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Phase Two Environmental Site Assessment
Proposed Residential Development
1174 Carp Road
Ottawa, Ontario

GEMTEC Project: 101785.004

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Submitted to:

Le Groupe Maurice
2400 rue des Nations, bureau 137
Saint-Laurent, Quebec
H4R 3G4

Phase Two Environmental Site Assessment
Proposed Residential Development
1174 Carp Road
Ottawa, Ontario

January 7, 2025
GEMTEC Project: 101785.004

GEMTEC Consulting Engineers and Scientists Limited
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January 7, 2025 File: 101785.004

Le Groupe Maurice
2400 rue des Nations, bureau 137
Saint-Laurent, Quebec
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Attention: Benoit Poitras, ing

Re: Phase Two Environmental Site Assessment
Proposed Residential Development
1174 Carp Road
Ottawa, 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 are based on the original scope of work presented in our proposal dated March 12, 2024. This report was prepared by Mohit Bhargav, M.Sc.E, EIT; and reviewed by Daniel Elliot, B.Sc., P.Geo., QP_{ESA}.

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

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Environmental Scientist

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January 7, 2025

MB/DE

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1.0 EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Le Groupe Maurice to carry out a Phase Two Environmental Site Assessment (ESA) for the property located at 1174 Carp Road in Ottawa, Ontario (herein referred to as the 'Phase Two Property' or 'Site'). It is understood that this Phase Two ESA is required to support a proposed change of land use from commercial to residential and the filing of a Record of Site Condition (RSC) with Ministry of the Environment, Conservation and Parks (MECP).

GEMTEC previously completed a Phase One ESA for the Site, the results of which were documented in the report titled 'Phase One Environmental Site Assessment, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario' dated November 2024. Based on the findings of the Phase One ESA, GEMTEC completed this Phase Two ESA investigation.

The fieldwork for this Phase Two ESA was carried out under 2 separate phases in conjunction with Geotechnical Investigation.

The initial investigation was carried out between April 6, 2023, and April 10, 2023 as part of a due diligence environmental investigation. At that time four boreholes (BH23-01 to BH23-04) were advanced at the Site. The boreholes were advanced to depths ranging from between 4.26 and 6.65 metres below ground surface (m bgs). BH23-01 and BH23-02 were advanced using Geoprobe drilling equipment supplied and operated by the Strata Drilling Group of Ottawa, Ontario. BH23-03 and BH23-04 were advanced using a truck mounted drill rig supplied and operated by OGS Inc. of Almonte, Ontario.

A second round of investigation was carried out between July 2, 2024, and August 30, 2024 at which time five additional boreholes (BH24-05 to BH24-09) were advanced at the Site. The boreholes were advanced to depths ranging from about 4.57 to 8.61 m bgs. The boreholes 24-05 to 24-09 were advanced using a track mounted drill rig supplied and operated by Aardvark Drilling Inc. of Carleton Place, Ontario. BH24-09 was advanced at the Site for Geotechnical Investigation and no environmental sampling was conducted at this location.

Soil and groundwater results were compared to MECP Table 3 Residential/Parkland/Institutional (RPI) Site Condition Standards (SCS).

All soil samples met Table 3 RPI SCS with the exception of electrical conductivity (EC) at BH23-04 SA1 (0.00 – 0.76 m bgs). This exceedance was associated with the salting activities (during winter months) in proximity of the sampling location (in the parking lot area) at the Site for pedestrian and vehicular safety. The EC exceedance is not considered to be contamination for soil remaining at the Site based on Section 49.1 of Ontario Regulation 153/04 – Records of Site Condition (O.Reg. 153/04).

All groundwater samples met Table 3 SCS with the exception of BH/MW24-06 and BH/MW24-07 that both had exceedances of chloroform. Bromodichloromethane, a byproduct of chlorine disinfection in water, was detected in BH/MW24-06. Additionally, no other volatile organic compounds (VOCs) were reported above laboratory detection limits. Since the groundwater flow direction crosses the Site west to east, from BH/MW24-06 to BH/MW24-07, GEMTEC is of the opinion that the chloroform exceedance is likely related to the release of municipal water from one of the water lines surrounding or running through the Site. In accordance with Section 49.1 of O.Reg. 153/04, chloroform is deemed to meet the applicable SCS.

The Phase Two ESA investigated the APECs identified in Phase One ESA (GEMTEC, 2024). Based on the results of the soil and groundwater samples submitted as part of this Phase Two ESA, no exceedances of the applicable SCS were identified. As such, an RSC can be filed for the Site.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY III

2.0 INTRODUCTION 1

2.1 Site Description 1
2.2 Property Ownership 1
2.3 Current and Proposed Future Uses 2
2.4 Applicable Site Condition Standards 2

3.0 BACKGROUND INFORMATION 3

3.1 Physical Setting 4
3.2 Past Investigations 4
3.2.1 Preliminary Geotechnical Investigation. Paterson Group Inc. dated August 2006. 4
3.2.2 Phase I Environmental Site Assessment. GEMTEC dated October 2023. 5
3.2.3 Phase II Environmental Site Assessment. GEMTEC dated October 2023. 5
3.2.4 Phase One Environmental Site Assessment. GEMTEC dated November 2024. ... 6

4.0 SCOPE OF THE INVESTIGATION 7

4.1 Overview of the Site Investigation 7
4.2 Media Investigated 8
4.3 Phase One ESA Conceptual Site Model 8
4.4 Deviations from Sampling and Analysis Plan 10
4.5 Impediments 10

5.0 INVESTIGATION METHOD 10

5.1 General 10
5.2 Borehole Drilling 11
5.3 Soil Sampling 11
5.4 Soil Field Screening 12
5.5 Groundwater Monitoring Well Installation 12
5.6 Groundwater Field Measurements for Water Quality Parameters 13
5.7 Groundwater: Sampling 13
5.8 Sediment Sampling 14
5.9 Laboratory Analytical Program 14
5.10 Residue Management Procedures 14
5.11 Surveying 14
5.12 Quality Assurance / Quality Control Program 14

6.0 REVIEW AND EVALUATION 16

6.1 Geology 16
6.2 Groundwater: Elevations and Flow Direction 16

6.3 Groundwater: Hydraulic Gradients 17
6.4 Soil Texture 17
6.5 Soil: Field Screening 18
6.6 Soil: Quality 18
6.6.1 Metals and hydride forming metals 19
6.6.2 Other Regulated Parameters (EC, SAR, pH, and Cyanide) 19
6.6.3 Petroleum Hydrocarbon F1-F4 19
6.6.4 Volatile Organic Compounds (including BTEX) 19
6.6.5 Polycyclic Aromatic Hydrocarbons 19
6.7 Groundwater: Quality 19
6.7.1 Metals and hydride forming metals 20
6.7.2 Other Regulated Parameters (EC, SAR, pH, and Cyanide) 20
6.7.3 Petroleum Hydrocarbon F1-F4 20
6.7.4 Volatile Organic Compounds (including BTEX) 20
6.7.5 Polycyclic Aromatic Hydrocarbons 20
6.8 Sediment: Quality 20
6.9 Quality Assurance and Quality Control Results 20
7.0 PHASE TWO CONCEPTUAL SITE MODEL 21
7.1 Property Description and History 22
7.2 Previous Investigation 25
7.3 Potentially Contaminating Activities 26
7.4 Areas of Potential Environmental Concern 29
7.4.1 APEC 1 – Presence of Fill Material at the Site 30
7.4.2 APEC 2 – Presence of historical ASTs at the Site 30
7.4.3 APEC 3 – Presence of an automotive repair garage on-Site 30
7.4.4 APEC 4 – Potential presence of a former oil water separator 31
7.4.5 APEC 5 – Presence of a retail fuel outlet and oil changing facility to the east of the Site 31
7.5 Subsurface Structures and Utilities 32
7.6 Physical Setting 32
7.7 Site Condition Standards 33
7.8 Contaminated Media 35
7.9 Contaminants Exceeding Applicable Standards at the Site 35
7.10 Description of Areas of Contamination on the Site 35
7.11 Potential Influence of Utilities on Contaminant Migration 35
7.12 Contaminant Migration 35
7.13 Meteorological and Climatic Considerations 35
7.14 Cross Sections – Lateral and Vertical Distribution of Contaminants 36
7.15 Potential Exposure Pathways and Receptors 36
8.0 CONCLUSIONS 36

9.0 REFERENCES....37
10.0 LIMITATION OF LIABILITY....38
11.0 CLOSURE....39

LIST OF APPENDICES

APPENDIX A Figures, Plan of Survey and Tables
APPENDIX B Sampling and Analysis Plan
APPENDIX C Borehole Logs
APPENDIX D Laboratory Certificates of Analysis

2.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Le Groupe Maurice to carry out a Phase Two Environmental Site Assessment (ESA) for the property located at 1174 Carp Road in Ottawa, Ontario (herein referred to as the 'Phase Two Property' or 'Site'). It is understood that this Phase Two ESA is required to support a proposed change of land use from commercial to residential and the filing of a Record of Site Condition (RSC) with Ministry of the Environment, Conservation and Parks (MECP).

GEMTEC previously completed a Phase One ESA for the Site, the results of which were documented in the report titled *"Phase One Environmental Site Assessment, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario",* dated November 2024. Based on the findings of the Phase One ESA, GEMTEC completed this Phase Two ESA investigation. This Phase Two ESA was completed in 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 is shown on Figure A.1, Appendix A.

2.1 Site Description

The Site is located at 1174 Carp Road in Stittsville, Ontario. The Site consists of an irregularly shaped land parcel with an approximate area of 1.66 hectares (16,550 square metres (m^2)).

The legal description for the Site is:

- Pt Lt 23 Con 12 Goulbourn as Fourthly & Fifthly Described In NS279017; Goulbourn S/T Easement in Gross over Part 1 ON 4R20933 as in OC567878
- PIN: 04753-0269 (LT)

The Site is bound by Hazeldean Road on the northwest, Carp Road on the northeast, a vacant lot of the southwest, and a residential neighbourhood on the southeast. The Site location and Site features are shown on Figure A.1 and Figure A.2, Appendix A. A plan is survey is also provided in Appendix A.

2.2 Property Ownership

Details of the Site ownership are provided in the following table:

Table 2.1: Site Information

Site Information	
Site Owner	15242428 Canada Inc.; Société En Commandite Stittsville 2400 rue des Nations, bureau 137 514-331-2788

Site Information	
Site Contact	Sébastien Béland, Gestionnaire de project Construction
Company	Le Groupe Maurice
Address	2400 rue des Nations, bureau 137
Telephone	514-331-2788
Email	Sbeland@legroupemaurice.com

2.3 Current and Proposed Future Uses

Currently the Site is used for as a commercial RV business named ‘Clearance Centre Canada’. The proposed future use is anticipated to be residential as a retirement and/or assisted living facility.

2.4 Applicable Site Condition Standards

Site Condition Standards (SCS) were selected for the Site in accordance with the requirements of O. Reg. 153/04, Record of Site Condition – Part XV.1 of the Environmental Protection Act (O. Reg. 153/04, Ministry of Environment and Climate Change (MECP), October 31, 2011), as amended. The selection of applicable SCS for comparison to analytical data was based on a review of various Site characteristics which will need to be considered for the current property use and also to provide a preliminary indication of on-Site soil quality for due diligence purposes.

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

- Land Use: The Site is currently used for commercial enterprises. The proposed future land use is residential.
- Soil Texture: Based on visual observations made during the field program and the grain size analysis, the predominant soil type was silty sand which is inferred to be coarse textured. A grain size determination completed on soils from location BH24-05 and BH24-07 indicated the soil to be coarse textured. Coarse textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter”.
- Soil Thickness and Proximity to Water Body: For the purposes of selection of the appropriate provincial standard, Section 43.1 of O. Reg.153/04 identifies specific SCS be applied if any of the following circumstances exist:
    - (a) The property is a shallow soil property (i.e., at least 1/3 or more of the property area contains less than 2 metres depth of overburden); or
    - (b) The property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

Based on results obtained from the soil quality program and the previous environmental investigations, the overburden thickness is greater than 2 metres on more than 2/3 of the property and there are no water bodies within 30 metres of the Site. Therefore, the Site is not considered a shallow soil property or a property within 30 metres of a waterbody.

- Groundwater Use: Potable water in the area of the Site is supplied by the City of Ottawa. There are no potable water wells within 250 m of the Site.
- Environmentally Sensitive Site: Environmental sensitivity is considered in the selection of appropriate provincial standards for comparison. Section 41 of O.Reg.153/04 states that a property is to be considered environmentally sensitive if any of the following are applicable:
    - (1) the property is,
        - (i) within an area of natural significance;
        - (ii) includes or is adjacent to an area of natural significance or part of such an area; or
        - (iii) includes land that is within 30 metres of an area of natural significance or part of such an area;
    - (2) the soil at the property has a pH value as follows:
        - (i) for surface soil, less than 5 or greater than 9;
        - (ii) for sub surface soil, less than 5 or greater than 11; or
    - (3) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property.

  The Site is not considered to be environmentally sensitive. Analytical results from soil samples collected were all within the MECP acceptable pH range. Furthermore, the Site is not within, adjacent or include, in part, an Area of Natural of Scientific Interest (ANSI).

Based on the review of Site characteristics and findings from previous investigations, the following provincial standards were considered to be applicable to the analytical results obtained during the environmental investigation:

- MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition, Residential land use with coarse soil texture.

3.0 BACKGROUND INFORMATION

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

3.1 Physical Setting

The Site has a relatively flat topography and is at an elevation of approximately 125 m above sea level (asl). Surrounding local topography generally slopes gradually downwards towards the drainage ditches located along Hazeldean Road. Furthermore, surrounding properties located east of the Site were approximately 1-3 m higher in elevation than the Site. Based on a review of published geology maps, the Site is likely composed of stone-poor, sandy silt to silty sand-textured till on paleozoic terrain to the southwest of the Site and glaciofluvial deposits consisting of river deposits and delta topset facies to the northeast of the Site. Bedrock mapping indicates that these surficial deposits are underlain by terrestrial sedimentary rocks from the Middle Ordovician (limestone, dolostone, shale, arkose, and sandstone in the Ottawa Group, Simcoe Group, and Shadow Lake formation). The bedrock surface is expected at depths ranging between 5 and 10 m bgs.

Based on the previous investigations, summarized in Section 3.2, conducted at the Site by Paterson (2006) and GEMTEC (2023), the overburden was characterized by brown silty sand and glacial till, at select locations, underlain by limestone bedrock.

Groundwater flow often reflects topographic features and typically flows towards nearby lakes, rivers, and wetland areas. Based on the topography and hydrogeological features, it was anticipated that local and regional groundwater flow direction were towards the Carp River which is located approximately 3.8 km to the northeast of the Site. The Ottawa River is approximately 12 km to the northeast of the Site. No provincially significant wetlands (PSWs) or areas of natural and scientific interest (ANSIs) were identified on the Site or within the Phase One Study Area

Potable water for the Site and surrounding area were supplied through the City of Ottawa municipal drinking water system which runs along the northeast and northwest boundary of the Site.

3.2 Past Investigations

Four historical reports were available to GEMTEC for review.

3.2.1 Preliminary Geotechnical Investigation. Paterson Group Inc. dated August 2006.

Preliminary Geotechnical Investigation, Proposed Commercial Development, Hazeldean Road at Carp Road, Ottawa, Ontario, by Paterson Group Inc. dated August 2006. Report Number PG0805-1.

Paterson Group Inc. (Paterson) conducted a preliminary geotechnical investigation for three properties labelled as Parcel A, Parcel B, and Parcel C in August 2006. Parcel A refers to the Site and the investigation included advancement of 8 boreholes at the Site. The boreholes were labelled as BH1 to BH5 and BH15 to BH17. The overburden was generally characterized as topsoil, cementitious concrete and/or asphaltic concrete (based on borehole location) overlying

brown silty sand extending to depths ranging from 2.2 m below ground surface (bgs) to 4.3 m bgs underlain by glacial till, at select locations, and bedrock. Practical refusal to augering was encountered between 3.6 m bgs and 4.0 m bgs, at BH3 and BH4, respectively. No samples were submitted for environmental testing.

3.2.2 Phase I Environmental Site Assessment. GEMTEC dated October 2023.

Phase I Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated October 2023. GEMTEC Project 101785.003.

The Phase I ESA was completed to support due diligence requirements to satisfy a property transaction for a potential future residential development at the Site. The Phase I ESA was completed in accordance with Canadian Standards Association (CSA) Z768-01, reaffirmed 2012. The Phase I ESA identified an automotive repair facility present at the Site in 1980. The following areas of concern were noted on the Site:

- Floor drain containing water with an oily sheen inside the south portion of the building;
- Historical auto repairs completed on-Site; and,
- A concrete filled pit, potentially a former oil/water separator.

The contaminants of potential concern (COPCs) based on the areas of concern included: Metals and Inorganics (M&I), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), and Petroleum Hydrocarbons F1-F4 (PHC F1-F4). Inorganics included Other Regulated Parameters such as EC, SAR, pH, and Cyanide. A Phase II ESA was recommended to assess for the presence of environmental impacts. *GEMTEC noted that Paterson Group previously completed a Phase I and II ESA at the Site; However, these reports were not provided for GEMTEC's review.*

3.2.3 Phase II Environmental Site Assessment. GEMTEC dated October 2023.

Phase II Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd dated October 2023. GEMTEC Project 101785.003.

GEMTEC carried out a Phase II ESA to investigate the areas of concern noted on the Site. A total of five soil samples (four bulk soil samples and one duplicate sample) and four groundwater samples (including one duplicate groundwater sample) were collected from the vicinity of the areas of concern and submitted to AGAT Laboratories for analysis of the COPCs, as identified in the Phase I ESA. The soil and groundwater analytical results were compared to Table 3 site condition standards (SCS). The reported concentrations of all soil samples met the Table 3 Residential/Parkland/Institutional (RPI) SCS and industrial/commercial/community (ICC) SCS with the exception of one sample that exceeded the Table 3 RPI SCS for electrical conductivity (EC) at BH23-04 SA1 (0.00 – 0.76m bgs). The reported concentrations of all groundwater samples met the Table 3 SCS.

3.2.4 Phase One Environmental Site Assessment. GEMTEC dated November 2024.

Phase One Environmental Site Assessment, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated November 2024. GEMTEC Project 101785.004.

GEMTEC conducted a Phase One ESA 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, five potentially contaminating activities (PCAs) (four on-Site and one off-Site) were identified resulting in five areas of potential environmental concern at the Site. Figure A.3, Appendix A indicates the location of the PCAs and Figure A.4, Appendix A indicates the location of the APECs. The APECs identified in the Phase One ESA (GEMTEC, 2024) are summarized in the Table 3.1.

Table 3.1: Summary of Areas of Potential Environmental Concern

APEC #	APEC	Location of APEC	PCA	Location of PCA	COPCs	Media Potentially Impacted
1	Importation of Fill Material of Unknown Quality	Across the Site	30	On-Site	PHC F1-F4, VOCs, PAHs, M&Is	Soil
2	Gasoline and Associated Products Storage in Fixed Tanks	Southwestern portion of the Site	28	On-Site	PHC F1-F4, VOCs, PAHs	Soil Groundwater
3	Presence of a garage on-Site	Western portion of the on-Site structure	OT.1	On-Site	PHC F1-F4, VOCs	Soil Groundwater
4	Potential presence of a former oil/ water separator	Northern portion of the Site	OT.5	On-Site	PHC F1-F4, VOCs	Soil Groundwater
5	Gasoline and Associated Products Storage in Fixed Tanks	Eastern portion of the Site (fronting Carp Road)	28	Off-Site 30 m northeast	PHC F1-F4, VOCs	Soil Groundwater

Notes:
28 – Gasoline and Associated Products Storage in Fixed Tanks

30 – Importation of Fill Material of Unknown Quality
OT.1 – Presence of an automative repair garage on-Site
OT.5 – Potential presence of a former oil/water separator
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
VOCs – Volatile Organic Compounds
PAHs – Polycyclic Aromatic Hydrocarbons
M&Is – Metals and Inorganics (Inorganics included Other Regulated Parameters such as EC, SAR, pH, and Cyanide).

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

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of the Site Investigation

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

- Developing an understanding of the geological and hydrogeological conditions at the Site.
- Conducting field sampling for all contaminants of potential concern (COPCs) associated with the areas of potential environmental concern (APECs) identified in the Phase One ESA.

The Phase Two ESA investigation activities was carried out in 2 separate phases. The initial investigation was carried out between April 6, 2023, and April 10, 2023 as part of a due diligence environmental investigation. A second round of investigation was carried out between July 2, 2024, and August 30, 2024. The Phase Two ESA included the following tasks:

- **Health and Safety Plan**: Preparation of a Health and Safety Plan for internal and subcontractor use prior to initiating any field work at the Site.
- **Utility Clearances**: Coordination of utility clearances with local utility companies along with retaining the services of a private locator to assess for possible services in the areas of the proposed borehole locations.
- **Sampling and Analysis Plan (SAP)**: Preparation of an 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.
- **Borehole Advancement and Monitoring Well Installation**: The Phase Two ESA investigation activities included the drilling of five boreholes (BH24-05 to BH24-09). BH24-05 to BH24-08 were installed with monitoring wells whereas BH24-09 was advanced at the Site for Geotechnical Investigation and no environmental sampling was conducted at this location. The rationale for the selected location of the boreholes is provided in the SAP provided in Appendix B. The locations of the boreholes and monitoring wells are provided in Figure A.5, Appendix A. The monitoring well construction details are presented in Table A.1, Appendix A.

- **Soil Sampling**: Soil samples were collected on April 6, 2023, April 10, 2023, July 2, 2024, and July 3, 2024, from the boreholes. Selected soil samples were submitted for chemical analysis of one or more of the following:
    - Metals (including hydride-forming metals) and other regulated parameters (ORP) including electrical conductivity (EC), sodium adsorption ratio (SAR), hot water soluble boron (HWS boron), cyanide (CN), hexavalent chromium (Cr-IV), mercury (Hg) and pH;
    - Petroleum Hydrocarbon (PHC) F1-F4;
    - Volatile Organic Compounds (VOCs); and/or,
    - Polycyclic Aromatic Hydrocarbons (PAHs).
- **Groundwater Monitoring and Sampling**: Groundwater samples were collected from the on-Site groundwater monitoring wells on August 30, 2024. Groundwater samples were submitted for analysis of one or more of the following:
    - Metals (including hydride-forming metals) and other regulated parameters (ORP) including EC, CN, Cr-IV, Hg and pH;
    - PHC F1-F4;
    - VOCs; and/or,
    - PAHs.
- **Surveying**: An elevation survey for boreholes and monitoring wells was completed.
- **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 Phase Two ESA report following the report format required by O. Reg. 153/04.

4.2 Media Investigated

To address the potential environmental issues identified in the Phase One ESA, the Phase Two ESA field program included sampling of surface and subsurface soil and groundwater from boreholes and monitoring wells installed within the overburden at the Site. No sediment was present at the Site and therefore no sediment sampling was completed. 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.

4.3 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 Site;
- 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.

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

- The Site consists of a land parcel with an approximate area of 1.66 hectares (16,550 m^2). The Site is currently occupied by a structure which is located closer to the western property line of the Site. The structure at the Site is occupied by a commercial business named 'Clearance Centre Canada' which sells and services Recreational Vehicles (RVs). The structure contains an office, a RV showroom and a RV repair shop. The structure is slab on grade with no basement. The concrete slab appeared in good condition with minimal cracking. A structure has been present on the Site since at least 1976 based on the aerial photograph. The configuration of the Site (since 1976) is the same as the current layout (2024) of the Site. The entrance to the Site is from Carp Road.
- At the time of Site reconnaissance, the business was in operation with employees on-Site. The eastern portion of the on-Site building is used on an office space and a RV showroom whereas the western portion of the on-Site building is used as an RV repair shop.
- At the time of the Phase One ESA, the neighbouring properties within the Phase One Study Area consisted of commercial and residential properties.
- No water bodies or areas of natural significance were identified on or within 30 m of the Site.
- The Site was serviced by the City of Ottawa for municipal water.
- No underground utility drawings were provided for review. Underground utilities are inferred to be present in the general vicinity of the on-Site structure;
- Based on the Site topography and surrounding features, the anticipated direction of shallow groundwater flow is to the northeast towards Carp River.
- As summarized above, the Phase One ESA identified the following APECs at the Site:
    - APEC 1 – Presence of Fill Material at the Site
        - Through the review of aerial photographs, the Site has been developed since at least 1976 considering the presence of a structure on the Site. However, ground disturbance related to a cleared area and a structure was first noted in the eastern portion of the Site in the aerial photograph from 1932. The fill material is expected to be present across the Site. The COPCs were PHC F1-F4, VOCs, PAHs, and M&Is in soil.
    - APEC 2 – Presence of historical ASTs at the Site
        - Through the review of aerial photographs, two ASTs were noted at the Site in the southwestern portion of the Site between 2005 and 2022. Considering the observations made during the review of aerial photographs

and during Site reconnaissance, these ASTs were used for propane storage for heating considering the abandoned propane lines running towards the south building line of the on-Site structure. However, uncertainty remains with respect to the ASTs before GEMTEC's Phase I ESA in 2023. The COPCs are PHC F1-F4, VOCs, and PAHs in soil and groundwater.

- APEC 3 – Presence of an automotive repair garage on-Site
  - Through the review of insurance reports, historical reports (Phase I ESA prepared by GEMTEC in 2023), and Site reconnaissance, the Site has historically had an auto repair garage/automotive repair facility located in the western portion of the on-Site structure. The COPCs are PHC F1-F4, Metals, PAHs, and VOCs in soil and groundwater.
- APEC 4 – Potential presence of a former oil water separator
  - During the Site reconnaissance, GEMTEC noted a concrete filled pit, potentially related to an oil/water separator. The COPCs are PHC F1-F4, and VOCs in soil and groundwater.
- APEC 5 – Presence of a retail fuel outlet and oil changing facility to the east of the Site
  - Through the review of aerial photographs, City Directories, Historic Land Use Inventory (HLUI), and Site reconnaissance, a retail fuel outlet and an oil changing facility are located approximately 30 metres to the east of the Site across Carp Road. The COPCs are PHC F1-F4, and VOCs in soil and groundwater.

4.4 Deviations from Sampling and Analysis Plan

An 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.

4.5 Impediments

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

5.0 INVESTIGATION METHOD

5.1 General

The following sections describe the field investigation methodology employed during the Phase Two ESA.

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

5.2 Borehole Drilling

The fieldwork for this Phase Two ESA was carried out under 2 separate phases. The initial investigation was carried out between April 6, 2023, and April 10, 2023. At that time four boreholes (BH23-01 to BH23-04) were advanced at the Site. A second round of investigation was carried out between July 2, 2024, and August 30, 2024 at which time five additional boreholes (BH24-05 to BH24-09) were advanced at the Site. The boreholes were advanced to depths ranging between 4.26 m bgs and 8.61 m bgs. The borehole locations are provided in Figure A.4 and 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.

Boreholes BH23-01 and BH23-02 were advanced using Geoprobe 7728DT drilling equipment supplied and operated by Strata Drilling Group of Ottawa, Ontario. In these boreholes samples of the soils were recovered using direct push sampling equipment from single use dedicated liners. Boreholes BH23-03 and BH23-04 were advanced using a truck mounted CME-55 drill rig supplied and operated by OGS Inc. of Almonte Ontario. Boreholes BH24-05 to BH24-09 were advanced using a track mounted CME-75 drill rig supplied and operated by Aardvark Drilling Inc. of Carleton Place, Ontario. The soil samples were obtained at regular depth intervals and soil stratigraphy was logged in the field. Borehole BH24-09 was advanced at the Site for a Geotechnical Investigation and no environmental sampling was conducted at this location.

5.3 Soil Sampling

Soil samples collected from the boreholes 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 sealable plastic bag for headspace vapour field screening, soil description, and noting the presence of any staining, odour and/or debris. A gas detector (RKI Eagle 2) calibrated to 100 parts per million (ppm) isobutylene and hexane was used to measure the total organic vapour and 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.3.

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

5.4 Soil Field Screening

Field measurements of sample headspace concentration were made RKI Eagle 2 details of which are available in Table 5.1.

Table 5.1: Details for RKI Eagle 2

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

The RKI Eagle 2 was calibrated daily prior to field use with isobutylene and hexane standards using factory methods. The results of soil headspace screening measurements are provided in the Record of Borehole Logs in Appendix C.

One ‘worst case’ soil sample was selected for analytical submission based on the measurements of headspace vapour. Other soil samples were selected based on target depths, soil characteristics, and/or general coverage for a given APEC.

5.5 Groundwater Monitoring Well Installation

Groundwater monitoring wells (BH/MW23-01, BH/MW23-02, BH/MW23-03, BH/MW24-05, BH/MW24-06, BH/MW24-07, and BH/MW24-08) were installed at the Site by three MECP licensed well contractors, Strata Drilling Group of Ottawa, Ontario; OGS Inc. of Almonte Ontario; and Aardvark Drilling Inc. of Carleton Place, Ontario. Groundwater monitoring wells were installed using threaded 51 mm diameter, schedule 40, polyvinyl chloride (PVC) well screens and riser pipe, which were brought to the Site in sealed plastic bags. The annular space was filled with silica filter sand to at least 0.3 m above the well screen. The monitoring wells were sealed with bentonite from the top of the sand pack and completed with a flush-mounted protective well casing. The riser pipes were sealed with a J-plug.

Following drilling, the monitoring wells were developed on August 17, 2024 by removing up to three standing well pipe and filter pack volumes using dedicated 15.9 mm low density polyethylene (LDPE) tubing with Waterra® inertia pumps (foot valves), until the well did not produce any more water, or until water quality parameters stabilize. During monitoring well development, qualitative observations were made of water colour, clarity, and the presence or absence of any hydrocarbon sheen or odours.

A description of the quality assurance/quality control (QA/QC) measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.12.

5.6 Groundwater Field Measurements for Water Quality Parameters

Groundwater indicator parameters including temperature, pH and conductivity were measured prior to sampling to ensure adequate well development and purging. A Horiba U52 Multiparameter meter installed in a flow-through cell was used to measure groundwater quality during monitoring well development and groundwater sampling. This instrument was calibrated by Maxim Environmental and/or using factory supplied standard solutions for electrical conductivity (1413 micro Siemens per centimetre (µS/cm)) and pH (4.01 pH and 7.01 pH) parameters. Specifications for the Horiba U52 Multiparameter meter are available in Table 5.2.

Table 5.2: Details for Horiba Multi parameter meter

Parameter	Measurement Range	Precision	Accuracy
pH	0.00 to 14.00 pH	0.01 pH	±0.2 pH
Conductivity	0.00 to 200 mS/cm	0.01 mS/cm	± 0.5%
Temperature	-5 to 45 ºC	0.1 ºC	± 0.15 ºC

The outflow of the sampling pump was attached to the flow through cell and groundwater was circulated through to allow the collection of field parameter measurements.

5.7 Groundwater: Sampling

Depth to water measurements and non-aqueous phase liquid (NAPL) thickness, if any, were measured using an Solinst Model 122 oil-water interface probe. The interface probe was cleaned with an Alconox™ solution and rinsed thoroughly with distilled water.

The monitoring wells were purged prior to sample collection using a GeoPump peristaltic pump and Horiba U52 multiparameter meter. An oil-water interface probe was used to ensure the pump rate did not reduce the static water level of the monitoring well more than 10%. Samples were collected upon stabilization of field parameters pH, temperature, conductivity, dissolved oxygen (DO) and oxidative reductive potential (ORP). For field parameters to be considered stable the average of the last three measurements of a given parameter were calculated and compared to the last three measurements. If the last three measurements were within 3% of the average, the parameter was considered stable. A measurement was recorded every three minutes. During purging and sampling, qualitative observations were made of water colour, clarity, and the presence of hydrocarbon sheen or odour.

Groundwater samples were placed in laboratory-prepared containers and stored on ice in a cooler until delivery to the analytical laboratory under chain-of-custody procedures. A summary of the groundwater samples submitted for analysis is presented in Table A.4.

5.8 Sediment Sampling

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

5.9 Laboratory Analytical Program

The contact information for the analytical laboratory is as follows:

- AGAT Laboratories (AGAT), 5835 Coopers Avenue, Mississauga, Ontario L4Z 1Y2.

The analytical laboratory is accredited in accordance with the International Standard ISO/IEC 17025 (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 (SCC) in association with the Canadian Association for Laboratory Accreditation (CALA) and accepted by the MECP.

5.10 Residue Management Procedures

All residues produced during the investigation (e.g., soil cuttings from drilling, groundwater from well development purging, wash water from equipment decontamination) were placed in sealed drums and stored at the Site for disposal by the owner.

5.11 Surveying

The locations and ground surface elevations of the boreholes and monitoring wells were determined using a Trimble R10 high precision GPS survey instrumentation.

5.12 Quality Assurance / Quality Control Program

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

- The use of standard operating procedures for all field investigation activities.
- All monitoring wells were developed following installation to remove fine particles from the filter pack and any fluids introduced during drilling.
- Monitoring wells were appropriately purged prior to groundwater sample collection to remove stagnant water from the well bore and improve sample representativeness, minimizing sample agitation and aeration to the extent practicable.

- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples.
- The collection of a trip blank and field blank for groundwater sampling event and the associated analysis for PHC F1 and VOCs.
- 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 and groundwater samples were handled and stored in accordance with the sample collection and preservation requirement of the MECP *"Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.I of the Environmental Protection Act"*, July 1, 2011. Samples were collected directly into pre-cleaned, laboratory-supplied sample containers with the appropriate preservative for the analyte group. Upon collection, samples were placed in insulated coolers with ice for storage and transport to the analytical laboratory under chain-of-custody.
- Dedicated sampling equipment (tubing and footvalves) and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment (e.g., water level meters, split spoons) were 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 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.

Table 5.3 contains details for the parent and duplicate samples.

Table 5.3: Details for the parent and duplicate samples

Date	Media	Sample ID	Duplicate ID	Field Blank and Trip Blank
April 6, 2023	Soil	BH23-01 SA5	BH23-01 SA105	--
July 2, 2024	Soil	BH24-08 SA6	BH24-08 SA106	--
August 30, 2024	Groundwater	MW24-06	MW24-106	PHC F1, and VOCs (dated August 30, 2024, and August 28, 2024)

6.0 REVIEW AND EVALUATION

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

6.1 Geology

The soil conditions encountered during the borehole drilling program are presented in the Record of Borehole Logs provided in Appendix C, as well as on cross section figures provided in Figure A.8, Figure A.9, Figure A.11, and Figure A.12, Appendix A.

In general, the subsurface soil conditions encountered in the boreholes advanced as part of this Phase Two ESA (Boreholes BH23-01 to BH23-04 and BH24-05 to BH24-08) generally consisted of fill material (comprised of silty sand/sandy silt with varying amount of gravel) underlain by native silty sand and bedrock. Fill materials were determined to be between the ground surface and 1.98 m thick. The sand to silty sand unit underlying fill materials varied in thickness depending on the depth to bedrock. Bedrock surface elevations were between 119.44 m asl and 120.22 m asl.

All overburden monitoring wells were installed so that the screen straddled the groundwater table in order to determine if PCAs which potentially generated COPCs including light non-aqueous phase liquids (LNAPL) were present on, in or under the Site.

6.2 Groundwater: Elevations and Flow Direction

The groundwater monitoring wells installed as part of the Phase Two ESA field program, were used in the interpretation of shallow groundwater contours and shallow groundwater flow direction. Any temporary fluctuation in water levels at the Site is not anticipated to affect the conclusions of the Phase Two ESA.

The location and depth of the screens for the overburden monitoring wells were selected based on the APECs being investigated and were installed to straddle the anticipated water table based on conditions observed during drilling. The well screens were located within native silty sand. A summary of the monitoring well construction details are presented in Table A.1, Appendix A. Water levels measured in the monitoring wells ranged from 2.30 m bgs to 3.59 m bgs on November 6, 2024. The ground surface and top of casing at each well location was surveyed using a high precision GPS survey instrumentation. Water level measured and elevations are summarized in Table A.2, Appendix A.

Groundwater elevations ranged from 121.04 m to 122.93 m above sea level (asl) on November 6, 2024. Based on the interpreted groundwater elevation contours presented in Figure A.6, Appendix A, the inferred direction of shallow groundwater flow is generally to the east.

Seasonal fluctuation in water levels on the Site should be expected. Considering only one monitoring event was conducted, seasonal trends could not be identified; however, shallow

groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. At the time of groundwater sample collection on August 30, 2024, the measured water levels at all the monitoring wells intersected the well screen with the exception of the water levels noted at BH/MW 23-03 and BH/MW 24-07. The water wells at these wells were slightly above the respective well screen intervals.

The Site is serviced by municipal water, municipal sewer, hydro and natural gas for heating. The only overhead/aboveground public service is hydro. However, private gas lines, sewer, and private water lines are present above the water table at the Site. Based on this, buried services do not have a potential to facilitate the migration of contaminants (if any) at the Site.

6.3 Groundwater: Hydraulic Gradients

The inferred groundwater contours are presented in Figure A.6, Appendix A. The average horizontal hydraulic gradient was 0.007525 m/m and was calculated based on water levels measured on November 6, 2024. Hydraulic gradients between monitoring well sets are available in Table 6.1. The groundwater flow direction was calculated without incorporating the groundwater elevation from monitoring well BH/MW24-07, as this well was installed in the bedrock.

Table 6.1: Hydraulic gradients between monitoring well sets

MW ID	MW ID	Distance between MWs (m)	Difference in GW elevation (m)	Horizontal Hydraulic Gradient (m/m)
BH/MW23-01	BH/MW23-02	9	0.14	0.015555
BH/MW23-02	BH/MW23-03	39	0.37	0.009487
BH/MW23-03	BH/MW24-05	72	0.77	0.010694
BH/MW24-05	BH/MW24-06	99	0.06	0.000606
BH/MW24-06	BH/MW24-08	108	0.46	0.004259
BH/MW24-08	BH/MW23-01	99	0.45	0.004545

Vertical hydraulic gradient for shallow groundwater conditions were not calculated as nested monitoring wells were not installed at the Site.

6.4 Soil Texture

Based on soil conditions encountered in the boreholes and a grain size analysis of soil at BH24-05 and BH24-07, the predominant soil grain size at the Site is considered coarse textured. Grain size analyses are provided in Certificate of Analysis and available in Appendix D.

6.5 Soil: Field Screening

Headspace vapour measurements were conducted on the soil samples collected from each of the boreholes advanced at the Site. Soil vapour and combustible gas readings were generally low across the Site. Soil vapour and combustible gas readings were observed to be 0 parts per million (ppm). Low soil vapour and combustible gas readings indicated a general absence of volatile compounds. The results of headspace vapour measurements are available on the Record of Borehole Logs in Appendix C.

6.6 Soil: Quality

Table A.3, 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.5 to A.6, Appendix A. Figures A.7, Appendix A illustrates the soil sample results by location. The laboratory Certificates of Analysis for the soil samples are included in Appendix D.

Soil sampling at the Site was completed during borehole advancement on April 6, 2023, April 10, 2023, July 2, 2024, and July 3, 2024. The soil samples were submitted to AGAT for analysis of one or more of the following parameters: metals, ORP (EC, SAR, HWS boron, CN, Cr-IV, and Hg), pH, PHC F1-F4, BTEX, VOCs and/or PAHs. A summary of the number of soil samples analyzed and the number of soil samples exceeding the Table 3 SCS is provided in Table 6.2.

Table 6.2: Soil exceedances compared to Table 3 RPI SCS

Parameter	Number of soil samples analyzed (including duplicates)	Number of soil samples exceeding Table 3 RPI SCS
Metals (including hydride forming metals)	14 (12 plus two duplicates)	0
EC, SAR, pH, Cyanide	14 (12 plus two duplicates)	EC – 1 SAR – 0, Cyanide – 0 pH – within acceptable range
PHC F1 to F4	14 (12 plus two duplicates)	0
VOCs	9 (8 plus one duplicate)	0
BTEX	5 (4 plus one duplicate)	0
PAHs	11 (9 plus two duplicates)	0

Notes:

1. The pH of surface soil at the Site is between 5 and 9 and the pH of subsurface soil at the Site is between 5 and 11.

6.6.1 Metals and hydride forming metals

No exceedances for soil analytical results for metals and hydride forming metals were identified at the Site.

6.6.2 Other Regulated Parameters (EC, SAR, pH, and Cyanide)

No exceedances for soil analytical results for SAR and Cyanide were identified at the Site. The pH of surface soil at the Site is between 5 and 9 and the pH of subsurface soil at the Site is between 5 and 11. A marginal exceedance for electrical conductivity was noted at BH23-04 SA1 (0.00 – 0.76 m bgs) which was a result of the salting activities (during winter months) in proximity of the sampling location (in the parking lot area) at the Site for pedestrian and vehicular safety. The EC exceedance is not considered to be contamination for soil remaining at the Site based on Section 49.1 of Ontario Regulation 153/04 – Records of Site Condition (O.Reg. 153/04).

6.6.3 Petroleum Hydrocarbon F1-F4

No exceedances for soil analytical results for PHC F1-F4 were identified at the Site.

6.6.4 Volatile Organic Compounds (including BTEX)

No exceedances for soil analytical results for VOCs (including BTEX) were identified at the Site.

6.6.5 Polycyclic Aromatic Hydrocarbons

No exceedances for soil analytical results for PAHs were identified at the Site.

6.7 Groundwater: Quality

Monitoring well construction details are summarized in Table A.1, Appendix A and a summary of groundwater samples submitted for laboratory analysis is provided in Table A.4, Appendix A. The analytical results for groundwater samples are summarized in Tables A.8 and A.9, Appendix A. Figures A.10, Appendix A illustrates the groundwater sample results by location. Laboratory certificates of analysis for groundwater are provided in Appendix D.

Groundwater sampling at the Site was completed on August 30, 2024. The groundwater samples were submitted to AGAT for analysis of one or more of the following parameters: metals, ORP (EC, Chloride, and CN^-), pH, PHC F1-F4, VOCs and PAHs. A summary of the number of groundwater samples analyzed and number of samples exceeding the Table 3 SCS is provided in Table 6.3.

Table 6.3: Groundwater exceedances compared to Table 3 SCS

Parameter	Number of groundwater samples analyzed (including duplicate sample)	Number of groundwater samples exceeding Table 3 SCS
Metals and hydride forming metals	8 (7 plus one duplicate)	0

Parameter	Number of groundwater samples analyzed (including duplicate sample)	Number of groundwater samples exceeding Table 3 SCS
EC, pH, Cyanide, Chloride	8 (7 plus one duplicate)	0
PAHs	8 (7 plus one duplicate)	0
PHC F1 to F4	8 (7 plus one duplicate)	0
VOCs	8 (7 plus one duplicate)	3

6.7.1 Metals and hydride forming metals

No exceedances for groundwater analytical results for metals and hydride forming metals were identified at the Site.

6.7.2 Other Regulated Parameters (EC, SAR, pH, and Cyanide)

No exceedances for groundwater analytical results for ORP were identified at the Site.

6.7.3 Petroleum Hydrocarbon F1-F4

No exceedances for groundwater analytical results for PHC F1-F4 were identified at the Site.

6.7.4 Volatile Organic Compounds (including BTEX)

All groundwater samples met Table 3 SCS with the exception of BH/MW24-06 and BH/MW24-07 that both had exceedances of chloroform. Bromodichloromethane, a byproduct of chlorine disinfection in water, was detected in BH/MW24-06. Additionally, no other VOCs were reported above laboratory detection limits. Since the groundwater flow direction crosses the Site west to east, from BH/MW24-06 to BH/MW24-07, GEMTEC is of the opinion that the chloroform exceedance is likely related to the release of municipal water from one of the water lines surrounding or running through the Site. In accordance with Section 49.1 of O.Reg. 153/04, chloroform is deemed to meet the applicable SCS.

6.7.5 Polycyclic Aromatic Hydrocarbons

No exceedances for groundwater analytical results for PAHs were identified at the Site.

6.8 Sediment: Quality

No sediment samples were collected as part of this investigation.

6.9 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 and groundwater sampling. Precision is determined by the relative percent difference ("RPD") between the duplicate and original samples and was calculated as follows:

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

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

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

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

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

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

7.0 PHASE TWO CONCEPTUAL SITE MODEL

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

The Phase Two CSM was prepared in accordance with Schedule E, Part V, Table 1, Section 6, Sub-heading (x) of Ontario Regulation 153/04 (O. Reg. 153/04) and is described in the text below and in the following figures:

Figure A.1 Site and Phase One Study Area

Figure A.2 Site Features

Figure A.3 Potentially Contaminating Activities

Figure A.4 Areas of Potential Environmental Concern

Figure A.5 Borehole and Monitoring Well Locations

Figure A.6 Groundwater Elevations – November 30, 2024

Figure A.7 Soil Analytical Results

Figure A.8 Cross Section A-A' – Soil Exceedances

Figure A.9 Cross Section B-B' – Groundwater Exceedances

Figure A.10 Groundwater Analytical Results

Figure A.11 Cross Section A-A' – Groundwater Exceedances

Figure A.12 Cross Section B-B' – Groundwater Exceedances

7.1 Property Description and History

The Site consists of a land parcel (1174 Carp Road) with an approximate area of 1.66 hectares (16,550 m^2).

At the time of the Site visit, the Site was occupied by a structure with surrounding parking areas. The structure at the Site is occupied by a business named 'Clearance Centre Canada' which deals with Recreational Vehicles (RVs). The structure contains an office, a RV showroom, and a RV repair shop. The structure is slab on grade construction with no basement. The concrete pad appeared in good condition with minimal cracking. A concrete filled pit was noted at the Site, potentially related to an historic oil water separator. The entrance to the Site is from Carp Road.

Based on the review of available aerial photographs, the Site appeared to have ground disturbance related to a cleared area and a structure was first noted in the eastern portion of the Site in the aerial photograph from 1932. However, a larger structure, matching present-day dimensions, appears to have been developed between 1964 and 1976. The Site is considered to be an enhanced investigation property based on the former uses as Canada's Automotive Resale Service, for used vehicles, and O.K. Tire, an auto repair garage conducting mechanical repairs only. Currently, only mechanical repairs were completed at the Site and a few drums were noted in the auto repair garage, which were used for waste oil, and were disposed off on an as-needed basis.

The ground cover at the Site (around the structure) is primarily asphalt graded parking area and is used for RV storage/parking. Grassed areas are present at the periphery of the northern and eastern property line of the Site. A treed area is present along the southern and the western property line of the Site. The Site is serviced by municipal water, municipal sewer, natural gas, and overhead hydro. Roadside ditches were identified along Hazeldean Road. Surrounding land uses consist primary of residential, community right of way (roadway) and commercial. A retail

fuel outlet ‘Petro Canada’ is located at the land parcel of 1173 Carp Road and 6250 Hazeldean Road. An oil changing facility ‘Great Canadian Oil Change’ is located at the land parcel of 1189 Carp Road.

GEMTEC also conducted a thorough investigation for ASTs in the southwestern portion of the Site (as seen in the aerial photographs between 2005 and 2022). This included searching for concrete pads and no discernible evidence of any AST was noted. However, abandoned propane lines were marked and noted as part of the utility locates process. Based on the Phase I ESA (GEMTEC, 2023), propane tanks were identified at that area. Considering the observations made during the review of aerial photographs and during Site reconnaissance, these ASTs were used for propane storage for heating considering the abandoned propane lines running towards the south building line of the on-Site structure. However, uncertainty remained with respect to the type and product stored in the ASTs prior to GEMTEC’s Phase I ESA in 2023.

The historical development at the Site, presence of ASTs (before 2023), presence of an automotive repair garage (for RVs), potential presence of an oil water separator (linked to the concrete filled pit) and presence of a retail fuel outlet/oil chaining facility have the potential to result in the presence of contaminants of potential concern in soil or groundwater at the Site and are therefore considered APECs.

The Site and the associated Phase One 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 in Table 7.1.

Table 7.1: Site Information

Site Information	
Legal Description	Pt Lt 23 Con 12 Goulbourn as Fourthly & Fifthly Described In NS279017; Goulbourn S/T Easement in Gross over Part 1 ON 4R20933 as in OC567878
PIN	04753-0269 (LT)
Site Owner	15242428 Canada Inc.; Société En Commandite Stittsville 2400 rue des Nations, bureau 137 514-331-2788
Site Contact	Sébastien Béland, Gestionnaire de project Construction

A summary of the current and past uses, based on the information reviewed as part of the Phase One ESA (GEMTEC, 2024), is provided in Table 7.2.

Table 7.2: Current and Past Uses

Year	Owner	Property Use[1]	Other Observations from Aerial Photographs, Fire Insurance Plans, etc.
Before 1831	Crown – Reported as Patent	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1831 – 1835	Robert Howard William Thompson	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1835 – 1865	Howard Thompson	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1865 – 1871	William H. Thompson	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1871 – 1883	Rebecca Irwin	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1883 – 1908	Mary Steele	Agricultural or Other Property Use	Neither aerial photograph nor other records were available for review.
1908 – 1943	James E. Steele	Agricultural or Other Property Use	Ground disturbance related to a cleared area and a structure was first noted in the eastern portion of the Site in the aerial photograph from 1932.
1943 – 1957	Milton Potter & Ethel Potter	Agricultural or Other Property Use	The photo resolution (aerial photograph from 1945) is poor.
1957 – 1959	Murray Wheaton	Agricultural or Other Property Use	The photo resolution (aerial photograph from 1959) remained poor. Tree cover can be seen closer to the eastern portion of the Site.
1959 – 1971	Douglas Hyde – Clarke & Dorothy Hyde – Clarke	Agricultural or Other Property Use	The Site remained undeveloped, but a cleared area (at the Site) can be seen just south of the intersection of Hazeldean Road and Carp Road based on the aerial photograph from 1964.
1971 – 1977	Stanislaw Biel	Commercial	A structure can be seen at the Site with likely a gravel graded parking area/driveway. This structure was constructed sometime between 1964 and 1976. The entrance to the Site was from Carp Road. Material storage can be seen to the north while ground disturbance can be seen to the east of the on-Site structure based on the aerial photograph from 1976.

Year	Owner	Property Use[1]	Other Observations from Aerial Photographs, Fire Insurance Plans, etc.
1977 – 1980	B & M Cantor Holdings Limited	Commercial	Neither aerial photograph nor other records were available for review.
1980 – 1985	Josph G. Kavanagh	Commercial	No changes observed from the aerial photograph from 1983.
1985 – 2004	Kavanagh Realty (1982) Limited	Commercial	The ground cover at the Site appears to be an asphaltic graded area. Material storage can be seen in the southwestern portion of the Site. One AST can also be seen in the southwestern portion of the Site based on the aerial photographs from 1991 and 2002.
2004 – 2006	Stittsville Flea Market Inc., a name change from Kavanagh Realty (1982) Limited in 2004 As easement was noted for City of Ottawa in 2006.	Commercial	No changes observed from the aerial photograph from 2002.
2006 – 2009	2074246 Ontario Inc.	Commercial	No changes observed from the aerial photograph from 2002.
2009 – 2010	Canril Corporation, a name change from 2074246 Ontario Inc. in 2009.	Commercial	No changes observed from the aerial photograph from 2002.
2010 – 2023	2237626 Ontario Inc.	Commercial	Two ASTs can also be seen in the southwestern portion of the Site based on the aerial photograph from 2011.
2023 – Present	15242428 Canada Inc.	Commercial	The configuration of the Site is the same as the current layout (1976) of the Site

Note:
1. Description of Property Use after 1932 was determined based on the review of aerial photographs.

As noted above, the Site is currently owned by 15242428 Canada Inc.

7.2 Previous Investigation

The following lists the previous reports available for the Site. The Phase One ESA (GEMTEC, 2024) formed the basis for completing this Phase Two ESA.

- Preliminary Geotechnical Investigation, Proposed Commercial Development, Hazeldean Road at Carp Road, Ottawa, Ontario, by Paterson Group Inc. dated August 2006. Report Number PG0805-1.

- Phase I Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated October 2023. GEMTEC Project 101785.003.
- Phase II Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd dated October 2023. GEMTEC Project 101785.003.
- Phase One Environmental Site Assessment, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated November 2024. GEMTEC Project 101785.004.

7.3 Potentially Contaminating Activities

The potentially contaminating activities (PCAs) identified as part of Phase One ESA (GEMTEC, 2024) are summarized in Table 7.3. Figure A.3, Appendix A indicates the location of the PCAs.

Table 7.3: Summary of Potentially Contaminating Activities

PCA ID	Type of PCA	Address / Location	Distance from Site	Information source	PCA Description	Rationale for APEC
30	Importation of Fill Material of Unknown Quality	1174 Carp Road	On-Site	Site Recon, Aerial Photographs	Through the review of aerial photographs, the Site has been developed since at least 1976 considering the presence of a structure on the Site. However, ground disturbance related to a cleared area and a structure was first noted in the eastern portion of the Site in the aerial photograph from 1932.	*PCA is located on the Site and must be identified as an APEC as per O.Reg. 153/04.*
28	Gasoline and Associated Products Storage in Fixed Tanks	1174 Carp Road	On-Site	Site Recon, Aerial Photographs	Two ASTs were also noted at the Site in the southwestern portion of the Site between 2005 and 2022 based on the aerial photographs. Additionally, abandoned propane lines were marked and noted as part of the utility locates process. Considering the observations made during the review of aerial photographs and during Site reconnaissance, these ASTs were used for propane storage for heating considering the abandoned propane lines running towards the south building line of the on-Site structure. However, uncertainty remains with respect to the ASTs before GEMTEC's Phase I ESA in 2023.	*PCA is located on the Site and must be identified as an APEC as per O.Reg. 153/04.*
OT.1	Presence of a garage on-Site	1174 Carp Road	On-Site	Insurance Reports and Historical Reports (Phase I ESA, GEMTEC 2023)	Presence of an automotive repair garage on-Site (for mechanical repairs)	*PCA is located on the Site and must be identified as an APEC as per O.Reg. 153/04.*
OT.5	Potential presence of a former oil water separator	1174 Carp Road	On-Site	Site Recon	A concrete filled pit was noted at the Site, potentially related to an oil water separator.	*PCA is located on the Site and must be identified as an APEC as per O.Reg. 153/04.*
28	Gasoline and Associated Products Storage in Fixed Tanks	6250 Hazeldean Road	30 m northeast	ERIS, CD, HLUI, Site Recon	Listed as a retail fuel outlet with underground storage tanks (USTs). 1 x 50,000 litre (L) double wall UST for diesel and 3 x 50,000 L double wall UST for gasoline. Listed for 4 x 50,000 L double wall fibreglass UST. Fuel type not mentioned. Additionally, an oil changing facility is also located at 1189 Carp Road.	*Based on the distance from the Site, this activity/operation has a potential for impacts at the Site. This PCA creates an APEC at the Site.*
OT.1 OT.2	Listed as a waste generator	1189 Carp Road	45 m east	ERIS	Generator Number ON6220277. Listed as a generator of oil skimmings & sludges in 2015, 2016, 2018, 2020, 2021, and 2022.	*Based on the distance from the Site and the (anticipated) groundwater flow direction, this activity/operation has a potential for impacts at the Site. This PCA creates an APEC at the Site.*
OT.2	Listed as a waste generator	6315 Hazeldean Road	45 m northwest	ERIS	Generator Number ON47777895. Listed as a waste generator of pathological wastes in 2018, 2020, and 2021.	*Based on the distance from the Site, the nature of the contaminants, and the (anticipated) groundwater flow direction, this activity/operation has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*

PCA ID	Type of PCA	Address / Location	Distance from Site	Information source	PCA Description	Rationale for APEC
OT.2	Listed as a waste generator	6255 Hazeldean Road	90 m north	ERIS	Generator Number ON3346063. Listed as a waste generator of pathological wastes in 2015, 2016, 2018, 2020, 2021, and 2022.	*Based on the distance from the Site, the nature of the contaminants and the (anticipated) groundwater flow direction, this activity/operation has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*
OT.3	Listed in Scott's Manufacturing Directory	1139 Carp Road	130 m north	ERIS	Established in 1998 and listed as manufacturer of non-metallic mineral products, and glass product manufacturing. Listed as a distributor of home furnishings, speciality line building supplies, and industrial machinery, equipment and supplies.	*Based on the distance from the Site and the (anticipated) groundwater flow direction, this activity/operation has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*
OT.4	Listed for a spill	1208 Carp Road	160 m east	ERIS	Listed for a leak of 246 L of furnace oil from tank leak in 1997. Possible soil contamination.	*Based on the distance from the Site, the (anticipated) groundwater flow direction, and the year of incident, this activity/operation/record has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*
OT.4	Listed for a spill	49 Delamere Road	250 m south	ERIS	Natural gas fire reported in 2009	*Based on the nature of the contaminant and the distance from the Site, this activity/operation/record has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*
10	Commercial Autobody Shop	69 Neil Avenue	150 m east	City Directories	Canadian Rust Control, Stittsville Automotive SVC	*Based on the distance from the Site and the (anticipated) groundwater flow direction, this activity/operation has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*
37	Operation of Dry-Cleaning Equipment (where chemicals are used)	1110 Carp Road	165 m north	City Directories	Browns Cleaner	*Based on the distance from the Site and the (anticipated) groundwater flow direction, this activity/operation has a low potential for impacts at the Site. This PCA does not create an APEC at the Site.*

Notes:
10 – Commercial Autobody Shop
28 – Gasoline and Associated Products Storage in Fixed Tanks
30 – Importation of Fill Material of Unknown Quality
37 – Operation of Dry-Cleaning Equipment (where chemicals are used)
OT.1 – Presence of an automative repair garage on-Site
OT.2 – Listed as a waste generator
OT.3 – Listed in Scott's Manufacturing Directory
OT.4 – Listed for a spill
OT.5 – Potential presence of a former oil water separator

7.4 Areas of Potential Environmental Concern

The areas of potential environmental concern (APECs) identified based on the PCAs and as set out in the Phase One ESA (GEMTEC, 2024) are summarized in Table 7.4. Figure A.4, Appendix A indicates the location of the APECs.

Table 7.4: Summary of Areas of Potential Environmental Concern

APEC #	APEC	Location of APEC	PCA	Location of PCA (On-Site and/or Off-Site)	COPCs	Media Potentially Impacted (Soil, Groundwater and/or Sediments)
1	Importation of Fill Material of Unknown Quality	Across the Site	30	On-Site	PHC F1-F4, VOCs, PAHs, M&Is	Soil
2	Gasoline and Associated Products Storage in Fixed Tanks	Southwestern portion of the Site	28	On-Site	PHC F1-F4, VOCs, PAHs	Soil Groundwater
3	Presence of a garage on-Site	Western portion of the on-Site structure	OT.1	On-Site	PHC F1-F4, VOCs	Soil Groundwater
4	Potential presence of a former oil/ water separator	Northern portion of the Site	OT.5	On-Site	PHC F1-F4, VOCs	Soil Groundwater
5	Gasoline and Associated Products Storage in Fixed Tanks	Eastern portion of the Site (fronting Carp Road)	28	Off-Site 30 m northeast	PHC F1-F4, VOCs	Soil Groundwater

Note:
28 – Gasoline and Associated Products Storage in Fixed Tanks
30 – Importation of Fill Material of Unknown Quality
OT.1 – OT.1 – Presence of an automative repair garage on-Site
OT.5 – Potential presence of a former oil/water separator
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
VOCs – Volatile Organic Compounds
PAHs – Polycyclic Aromatic Hydrocarbons
M&Is – Metals and Inorganics (Inorganics included Other Regulated Parameters such as EC, SAR, pH, and Cyanide).

7.4.1 APEC 1 – Presence of Fill Material at the Site

Through the review of aerial photographs, the Site has been developed since at least 1976 considering the presence of a structure on the Site. However, ground disturbance related to a cleared area and a structure was first noted in the eastern portion of the Site in the aerial photograph from 1932. The fill material was expected to be present across the Site. The COPCs are PHC F1-F4, VOCs, PAHs, and M&Is in soil.

This APEC was investigated as part of this Phase Two ESA via the advancement of four boreholes, three of which were completed as a monitoring wells (BH/MW23-03, BH/MW24-06, and BH/MW24-07). The borehole/monitoring wells were spatially located across the Site. The boreholes were advanced to a depth ranging between 4.26 m bgs and 8.61 m bgs. BH/MW23-03 was completed with a 1.5 m long screen within the sand and silt overburden whereas BH/MW24-06 and BH/MW24-07 was completed with a 3.05 m long screen within the sand and silt overburden. During drilling and sampling, there was no evidence of staining or odour, and soil vapour readings for HEX and IBL were non-detectable. The soil analytical data for all the soil samples is available in Table A.5 to A.7, Appendix A.

7.4.2 APEC 2 – Presence of historical ASTs at the Site

Through the review of aerial photographs, two ASTs were noted at the Site in the southwestern portion of the Site between 2005 and 2022. Considering the observations made during the review of aerial photographs and during Site reconnaissance, these ASTs were used for propane storage for heating considering the abandoned propane lines running towards the south building line of the on-Site structure. However, uncertainty remained with respect to the ASTs before GEMTEC's Phase I ESA in 2023. The COPCs are PHC F1-F4, VOCs, and PAHs in soil and groundwater. During drilling and sampling, there was no evidence of staining or odour, and soil vapour readings for HEX and IBL were non-detectable.

Groundwater (BH/MW23-05) was measured at a depth of 2.85 m bgs on November 6, 2024. The depth of the screen was determined at the time of installation based on field observation of the interpreted water level. The measured water level was within the screened interval. The soil and groundwater analytical data for all the samples are available in Table A.5 to A.10, Appendix A.

7.4.3 APEC 3 – Presence of an automotive repair garage on-Site

Through the review of insurance reports, historical reports (Phase I ESA prepared by GEMTEC in 2023), and Site reconnaissance, the Site has historically had an auto repair garage/automotive repair facility located in the western portion of the on-Site structure. The COPCs are PHC F1-F4, Metals, PAHs, and VOCs in soil and groundwater. During sampling, there was no evidence of staining or odour.

Considering no exceedances were identified as part of the Phase II ESA (GEMTEC, 2023), this location was not sampled in 2024. Additionally, based on the groundwater flow direction,

BH/MW24-01 and BH/MW24-02 were sampled as part of APEC 4, details of which are available in Section 7.4.4. All parameters (PHC F1-F4, VOCs, PAHs) at MW-03 were non detect and detectable metal concentrations were lower than Table 3 SCS. Groundwater (MW-03) was measured at a depth of 2.57 m bgs on November 6, 2024. The measured water level was within the screened interval.

7.4.4 APEC 4 – Potential presence of a former oil water separator

During the Site reconnaissance, GEMTEC noted a concrete filled pit, potentially related to an oil/water separator. The COPCs are PHC F1-F4, and VOCs in soil and groundwater.

This APEC was investigated as part of Phase II ESA (GEMTEC, 2023) via the advancement of two boreholes which were completed as monitoring wells (BH/MW23-01 and BH/MW23-02). The borehole/monitoring well was located within APEC 4 in the south (central) portion of the on-Site building. These monitoring wells were installed within the sand and silt overburden. During drilling and sampling, there was no evidence of staining or odour, and soil vapour readings for HEX and IBL were non-detectable.

Groundwater (BH/MW23-01 and BH/MW23-02) was measured at a depth ranging between 3.10 and 3.24 m bgs on November 6, 2024. The depth of the screen was determined at the time of installation based on field observation (as part of Phase II ESA (GEMTEC, 2023)) of the interpreted water level. The measured water level was within the screened interval.

7.4.5 APEC 5 – Presence of a retail fuel outlet and oil changing facility to the east of the Site

Through the review of aerial photographs, City Directories, Historic Land Use Inventory (HLUI), and Site reconnaissance, a retail fuel outlet and an oil changing facility are located approximately 30 metres to the east of the Site across Carp Road. The COPCs are PHC F1-F4, and VOCs in soil and groundwater.

This APEC was investigated as part of this Phase Two ESA via the advancement of two boreholes, both of which were completed as a monitoring wells (BH/MW24-07, and BH/MW24-08). The borehole/monitoring wells were located in the eastern portion of the Site. These monitoring wells were installed within the sand and silt overburden. During drilling and sampling, there was no evidence of staining or odour, and soil vapour readings for HEX and IBL were non-detectable.

Groundwater (BH/MW24-07 and BH/MW24-08) was measured at a depth ranging between 3.43 and 3.59 m bgs on November 6, 2024. The measured water level (at BH/MW24-08) was within the screened interval. However, the water level was above the screen interval for BH/MW24-07. The depth of the screen was determined at the time of installation based on field observation of the interpreted water level. Following well installation, the water level is inferred to have risen above the screen interval due to hydrostatic pressure.

All groundwater samples met Table 3 SCS with the exception of BH/MW24-06 and BH/MW24-07 that both had exceedances of chloroform. Bromodichloromethane, a byproduct of chlorine disinfection in water, was detected in BH/MW24-06. Additionally, no other VOCs were reported above laboratory detection limits. Since the groundwater flow direction crosses the Site west to east, from BH/MW24-06 to BH/MW24-07, GEMTEC is of the opinion that the chloroform exceedance is likely related to the release of municipal water from one of the water lines surrounding or running through the Site. In accordance with Section 49.1 of O.Reg. 153/04, chloroform is deemed to meet the applicable SCS.

7.5 Subsurface Structures and Utilities

Utility locates completed prior to the drilling program to locate services. The Site is serviced by municipal water, municipal sewer, hydro and natural gas for heating. No underground utility drawings were provided for review. The only overhead/aboveground public service is hydro. However, private gas lines, sewer, and private water lines are present above the water table at the Site. Based on this, buried services do not have a potential to facilitate the migration of contaminants (if any) at the Site.

7.6 Physical Setting

Topography

The Site has a relatively flat topography and is at an elevation of approximately 125 m above sea level (asl). Surrounding local topography generally slopes gradually downwards towards the drainage ditches located along Hazeldean Road. Furthermore, surrounding properties located east of the Site were approximately 1-3 m higher in elevation than the Site. The Carp River is located approximately 3.8 km to the northeast of the Site. The Ottawa River is approximately 12 km to the northeast of the Site.

Stratigraphy - Boreholes

In general, the subsurface soil conditions encountered in the boreholes advanced as part of this Phase Two ESA (Boreholes BH23-01 to BH23-04 and BH24-05 to BH24-08) generally consisted of fill material (comprised of silty sand/sandy silt with varying amount of gravel) underlain by native silty sand and bedrock. Fill materials were determined to be between the ground surface and 1.98 m thick. The sand to silty sand unit underlying fill materials varied in thickness depending on the depth to bedrock.

Depth to Bedrock

The depth to bedrock was encountered between 4.26 and 5.64 m bgs. Bedrock surface elevations were between 119.44 m asl and 120.22 m asl.

Hydrogeological Characteristics

Based on the topography, it is expected that the local shallow groundwater flow will trend northeast towards Carp River. Based on the interpreted groundwater elevation contours for water level measured on November 6, 2024, the inferred direction of shallow groundwater flow is generally to the east.

The average horizontal hydraulic gradient was 0.007525 m/m and was calculated based on water levels measured on November 6, 2024. The groundwater flow direction was calculated without incorporating the groundwater elevation from monitoring well BH/MW24-07, as this well was installed in the bedrock. The vertical hydraulic gradient for shallow groundwater conditions were not calculated as nested monitoring wells were not installed at the Site.

Depth to Groundwater

Water levels measured in the monitoring wells ranged from 2.30 m bgs to 4.47 m bgs on November 6, 2024. Groundwater elevations ranged from 121.04 to 122.93 m above sea level (asl).

Environmentally Sensitive Areas

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

Shallow Soil Property or Water Body

Overburden soil at the Site extended deeper than 1.5 m bgs at all boreholes locations. The closest surface water body is Carp River which is located approximately 3.8 km to the northeast of the Site. Therefore, Section 43.1(a) and 43.1(b) of the Regulation does not apply to the Site.

Area On, In or Under the Phase Two ESA Where Excess Soil is Finally Placed

No excess soil was brought to the Site as part of this investigation. However, fill material was noted during borehole advancement and was sampled as part of investigations into APEC 1.

7.7 Site Condition Standards

Site Condition Standards (SCS) were selected for the Site in accordance with the requirements of O. Reg. 153/04, Record of Site Condition – Part XV.1 of the Environmental Protection Act (O. Reg. 153/04, Ministry of Environment and Climate Change (MECP), October 31, 2011), as amended. The selection of applicable SCS for comparison to analytical data was based on a review of various Site characteristics which will need to be considered for the current property use and also to provide a preliminary indication of on-Site soil quality for due diligence purposes.

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

- Land Use: The Site is currently used for commercial enterprises. The proposed future land use is residential.
- Soil Texture: Based on visual observations made during the field program and the grain size analysis, the predominant soil type was silty sand which is inferred to be coarse textured. A grain size determination completed on soils from location BH24-05 and BH24-07 indicated the soil to be coarse textured. Coarse textured soil is defined by Section 42(1) of O. Reg.153/04 as “soil that contains 50 percent or more by mass of particles that are greater than 75 micrometres in mean diameter”.
- Soil Thickness and Proximity to Water Body: For the purposes of selection of the appropriate provincial standard, Section 43.1 of O. Reg.153/04 identifies specific SCS be applied if any of the following circumstances exist:
    - (a) The property is a shallow soil property (i.e., at least 1/3 or more of the property area contains less than 2 metres depth of overburden); or
    - (b) The property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

  Based on results obtained from the soil quality program and the previous environmental investigations, the overburden thickness is greater than 2 metres on more than 2/3 of the property and there are no water bodies within 30 metres of the Site. Therefore, the Site is not considered a shallow soil property or a property within 30 metres of a waterbody.
- Groundwater Use: Potable water in the area of the Site is supplied by the City of Ottawa. There are no potable water wells within 250 m of the Site.
- Environmentally Sensitive Site: Environmental sensitivity is considered in the selection of appropriate provincial standards for comparison. Section 41 of O.Reg.153/04 states that a property is to be considered environmentally sensitive if any of the following are applicable:
    - (1) the property is,
        - (i) within an area of natural significance;
        - (ii) includes or is adjacent to an area of natural significance or part of such an area; or
        - (iii) includes land that is within 30 metres of an area of natural significance or part of such an area;
    - (2) the soil at the property has a pH value as follows:
        - (i) for surface soil, less than 5 or greater than 9;
        - (ii) for sub surface soil, less than 5 or greater than 11; or
    - (3) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property.

The Site is not considered to be environmentally sensitive. Analytical results from soil samples collected were all within the MECP acceptable pH range. Furthermore, the Site is not within, adjacent or include, in part, an Area of Natural of Scientific Interest (ANSI).

Based on the review of Site characteristics and findings from previous investigations, the following provincial standards were considered to be applicable to the analytical results obtained during the environmental investigation:

- MECP, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition, Residential land use with coarse soil texture.

7.8 Contaminated Media

The Phase Two ESA identified no exceedances of the applicable standards for the tested parameters.

7.9 Contaminants Exceeding Applicable Standards at the Site

No contaminants exceeded the applicable standards at the Site.

7.10 Description of Areas of Contamination on the Site

No areas of contamination are present at the Site.

7.11 Potential Influence of Utilities on Contaminant Migration

Underground utilities are inferred to be present in the general vicinity of the on-Site building associated with the private water line, sewer and natural gas for heating. Subsurface utilities are installed above the saturated zone and are unlikely to be facilitate contaminant migration.

7.12 Contaminant Migration

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

7.13 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. Considering a limited number of groundwater monitoring events were completed, seasonal trends could not be identified; however, shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. As noted above, no contaminated media (i.e., soil and groundwater) were identified.

7.14 Cross Sections – Lateral and Vertical Distribution of Contaminants

Representative cross-sections are presented in Figures A.8, Figure A.9, Figure A.11, and Figure A.12, Appendix A. No exceedances were identified based on the soil and the groundwater analytical results.

7.15 Potential Exposure Pathways and Receptors

Based on the Site characterization data collected, no exposure pathways were deemed relevant for the Site.

8.0 CONCLUSIONS

The Phase Two ESA investigated the APECs identified in Phase One ESA (GEMTEC, 2024). Based on the results of the soil and groundwater samples submitted as part of this Phase Two ESA, no exceedances of the applicable SCS were identified. As such, an RSC can be filed for the Site.

9.0 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 Regulation 153/04: Records of Site Condition

Preliminary Geotechnical Investigation, Proposed Commercial Development, Hazeldean Road at Carp Road, Ottawa, Ontario, by Paterson Group Inc. dated August 2006. Report Number PG0805-1.

Phase I Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated October 2023. GEMTEC Project 101785.003.

Phase II Environmental Site Assessment, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd dated October 2023. GEMTEC Project 101785.003.

Phase One Environmental Site Assessment, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario, by GEMTEC Consulting Engineering and Scientists Ltd., dated November 2024. GEMTEC Project 101785.004.

10.0 LIMITATION OF LIABILITY

This report was prepared for the exclusive use of Le Groupe Maurice. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Le Groupe Maurice. 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.

The monitoring wells installed as part of this project have been constructed using licensed drilling/well contractors employing licensed well technicians. It is owner's responsibility to have a licensed well technician properly abandon all monitoring wells, if required.

11.0 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,

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

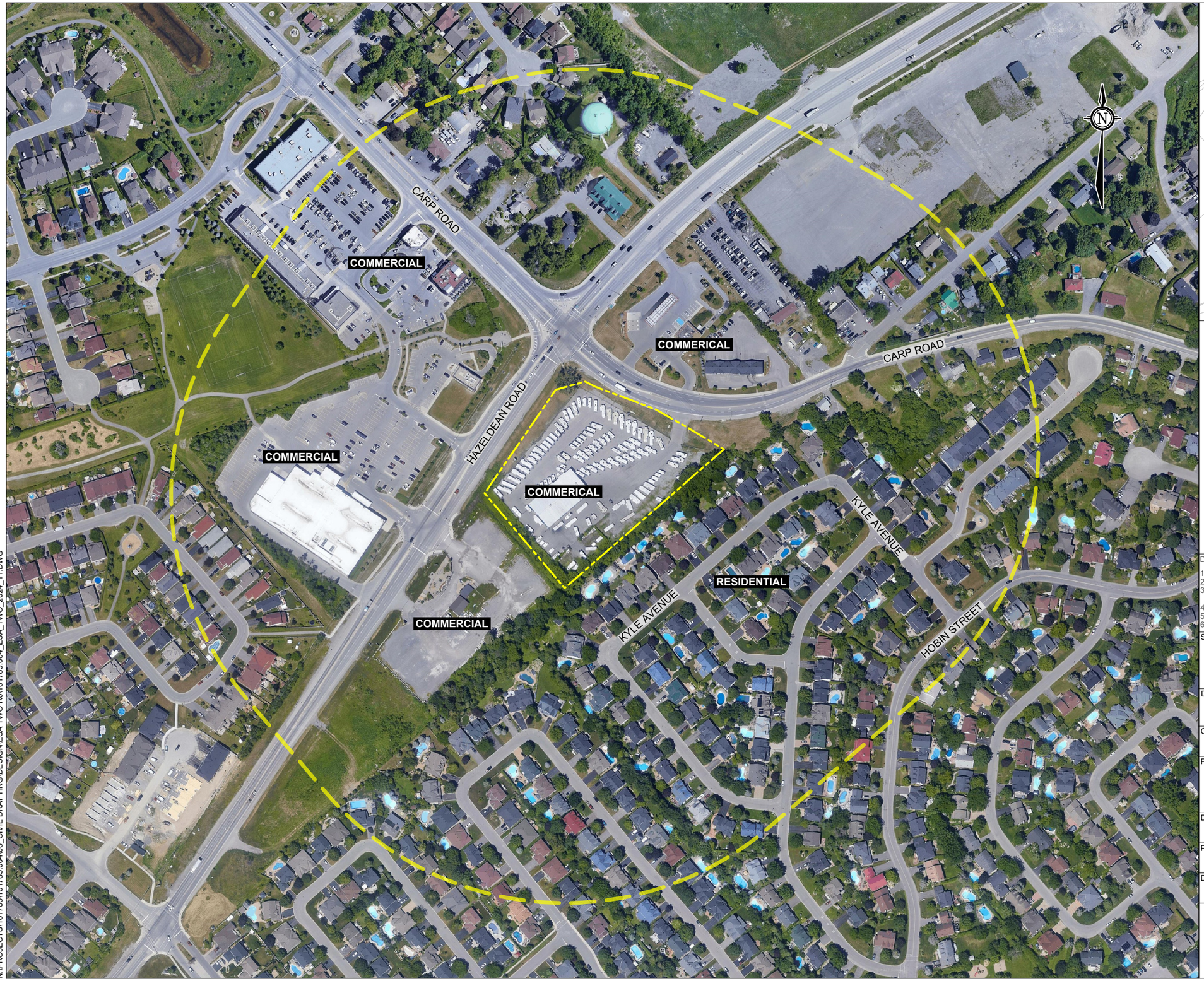
Daniel Elliot, B.Sc., P.Geo., QP_{ESA}
Senior Environmental Geoscientist

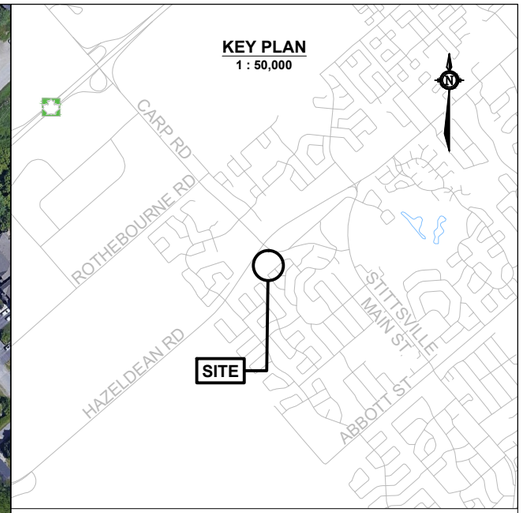
January 7, 2025

MB/DE

APPENDIX A

Figures, Plan of Survey and Tables





LEGEND

- APPROXIMATE SITE BOUNDARY
- STUDY AREA (250m AROUND SITE BOUNDARY)

DATA SOURCES AND REFERENCES

1. Coordinate system: NAD83 (CSRS), UTM ZONE 18N, CGVD28
2. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
3. This drawing is a schematic representation and should not be taken as a substitute for a legal survey.
4. Image @2024 Google Maps, CNES / Airbus, First Base Solutions, Maxar Technologies
5. Contains information licensed under the Open Government Licence – Ontario
6. Geographic dataset source: Ontario GeoHub

SCALE 1:3000

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DRAWING
SITE AND THE PHASE TWO STUDY AREA

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

DRAWN BY	CHECKED BY
S.L.	M.B.
PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.1

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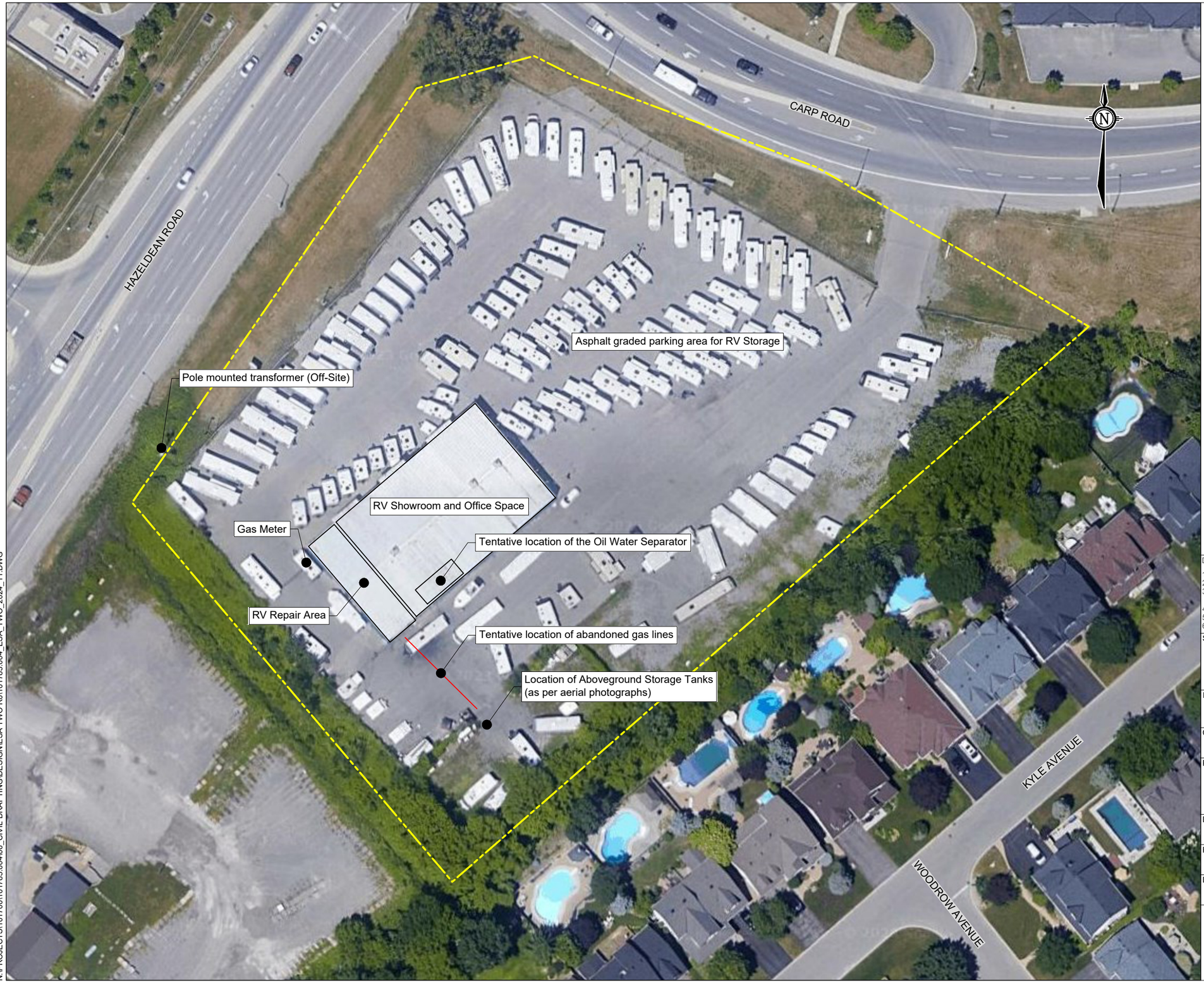

LEGEND

APPROXIMATE SITE BOUNDARY

DATA SOURCES AND REFERENCES

1. Coordinate system: NAD83 (CSRS), UTM ZONE 18N, CGVD28
2. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
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SCALE 1:750

0 15 30 45m

DRAWING

SITE FEATURES

CLIENT

LE GROUPE MAURICE

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

DRAWN BY	CHECKED BY
S.L.	M.B.
PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.2

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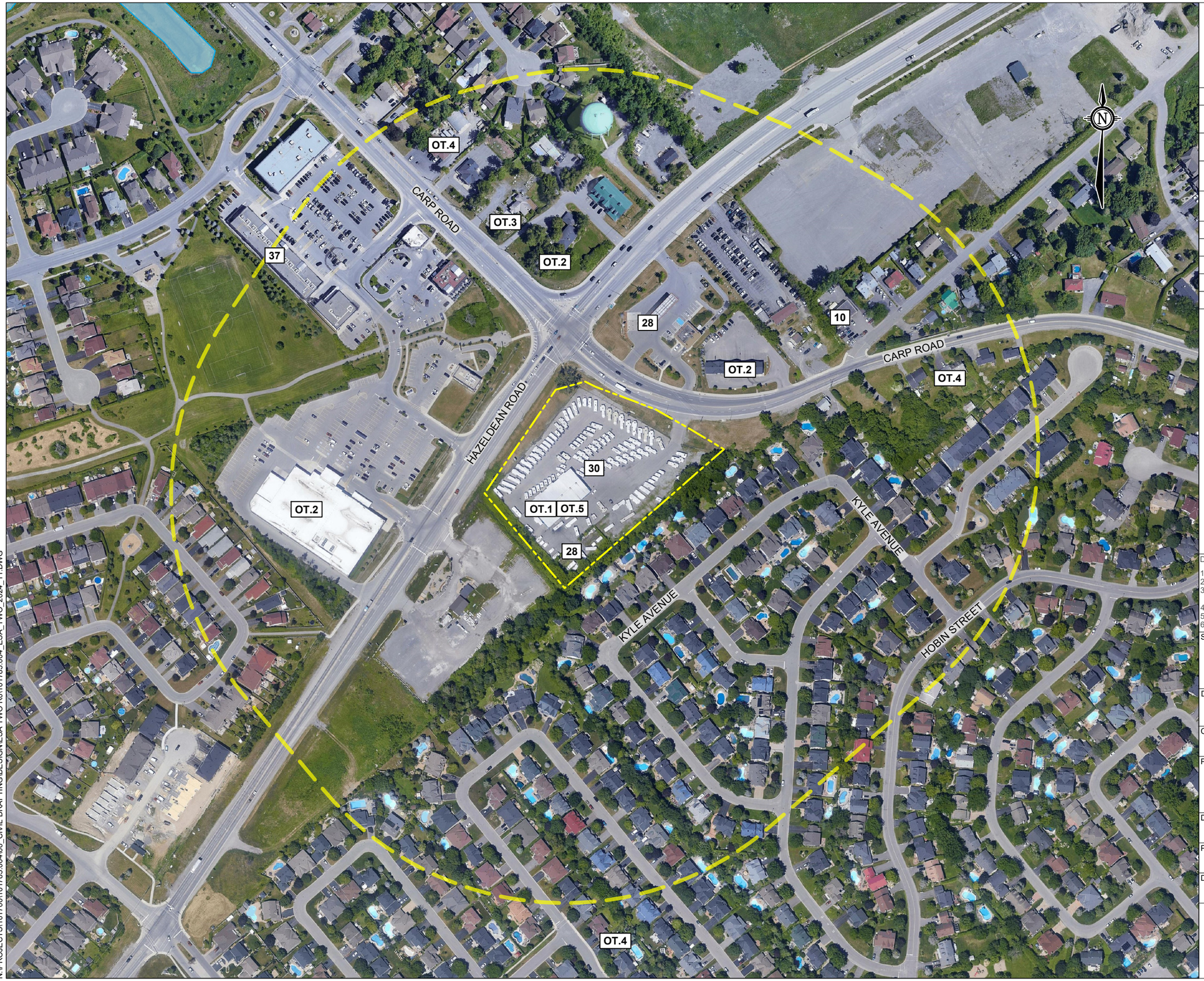

LEGEND

APPROXIMATE SITE BOUNDARY

STUDY AREA
(250m AROUND SITE BOUNDARY)

PCA #	POTENTIALLY CONTAMINATING ACTIVITIES
10	Presence of an auto repair garage on-Site
28	Gasoline and Associated Products Storage in Fixed Tanks
30	Importation of Fill Material of Unknown Quality
37	Operation of Dry Cleaning Equipment (where chemicals are used)
OT.1	Presence of an auto repair garage on-Site
OT.2	Listed as a waste generator
OT.3	Listed for Scott's Manufacturing Directory
OT.4	Listed for a spill
OT.5	Likely presence of a former oil water separator

DATA SOURCES AND REFERENCES

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SCALE 1:3000

0 100 200m

DRAWING
POTENTIALLY CONTAMINATING ACTIVITIES

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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DECEMBER 2024	FIGURE A.3

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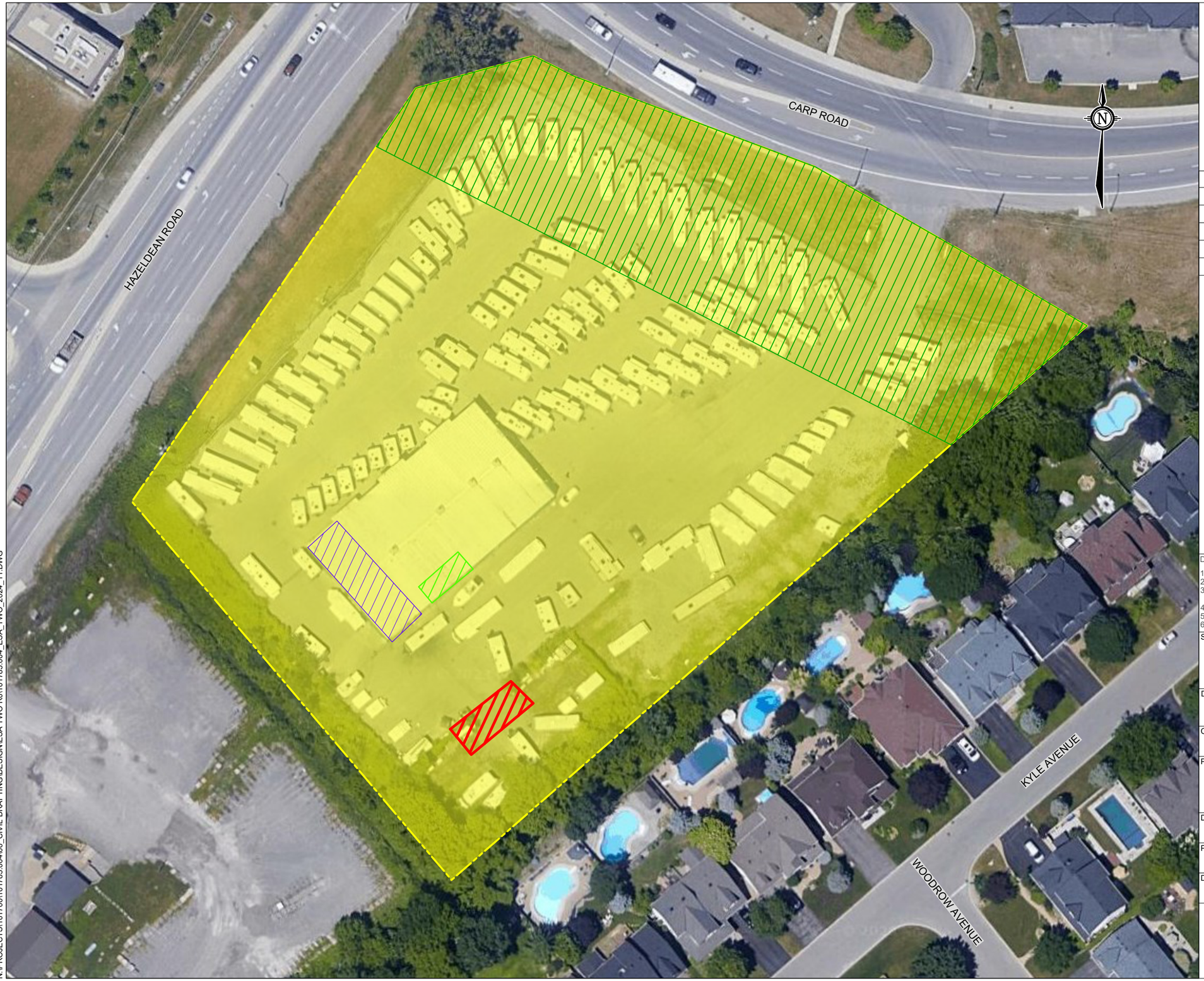

LEGEND

APPROXIMATE SITE BOUNDARY

AREA OF POTENTIAL ENVIRONMENTAL CONCERN

- APEC 1
- APEC 2
- APEC 3
- APEC 4
- APEC 5

APEC #	AREA OF POTENTIAL ENVIRONMENTAL CONCERN
APEC 1	Presence of Fill Material at the Site
APEC 2	Presence of a historical ASTs at the Site
APEC 3	Presence of a garage on-Site
APEC 4	Likely presence of a former oil water separator
APEC 5	Presence of a retail fuel outlet to the east of the Site

DATA SOURCES AND REFERENCES

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SCALE 1:750

0 15 30 45m

DRAWING
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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DECEMBER 2024	FIGURE A.4

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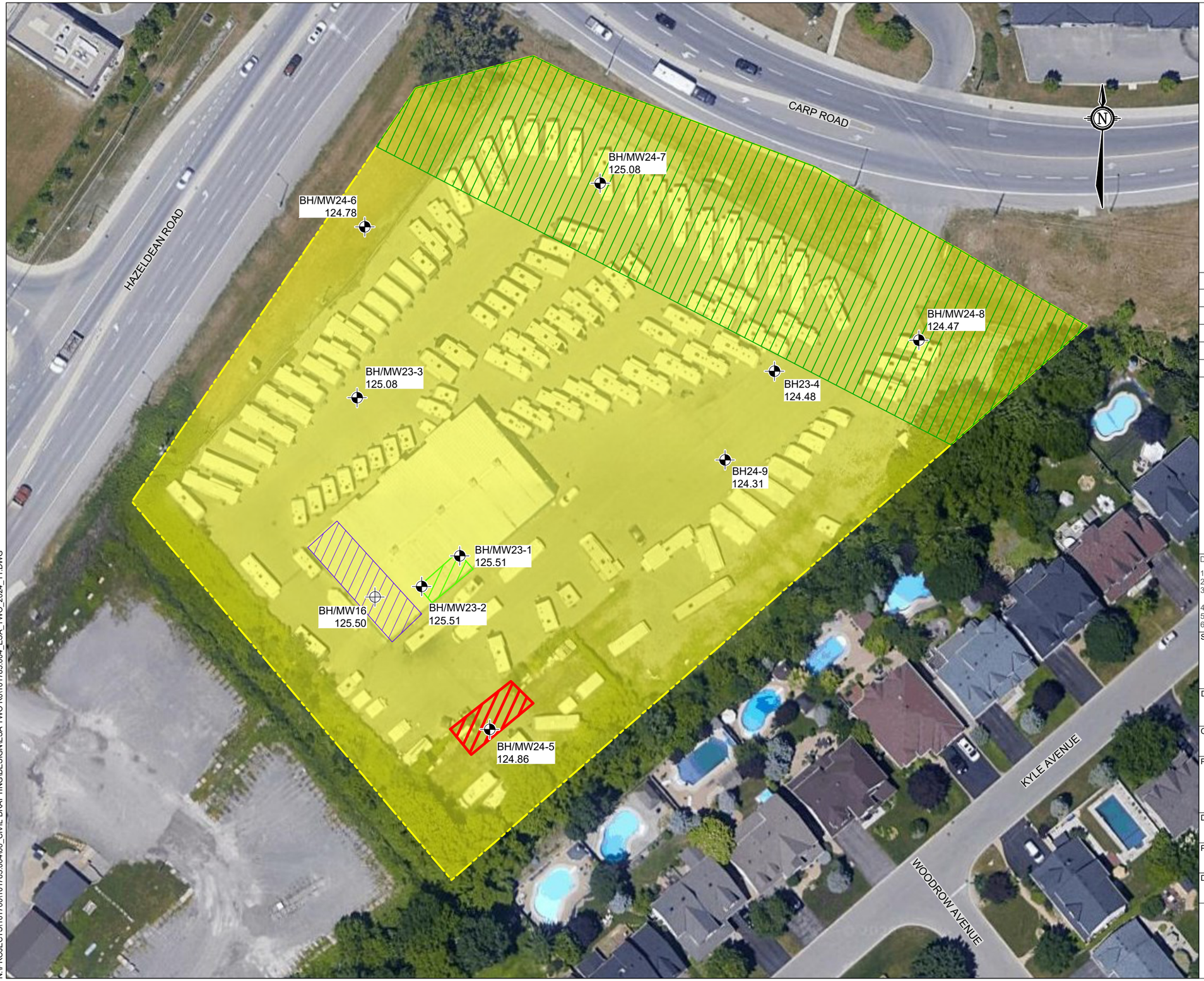

LEGEND

BH # — BOREHOLE ID
XX.XX — GROUND SURFACE ELEVATION, IN METRES

BOREHOLE LOCATION
(CURRENT INVESTIGATION BY GEMTEC)

APPROXIMATE BOREHOLE LOCATION
(PREVIOUS INVESTIGATION BY PATERSON GROUP)

APPROXIMATE SITE BOUNDARY

AREA OF POTENTIAL ENVIRONMENTAL CONCERN

APEC 1
APEC 2
APEC 3
APEC 4
APEC 5

APEC #	AREA OF POTENTIAL ENVIRONMENTAL CONCERN
APEC 1	Presence of Fill Material at the Site
APEC 2	Presence of a historical ASTs at the Site
APEC 3	Presence of a garage on-Site
APEC 4	Likely presence of a former oil water separator
APEC 5	Presence of a retail fuel outlet to the east of the Site

DATA SOURCES AND REFERENCES

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SCALE 1:750

0 15 30 45m

DRAWING
BOREHOLE AND
MONITORING WELL LOCATIONS

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
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DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.5

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LEGEND

- BH # — BOREHOLE ID
- XX.XX — GROUND SURFACE ELEVATION, IN METRES
- XX.XX — GROUNDWATER ELEVATION, IN METRES
- BOREHOLE LOCATION (CURRENT INVESTIGATION BY GEMTEC)
- APPROXIMATE BOREHOLE LOCATION (PREVIOUS INVESTIGATION BY PATERSON GROUP)
- APPROXIMATE SITE BOUNDARY
- 100 — GROUNDWATER ELEVATION (m)
- INFERRED GROUNDWATER FLOW DIRECTION
- A A' — CROSS SECTION LOCATION

NOTES:

The groundwater flow direction was calculated without incorporating the groundwater elevation from monitoring well BH/MW24-07, as this well was installed in the bedrock, whereas all the other monitoring wells are located in the overburden.

DATA SOURCES AND REFERENCES

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6. Geographic dataset source: Ontario GeoHub

SCALE 1:750

0 15 30 45m

DRAWING
GROUNDWATER ELEVATIONS
(NOVEMBER 6, 2024)

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.6

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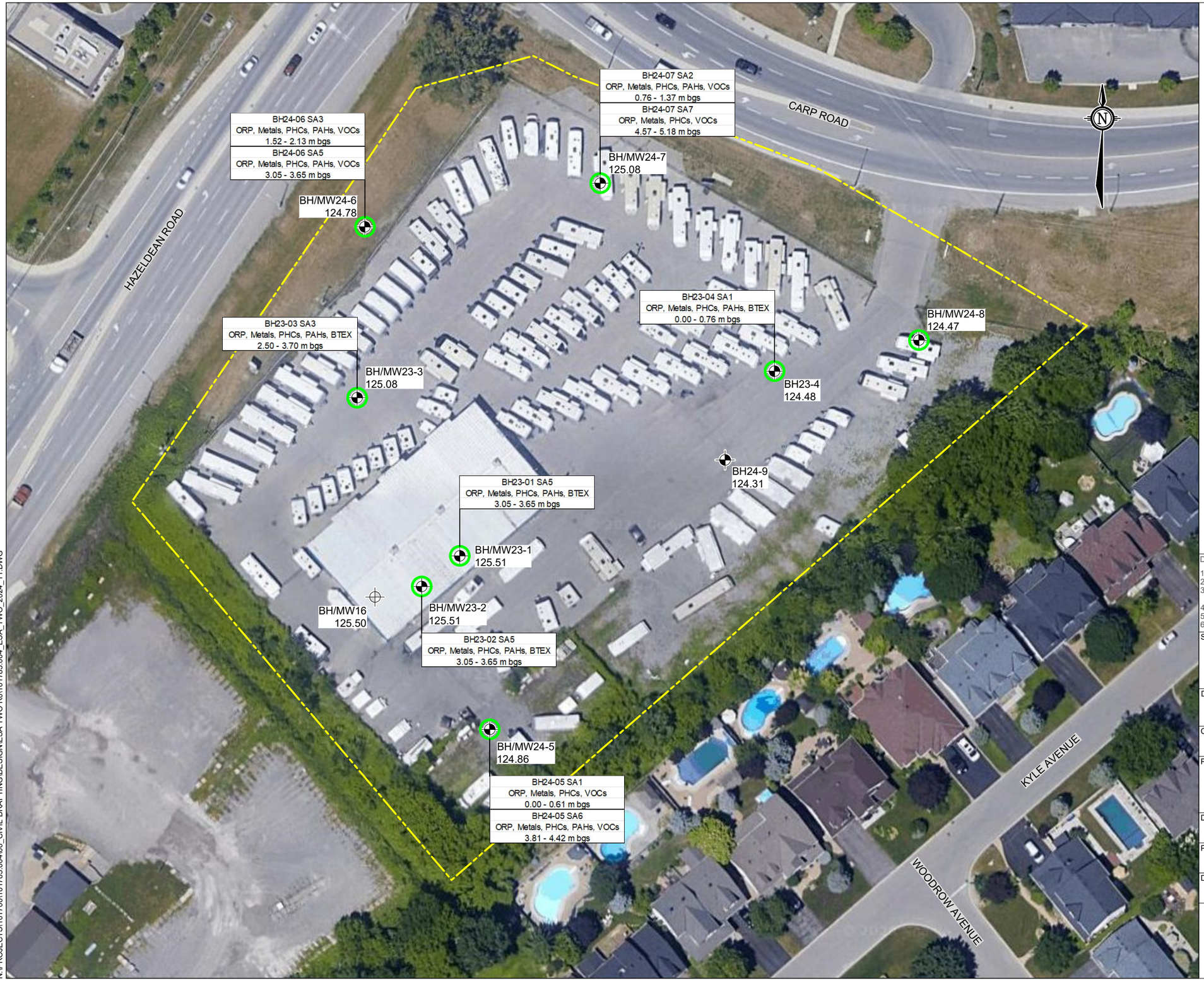

LEGEND

- **BH #** — BOREHOLE ID
- **XX.XX** — GROUND SURFACE ELEVATION, IN METRES
- **BOREHOLE LOCATION** (CURRENT INVESTIGATION BY GEMTEC)
- **APPROXIMATE BOREHOLE LOCATION** (PREVIOUS INVESTIGATION BY PATERSON GROUP)
- **MEETS MECP TABLE 3 RPI SCS**
- **EXCEEDS MECP TABLE 3 RPI SCS**
- **APPROXIMATE SITE BOUNDARY**

DATA SOURCES AND REFERENCES

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6. Geographic dataset source: Ontario GeoHub

SCALE 1:750

0 15 30 45m

DRAWING
SOIL ANALYTICAL RESULTS

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.7

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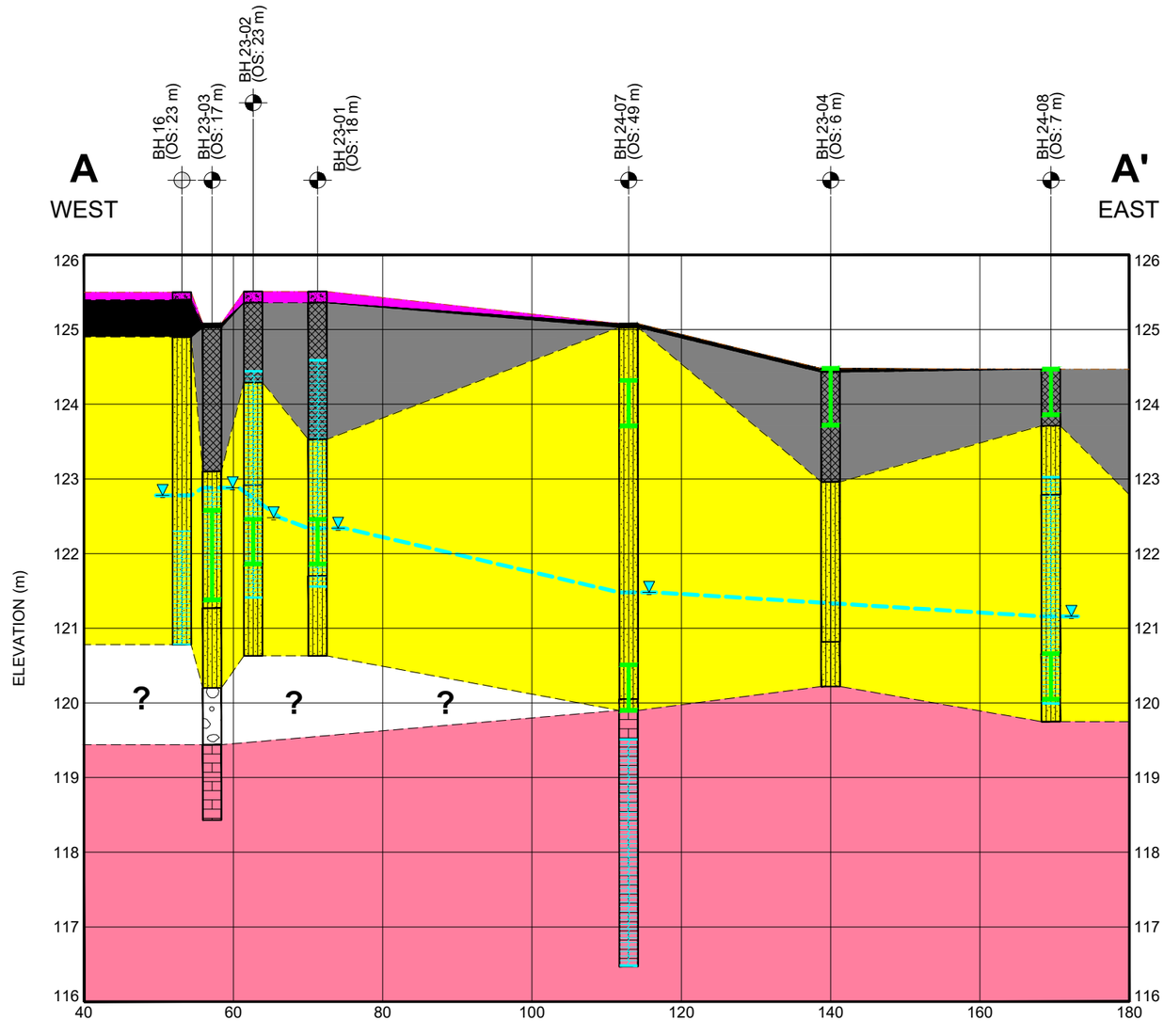

LEGEND

BH # — BOREHOLE ID
OS — OFFSET FROM SECTION LINE

BOREHOLE LOCATION
(CURRENT INVESTIGATION BY GEMTEC)

APPROXIMATE BOREHOLE LOCATION
(PREVIOUS INVESTIGATION BY PATERSON GROUP)

GROUNDWATER LEVEL
(NOVEMBER 6, 2024)

MEETS MECP TABLE 3 RPI SCS

EXCEEDS MECP TABLE 3 RPI SCS

INFERRED GROUND SURFACE
INFERRED GEOLOGIC CONTACT
INFERRED PIEZOMETER SURFACE

MONITORING WELL SCREEN

STRATIGRAPHY

- CONCRETE
- ASPHALT
- FILL
- SAND AND SILT
- BOULDERS AND COBBLES
- LIMESTONE
- ? STRATIGRAPHY NOT KNOWN

DATA SOURCES AND REFERENCES

1. Distances, elevations, and coordinates are shown in metres unless denoted otherwise
2. This drawing is a schematic representation and should not be taken as a substitute for a legal survey.

HORIZONTAL SCALE
1:750
0 15 30 45m

VERTICAL SCALE
10X VERTICAL EXAGGERATION

DRAWING
CROSS SECTION A - A'
SOIL EXCEEDANCES

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.8

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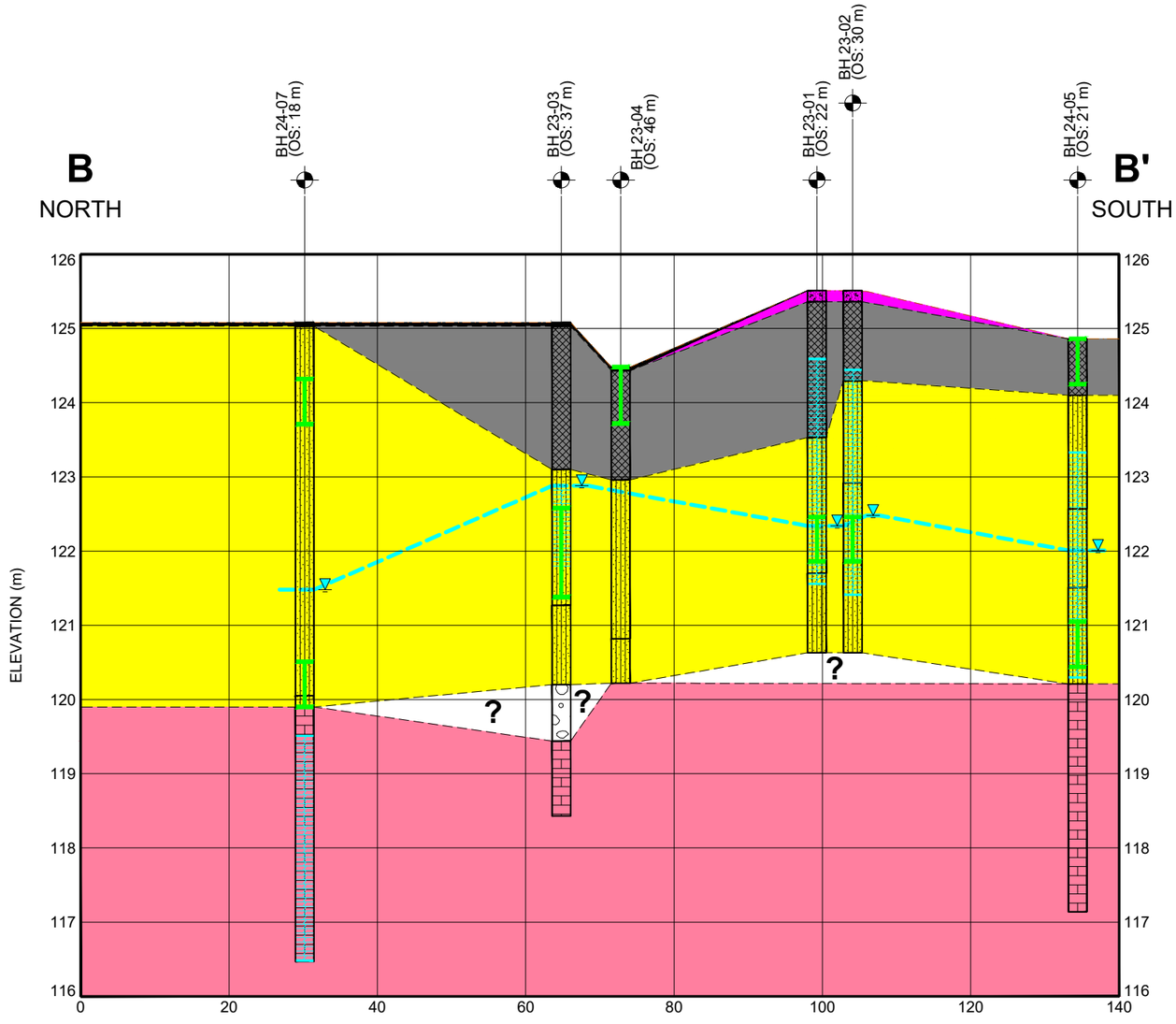

LEGEND

- **BH #** — BOREHOLE ID
- **OS** — OFFSET FROM SECTION LINE
- **BOREHOLE LOCATION** (CURRENT INVESTIGATION BY GEMTEC)
- **APPROXIMATE BOREHOLE LOCATION** (PREVIOUS INVESTIGATION BY PATERSON GROUP)
- **GROUNDWATER LEVEL** (NOVEMBER 6, 2024)
- **MEETS MECP TABLE 3 RPI SCS**
- **EXCEEDS MECP TABLE 3 RPI SCS**
- **INFERRED GROUND SURFACE**
- **INFERRED GEOLOGIC CONTACT**
- **INFERRED PIEZOMETER SURFACE**
- **MONITORING WELL SCREEN**

STRATIGRAPHY

- CONCRETE
- ASPHALT
- FILL
- SAND AND SILT
- BOULDERS AND COBBLES
- LIMESTONE
- STRATIGRAPHY NOT KNOWN

DATA SOURCES AND REFERENCES

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2. This drawing is a schematic representation and should not be taken as a substitute for a legal survey.

HORIZONTAL SCALE

1:750

0 15 30 45m

VERTICAL SCALE

10X VERTICAL EXAGGERATION

DRAWING

CROSS SECTION B - B'
SOIL EXCEEDANCES

CLIENT

LE GROUPE MAURICE

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.9

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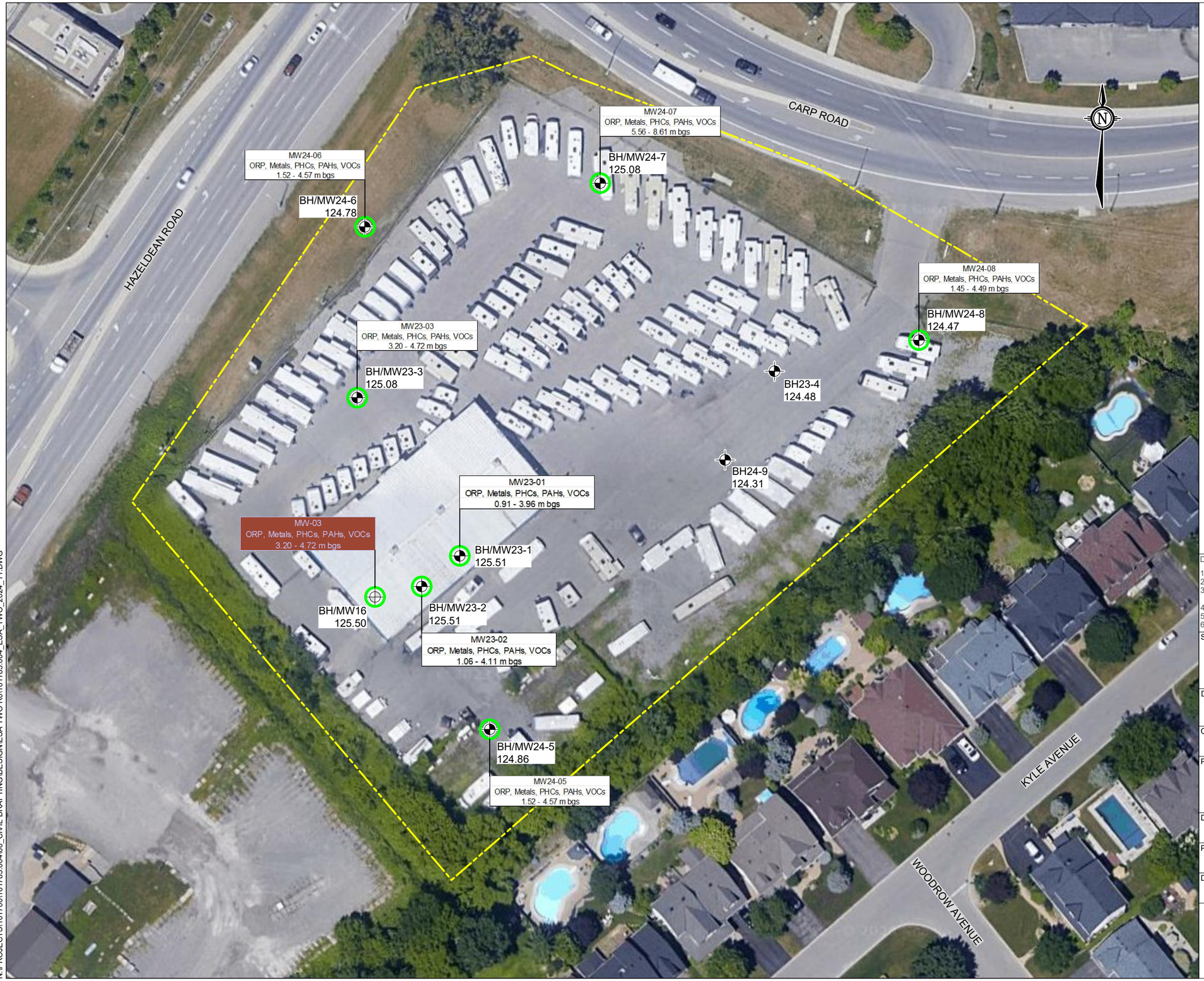

LEGEND

- **BH #** — BOREHOLE ID
- **XX.XX** — GROUND SURFACE ELEVATION, IN METRES
- **BOREHOLE LOCATION** (CURRENT INVESTIGATION BY GEMTEC)
- **APPROXIMATE BOREHOLE LOCATION** (PREVIOUS INVESTIGATION BY PATERSON GROUP)
- **MEETS MECP TABLE 3 RPI SCS**
- **EXCEEDS MECP TABLE 3 RPI SCS**
- **APPROXIMATE SITE BOUNDARY**

DATA SOURCES AND REFERENCES

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6. Geographic dataset source: Ontario GeoHub

SCALE 1:750

0 15 30 45m

DRAWING
GROUNDWATER ANALYTICAL RESULTS

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
101785.004	0
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DECEMBER 2024	FIGURE A.10

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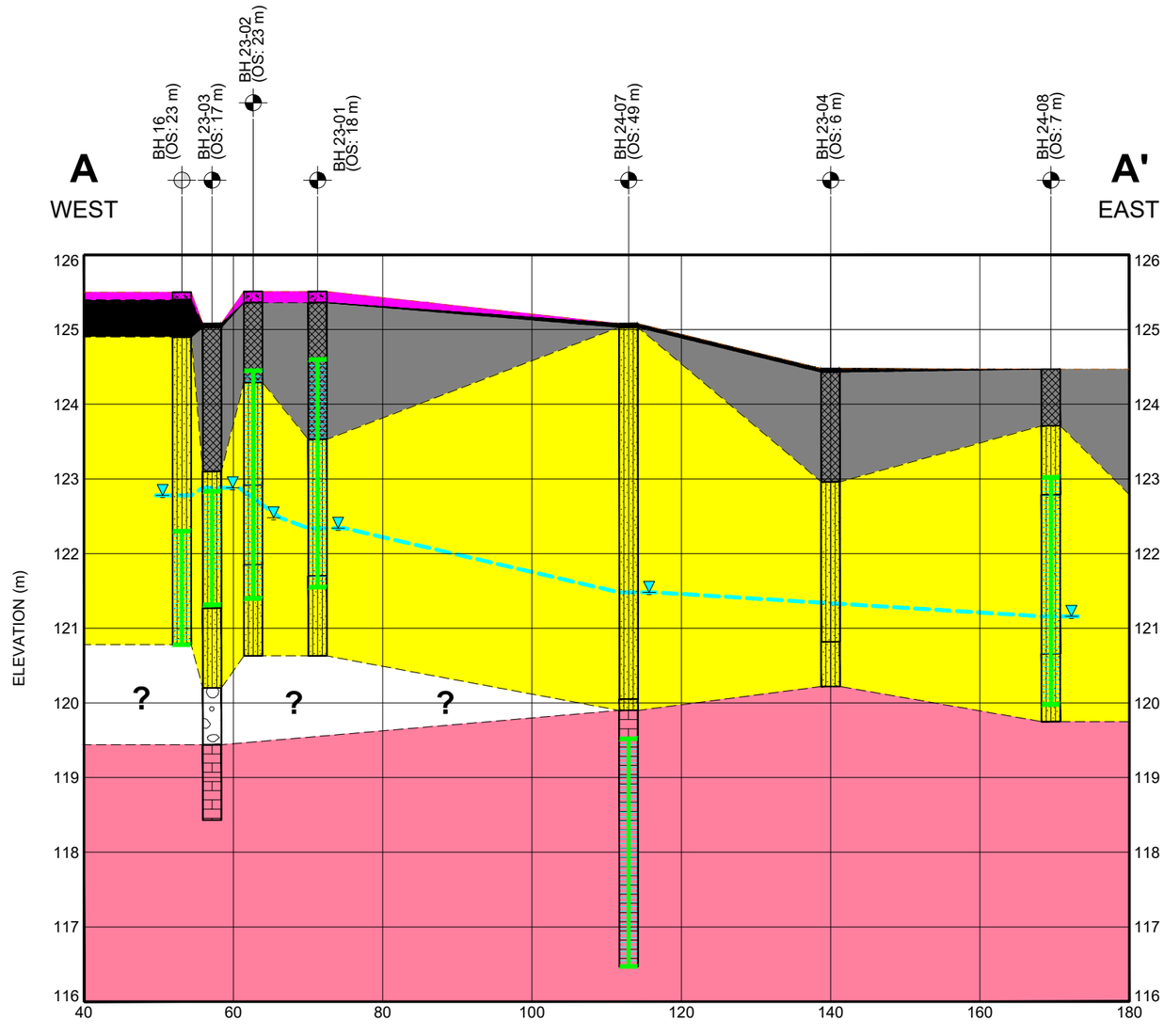

LEGEND

BH # — BOREHOLE ID
OS — OFFSET FROM SECTION LINE

BOREHOLE LOCATION
(CURRENT INVESTIGATION BY GEMTEC)

APPROXIMATE BOREHOLE LOCATION
(PREVIOUS INVESTIGATION BY PATERSON GROUP)

GROUNDWATER LEVEL
(NOVEMBER 6, 2024)

MEETS MECP TABLE 3 RPI SCS

EXCEEDS MECP TABLE 3 RPI SCS

INFERRED GROUND SURFACE

INFERRED GEOLOGIC CONTACT

INFERRED PIEZOMETER SURFACE

MONITORING WELL SCREEN

STRATIGRAPHY

- CONCRETE
- ASPHALT
- FILL
- SAND AND SILT
- BOULDERS AND COBBLES
- LIMESTONE
- STRATIGRAPHY NOT KNOWN

DATA SOURCES AND REFERENCES

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2. This drawing is a schematic representation and should not be taken as a substitute for a legal survey.

HORIZONTAL SCALE
1:750
0 15 30 45m

VERTICAL SCALE
10X VERTICAL EXAGGERATION

DRAWING
CROSS SECTION A - A'
GROUNDWATER EXCEEDANCES

CLIENT
LE GROUPE MAURICE

PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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PROJECT NO.	REVISION NO.
101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.11

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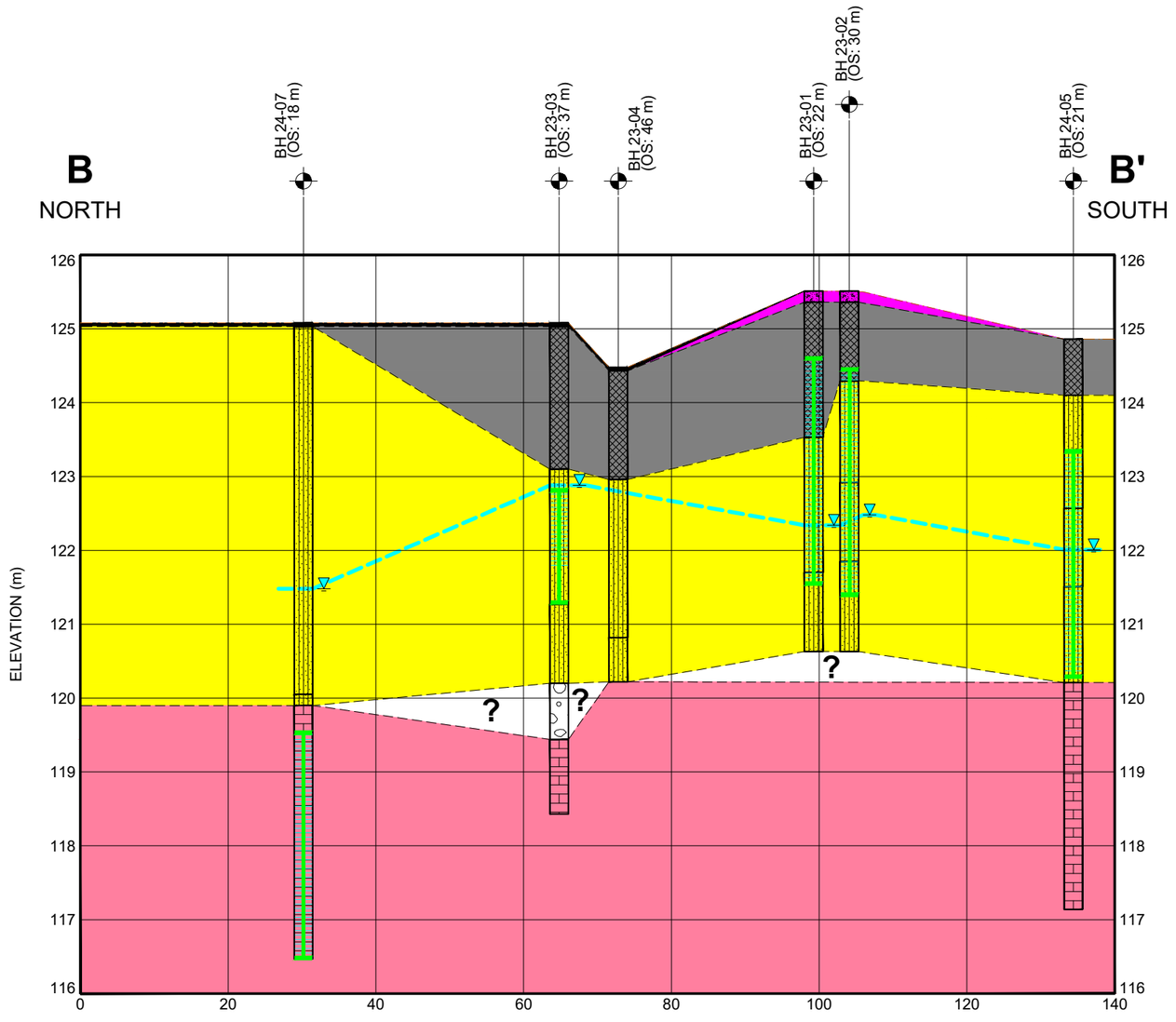

LEGEND

- BH # — BOREHOLE ID
- OS — OFFSET FROM SECTION LINE
- **BOREHOLE LOCATION** (CURRENT INVESTIGATION BY GEMTEC)
- **APPROXIMATE BOREHOLE LOCATION** (PREVIOUS INVESTIGATION BY PATERSON GROUP)
- **GROUNDWATER LEVEL** (NOVEMBER 6, 2024)
- **MEETS MECP TABLE 3 RPI SCS**
- **EXCEEDS MECP TABLE 3 RPI SCS**
- **INFERRED GROUND SURFACE**
- **INFERRED GEOLOGIC CONTACT**
- **INFERRED PIEZOMETER SURFACE**
- **MONITORING WELL SCREEN**

STRATIGRAPHY

- CONCRETE
- ASPHALT
- FILL
- SAND AND SILT
- BOULDERS AND COBBLES
- LIMESTONE
- STRATIGRAPHY NOT KNOWN

DATA SOURCES AND REFERENCES

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2. This drawing is a schematic representation and should not be taken as a substitute for a legal survey.

HORIZONTAL SCALE

1:750

0 15 30 45m

VERTICAL SCALE

10X VERTICAL EXAGGERATION

DRAWING

CROSS SECTION B - B'
GROUNDWATER EXCEEDANCES

CLIENT

LE GROUPE MAURICE

PROJECT

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
1174 CARP ROAD, OTTAWA, ONTARIO

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101785.004	0
DATE	FIGURE NO.
DECEMBER 2024	FIGURE A.12

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ELEVATION NOTES

1. Elevations shown are geodetic, CGVD28 geodetic datum and are referred to the Vertical Control Monument 001568U501 having an elevation of 113.36 metres.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

Bearings are grid, derived from Can-Net 2016 Real Time Network GPS observations, MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For comparison purposes, bearings shown on Plans P5 are astronomic bearings.

TOPOGRAPHIC PLAN OF SURVEY OF

PART OF LOT 23 CONCESSION 12 and PART OF ROAD ALLOWANCE BETWEEN CONCESSIONS 11 AND 12 (CLOSED BY BY-LAW 39-95, INST. N731789) Geographic Township of Goulbourn CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 250

10 5 0 5 0 5 10 Metres

Metric

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 20th day of July, 2023.

July 21 2023
Date

E. H. Herweyer
Ontario Land Surveyor

Notes & Legend

Denotes		
—○—	-	Survey Monument Planted
—■—	-	Survey Monument Found
SIB	-	Standard Iron Bar
SSIB	-	Short Standard Iron Bar
IB	-	Iron Bar
CC	-	Cut Cross
CP	-	Concrete Pin
IB●	-	Round Iron Bar
(WIT)	-	Witness
Meas.	-	Measured
(AOG)	-	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	-	Plan 4R-21312
(P2)	-	Plan 4R-20933
(P3)	-	Plan 4R-21158
(P4)	-	(M&P) Plan May 7, 2018
(P5)	-	Plan 5R-13995
○FH	-	Fire Hydrant
⊖WV	-	Water Valve
○MH-S	-	Maintenance Hole (Sanitary)
○MH-T	-	Maintenance Hole (Traffic)
○MH	-	Maintenance Hole (Unidentified)
—OHW—	-	Overhead Wires
□CB	-	Catch Basin
□CBI	-	Catch Basin Inlet
CSP	-	Corrugated Steel Pipe
Inv.	-	Invert
T/P	-	Top of Pipe
T/G	-	Top of Gate
▭GM	-	Gas Meter
□HH	-	Handhole
⊙TB-B	-	Bell Terminal Box
⊙TSP	-	Traffic Signal Post
⊙B	-	Bollard
△S	-	Sign
○UP	-	Utility Pole
⊙AN	-	Anchor
○LS	-	Light Standard
Ø	-	Diameter
+ 65.00	-	Location of Elevations
+ 65.00xT	-	Top of Concrete Curb / Median Elevation
C/L	-	Centreline
	-	Deciduous Tree
	-	Coniferous Tree
TOS	-	Top of Slope
CLF	-	Chain Link Fence
BF	-	Board Fence
PVCF	-	Plastic Fence

AREA = 1.8276 Hectares

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-53852

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3)

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Ontario Land Surveyors

Job No. 23-069-23 Metric PLS 25 C 00 1 F

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TABLE A.1
SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS
1174 Carp Road, Ottawa, Ontario

Location ID	Installation Date	Installed by	Borehole Depth (m bgs)	Monitoring Well Depth (m bgs)	Well Diameter (mm)	Screen Length (m)	Top of Screen (m bgs)	Bottom of Screen (m bgs)	Lithology at Screen Interval
BH/MW23-1	April 6, 2023	Strata Drilling Group	4.88	3.96	51	3.05	0.91	3.96	Silty sand
BH/MW23-2	April 6, 2023	Strata Drilling Group	4.88	3.96	51	3.05	0.91	3.96	Silty sand
BH/MW16 (or MW-03)	April 25, 2006	--	4.72	4.72	51	1.52	3.20	4.72	Silty sand
BH/MW23-3	April 10, 2023	OGS Inc.	4.88	4.88	51	1.52	3.36	4.88	Silty sand
BH/MW24-5	July 3, 2024	Aardvark	7.72	4.65	51	3.05	1.60	4.65	Silty sand
BH/MW24-6	July 2, 2024	Aardvark	4.57	4.57	51	3.05	1.52	4.57	Silty sand
BH/MW24-7	July 2, 2024	Aardvark	8.61	8.61	51	3.05	5.56	8.61	Bedrock
BH/MW24-8	July 2, 2024	Aardvark	4.72	4.52	51	3.05	1.47	4.52	Silty sand

Notes

BH/MW23-01, BH/MW23-02, and BH/MW23-03 were advanced as part of Phase II ESA investigation (GEMTEC, 2023).

mm = millimetres

m - metres

m bgs = metres below ground surface

TABLE A.2
WATER LEVEL MEASUREMENTS AND ELEVATIONS
1174 Carp Road, Ottawa, Ontario

Location ID	Construction	Groundsurface Elevation (m asl)	Top of Casing Elevation (m asl)	Date of Monitoring	Depth to Water (m below top of casing)	Depth to Groundwater (m bgs)	Groundwater Elevation (m rld)
BH/MW23-1	Flushmount	125.51	125.44	August 30, 2024	3.17	3.24	122.27
BH/MW23-2	Flushmount	125.51	125.44	August 30, 2024	3.03	3.10	122.41
BH/MW16 (or MW-03)	Flushmount	125.50	125.43	April 11, 2023	2.50	2.57	122.93
BH/MW23-3	Flushmount	125.08	124.98	August 30, 2024	2.20	2.30	122.78
BH/MW24-5	Flushmount	124.86	124.74	August 30, 2024	2.73	2.85	122.01
BH/MW24-6	Monument Casing	124.78	125.60	August 30, 2024	3.65	4.47	121.95
BH/MW24-7	Flushmount	125.08	124.99	August 30, 2024	3.50	3.59	121.49
BH/MW24-8	Flushmount	124.47	124.35	August 30, 2024	3.31	3.43	121.04

Notes:
m asl = metre above sea level
m bgs = metres below ground surface

TABLE A.3
SUMMARY OF SOIL SAMPLES SUBMITTED FOR ANALYSIS
1174 Carp Road, Ottawa, Ontario

Location ID	Sample ID	Date	Sample Depth (mbgs)	Headspace Screening Result (HEX / IBL, ppm)	Soil Description	Analyses Completed
BH23-01	BH23-01 SA5	April 6, 2023	3.05 - 3.66	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, BTEX, PAHs
	BH23-01 SA105	April 6, 2023	3.05 - 3.66	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, BTEX, PAHs
BH23-02	BH23-02 SA5	April 6, 2023	3.05 - 3.66	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, BTEX, PAHs
BH23-03	BH23-03 SA3	April 10, 2023	2.50 - 3.70	0 / 0	Fill, sand with silt and clay	Metals, ORP, PHC F1-F4, BTEX, PAHs
BH23-04	BH23-04 SA1	April 10, 2023	0.00 - 0.76	0 / 0	Fill, sand with silt and gravel	Metals, ORP, PHC F1-F4, BTEX, PAHs
BH24-05	BH24-05 SA1	July 3, 2024	0.00 - 0.61	0 / 0	Fill, sand with silt and cobbles	Metals, ORP, PHC F1-F4, VOCs
	BH24-05 SA6	July 3, 2024	3.81 - 4.42	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, VOCs, PAHs
BH24-06	BH24-06 SA3	July 2, 2024	1.52 - 2.13	0 / 0	Fill, sand and silt/silty sand with gravel	Metals, ORP, PHC F1-F4, VOCs, PAHs
	BH24-06 SA5	July 2, 2024	3.05 - 3.65	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, VOCs, PAHs
BH24-07	BH24-07 SA2	July 2, 2024	0.76 - 1.37	0 / 0	Fill, sand and silt/silty sand with gravel	Metals, ORP, PHC F1-F4, VOCs, PAHs
	BH24-07 SA7	July 2, 2024	4.57 - 5.18	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, VOCs
BH24-08	BH24-08 SA1	July 2, 2024	0.00 - 0.61	0 / 0	Fill, sand with silt	Metals, ORP, PHC F1-F4, VOCs
	BH24-08 SA6	July 2, 2024	3.81 - 4.42	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, VOCs, PAHs
	BH24-08 SA106	July 2, 2024	3.81 - 4.42	0 / 0	Native, sand and silt/silty sand	Metals, ORP, PHC F1-F4, VOCs, PAHs

Notes:

m bgs	metres below ground surface
Metals	O.Reg. 153/04 metals and hydride forming metals
ORP	Other Regulated Parameters
PHC F1-F4	Petroleum Hydrocarbons F1-F4
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
VOCs	Volatile Organic Compounds
PAHs	Poylcyclic Aromatic Hydrocarbons
ppm	Parts Per Million

TABLE A.4
SUMMARY OF GROUNDWATER SAMPLES SUBMITTED FOR ANALYSIS
1174 Carp Road, Ottawa, Ontario

Location ID	Sample ID	Sampling Date	Well Depth (mbgs)	Screen Interval (m bgs)		Groundwater Sampling Field Measurements				Analyses Completed
						Temperature (deg cel.)	pH	Conductivity (mS/cm)	Dissolved Oxygen (%)	
BH/MW23-01	MW24-01	30-Aug-24	3.96	0.91	3.96	18.76	7.99	0.31	10.84	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW23-02	MW24-02	30-Aug-24	3.96	0.91	3.96	18.04	8.11	0.26	10.95	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW16	MW-03	11-Apr-23	4.72	3.20	4.72	--	--	--	--	Metals, PHC F1-F4, VOCs, PAHs
BH/MW23-03	MW24-03	30-Aug-24	4.88	3.36	4.88	18.12	7.69	0.56	11.46	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW24-05	MW24-05	30-Aug-24	4.65	1.60	4.65	16.76	7.23	1.08	12.51	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW24-06	MW24-06	30-Aug-24	4.57	1.52	4.57	17.82	7.30	0.62	11.58	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW24-06	MW24-106	30-Aug-24	4.57	1.52	4.57	17.82	7.30	0.62	11.58	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW24-07	MW24-07	30-Aug-24	8.61	5.56	8.61	16.99	7.69	0.96	12.13	Metals, ORP, PHC F1-F4, VOCs, PAH
BH/MW24-08	MW24-08	30-Aug-24	4.52	1.47	4.52	16.62	6.61	0.90	11.63	Metals, ORP, PHC F1-F4, VOCs, PAH
Field Blank	Field Blank	30-Aug-24	--	--	--	--	--	--	--	PHC F1, VOCs
Trip Blank	Trip Blank	28-Aug-24	--	--	--	--	--	--	--	PHC F1, VOCs

Notes:

m bgs	metres below ground surface
Metals	O.Reg. 153/04 metals and hydride forming metals
ORP	Other Regulated Parameters
PHC F1-F4	Petroleum Hydrocarbons F1-F4

GEMTEC
Consulting Engineers and Scientists

Table A.5: Summary of Soil Analytical Results
Metals, Inorganics, and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 3 RPI Property Use - Coarse	Reporting Detection Limit	Sample ID	BH23-01 SA5	BH23-01 SA501	BH23-02 SA5	BH23-03 SA3	BH23-04 SA1	BH24-05 SA1	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-07 SA2	BH24-07 SA7	BH24-08 SA1	BH24-08 SA6	BH24-08 SA106
			Sample Depth (m bgs)	3.05 - 3.65	3.05 - 3.65	3.05 - 3.65	2.50 - 3.70	0.00 - 0.76	0.00 - 0.61	3.81 - 4.42	1.52 - 2.13	3.05 - 3.65	0.76 - 1.37	4.57 - 5.18	0.00 - 0.61	3.81 - 4.42	3.81 - 4.42
			Lab ID	4906897	4906901	4906902	23Z013936	23Z013936	5981922	5981923	5981925	5981927	5981900	5981921	5981929	5981932	5981934
			Sampling Date	06-Apr-23	06-Apr-23	06-Apr-23	10-Apr-23	10-Apr-23	03-Jul-24	03-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24
			Units														
Metals and Inorganics - Soil																	
Antimony	7.5	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
Arsenic	18	1	µg/g	<1	<1	<1	<1	1	2	<1	<1	<1	<1	<1	2	<1	<1
Barium	390	2	µg/g	25.7	30.8	22.1	37.5	52.1	210	31.6	42.6	19.4	32.2	17.7	82.6	19.8	19.9
Beryllium	4	0.5	µg/g	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	120	5	µg/g	<5	<5	<5	<5	6	6	<5	<5	<5	<5	<5	10	<5	<5
Boron, available	1.5	0.1	µg/g	<0.10	0.1	<0.10	0.12	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	1.2	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
Chromium	160	5	µg/g	10	12	<5	10	12	23	11	11	9	9	8	15	8	8
Cobalt	22	0.8	µg/g	3.5	3.5	2.7	3.7	4.6	7	3.2	4.3	3.3	3.9	2.8	5.4	3.7	3.8
Copper	140	1	µg/g	9.8	10	7.3	7.3	11.6	14.4	8	9.2	9.3	11.5	9.6	14.5	8.6	8.9
Lead	120	1	µg/g	2	2	2	5	7	12	2	3	2	2	3	12	2	2
Molybdenum	6.9	0.5	µg/g	1	1.4	<0.5	<0.5	0.6	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5
Nickel	100	1	µg/g	6	5	4	8	10	13	6	7	7	6	5	11	6	6
Selenium	2.4	0.8	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	20	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
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
Uranium	23	0.5	µg/g	<0.50	<0.50	<0.50	<0.50	0.57	0.6	<0.50	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vanadium	86	2	µg/g	14.5	14.1	11.1	22.1	24	30.6	21.1	23.8	19.5	21.6	17	21.3	16.6	19.7
Zinc	340	5	µg/g	15	16	12	26	25	38	16	21	14	16	15	60	14	14
Chromium (VI)	8	0.2	µg/g	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, free	0.051	0.04	µg/g	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	0.27	0.1	µg/g	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Conductivity	0.7	0.005	mS/cm	0.253	0.477	0.086	0.219	**0.744**	0.185	0.111	0.112	0.083	0.112	0.106	0.162	0.082	0.087
SAR	5	-	-	2.04	3.36	0.245	0.021	0.148	1.23	0.488	0.264	0.302	0.426	0.374	1.47	0.481	0.324
pH	Surface Soil: 5-9 Subsurface Soil: 5-11	-	pH Units	6.73	7.21	7.19	6.96	7.21	6.9	6.9	6.95	6.99	6.94	6.91	6.99	7.00	6.99
Polycyclic Aromatic Hydrocarbons - Soil																	
Naphthalene	0.6	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Acenaphthylene	0.15	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Acenaphthene	7.9	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Fluorene	62	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Phenanthrene	6.2	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Anthracene	0.67	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Fluoranthene	0.69	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Pyrene	78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Benzo[a]anthracene	0.5	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Chrysene	7	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Benzo[b]fluoranthene	0.78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Benzo[k]fluoranthene	0.78	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Benzo[a]pyrene	0.3	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Indeno [1,2,3-cd] pyrene	0.38	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Dibenzo[a,h]anthracene	0.1	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
Benzo[g,h,i]perylene	6.6	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05
1,2-Methylnaphthalene	0.99	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	NA	NA	<0.05	<0.05

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

MECP Table 3 SCS: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, RPI Property Use with Coarse textured soils (MECP, 2011).

BOLD	- Exceeds MECP Table 3 RPI SCS

Client: Le Groupe Maurice
Project Number: 101785.004
December 2024

GEMTEC
Consulting Engineers and Scientists

Table A.6: Summary of Soil Analytical Results
Petroleum Hydrocarbon Four Fractions and Volatile Organic Compounds
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 3 RPI Property Use - Coarse	Reporting Detection Limit	Sample ID	BH23-01 SA5	BH23-01 SA501	BH23-02 SA5	BH23-03 SA3	BH23-04 SA1	BH24-05 SA1	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-07 SA2	BH24-07 SA7	BH24-08 SA1	BH24-08 SA6	BH24-08 SA106
			Sample Depth (m bgs)	3.05 - 3.65	3.05 - 3.65	3.05 - 3.65	2.50 - 3.70	0.00 - 0.76	0.00 - 0.61	3.81 - 4.42	1.52 - 2.13	3.05 - 3.65	0.76 - 1.37	4.57 - 5.18	0.00 - 0.61	3.81 - 4.42	3.81 - 4.42
			Lab ID	4906897	4906901	4906902	23Z013936	23Z013936	5981922	5981923	5981925	5981927	5981900	5981921	5981929	5981932	5981934
			Sampling Date	06-Apr-23	06-Apr-23	06-Apr-23	10-Apr-23	10-Apr-23	03-Jul-24	03-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24	02-Jul-24
			Units														
Petroleum Hydrocarbons - Soil																	
F1 PHCs (C6-C10)	55	5	µg/g	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F1 PHCs (C6-C10) minus BTEX	NS	5	µg/g	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	<5	<5	<5
F2 PHCs (C10-C16)	98	10	µg/g	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 PHCs (C16-C34)	300	50	µg/g	<50	<50	<50	<50	<50	<50	<50	<50	89	<50	59	130	<50	<50
F4 PHCs (C34-C50)	2800	50	µg/g	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Volatile Organic Compounds - Soil																	
Dichlorodifluoromethane	16	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.02	0.02	µg/g	NA	NA	NA	NA	NA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	0.05	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	4	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	16	0.5	µg/g	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	0.05	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	0.1	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	0.084	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	0.75	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	3.5	0.02	µg/g	NA	NA	NA	NA	NA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	16	0.5	µg/g	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethylene	3.4	0.02	µg/g	NA	NA	NA	NA	NA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	0.05	0.04	µg/g	NA	NA	NA	NA	NA	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	0.05	0.03	µg/g	NA	NA	NA	NA	NA	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	0.38	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.05	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	0.21	0.02	µg/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	0.05	0.03	µg/g	NA	NA	NA	NA	NA	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	0.061	0.03	µg/g	NA	NA	NA	NA	NA	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	13	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	1.7	0.5	µg/g	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	0.05	0.04	µg/g	NA	NA	NA	NA	NA	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	2.3	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	9.4	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	0.05	0.04	µg/g	NA	NA	NA	NA	NA	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	0.28	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.058	0.04	µg/g	NA	NA	NA	NA	NA	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	2.4	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	2	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m/p-Xylene	NS	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	0.27	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	0.7	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	NS	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	4.8	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	0.083	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	3.4	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes, total	3.1	0.05	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene, total	0.05	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexane	2.8	0.05	µg/g	NA	NA	NA	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:
RPI' - Residential/Parkland/Instituitional
m bgs' - Metres Below Ground Surface
'NA' - Not Analyzed
'NS' - No Standard
<' - Non-Detect Sample
MECP Table 3 SCS: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, RPI Property Use with Coarse textured soils (MECP, 2011).

BOLD - Exceeds MECP Table 3 RPI SCS

Table A.7: Relative Percent Difference - Soil Analytical Results
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

	Units	Reporting Limit	5*Reporting Limit	Sample ID: Laboratory ID: Date Sampled: Sample Depth (mbgs): MECP Alert Criteria	BH23-01 SA5 4906897 06-Apr-23 3.05 - 3.65	BH23-01 SA501 4906901 06-Apr-23 3.05 - 3.65	RPD	BH24-08 SA6 5981932 02-Jul-24 3.81 - 4.42	BH24-08 SA106 5981934 02-Jul-24 3.81 - 4.42	RPD
Metals and Inorganics (Soil)										
Antimony	µg/g	0.8	4	30%	<0.8	<0.8	-	<0.8	<0.8	-
Arsenic	ug/g	1	5	30%	<1	<1	-	<1	<1	-
Barium	ug/g	2	10	30%	25.7	30.8	18.1%	19.8	19.9	0.5%
Beryllium	ug/g	0.5	2.5	30%	<0.4	<0.4	-	<0.5	<0.5	-
Boron	ug/g	5	25	30%	<5	<5	-	<5	<5	-
Boron, available	ug/g	0.1	0.5	40%	<0.10	0.1	-	<0.10	<0.10	-
Cadmium	ug/g	0.5	2.5	30%	<0.5	<0.5	-	<0.5	<0.5	-
Chromium	ug/g	5	25	30%	10	12	-	8	8	-
Cobalt	µg/g	0.8	4	30%	3.5	3.5	-	3.7	3.8	-
Copper	ug/g	1	5	30%	9.8	10	2.0%	8.6	8.9	3.4%
Lead	µg/g	1	5	30%	2	2	-	2	2	-
Molybdenum	ug/g	0.5	2.5	30%	1	1.4	-	<0.5	<0.5	-
Nickel	ug/g	1	5	30%	6	5	18.2%	6	6	0.0%
Selenium	ug/g	0.8	4	30%	<0.8	<0.8	-	<0.8	<0.8	-
Silver	µg/g	0.5	2.5	30%	<0.5	<0.5	-	<0.5	<0.5	-
Thallium	ug/g	0.5	2.5	30%	<0.5	<0.5	-	<0.5	<0.5	-
Uranium	µg/g	0.5	2.5	30%	<0.50	<0.50	-	<0.50	<0.50	-
Vanadium	µg/g	2	10	30%	14.5	14.1	2.8%	16.6	19.7	17.1%
Zinc	ug/g	5	25	30%	15	16	-	14	14	-
Chromium (VI)	ug/g	0.2	1	35%	<0.2	<0.2	-	<0.2	<0.2	-
Cyanide, free	ug/g	0.04	0.2	35%	<0.040	<0.040	-	<0.040	<0.040	-
Mercury	ug/g	0.1	0.5	30%	<0.10	<0.10	-	<0.10	<0.10	-
Conductivity	ug/g	0.005	0.025	10%	0.253	0.477	**61.4%**	0.082	0.087	5.9%
SAR	ug/g	-	-	30%	2.04	3.36	-	0.481	0.324	-
pH	µg/g	-	-	within 0.3 units	6.73	7.21	**0.48**	7	6.99	0.01

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

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Table A.8: Summary of Groundwater Analytical Results
Metals, Inorganics, and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 3 Non-Potable Groundwater - All Types of Property Uses and Coarse Soil	Reporting Detection Limit	Sample ID	MW23-01	MW23-02	MW-03	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
			Screen Depth (m bgs)	0.91 - 3.96	1.06 - 4.11	3.20 - 4.72	3.2 - 4.72	1.52 - 4.57	1.52 - 4.57	1.52 - 4.57	5.56 - 8.61	1.45 - 4.49
			Lab ID	6116641	6116648	4909072	6116649	6116650	6116651	6116652	6116653	6116654
			Sampling Date	30-Aug-24	30-Aug-24	11-Apr-23 BH/MW16	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24
			Units									
Metals and Inorganics - Groundwater												
Dissolved Antimony	20000	1	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	1900	1	µg/L	<1.0	2.3	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	29000	2	µg/L	137	87.4	147	35.9	162	21.4	25.2	83	35.8
Dissolved Beryllium	67	0.5	µg/L	<0.50	<0.50	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	45000	10	µg/L	10.8	11.1	25.3	21	37.1	<10.0	<10.0	27.7	34.1
Dissolved Cadmium	2.7	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	810	2	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.9
Dissolved Cobalt	66	0.5	µg/L	<0.50	<0.50	<0.50	<0.50	0.53	<0.50	<0.50	<0.50	<0.50
Dissolved Copper	87	1	µg/L	<1.0	<1.0	3.4	<1.0	1.1	1.6	1.7	<1.0	<1.0
Dissolved Lead	25	0.5	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	9200	0.5	µg/L	3.04	0.92	1.74	7.56	1.76	5.29	<0.50	5.42	<0.50
Dissolved Nickel	490	1	µg/L	4.3	1.6	1.2	1.3	3	4.1	<1.0	6.5	<1.0
Dissolved Selenium	63	1	µg/L	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0
Dissolved Silver	1.5	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	510	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	420	0.5	µg/L	0.55	<0.50	1.83	2.52	0.57	<0.50	<0.50	1.23	0.66
Dissolved Vanadium	250	0.4	µg/L	0.46	<0.40	0.53	1.29	0.48	0.5	<0.40	<0.40	<0.40
Dissolved Zinc	1100	5	µg/L	<5.0	<5.0	<5.0	13.3	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Mercury	0.29	0.02	µg/L	<0.02	<0.02	NA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium (VI)	140	2	µg/L	<2.000	<2.000	NA	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cyanide, free	66	2	µg/L	<2	<2	NA	<2	<2	<2	<2	<2	<2
Sodium	2300000	50	µg/L	6710	4130	NA	35700	81800	4630	4860	36000	22100
Chloride	2300000	100	µg/L	11300	2880	NA	6280	60100	5480	4800	131000	16500
Conductivity	NS	2	uS/cm	294	240	NA	507	1010	325	284	900	821
pH	5 to 9	NA	pH Units	7.75	7.77	NA	7.69	7.31	7.43	7.53	7.51	7.27
Polycyclic Aromatic Hydrocarbons - Groundwater												
Naphthalene	1400	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	1.8	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	600	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	400	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	580	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	2.4	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	130	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	68	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[a]anthracene	4.7	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	1	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo[b]fluoranthene	0.75	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo[k]fluoranthene	0.4	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo[a]pyrene	0.81	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno[1 2 3-cd]pyrene	0.2	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenzo[a,h]anthracene	0.52	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[ghi]perylene	0.2	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methylnaphthalene (1&2)	1800	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Notes:
m bgs' - Metres Below Ground Surface
NA' - Not Analyzed
<' - Non-Detect Sample

MECP Table 3 SCS: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Full Depth Generic Site Condition Standards, Non-Potable Ground Water Condition for All Types of Property Use with Coarse textured soils (MECP, 2011).

BOLD	- Exceeds MECP Table 3 All Property Uses

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Table A.9: Summary of Groundwater Analytical Results
Petroleum Hydrocarbon Four Fractions and Volatile Organic Compounds
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

Contaminants of Concern	MECP Table 3 Non-Potable Groundwater - All Types of Property Uses and Coarse Soil	Reporting Detection Limit	Sample ID	MW23-01	MW23-02	MW-03	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08	Field Blank	Trip Blank
			Screen Depth (m bgs)	0.91 - 3.96	1.06 - 4.11	3.20 - 4.72	3.2 - 4.72	1.52 - 4.57	1.52 - 4.57	1.52 - 4.57	5.56 - 8.61	1.45 - 4.49	--	--
			Lab ID	6116641	6116648	4909072	6116649	6116650	6116651	6116652	6116653	6116654	6116674	6116675
			Sampling Date	30-Aug-24	30-Aug-24	11-Apr-23 BH/MW16	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	30-Aug-24	28-Aug-24
			Units											
Petroleum Hydrocarbons - Groundwater														
F1 PHCs (C6-C10)	750	25	µg/L	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F1 PHCs (C6-C10) minus BTEX	NS	25	µg/L	<25	<25	NA	<25	<25	<25	<25	<25	<25	<25	<25
F2 PHCs (C10-C16)	150	100	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	NA
F3 PHCs (C16-C34)	500	100	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	NA
F4 PHCs (C34-C50)	500	100	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	NA
Volatile Organic Compounds - Groundwater														
Dichlorodifluoromethane	4400	0.4	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	0.5	0.17	µg/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	5.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	2500	0.4	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	130000	1	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	1.6	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	610	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans-1,2-Dichloroethylene	1.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-Butyl Ether (MTBE)	190	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	320	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone (2-Butanone)	470000	1	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethylene	1.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	2.4	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	**24.6**	**26.7**	**3.27**	<0.20	<0.20	<0.20
1,2-Dichloroethane	1.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	640	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	0.79	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	44	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	16	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	1.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	85000	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	1.75	1.96	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	140000	1	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	4.7	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	18000	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	82000	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	0.25	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	1.6	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	3.3	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	630	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	2300	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m/p-Xylene	NS	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	380	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	1300	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	3.2	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	NS	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	9600	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	8	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	4600	0.1	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene, total	5.2	0.3	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes, total	4200	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane	51	0.2	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

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

MECP Table 3 SCS: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3: Full Depth Generic Site Condition Standards, Non-Potable Ground Water Condition for All Types of Property Use with Coarse textured soils (MECP, 2011).

BOLD	- Exceeds MECP Table 3 All Property Uses

Table A.10: Relative Percent Difference - Groundwater Analytical Results
Phase Two Environmental Site Assessment
1174 Carp Road, Ottawa, Ontario

	Units	Reporting Limit	5*Reporting Limit	Sample ID: / Laboratory ID: / Date Sampled: / Screen Depth (m bgs): MECP Alert Criteria	MW24-06 6116651 30-Aug-24 1.52 - 4.57	MW24-106 6116652 30-Aug-24 1.52 - 4.57	RPD
Metals and Inorganics - Groundwater							
Dissolved Antimony	µg/L	1	5	20%	<1.0	<1.0	-
Dissolved Arsenic	µg/L	1	5	20%	<1.0	<1.0	-
Dissolved Barium	µg/L	2	10	20%	21.4	25.2	16.3%
Dissolved Beryllium	µg/L	0.5	2.5	20%	<0.50	<0.50	-
Dissolved Boron	µg/L	10	50	20%	<10.0	<10.0	-
Dissolved Cadmium	µg/L	0.2	1	20%	<0.20	<0.20	-
Dissolved Chromium	µg/L	2	10	20%	<2.0	<2.0	-
Dissolved Cobalt	µg/L	0.5	2.5	20%	<0.50	<0.50	-
Dissolved Copper	µg/L	1	5	20%	1.6	1.7	-
Dissolved Lead	µg/L	0.5	2.5	20%	<0.50	<0.50	-
Dissolved Molybdenum	µg/L	0.5	2.5	20%	5.29	<0.50	-
Dissolved Nickel	µg/L	1	5	20%	4.1	<1.0	-
Dissolved Selenium	µg/L	1	5	20%	<1.0	<1.0	-
Dissolved Silver	µg/L	0.2	1	20%	<0.20	<0.20	-
Dissolved Thallium	µg/L	0.3	1.5	20%	<0.30	<0.30	-
Dissolved Uranium	µg/L	0.5	2.5	20%	<0.50	<0.50	-
Dissolved Vanadium	µg/L	0.4	2	20%	0.5	<0.40	-
Dissolved Zinc	µg/L	5	25	20%	<5.0	<5.0	-
Dissolved Mercury	µg/L	0.02	0.1	20%	<0.02	<0.02	-
Chromium (VI)	µg/L	2	10	20%	<2.000	<2.000	-
Cyanide, free	µg/L	2	10	20%	<2	<2	-
Sodium	µg/L	50	250	20%	4630	4860	4.8%
Chloride	µg/L	100	500	20%	5480	4800	13.2%
Conductivity	uS/cm	2	10	10%	325	284	-
pH	pH Units	NA	-	-	7.43	7.53	0.1
Volatile Organic Compounds - Groundwater							
Dichlorodifluoromethane	µg/L	0.4	2	30%	<0.40	<0.40	-
Vinyl Chloride	µg/L	0.17	0.85	30%	<0.17	<0.17	-
Bromomethane	µg/L	0.2	1	30%	<0.20	<0.20	-
Trichlorofluoromethane	µg/L	0.4	2	30%	<0.40	<0.40	-
Acetone	µg/L	1	5	30%	<1.0	<1.0	-
1,1-Dichloroethylene	µg/L	0.3	1.5	30%	<0.30	<0.30	-
Methylene Chloride	µg/L	0.3	1.5	30%	<0.30	<0.30	-
trans-1,2-Dichloroethylene	µg/L	0.2	1	30%	<0.20	<0.20	-
Methyl tert-Butyl Ether (MTBE)	µg/L	0.2	1	30%	<0.20	<0.20	-
1,1-Dichloroethane	µg/L	0.3	1.5	30%	<0.30	<0.30	-
Methyl Ethyl Ketone (2-Butanone)	µg/L	1	5	30%	<1.0	<1.0	-
cis-1,2-Dichloroethylene	µg/L	0.2	1	30%	<0.20	<0.20	-
Chloroform	µg/L	0.2	1	30%	24.6	26.7	8.2%
1,2-Dichloroethane	µg/L	0.2	1	30%	<0.20	<0.20	-
1,1,1-Trichloroethane	µg/L	0.3	1.5	30%	<0.30	<0.30	-
Carbon Tetrachloride	µg/L	0.2	1	30%	<0.20	<0.20	-
Benzene	µg/L	0.2	1	30%	<0.20	<0.20	-
1,2-Dichloropropane	µg/L	0.2	1	30%	<0.20	<0.20	-
Trichloroethylene	µg/L	0.2	1	30%	<0.20	<0.20	-
Bromodichloromethane	µg/L	0.2	1	30%	1.75	1.96	11.3%
Methyl Isobutyl Ketone	µg/L	1	5	30%	<1.0	<1.0	-
1,1,2-Trichloroethane	µg/L	0.2	1	30%	<0.20	<0.20	-
Toluene	µg/L	0.2	1	30%	<0.20	<0.20	-
Dibromochloromethane	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Ethylene Dibromide	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Tetrachloroethylene	µg/L	0.2	1	30%	<0.20	<0.20	-
1,1,1,2-Tetrachloroethane	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Chlorobenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Ethylbenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
m/p-Xylene	µg/L	0.2	1	30%	<0.20	<0.20	-
Bromoform	µg/L	0.1	0.5	30%	<0.10	<0.10	-
Styrene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
1,1,2,2-Tetrachloroethane	µg/L	0.1	0.5	30%	<0.10	<0.10	-
o-Xylene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
1,3-Dichlorobenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
1,4-Dichlorobenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
1,2-Dichlorobenzene	µg/L	0.1	0.5	30%	<0.10	<0.10	-
1,3-Dichloropropene, total	µg/L	0.3	1.5	30%	<0.30	<0.30	-
Xylenes, total	µg/L	0.2	1	30%	<0.20	<0.20	-
Hexane	µg/L	0.2	1	30%	<0.20	<0.20	-

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

APPENDIX B

Sampling and Analysis Plan

GEMTEC Consulting Engineers and Scientists Limited
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July 15, 2024

File: 101785.004

Re: Sampling and Analysis Plan - Phase Two Environmental Site Assessment
Proposed Residential Development
1174 Carp Road, Ottawa, Ontario

OBJECTIVE

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Le Groupe Maurice to carry out a Phase Two Environmental Site Assessment (ESA) for the property located at 1174 Carp Road in Ottawa, Ontario (herein referred to as 'Site' and/or 'Phase Two Property'). It is understood that this Phase Two ESA is required to support a proposed change of land use and the filing of a Record of Site Condition (RSC).

The intent of the current investigation is to complete a subsurface investigation for the Site as part of a Phase Two ESA. The general objectives of the scope of work are to determine the location and concentration of contaminants in the soil and groundwater at the Site, to obtain information about environmental conditions, and to determine if the applicable site condition standards are met at the time of the assessment.

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, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario", dated November 2024. Based on the findings of the Phase One ESA, GEMTEC completed this Phase Two ESA investigation.

The Phase Two ESA will focus on the following areas of potential environmental concern (APECs).

APEC #	APEC	Location of APEC	PCA	Location of PCA (On-Site and/or Off-Site)	COPCs	Media Potentially Impacted (Soil, Groundwater and/or Sediments)
1	Importation of Fill Material of Unknown Quality	Across the Site	30	On-Site	PHC F1-F4, VOCs, PAHs, M&Is	Soil Groundwater
2	Gasoline and Associated Products Storage in Fixed Tanks	Southwestern portion of the Site	28	On-Site	PHC F1-F4, VOCs, PAHs	Soil Groundwater
3	Presence of a garage on-Site	Western portion of the on-Site structure	OT.1	On-Site	PHC F1-F4, VOCs	Soil Groundwater
4	Likely presence of a former oil water separator	Northern portion of the Site	OT.5	On-Site	PHC F1-F4, VOCs	Soil Groundwater
5	Gasoline and Associated Products Storage in Fixed Tanks	Eastern portion of the Site (fronting Carp Road)	28	Off-Site 30 m northeast	PHC F1-F4, VOCs	Soil Groundwater

Note:
28 – Gasoline and Associated Products Storage in Fixed Tanks
30 – Importation of Fill Material of Unknown Quality
OT.1 – Presence of a garage on-Site
OT.5 – Likely presence of a former oil water separator
PHC F1-F4 – Petroleum Hydrocarbons F1-F4
VOCs – Volatile Organic Compounds
PAHs – Polycyclic Aromatic Hydrocarbons
M&Is – Metals and Inorganics

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;
- Specifically ask the Site contact(s) for any drawings that may show underground utilities and record their response;
- Initial calibration of field equipment should be performed at the start of each field day, with a daily check of calibration using a standard of known concentration (i.e., RKI Eagle 2);
- Clean disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination;
- All non-dedicated sampling equipment (e.g., water level meters, split spoons) 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.

BOREHOLE DRILLING

- Drilling scheduled for July 2, 2024 and July 3, 2024 to advance 5 boreholes (BH24-05, BH24-06, BH24-07, BH24-08, and BH24-09) to the water table (assume 6.10 metres below ground surface (m bgs)).
- Confirm that every borehole location has been cleared by the private locator.
- At each drilling location soil samples will be collected in the following frequency: every 2-2.5 ft down to targeted depth and/or until the water table is encountered. Once the water table is identified, call PM to confirm well installation.
- Screen soil samples for field evidence of potential impact, including odour, visible staining, debris and headspace organic vapour (organics) and combustible gas (hexane) concentrations at the same frequency of jarring (i.e. every 2-2.5 ft) using an RKI Eagle 2 gas detector, calibrated for both hexane (hydrocarbons) and isobutylene (organics).
- Record soil stratigraphy and observations on soil type, presence/absence of debris and passive odour on “Record of Borehole Logs”.
- The table below provides a summary of the sampling and analytical program. Submit samples to AGAT Laboratories (AGAT) following the chain of custody procedures provided below.

Borehole ID	Rationale	Borehole Depth (m)	Soil Analysis	Duplicate Soil Samples
BH/MW24-05	APEC 1 – Presence of fill material at the Site APEC 2 – Presence of a historical ASTs at the Site	6.10 m (depends on depth to water table). If refusal < 6.10 m, please contact Geotechnical Engineer and QP_{ESA}.	PHC F1-F4, VOCs, Metals, Hydride Forming Metals, ORP, PAHs Two soil samples. One sample to be collected at the water table and the second sample to be collected from the layer of fill material. The second sample should be the worst case sample based on field observations and headspace screening.	--
BH/MW24-06	APEC 1 – Presence of fill material at the Site	6.10 m (depends on depth to water table). If refusal < 6.10 m, please contact Geotechnical Engineer and QP_{ESA}.	PHC F1-F4, VOCs, Metals, Hydride Forming Metals, ORP, PAHs Two soil samples. Both samples to be collected from the layer of fill material. The samples should be worst case sample based on field observations and headspace screening.	--
BH/MW24-07	APEC 1 – Presence of fill material at the Site APEC 5 – Presence of a retail fuel outlet to the east of the Site	6.10 m (depends on depth to water table). If refusal < 6.10 m, please contact Geotechnical Engineer and QP_{ESA}.	PHC F1-F4, VOCs, Metals, Hydride Forming Metals, ORP, PAHs Two soil samples. One sample to be collected at the water table and the second sample to be collected from the layer of fill material. The second sample should be the worst case sample based on field observations and headspace screening.	--
BH/MW24-08	APEC 1 – Presence of fill material at the Site APEC 5 – Presence of a retail fuel outlet to the east of the Site	6.10 m (depends on depth to water table). If refusal < 6.10 m, please contact Geotechnical Engineer and QP_{ESA}.	PHC F1-F4, VOCs, Metals, Hydride Forming Metals, ORP, PAHs Two soil samples. One sample to be collected at the water table and the second sample to be collected from the layer of fill material. The second sample should be the worst case sample based on field observations and headspace screening.	One duplicate for each parameter
BH24-09	Drill for Geotechnical Investigation. Please confirm with Geotechnical Engineer for the borehole details.	6.10 m (depends on depth to water table). If refusal < 6.10 m, please contact Geotechnical Engineer.	--	--

Note:

PHC F1-F4 – Petroleum Hydrocarbon F1-F4

VOCs – Volatile Organic Compounds

ORP – Other Regulated Parameters such as Electrical Conductivity (EC), Sodium Adsorption Ratio (SAR), pH, and Cyanide.

PAHs – Polycyclic Aromatic Hydrocarbons

Please note that GEMTEC has completed a Phase I ESA and Phase II ESA investigation at the Site in 2023. Therefore, the BH count starts from 5 instead of 1. As part of Phase Two ESA reporting, the soil and analytical data from previous investigations will be used.

- For well installation: 2 inch inside diameter (ID) Schedule 40 polyvinyl chloride (PVC) casing and 2 inch ID Schedule 40 PVC well screens (3.05 metres in length, #10 slot size); sand pack surrounding each screen will be #00N; each monitoring well will be completed at ground surface with a monument casing (or flush mount of placed in a driveway area) and sealed with a PVC J-plug. Other details available in table below.
- Mark the reference point at the top of well pipe with a small notch. Install Waterra tubing and foot valve in each new monitoring well.
- Develop monitoring wells in accordance with standard operating procedure. Use Waterra for well development. Record development information on standard field form.
- Well construction details required for the Phase Two ESA are provided in the table below.

Monitoring Well ID	Depth of screen base (m bgs)	Screen length (ft)	Well diameter (inch)	Protective Casing Type
BH23-1	Advanced as part of 2023 investigation	10	2	Flushmount
BH23-2	Advanced as part of 2023 investigation	10	2	Flushmount
BH23-3	Advanced as part of 2023 investigation	5	2	Flushmount
BH23-4	Advanced as part of 2023 investigation. No well install	No well install	No well install	No well install
BH24-5	Set screen to straddle water table	10	2	Flushmount
BH24-6	Set screen to straddle water table	10	2	Stickup
BH24-7	Set screen to straddle water table	10	2	Flushmount
BH24-8	Set screen to straddle water table	10	2	Flushmount
BH24-9	No well install	No well install	No well install	No well install

GROUNDWATER MONITORING

- This work to be scheduled following drilling activity.
- Before measuring the water levels, open the J-plugs to allow air in the casing to vent and the water level to stabilize.
- Collect a round of water level measurements from the monitoring wells using the water level meter.
- Develop well by purging 3x volume of the well utilizing the waterra tubing and check valve.
- Purge the wells using a peristaltic pump prior to sampling following the GEMTEC SOP. Use the multi-parameter meter to assess stability. Record the purging on the standard field form. The multi-parameter meter should be initially calibrated by the equipment supplier. Check calibration to known pH, Conductivity, Oxidation-Reduction Potential (ORP) and Dissolved Oxygen (DO) concentration prior to use. Collect groundwater samples from monitoring wells using low flow sampling following the GEMTEC SOP.

Samples are to be collected as outlined below.

- Samples do not need to be submitted on the day of sampling provided you keep them on ice during the day and/or refrigerate them overnight (i.e., keep them cold from collection to submission). If the samples cannot be submitted on the day of sampling, they need to be submitted by the following day.
- Collect quality assurance samples as indicated below. The duplicated groundwater samples should be labelled in a manner in which the laboratory cannot readily identify the sample as a duplicate, especially if there are a small number of primary groundwater samples to be collected.
- Ensure the trip blank is brought to Site with you and stored on ice in the lab-supplied cooler. Keep the trip blank vials with the groundwater samples collected.
- Collect a field blank during the sampling program, as per below.
- Please call Mohit or Dan if you see or suspect that there is odour, sheen or product in any monitoring well.
- Use the “GEMTEC Water Sampling form” form to collect all data during groundwater sampling.

Well ID	Field Parameter Measurements	Groundwater Analyses to be Requested	QA/QC samples
BH/MW23-1	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	
BH/MW23-2	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	

Well ID	Field Parameter Measurements	Groundwater Analyses to be Requested	QA/QC samples
BH/MW23-3	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	1 field trip and trip blank for PHC F1 and VOCs for the whole program
BH/MW24-5	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	
BH/MW24-6	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs 1 field duplicate	
BH/MW24-7	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	
BH/MW24-8	pH; EC; Temperature; DO; ORP, Conductivity, Turbidity	M&Is, PAHs, PHC F1-F4, VOCs	

Notes:
ORP - Oxidation-Reduction Potential
Inorganics include cyanide, sodium chloride, conductivity, and pH.

CHAIN OF CUSTODY

- Prior to any sample submission to the laboratory, please send a copy/ picture of the chain-of-custody to Mohit and Dan 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
Generic Site Condition Standards	MECP Table 3 RPI coarse textured soil
Use Record of Site Condition analytical procedures?	Yes
Turn-around Time	Regular (5-7 days)
Reporting Contact	mohit.bhargav@gemtec.ca dan.elliot@gemtec.ca

MANAGEMENT OF INVESTIGATION DERIVED WASTE

- Waste soil and water are to be discharged to the ground surface unless there is evidence of impact (staining, odour). If impacts are noted, cutting and water are to be contained in metal/plastic drums or buckets (with lids).
- Drums are to be labelled for waste management purposes, project number, date and drum contents (soil, purge water).
- Store drums at an on-Site location that is as secure as possible from public access.
- Record inventory of waste containers on Daily Log.

SPECIAL INSTRUCTIONS

- Please prepare a field log for all the boreholes.
- 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 Mohit or Dan for review and comment.

MB/DE

Enclosures
N:\Projects\101700\101785.004\05_Technical Work\Reporting\Phase Two ESA - RSC\Appendix B - SAP\101785.004_Sampling and Analysis Plan August 31 2023.docx

APPENDIX C

Borehole Logs

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

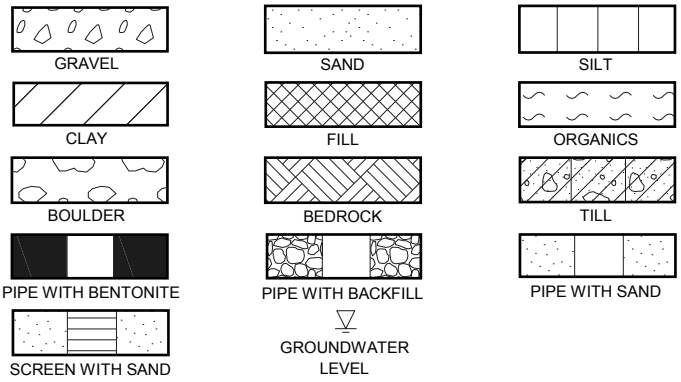
PENETRATION RESISTANCE

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.

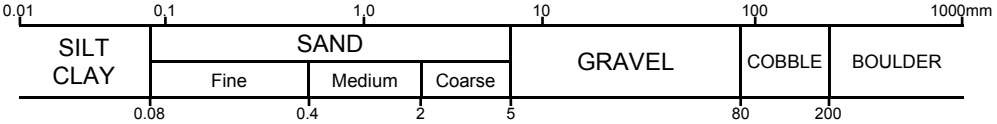
Dynamic Penetration Resistance
The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive a 50 mm (2 in.) diameter 60° cone attached to 'A' size drill rods for a distance of 300 mm (12 in.).

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**	**Cu, 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

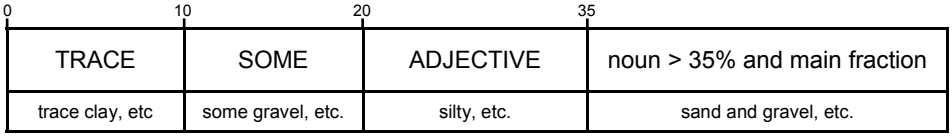


GRAIN SIZE



DESCRIPTIVE TERMINOLOGY

(Based on the CANFEM 4th Edition)



RECORD OF BOREHOLE 23-01

CLIENT: Le Groupe Maurice
PROJECT: Phase II Envrionmental Site Assessment, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.003
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Apr 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		125.51									Flush mount protective casing
0	Direct Push Casing (57mm OD)	CONCRETE floor slab		125.36									Flush Mount
		Grey brown sand, some gravel, trace silt (FILL MATERIAL)		0.15	1	CA	365			HEX: 0, IBL: 0	None		Bentonite Seal
1					2	CA	610			HEX: 0, IBL: 0	None		Filter Sand
					3	CA	610			HEX: 0, IBL: 0	None		
2				123.53									
		Grey brown sand, trace silt		1.98	4	CA	610			HEX: 0, IBL: 0	None		50mm diameter PVC screen
					5	CA	610		M&I, BTEX, PHCs F1-F4, PAHs	HEX: 0, IBL: 0	None		
3					6	CA	610			HEX: 0, IBL: 0	None		
				121.70									
		Grey sandy silt		3.81	7	CA	610			HEX: 0, IBL: 0	None		
4					8	CA	610			HEX: 0, IBL: 0	None		Cave
				120.63									
		End of Borehole (No Refusal)		4.88									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Apr. 06/23	3.12	122.39
Apr. 11/23	3.45	122.06
Aug. 30/24	3.14	122.37
Nov. 06/24	3.17	122.34

GEMTEC
Consulting Engineers and Scientists

LOGGED: EW
CHECKED: MK

ENV - BOREHOLE LOG 2. 101785.004_BH_LOGS_23-1AND23-2_2024-12-17.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 23-02

CLIENT: Le Groupe Maurice
PROJECT: Phase II Envrionmental Site Assessment, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.003
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Apr 6 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		125.51									Flush mount protective casing
0		PORTLAND CEMENT CONCRETE		125.36									Flush Mount
		Grey brown sand, some gravel, trace silt (FILL MATERIAL)		0.15	1	CA	500			HEX: 0, IBL: 0	None		Bentonite Seal
1				124.29									
		Grey brown sand, some gravel, trace silt		1.22	3	CA	610			HEX: 0, IBL: 0	None		Filter Sand
2	Direct Push Casing (57mm OD)				4	CA	610			HEX: 0, IBL: 0	None		
				122.92									
		Grey brown sand, some gravel, trace silt		2.59	5	CA	610		M&I, BTEX, PHCs F1-F4, PAHs	HEX: 0, IBL: 0	None		25mm diameter PVC screen
3					6	CA	610			HEX: 0, IBL: 0	None		
				121.85									
		Grey sand and silt, trace gravel		3.66	7	CA	610			HEX: 0, IBL: 0	None		
4					8	CA	610			HEX: 0, IBL: 0	None		Cave
				120.63									
				4.88									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Apr. 06/23	3.01	122.50
Apr. 11/23	2.95	122.56
Aug. 30/24	3.01	122.50
Nov. 06/24	3.03	122.48

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LOGGED: EW
CHECKED: MK

ENV - BOREHOLE LOG 2. 101785.004_BH_LOGS_23-1AND23-2_2024-12-17.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 23-03

CLIENT: Le Groupe Maurice
PROJECT: Preliminary Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Apr 10 2023

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		125.08									Flush mount protective casing
0	Power Auger / Hollow Stem Auger (210mm OD)	ASPHALTIC CONCRETE		125.03 / 0.05									Flush Mount
		Compact to loose, grey brown sand, some silt, trace clay, trace gravel, with rootlets (FILL MATERIAL)			1	SS	380	15		Hex: 0; IBL: 0	None		
1					2	SS	430	5		Hex: 0; IBL: 0	None		Auger Cuttings
					3	SS	530	9	M&I, PHCs F1-F4, BTEX, PAHs	Hex: 0; IBL: 0	None		
2		Very loose to loose, grey brown sand, some silt, trace gravel		123.10 / 1.98									
					4	SS	510	2		Hex: 0; IBL: 0	None		
3					5	SS	455	8		Hex: 0; IBL: 0	None		Bentonite Seal / Filter Sand
		Compact, grey SANDY SILT, trace gravel		121.27 / 3.81									
4					6	SS	510	13		Hex: 0; IBL: 0	None		50mm diameter PVC screen
					7	SS	255	> 50		Hex: 0; IBL: 0	None		
5	Wash Casing NQ (70mm OD) / Diamond Rotary Core NQ (70mm OD)	Possible nested BOULDERS/fractured BEDROCK with silty sand seams		120.20 / 4.88	8	RC	555	DD					
		Slightly weathered to fresh, thinly bedded, grey LIMESTONE BEDROCK		119.44 / 5.64	9	RC		TCR= 100%, SCR= 100%, RQD= 85%					Bentonite Seal
6		End of Borehole		118.43 / 6.65									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Apr. 20/23	2.21 ▽	122.87
Aug. 30/24	2.47 ▼	122.61
Nov. 06/24	2.20 ▽	122.88

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LOGGED: CC
CHECKED: MK

ENV - BOREHOLE LOG 101785.004_BH_LOGS23-3AND23-4_2024-12-9.GPJ GEMTEC 2018.GDT 12/9/24

RECORD OF BOREHOLE 23-04

CLIENT: Le Groupe Maurice
PROJECT: Preliminary Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Apr 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		124.48									
0	Power Auger Hollow Stem Auger (210mm OD)	ASPHALTIC CONCRETE		0.05									
		Compact, brown sand, some gravel, trace silt, with wood fragments and cobbles and boulders (FILL MATERIAL)			1	SS	380	17	M&I, PHCs F1-F4, BTEX, PAHs	Hex: 0; IBL: 0	None		
1				122.96									
		Compact to very loose, grey brown sand, trace gravel, trace to some silt		1.52	2	SS	405	15		Hex: 0; IBL: 0	None		Auger Cuttings
2													
					3	SS	380	2		Hex: 0; IBL: 0	None		
3													
					4	SS	430	16		Hex: 0; IBL: 0	None		
				120.82									
		Grey SAND and SILT, trace gravel		3.66									
4					5	SS	455	>50		Hex: 0; IBL: 0	None		
				120.22									
		End of Borehole Auger Refusal		4.26									

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Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

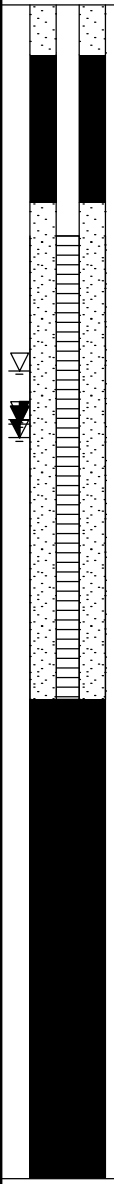
RECORD OF BOREHOLE 24-05

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Jul 3 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)
		Ground Surface		124.86								
0	Power Auger Hollow Stem Auger (210mm OD)	Compact, grey brown gravelly sand, trace silt, with cobbles (FILL MATERIAL)			1	SS	455	19	M&Is, PHC F1-F4, VOCs	Hex: 0; IBL: 0	None	
				124.10								
1		Compact to loose, brown SAND, some silt		0.76	2	SS	405	12		Hex: 0; IBL: 0	None	
2					3	SS	510	6		Hex: 0; IBL: 0	None	
				122.57								
		Very loose, dark brown SILTY SAND, trace clay, trace gravel, with organics and wood fragments		2.29	4	SS	255	3		Hex: 0; IBL: 0	None	
3												
				121.51	5	SS	300	1		Hex: 0; IBL: 0	None	
		Compact, grey SAND and SILT, trace clay		3.35								
4					6	SS	610	14	M&Is, PHC F1-F4, VOCs, PAHs	Hex: 0; IBL: 0	None	
				120.21	7	SS	80	>50		Hex: 0; IBL: 0	None	
	Diamond Rotary Core HQ (89mm OD)	Slightly weathered to fresh, fine grained, thinly bedded, grey LIMESTONE BEDROCK		4.65	8	RC		TCR = 93%; SCR = 80%; RQD = 87%				
5												
6					9	RC		TCR = 100%; SCR = 41%; RQD = 43%				
7					10	RC		TCR = 100%; SCR = 96%; RQD = 83%				
				117.14								
		End of borehole		7.72								

MONITORING WELL INSTALLATION AND NOTES



GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Jul. 17/24	2.41 ▽	122.45
Aug. 21/24	2.76 ▼	122.10
Aug. 30/24	2.73 ▼	122.13
Nov. 06/24	2.85 ▼	122.01

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LOGGED: CC
CHECKED: MK

ENV - BOREHOLE LOG 4. 101785.004_BH_LOGS_2024-12-9.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 24-06

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Jul 2 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		124.78									
0	Power Auger / Hollow Stem Auger (210mm OD)	TOPSOIL		124.40	1	SS	355	18		Hex: 0; IBL: 0	None		Auger cuttings
		Compact to very loose, brown sand, some silt, trace gravel		0.38									
1					2	SS	405	13		Hex: 0; IBL: 0	None		Bentonite seal
2					3	SS	255	1	M&Is, PHC F1-F4, VOCs, PAHs	Hex: 0; IBL: 0	None		
				122.49									
		Dark brown silty sand, trace gravel, with organics		2.29									
				122.34	4	SS	355	11		Hex: 0; IBL: 0	None		
		Compact, brown to grey silty sand, trace gravel, trace clay		2.44									
3					5	SS	610	25	M&Is, PHC F1-F4, VOCs, PAHs	Hex: 0; IBL: 0	None		Filter sand 50 mm diameter well screen
4					6	SS	610	11		Hex: 0; IBL: 0	None		
				120.21									
		End of borehole Auger refusal		4.57									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Jul. 17/24	3.04 ▽	121.74
Aug. 21/24	2.50 ▼	122.28
Aug. 30/24	3.63 ▼	121.15
Nov. 06/24	2.83 ▼	121.95

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

ENV - BOREHOLE LOG 4. 101785.004_BH_LOGS_2024-12-9.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 24-07

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 2
DATUM: CGVD28
BORING DATE: Jul 3 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
0	Power Auger Hollow Stem Auger (210mm OD)	Ground Surface		125.08									
		ASPHALTIC CONCRETE		125.03									
		Loose to compact, brown sand, some silt, trace gravel		0.05	1	SS	430	10		Hex: 0; IBL: 0	None		Filter sand
													Bentonite seal
1					2	SS	355	14	M&Is, PHC F1-F4, VOCs, PAHs	Hex: 0; IBL: 0	None		
					3	SS	25	14		Hex: 0; IBL: 0	None		
2													
					4	SS	455	18		Hex: 0; IBL: 0	None		Auger cuttings
3					5	SS	510	10		Hex: 0; IBL: 0	None		
4					6	SS	510	28		Hex: 0; IBL: 0	None		
													Bentonite seal
					7	SS	610	29	M&Is, PHC F1-F4, VOCs	Hex: 0; IBL: 0	None		
5				120.05									
		Grey brown SILTY SAND		5.03									
		Slightly weathered to fresh, fine grained, thinly bedded, grey LIMESTONE BEDROCK		119.90 5.18									
6	Diamond Rotary Core HQ (89mm OD)				8	RC		TCR = 98%; SCR = 96%; RQD = 80%					
7					9	RC		TCR = 98%; SCR = 97%; RQD = 90%					Filter sand 50 mm diameter well screen
8					10	RC		TCR = 100%; SCR = 100%; RQD					
		End of borehole		116.47 8.61									

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

ENV - BOREHOLE LOG 4. 101785.004_BH_LOGS_2024-12-9.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 24-07

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 2 OF 2
DATUM: CGVD28
BORING DATE: Jul 3 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
								92%					

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Aug. 14/24	3.49	121.59
Aug. 21/24	3.54	121.54
Aug. 30/24	3.48	121.60
Nov. 06/24	3.60	121.48

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

RECORD OF BOREHOLE 24-08

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Jul 2 2024

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY (mm)	BLOWS/0.3m	LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		124.47									
0	Power Auger / Hollow Stem Auger (210mm OD)	Compact, grey crushed gravelly sand, trace silt (FILL MATERIAL)		123.71	1	SS	305	18	M&Is, PHC F1-F4, VOCs	Hex: 0; IBL: 0	None		Flush Mount Filter sand
1		Very loose, dark brown silty sand, some clay, trace gravel, with organics		0.76	2	SS	510	3		Hex: 0; IBL: 0	None		Bentonite seal
				122.79									
2		Very loose, brown sand, some silt		1.68	3	SS	610	1		Hex: 0; IBL: 0	None		
					4	SS	455	2		Hex: 0; IBL: 0	None		
3					5	SS	510	2		Hex: 0; IBL: 0	None		Filter sand 50 mm diameter well screen
				120.66									
4		Compact, brown sand, some silt		3.81	6	SS	610	28	M&Is, PHC F1-F4, VOCs, PAHs	Hex: 0; IBL: 0	None		
				119.75	7	SS	150	>50		Hex: 0; IBL: 0	None		Auger cuttings
		End of borehole Auger refusal		4.72									

GROUNDWATER OBSERVATIONS

DATE	DEPTH (m)	ELEVATION (m)
Aug. 14/24	3.17	121.30
Aug. 21/24	3.28	121.19
Aug. 30/24	3.26	121.21
Nov. 06/24	3.31	121.16

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

ENV - BOREHOLE LOG 4. 101785.004_BH_LOGS_2024-12-9.GPJ GEMTEC 2018.GDT 12/17/24

RECORD OF BOREHOLE 24-09

CLIENT: Le Groupe Maurice Inc.
PROJECT: Geotechnical Investigation, Proposed Residential Development, 1174 Carp Road, Ottawa, Ontario
JOB#: 101785.004
LOCATION: See Figure A.5

SHEET: 1 OF 1
DATUM: CGVD28
BORING DATE: Jul 2 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLE DATA: NUMBER	SAMPLE DATA: TYPE	SAMPLE DATA: RECOVERY (mm)	SAMPLE DATA: BLOWS/0.3m	SAMPLE DATA: LABORATORY ANALYSES	COMBUSTIBLE VAPOUR CONCENTRATION (ppm)	ODOUR	TPH (mg/kg)	MONITORING WELL INSTALLATION AND NOTES
		Ground Surface		124.31									
0	Power Auger / Hollow Stem Auger (210mm OD)	Unsampled Overburden											Auger cuttings
4				120.04									
5	Diamond Rotary Core / HQ (89mm OD)	Slightly weathered to fresh, fine grained, thinly bedded, grey LIMESTONE BEDROCK		4.27	1	RC		TCR = 100%; SCR = 100%; RQD = 100%					Bentonite seal
					2	RC		TCR = 98%; SCR = 97%; RQD = 89%					
7					3	RC		TCR = 100%; SCR = 100%; RQD = 89%					
		End of borehole		116.94 7.37									

GEMTEC
Consulting Engineers and Scientists

LOGGED: CC
CHECKED: MK

APPENDIX D

Laboratory Certificates of Analysis

AGAT Laboratories

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

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422
ATTENTION TO: Mohit Bhargav
PROJECT: 101785.004 - Bulk Soil Submission
AGAT WORK ORDER: 24Z169876
SOIL ANALYSIS REVIEWED BY: Sukhwinder Randhawa, Inorganic Team Lead
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Jul 11, 2024
PAGES (INCLUDING COVER): 20
VERSION*: 1

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

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information is available on request from AGAT Laboratories, in accordance with ISO/IEC 17025:2017, ISO/IEC 17025:2005 (Quebec), DR-12-PALA and/or NELAP Standards.*
- *This document is signed by an authorized signatory who meets the requirements of the MELCCFP, CALA, CCN and NELAP.*
- *For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.*

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-07 SA7	BH24-05 SA1	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-08 SA1	BH24-08 SA6
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-02	2024-07-03	2024-07-03	2024-07-02	2024-07-02	2024-07-02	2024-07-02
Parameter	Unit	G / S	RDL	5981900	5981921	5981922	5981923	5981925	5981927	5981929	5981932
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	<1	<1	2	<1	<1	<1	2	<1
Barium	µg/g	220	2.0	32.2	17.7	210	31.6	42.6	19.4	82.6	19.8
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	5	<5	<5	6	<5	<5	<5	10	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	9	8	23	11	11	9	15	8
Cobalt	µg/g	21	0.8	3.9	2.8	7.0	3.2	4.3	3.3	5.4	3.7
Copper	µg/g	92	1.0	11.5	9.6	14.4	8.0	9.2	9.3	14.5	8.6
Lead	µg/g	120	1	2	3	12	2	3	2	12	2
Molybdenum	µg/g	2	0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	0.7	<0.5
Nickel	µg/g	82	1	6	5	13	6	7	7	11	6
Selenium	µg/g	1.5	0.8	<0.8	<0.8	1.0	<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	2.5	0.50	<0.50	<0.50	0.60	<0.50	0.52	<0.50	<0.50	<0.50
Vanadium	µg/g	86	2.0	21.6	17.0	30.6	21.1	23.8	19.5	21.3	16.6
Zinc	µg/g	290	5	16	15	38	16	21	14	60	14
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.112	0.106	0.185	0.111	0.112	0.083	0.162	0.082
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.426	0.374	1.23	0.488	0.264	0.302	1.47	0.481
pH, 2:1 CaCl2 Extraction	pH Units		NA	6.94	6.91	6.90	6.90	6.95	6.99	6.99	7.00

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-08 SA106
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-02
Parameter	Unit	G / S	RDL	5981934
Antimony	µg/g	1.3	0.8	<0.8
Arsenic	µg/g	18	1	<1
Barium	µg/g	220	2.0	19.9
Beryllium	µg/g	2.5	0.5	<0.5
Boron	µg/g	36	5	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5
Chromium	µg/g	70	5	8
Cobalt	µg/g	21	0.8	3.8
Copper	µg/g	92	1.0	8.9
Lead	µg/g	120	1	2
Molybdenum	µg/g	2	0.5	<0.5
Nickel	µg/g	82	1	6
Selenium	µg/g	1.5	0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5
Thallium	µg/g	1	0.5	<0.5
Uranium	µg/g	2.5	0.50	<0.50
Vanadium	µg/g	86	2.0	19.7
Zinc	µg/g	290	5	14
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.087
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.324
pH, 2:1 CaCl2 Extraction	pH Units		NA	6.99

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AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

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

5981900-5981934 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

Particle Size by Sieve (Wet)

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-05 SA6
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-03
Parameter	Unit	G / S	RDL	5981900	5981923
Sieve Analysis - 75 µm (retained)	%		NA	65.10	61.00
Sieve Analysis - 75 µm (passing)	%		NA	34.90	39.00
Soil Texture (Toronto)				Coarse	Coarse

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

5981900-5981923 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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PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-08 SA6	BH24-08 SA106
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-03	2024-07-02	2024-07-02	2024-07-02	2024-07-02
Parameter	**Unit**	**G / S**	**RDL**	**5981900**	**5981923**	**5981925**	**5981927**	**5981932**	**5981934**
Naphthalene	µg/g	0.09	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-and 1-methyl Naphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	12.0	25.5	16.7	15.9	14.8	16.3
Surrogate	**Unit**	**Acceptable Limits**							
Naphthalene-d8	%	50-140		70	70	70	75	70	70
Acridine-d9	%	50-140		70	100	70	70	70	70
Terphenyl-d14	%	50-140		80	85	95	70	90	95

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

5981900-5981934 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-08 SA6	BH24-08 SA106
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-03	2024-07-02	2024-07-02	2024-07-02	2024-07-02
Parameter	**Unit**	**G / S**	**RDL**	**5981900**	**5981923**	**5981925**	**5981927**	**5981932**	**5981934**
F1 (C6 to C10)	µg/g	25	5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	89	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	89	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	12.0	25.5	16.7	15.9	14.8	16.3
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	%	50-140		82	85	76	78	83	82
Terphenyl	%	60-140		96	95	80	110	84	96

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

5981900-5981934 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04

DATE REPORTED: 2024-07-11

		SAMPLE DESCRIPTION:		BH24-07 SA7	BH24-05 SA1	BH24-08 SA1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-03	2024-07-02
Parameter	**Unit**	**G / S**	**RDL**	**5981921**	**5981922**	**5981929**
F1 (C6 to C10)	µg/g	25	5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	59	<50	130
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA
Moisture Content	%		0.1	14.2	9.1	6.4
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	%	50-140		86	79	77
Terphenyl	%	60-140		81	90	120

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

5981921-5981929 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-07 SA7	BH24-05 SA1	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-08 SA1	BH24-08 SA6
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-02	2024-07-03	2024-07-03	2024-07-02	2024-07-02	2024-07-02	2024-07-02
Parameter	Unit	G / S	RDL	5981900	5981921	5981922	5981923	5981925	5981927	5981929	5981932
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-07 SA2	BH24-07 SA7	BH24-05 SA1	BH24-05 SA6	BH24-06 SA3	BH24-06 SA5	BH24-08 SA1	BH24-08 SA6
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-07-02	2024-07-02	2024-07-03	2024-07-03	2024-07-02	2024-07-02	2024-07-02	2024-07-02
Parameter	**Unit**	**G / S**	**RDL**	**5981900**	**5981921**	**5981922**	**5981923**	**5981925**	**5981927**	**5981929**	**5981932**
Bromoform	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	12.0	14.2	9.1	25.5	16.7	15.9	6.4	14.8
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		82	86	79	85	76	78	77	83
4-Bromofluorobenzene	% Recovery	50-140		111	114	103	114	98	101	106	108

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SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04

DATE REPORTED: 2024-07-11

		SAMPLE DESCRIPTION:		BH24-08 SA106
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-02
Parameter	Unit	G / S	RDL	5981934
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05

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Certificate of Analysis

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

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

DATE RECEIVED: 2024-07-04 **DATE REPORTED: 2024-07-11**

		SAMPLE DESCRIPTION:		BH24-08 SA106
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2024-07-02
Parameter	**Unit**	**G / S**	**RDL**	**5981934**
Bromoform	ug/g	0.05	0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05
o-Xylene	ug/g		0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05	<0.05
n-Hexane	µg/g	0.05	0.05	<0.05
Moisture Content	%		0.1	16.3
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		82
4-Bromofluorobenzene	% Recovery	50-140		110

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

5981900-5981934 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

Soil Analysis

RPT Date: Jul 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	5981900	5981900	<0.8	<0.8	NA	< 0.8	117%	70%	130%	110%	80%	120%	107%	70%	130%
Arsenic	5981900	5981900	<1	<1	NA	< 1	112%	70%	130%	105%	80%	120%	107%	70%	130%
Barium	5981900	5981900	32.2	31.3	2.8%	< 2.0	121%	70%	130%	116%	80%	120%	126%	70%	130%
Beryllium	5981900	5981900	<0.5	<0.5	NA	< 0.5	108%	70%	130%	117%	80%	120%	126%	70%	130%
Boron	5981900	5981900	<5	<5	NA	< 5	81%	70%	130%	102%	80%	120%	101%	70%	130%
Boron (Hot Water Soluble)	5986924		0.10	0.11	NA	< 0.10	107%	60%	140%	111%	70%	130%	115%	60%	140%
Cadmium	5981900	5981900	<0.5	<0.5	NA	< 0.5	109%	70%	130%	106%	80%	120%	111%	70%	130%
Chromium	5981900	5981900	9	9	NA	< 5	104%	70%	130%	114%	80%	120%	116%	70%	130%
Cobalt	5981900	5981900	3.9	4.0	NA	< 0.8	101%	70%	130%	111%	80%	120%	108%	70%	130%
Copper	5981900	5981900	11.5	11.6	0.9%	< 1.0	96%	70%	130%	114%	80%	120%	105%	70%	130%
Lead	5981900	5981900	2	2	NA	< 1	106%	70%	130%	109%	80%	120%	107%	70%	130%
Molybdenum	5981900	5981900	<0.5	<0.5	NA	< 0.5	101%	70%	130%	110%	80%	120%	109%	70%	130%
Nickel	5981900	5981900	6	6	0.0%	< 1	105%	70%	130%	111%	80%	120%	107%	70%	130%
Selenium	5981900	5981900	<0.8	<0.8	NA	< 0.8	77%	70%	130%	109%	80%	120%	110%	70%	130%
Silver	5981900	5981900	<0.5	<0.5	NA	< 0.5	116%	70%	130%	109%	80%	120%	110%	70%	130%
Thallium	5981900	5981900	<0.5	<0.5	NA	< 0.5	107%	70%	130%	110%	80%	120%	107%	70%	130%
Uranium	5981900	5981900	<0.50	<0.50	NA	< 0.50	108%	70%	130%	110%	80%	120%	107%	70%	130%
Vanadium	5981900	5981900	21.6	21.7	0.5%	< 2.0	109%	70%	130%	113%	80%	120%	111%	70%	130%
Zinc	5981900	5981900	16	16	NA	< 5	105%	70%	130%	108%	80%	120%	106%	70%	130%
Chromium, Hexavalent	5979295		<0.2	<0.2	NA	< 0.2	98%	70%	130%	91%	80%	120%	72%	70%	130%
Cyanide, WAD	5984525		<0.040	<0.040	NA	< 0.040	104%	70%	130%	105%	80%	120%	102%	70%	130%
Mercury	5981900	5981900	<0.10	<0.10	NA	< 0.10	113%	70%	130%	101%	80%	120%	106%	70%	130%
Electrical Conductivity (2:1)	5986924		0.307	0.277	10.3%	< 0.005	106%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5986924		1.08	1.09	0.9%	NA									
pH, 2:1 CaCl2 Extraction	5984482		6.75	6.78	0.4%	NA	103%	80%	120%						
Particle Size by Sieve (Wet)															
Sieve Analysis - 75 µm (retained)	5974564		17.94	18.62	3.7%	NA	99%	75%	125%						
Sieve Analysis - 75 µm (passing)	5974564		82.06	81.38	0.8%	NA	NA								

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

Comments: NA signifies Not Applicable.

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

SAMPLED BY:CD

Trace Organics Analysis

RPT Date: Jul 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5986876		<0.05	<0.05	NA	< 0.05	127%	50%	140%	78%	50%	140%	85%	50%	140%
Acenaphthylene	5986876		<0.05	<0.05	NA	< 0.05	111%	50%	140%	73%	50%	140%	95%	50%	140%
Acenaphthene	5986876		<0.05	<0.05	NA	< 0.05	117%	50%	140%	88%	50%	140%	78%	50%	140%
Fluorene	5986876		<0.05	<0.05	NA	< 0.05	121%	50%	140%	85%	50%	140%	78%	50%	140%
Phenanthrene	5986876		<0.05	<0.05	NA	< 0.05	131%	50%	140%	95%	50%	140%	83%	50%	140%
Anthracene	5986876		<0.05	<0.05	NA	< 0.05	104%	50%	140%	80%	50%	140%	78%	50%	140%
Fluoranthene	5986876		<0.05	<0.05	NA	< 0.05	128%	50%	140%	85%	50%	140%	83%	50%	140%
Pyrene	5986876		<0.05	<0.05	NA	< 0.05	121%	50%	140%	83%	50%	140%	80%	50%	140%
Benzo(a)anthracene	5986876		<0.05	<0.05	NA	< 0.05	97%	50%	140%	88%	50%	140%	93%	50%	140%
Chrysene	5986876		<0.05	<0.05	NA	< 0.05	122%	50%	140%	78%	50%	140%	73%	50%	140%
Benzo(b)fluoranthene	5986876		<0.05	<0.05	NA	< 0.05	115%	50%	140%	78%	50%	140%	75%	50%	140%
Benzo(k)fluoranthene	5986876		<0.05	<0.05	NA	< 0.05	99%	50%	140%	90%	50%	140%	75%	50%	140%
Benzo(a)pyrene	5986876		<0.05	<0.05	NA	< 0.05	121%	50%	140%	95%	50%	140%	110%	50%	140%
Indeno(1,2,3-cd)pyrene	5986876		<0.05	<0.05	NA	< 0.05	91%	50%	140%	103%	50%	140%	110%	50%	140%
Dibenz(a,h)anthracene	5986876		<0.05	<0.05	NA	< 0.05	80%	50%	140%	95%	50%	140%	75%	50%	140%
Benzo(g,h,i)perylene	5986876		<0.05	<0.05	NA	< 0.05	96%	50%	140%	98%	50%	140%	113%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 to C10)	5984728		<5	<5	NA	< 5	103%	60%	140%	98%	60%	140%	97%	60%	140%
F2 (C10 to C16)	5986876		< 10	< 10	NA	< 10	107%	60%	140%	100%	60%	140%	106%	60%	140%
F3 (C16 to C34)	5986876		< 50	< 50	NA	< 50	110%	60%	140%	110%	60%	140%	115%	60%	140%
F4 (C34 to C50)	5986876		< 50	< 50	NA	< 50	92%	60%	140%	101%	60%	140%	105%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5984728		<0.05	<0.05	NA	< 0.05	119%	50%	140%	72%	50%	140%	129%	50%	140%
Vinyl Chloride	5984728		<0.02	<0.02	NA	< 0.02	127%	50%	140%	96%	50%	140%	140%	50%	140%
Bromomethane	5984728		<0.05	<0.05	NA	< 0.05	124%	50%	140%	95%	50%	140%	117%	50%	140%
Trichlorofluoromethane	5984728		<0.05	<0.05	NA	< 0.05	116%	50%	140%	86%	50%	140%	120%	50%	140%
Acetone	5984728		<0.50	<0.50	NA	< 0.50	86%	50%	140%	96%	50%	140%	94%	50%	140%
1,1-Dichloroethylene	5984728		<0.05	<0.05	NA	< 0.05	92%	50%	140%	102%	60%	130%	108%	50%	140%
Methylene Chloride	5984728		<0.05	<0.05	NA	< 0.05	89%	50%	140%	95%	60%	130%	100%	50%	140%
Trans- 1,2-Dichloroethylene	5984728		<0.05	<0.05	NA	< 0.05	86%	50%	140%	109%	60%	130%	105%	50%	140%
Methyl tert-butyl Ether	5984728		<0.05	<0.05	NA	< 0.05	69%	50%	140%	69%	60%	130%	68%	50%	140%
1,1-Dichloroethane	5984728		<0.02	<0.02	NA	< 0.02	94%	50%	140%	99%	60%	130%	96%	50%	140%
Methyl Ethyl Ketone	5984728		<0.50	<0.50	NA	< 0.50	96%	50%	140%	89%	50%	140%	93%	50%	140%
Cis- 1,2-Dichloroethylene	5984728		<0.02	<0.02	NA	< 0.02	88%	50%	140%	86%	60%	130%	85%	50%	140%
Chloroform	5984728		<0.04	<0.04	NA	< 0.04	104%	50%	140%	103%	60%	130%	102%	50%	140%
1,2-Dichloroethane	5984728		<0.03	<0.03	NA	< 0.03	94%	50%	140%	92%	60%	130%	102%	50%	140%
1,1,1-Trichloroethane	5984728		<0.05	<0.05	NA	< 0.05	71%	50%	140%	66%	60%	130%	68%	50%	140%
Carbon Tetrachloride	5984728		<0.05	<0.05	NA	< 0.05	65%	50%	140%	67%	60%	130%	61%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 24Z169876
PROJECT: 101785.004 - Bulk Soil Submission
ATTENTION TO: Mohit Bhargav
SAMPLING SITE:1174 Carp Rd. Ottawa, ON
SAMPLED BY:CD

Trace Organics Analysis (Continued)

RPT Date: Jul 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5984728		<0.02	<0.02	NA	< 0.02	94%	50%	140%	88%	60%	130%	90%	50%	140%
1,2-Dichloropropane	5984728		<0.03	<0.03	NA	< 0.03	92%	50%	140%	93%	60%	130%	93%	50%	140%
Trichloroethylene	5984728		<0.03	<0.03	NA	< 0.03	85%	50%	140%	82%	60%	130%	98%	50%	140%
Bromodichloromethane	5984728		<0.05	<0.05	NA	< 0.05	67%	50%	140%	66%	60%	130%	62%	50%	140%
Methyl Isobutyl Ketone	5984728		<0.50	<0.50	NA	< 0.50	106%	50%	140%	91%	50%	140%	96%	50%	140%
1,1,2-Trichloroethane	5984728		<0.04	<0.04	NA	< 0.04	92%	50%	140%	97%	60%	130%	97%	50%	140%
Toluene	5984728		<0.05	<0.05	NA	< 0.05	83%	50%	140%	82%	60%	130%	85%	50%	140%
Dibromochloromethane	5984728		<0.05	<0.05	NA	< 0.05	66%	50%	140%	65%	60%	130%	70%	50%	140%
Ethylene Dibromide	5984728		<0.04	<0.04	NA	< 0.04	73%	50%	140%	74%	60%	130%	80%	50%	140%
Tetrachloroethylene	5984728		<0.05	<0.05	NA	< 0.05	89%	50%	140%	90%	60%	130%	99%	50%	140%
1,1,1,2-Tetrachloroethane	5984728		<0.04	<0.04	NA	< 0.04	61%	50%	140%	62%	60%	130%	66%	50%	140%
Chlorobenzene	5984728		<0.05	<0.05	NA	< 0.05	86%	50%	140%	85%	60%	130%	88%	50%	140%
Ethylbenzene	5984728		<0.05	<0.05	NA	< 0.05	79%	50%	140%	77%	60%	130%	83%	50%	140%
m & p-Xylene	5984728		<0.05	<0.05	NA	< 0.05	87%	50%	140%	85%	60%	130%	91%	50%	140%
Bromoform	5984728		<0.05	<0.05	NA	< 0.05	70%	50%	140%	84%	60%	130%	94%	50%	140%
Styrene	5984728		<0.05	<0.05	NA	< 0.05	68%	50%	140%	69%	60%	130%	70%	50%	140%
1,1,2,2-Tetrachloroethane	5984728		<0.05	<0.05	NA	< 0.05	63%	50%	140%	102%	60%	130%	90%	50%	140%
o-Xylene	5984728		<0.05	<0.05	NA	< 0.05	91%	50%	140%	89%	60%	130%	94%	50%	140%
1,3-Dichlorobenzene	5984728		<0.05	<0.05	NA	< 0.05	94%	50%	140%	92%	60%	130%	100%	50%	140%
1,4-Dichlorobenzene	5984728		<0.05	<0.05	NA	< 0.05	92%	50%	140%	89%	60%	130%	99%	50%	140%
1,2-Dichlorobenzene	5984728		<0.05	<0.05	NA	< 0.05	88%	50%	140%	87%	60%	130%	94%	50%	140%
n-Hexane	5984728		<0.05	<0.05	NA	< 0.05	82%	50%	140%	75%	60%	130%	60%	50%	140%

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

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z169876

PROJECT: 101785.004 - Bulk Soil Submission

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:1174 Carp Rd. Ottawa, ON

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
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			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 to C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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

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

AGAT Laboratories

Have feedback? Scan here for a quick survey!

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24716987Co

Cooler Quantity: One - Ice Packs

Arrival Temperatures: 3.2 | 8.0 | 8.5 | 3.6 | 3.1 | 3.9

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: Bagged Ice

Report Information:

Company: GEMTEC Consulting Engineers and Scientists Limited
Contact: Mohit Bhargav
Address: 32 Staecie Drive
Kanata, ON
K2K 2A9
Phone: Fax:
Reports to be sent to:
1. Email: mohit.bhargav@gemtec.ca
2. Email: Chris.dionne@gemtec.ca

Regulatory Requirements:

(Please check all applicable boxes)

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

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

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

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

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

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply): ____

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

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

Project Information:

Project: 101785.004 - Bulk Soil Submission
Site Location: 1174 Carp Rd. Ottawa, ON
Sampled By: CD
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☑ M&I ☑ VOCs ☐ ABNs ☑ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Grain Size	pH					Potentially Hazardous or High Concentration (Y/N)
1. BH24-07 SA2	July 2/24	AM PM	3	S			☑		☑	☑	☑							☑	☑					
2. BH24-07 SA7	July 2/24	AM PM	3	S			☑		☑	☑														
3. BH24-05 SA1	July 3/24	AM PM	3	S			☑		☑	☑														
4. BH24-05 SA6	July 3/24	AM PM	3	S			☑		☑	☑	☑							☑	☑					
5. BH24-06 SA3	July 2/24	AM PM	3	S			☑		☑	☑	☑													
~~6. BH24-06 SA5~~	~~July 2/24~~	AM PM	~~3~~	~~S~~			☑		☑	☑	☑													
7. BH24-08 SA1	July 2/24	AM PM	3	S			☑		☑	☑														
8. BH24-08 SA6	July 2/24	AM PM	3	S			☑		☑	☑	☑													
9. BH24-08 SA106	July 2/24	AM PM	3	S			☑		☑	☑	☑													
10.		AM PM																						
11.		AM PM																						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Chris Dionne	July 4/24	1045		07/04/24	12h20
	07/04/24	15h20	Ammol B	07.5.24	8:55am

Page 1 of 1

N°:

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

Date Issued: Mar 30, 2023

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http://www.agatlabs.com

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
32 STEACIE DRIVE
OTTAWA, ON K2K 2A9
(613) 836-1422

ATTENTION TO: Mohit Bhargav

PROJECT: 101785.004

AGAT WORK ORDER: 24Z192047

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

WATER ANALYSIS REVIEWED BY: Yris Verastegui, Inorganic Team Lead

DATE REPORTED: Sep 11, 2024

PAGES (INCLUDING COVER): 21

VERSION*: 1

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

*Notes

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		MW23-01	MW23-02	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30
Parameter	Unit	G / S	RDL	6116641	6116648	6116649	6116650	6116651	6116652	6116653	6116654
Naphthalene	µg/L	7	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	120	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	0.4	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2-and 1-methyl Napthalene	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Sediment				1	3	1	3	1	1	1	3
Surrogate	Unit	Acceptable Limits									
Naphthalene-d8	%	50-140		100	106	97	92	104	103	89	113
Acridine-d9	%	50-140		84	88	117	73	78	74	68	73
Terphenyl-d14	%	50-140		109	111	72	82	108	86	94	96

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
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.

6116641-6116654 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		MW23-01	MW23-02	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30
Parameter	Unit	G / S	RDL	6116641	6116648	6116649	6116650	6116651	6116652	6116653	6116654
F1 (C6 to C10)	µg/L	420	25	<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100	<100	<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA	NA	NA	NA	NA
Sediment				1	3	1	3	1	1	1	3
Surrogate	Unit	Acceptable Limits									
Toluene-d8	%	50-140		101	104	84	93	102	111	103	100
Terphenyl	% Recovery	60-140		68	73	68	64	67	70	71	66

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
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.

6116641-6116654 The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

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

Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-28
Parameter	Unit	G / S	RDL	6116674	6116675
Benzene	µg/L	0.5	0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20
o-Xylene	µg/L		0.10	<0.10	<0.10
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20
F1 (C6 to C10)	µg/L	420	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	60-140		107	104

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
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.

6116674-6116675 The C6-C10 fraction is calculated using Toluene response factor.
Total C6-C10 results are corrected for BTEX contributions.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
Extraction and holding times were met for this sample.
NA = Not Applicable

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowich

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		MW23-01	MW23-02	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30
Parameter	Unit	G / S	RDL	6116641	6116648	6116649	6116650	6116651	6116652	6116653	6116654
Dichlorodifluoromethane	µg/L	590	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	400	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	24.6	26.7	3.27	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	1.75	1.96	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Certified By: N Popnikolof

AGAT Laboratories
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MISSISSAUGA, ONTARIO
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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		MW23-01	MW23-02	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30
Parameter	Unit	G / S	RDL	6116641	6116648	6116649	6116650	6116651	6116652	6116653	6116654
Bromoform	µg/L	5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		101	104	84	93	102	111	103	100
4-Bromofluorobenzene	% Recovery	50-140		95	97	92	86	89	92	88	86

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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-28
Parameter	Unit	G / S	RDL	6116674	6116675
Dichlorodifluoromethane	µg/L	590	0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30
Methylene Chloride	µg/L	5	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	0.5	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	400	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	0.5	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.5	0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	2	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20

Certified By: N Popnikolof

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AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-28
Parameter	Unit	G / S	RDL	6116674	6116675
Bromoform	µg/L	5	0.10	<0.10	<0.10
Styrene	µg/L	0.5	0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		107	104
4-Bromofluorobenzene	% Recovery	50-140		88	87

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
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.

6116641-6116675 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

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SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

		SAMPLE DESCRIPTION:		MW23-01	MW23-02	MW23-03	MW24-05	MW24-06	MW24-106	MW24-07	MW24-08
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30	2024-08-30
Parameter	Unit	G / S	RDL	6116641	6116648	6116649	6116650	6116651	6116652	6116653	6116654
Dissolved Antimony	µg/L	1.5	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	13	1.0	<1.0	2.3	<1.0	1.7	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	610	2.0	137	87.4	35.9	162	21.4	25.2	83.0	35.8
Dissolved Beryllium	µg/L	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	1700	10.0	10.8	11.1	21.0	37.1	<10.0	<10.0	27.7	34.1
Dissolved Cadmium	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	11	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.9
Dissolved Cobalt	µg/L	3.8	0.50	<0.50	<0.50	<0.50	0.53	<0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	5	1.0	<1.0	<1.0	<1.0	1.1	1.6	1.7	<1.0	<1.0
Dissolved Lead	µg/L	1.9	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	23	0.50	3.04	0.92	7.56	1.76	5.29	<0.50	5.42	<0.50
Dissolved Nickel	µg/L	14	1.0	4.3	1.6	1.3	3.0	4.1	<1.0	6.5	<1.0
Dissolved Selenium	µg/L	5	1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	1.5	<1.0
Dissolved Silver	µg/L	0.3	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	8.9	0.50	0.55	<0.50	2.52	0.57	<0.50	<0.50	1.23	0.66
Dissolved Vanadium	µg/L	3.9	0.40	0.46	<0.40	1.29	0.48	0.50	<0.40	<0.40	<0.40
Dissolved Zinc	µg/L	160	5.0	<5.0	<5.0	13.3	<5.0	<5.0	<5.0	<5.0	<5.0
Mercury	µg/L	0.1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium VI	µg/L	25	2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cyanide, WAD	µg/L	5	2	<2	<2	<2	<2	<2	<2	<2	<2
Dissolved Sodium	µg/L	490000	50	6710	4130	35700	81800	4630	4860	36000	22100
Chloride	µg/L	790000	100	11300	2880	6280	60100	5480	4800	131000	16500
Electrical Conductivity	uS/cm	NA	2	294	240	507	1010	325	284	900	821
pH	pH Units		NA	7.75	7.77	7.69	7.31	7.43	7.53	7.51	7.27

Certified By: Iris Verástegui

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Certificate of Analysis

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

DATE RECEIVED: 2024-09-03

DATE REPORTED: 2024-09-11

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
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.

6116641-6116654 Metals analysis completed on a filtered sample.
pH is a recommended field analysis taken within 15 minutes of sample collection. Due to the potential for rapid change in sample equilibrium chemistry laboratory results may differ from field measured results

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

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Exceedance Summary

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

ATTENTION TO: Mohit Bhargav

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
6116651	MW24-06	ON T1 GW	O. Reg. 153(511) - VOCs (with PHC) (Water)	Chloroform	µg/L	2	24.6
6116652	MW24-106	ON T1 GW	O. Reg. 153(511) - VOCs (with PHC) (Water)	Chloroform	µg/L	2	26.7
6116653	MW24-07	ON T1 GW	O. Reg. 153(511) - VOCs (with PHC) (Water)	Chloroform	µg/L	2	3.27

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 24Z192047
PROJECT: 101785.004
ATTENTION TO: Mohit Bhargav
SAMPLING SITE:CR
SAMPLED BY:JG

Trace Organics Analysis

RPT Date: Sep 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6 to C10)	6116674	6116674	<25	<25	NA	< 25	116%	60%	140%	107%	60%	140%	1%	60%	140%
F2 (C10 to C16)	6115931		<100	<100	NA	< 100	81%	60%	140%	62%	60%	140%	72%	60%	140%
F3 (C16 to C34)	6115931		<100	<100	NA	< 100	85%	60%	140%	94%	60%	140%	121%	60%	140%
F4 (C34 to C50)	6115931		<100	<100	NA	< 100	78%	60%	140%	77%	60%	140%	80%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	6116674	6116674	<0.40	<0.40	NA	< 0.40	63%	50%	140%	107%	50%	140%	99%	50%	140%
Vinyl Chloride	6116674	6116674	<0.17	<0.17	NA	< 0.17	91%	50%	140%	68%	50%	140%	78%	50%	140%
Bromomethane	6116674	6116674	<0.20	<0.20	NA	< 0.20	118%	50%	140%	87%	50%	140%	73%	50%	140%
Trichlorofluoromethane	6116674	6116674	<0.40	<0.40	NA	< 0.40	97%	50%	140%	82%	50%	140%	73%	50%	140%
Acetone	6116674	6116674	<1.0	<1.0	NA	< 1.0	79%	50%	140%	105%	50%	140%	89%	50%	140%
1,1-Dichloroethylene	6116674	6116674	<0.30	<0.30	NA	< 0.30	97%	50%	140%	77%	60%	130%	78%	50%	140%
Methylene Chloride	6116674	6116674	<0.30	<0.30	NA	< 0.30	105%	50%	140%	118%	60%	130%	102%	50%	140%
trans- 1,2-Dichloroethylene	6116674	6116674	<0.20	<0.20	NA	< 0.20	97%	50%	140%	98%	60%	130%	64%	50%	140%
Methyl tert-butyl ether	6116674	6116674	<0.20	<0.20	NA	< 0.20	77%	50%	140%	118%	60%	130%	88%	50%	140%
1,1-Dichloroethane	6116674	6116674	<0.30	<0.30	NA	< 0.30	111%	50%	140%	99%	60%	130%	92%	50%	140%
Methyl Ethyl Ketone	6116674	6116674	<1.0	<1.0	NA	< 1.0	95%	50%	140%	103%	50%	140%	89%	50%	140%
cis- 1,2-Dichloroethylene	6116674	6116674	<0.20	<0.20	NA	< 0.20	99%	50%	140%	101%	60%	130%	95%	50%	140%
Chloroform	6116674	6116674	<0.20	<0.20	NA	< 0.20	109%	50%	140%	109%	60%	130%	101%	50%	140%
1,2-Dichloroethane	6116674	6116674	<0.20	<0.20	NA	< 0.20	93%	50%	140%	98%	60%	130%	95%	50%	140%
1,1,1-Trichloroethane	6116674	6116674	<0.30	<0.30	NA	< 0.30	105%	50%	140%	100%	60%	130%	87%	50%	140%
Carbon Tetrachloride	6116674	6116674	<0.20	<0.20	NA	< 0.20	103%	50%	140%	118%	60%	130%	98%	50%	140%
Benzene	6116674	6116674	<0.20	<0.20	NA	< 0.20	104%	50%	140%	102%	60%	130%	105%	50%	140%
1,2-Dichloropropane	6116674	6116674	<0.20	<0.20	NA	< 0.20	101%	50%	140%	105%	60%	130%	97%	50%	140%
Trichloroethylene	6116674	6116674	<0.20	<0.20	NA	< 0.20	98%	50%	140%	98%	60%	130%	90%	50%	140%
Bromodichloromethane	6116674	6116674	<0.20	<0.20	NA	< 0.20	108%	50%	140%	109%	60%	130%	107%	50%	140%
Methyl Isobutyl Ketone	6116674	6116674	<1.0	<1.0	NA	< 1.0	94%	50%	140%	92%	50%	140%	117%	50%	140%
1,1,2-Trichloroethane	6116674	6116674	<0.20	<0.20	NA	< 0.20	116%	50%	140%	104%	60%	130%	110%	50%	140%
Toluene	6116674	6116674	<0.20	<0.20	NA	< 0.20	107%	50%	140%	90%	60%	130%	107%	50%	140%
Dibromochloromethane	6116674	6116674	<0.10	<0.10	NA	< 0.10	118%	50%	140%	113%	60%	130%	115%	50%	140%
Ethylene Dibromide	6116674	6116674	<0.10	<0.10	NA	< 0.10	112%	50%	140%	98%	60%	130%	119%	50%	140%
Tetrachloroethylene	6116674	6116674	<0.20	<0.20	NA	< 0.20	95%	50%	140%	81%	60%	130%	94%	50%	140%
1,1,1,2-Tetrachloroethane	6116674	6116674	<0.10	<0.10	NA	< 0.10	117%	50%	140%	110%	60%	130%	106%	50%	140%
Chlorobenzene	6116674	6116674	<0.10	<0.10	NA	< 0.10	104%	50%	140%	88%	60%	130%	103%	50%	140%
Ethylbenzene	6116674	6116674	<0.10	<0.10	NA	< 0.10	98%	50%	140%	85%	60%	130%	96%	50%	140%
m & p-Xylene	6116674	6116674	<0.20	<0.20	NA	< 0.20	99%	50%	140%	87%	60%	130%	99%	50%	140%
Bromoform	6116674	6116674	<0.10	<0.10	NA	< 0.10	109%	50%	140%	115%	60%	130%	105%	50%	140%
Styrene	6116674	6116674	<0.10	<0.10	NA	< 0.10	88%	50%	140%	77%	60%	130%	93%	50%	140%
1,1,2,2-Tetrachloroethane	6116674	6116674	<0.10	<0.10	NA	< 0.10	98%	50%	140%	102%	60%	130%	83%	50%	140%
o-Xylene	6116674	6116674	<0.10	<0.10	NA	< 0.10	105%	50%	140%	90%	60%	130%	105%	50%	140%

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Quality Assurance

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AGAT WORK ORDER: 24Z192047
PROJECT: 101785.004
ATTENTION TO: Mohit Bhargav
SAMPLING SITE:CR
SAMPLED BY:JG

Trace Organics Analysis (Continued)

RPT Date: Sep 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	6116674	6116674	<0.10	<0.10	NA	< 0.10	95%	50%	140%	81%	60%	130%	97%	50%	140%
1,4-Dichlorobenzene	6116674	6116674	<0.10	<0.10	NA	< 0.10	95%	50%	140%	80%	60%	130%	97%	50%	140%
1,2-Dichlorobenzene	6116674	6116674	<0.10	<0.10	NA	< 0.10	98%	50%	140%	83%	60%	130%	104%	50%	140%
n-Hexane	6116674	6116674	<0.20	<0.20	NA	< 0.20	119%	50%	140%	68%	60%	130%	104%	50%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	6118421		0.33	0.33	NA	< 0.20	113%	50%	140%	100%	50%	140%	110%	50%	140%
Acenaphthylene	6118421		<0.20	<0.20	NA	< 0.20	95%	50%	140%	76%	50%	140%	88%	50%	140%
Acenaphthene	6118421		<0.20	<0.20	NA	< 0.20	89%	50%	140%	72%	50%	140%	70%	50%	140%
Fluorene	6118421		<0.20	<0.20	NA	< 0.20	86%	50%	140%	78%	50%	140%	66%	50%	140%
Phenanthrene	6118421		<0.10	<0.10	NA	< 0.10	88%	50%	140%	89%	50%	140%	71%	50%	140%
Anthracene	6118421		<0.10	<0.10	NA	< 0.10	77%	50%	140%	85%	50%	140%	68%	50%	140%
Fluoranthene	6118421		<0.20	<0.20	NA	< 0.20	87%	50%	140%	87%	50%	140%	94%	50%	140%
Pyrene	6118421		<0.20	<0.20	NA	< 0.20	88%	50%	140%	89%	50%	140%	78%	50%	140%
Benzo(a)anthracene	6118421		<0.20	<0.20	NA	< 0.20	75%	50%	140%	76%	50%	140%	82%	50%	140%
Chrysene	6118421		<0.10	<0.10	NA	< 0.10	108%	50%	140%	100%	50%	140%	105%	50%	140%
Benzo(b)fluoranthene	6118421		<0.10	<0.10	NA	< 0.10	69%	50%	140%	76%	50%	140%	102%	50%	140%
Benzo(k)fluoranthene	6118421		<0.10	<0.10	NA	< 0.10	118%	50%	140%	124%	50%	140%	104%	50%	140%
Benzo(a)pyrene	6118421		<0.01	<0.01	NA	< 0.01	85%	50%	140%	71%	50%	140%	81%	50%	140%
Indeno(1,2,3-cd)pyrene	6118421		<0.20	<0.20	NA	< 0.20	95%	50%	140%	105%	50%	140%	72%	50%	140%
Dibenz(a,h)anthracene	6118421		<0.20	<0.20	NA	< 0.20	69%	50%	140%	70%	50%	140%	76%	50%	140%
Benzo(g,h,i)perylene	6118421		<0.20	<0.20	NA	< 0.20	85%	50%	140%	90%	50%	140%	88%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	6116653	6116653	< 0.40	< 0.40	NA	< 0.40	63%	50%	140%	107%	50%	140%	99%	50%	140%
Vinyl Chloride	6116653	6116653	< 0.17	< 0.17	NA	< 0.17	91%	50%	140%	68%	50%	140%	78%	50%	140%
Bromomethane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	118%	50%	140%	87%	50%	140%	73%	50%	140%
Trichlorofluoromethane	6116653	6116653	< 0.40	< 0.40	NA	< 0.40	97%	50%	140%	82%	50%	140%	73%	50%	140%
Acetone	6116653	6116653	< 1.0	< 1.0	NA	< 1.0	79%	50%	140%	105%	50%	140%	89%	50%	140%
1,1-Dichloroethylene	6116653	6116653	< 0.30	< 0.30	NA	< 0.30	97%	50%	140%	77%	60%	130%	78%	50%	140%
Methylene Chloride	6116653	6116653	< 0.30	< 0.30	NA	< 0.30	105%	50%	140%	118%	60%	130%	102%	50%	140%
trans- 1,2-Dichloroethylene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	97%	50%	140%	98%	60%	130%	64%	50%	140%
Methyl tert-butyl ether	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	77%	50%	140%	118%	60%	130%	88%	50%	140%
1,1-Dichloroethane	6116653	6116653	< 0.30	< 0.30	NA	< 0.30	111%	50%	140%	99%	60%	130%	92%	50%	140%
Methyl Ethyl Ketone	6116653	6116653	< 1.0	< 1.0	NA	< 1.0	95%	50%	140%	103%	50%	140%	89%	50%	140%
cis- 1,2-Dichloroethylene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	101%	60%	130%	95%	50%	140%
Chloroform	6116653	6116653	3.27	3.38	3.3%	< 0.20	109%	50%	140%	109%	60%	130%	101%	50%	140%
1,2-Dichloroethane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	93%	50%	140%	98%	60%	130%	95%	50%	140%
1,1,1-Trichloroethane	6116653	6116653	< 0.30	< 0.30	NA	< 0.30	105%	50%	140%	100%	60%	130%	87%	50%	140%
Carbon Tetrachloride	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	103%	50%	140%	118%	60%	130%	98%	50%	140%

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS
AGAT WORK ORDER: 24Z192047
PROJECT: 101785.004
ATTENTION TO: Mohit Bhargav
SAMPLING SITE:CR
SAMPLED BY:JG

Trace Organics Analysis (Continued)

RPT Date: Sep 11, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	104%	50%	140%	102%	60%	130%	105%	50%	140%
1,2-Dichloropropane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	105%	60%	130%	97%	50%	140%
Trichloroethylene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	98%	60%	130%	90%	50%	140%
Bromodichloromethane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	108%	50%	140%	109%	60%	130%	107%	50%	140%
Methyl Isobutyl Ketone	6116653	6116653	< 1.0	< 1.0	NA	< 1.0	94%	50%	140%	92%	50%	140%	117%	50%	140%
1,1,2-Trichloroethane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	104%	60%	130%	110%	50%	140%
Toluene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	107%	50%	140%	90%	60%	130%	107%	50%	140%
Dibromochloromethane	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	118%	50%	140%	113%	60%	130%	115%	50%	140%
Ethylene Dibromide	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	112%	50%	140%	98%	60%	130%	119%	50%	140%
Tetrachloroethylene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	95%	50%	140%	81%	60%	130%	94%	50%	140%
1,1,1,2-Tetrachloroethane	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	117%	50%	140%	110%	60%	130%	106%	50%	140%
Chlorobenzene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	104%	50%	140%	88%	60%	130%	103%	50%	140%
Ethylbenzene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	85%	60%	130%	96%	50%	140%
m & p-Xylene	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	87%	60%	130%	99%	50%	140%
Bromoform	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	109%	50%	140%	115%	60%	130%	105%	50%	140%
Styrene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	88%	50%	140%	77%	60%	130%	93%	50%	140%
1,1,2,2-Tetrachloroethane	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	102%	60%	130%	83%	50%	140%
o-Xylene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	105%	50%	140%	90%	60%	130%	105%	50%	140%
1,3-Dichlorobenzene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	95%	50%	140%	81%	60%	130%	97%	50%	140%
1,4-Dichlorobenzene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	95%	50%	140%	80%	60%	130%	97%	50%	140%
1,2-Dichlorobenzene	6116653	6116653	< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	83%	60%	130%	104%	50%	140%
n-Hexane	6116653	6116653	< 0.20	< 0.20	NA	< 0.20	119%	50%	140%	68%	60%	130%	104%	50%	140%

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

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

Water Analysis

RPT Date: Sep 11, 2024

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			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 & Inorganics (Water)															
Dissolved Antimony	6115922		<1.0	<1.0	NA	< 1.0	100%	70%	130%	104%	80%	120%	102%	70%	130%
Dissolved Arsenic	6115922		6.3	1.5	NA	< 1.0	99%	70%	130%	103%	80%	120%	104%	70%	130%
Dissolved Barium	6115922		264	264	0.0%	< 2.0	101%	70%	130%	102%	80%	120%	101%	70%	130%
Dissolved Beryllium	6115922		<0.50	<0.50	NA	< 0.50	98%	70%	130%	107%	80%	120%	111%	70%	130%
Dissolved Boron	6115922		39.9	41.6	NA	< 10.0	99%	70%	130%	104%	80%	120%	110%	70%	130%
Dissolved Cadmium	6115922		<0.20	<0.20	NA	< 0.20	99%	70%	130%	99%	80%	120%	97%	70%	130%
Dissolved Chromium	6115922		<2.0	<2.0	NA	< 2.0	103%	70%	130%	96%	80%	120%	107%	70%	130%
Dissolved Cobalt	6115922		<0.50	<0.50	NA	< 0.50	98%	70%	130%	94%	80%	120%	104%	70%	130%
Dissolved Copper	6115922		<1.0	1.3	NA	< 1.0	100%	70%	130%	96%	80%	120%	103%	70%	130%
Dissolved Lead	6115922		<0.50	<0.50	NA	< 0.50	97%	70%	130%	99%	80%	120%	89%	70%	130%
Dissolved Molybdenum	6115922		1.28	1.42	NA	< 0.50	103%	70%	130%	98%	80%	120%	115%	70%	130%
Dissolved Nickel	6115922		4.7	2.3	NA	< 1.0	100%	70%	130%	98%	80%	120%	105%	70%	130%
Dissolved Selenium	6115922		2.1	<1.0	NA	< 1.0	99%	70%	130%	102%	80%	120%	100%	70%	130%
Dissolved Silver	6115922		<0.20	0.13	NA	< 0.20	102%	70%	130%	92%	80%	120%	95%	70%	130%
Dissolved Thallium	6115922		<0.30	<0.30	NA	< 0.30	98%	70%	130%	99%	80%	120%	92%	70%	130%
Dissolved Uranium	6115922		<0.50	<0.50	NA	< 0.50	101%	70%	130%	102%	80%	120%	98%	70%	130%
Dissolved Vanadium	6115922		0.73	0.50	NA	< 0.40	104%	70%	130%	102%	80%	120%	119%	70%	130%
Dissolved Zinc	6115922		<5.0	<5.0	NA	< 5.0	101%	70%	130%	101%	80%	120%	86%	70%	130%
Mercury	6116641	6116641	<0.02	<0.02	NA	< 0.02	102%	70%	130%	102%	80%	120%	100%	70%	130%
Chromium VI	6116641	6116641	<2.000	<2.000	NA	< 2	98%	70%	130%	91%	80%	120%	90%	70%	130%
Cyanide, WAD	6111096		<2	<2	NA	< 2	92%	70%	130%	108%	80%	120%	108%	70%	130%
Dissolved Sodium	6115922		786000	741000	5.9%	< 50	116%	70%	130%	119%	80%	120%	NA	70%	130%
Chloride	6118507		165000	165000	0.0%	< 100	93%	70%	130%	101%	80%	120%	NA	70%	130%
Electrical Conductivity	6118323		1290	1250	3.1%	< 2	107%	90%	110%						
pH	6118323		6.98	7.01	0.4%	NA	100%	90%	110%						

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.
Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.

Certified By: Iris Verástegui

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QC Exceedance

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

RPT Date: Sep 11, 2024

PARAMETER	Sample Id	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)										
F1 (C6 to C10)	6116674	116%	60%	140%	107%	60%	140%	1%	60%	140%

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

AGAT Laboratories

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

Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

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

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Method Summary

CLIENT NAME: GEMTEC CONSULTING ENGINEERS AND SCIENTISTS

AGAT WORK ORDER: 24Z192047

PROJECT: 101785.004

ATTENTION TO: Mohit Bhargav

SAMPLING SITE:CR

SAMPLED BY:JG

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS
Chromium VI	INOR-93-6073	modified from SM 3500-CR B	LACHAT FIA
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Dissolved Sodium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP/MS
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE

MISS: ① 3.2, 3.9, 4.0 B/I

AGAT Laboratories

Have feedback? Scan here for a quick survey!

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24Z192047

Cooler Quantity: Two – ice packs

Arrival Temperatures: ① 10.1 | 10.0 | 10.4

Depot Temperatures: ② 7.6 | 7.8 | 7.7

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: MISS ②: 4.3, 4.9, 4.8

Report Information:

Company: GEMTEC
Contact: MOHIT BHARGAV
Address: 32 STEACIE DRIVE
OTTAWA ONTARIO
K2K2A9
Phone: Fax:
Reports to be sent to:
1. Email: mohit.bhargav@gemtec.ca
2. Email: dan.elliot

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ Regulation 406
Table (Indicate One) ☐ Ind/Com ☐ Res/Park ☐ Agriculture

☐ Regulation 558
☐ CCME

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

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

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

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Project Information:

Project: 101785.004
Site Location: CR
Sampled By: JG
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email:

Legal Sample ☐

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs: Aroclors ☐	O. Reg 406: Regulation 406 Characterization Package pH, Metals, BTEX, F1-F4	O. Reg 406: EC, SAR	O. Reg 406: Regulation 406 SPLP Rainwater Leach mSPLP: ☐ Metals ☐ VOCs ☐ SVOCs ☐ OC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ Mtls ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 558: Corrosivity: ☐ Moisture ☐ Sulphide		PHC F1	VOCs				Potentially Hazardous or High Concentration (Y/N)
1. MW 23-01	Aug 22, 24	AM/PM		GW																					
2. MW 23-02		AM/PM																							
3. MW 23-03		AM/PM																							
4. MW 24-05		AM/PM																							
5. MW 24-06		AM/PM																							
6. MW 24-106		AM/PM																							
7. MW 24-07		AM/PM																							
8. MW 24-BB		AM/PM																							
9. Field Blank	Aug 20, 24	AM/PM	3																✓	✓					
10. Trip Blank	Aug 20, 24	AM/PM	3	–															✓	✓					
11.		AM/PM																							

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Mohit Bhargav.	Sept 2, 24				
	09/08/24	15h00		Sep 9 24	9:12
	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

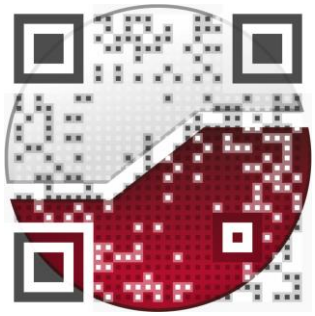
Page 1 of 1

N°:

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

Date Issued: Jan 18, 2024

experience • knowledge • integrity



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

expérience • connaissance • intégrité