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**Phase Two Environmental Site Assessment
Mayfield Golf Course Redevelopment –
South Lands
Caledon, Ontario**

GEMTEC Project: 101987.001



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Submitted to:

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Markham, Ontario
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**Phase Two Environmental Site Assessment
Mayfield Golf Course Redevelopment –
South Lands
Caledon, Ontario**

April 22, 2024
GEMTEC Project: 101987.001

GEMTEC Consulting Engineers and Scientists Limited
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April 22, 2024

File: 101987.001 – Rev0

Mayfield Golf Course Inc.
3190 Steeles Avenue East, Suite 300
Markham, Ontario
L3R 1G9

Attention: Vimal Patel

**Re: Phase Two Environmental Site Assessment
Mayfield Golf Course Redevelopment – South Lands, Caledon, Ontario**

Enclosed is GEMTEC Consulting Engineers and Scientists Limited's Phase Two Environmental Site Assessment (ESA) report for the above-noted project. The Phase Two ESA and reporting were based on the original scope of work presented in our proposal dated June 8, 2023. This report was prepared by Curtis Moorhouse, B.Sc. and reviewed by Sherry Eaton, M.Sc., P.Geo., PMP, 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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Environmental Scientist



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Senior Environmental Consultant

CM/SE/cb/sv

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Mayfield Golf Course Inc. (Mayfield) to carry out a Phase Two Environmental Site Assessment (ESA) for the property referred to as the “South Lands” located south of the Mayfield Golf Course in Caledon, Ontario (referred to as the Site and/or Phase Two ESA Property). The South Lands does not have a civic address of its own and it is located directly south of the golf course located at 12580 and 12552 Torbram Road in Caledon, Ontario. It is understood that this Phase Two ESA is required in support of the proposed residential development of the South Lands as part of the proposed redevelopment of the golf course.

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, Mayfield Golf Course Redevelopment Site – Southern Parcel, Caledon, Ontario”*, dated June 8, 2023. Based on the findings of the Phase One ESA, GEMTEC completed this Phase Two ESA investigation.

On December 1, 2023, fourteen hand-dug test pits, noted as TP23-1 to TP23-14, were advanced at the Site to a depth of 0.15 metres below ground surface (m bgs). Soil samples collected from each test pit were submitted for analysis of metals, including hydride-forming metals, pH; and organochlorine pesticides (OCPs).

Soil results were compared to Ministry of the Environment, Conservation, and Parks (MECP) Table 1 Full Depth Background Site Condition Standards (SCS) for agricultural or other property use.

The Phase Two ESA did not identify the presence of any exceedances of the Table 1 SCS.

Based on the results of the soil samples submitted as part of this Phase Two ESA, no exceedances of the applicable site conditions standard were identified in association with soil at the Site. Based on these findings, no further investigation is considered necessary.

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Mayfield Golf Course Inc. (Mayfield) to carry out a Phase Two Environmental Site Assessment (ESA) for the property referred to as the “South Lands” located south of the Mayfield Golf Course in Caledon, Ontario (referred to as the Site and/or Phase Two ESA Property). The South Lands does not have a civic address of its own and it is located directly south of the golf course located at 12580 and 12552 Torbram Road in Caledon, Ontario. It is understood that this Phase Two ESA is required in support of the proposed residential development of the South Lands as part of the proposed redevelopment of the golf course.

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 Mayfield Golf Course Redevelopment Site – Southern Parcel, Caledon, Ontario*”, dated June 8, 2023. Based on the findings of the Phase One ESA, GEMTEC completed this Phase Two ESA investigation. This Phase Two ESA was completed in general accordance with the requirements for Phase Two ESAs as defined in Part VII and Schedule E of Ontario Regulation 153/04 (O.Reg. 153/04).

The Site’s approximate boundaries and location are provided on Figure A.1, Appendix A.

1.1 Site Description

The Site has an area of approximately 51 acres and located south of the Mayfield Golf Course in Caledon, Ontario. Based on the available aerial photographs, the Phase Two Property has been used as an agricultural field since at least 1946. A ravine and creek are present in the central portion of the Site. Historical land use in the study area was predominantly agricultural. Mayfield Golf Course is located adjacent to the Site to the northwest.

The legal description of the Site consists of:

- s/s Torbram Road, Caledon East: Part Lot 19 Con 5 & EHS Chinguacousy as in VS22285. PIN 14347-0069 (LT).

The Site is presently owned by Tullamore Industrial GP Limited. The contact person for the Site at the time of this reporting is Ema Pereira with Geranium.

The Site location and Site features are shown on Figure A.1 and Figure A.2, Appendix A.

1.2 Current and Proposed Future Uses

Currently the Phase Two Property is used for agricultural purposes. The proposed future use is residential usage as part of the proposed redevelopment of the adjacent golf course.

1.3 Applicable Site Condition Standards

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 1 Full Depth Background Site Condition Standards (hereinafter referred to as the Table 1 SCS) for agricultural or other property use as presented in the 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 site condition standards were selected based on the following rationale:

- The Site is currently used for agricultural purposes. The proposed future land use is residential.
- Groundwater in the vicinity of the Site is used for potable purposes. Based on a due diligence geotechnical and hydrogeological assessment¹ carried out at the adjacent golf course, groundwater ranged in depth from 0.9 m to 5.5 m below ground surface (m bgs). The depth to the water table at the Site is anticipated to be similar to that at the adjacent golf course.
- Based on visual observations made during the field program, the predominant soil type was sandy silt which is inferred to be fine-textured. A grain size determination completed as part of this Phase Two ESA investigation on native soil at TP23-6 indicated the soil to be fine-textured. Additionally, grain size analyses carried out as part of the 2023 Geotechnical and Hydrogeological Report indicated soil at the site to be fine to medium textured. Medium and fine textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 per cent or more by mass of particles that are smaller than 75 micrometres in mean diameter”.
- An unevaluated wetland was identified in the southern corner of the Site, and ponds were identified northwest of the Site on Mayfield Golf Course based on a review of Ontario Base Mapping. Based on this, these unevaluated wetlands and ponds were considered an area of potential natural significance. The ravine and stream in the centre of the Site, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022).
- The City of Caledon’s zoning by-law for the Site consists as agricultural for the fields and an Environmental Policy Area (EPA) zone for the ravine in the centre of the Site. As the Site is within an area of natural significance and/or adjacent to one, the Phase Two Property would meet the conditions of an environmentally sensitive site, as described in Section 41. As a result, and to provide a degree of conservatism, the Table 1 SCS were selected as applicable to the entire Site.
- The pH of soil at the Site is greater than 5 and less than 9.

¹ “Due Diligence Geotechnical and Hydrogeological Assessment Report, Mayfield Golf Course Redevelopment, Caledon, Ontario”, dated July 25, 2023, prepared by GEMTEC for Geranium (2023 Geotechnical and Hydrogeological Assessment).

- Test pits were advanced to a depth of 0.15 m bgs and bedrock was not encountered. Boreholes were advanced to depths of 7.8 to 8.1 m bgs as part of the 2023 Geotechnical and Hydrogeological Investigation and bedrock was not encountered.

2.0 BACKGROUND INFORMATION

This section presents the background conditions of the Phase Two Property 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 on, in or under the Site. The objectives of this Phase Two ESA were achieved by:

- Developing an understanding of the geological conditions at the Phase Two Property.
- Conducting field sampling for all contaminants of concern (COCs) associated with the area of potential environmental concern (APEC) identified in the Phase One ESA.

2.1 Physical Setting

The Site has a relatively flat topography with a ravine in the central portion. The Site is at an elevation of approximately 233 to 267 metres above sea level. A stream is present in the ravine in the central portion of the Site. Overburden soil in the general area is primarily characterized as clay to silt-textured till. There are also deposits of clay, silt, sand, gravel and may contain organic remains along the watercourse. Bedrock geology consists of shale, limestone, dolostone, and/or siltstone of the Queenston Formation.

Groundwater flow often reflects topographic features and typically flows toward nearby lakes, rivers, and wetland areas. Based on the topography of the area, it is expected that local groundwater flow direction is to the centre of the Site, toward the ravine. As groundwater was not identified as a media of concern, no groundwater monitoring was conducted as part of this Phase Two ESA.

No provincially significant wetlands (PSWs) were identified on the Site or within the study area. As noted above, an area of natural and scientific interest (ANSI) was identified within the study area, to the northwest of the Site. The ravine and stream, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022). The City of Caledon's zoning by-law identifies the on-Site ravine as an EPA zone. In the southern corner of the Site, there is an unevaluated wetland as well as observed woodlands on the west, south and east adjacent properties (MNR, 2022).

2.2 Past Investigations

Phase One Environmental Site Assessment

GEMTEC conducted a Phase One ESA titled *"Phase One Environmental Site Assessment Mayfield Golf Course Redevelopment Site – Southern Parcel, Caledon, Ontario"*, dated June 8,

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, one potentially contaminating activity (PCA) was identified resulting in one area of potential environmental concern (APEC) at the Site.

Figure A.3, Appendix A indicates the location of the PCA and Figure A.4, Appendix A indicates the location of the APEC. The APEC identified in the Phase One ESA is summarized in the table below.

This report was prepared by the Qualified Person and will be relied upon for the Phase Two investigation.

| Area of Potential Environmental Concern | Location of Area of Potential Environmental Concern on Phase One Property | Potentially Contaminating Activity | Location of PCA (on-Site or off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, soil and/or Sediment) |
|---|---|--|---------------------------------------|-----------------------------------|--|
| APEC 1 – Site has historically been used for agricultural purposes. | On the north and south fields. | 40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications | On-Site | Metals, OCP | Soil |

Notes:

Metals - metals parameters as per O.Reg. 153/04 including hydride forming metals (antimony, arsenic, selenium)

OCP – Organochlorine Pesticides

3.0 SCOPE OF THE INVESTIGATION

3.1 Overview of the Site Investigation

The Phase Two ESA investigation activities were completed on December 1, 2023 and 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 was not conducted as the scope of work involved only collecting soil samples from shallow hand dug holes which would not affect any underground utilities.
- **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 investigation. A copy of the SAP is provided in Appendix B.
- **Test Pits:** The test pitting program included using a decontaminated shovel to dig fourteen test pits throughout the Site. The test pits were used to collect grab samples (identified as TP23-1 to TP23-14). The rationale for the selected location of the test pits is provided in the SAP provided in Appendix B. The locations of the test pits are provided in Figure A.5, Appendix A.
- **Soil Sampling:** Soil samples were collected on December 1, 2023, from the hand dug test pits. Selected soil samples were submitted for chemical analysis of one or more of the following:
 - Metals, including hydride-forming metals;
 - pH; and/or
 - Organochlorine pesticides (OCPs)
- **Groundwater Monitoring and Sampling:** Groundwater was not identified as a media of concern and therefore groundwater sampling was not part of the scope of work for this Phase Two investigation.
- **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. The data from the Phase Two ESA investigation completed by GEMTEC at the Site were incorporated into a single Phase Two ESA report.

There were no impediments or access limitations that in the opinion of the Qualified Person (QP) would affect the conclusions of this Phase Two ESA report.

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 soil at the Site. Groundwater and sediment were not identified as a media of concern in association with the Site. The SAP outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA.

3.3 Phase One ESA Conceptual Site Model

The following key features (as required by O.Reg. 153/04) are presented in Figures A.1, A.2, A.3 and A.4:

- Existing buildings and structures;
- Water bodies and areas of natural significance located in the Phase One Study Area;
- Drinking water wells on the Phase One Property;
- Roads (including names) within the Phase One Study Area;
- Uses of properties adjacent to the Phase One Property; and,
- Location of identified PCAs in the Phase One Study Area (including any storage tanks).

The following describes the Phase One ESA CSM based on the information obtained and reviewed as part of this Phase One ESA:

- The Phase One property is legally described as s/s Torbram Road, Caledon East: Part Lot 19 Con & EHS Chinguacousy as in VS22285. PIN 14347-0069 (LT) and is approximately 51 acres in size.
- At the time of the Site reconnaissance, no buildings or structures were present on-Site. Historical records suggest the Site has not previously been developed. The property currently consists of a vacant and/or agricultural field in the north and south portions of the Site with a ravine and stream in the central portion.
- Based on the review of the historical records obtained as part of this assessment, the Site was crown land prior to 1869. No records were found between 1869 to 1946 other than the chain of title abstract that shows the names of the owners of the Site. Based on an aerial photograph from 1946, the Site was used for agricultural purposes on the north and south fields. The Site has continued to be used for agricultural purposes. No evidence of on-site buildings or structures were identified based on the information obtained as part of this Phase One ESA. Based on the prior agricultural use of the Site and the identification of this use as a potentially contaminating activity, the first developed use (based on the definition in O.Reg. 153/04), is considered to be 1946 (the first year for which records confirm the Site was used for agricultural purposes). Based on the interview, it was unknown if pesticides are currently or were historically used on-Site.

- The surrounding properties include agricultural, rural residential, undeveloped, and/or commercial land uses, as illustrated in Figure A.1, in Appendix A.
- The nearby developed properties are serviced with hydro. Based on the rural nature of the area, nearby properties likely rely on private water wells and septic systems. Water well records were noted for the properties to the north and east of the Site. The Site is currently not serviced.
- The Site is at an elevation of approximately 233 m to 267 metres above sea level. Based on Site observations, the Site is relatively flat with a ravine in the central portion.
- Surficial soil conditions are primarily characterized as clay to silt-textured till. There are also deposits of clay, silt, sand, gravel and may contain organic materials along the watercourse.
- Bedrock geology consists of shale, limestone, dolostone, and/or siltstone of the Queenston Formation. Based on water well records for the area of the Site, shale bedrock was encountered at a depth of 15 m bgs.
- An area of natural and scientific interest was identified within the study area, to the northwest (MNR, 2017). There is a ravine and stream in the centre of the Site. The ravine and stream, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022). In the southern corner of the Site, there is an unevaluated wetland as well as observed woodlands on the west, south and east adjacent properties (MNR, 2022). The east and western portions of the Site are zoned agricultural, and the ravine area is zoned EPA.
- Based on the topography of the area, shallow groundwater direction is interpreted to be in the direction of the ravine.
- As summarized above, the Phase One ESA identified the following APEC in association with the Site:
 - APEC 1 – Site has historically been used for agricultural purposes with the potential for the application of pesticides. Contaminants of Potential Concern (COPCs) include metals and organochlorine pesticides (OCP) with the potential for impacts in soil.

3.4 Deviations from Sampling and Analysis Plan

A SAP is provided in Appendix B. The SAP outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA. The SAP covers the activities undertaken during the Phase Two ESA. The procedures described in the SAP were followed with no modifications.

3.5 Impediments

No physical impediments to the Phase Two ESA investigation were encountered. Access to the Phase Two Property 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 on December 1, 2023.

Prior to initiating the field work, GEMTEC developed and implemented Site-specific protocols to protect the health and safety of its employees through the preparation of a Site-specific Health and Safety Plan. GEMTEC did not complete public or private utility clearances as the shallow hand-dug holes would not affect any utilities if any.

4.2 Test Pits

On December 1, 2023, fourteen hand-dug test pits (TP23-1 to TP23-14) were advanced to a maximum depth of 0.15 m bgs. Test pit locations are provided in Figure A.5, Appendix A. A description of the quality assurance/quality control measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.12.

Test pits TP23-1 to TP23-14 were advanced by GEMTEC using a decontaminated shovel to dig shallow test holes to collect grab samples. The soil samples were logged in the field noting subsurface and the test pit locations are provided in Figure A.5, Appendix A.

4.3 Soil: Sampling

Soil samples collected from the test pits were split in the field into two components. One component was placed into laboratory-prepared container with minimal headspace and 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 1) calibrated to 1,650 parts per million (ppm) hexane was used to measure the total combustible gas concentrations in the headspace in the sealed plastic bag.

As per the SAP, 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. A summary of the soil samples submitted for analysis is provided in Table A.1 in Appendix A.

Geologic descriptions, visual and olfactory observations, and results of field headspace measurements are presented on the Record of Test Pits in Appendix C.

4.4 Soil: Field Screening

Field measurements of sample headspace concentration were made using the following equipment:

| Equipment | Parameters Detected | Detection Limit | Precision | Accuracy | Calibration Standard |
|-------------|---------------------|-----------------|-----------|----------|----------------------|
| RKI Eagle 1 | Combustible gas | 0-50,000 ppm | NA | ±5% | Hexane (1,650 ppm) |

The RKI Eagle 1 was calibrated daily prior to field use.

The results of soil headspace screening measurements are provided in the Record of Test Pits in Appendix C.

4.5 Groundwater: Monitoring Well Installation

As groundwater was not identified as a media of concern associated with the APECs, no groundwater monitoring was carried out as part of this investigation.

4.6 Sediment: Sampling

As sediment was not identified as a media of concern associated with the APECs, no sediment samples were collected as part of this investigation.

4.7 Laboratory Analytical Program

The contact information for the analytical laboratory is as follows:

- AGAT Laboratories (AGAT), 5835 Coopers Avenue, Mississauga, ON L4Z 1Y2. (Linda Berthelet, 613-225-8618).

The analytical laboratory is accredited in accordance with the International Standard ISO/IEC 17025 (CALA) (General Requirement for the Competence of Testing and Calibration Laboratories, May 5, 2005, as amended) and the standards for proficiency testing developed by the Standards Council of Canada, the Canadian Association for Laboratory Accreditation or another accreditation body accepted by the MECP.

4.8 Residue Management Procedures

All residues produced during the investigation, if any, were deposited onsite.

4.9 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.
- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples.
- Initial calibration of field equipment was performed at the start of each field day, with a daily check of calibration, as needed, using a standard of known concentration.
- Soil was 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.
- Dedicated sampling equipment and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment (e.g., shovel) was decontaminated between sampling locations. Sampling equipment in contact with soil, groundwater, or sediment was cleaned by mechanical means; washed with a phosphate-free, laboratory-grade detergent (e.g., Alconox powder) and, if necessary, an appropriate desorbing wash solution; and thoroughly rinsed with analyte-free water.
- 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.
- The submission of samples to the analytical laboratory in accordance with standard chain of custody procedures.

Below is a summary of the primary and duplicate samples.

| Date | Media | Sample ID | Duplicate ID |
|------------------|-------|-------------|--------------|
| December 1, 2023 | Soil | TP23-4 SA1 | DUP 1 |
| December 1, 2023 | Soil | TP23-14 SA1 | DUP 2 |

5.0 REVIEW AND EVALUATION

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

5.1 Geology

The soil conditions encountered during the test pitting program are presented in the Record of Test Pits provided in Appendix C.

Reworked native soil was encountered in all test pit locations. The reworked material is predominantly comprised of sandy silt, with some organics. All test pits were terminated in the sandy silt at a depth of 0.15 m bgs.

5.2 Groundwater: Elevations and Flow Direction

As groundwater was not identified as a media of concern associated with the APECs, no groundwater monitoring was carried out as part of this investigation.

5.3 Groundwater: Hydraulic Gradients

As groundwater was not identified as a media of concern associated with the APECs, no groundwater monitoring was carried out as part of this investigation.

5.4 Soil Texture

Based on soil conditions encountered in the test pits and a grain size analysis of soil collected from TP23-6 SA1, the soil is considered fine to medium textured. The results for this analysis are provided on the Certificate of Analysis in Appendix D. Additionally, grain size analyses carried out as part of the 2023 Geotechnical and Hydrogeological Report indicated soil at the site to be fine to medium textured. A copy of the grain size curves from this report are provided in Appendix C.

5.5 Soil: Field Screening

Headspace vapour measurements were conducted on the soil samples collected from each of the grab samples collected on Site. Headspace readings ranged from 25 ppm to 40 ppm and are generally not considered indicative of environmental contamination in light of the overall observations and results. The results of headspace vapour measurements are presented on the Record of Test Pits in Appendix C.

5.6 Soil: Quality

Table A.1, Appendix A provides a summary of the soil samples submitted for analysis and the associated test parameters. The analytical results of soil samples are presented in Tables A.2, Appendix A. Laboratory Certificates of Analysis for the soil samples are included in Appendix D.

Soil sampling was completed on December 1, 2023. The soil samples were submitted to AGAT for analysis of one or more of the following parameters: metals (including hydride-forming metals), OCPs, pH and/or grain size.

A summary of the number of soil samples analyzed and the number of soil samples exceeding the Table 1 SCS is provided below:

| Parameter | Number of soil samples analyzed (including duplicates) | Number of soil samples exceeding the Table 1 Standards |
|---|--|--|
| Metals (including hydride-forming metals) | 16 (14 plus two duplicate) | 0 |
| OCPs | 16 (14 plus two duplicate) | 0 |
| pH | 16 (14 plus two duplicate) | 0 |

5.7 Groundwater: Quality

No groundwater monitoring / testing was completed as part of this investigation.

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”).

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

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

Where

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

The analytical results of the primary and duplicate soil samples indicated a satisfactory correlation between the primary and duplicate samples and were within the 30% recommended control limit in the Analytical Protocol.

The quality of the analytical results is further supported by analytical laboratory's internal quality assurance program that includes laboratory blanks, spikes, surrogates and duplicate samples.

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

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

6.0 PHASE TWO CONCEPTUAL SITE MODEL

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

The Phase Two CSM was prepared in general 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 Location
- Figure A.2 Phase Two Property and Phase One Study Area
- Figure A.3 Potentially Contaminating Activities
- Figure A.4 Areas of Potential Environmental Concern
- Figure A.5 Test Pit Locations
- Figure A.6 Soil Analytical Results – Metals, Hydride-Forming Metals, OCPs, and pH

6.1 Property Description and History

The Site has an area of approximately 51 acres and located south of the Mayfield Golf Course in Caledon, Ontario. The Site does not have a civic address of its own and it is located directly south of the golf course located at 12580 and 12552 Torbram Road in Caledon, Ontario.

At the time of the Site reconnaissance, no buildings or structures were present on-Site. Historical records suggest the Site has not previously been developed. The property currently consists of a vacant and/or agricultural field in the north and south portions of the Site with a ravine and stream in the central area of the Site.

The surrounding properties include agricultural, rural residential, undeveloped, and/or commercial land uses, as illustrated in Figure A.1, in Appendix A. The nearby developed properties are serviced with hydro. Based on the rural nature of the area, nearby properties likely rely on private

water wells and septic systems. Water well records were noted for the properties to the north and east of the Site. The Site is currently not serviced.

No provincially significant wetlands (PSWs) were identified on the Site or within the study area. As noted above, an area of natural and scientific interest (ANSI) was identified within the study area, to the northwest of the Site. The ravine and stream, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022). The City of Caledon’s zoning by-law identifies the on-Site ravine as an EPA zone. In the southern corner of the Site, there is an unevaluated wetland as well as observed woodlands on the west, south and east adjacent properties (MNR, 2022).

The Phase Two Property and associated Phase One ESA study area are shown on Figure A.1, Appendix A and site features are shown on Figure A.2, Appendix A.

Pertinent identification information for the Site is provided below:

| Mayfield Golf Course – South Lands – Phase One Property Information | |
|--|--|
| Legal Description | s/s Torbram Road, Caledon East: Part Lot 19 Con 5 & EHS Chinguacousy as in VS22285 |
| PIN | 14347-0069 (LT) |
| Phase One Property Owner | Tullamore Industrial GP Limited |

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

| Mayfield Golf Course – South Lands | | | | |
|---|----------------------|------------------------------------|---------------------------|---|
| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, Fire Insurance Plans, etc. |
| Prior to 1869 | Crown | Undeveloped | Agricultural or other use | No FIP, aerial photograph or city directory coverage for this portion of the Site or properties within the Phase One Study Area for this time period. |
| 1869 – 1895 | John Ewing | Undeveloped | Agricultural or other use | No FIP, aerial photograph or city directory coverage for this portion of the Site or properties within the Phase One Study Area for this time period. |

Mayfield Golf Course – South Lands

| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, Fire Insurance Plans, etc. |
|---------------|---------------------------------|-----------------------------|---------------------------|--|
| 1895 – 1927 | John Cowton | Undeveloped | Agricultural or other use | No FIP, aerial photograph or city directory coverage for this portion of the Site or properties within the Phase One Study Area for this time period. |
| 1927 – 1930 | William J. G. Montgomery, Sr | Undeveloped | Agricultural or other use | No FIP, aerial photograph or city directory coverage for this portion of the Site or properties within the Phase One Study Area for this time period. |
| 1930 – 1959 | William J. G. Montgomery, Jr | Undeveloped | Agricultural or other use | Aerial photographs were not available before 1946. Aerial photos from 1946 and 1951 show that the Site was used for agricultural purpose and has a stream running through the centre of the property. No buildings are apparent on-Site. |
| 1959 – 1966 | Thomas Jackson | Undeveloped | Agricultural or other use | The aerial photo from 1964 shows no significant changes to the property. |
| 1966 -2021 | IO Investments Limited | Undeveloped | Agricultural or other use | Aerial photos from 1974, 1988, and 2021 show no significant changes to the property. |
| 2021- Present | Tullamore Industrial GP Limited | Undeveloped | Agricultural or other use | No aerial photos of the property have been taken since 2021. Site reconnaissance and interview indicate no significant changes to the property. |

As noted above, the Phase Two Property is currently owned by Tullamore Industrial GP Limited.

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, Mayfield Golf Course Redevelopment Site – Southern Parcel, Caledon, Ontario”*, prepared by GEMTEC, dated June 8, 2023.

6.3 Potentially Contaminating Activities

The potentially contaminating activities (PCAs) identified via the Phase One ESA are summarized in Table below. Figure A.3 indicates the location of the PCAs.

| PCA ID | Type of PCA | Address / Location | Distance from Phase One Property | Information source | PCA Description | Rationale |
|--------|--|--------------------|----------------------------------|------------------------------|--|--|
| #40 | Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications | On-Site | On-Site | Site Interview Site Recon | Site has historically been used for large scale agricultural purposes. | Yes Based on potential for historical pesticide applications to the Site for agricultural purposes. |

Notes:

Site Recon – Site Reconnaissance

6.4 Areas of Potential Environmental Concern

The area of potential environmental concern (APEC) identified based on the PCAs and as set out in the Phase One ESA are summarized in the table below. Figure A.4 indicates the location of the APEC.

| Area of Potential Environmental Concern | Location of Area of Potential Environmental Concern on Phase One Property | Potentially Contaminating Activity | Location of PCA (on-Site or off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, soil and/or Sediment) |
|---|---|--|---------------------------------------|-----------------------------------|--|
| APEC 1 – Site has historically been used for agricultural purposes. | On the north and south fields. | 40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications | On-Site | Metals, OCP | Soil |

Notes:

Metals - metals parameters as per O.Reg. 153/04 including hydride forming metals (antimony, arsenic, selenium)

OCP – Organochlorine Pesticides

6.5 APEC 1 – Potential Pesticide Use

Based on the Phase One ESA, the Site has historically been used for agricultural purposes since at least 1946 and is currently still an active field. Based on this, pesticides and herbicides may have been applied to the areas of the Site that were used for agricultural purposes. The COPCs are metals and OCP in soil.

This APEC was investigated as part of this Phase Two ESA via the advancement of fourteen test pits (TP23-1 to TP23-14). The test pits were located in the areas of the Site that are currently and were historically used for agricultural purposes. The test pits were advanced to a depth of 0.15 m bgs. During sampling, there was no evidence of staining or odour. A total of sixteen surface soil samples (fourteen plus two duplicates) were collected from the test pits and were submitted for analysis of metals, including hydride-forming metals, OCPs and pH. Based on a comparison to the applicable standards, no exceedances were identified.

6.6 Subsurface Structures and Utilities

There are no subsurface structures or buried utilities at the Site.

6.7 Physical Setting

Topography

The Phase One Property is at an elevation of approximately 233 to 267 metres above sea level. Based on Site observations, the Site is relatively flat with a ravine in the central portion.

Stratigraphy

In general, the subsurface soil conditions encountered in the test pits advanced as part of this Phase Two ESA (TP23-1 to TP23-14) generally consisted of reworked native soil comprised of sandy silt with some organics from surface to 0.15 m bgs. The native soil extended beyond the depth of investigation in all test pit locations.

Overburden soil in the general area is primarily characterized as clay to silt-textured till. There are also deposits of clay, silt, sand, gravel and may contain organic remains along the watercourse. Bedrock geology consists of shale, limestone, dolostone, and/or siltstone of the Queenston Formation.

Depth to Bedrock

No bedrock was encountered during the investigation. Based on water well records for the area of the Site, shale bedrock is present at approximately 15 m bgs.

Hydrogeological Characteristics

Groundwater flow often reflects topographic features and typically flows toward nearby lakes, rivers, and wetland areas. Based on the topography of the area, it is expected that local groundwater flow direction is towards the ravine located in centre of the Site. As groundwater was not identified as a media of concern, no groundwater monitoring was conducted as part of this Phase Two ESA.

Depth to Groundwater

As groundwater was not identified as a media of concern associated with the APECs, no groundwater monitoring was carried out as part of this investigation.

Based on the 2023 Geotechnical and Hydrogeological Assessment carried out at the adjacent golf course, groundwater ranged in depth from 0.9 m to 5.5 m bgs. The depth to the water table at the Site is anticipated to be similar to that at the adjacent golf course.

Environmentally Sensitive Areas

No provincially significant wetlands (PSWs) were identified on the Site or within the study area. An area of natural and scientific interest (ANSI) was identified within the study area, to the northwest of the Site. The ravine and stream, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022). The City of Caledon's zoning by-law identifies the on-Site ravine as an EPA zone. In the southern corner of the Site, there is an unevaluated wetland as well as observed woodlands on the west, south and east adjacent properties (MNR, 2022).

Shallow Soil Property or Water Body

The Site is not considered a shallow soil property as there is approximately 15 m of overburden soil in the area of the Site. A stream is present in the central area of the Site.

Imported Soil

No soil is known to have been imported to the Site.

6.8 Site Condition Standards

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 1 Full Depth Background Site Condition Standards (hereinafter referred to as the Table 1 SCS) for agricultural or other property use as presented in the MECF document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011. The applicable site condition standards were selected based on the following rationale:

- The Site is currently used for agricultural purposes. The proposed future land use is residential.
- Groundwater in the vicinity of the Site is used for potable purposes. Based on a due diligence geotechnical and hydrogeological assessment carried out at the adjacent golf course, groundwater ranged in depth from 0.9 m to 5.5 m below ground surface (m bgs). The depth to the water table at the Site is anticipated to be similar to that at the adjacent golf course.
- Based on visual observations made during the field program, the predominant soil type was sandy silt which is inferred to be fine-textured. A grain size determination completed as part of this Phase Two ESA investigation on native soil at TP23-6 indicated the soil to be fine-textured. Additionally, grain size analyses carried out as part of the 2023 Geotechnical and Hydrogeological Report indicated soil at the site to be fine to medium textured. Medium and fine textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 per cent or more by mass of particles that are smaller than 75 micrometres in mean diameter”.
- An unevaluated wetland was identified in the southern corner of the Site, and ponds were identified northwest of the Site on Mayfield Golf Course based on a review of Ontario Base Mapping. Based on this, these unevaluated wetlands and ponds were considered an area of potential natural significance. The ravine and stream in the centre of the Site, as well as an approximate 160 m radius around the stream, are considered part of the Natural Heritage System (MNR, 2022).
- The City of Caledon’s zoning by-law for the Site consists as agricultural for the fields and an Environmental Policy Area (EPA) zone for the ravine in the centre of the Site. As the Site is within an area of natural significance and/or adjacent to one, the Phase Two Property would meet the conditions of an environmentally sensitive site, as described in Section 41. As a result, and to provide a degree of conservatism, the Table 1 SCS were selected as applicable to the entire Site.
- The pH of soil at the Site is greater than 5 and less than 9.
- No bedrock was encountered during the investigation. Based on water well records for the area of the Site, shale bedrock is approximately 15 m bgs in the area.

6.9 Contaminated Media

Based on the findings of this Phase Two ESA, no contaminated media (i.e. soil) was identified. As stated above, groundwater and sediment were not identified as a media of concern in association with the identified APEC, so no groundwater or sediment sampling was carried out as part of this Phase Two ESA.

6.10 Contaminants Exceeding Applicable Standards at the Site

As noted above, no elevated concentrations were observed with respect to the applicable Table 1 SCS for the Site.

6.11 Description of Areas of Contamination on the Property

Based on the findings of this Phase Two ESA, no contaminated areas (i.e. soil) were identified.

6.12 Potential Influence of Utilities on Contaminant Migration

There are no subsurface structures or buried utilities at the Site. Given the conditions encountered during test pitting and the lab results, as well as the absence of utilities, migration of contaminants at the Site is not considered applicable.

6.13 Contaminant Migration

As stated above, the findings of this Phase Two ESA identified no contaminated media (i.e. soil) on Site. Based on this, no contamination migration is anticipated to occur on Site.

6.14 Meteorological and Climatic Considerations

As no exceedances were identified in soil, meteorological and climatic conditions are not anticipated to have included contaminants at the site.

6.15 Potential Exposure Pathways and Receptors

As stated above, the findings of this Phase Two ESA identified no contaminated media (i.e. soil) on Site. Based on this, no exposure pathways or receptors for contaminated media are expected to be present on Site.

7.0 CONCLUSIONS

The Phase Two ESA investigated the APEC identified in the Phase One ESA conducted by GEMTEC.

Based on the results of the soil samples submitted as part of this Phase Two ESA, no exceedances of the applicable site conditions standard were identified. Based on these findings, no further investigation is considered necessary.

8.0 REFERENCES

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 Natural Resources and Forestry (MNR). Make a Map: Natural Heritage Areas. Accessed June 2023.

Ontario Regulation 153/04: Records of Site Condition

Phase One Environmental Site Assessment Mayfield Golf Course Redevelopment Site – Southern Parcel, Caledon, Ontario”, dated June 8, 2023, prepared by GEMTEC for Mayfield Golf Course Inc.

9.0 LIMITATION OF LIABILITY

This report was prepared for the exclusive use of Mayfield Golf Course Inc. (Mayfield). This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Mayfield. 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

The undersigned Qualified Person confirms that he/she was responsible for conducting and/or supervising this Phase Two ESA and the associated findings and conclusions.

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.

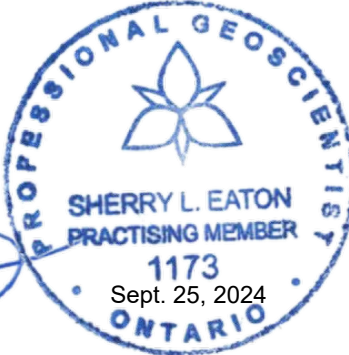
Regards,

GEMTEC Consulting Engineers and Scientists Limited

CJ Moorhouse

Curtis Moorhouse, B.Sc.
Environmental Scientist

S. Eaton

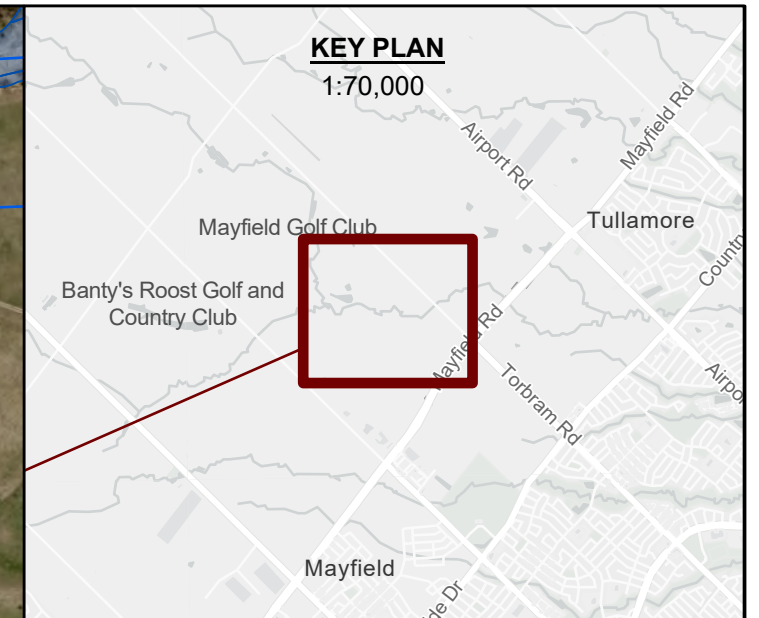


Sherry Eaton, M.Sc., P.Geo., PMP, QP_{ESA}
Senior Environmental Consultant



APPENDIX A

Figures and Tables

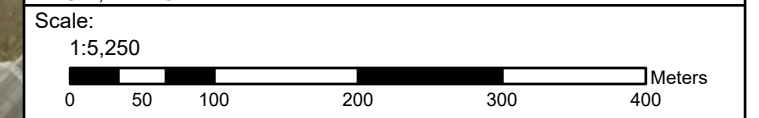


Legend

- WATERCOURSE
- WETLAND
- WATERBODY
- SUBJECT SITE
- 250 METERS SURROUNDING SITE BOUNDARY

NOTES:

- Coordinate system: NAD83/ UTM zone 17N.
- Geographic dataset source: Ontario GeoHub.
- Contains information licensed under the Open Government Licence – Ontario.
- Service Layer Credits: World Imagery: Peel Region, Maxar
Light Grey Canvas Background: Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, NRCan, Parks Canada



Drawing SITE LOCATION

Client: MAYFIELD GOLF COURSE INC.

Project
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS,
CALEDON, ONTARIO

| | |
|------------------------|-------------------|
| Drwn By: C.R. | Chkd By: C.M. |
| Project No. 101987.001 | Revision No. 0 |
| Date APRIL 2024 | FIGURE A.1 |

GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

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Mississauga, ON L5N 5M4
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graeme.skinner@gemtec.ca



Legend

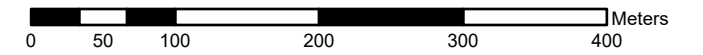
- WATERCOURSE
- WETLAND
- WATERBODY
- BOUNDARYSITE_250BUFFER
- SUBJECT SITE

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Service Layer Credits: World Imagery: Peel Region, Maxar

Scale:

1:5,250



Drawing **PHASE TWO PROPERTY AND PHASE TWO STUDY AREA**

Client: **MAYFIELD GOLF COURSE INC.**

Project **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS,
CALEDON, ONTARIO**

| | |
|----------------------|----------------------|
| Drwn By: C.R. | Chkd By: C.M. |
|----------------------|----------------------|

| | |
|-------------------------------|-----------------------|
| Project No. 101987.001 | Revision No. 0 |
|-------------------------------|-----------------------|

| | |
|------------------------|-------------------|
| Date APRIL 2024 | FIGURE A.2 |
|------------------------|-------------------|

| | |
|--|---|
| <p>GEMTEC CONSULTING ENGINEERS AND SCIENTISTS</p> | <p>6695 Millcreek DR #7, Mississauga, ON L5N 5M4 T: (416) 347-7427 www.gemtec.ca graeme.skinner@gemtec.ca</p> |
|--|---|



Legend

- WATERCOURSE
- WETLAND
- WATERBODY
- 250 METERS SURROUNDING SITE BOUNDARY
- SUBJECT SITE

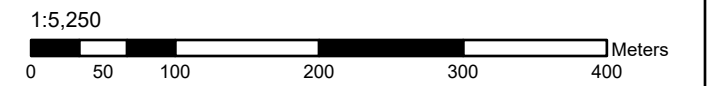
PCA NOTES:

1: #40 Pesticides (including Herbicides, Fungicides and anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications - Site has historically been used for agricultural purposes.

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Service Layer Credits: World Imagery: Peel Region, Maxar

Scale:



Drawing
POTENTIALLY CONTAMINATING ACTIVITIES

Client: **MAYFIELD GOLF COURSE INC.**

Project: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS,
CALEDON, ONTARIO**

| | |
|----------------------|----------------------|
| Drwn By: C.R. | Chkd By: C.M. |
|----------------------|----------------------|

| | |
|-------------------------------|-----------------------|
| Project No. 101987.001 | Revision No. 0 |
|-------------------------------|-----------------------|

| | |
|------------------------|-------------------|
| Date APRIL 2024 | FIGURE A.3 |
|------------------------|-------------------|

| | |
|--|---|
| <p>GEMTEC CONSULTING ENGINEERS AND SCIENTISTS</p> | <p>6695 Millcreek DR #7, Mississauga, ON L5N 5M4 T: (416) 347-7427 www.gemtec.ca graeme.skinner@gemtec.ca</p> |
|--|---|



Legend

- WATERBODY
- WATERCOURSE
- SUBJECT SITE
- APEC 1

APEC NOTES:

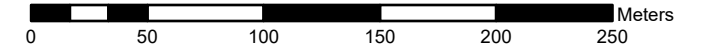
1: Site has historically been used for agricultural purposes.

NOTES:

1. Coordinate system: NAD83/ UTM zone 17N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Service Layer Credits: World Imagery: Peel Region, Maxar, Microsoft

Scale:

1:3,250



Drawing
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

Client:
MAYFIELD GOLF COURSE INC.

Project
**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS,
CALEDON, ONTARIO**

| | |
|-------------------------------|-----------------------|
| Drwn By: C.R. | Chkd By: C.M. |
| Project No. 101987.001 | Revision No. 0 |

| | |
|------------------------|-------------------|
| Date APRIL 2024 | FIGURE A.4 |
|------------------------|-------------------|

| | |
|--|---|
| <p>GEMTEC CONSULTING ENGINEERS AND SCIENTISTS</p> | <p>6695 Millcreek DR #7, Mississauga, ON L5N 5M4 T: (416) 347-7427 www.gemtec.ca graeme.skinner@gemtec.ca</p> |
|--|---|

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LEGEND

- Test Pit
- WaterBody
- Watercourse
- APEC 1
- SUBJECT SITE

APEC NOTES:

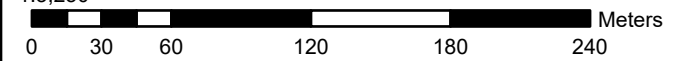
1: Site has historically been used for agricultural purposes.

NOTES:

1. Coordinate system: NAD83/ UTM zone 1#N.
2. Geographic dataset source: Ontario GeoHub.
3. Contains information licensed under the Open Government Licence – Ontario.
4. Service Layer Credits: World Imagery: Peel Region, Maxar, Microsoft

Scale:

1:3,250



Drawing

TEST PIT LOCATIONS

Client:

MAYFIELD GOLF COURSE INC.

Project

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS,
CALEDON, ONTARIO

Drwn By:

C.R.

Chkd By:

C.M.

Project No.

101987.001

Revision No.

0

Date

APRIL 2024

FIGURE A.5



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AND SCIENTISTS

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ottawa@gemtec.ca

N:\Projects\1019001\101987.001\Drafting\1. Drawings\ESA.TWO



LEGEND

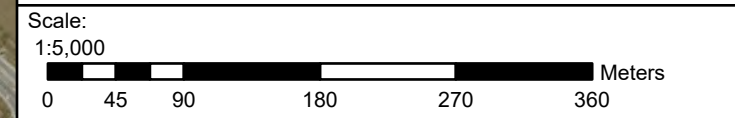
- Test Pit Meets Table 1 Standards
- WaterBody
- Watercourse
- SUBJECT SITE

SAMPLE NOTES:

- Samples were compared to the Table 1 Full Depth Background Site Condition Standards (SCS) for Agricultural or Other Property Use.
- Metals - metals parameters as per O.Reg. 153/04 including hydride forming metals (antimony, arsenic, selenium)
- OCP – Organochlorine Pesticides

MAP NOTES:

- Coordinate system: NAD83/ UTM zone 17N.
- Geographic dataset source: Ontario GeoHub.
- Contains information licensed under the Open Government Licence – Ontario.
- Service Layer Credits: World Imagery: Peel Region, Maxar



| | | | |
|-------------|------------|--|------|
| Drawing | | SOIL ANALYTICAL RESULTS - METALS, OCP & PH | |
| Client: | | MAYFIELD GOLF COURSE INC. | |
| Project | | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT MAYFIELD GOLF COURSE REDEVELOPMENT SITE - SOUTH LANDS, CALEDON, ONTARIO | |
| Drwn By: | C.R. | Chkd By: | C.M. |
| Project No. | 101987.001 | Revision No. | 0 |
| Date | APRIL 2024 | FIGURE A.6 | |

GEMTEC
CONSULTING ENGINEERS AND SCIENTISTS

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

Sample ID: TP23-1 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-2 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-4 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

DUP 1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-3 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-7 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-5 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-9 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-6 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-12 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-8 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-13 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-10 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-14 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

DUP 2
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

Sample ID: TP23-11 SA1
Date Sampled (mm/dd/yyyy): 12/01/2023
Sample Depth (mbgs): 0.00 - 0.15
Parameters Sampled: Metals, OCP, pH

TABLE A.1
SUMMARY OF SOIL SAMPLES SUBMITTED FOR ANALYSIS
Mayfield Golf Course Redevelopment - South Lands, Caledon, Ontario

| Location ID | Sample ID | Date | Sample Depth (mbgs) | Headspace Screening Result (HEX, ppm) | Soil Description | Analyses Completed |
|-------------|-------------|-----------|---------------------|---------------------------------------|---|--------------------|
| TP23-1 | TP23-1 SA1 | 01-Dec-23 | 0.00 - 0.15 | 35 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-2 | TP23-2 SA1 | 01-Dec-23 | 0.00 - 0.15 | 30 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-3 | TP23-3 SA1 | 01-Dec-23 | 0.00 - 0.15 | 25 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-4 | TP23-4 SA1 | 01-Dec-23 | 0.00 - 0.15 | 35 | Sandy silt, some organics | Metals, OCP, pH |
| | DUP 1 | 01-Dec-23 | 0.00 - 0.15 | - | Sandy silt, some organics | Metals, OCP, pH |
| TP23-5 | TP23-5 SA1 | 01-Dec-23 | 0.00 - 0.15 | 40 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-6 | TP23-6 SA1 | 01-Dec-23 | 0.00 - 0.15 | 40 | Sandy silt, some organics, trace gravel | Metals, OCP, pH |
| TP23-7 | TP23-7 SA1 | 01-Dec-23 | 0.00 - 0.15 | 25 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-8 | TP23-8 SA1 | 01-Dec-23 | 0.00 - 0.15 | 35 | Sandy silt, some organics, trace gravel | Metals, OCP, pH |
| TP23-9 | TP23-9 SA1 | 01-Dec-23 | 0.00 - 0.15 | 50 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-10 | TP23-10 SA1 | 01-Dec-23 | 0.00 - 0.15 | 45 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-11 | TP23-11 SA1 | 01-Dec-23 | 0.00 - 0.15 | 40 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-12 | TP23-12 SA1 | 01-Dec-23 | 0.00 - 0.15 | 40 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-13 | TP23-13 SA1 | 01-Dec-23 | 0.00 - 0.15 | 50 | Sandy silt, some organics | Metals, OCP, pH |
| TP23-14 | TP23-14 SA1 | 01-Dec-23 | 0.00 - 0.15 | 35 | Sandy silt, some organics | Metals, OCP, pH |
| | DUP 2 | 01-Dec-23 | 0.00 - 0.15 | - | Sandy silt, some organics | Metals, OCP, pH |

Notes:

- m bgs = metres below ground surface
- OCP = organochlorine pesticides
- metals = O.Reg. 153/04 metals and hydride forming metals
- ppm = parts per million

**Table A.2: Summary of Soil Analytical Results
Metals/Hydrate-Forming Metals, ORPs, and OCPs
Mayfield Golf Course - South Lands, Caledon, Ontario**

| Contaminants of Concern | MECP Table 1 Agri or Other Property Use | MDL | Laboratory | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT | AGAT |
|---|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-------------|-------------|-------------------------------------|
| | | | Sample ID | TP23-1 SA1 | TP23-2 SA1 | TP23-3 SA1 | TP23-4 SA1 | Dup-1 (Duplicate of TP23-4 SA1) | TP23-5 SA1 | TP23-6 SA1 | TP23-7 SA1 | TP23-8 SA1 | TP23-9 SA1 | TP23-10 SA1 | TP23-11 SA1 | TP23-12 SA1 | TP23-13 SA1 | TP23-14 SA1 | Dup-2 (Duplicate of TP23-14 SA1) |
| Sample Depth Lab ID | 0.0-0.15 m bgs 5511166 | 0.0-0.15 m bgs 5511167 | 0.0-0.15 m bgs 5511168 | 0.0-0.15 m bgs 5511169 | 0.0-0.15 m bgs 5511180 | 0.0-0.15 m bgs 5511170 | 0.0-0.15 m bgs 5511171 | 0.0-0.15 m bgs 5511172 | 0.0-0.15 m bgs 5511173 | 0.0-0.15 m bgs 5511174 | 0.0-0.15 m bgs 5511175 | 0.0-0.15 m bgs 5511176 | 0.0-0.15 m bgs 5511177 | 0.0-0.15 m bgs 5511178 | 0.0-0.15 m bgs 5511179 | 0.0-0.15 m bgs 5511181 | | | |
| Sampling Date | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | 12/01/2023 | | | |
| Units | | | | | | | | | | | | | | | | | | | |
| Metals and Hydrate-Forming Metals - Soil | | | | | | | | | | | | | | | | | | | |
| Antimony | 1 | 0.8 | µg/g | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 |
| Arsenic | 11 | 1 | µg/g | 4 | 5 | 3 | 5 | 4 | 4 | 3 | 4 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| Barium | 210 | 2.0 | µg/g | 101 | 86.2 | 82.7 | 84 | 84.9 | 86.6 | 79.9 | 72 | 63.2 | 91.8 | 81.9 | 55.2 | 82.5 | 83 | 101 | 104 |
| Beryllium | 2.5 | 0.5 | µg/g | 1 | 0.9 | 0.7 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 1 | 0.9 | 0.6 | 0.9 | 0.9 | 1 | 1 |
| Boron | 36 | 5 | µg/g | 10 | 10 | <5 | 8 | 9 | 8 | 8 | 8 | 7 | 10 | 9 | <5 | 7 | 10 | 10 | 11 |
| Cadmium | 1 | 0.5 | µg/g | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chromium | 67 | 5 | µg/g | 30 | 26 | 24 | 26 | 27 | 25 | 26 | 27 | 29 | 24 | 18 | 26 | 29 | 29 | 31 | 31 |
| Cobalt | 19 | 0.8 | µg/g | 11.6 | 11.6 | 8.2 | 11.1 | 11.3 | 8.5 | 9.3 | 9.7 | 7.4 | 9.6 | 8.6 | 6.8 | 8.4 | 8.4 | 9.7 | 10.1 |
| Copper | 62 | 1.0 | µg/g | 17 | 20.9 | 14.6 | 17 | 16.8 | 16.3 | 18 | 18.9 | 16.8 | 19.2 | 19.1 | 14.7 | 15 | 22.2 | 16.4 | 17.4 |
| Lead | 45 | 1 | µg/g | 17 | 17 | 14 | 16 | 17 | 15 | 14 | 14 | 12 | 14 | 14 | 14 | 15 | 14 | 15 | 16 |
| Molybdenum | 2 | 0.5 | µg/g | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Nickel | 37 | 1 | µg/g | 24 | 23 | 18 | 22 | 22 | 20 | 20 | 20 | 17 | 21 | 20 | 15 | 19 | 21 | 21 | 22 |
| Selenium | 1.2 | 0.8 | µg/g | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 |
| Silver | 0.5 | 0.5 | µg/g | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Thallium | 1 | 0.5 | µg/g | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Uranium | 1.9 | 0.50 | µg/g | 0.71 | 0.65 | 0.63 | 0.63 | 0.62 | 0.71 | 0.59 | 0.64 | <0.50 | 0.78 | 0.76 | 0.58 | 0.66 | 0.98 | 0.87 | 0.9 |
| Vanadium | 86 | 2.0 | µg/g | 43.8 | 38.2 | 33 | 39.8 | 40.5 | 39.5 | 34.5 | 37.4 | 32.8 | 43.8 | 38.8 | 27.1 | 38.3 | 35.8 | 42.7 | 46 |
| Zinc | 290 | 5 | µg/g | 81 | 95 | 72 | 87 | 85 | 81 | 77 | 72 | 56 | 93 | 83 | 53 | 77 | 86 | 80 | 82 |
| Other Regulated Parameters - Soil | | | | | | | | | | | | | | | | | | | |
| pH @25°C | Surface Soil: 5-9 Subsurface Soil: 5-11 | NS | pH Units | 6.87 | 6.98 | 6.87 | 6.64 | 6.67 | 6.56 | 7.09 | 6.53 | 6.84 | 7.42 | 7.01 | 7 | 6.78 | 6.71 | 6.82 | 6.6 |
| Organochlorine Pesticides - Soil | | | | | | | | | | | | | | | | | | | |
| Aldrin | 0.05 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| A-Chlordane | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| G-Chlordane | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Chlordane | 0.05 | 0.007 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| op-DDD | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp-DDD | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total DDD | 0.05 | 0.007 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| o,p-DDE | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp-DDE | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total DDE | 0.05 | 0.007 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| op-DDT | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp-DDT | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total DDT | 0.078 | 0.007 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Dieldrin | 0.05 | 0.005 | µg/g | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 |
| Heptachlor | 0.05 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Heptachlor Epoxide | 0.05 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Hexachlorobenzene | 0.01 | 0.005 | µg/g | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 |
| Hexachlorobutadiene | 0.01 | 0.01 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Hexachlorocyclohexane Gamma | 0.01 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Hexachloroethane | 0.01 | 0.005 | µg/g | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 | <0.007 |
| Endosulfan I | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Endosulfan II | NS | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Endosulfan | 0.04 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Endrin | 0.04 | 0.005 | µg/g | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Methoxychlor | 0.05 | 0.005 | µg/g | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |

Notes:
 MDL - Method Detection Limit or Reporting Limit
 'mbgs' - Metres Below Ground Surface
 'NS' - No Standard
 'NA' - Not Analyzed
 '<' - Non-Detect Sample
 MECP Table 1 SCS: Soil, Ground Water and Sediment
 Standards for Use Under Part XV.1 of the Environmental
 Protection Act, Table 1: Full Depth Background Site
 Condition Standards, Agriculture or Other Property Use with
 Coarse and Fine textured soils (MECP, 2011).
Yellow Highlight - Exceeds MECP Table 1 SCS



APPENDIX B

Sampling and Analysis Plan

November 29, 2023

File: 101987.001

Attention: Field Staff

Re: Sampling and Analysis Plan
Mayfield Golf Course Redevelopment Site – South Lands, Caledon, Ontario

OBJECTIVE

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Mayfield Golf Course Inc. to carry out a Phase Two Environmental Site Assessment (ESA) of the property referred to as the “South Lands” located south of the Mayfield Golf Course in Caledon, Ontario. The South Lands does not have a civic address of its own and it is located directly south of the golf course located at 12580 and 12552 Torbram Road in Caledon, Ontario. It is understood that the Phase Two ESA is required in support of the proposed residential development of the South Lands as part of the proposed redevelopment of the golf course.

The intent of the current investigation is to examine for potential soil impacts at the Site in association with the areas of potential environmental concern (APECs) identified via the recent Phase One ESA.

BACKGROUND

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 Mayfield Golf Course Redevelopment Site – Southern Parcel , Caledon, Ontario*”, dated June 8, 2023. Based on the findings of the Phase One ESA, GEMTEC has prepared this SAP. The Phase One ESA identified one APEC, as outlined below.

| Area of Potential Environmental Concern | Location of APECs on Phase One Property | Potentially Contaminating Activity | Location of PCA (on-Site or off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, soil and/or Sediment) |
|---|---|---|---------------------------------------|-----------------------------------|--|
| APEC 1 – Site has historically been used for agricultural purposes. | On the north and south fields | #40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications | On-Site | Metals, OCP | Soil |

Notes:

Metals - metals parameters as per O.Reg. 153/04 including hydride forming metals (antimony, arsenic, selenium)
OCP – Organochlorine Pesticides

GENERAL REQUIREMENTS

- Follow standard operating procedures. All work is to be completed assuming a Record of Site Condition will be required;
- Complete a Daily Log for every day of field work. Use standard field forms;
- Pick up ice before sampling and keep samples on ice;
- Clean disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination;
- All non-dedicated sampling equipment (e.g., shovel) will be decontaminated between sampling locations. Sampling equipment in contact with soil, groundwater, or sediment will be cleaned with a brush; washed with a laboratory-grade detergent solution (e.g., phosphate-free AlcoNox) and thoroughly rinsed with analyte-free water.
- Please let the Project manager know if the schedule is going off-track.

TEST PIT SAMPLING

- Using a shovel, dig a shallow test pit to a depth of 0.15 m (6 inches) below ground surface (bgs) at each of the locations shown on the attached figure.
- Collect a sample representative of the soil from ground surface to 0.15 m bgs. Split the sample into two components – one for field screening and one for submission to the lab.
- Screen soil samples for field evidence of potential impact, including odour, visible staining, and debris.
- Select soil samples from the test pits will be submitted for laboratory chemical analysis based on a 5 to 7 day turn around time. The number of samples to be submitted is summarized in the table below. Based on observations and field screening completed during the investigation, additional samples may be recommended for laboratory testing.
- Testing locations will be documented using GPS methods.
- Record soil stratigraphy and observations on soil type, presence/absence of debris and passive odour on “Field Log Test Pit”.
- Collect samples using a decontaminated shovel/clean gloved hand and make notes of visual characterization (soil type, odour, staining);
- The table below provides a summary of the sampling and analytical program. Submit samples to AGAT Laboratory following the chain of custody procedures provided below.

| Test Pit Sample ID | Rationale | Sample depth (metres) | Soil Analysis for samples submitted | Duplicate Soil Samples |
|--------------------|---|-----------------------|---|---|
| TP23-1 | | 0.0 to 0.15 | | |
| TP23-2 | | 0.0 to 0.15 | | |
| TP23-3 | | 0.0 to 0.15 | | |
| TP23-4 | | 0.0 to 0.15 | | |
| TP23-5 | | 0.0 to 0.15 | Submit 1 sample from each test pit (14 total) for Metals, OCPs and pH *Submit 1 of the 14 samples additionally for grain size analysis | 2 duplicates for Metals, OCPs and pH (any location) |
| TP23-6 | | 0.0 to 0.15 | | |
| TP23-7 | APEC 1 – Site has historically been used for agricultural purposes. | 0.0 to 0.15 | | |
| TP23-8 | | 0.0 to 0.15 | | |
| TP23-9 | | 0.0 to 0.15 | | |
| TP23-10 | | 0.0 to 0.15 | | |
| TP23-11 | | 0.0 to 0.15 | | |
| TP23-12 | | 0.0 to 0.15 | | |
| TP23-13 | | 0.0 to 0.15 | | |
| TP23-14 | | 0.0 to 0.15 | | |

CHAIN-OF-CUSTODY

- Prior to any sample submission to the laboratory, please send a copy/ picture of the chain-of-custody to Curtis and Sherry for review.
- Relevant project and invoice details for the chain-of-custody are noted in Table below.

| Chain-of-Custody Item | Information |
|--|--|
| Analytical Laboratory | AGAT Laboratories, 5835 Coopers Ave, Mississauga, ON L4Z 1Y2 |
| Generic Site Condition Standards | MECP, Table 1, Agric/Other |
| Use Record of Site Condition analytical procedures | yes |

| Chain-of-Custody Item | Information |
|-----------------------|---|
| Turn-around Time | Regular (5-7 days) |
| Reporting Contact | sherry.eaton@gemtec.ca/ curtis.moorhouse@gemtec.ca |

MANAGEMENT OF INVESTIGATION DERIVED WASTE

- Waste soil to be discharged to the ground surface on-Site (reuse to fill in test pits after sampling).

SPECIAL INSTRUCTIONS

- Please prepare a field log for all the test pits.
- At the end of the field program, scan all project related notes and place in job folder as soon as possible. Scan field notes at resolution and contrast settings that ensure the scanned documents are easily legible.
 - Save field notes (including daily logs, field forms, field logs, calibration records, and chain of custody documents)
 - Sort pages in the .pdf document by form type and in chronological order with daily logs at the front to simplify review.
 - Send the field note package to Curtis and Sherry for review and comment.



APPENDIX C

Record of Test Pits
Grain Size Curves

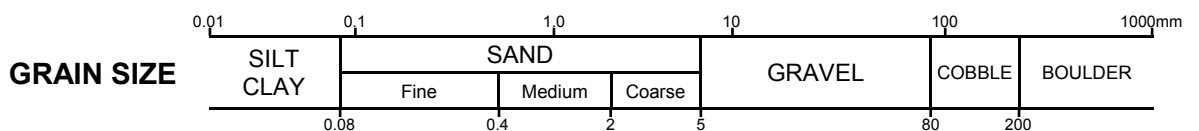
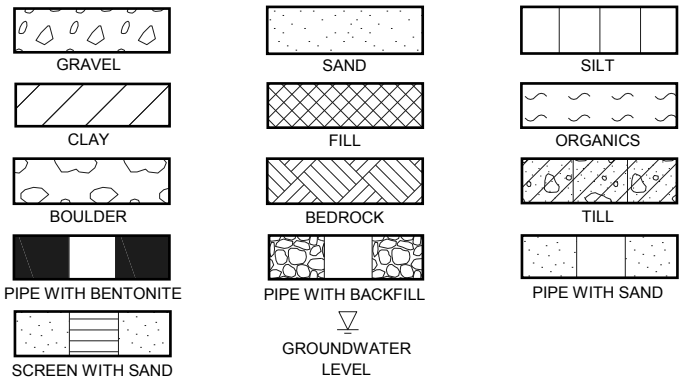
ABBREVIATIONS AND TERMINOLOGY USED ON RECORDS OF BOREHOLES AND TEST PITS

| SAMPLE TYPES | |
|--------------|--------------------------------|
| AS | Auger sample |
| CA | Casing sample |
| CS | Chunk sample |
| BS | Borros piston sample |
| GS | Grab sample |
| MS | Manual sample |
| RC | Rock core |
| SS | Split spoon sampler |
| ST | Slotted tube |
| TO | Thin-walled open shelby tube |
| TP | Thin-walled piston shelby tube |
| WS | Wash sample |

| SOIL TESTS | |
|------------|--|
| w | Water content |
| PL, w_p | Plastic limit |
| LL, w_L | Liquid limit |
| C | Consolidation (oedometer) test |
| D_R | Relative density |
| DS | Direct shear test |
| G_s | Specific gravity |
| M | Sieve analysis for particle size |
| MH | Combined sieve and hydrometer (H) analysis |
| MPC | Modified Proctor compaction test |
| SPC | Standard Proctor compaction test |
| OC | Organic content test |
| UC | Unconfined compression test |
| γ | Unit weight |

| PENETRATION RESISTANCE | |
|---|--|
| <p>Standard Penetration Resistance, N The number of blows by a 63.5 kg (140 lb) hammer dropped 760 millimetres (30 in.) required to drive a 50 mm split spoon sampler for a distance of 300 mm (12 in.). For split spoon samples where less than 300 mm of penetration was achieved, the number of blows is reported over the sampler penetration in mm.</p> | |
| <p>Dynamic Penetration Resistance The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive a 50 mm (2 in.) diameter 60° cone attached to 'A' size drill rods for a distance of 300 mm (12 in.).</p> | |
| WH | Sampler advanced by static weight of hammer and drill rods |
| WR | Sampler advanced by static weight of drill rods |
| PH | Sampler advanced by hydraulic pressure from drill rig |
| PM | Sampler advanced by manual pressure |

| COHESIONLESS SOIL Compactness | | COHESIVE SOIL Consistency | |
|----------------------------------|-------------|------------------------------|-------------|
| SPT N-Values | Description | C_u , kPa | Description |
| 0-4 | Very Loose | 0-12 | Very Soft |
| 4-10 | Loose | 12-25 | Soft |
| 10-30 | Compact | 25-50 | Firm |
| 30-50 | Dense | 50-100 | Stiff |
| >50 | Very Dense | 100-200 | Very Stiff |
| | | >200 | Hard |



DESCRIPTIVE TERMINOLOGY

(Based on the CANFEM 4th Edition)

| TRACE | SOME | ADJECTIVE | noun > 35% and main fraction |
|-----------------|-------------------|-------------|------------------------------|
| trace clay, etc | some gravel, etc. | silty, etc. | sand and gravel, etc. |

**Record of Test Pits
Phase Two ESA, Mayfield Golf Course Redevelopment
South Lands, Ontario**

| TEST PIT ID | DEPTHS (mbgs) | SAMPLE DATE | SOIL DESCRIPTION | SAMPLE DEPTH (mbgs) | SAMPLE ID | Headspace Readings (ppm) (combustible vapours) | Parameters Analysed |
|-------------|---------------|-------------|---|---------------------|-------------|--|------------------------------|
| TP23-1 | 0.0 - 0.15 | 2023/12/01 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-1 SA1 | 35 | Metals, OCPs, pH |
| TP23-2 | 0.0 - 0.15 | 2023/12/01 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-2 SA1 | 30 | Metals, OCPs, pH |
| TP23-3 | 0.0 - 0.15 | 2023/12/01 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-3 SA1 | 25 | Metals, OCPs, pH |
| TP23-4 | 0.0 - 0.15 | 2023/12/01 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-4 SA1 | 35 | Metals, OCPs, pH |
| | | | | 0.0 - 0.15 | DUP 1 | | |
| TP23-5 | 0.0 - 0.15 | 2023/12/01 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-5 SA1 | 40 | Metals, OCPs, pH |
| TP23-6 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, trace gravel, brown, moist | 0.0 - 0.15 | TP23-6 SA1 | 40 | Metals, OCPs, pH, Grain Size |
| TP23-7 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-7 SA1 | 25 | Metals, OCPs, pH |
| TP23-8 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, trace gravel, brown, moist | 0.0 - 0.15 | TP23-8 SA1 | 35 | Metals, OCPs, pH |
| TP23-9 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-9 SA1 | 50 | Metals, OCPs, pH |
| TP23-10 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-10 SA1 | 45 | Metals, OCPs, pH |
| TP23-11 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-11 SA1 | 40 | Metals, OCPs, pH |
| TP23-12 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-12 SA1 | 40 | Metals, OCPs, pH |
| TP23-13 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-13 SA1 | 50 | Metals, OCPs, pH |
| TP23-14 | 0.0 - 0.15 | 12/1/2023 | SANDY SILT, some organics, brown, moist | 0.0 - 0.15 | TP23-14 SA1 | 35 | Metals, OCPs, pH |
| | | | | 0.0 - 0.15 | DUP 2 | | |

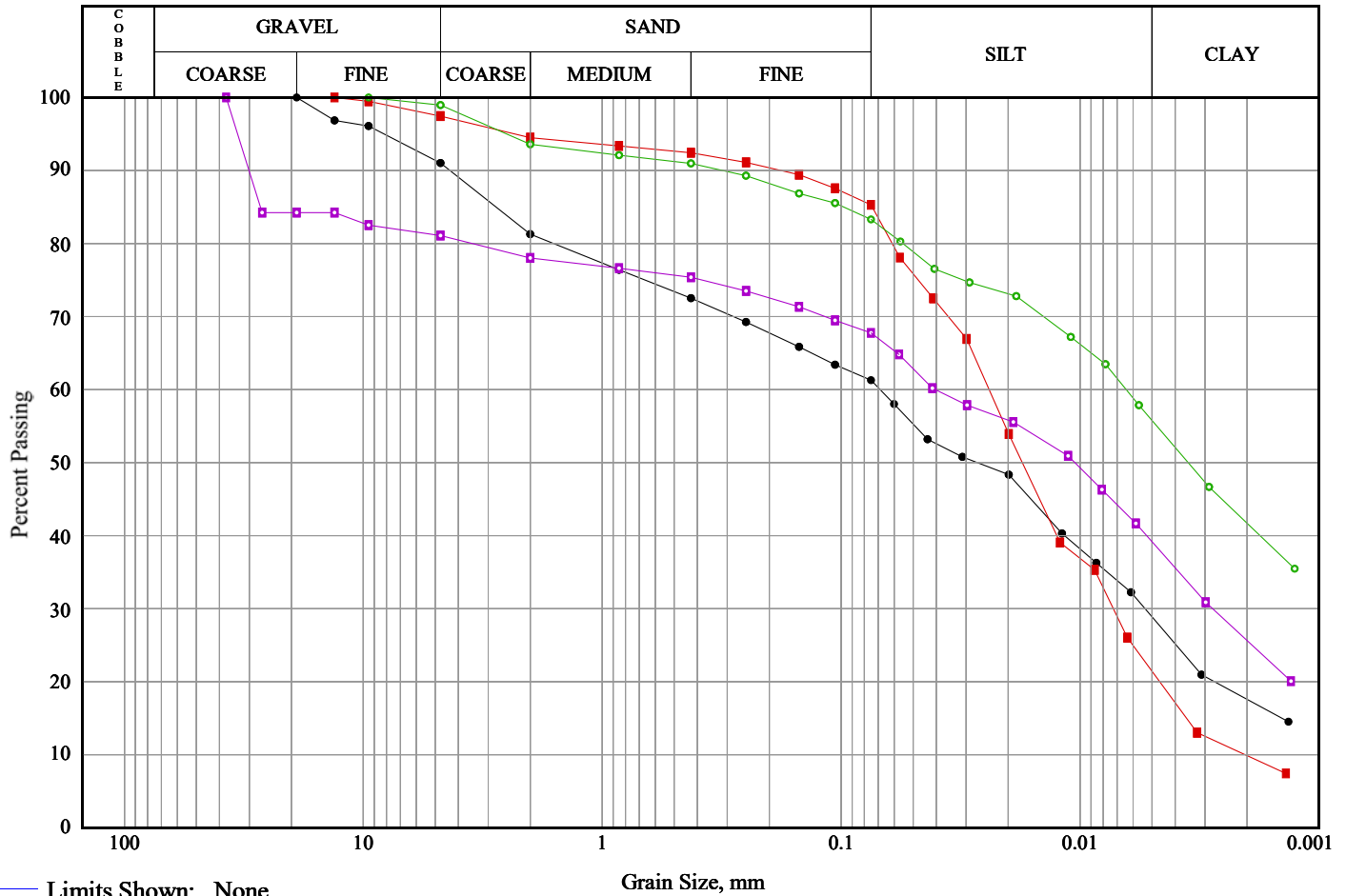
Project Number: 101987.001

Test Pit Locations: See Figure A.5

Metals: Metals including hydride-forming metals

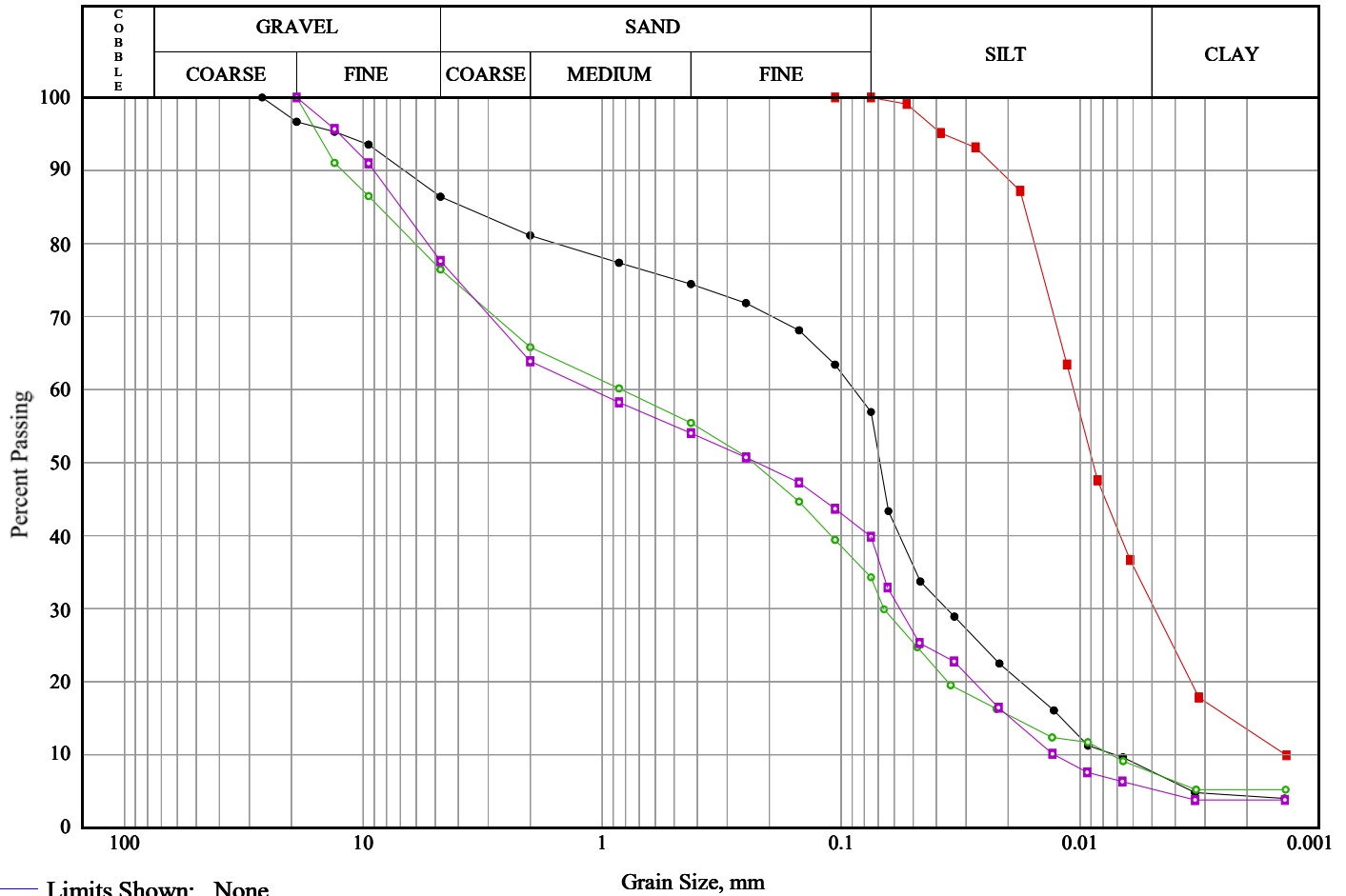
OCPs: Organochlorine Pesticides

ppm: parts per million



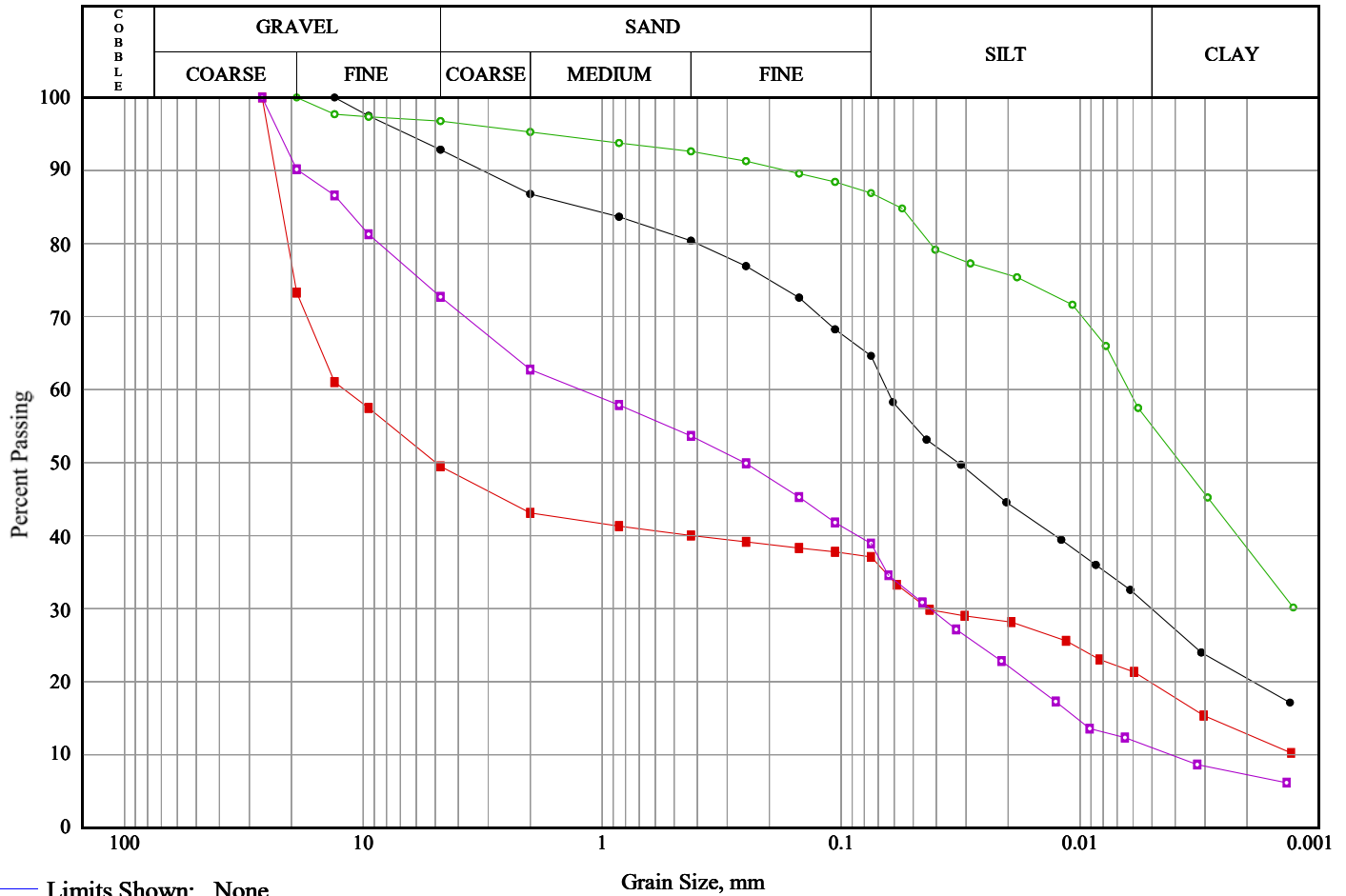
| Line Symbol | Sample | Borehole/ Test Pit | Sample Number | Depth | % Cob.+ Gravel | % Sand | % Silt | % Clay |
|-------------|--|--------------------|---------------|-----------|----------------|--------|--------|--------|
| —●— | (CL-ML) Sandy SILTY CLAY to CLAYEY SILT TILL | BH23-02 | SA-06 | 4.6-5.0 | 9.0 | 29.7 | 32.4 | 28.9 |
| —■— | (ML) Sandy SILT | BH23-02 | SA-10 | 10.7-10.8 | 2.5 | 12.2 | 63.9 | 21.4 |
| —○— | (CL) SILTY CLAY | BH23-05 | SA-08 | 7.6-8.1 | 1.0 | 15.7 | 27.5 | 55.8 |
| —□— | (CL) Gravelly sandy SILTY CLAY TILL | BH23-06D | SA-08 | 7.6-8.0 | 18.9 | 13.3 | 28.6 | 39.2 |

| Line Symbol | CanFEM Classification | USCS Symbol | D ₁₀ | D ₁₅ | D ₃₀ | D ₅₀ | D ₆₀ | D ₈₅ | % 5-75µm |
|-------------|--------------------------------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|
| —●— | Clayey sand and silt, trace gravel | N/A | --- | 0.00 | 0.01 | 0.03 | 0.07 | 2.78 | 32.4 |
| —■— | Clayey silt, some sand, trace gravel | N/A | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 | 0.07 | 63.9 |
| —○— | Silty clay, some sand, trace gravel | N/A | --- | --- | --- | 0.00 | 0.01 | 0.10 | 27.5 |
| —□— | Silty clay, some gravel, some sand | CL | --- | --- | 0.00 | 0.01 | 0.04 | 26.95 | 28.6 |



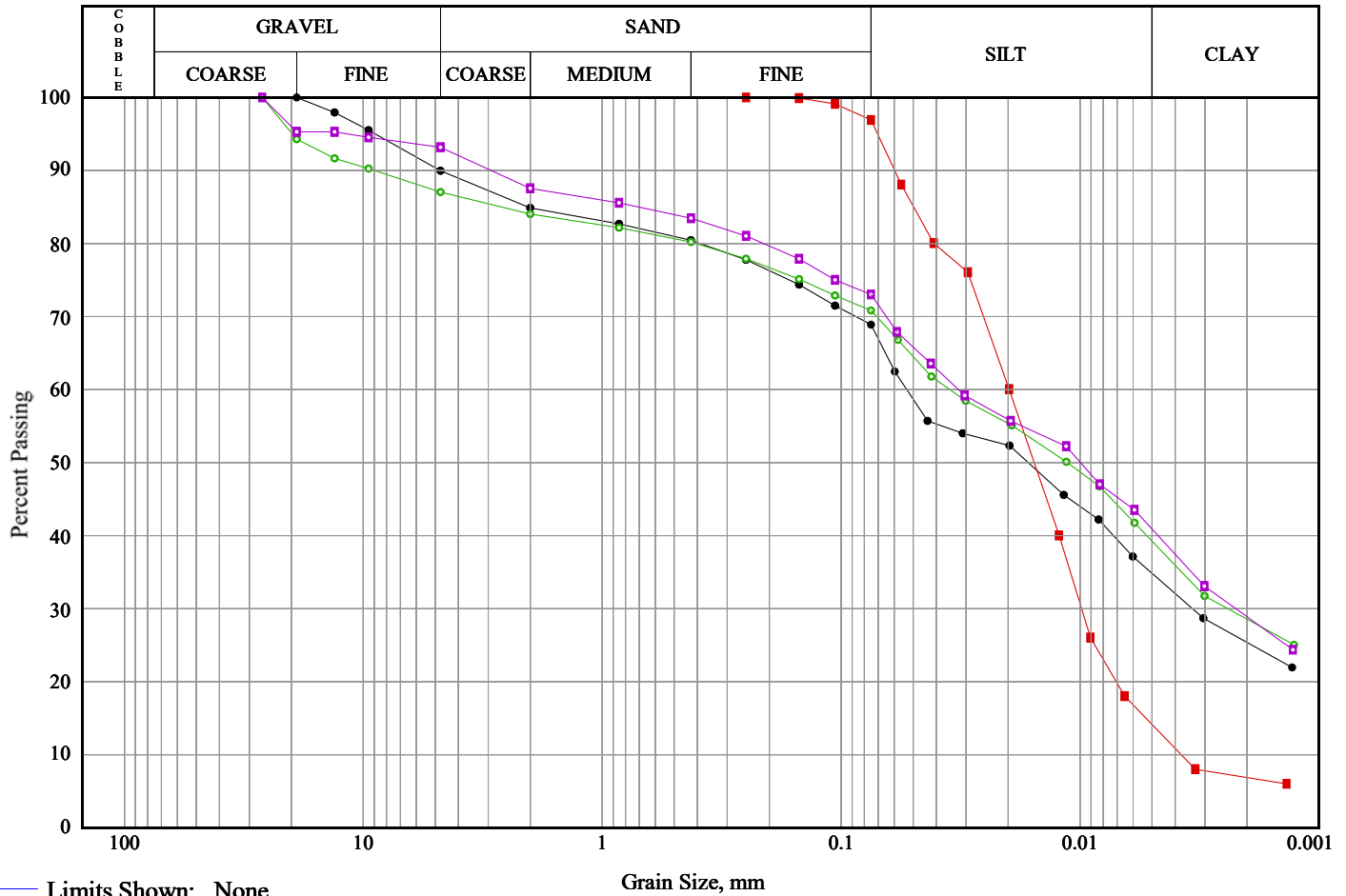
| Line Symbol | Sample | Borehole/ Test Pit | Sample Number | Depth | % Cob.+ Gravel | % Sand | % Silt | % Clay |
|-------------|--------------------------|-----------------------|---------------|-----------|-------------------|--------|--------|--------|
| —●— | (ML) Gravelly Sandy SILT | BH23-06D | SA-11 | 12.2-12.5 | 13.6 | 29.5 | 49.2 | 7.7 |
| —■— | (ML) SILT | BH23-10D | SA-08 | 7.6-8.1 | 0.0 | 0.0 | 69.3 | 30.7 |
| —○— | (SM) Gravelly SILTY SAND | BH23-12 | SA-04 | 2.3-2.6 | 23.6 | 42.2 | 26.7 | 7.6 |
| —□— | (SM) Gravelly SILTY SAND | BH23-12 | SA-07 | 6.1-6.2 | 22.4 | 37.8 | 34.6 | 5.3 |

| Line Symbol | CanFEM Classification | USCS Symbol | D ₁₀ | D ₁₅ | D ₃₀ | D ₅₀ | D ₆₀ | D ₈₅ | % 5-75µm |
|-------------|--------------------------------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|
| —●— | Sandy silt, some gravel , trace clay | N/A | 0.01 | 0.01 | 0.04 | 0.07 | 0.09 | 3.78 | 49.2 |
| —■— | Clayey silt, trace sand | N/A | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 69.3 |
| —○— | Gravelly silty sand, trace clay | N/A | 0.01 | 0.02 | 0.07 | 0.23 | 0.83 | 8.57 | 26.7 |
| —□— | Gravelly silty sand, trace clay | N/A | 0.01 | 0.02 | 0.06 | 0.23 | 1.11 | 6.97 | 34.6 |



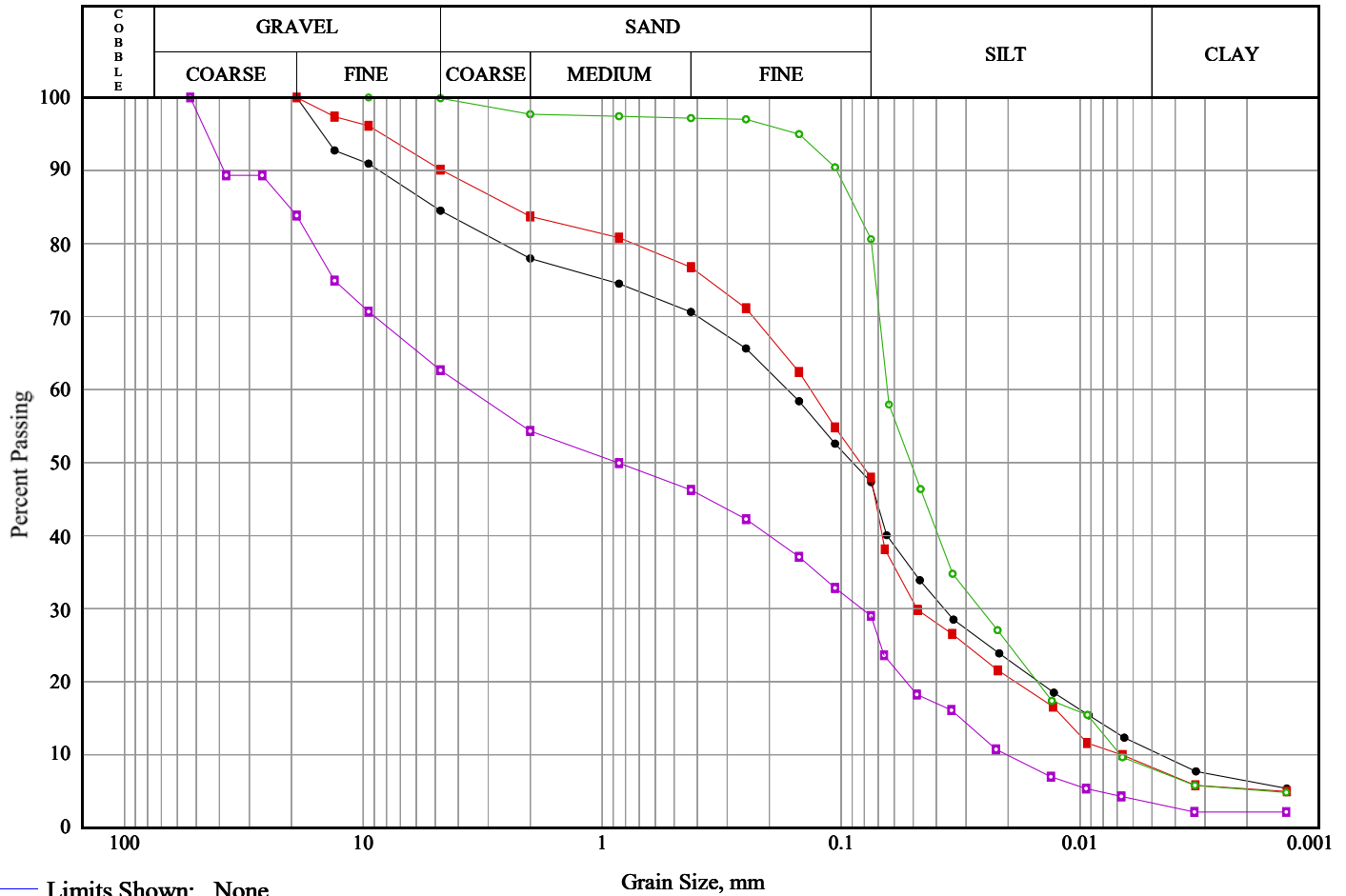
| Line Symbol | Sample | Borehole/ Test Pit | Sample Number | Depth | % Cob.+ Gravel | % Sand | % Silt | % Clay |
|-------------|--|-----------------------|---------------|-----------|-------------------|--------|--------|--------|
| —●— | (CL-ML) Sandy SILTY CLAY to CLAYEY SILT TILL | BH23-17D/S | SA-07 | 6.1-6.6 | 7.2 | 28.2 | 34.7 | 30.0 |
| —■— | (GM/GP) Sandy SILTY GRAVEL TILL | BH23-17D/S | SA-11 | 12.2-12.4 | 50.5 | 12.4 | 17.3 | 19.8 |
| —○— | (CL) SILTY CLAY | BH23-19 | SA-07 | 6.1-6.6 | 3.2 | 9.8 | 31.9 | 55.1 |
| —□— | (SM) Gravelly SILTY SAND | BH23-19 | SA-09 | 9.1-9.4 | 27.3 | 33.8 | 28.0 | 11.0 |

| Line Symbol | CanFEM Classification | USCS Symbol | D ₁₀ | D ₁₅ | D ₃₀ | D ₅₀ | D ₆₀ | D ₈₅ | % 5-75µm |
|-------------|---|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|
| —●— | Clayey sand and silt, trace gravel | CL-ML | --- | --- | 0.01 | 0.03 | 0.06 | 1.23 | 34.7 |
| —■— | Gravel, some sand, some silt, some clay | N/A | --- | 0.00 | 0.04 | 4.97 | 12.01 | 21.98 | 17.3 |
| —○— | Silty clay, trace gravel, trace sand | CL | --- | --- | --- | 0.00 | 0.01 | 0.06 | 31.9 |
| —□— | Gravel and sand and silt, some clay | N/A | 0.00 | 0.01 | 0.04 | 0.25 | 1.23 | 11.96 | 28.0 |



| Line Symbol | Sample | Borehole/ Test Pit | Sample Number | Depth | % Cob.+ Gravel | % Sand | % Silt | % Clay |
|-------------|----------------------------|--------------------|---------------|---------|----------------|--------|--------|--------|
| —●— | (CL) Sandy SILTY CLAY TILL | BH23-20 | SA-07 | 6.1-6.6 | 10.0 | 21.1 | 34.1 | 34.8 |
| —■— | (ML) SILT | BH23-21D | SA-08 | 7.6-8.1 | 0.0 | 3.1 | 82.8 | 14.1 |
| —○— | (CL) Sandy SILTY CLAY | BH23-22D/S | SA-07 | 6.1-6.6 | 12.9 | 16.2 | 31.6 | 39.2 |
| —□— | (CL) Sandy SILTY CLAY TILL | BH23-23D/S | SA-07 | 6.1-6.6 | 6.8 | 20.2 | 32.1 | 40.9 |

| Line Symbol | CanFEM Classification | USCS Symbol | D ₁₀ | D ₁₅ | D ₃₀ | D ₅₀ | D ₆₀ | D ₈₅ | % 5-75µm |
|-------------|------------------------------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|
| —●— | Clayey sand and silt, some gravel | CL | --- | --- | 0.00 | 0.02 | 0.05 | 2.04 | 34.1 |
| —■— | Silt, some clay, trace sand | N/A | 0.00 | 0.01 | 0.01 | 0.02 | 0.02 | 0.05 | 82.8 |
| —○— | Silty clay, some gravel, some sand | N/A | --- | --- | 0.00 | 0.01 | 0.04 | 2.63 | 31.6 |
| —□— | Sandy silty clay, trace gravel | CL | --- | --- | 0.00 | 0.01 | 0.03 | 0.70 | 32.1 |



| Line Symbol | Sample | Borehole/ Test Pit | Sample Number | Depth | % Cob.+ Gravel | % Sand | % Silt | % Clay |
|-------------|--------------------------------|--------------------|---------------|-----------|----------------|--------|--------|--------|
| —●— | (SM/ML) Gravelly SAND and SILT | BH23-23D | SA-09 | 9.1-9.2 | 15.5 | 37.2 | 36.8 | 10.5 |
| —■— | (SM/ML) SAND and SILT | BH23-26 | SA-10 | 10.7-10.8 | 9.9 | 42.2 | 39.7 | 8.3 |
| —○— | (ML) Sandy SILT | BH23-28D/S | SA-08 | 7.6-8.1 | 0.1 | 19.3 | 72.5 | 8.1 |
| —□— | (SM/GM) SILTY SAND and GRAVEL | BH23-28D | SA-11 | 12.2-12.7 | 37.4 | 33.6 | 25.6 | 3.4 |

| Line Symbol | CanFEM Classification | USCS Symbol | D ₁₀ | D ₁₅ | D ₃₀ | D ₅₀ | D ₆₀ | D ₈₅ | % 5-75µm |
|-------------|---|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|
| —●— | Sand and silt, some gravel, some clay | N/A | 0.00 | 0.01 | 0.04 | 0.09 | 0.17 | 5.02 | 36.8 |
| —■— | Sand and silt, trace gravel, trace clay | N/A | 0.01 | 0.01 | 0.05 | 0.08 | 0.13 | 2.38 | 39.7 |
| —○— | Silt, some sand, trace gravel, trace clay | N/A | 0.01 | 0.01 | 0.03 | 0.05 | 0.06 | 0.09 | 72.5 |
| —□— | Sandy silty gravel, trace clay | N/A | 0.02 | 0.03 | 0.08 | 0.86 | 3.61 | 20.38 | 25.6 |



APPENDIX D

Laboratory Certificates of Analysis

**CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
1102 - 44 CEDAR POINTE DRIVE
BARRIE, ON L4N 5R7
705-795-5079**

ATTENTION TO: Curtis Moorhouse

PROJECT: 101987.001 (12)

AGAT WORK ORDER: 23T099977

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganic Team Lead

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Dec 12, 2023

PAGES (INCLUDING COVER): 15

VERSION*: 1

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

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
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- *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.*

Certificate of Analysis

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

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

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | TP23-1 SA1 | TP23-2 SA1 | TP23-3 SA1 | TP23-4 SA1 | TP23-5 SA1 | TP23-6 SA1 | TP23-7 SA1 | TP23-8 SA1 |
|------------|------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | G / S | RDL | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| Antimony | µg/g | 1 | 0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 |
| Arsenic | µg/g | 11 | 1 | 4 | 5 | 3 | 5 | 4 | 3 | 4 | 4 |
| Barium | µg/g | 210 | 2.0 | 101 | 86.2 | 82.7 | 84.0 | 86.6 | 79.9 | 72.0 | 63.2 |
| Beryllium | µg/g | 2.5 | 0.5 | 1.0 | 0.9 | 0.7 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 |
| Boron | µg/g | 36 | 5 | 10 | 10 | <5 | 8 | 8 | 8 | 8 | 7 |
| Cadmium | µg/g | 1 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chromium | µg/g | 67 | 5 | 30 | 26 | 24 | 26 | 27 | 25 | 24 | 21 |
| Cobalt | µg/g | 19 | 0.8 | 11.6 | 11.6 | 8.2 | 11.1 | 8.5 | 9.3 | 9.7 | 7.4 |
| Copper | µg/g | 62 | 1.0 | 17.0 | 20.9 | 14.6 | 17.0 | 16.3 | 18.0 | 18.9 | 16.8 |
| Lead | µg/g | 45 | 1 | 17 | 17 | 16 | 16 | 15 | 14 | 14 | 12 |
| Molybdenum | µg/g | 2 | 0.5 | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Nickel | µg/g | 37 | 1 | 24 | 23 | 18 | 22 | 20 | 20 | 20 | 17 |
| Selenium | µg/g | 1.2 | 0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 |
| Silver | µg/g | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Thallium | µg/g | 1 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Uranium | µg/g | 1.9 | 0.50 | 0.71 | 0.65 | 0.63 | 0.63 | 0.71 | 0.59 | 0.64 | <0.50 |
| Vanadium | µg/g | 86 | 2.0 | 43.8 | 38.2 | 33.0 | 39.8 | 39.5 | 34.5 | 37.4 | 32.8 |
| Zinc | µg/g | 290 | 5 | 81 | 95 | 72 | 87 | 81 | 77 | 72 | 56 |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
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FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | TP23-9 SA1 | TP23-10 SA1 | TP23-11 SA1 | TP23-12 SA1 | TP23-13 SA1 | TP23-14 SA1 | Dup-1 | Dup-2 | |
|------------|------|---------------------|------|------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| | | G / S | RDL | 5511174 | 5511175 | 5511176 | 5511177 | 5511178 | 5511179 | 5511180 | 5511181 | |
| Antimony | µg/g | 1 | 0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | |
| Arsenic | µg/g | 11 | 1 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | |
| Barium | µg/g | 210 | 2.0 | 91.8 | 81.9 | 55.2 | 82.5 | 83.0 | 101 | 84.9 | 104 | |
| Beryllium | µg/g | 2.5 | 0.5 | 1.0 | 0.9 | 0.6 | 0.9 | 0.9 | 1.0 | 0.9 | 1.0 | |
| Boron | µg/g | 36 | 5 | 10 | 9 | <5 | 7 | 10 | 10 | 9 | 11 | |
| Cadmium | µg/g | 1 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Chromium | µg/g | 67 | 5 | 29 | 26 | 18 | 26 | 25 | 29 | 28 | 31 | |
| Cobalt | µg/g | 19 | 0.8 | 9.6 | 8.6 | 6.8 | 8.4 | 8.4 | 9.7 | 11.3 | 10.1 | |
| Copper | µg/g | 62 | 1.0 | 19.2 | 19.1 | 14.7 | 15.0 | 22.2 | 16.4 | 16.8 | 17.4 | |
| Lead | µg/g | 45 | 1 | 14 | 14 | 11 | 14 | 15 | 15 | 21 | 16 | |
| Molybdenum | µg/g | 2 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Nickel | µg/g | 37 | 1 | 21 | 20 | 15 | 19 | 21 | 21 | 22 | 22 | |
| Selenium | µg/g | 1.2 | 0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | <0.8 | |
| Silver | µg/g | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Thallium | µg/g | 1 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| Uranium | µg/g | 1.9 | 0.50 | 0.78 | 0.76 | 0.58 | 0.66 | 0.98 | 0.87 | 0.62 | 0.90 | |
| Vanadium | µg/g | 86 | 2.0 | 43.8 | 38.8 | 27.1 | 38.3 | 35.8 | 42.7 | 40.5 | 46.0 | |
| Zinc | µg/g | 290 | 5 | 93 | 83 | 53 | 77 | 86 | 80 | 85 | 82 | |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S AG
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

5835 COOPERS AVENUE
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| O. Reg. 153(511) - ORPs (Soil) | | | | | | | | | | | |
|--------------------------------------|----------|---------------------|-----|------------|-------------|---------------------------|-------------|-------------|-------------|------------|------------|
| DATE RECEIVED: 2023-12-01 | | | | | | DATE REPORTED: 2023-12-12 | | | | | |
| | | SAMPLE DESCRIPTION: | | TP23-1 SA1 | TP23-2 SA1 | TP23-3 SA1 | TP23-4 SA1 | TP23-5 SA1 | TP23-6 SA1 | TP23-7 SA1 | TP23-8 SA1 |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| Parameter | Unit | G / S | RDL | 5511166 | 5511167 | 5511168 | 5511169 | 5511170 | 5511171 | 5511172 | 5511173 |
| pH, 2:1 CaCl ₂ Extraction | pH Units | NA | | 6.87 | 6.98 | 6.87 | 6.64 | 6.56 | 7.09 | 6.53 | 6.84 |
| | | SAMPLE DESCRIPTION: | | TP23-9 SA1 | TP23-10 SA1 | TP23-11 SA1 | TP23-12 SA1 | TP23-13 SA1 | TP23-14 SA1 | Dup-1 | Dup-2 |
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| Parameter | Unit | G / S | RDL | 5511174 | 5511175 | 5511176 | 5511177 | 5511178 | 5511179 | 5511180 | 5511181 |
| pH, 2:1 CaCl ₂ Extraction | pH Units | NA | | 7.42 | 7.01 | 7.00 | 6.78 | 6.71 | 6.82 | 6.67 | 6.60 |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S AG
 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.

5511166-5511181 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.

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PROJECT: 101987.001 (12)

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SAMPLED BY:

Particle Size by Sieve (Wet)

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

SAMPLE DESCRIPTION: TP23-6 SA1

SAMPLE TYPE: Soil

DATE SAMPLED: 2023-12-01

| Parameter | Unit | G / S | RDL | 5511171 |
|-----------------------------------|------|-------|-----|---------|
| Sieve Analysis - 75 µm (retained) | % | | NA | 21.20 |
| Sieve Analysis - 75 µm (passing) | % | | NA | 78.80 |
| Soil Texture (Toronto) | | | | Fine |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S AG
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.

5511171 Value reported is the amount of sample passing through or retained on sieve after wash with water and represents proportion by weight particles smaller or larger than indicated sieve size.
Analysis performed at AGAT Toronto (unless marked by *)

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Mylene Dasly

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AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | TP23-1 SA1 | TP23-2 SA1 | TP23-3 SA1 | TP23-4 SA1 | TP23-5 SA1 | TP23-6 SA1 | TP23-7 SA1 | TP23-8 SA1 |
|-----------------------------|------|---------------------|-------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| | | G / S | RDL | 5511166 | 5511167 | 5511168 | 5511169 | 5511170 | 5511171 | 5511172 | 5511173 |
| Hexachloroethane | µg/g | 0.01 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 |
| Heptachlor | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 |
| Heptachlor Epoxide | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Endosulfan I | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Endosulfan II | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 |
| Alpha-Chlordane | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| gamma-Chlordane | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 |
| op'-DDE | ug/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp'-DDE | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 |
| op'-DDD | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp'-DDD | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 |
| op'-DDT | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| pp'-DDT | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 |
| Dieldrin | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 |
| Methoxychlor | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 |
| Hexachlorobutadiene | µg/g | 0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Moisture Content | % | | 0.1 | 29.7 | 29.2 | 29.1 | 26.0 | 29.7 | 24.8 | 23.2 | 25.6 |
| wet weight OC | g | | 0.005 | 10.3 | 10.2 | 10.6 | 10.4 | 10.4 | 10.4 | 10.5 | 10.4 |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | |
| TCMX | % | 50-140 | | 81 | 74 | 79 | 87 | 81 | 86 | 75 | 84 |
| Decachlorobiphenyl | % | 50-140 | | 90 | 94 | 87 | 90 | 108 | 109 | 107 | 105 |

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AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

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ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

Certified By:

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AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

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SAMPLED BY:

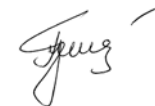
O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

| Parameter | Unit | SAMPLE DESCRIPTION: | | TP23-9 SA1 | TP23-10 SA1 | TP23-11 SA1 | TP23-12 SA1 | TP23-13 SA1 | TP23-14 SA1 | Dup-1 | Dup-2 | |
|-----------------------------|-------------|--------------------------|-------|------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|
| | | SAMPLE TYPE: | | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil | Soil |
| | | DATE SAMPLED: | | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 | 2023-12-01 |
| | | G / S | RDL | 5511174 | 5511175 | 5511176 | 5511177 | 5511178 | 5511179 | 5511180 | 5511181 | |
| Hexachloroethane | µg/g | 0.01 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Heptachlor | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Heptachlor Epoxide | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Endosulfan I | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Endosulfan II | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Alpha-Chlordane | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| gamma-Chlordane | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 | |
| op'-DDE | ug/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| pp'-DDE | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 | |
| op'-DDD | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| pp'-DDD | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 | |
| op'-DDT | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | |
| pp'-DDT | µg/g | | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.007 | <0.007 | <0.007 | <0.007 | |
| Dieldrin | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Methoxychlor | µg/g | 0.05 | 0.005 | <0.005 | <0.005 | <0.005 | <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 | <0.005 | <0.005 | <0.005 | <0.005 | |
| Hexachlorobutadiene | µg/g | 0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | |
| Moisture Content | % | | 0.1 | 31.0 | 31.6 | 26.2 | 27.4 | 27.7 | 28.6 | 28.6 | 30.4 | |
| wet weight OC | g | | 0.005 | 10.3 | 10.2 | 10.9 | 10.2 | 10.3 | 10.2 | 10.3 | 10.3 | |
| Surrogate | Unit | Acceptable Limits | | | | | | | | | | |
| TCMX | % | 50-140 | | 80 | 83 | 81 | 78 | 88 | 85 | 87 | 85 | |
| Decachlorobiphenyl | % | 50-140 | | 99 | 102 | 112 | 93 | 101 | 117 | 94 | 110 | |

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

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ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-12-01

DATE REPORTED: 2023-12-12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S AG
 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.

5511166-5511181 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:



Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
PROJECT: 101987.001 (12)
SAMPLING SITE:

AGAT WORK ORDER: 23T099977
ATTENTION TO: Curtis Moorhouse
SAMPLED BY:

| Soil Analysis | | | | | | | | | | | | | | | |
|------------------------|-------|-----------|-----------|--------|-----|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Dec 12, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | 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 | 5511166 | 5511166 | <0.8 | <0.8 | NA | < 0.8 | 70% | 70% | 130% | 108% | 80% | 120% | 111% | 70% | 130% |
| Arsenic | 5511166 | 5511166 | 4 | 4 | NA | < 1 | 107% | 70% | 130% | 106% | 80% | 120% | 110% | 70% | 130% |
| Barium | 5511166 | 5511166 | 101 | 104 | 2.9% | < 2.0 | 107% | 70% | 130% | 105% | 80% | 120% | 103% | 70% | 130% |
| Beryllium | 5511166 | 5511166 | 1.0 | 1.1 | NA | < 0.5 | 119% | 70% | 130% | 109% | 80% | 120% | 120% | 70% | 130% |
| Boron | 5511166 | 5511166 | 10 | 10 | NA | < 5 | 93% | 70% | 130% | 99% | 80% | 120% | 102% | 70% | 130% |
| Cadmium | 5511166 | 5511166 | <0.5 | <0.5 | NA | < 0.5 | 80% | 70% | 130% | 102% | 80% | 120% | 101% | 70% | 130% |
| Chromium | 5511166 | 5511166 | 30 | 30 | 0.0% | < 5 | 117% | 70% | 130% | 99% | 80% | 120% | 123% | 70% | 130% |
| Cobalt | 5511166 | 5511166 | 11.6 | 11.6 | 0.0% | < 0.8 | 111% | 70% | 130% | 106% | 80% | 120% | 107% | 70% | 130% |
| Copper | 5511166 | 5511166 | 17.0 | 17.2 | 1.2% | < 1.0 | 104% | 70% | 130% | 101% | 80% | 120% | 101% | 70% | 130% |
| Lead | 5511166 | 5511166 | 17 | 17 | 0.0% | < 1 | 104% | 70% | 130% | 96% | 80% | 120% | 94% | 70% | 130% |
| Molybdenum | 5511166 | 5511166 | 0.5 | <0.5 | NA | < 0.5 | 103% | 70% | 130% | 104% | 80% | 120% | 103% | 70% | 130% |
| Nickel | 5511166 | 5511166 | 24 | 24 | 0.0% | < 1 | 114% | 70% | 130% | 106% | 80% | 120% | 106% | 70% | 130% |
| Selenium | 5511166 | 5511166 | <0.8 | <0.8 | NA | < 0.8 | 101% | 70% | 130% | 102% | 80% | 120% | 117% | 70% | 130% |
| Silver | 5511166 | 5511166 | <0.5 | 2.7 | NA | < 0.5 | 102% | 70% | 130% | 104% | 80% | 120% | 98% | 70% | 130% |
| Thallium | 5511166 | 5511166 | <0.5 | <0.5 | NA | < 0.5 | 107% | 70% | 130% | 106% | 80% | 120% | 97% | 70% | 130% |
| Uranium | 5511166 | 5511166 | 0.71 | 0.71 | NA | < 0.50 | 105% | 70% | 130% | 103% | 80% | 120% | 98% | 70% | 130% |
| Vanadium | 5511166 | 5511166 | 43.8 | 45.6 | 4.0% | < 2.0 | 118% | 70% | 130% | 100% | 80% | 120% | 113% | 70% | 130% |
| Zinc | 5511166 | 5511166 | 81 | 82 | 1.2% | < 5 | 115% | 70% | 130% | 106% | 80% | 120% | 114% | 70% | 130% |

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

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

| | | | | | | | | | |
|--------------------------|---------|--|------|------|------|----|------|-----|------|
| pH, 2:1 CaCl2 Extraction | 5518053 | | 4.86 | 4.85 | 0.2% | NA | 103% | 80% | 120% |
|--------------------------|---------|--|------|------|------|----|------|-----|------|

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

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

| | | | | | | | | | |
|--------------------------|---------|---------|------|------|------|----|------|-----|------|
| pH, 2:1 CaCl2 Extraction | 5511181 | 5511181 | 6.60 | 6.76 | 2.3% | NA | 102% | 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.

Particle Size by Sieve (Wet)

| | | | | | | | | | |
|-----------------------------------|---------|---------|-------|-------|------|----|------|-----|------|
| Sieve Analysis - 75 µm (retained) | 5511171 | 5511171 | 21.20 | 22.48 | 5.9% | NA | 100% | 75% | 125% |
| Sieve Analysis - 75 µm (passing) | 5511171 | 5511171 | 78.80 | 77.52 | 1.6% | NA | | | |

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

Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
PROJECT: 101987.001 (12)
SAMPLING SITE:

AGAT WORK ORDER: 23T099977
ATTENTION TO: Curtis Moorhouse
SAMPLED BY:

Soil Analysis (Continued)

| RPT Date: Dec 12, 2023 | | | DUPLICATE | | | Method Blank | REFERENCE MATERIAL | | METHOD BLANK SPIKE | | MATRIX SPIKE | | | | |
|------------------------|-------|--------------|-----------|--------|-----|-----------------|--------------------|----------------------|--------------------|----------|----------------------|-------|----------|----------------------|-------|
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | | Measured Value | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| | | | | | | | | | | | | | | | |

Certified By: _____



Nivine Basly

Quality Assurance

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PROJECT: 101987.001 (12)
SAMPLING SITE:

AGAT WORK ORDER: 23T099977
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SAMPLED BY:

Trace Organics Analysis

| | | | | | | | | | | | | | | | | |
|------------------------|-------|--------------|-----------|--------|-----|-------------------|-----------------|----------------------|-------|----------|----------------------|-------|----------|----------------------|-------|--|
| RPT Date: Dec 12, 2023 | | | DUPLICATE | | | | Method Blank | REFERENCE MATERIAL | | | METHOD BLANK SPIKE | | | MATRIX SPIKE | | |
| PARAMETER | Batch | Sample Id | Dup #1 | Dup #2 | RPD | Measured Value | | Acceptable Limits | | Recovery | Acceptable Limits | | Recovery | Acceptable Limits | | |
| | | | | | | | | Lower | Upper | | Lower | Upper | | Lower | Upper | |

| O. Reg. 153(511) - OC Pesticides (Soil) | | | | | | | | | | | | | | | |
|---|---------|---------|---------|---------|----|---------|------|-----|------|------|-----|------|------|-----|------|
| Hexachloroethane | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 98% | 50% | 140% | 95% | 50% | 140% | 86% | 50% | 140% |
| Gamma-Hexachlorocyclohexane | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 90% | 50% | 140% | 80% | 50% | 140% | 89% | 50% | 140% |
| Heptachlor | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 109% | 50% | 140% | 97% | 50% | 140% | 105% | 50% | 140% |
| Aldrin | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 93% | 50% | 140% | 90% | 50% | 140% | 88% | 50% | 140% |
| Heptachlor Epoxide | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 87% | 50% | 140% | 94% | 50% | 140% | 87% | 50% | 140% |
| Endosulfan I | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 104% | 50% | 140% | 88% | 50% | 140% | 102% | 50% | 140% |
| Endosulfan II | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 88% | 50% | 140% | 89% | 50% | 140% | 98% | 50% | 140% |
| Alpha-Chlordane | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 92% | 50% | 140% | 91% | 50% | 140% | 86% | 50% | 140% |
| gamma-Chlordane | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 98% | 50% | 140% | 86% | 50% | 140% | 99% | 50% | 140% |
| op'-DDE | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 87% | 50% | 140% | 103% | 50% | 140% | 103% | 50% | 140% |
| pp'-DDE | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 115% | 50% | 140% | 89% | 50% | 140% | 100% | 50% | 140% |
| op'-DDD | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 98% | 50% | 140% | 93% | 50% | 140% | 112% | 50% | 140% |
| pp'-DDD | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 82% | 50% | 140% | 80% | 50% | 140% | 87% | 50% | 140% |
| op'-DDT | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 111% | 50% | 140% | 104% | 50% | 140% | 109% | 50% | 140% |
| pp'-DDT | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 92% | 50% | 140% | 101% | 50% | 140% | 84% | 50% | 140% |
| Dieldrin | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 88% | 50% | 140% | 88% | 50% | 140% | 82% | 50% | 140% |
| Endrin | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 84% | 50% | 140% | 86% | 50% | 140% | 87% | 50% | 140% |
| Methoxychlor | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 88% | 50% | 140% | 101% | 50% | 140% | 98% | 50% | 140% |
| Hexachlorobenzene | 5511181 | 5511181 | < 0.005 | < 0.005 | NA | < 0.005 | 103% | 50% | 140% | 103% | 50% | 140% | 97% | 50% | 140% |
| Hexachlorobutadiene | 5511181 | 5511181 | < 0.01 | < 0.01 | NA | < 0.01 | 109% | 50% | 140% | 96% | 50% | 140% | 90% | 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: 

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

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

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 23T099977

PROJECT: 101987.001 (12)

ATTENTION TO: Curtis Moorhouse

SAMPLING SITE:

SAMPLED BY:

| 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 |
| Cadmium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Chromium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Cobalt | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Copper | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Lead | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Molybdenum | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Nickel | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Selenium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Silver | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Thallium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Uranium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Vanadium | MET-93-6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| Zinc | MET 93 -6103 | modified from EPA 3050B and EPA 6020B and ON MOECC | ICP-MS |
| pH, 2:1 CaCl ₂ Extraction | INOR-93-6075 | modified from EPA 9045D, MCKEAGUE 3.11 E3137 | PC TITRATE |
| Sieve Analysis - 75 µm (retained) | INOR-93-6065 | Modified from ASTM D1140-17 | SIEVE |
| Sieve Analysis - 75 µm (passing) | INOR-93-6065 | Modified from ASTM D1140-17 | SIEVE |

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| 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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SAMPLING SITE:

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| PARAMETER | AGAT S.O.P | LITERATURE REFERENCE | ANALYTICAL TECHNIQUE |
|---------------|-------------|----------------------|----------------------|
| wet weight OC | ORG-91-5113 | | BALANCE |

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

