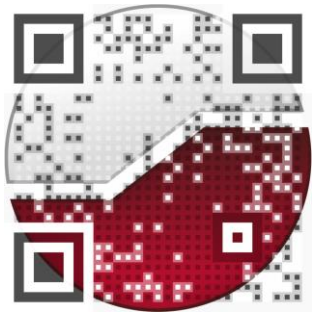
Sample Matrix Legend
- **B** Biota
- **GW** Ground Water
- **O** Oil
- **P** Paint
- **S** Soil
- **SD** Sediment
- **SW** Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs / Analyze F4G if required ☑ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR		pH						Potentially Hazardous or High Concentration (Y/N)
BH24-9 SA3	Feb 14, 24	AM	1	Soil	1x250 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	February 28	10 am	C. Griffith	02/28/24	09h39
C. to Drivers	02/28/24	15h00	T. [illegible]	Feb 28	8:55 pm

Page 1 of 1
Nº:

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