



# **Phase II Environmental Site Assessment**

40 Frank Nighbor Place, Kanata, ON

**API Consultants Inc.**  
Final Report

May 8, 2023  
02211293.000

# Production team

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## Revisions and publications log

REVISION No.	DATE	DESCRIPTION
0	April 2023	Draft report published for comments
0A	May 8, 2023	Final report

## Distribution

1 PDF copy	Natalie Garavito
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# Executive Summary

Englobe Corp. (Englobe) was retained by API Consultants Inc. (herein referred to as the “Client”), on behalf of 401 Real Estate Trust Inc., the property owner at the time of this assessment, to conduct a Phase II Environmental Site Assessment (ESA) for the property located at 40 Frank Nighbor Place, Kanata, Ontario (herein referred to as the “Site” or “Phase II Property”).<sup>1</sup> The Site location is shown in Figure 1, in Appendix A.

The purpose of this Phase II ESA was to evaluate the presence/absence of contamination on Site, in the area of potential environmental concern identified in the Phase I ESA that was completed for the Site (Englobe, 2023). This Phase II ESA was completed in general accordance with the requirements of Ontario Regulation 153/04 (O. Reg.) Records of Site Condition - Part XV.1 of the Act under the Ontario Environmental Protection Act, R.S.O 1990, chapter E.19 (O. Reg. 153/04), as amended, in support of a City of Ottawa Site Plan Control Application (SPCA). This Phase II ESA is not intended to be utilized as supporting documentation for the filling of a Record of Site Condition for the Site in accordance with O. Reg. 153/04 (as amended). It is Englobe’s understanding that there are current plans for the construction of a six-storey hotel at the Site.

It should be noted that the sampling program completed as part of this Phase II ESA was limited to the Phase II Property area only.

## Areas of Potential Environmental Concern (APEC) at the Site.

PCA				APEC			
PCA No.	O. Reg. 153/04 PCA Item No.	PCA Location (On/Off Site)	Historical and/or Current Activities	APEC No.	Location of APEC on the Site	Contaminants of Potential Concern (COPCs)	Potentially Impacted Media (Groundwater, Soil, and/or Sediment)
1	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On Site	Historic agricultural use and assumed pesticide application	APEC 1	Entire Phase I Property	Organochlorine Pesticides	Soil and Groundwater

Based on the identified potential environmental concern noted above, further environmental investigation in the form off a Phase II ESA was recommended to investigate the environmental quality of the soil and groundwater at the Site. The field program was conducted in February 2023, and consisted of the advancement of four boreholes at strategically selected locations on Site, one of which was instrumented with a groundwater monitoring well.

A total of seven soil samples (including one duplicate) and one groundwater sample was collected during the investigation and submitted for laboratory analysis of the COPC as well as pH, as follows:

- A total of five soil samples from the advanced boreholes (including one field duplicate) were submitted for laboratory analysis of Organochlorine (OC) Pesticides;
- Two soil samples, BH23-01 SS7 and BH23-03 SS2, were submitted for laboratory analysis of pH; and,
- One groundwater sample from MW23-02 was submitted for laboratory analysis OC Pesticides.

Soil laboratory analytical results were compared to the Ontario Ministry of the Environment, Conservation and Parks (MECP) Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition, Industrial/Commercial/Community (ICC) Property Use, Coarse Textured Soils as per "*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*", April 15, 2011.

Groundwater laboratory analytical results were compared to the Ontario Ministry of the Environment, Conservation and Parks (MECP) Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition, All Types Property Use, Coarse Textured Soils as per "*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*", April 15, 2011.

Based on a review of the laboratory analytical results, all submitted soil and groundwater samples met the applicable MECP standards for all analyzed parameters; therefore, no further investigation is recommended at this time.

Additionally, it is recommended that the monitoring well installed at MW23-02 be abandoned within 180 days of its installation date, in accordance with Ontario Water Resource Act, Regulation 903 - Wells (as amended).

<sup>1</sup> It should be noted that as of the commencement of the Phase I ESA for this Property, the municipal address for the Phase I Property was reportedly incorrectly labelled as 46 Frank Nighbor Place by several public sources (e.g., GeoOttawa). During the Phase I ESA process, Englobe was advised of the naming convention error; and that the correct municipal address was 40 Frank Nighbor Place. As such, some supporting documents (i.e., ERIS database report, city directory search, chain of title, etc.) identify the Site at 46 Frank Nighbor Place; however, the correct municipal address is 40 Frank Nighbor Place.

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# 1 Introduction

## 1.1 General

Englobe Corp. (Englobe) was retained by API Consultants Inc. (herein referred to as the “Client”), on behalf of 401 Real Estate Trust Inc., the property owner at the time of this assessment, to conduct a Phase II Environmental Site Assessment (ESA) for the property located at 40 Frank Nighbor Place, Kanata, Ontario (herein referred to as the “Site” or “Phase II Property”). The Site location is shown in Figure 1, in Appendix A.

The purpose of this Phase II ESA was to evaluate the presence/absence of contamination on Site, in the Area of Potential Concern (APEC) identified in the Phase I ESA that was completed for the Site (Englobe, 2023). This Phase II ESA was completed in general accordance with the requirements of Ontario Regulation 153/04 (O. Reg.) Records of Site Condition - Part XV.1 of the Act under the Ontario Environmental Protection Act, R.S.O 1990, chapter E.19 (O. Reg. 153/04), as amended, in support of a City of Ottawa Site Plan Control Application (SPCA). This Phase II ESA is not intended to be utilized as supporting documentation for the filling of a Record of Site Condition for the Site in accordance with O. Reg. 153/04 (as amended). It is Englobe’s understanding that there are current plans for the construction of a six-storey hotel at the Site.

It should be noted that the sampling program completed as part of this Phase II ESA was limited to the Phase II Property area only.

This report was prepared for the exclusive use of the Client. Any use of this report by any third party, or any reliance on or decisions to be made based on it, are the responsibility of such parties. Englobe accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. A full statement of report limitations is provided in Section 15 of this report.

It should be noted that Englobe also conducted a preliminary geotechnical investigation at this property in conjunction with this Phase II ESA, which was prepared under a separate cover.

## 1.2 Site Description

The Site is located at 40 Frank Nighbor Place, Kanata, ON, K2V 1B9. It is located in the City of Ottawa’s Kanata South Ward, on the west side of Frank Nighbor Place. The Site is an irregularly shaped parcel of land, with a total property area of approximately 8115 m<sup>2</sup> (GeoOttawa, 2022). It is located within an area zoned as IL6[1414] H(30)-h - Light Industrial Zone. At the time of Englobe’s assessment, the Site consisted of vacant land.

A summary of the Site details is presented below.

**Table 1.1 Site Detail Summary**

Item	Detail
Municipal Address	40 Frank Nighbor Place, Kanata, ON, K2V 1B9
Site Area	8115 m <sup>2</sup>
Property Identification No.	04509-0152 (LT)



Item	Detail
Legal Description	Part Block 2 Plan 4M1012 Part 1, Plan 4R30745 TOGETHER WITH AN EASEMENT OVER PART OF BLOCK 2 PLAN 4M1012, PARTS 2, 2, 5, 8, 11 AND 13 PLAN 4R30745 AS IN OC1955094; CITY OF OTTAWA

### 1.3 Contact Information

Contact information for the Client representative is as follows:

Natalie Garavito, Site Plan and Development Coordinator

- Email: [ngaravito@apiconsultants.net](mailto:ngaravito@apiconsultants.net)
- Business Address: 1464 Cornwall Road, Unit 7, Oakville, ON, L6J 7W5

Contact information for the registered property owner is as follows:

Drew Barlow, Construction Project Manager

- Email: [drew.barlow@401Auto.ca](mailto:drew.barlow@401Auto.ca)
- Business Address: 2225 Eagle St. North, Cambridge, ON, N3H 4R7

### 1.4 Current and Proposed Future Uses

Based on the O. Reg. 153/04 (as amended) definition of “first developed use” and available information, the Site was first developed during, or before, the year 1947. The first available aerial photograph (1947) shows a small area along the eastern portion of the property being used for what appears to be agricultural purposes.

As the current property use can be defined as agricultural or other use (i.e., vacant and agricultural land), and the intended reported property use for the Site development (i.e., hotel) is defined as a commercial use, the Site is not anticipated to be changed to a more sensitive land use per the Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*, Ministry of the Environment (2011), as such, the filing of an RSC for the proposed development is not anticipated at this time.

### 1.5 Applicable Site Condition Standards

Based on Site conditions and the proposed development at the Site, the following Site Conditions Standards (SCSs) were considered applicable to the Site:

**SOIL:**

- Ontario Ministry of the Environment, Conservation and Parks (MECP) “*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*”, April 2011. Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition (Industrial/Commercial/Community Property Use).

**GROUNDWATER:**

- MECP “*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*”, April 2011. Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition (All Types of Property Use).

The rationale for the selection of the aforementioned SCSs for this Site was as follows:

- All properties within 250 meters of the Phase Two property are supplied with potable water through the City of Ottawa’s municipal drinking water system; therefore the potable groundwater pathway is not considered applicable;
- The intended property use for the Site is commercial (i.e., hotel);
- Shallow bedrock conditions were not encountered at the Site during the advancement of the boreholes;
- The Site is located more than 30 metres from the nearest surface water body (i.e., Carp River Municipal Drain);
- Analyzed surface and subsurface soils have pH values within the acceptable ranges (i.e., 5 to 9 for surface soils and 5 to 11 for subsurface soils - refer to the soil analytical results in Appendix D); and
- As no grain size analysis was performed at the Site, coarse-textured soil was selected as it represents the worst-case scenario.

## 2 Background Information

### 2.1 Physical Setting

Aerial photographs, as well as soil, bedrock geology, and topography maps, were reviewed for information pertaining to the physical setting of the Site.

The Surficial Geology of the Site is composed of Pleistocene massive to well laminated fine-textured glaciomarine deposits (including silt and clay, minor sand, and gravel), and the bedrock geology consists of Middle Devonian limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group, the Simcoe Group, and the Shadow Lake Formation.

The Site is located at an approximate elevation of 94-95 m above sea level (masl), and local topography slopes westward towards the Carp River Municipal Drain (the nearest surface waterbody), which is located approximately 50 m west of the Site. There are no mapped Areas of Natural and Scientific Interest (ANSIs) or wetlands within 250 meters of the Phase II Property and, based on available City of Ottawa mapping, the Site does not exist within any intake protection zones or wellhead protection areas.

### 2.2 Past Investigations

Englobe completed a review of available previous environmental reports for the Site. The findings are summarized below:

#### 2.2.1 Phase I ESA (Englobe, 2023)

Englobe conducted a Phase I ESA for the Site in 2023. The primary objective of the Phase I ESA was to assess the Site and surrounding properties within a 250 m radius for potentially contaminating activities (PCAs), and as applicable, to identify any APECs at the Site.

Based on the findings of the Phase I ESA, one APEC requiring further investigation was identified at the Site, as outlined below.

**Table 2.2.1 Summary of the APEC Identified at the Site**

PCA				APEC			
PCA No.	O. Reg. 153/04 PCA Item No.	PCA Location (On/Off Site)	Historical and/or Current Activities	APEC No.	Location of APEC on the Site	Contaminants of Potential Concern (COPCs)	Potentially Impacted Media (Groundwater, Soil, and/or Sediment)
1	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On Site	Historic agricultural use and assumed pesticide application	APEC 1	Entire Phase I Property	Organochlorine Pesticides	Soil and Groundwater

Based on the identified potential environmental concern noted above, further environmental investigation in the form of a Phase II ESA was recommended to investigate the environmental quality of the soil and groundwater at the Site.

# 3 Scope of Investigation

## 3.1 Overview of the Site Investigation

The scope of work for this Phase II ESA was developed in order to investigate the subsurface conditions of the Site. The Phase II ESA investigation consisted of the following activities:

- Obtaining underground utility clearances and locates (public and private);
- The advancement of four boreholes at strategic locations on Site, one of which was instrumented with a groundwater monitoring well;
- Collection of soil and groundwater samples;
- Laboratory analysis of soil and groundwater samples;
- Interpretation of the laboratory results;
- Elevation surveying of sampling locations; and
- The preparation of this report.

The field component of this Phase II ESA investigation was performed in February 2023.

## 3.2 Media Investigated

A total of seven soil samples (including one duplicate) and one groundwater sample was collected during the investigation and submitted for laboratory analysis as outlined below:

- A total of five soil samples from the advanced boreholes (including one field duplicate) were submitted for laboratory analysis of Organochlorine (OC) Pesticides;

- Two soil samples, BH23-01 SS7 and BH23-03 SS2, were submitted for laboratory analysis of pH; and,
- One groundwater sample from MW23-02 was submitted for laboratory analysis OC Pesticides.

There was no surface water or sediment identified on the Phase II Property at the time of Englobe’s investigation; therefore, surface water and sediment were not investigated as part of this Phase II ESA.

### 3.3 Phase I Conceptual Site Model (CSM)

Englobe previously completed a Phase I ESA for the Site (Englobe, 2023). Based on the findings of the Phase I ESA, one APEC was identified on Site.

**Table 3.3 Phase I CSM Details.**

O. Reg. 153/04 Schedule D (Part VI) Table 1 Requirement	Phase I ESA Findings / Details
Show any existing buildings and structures	No buildings or structures were observed at the Phase I Property at the time of Englobe’s Site Reconnaissance. The location of the Site is shown on Figure 1, in Appendix A.
Identify and locate water bodies located in whole or in part on the Phase I Study Area	The nearest surface waterbody to the Site is the Carp River Municipal Drain, which is approximately 50 m west of the Site.
Identify and locate any areas of natural significance located in whole or in part on the Phase I Study Area	There are no mapped Areas of Natural and Scientific Interest (ANSIs) or wetlands within the Phase I Study Area.
Locate any drinking water wells at the Phase I Property	No known water supply wells were identified or observed at the Site. No known water supply wells were identified within the Phase I Study Area.
Show roads, including names, within the Phase I Study Area	The Site is bordered to the north by a walking path followed by 20/30 Frank Nighbor Place, to the east by Frank Nighbor Place, to the south by 50 Frank Nighbor Place, and to the west by a walking path followed by the Carp River Municipal Drain.
Show uses of properties adjacent to the Phase I Property	The Site is located in an area of mixed property use that mainly consists of commercial and industrial land uses. Agricultural use is visible north of the Site at 30 Frank Nighbor.
Identify and locate areas where any PCA has occurred and show tanks in such areas.	Seven PCAs were identified in the Phase I Study Area.
Identify and locate any APECs	One APEC as outlined in Section 3.2.1 above was identified on Site.
Describe and assess any areas where potentially contaminating activity on or potentially affecting the Phase I Property has occurred.	Based on the PCAs and resulting APEC at the Site, media potentially impacted includes soil and groundwater.
Describe and assess any contaminants of potential environmental concern	Based on the identified APECs on Site, the following contaminants of potential environmental concern have been identified in the soil and/or groundwater: OC Pesticides.
Describe and assess the potential for underground utilities, if any present, to affect contaminant distribution and transport	Based on the Site characteristics and information provided through the interview, it is assumed that the Site is not currently serviced by municipal water, sewer, natural gas, or electricity. Any underground utilities may affect the distribution and transport of contaminants.
Describe and assess available regional or site specific geological and hydrogeological information	Based on available OGS mapping, the bedrock geology in the area of the Site consists of Middle Devonian limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group; Simcoe Group; and Shadow Lake Formation. The surficial geology in the area of the Site composed of Pleistocene massive to well laminated fine-textured glaciomarine deposits: silt and clay, minor sand and gravel.

O. Reg. 153/04 Schedule D (Part VI) Table 1 Requirement	Phase I ESA Findings / Details
Describe and assess how any uncertainty or absence of information obtained in each of the components of the Phase I ESA could affect the validity of the model.	All FOI requests from ECCC, the MECP, and the City of Ottawa been received as of the issuance date of this report. At this time, no absence of information is expected to alter the conclusions of this report.
If the exemption set out in paragraph 1, 1.1 or 2 of section 49.1 of the regulation is being relied upon, document the rationale for relying upon the exemption, which may be based on information gathered during one or more of the records review, interviews and site reconnaissance.	Englobe does not intend to rely upon the exemption set out in Paragraph 1, 1.1, or 2 of Section 49.1 of O. Reg. 153/04, as amended, as Englobe is not aware of any previously identified exceedances at the Site to which this exemption would apply.
If there is an intention to rely upon the exemption set out in paragraph 3 of section 49.1 of the regulation, set out the intention to rely upon the exemption and provide a brief explanation as to why the exemption may apply, which may be based on information gathered during one or more of the records review, interviews and site reconnaissance.	Englobe does not intend to rely upon the exemption set out in Paragraph 3 of Section 49.1 of O. Reg. 153/04, as amended, as Englobe is not aware of any previously identified exceedances at the Site to which this exemption would apply.

The illustrative requirements, according to O. Reg. 153/04 (as amended), of the Phase I Conceptual Site Model are shown on Figures 2 through 5 provided in Appendix A. These figures identify the locations of roads, the uses of properties adjacent to the Site, the location of PCAs within the Phase I Study Area and the APEC at the Site.

## 3.4 Impediments

There were no physical impediments during the course of this Phase II ESA.

# 4 Investigation Method

## 4.1 General

See below for a description of the investigation methods employed throughout this Phase II ESA investigation.

## 4.2 Drilling

The drilling program took place between February 21 and February 23, 2023 and consisted of the advancement of four boreholes and the installation of one groundwater monitoring well within one of the advance boreholes (MW23-02).

The boreholes were advanced by Capital Coring and Cutting Geotechnical & Environmental Drilling (CCC Group), under the supervision of Englobe field personnel. The boreholes were advanced through the overburden using hollow-stem augers, and into the bedrock using wireline diamond coring methods,

using a CME-track mounted drill rig. Soil samples were collected in the overburden using a standard 50 mm outside diameter split-spoon sampler driven at 0.75 m intervals by an automatic Standard Penetration Test (SPT) hammer. Decontamination of the split spoons was completed between each sample to minimize the potential for cross-contamination. Representative soil samples were recovered, where possible, and were then placed into laboratory-supplied containers.

The boreholes were advanced to depths of approximately 6.1 meters below ground surface (m bgs) (BH23-01), 9.8 m bgs (MW23-02), 6.2 m bgs (BH23-03), and 20.3 m bgs (BH23-04).

A Site Plan illustrating the sampling locations is presented in Appendix A (Figure 5), and select photographs from the Phase II investigation are presented in Appendix B. A copy of the borehole logs is provided in Appendix C.

## 4.3 Soil Sampling

To investigate the APEC identified in the Phase I ESA report, shallow soil samples were collected from all four boreholes and submitted for laboratory analysis of OC Pesticides. Furthermore, in order to characterize soils at the Phase II Property, one subsurface and one surface soil sample were collected from BH23-01 and BH23-03, respectively, and submitted for laboratory analysis of pH.

Soil samples were logged in the field for texture, odour, moisture, and visual appearance (staining) and placed into laboratory-supplied sample jars. A summary of soil sample locations and analysis are presented in the table below.

**Table 4.3 Summary of Soil Samples Submitted for Laboratory Analysis**

Sampling Date (dd/mm/yyyy)	Sample ID/Location	Sample Depth (m bgs)	Laboratory Analysis
23/02/2023	BH23-01 SS2	0.76 - 01.37	OC Pesticides
23/02/2023	BH23-01 SS7	4.57 - 5.18	pH
21/02/2023	MW23-02 SS2	0.76 - 1.37	OC Pesticides
21/02/2023	BH23-03 SS1	0.0 - 0.61	OC Pesticides
21/02/2023	BH23-03 SS2	0.76 - 1.37	pH
23/02/2023	BH23-04 SS1	0.0 - 0.61	OC Pesticides

Please see Appendix D for a summary of all analytical data.

## 4.4 Field Screening Measurement

Soil samples were logged in the field for texture, odour, moisture, and visual appearance (staining).

## 4.5 Groundwater: Monitoring Well Installation

Monitoring well MW23-02 was installed by CCC Group, with the screen sealed into the overburden, using the above-described drilling equipment. The well was constructed with 50 mm polyvinyl chloride (PVC) pipe, and approximately 3.0 m of #10 slotted PVC well screen, set to intercept the inferred groundwater table. A sand-pack consisting of clean silica sand was placed within the annular space surrounding the well screen to minimize the potential for cross-contamination between aquifers. Bentonite chips were placed from the top of the silica sand to the surface. As the monitoring well has a

0.9-meter stick-up, a PVC cap and a protective metal monument casing (secured with a commercial *Master Lock* padlock) were installed to further protect the monitoring well. The monitoring well was installed in accordance with Ontario Regulation (O. Reg.) 903 - Wells (as amended), made under the Ontario Water Resources Act.

Following the monitoring well installation, the well was developed using dedicated Waterra™ tubing (approximately 1.25 cm in diameter) and an inertial lift foot valve. Well development was performed to remove any groundwater impacted by drilling activities, and to reduce the amount of sediment within the well prior to sampling.

## 4.6 Groundwater: Field Measurements of Water Quality Parameters

Englobe recorded water quality parameters using an AquaTROLL® 400 multiparameter probe, including pH, conductivity, dissolved oxygen (DO), temperature, and oxygen redox potential (ORP) prior to collecting the groundwater sample.

Englobe field personnel also collected groundwater level measurements from MW23-02 and checked the groundwater for the presence/absence of light and dense non-aqueous phase liquids (LNAPLs and DNAPLs) using a Solinst™ oil/water interface meter (Model 122), which was thoroughly decontaminated using reagent-free detergent and deionized water prior to groundwater sampling activities.

## 4.7 Groundwater Sampling

A groundwater sample from MW23-02 was collected by Englobe personnel on February 24, 2023, using a peristaltic pump and low-flow techniques. To eliminate the potential for cross-contamination, clean, single-use nitrile gloves were worn at all times during the sampling process and while handling the sampling containers, fresh peristaltic tubing was used to collect the sample, and the groundwater was sampled directly into laboratory-supplied containers.

To ensure the sample was representative of the flowing groundwater condition, parameter stabilization was achieved prior to sampling, using an AquaTROLL® 400 Multiparameter Probe. Groundwater sampling details are presented below.

Table 4.7 Groundwater Sample details

Sampling Date (dd/mm/yyyy)	Sample ID/Location	Laboratory Analysis
24/02/2023	MW23-02	OC Pesticides

Please see Appendix D for a summary of all analytical data.

## 4.8 Sediment Sampling

Sediment sampling was not completed as part of this Phase II ESA as sediment was not encountered at the Site.

## 4.9 Analytical Testing

Soil and groundwater samples were submitted to Bureau Veritas Laboratories Ltd. (BV Labs), of Ottawa, Ontario, for chemical analysis. BV is recognized as a Standards Council of Canada (SCC) accredited laboratory that conforms to the requirements of International Standard ISO/IEC 17025:2017 and conditions for accreditation established by the SCC.

## 4.10 Residue Management Procedures

All purge water resulting from well development and fluids resulting from equipment decontamination were appropriately contained and secured on Site. Proper disposal is to be coordinated by Englobe.

## 4.11 Elevation Surveying

The ground surface elevation of the boreholes was surveyed by Englobe field staff using a laser level and rod with reference to a geodetic elevation of existing sanitary manhole lids of 94.62 and 94.64 m asl located on Frank Nighbor Place. The ground surface elevations of the boreholes are shown on the Borehole Logs provided in Appendix C.

## 4.12 Quality Assurance / Quality Control

Englobe maintains a standard Quality Assurance/ Quality Control (QA/QC) program for environmental investigations. All project documentation was maintained and controlled by the appointed field supervisor. All borehole advancement and soil and groundwater sampling was completed in accordance with industry standards, and applicable provincial standards/guidelines.

Collected soil and groundwater samples were placed in ice-packed coolers prior to being shipped, under a Chain of Custody protocol, to BV Labs for chemical analysis.

The potential for cross-contamination between samples was minimized by, where applicable, washing sampling tools with reagent-free detergent and water, followed by rinsing with distilled water, and by using new single-use equipment prior to the handling of each sample. All field screening instruments (i.e., AquaTROLL® 400) were calibrated prior to arriving on Site.

Chemical analyses for specific analytical test groups were performed in accordance with the MECP 2021 document *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*. Analytical test group specific quality control samples were prepared and analyzed by the contracted laboratory, including:

- Method blanks to evaluate potential bias;
- Spike blanks to evaluate method accuracy and bias;
- Matrix spikes to evaluate extraction efficiency and matrix interferences; and
- Surrogate samples to evaluate extraction efficiency.

Quality control results evaluated by the contracted laboratory were compared to applicable alert and control criteria and are presented in the quality control reports accompanying the Certificates of Analysis as presented in Appendix E.

The field QA/QC program also included the submission of one blind field duplicate soil sample to evaluate method reproducibility.



# 5 Review and Evaluation

## 5.1 Geology

Based on the soil data collected during the advancement of the boreholes, the general soil stratigraphy at the Site is characterized by silty clay to the extent of the advanced boreholes (20.3 m bgs).

Detailed descriptions and soil stratigraphy for each borehole is provided in the borehole logs in Appendix C.

## 5.2 Groundwater: Elevations and Flow Direction

As noted in Section 5.6, Englobe field personnel measured the groundwater level from the installed monitoring well prior to groundwater sampling activities. The measured groundwater level is provided below.

Table 5.2 Groundwater Elevation Data.

Sample Location	Easting (m)	Northing (m)	Elevation at ground surface (masl)	Sampling Date (dd/mm/yyyy)	Groundwater Depth (m bgs)	Free Product (Y/N)
MW23-02	5016678	428013	95.13	24/02/2023	1.99	N

The groundwater flow direction for the Phase II Property could not be calculated, due to an insufficient quantity of monitoring wells on Site; however, it is inferred to follow local topography which slopes westward, towards the Carp River Municipal Drain.

## 5.3 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient for the Phase II Property could not be calculated due to an insufficient quantity of monitoring wells on Site.

## 5.4 Soil Texture

Englobe did not complete soil grain size analysis as part of this Phase II ESA; however, as noted in Section 2.5, a coarse-textured soil was selected for comparison of analytical data to the applicable SCSs as it represents the worst-case scenario

## 5.5 Soil: Field Screening

There were no visual or olfactory signs indicating evidence of petroleum or other impacts observed from any of the soil or groundwater samples collected at the Site, and no sheen, free-phase liquid petroleum hydrocarbons, or odours were observed during the drilling or sampling activities.

## 5.6 Soil Quality

Analytical results of the soil samples submitted for laboratory analysis were compared against the applicable MECP Table 3 SCS as outlined in Section 2.5. Based on a review of the laboratory analytical results, all submitted soil samples met the applicable MECP Table 3 SCS for all analyzed parameters.

Refer to Table D-1, in Appendix D, for the soil analytical results. The laboratory certificates of analysis are provided in Appendix E.

## 5.7 Groundwater Quality

Analytical results for the groundwater sample submitted for laboratory analysis was compared against the applicable MECP Table 3 SCS as outlined in Section 2.5. Based on a review of the laboratory analytical results, the submitted groundwater sample met the applicable MECP Table 3 SCS for all analyzed parameters.

Refer to Table D-2, in Appendix D, for the groundwater analytical results. The laboratory certificates of analysis are provided in Appendix E.

## 5.8 Sediment Quality

Sediment sampling was not completed as part of this Phase II ESA.

## 5.9 Quality Assurance and Quality Control Results

All sample containers (with the appropriate preservatives), including soil field preservation containers were provided by BV labs. The samples were kept cold in coolers with ice and delivered to the laboratory within the required timelines to fulfill sample storage and holding time requirements under chain of custody protocols.

Laboratory certificates of analysis have been received for all soil and groundwater samples analyzed as part of this assessment. Copies of the laboratory certificates of analysis are presented in Appendix E.

Quality control results evaluated by the contractual laboratory are presented in the quality control reports accompanying the Certificates of Analysis as presented in Appendix E of this Phase II ESA report.

The field QA/QC program also included the submission of one blind field duplicate soil sample. Analytical results of the blind field duplicate soil sample are generally in close agreement as summarized below:

- For OC Pesticides in soil, all parameters were reported by BV Labs as non-detectable concentrations for both the primary soil sample (BH23-01 SS2) and its duplicate soil sample (BH123-01 SS2).

Based on the above discussions, it is Englobe's opinion that the overall objectives of the investigation were met in terms of the quality of the field and laboratory data obtained.

# 6 Conclusions

Englobe conducted a Phase II ESA at the property located at 40 Frank Nighbor Place, Kanata, ON, to evaluate the environmental quality of soils and groundwater at the Site, in response to the findings of the Phase I ESA report prepared for the Site (Englobe, 2023).

The field program consisted of the advancement of four boreholes at strategic locations on Site, one of which was instrumented with a groundwater monitoring well.

A total of seven soil samples (including one duplicate) and one groundwater sample was collected during the investigation and submitted for laboratory analysis as outlined below:

- A total of five soil samples from the advanced boreholes (including one field duplicate) were submitted for laboratory analysis of Organochlorine (OC) Pesticides;
- Two soil samples, BH23-01 SS7 and BH23-03 SS2, were submitted for laboratory analysis of pH; and,
- One groundwater sample from MW23-02 was submitted for laboratory analysis OC Pesticides.

Soil laboratory analytical results were compared to the Ontario Ministry of the Environment, Conservation and Parks (MECP) Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition, Industrial/Commercial/Community (ICC) Property Use, Coarse Textured Soils as per “*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*”, April 15, 2011.

Groundwater laboratory analytical results were compared to the Ontario Ministry of the Environment, Conservation and Parks (MECP) Table 3: Full Depth Generic Site Condition Standards for Coarse Textured Soils in a Non-Potable Groundwater Condition, All Types Property Use, Coarse Textured Soils as per “*Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*”, April 15, 2011.

Based on a review of the laboratory analytical results, all submitted soil and groundwater samples met the applicable MECP standards for all analyzed parameters; therefore, no further investigation is recommended at this time.

Additionally, it is recommended that the monitoring well installed at MW23-02 be abandoned within 180 days of its installation date, in accordance with Ontario Water Resource Act, Regulation 903 - Wells (as amended).

## 6.1 Signatures

This report was prepared for the exclusive use of API Consultants Inc. and 401 Real Estate Trust Inc. Any use of this report by any third party, or any reliance on or decisions to be made based on it, are the responsibility of such parties. Englobe accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust the information herein meets your present requirements. Should you have any questions, please do not hesitate to contact the below.

Yours very truly,

**Englobe Corp.**



---

**Colette Robitaille**

Project Manager

Englobe Ottawa



---

**Salim Eid, P. Eng.**

Team Lead, Instrumentation and Monitoring

Englobe Ottawa

# 7 References

Englobe Corp. *Phase I Environmental Site Assessment - 40 Frank Nighbor Place, Kanata, ON K2V 1B9*. March 2023. Englobe File No.: 02211293.000

GeoOttawa. Available from: <https://maps.ottawa.ca/geottawa/>. [Accessed February 2023].

Ontario Ministry of the Environment, Conservation and Parks, 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*.

Ontario Ministry of the Environment, Conservation and Parks, as amended January 1, 2014. *Ontario Resources Act R.R.O. 1990, Regulation 903 - Wells*.

# 8 Limitations of Report

This report (hereinafter, the “Report”) was prepared by Englobe Corp. (herein the “Company”) and is provided for the sole exclusive use and benefit of API Consultants Inc. (the “Client”) and 401 real Estate Trust. Ownership in and copyright for the contents of the Report belong to the Company.

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This Report should be considered in its entirety; selecting specific portions of the Report may result in the misinterpretation of the content.

The work performed by the Company was carried out in accordance with the terms and conditions specified in the Professional Services Agreement between the Company and the Client, in accordance with currently accepted engineering standards and practices and in a manner consistent with the level of skill, care and competence ordinarily exercised by members of the same profession currently practicing under similar conditions and like circumstances in the same jurisdiction in which the services were provided. Standards, guidelines, and practices may change over time; those which were applied to produce this Report may be obsolete or unacceptable at a later date.

The findings, recommendations, suggestions, or opinions expressed in this Report reflect the Company’s best professional judgement based on observations and/or information reasonably available at the time the work was performed, as appropriate for the scope, work schedule and budgetary constraints established by the Client. No other warranty or representation, expressed or implied, is included in this Report including, but not limited to, that the Report deals with all issues potentially applicable to the site and/or that the Report deals with any and all of the important features of the Site, except as expressly provided in the scope of work.

This report has been prepared for the specific site, development, building, design or building assessment objectives and/or purposes that were described to the Company by the Client. The applicability and reliability of the content of this Report, subject to the limitations provided herein, are only valid to the extent that there has been no material alteration or variation thereto, and the Company expressly disclaims any obligation to update the Report. However, the Company reserves the right to amend or supplement this Report based on additional information, documentation or evidence made available to it.

The Company makes no representation concerning the legal significance of its findings, nor as to the present or future value of the property, or its fitness for a particular purpose and hereby disclaims any responsibility or liability for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions, and recommendations (if any) provided in the Report, it is intended for immediate use.

In preparing this Report, the Company has relied in good faith on information provided by others and has assumed that such information is factual, accurate, and complete. The Company accepts no responsibility or liability for any deficiency, misstatement, or inaccuracy in this Report resulting from the information provided, concealed, or not fully disclosed by those individuals.

The assessment should not be considered a comprehensive audit that covers and eliminates all present, past and future risks. The information presented in this Report is based on data collected during the completion of the monitoring conducted. The overall site/building/subsurface/groundwater conditions were extrapolated based on information collected at specific sampling locations. Professional judgement was exercised in gathering and analyzing data; however, no monitoring method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Consequently, the actual site/building/subsurface/groundwater conditions between the sampling points may vary. In addition, analysis has been carried out only for the chemical and physical parameters identified, and it should not be inferred that other chemical species or physical conditions are not present.

Any description of the site and its physical setting documented in this Report is presented for informational purposes only, to provide the reader a better understanding of the site and scope of work. Any topographic benchmarks and elevations are primarily to establish relative elevation differences between sampling locations and should not be used for other purposes such as grading, excavation, planning, development, or similar purposes.

Any results from laboratory or other subcontractors reported herein have been carried out by others, and the Company cannot warrant their accuracy.

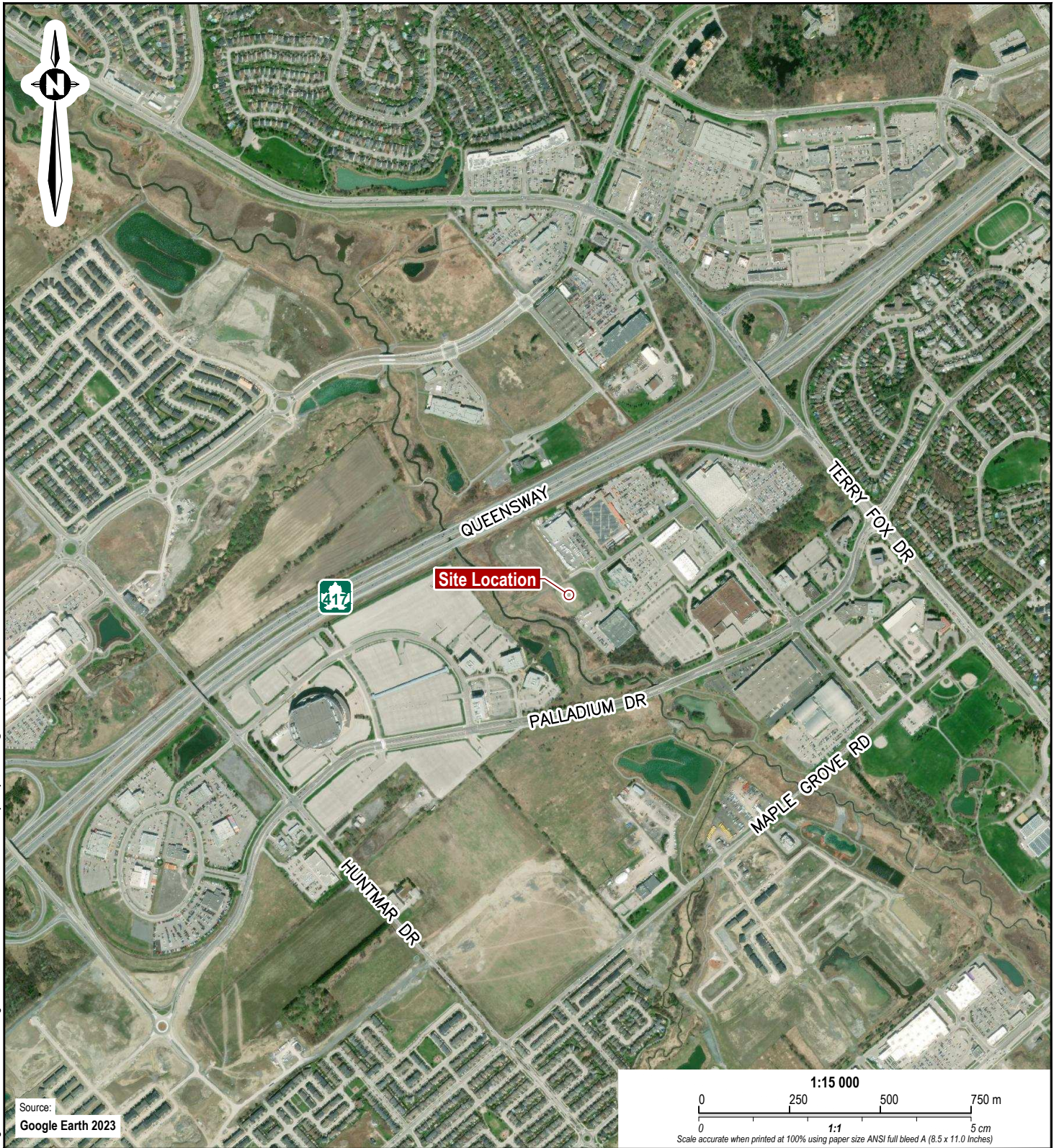
This Statement of Limitations forms an integral part of the report.

# Appendix A

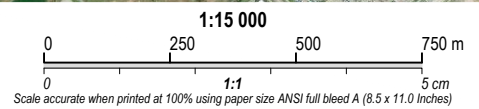
# Figures







Source:  
Google Earth 2023



**Note**

- This drawing shall be read in conjunction with the associated technical report.

0	2023/05/03	Final	SE
Revision	Date	Issue	Approval

Client		Site	
API Consultants Inc.		40 Frank Nighbor Place, Ottawa, ON	
	Report Title	Designed By	Date
	Phase II Environmental Site Assessment		CR
	Drawing Title	Drawn By	Project No.
	Site Location Map		JM
		Approved By	Figure No.
		SE	1
		Scale	
		As Shown	

Drawing: 1 Site Location.dwg Folder: L:\TSCAD\Projects\Vintage Point\02211293 Frank Nighbor PIP\Phase II ESA\DWGS Wednesday, May 03, 2023 @ 13:06 by Joven Mendoza

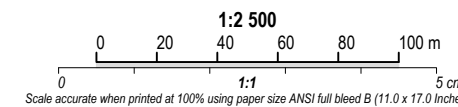


**Note**

1. This drawing shall be read in conjunction with the associated technical report.

**Legend**

- Approximate Site Boundary
- 250 m Study Area



0	2023/05/03	Final	SE
Revision	Date	Issue	Approval

Client  
**API Consultants Inc.**

Site  
**40 Frank Nighbor Place, Ottawa, ON**

Report Title  
**Phase II Environmental Site Assessment**

Drawing Title  
**Study Area and Surrounding Land Uses**

Designed By	<b>CR</b>	Scale	<b>As Shown</b>
Drawn By	<b>JM</b>	Date	<b>May 2023</b>
Approved By	<b>SE</b>	Project No.	<b>02211293.000</b>

Figure No. **2**

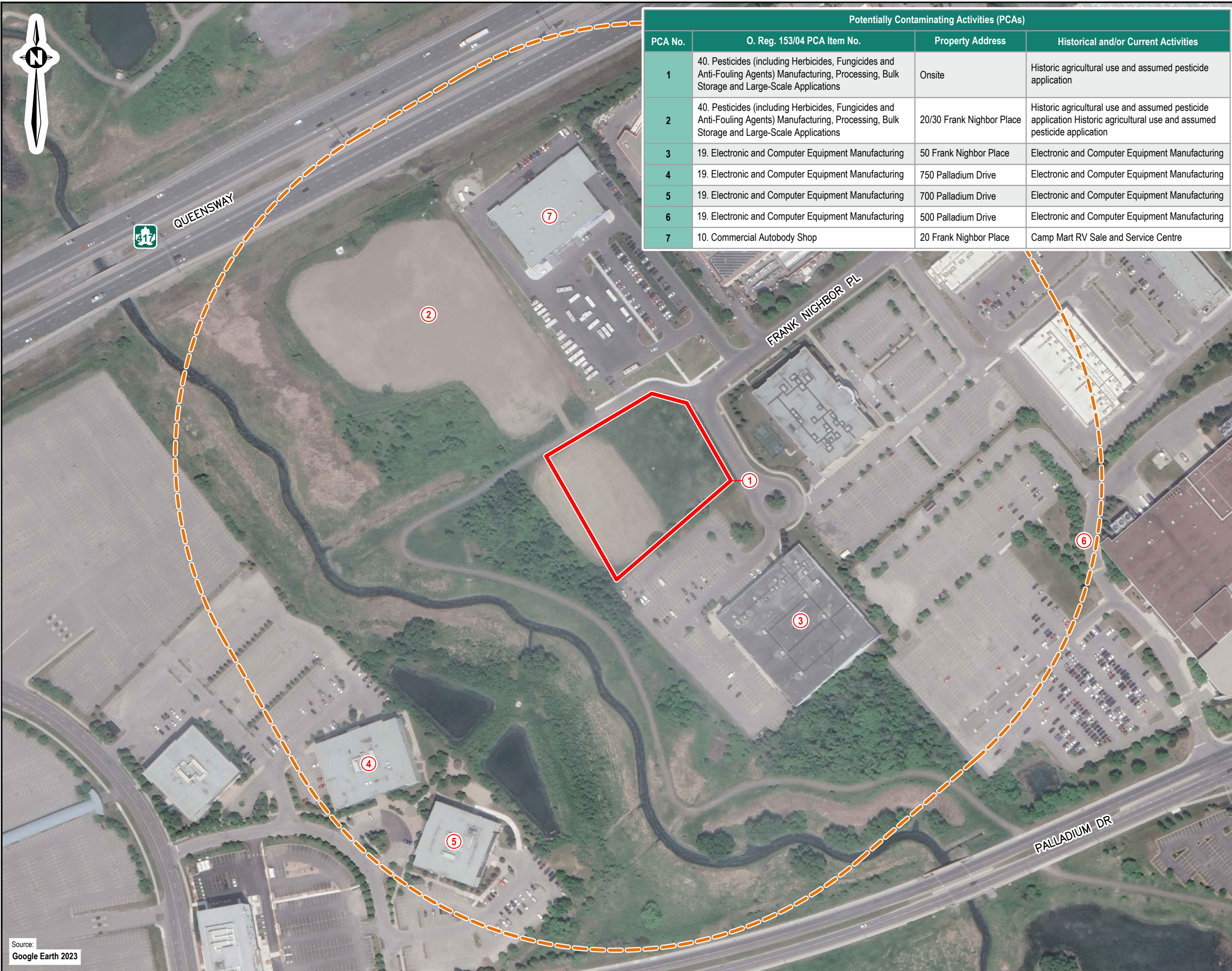


Drawing: 2 Site Plan.dwg  
 Folder: L:\ITS\CAD\Projects\Vantage Point\02211293 - Frank Nighbor Pl\Phase II ESA\DWGs  
 Wednesday, May 03, 2023 @ 13:06 by Joven Mendoza

Source:  
**Google Earth 2023**



Drawing: 3 PCA.dwg Folder: L:\TSCAD\Projects\Vantage Point\0211293 Frank Nighbor PIP\Phase II\ESA\DWG Wednesday, May 03, 2023 @ 13:06 by Joven Mendoza



Source: Google Earth 2023

Potentially Contaminating Activities (PCAs)			
PCA No.	O. Reg. 153/04 PCA Item No.	Property Address	Historical and/or Current Activities
1	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Onsite	Historic agricultural use and assumed pesticide application
2	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	20/30 Frank Nighbor Place	Historic agricultural use and assumed pesticide application
3	19. Electronic and Computer Equipment Manufacturing	50 Frank Nighbor Place	Electronic and Computer Equipment Manufacturing
4	19. Electronic and Computer Equipment Manufacturing	750 Palladium Drive	Electronic and Computer Equipment Manufacturing
5	19. Electronic and Computer Equipment Manufacturing	700 Palladium Drive	Electronic and Computer Equipment Manufacturing
6	19. Electronic and Computer Equipment Manufacturing	500 Palladium Drive	Electronic and Computer Equipment Manufacturing
7	10. Commercial Autobody Shop	20 Frank Nighbor Place	Camp Mart RV Sale and Service Centre

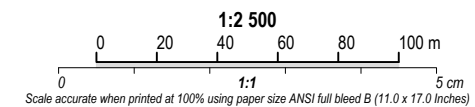


**Note**

- This drawing shall be read in conjunction with the associated technical report.

**Legend**

- Approximate Site Boundary
- - - 250 m Study Area
- 1 Potentially Contaminating Activities (PCAs)



0	2023/05/03	Final	SE
Revision	Date	Issue	Approval

Client: **API Consultants Inc.**

Site: **40 Frank Nighbor Place, Ottawa, ON**

Report Title: **Phase II Environmental Site Assessment**

Drawing Title: **Potentially Contaminating Activities (PCAs)**

Designed By	<b>CR</b>	Scale	<b>As Shown</b>
Drawn By	<b>JM</b>	Date	<b>May 2023</b>
Approved By	<b>SE</b>	Project No.	<b>02211293.000</b>

Figure No. **3**

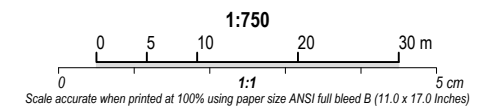


**Note**

- This drawing shall be read in conjunction with the associated technical report.

**Legend**

Approximate Site Boundary / APEC



0	2023/05/03	Final	SE
Revision	Date	Issue	Approval

Client  
**API Consultants Inc.**

Site  
**40 Frank Nighbor Place, Ottawa, ON**

Report Title  
**Phase II Environmental Site Assessment**

Drawing Title  
**Areas of Potential Environmental Concern (APECs)**

Designed By	<b>CR</b>	Scale	<b>As Shown</b>
-------------	-----------	-------	-----------------

Drawn By	<b>JM</b>	Date	<b>May 2023</b>
----------	-----------	------	-----------------

Approved By	<b>SE</b>	Project No.	<b>02211293.000</b>
-------------	-----------	-------------	---------------------

Figure No. **4**

Drawing: 4 APEC.dwg Folder: L:\TSCAD\Projects\Vantage Point\02211293 - Frank Nighbor PIP\Phase II ESA\DWGs Wednesday, May 03, 2023 @ 13:06 by Joven Mendoza



Potentially Contaminating Activities (PCAs)					Areas of Potential Environmental Concern (APECs)				
PCA No.	O. Reg. 153/04 PCA Item No.	Property Address	Historical and/or Current Activities	PCA Proximity to Site (m)	PCA Relative Direction to the Site	APEC No.	Location of APEC on the Site	Contaminants of Potential Concern (COPCs)	Potentially Impacted Media (Groundwater, Soil, and/or Sediment)
1	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Onsite	Historic agricultural use and assumed pesticide application	Onsite	Onsite	1	Entire Phase I Property	OC Pesticides	Soil and Groundwater




Source:  
**Google Earth 2023**

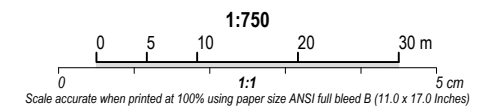


**Note**

1. This drawing shall be read in conjunction with the associated technical report.

**Legend**

-  Approximate Site Boundary
-  Approximate Borehole Location (Englobe, 2023)
-  Approximate Monitoring Well Location (Englobe, 2023)



0	2023/05/03	Final	SE
Revision	Date	Issue	Approval

Client: **API Consultants Inc.**

Site: **40 Frank Nighbor Place, Ottawa, ON**

Report Title: **Phase II Environmental Site Assessment**

Drawing Title: **Site Map**

Designed By	<b>CR</b>	Scale	<b>As Shown</b>
Drawn By	<b>JM</b>	Date	<b>May 2023</b>
Approved By	<b>SE</b>	Project No.	<b>02211293.000</b>

Figure No. **5**

Drawing: 5 Site Map.dwg Folder: L:\TSCAD\Projects\Vantage Point\02211293 - Frank Nighbor PI\Phase II ESA\DWGs Wednesday, May 03, 2023 @ 13:06 by Joven Mendoza

Source:  
**Google Earth 2023**

# Appendix B

## Site Photographs



**eNGLOBE**



Site Photograph 1. Overview of drilling operations (February 21 to February 24, 2023).



Site Photograph 2. Overview of split spoon sampling (February 22, 2023).





**Site Photograph 3. Overview of MW23-02. Photo taken by Englobe personnel on February 24, 2023 facing northeast.**

# Appendix C

## Borehole Logs

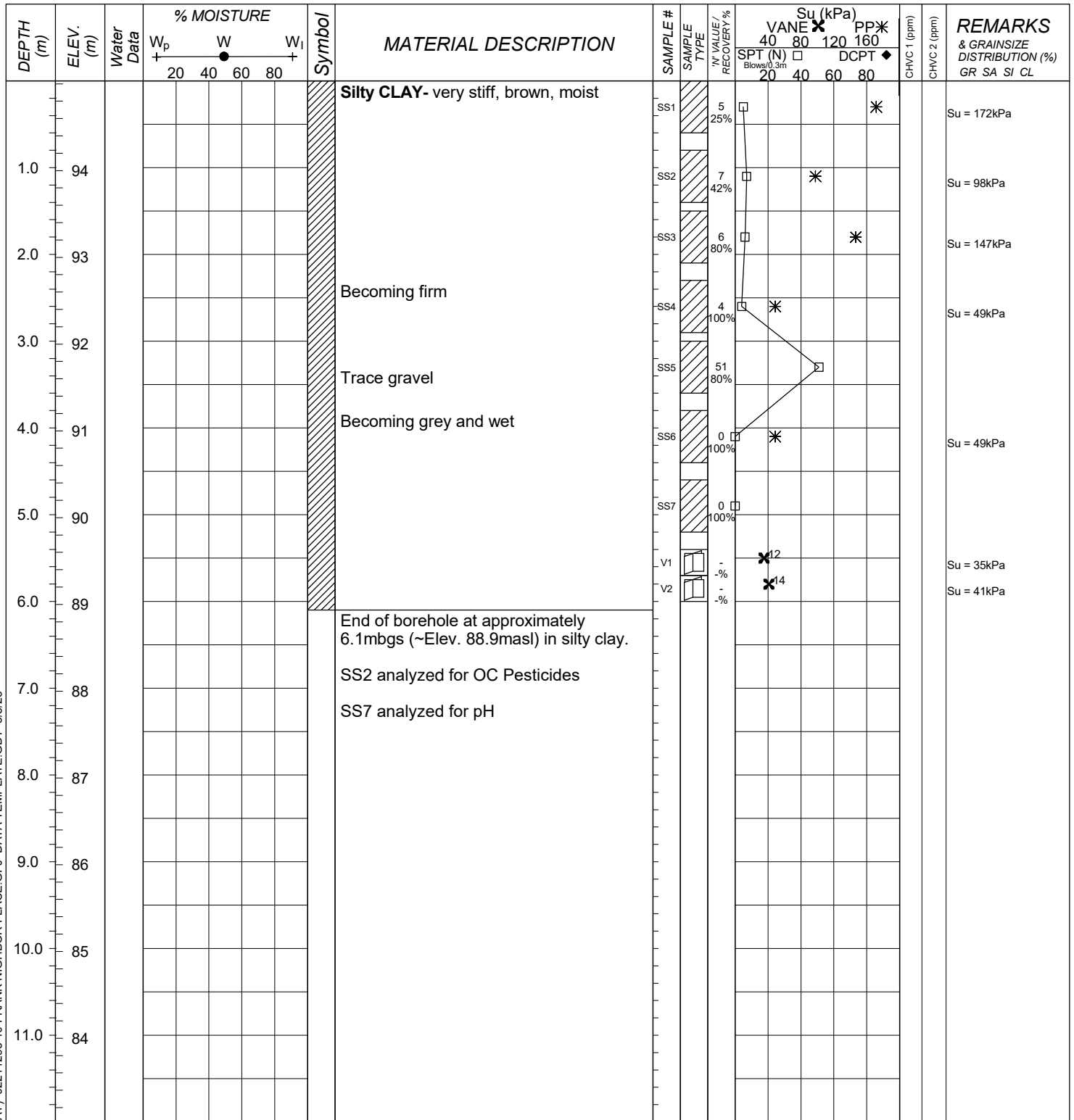


eNGLOBE

# LOG OF BOREHOLE BH23-01

Englobe REF. No.: 02211293  
 CLIENT: API Consultants Inc.  
 PROJECT: Proposed 6-Storey Marriot Hotel  
 LOCATION: 40 Frank Nighbor Drive, Ottawa, ON  
 SURFACE ELEV.: 95.03 meters

Drilling Data  
 METHOD: Hollow Stem Auger  
 START DATE: 2/23/2023  
 COMPLETION DATE: 2/23/2023  
 COORDINATES: 428006 m N, 5016692 m E



BOREHOLE (THUNDER BAY) 02211293 40 FRANK NIGHBOR PLACE.GPJ DATA TEMPLATE.GDT 3/8/23



**ENGLOBE**  
 2713 LANCASTER ROAD  
 OTTAWA, ON, K1B 5R6  
 PH: 1-877-300-4800  
 FX: 1-888-979-6772  
 Web: www.englobecorp.com

### SAMPLE TYPE LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li> Auger Sample</li> <li> Split Spoon Sample</li> <li> Bulk Sample</li> </ul> | <ul style="list-style-type: none"> <li> Rock Core</li> <li> Core Sample</li> <li> Shelby Tube</li> </ul> |
|--|--|

### WELL LEGEND

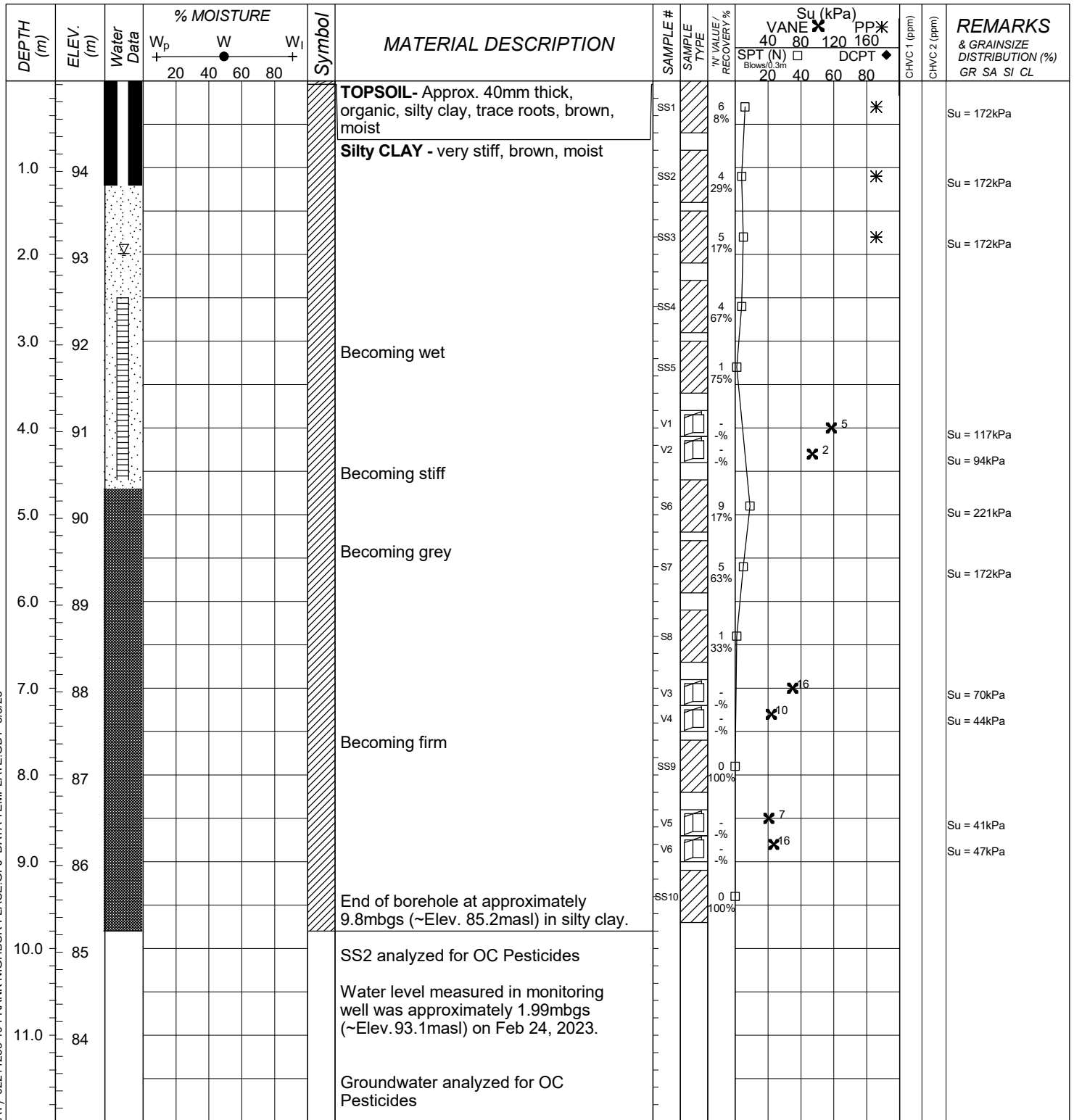
- Bentonite
- Sand
- Screen

<sup>3</sup> Numbers refers to Sensitivity  
 PP: Pocket Penetrometer  
 CHVC: Combustible Headspace Vapor Concentration  
 NFP: No Further Penetration

# LOG OF BOREHOLE MW23-02

Englobe REF. No.: 02211293  
 CLIENT: API Consultants Inc.  
 PROJECT: Proposed 6-Storey Marriot Hotel  
 LOCATION: 40 Frank Nighbor Drive, Ottawa, ON  
 SURFACE ELEV.: 95.13 meters

Drilling Data METHOD: Hollow Stem Auger  
 and Casings START DATE: 2/21/2023  
 COMPLETION DATE: 2/21/2023  
 COORDINATES: 428013m N, 5016678m E



BOREHOLE (THUNDER BAY) 02211293 40 FRANK NIGHBOR PLACE.GPJ DATA TEMPLATE.GDT 3/8/23



ENGLOBE  
 2713 LANCASTER ROAD  
 OTTAWA, ON, K1B 5R6  
 PH: 1-877-300-4800  
 FX: 1-888-979-6772  
 Web: www.englobecorp.com

### SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Core Sample
- Shelby Tube

### WELL LEGEND

- Bentonite
- Sand
- Screen

\*<sup>3</sup> Numbers refers to Sensitivity  
 PP: Pocket Penetrometer  
 CHVC: Combustable Headspace Vapor Concentration  
 NFP: No Further Penetration

**ENCLOSURE 5**

# LOG OF BOREHOLE BH23-03

Englobe REF. No.: 02211293  
 CLIENT: API Consultants Inc.  
 PROJECT: Proposed 6-Storey Marriot Hotel  
 LOCATION: 40 Frank Nighbor Drive, Ottawa, ON  
 SURFACE ELEV.: 94.97 meters

Drilling Data  
 METHOD: Hollow Stem Auger  
 START DATE: 2/21/2023  
 COMPLETION DATE: 2/21/2023  
 COORDINATES: 428079 m N, 5016708 m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE			Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	TV VALUE / RECOVERY %	Su (kPa)				CHVC 1 (ppm)	CHVC 2 (ppm)	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
			W <sub>p</sub>	W	W <sub>i</sub>						VANE	PP*	SPT (N)	DCPT			
			20	40	60	80				40	80	120	160				
1.0	94						Silty CLAY- very stiff, brown, moist	SS1	5	46%				*		Su = 172kPa	
								SS2	7	75%				*		Su = 172kPa	
2.0	93						Becoming firm	SS3	4	42%				*		Su = 172kPa	
							Becoming grey	SS4	2	100%	*					Su = 49kPa	
3.0	92						Becoming stiff	SS5	2	92%							
4.0	91						Becoming wet	V1	-	-	*	5				Su = 82kPa	
							Becoming firm	V2	-	-	*	3				Su = 59kPa	
5.0	90							SS6	0	100%							
6.0	89							SS7	2	100%							
6.2							End of borehole at approximately 6.2mbgs (~Elev. 88.8masl) in silty clay.	V3	-	-	*	24				Su = 35kPa	
7.0	88						SS1 analyzed for OC Pesticides										
							SS2 analyzed for pH										
8.0	87																
9.0	86																
10.0	85																
11.0	84																

BOREHOLE (THUNDER BAY) 02211293 40 FRANK NIGHBOR PLACE.GPJ DATA TEMPLATE.GDT 3/8/23



ENGLOBE  
 2713 LANCASTER ROAD  
 OTTAWA, ON, K1B 5R6  
 PH: 1-877-300-4800  
 FX: 1-888-979-6772  
 Web: www.englobecorp.com

### SAMPLE TYPE LEGEND

Auger Sample	Rock Core
Split Spoon Sample	Core Sample
Bulk Sample	Shelby Tube

### WELL LEGEND

Bentonite
Sand
Screen

\*<sup>3</sup> Numbers refers to Sensitivity  
 PP: Pocket Penetrometer  
 CHVC: Combustible Headspace Vapor Concentration  
 NFP: No Further Penetration

# LOG OF BOREHOLE BH23-04

Englobe REF. No.: 02211293  
 CLIENT: API Consultants Inc.  
 PROJECT: Proposed 6-Storey Marriot Hotel  
 LOCATION: 40 Frank Nighbor Drive, Ottawa, ON  
 SURFACE ELEV.: 95.06 meters

Drilling Data  
 METHOD: Hollow Stem Auger and Casings  
 START DATE: 2/23/2023  
 COMPLETION DATE: 2/23/2023  
 COORDINATES: 428069m N, 5016723m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE			Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	TV VALUE / RECOVERY %	Su (kPa)		CHVC 1 (ppm)	CHVC 2 (ppm)	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
			W <sub>p</sub>	W	W <sub>i</sub>						VANE * PP*	SPT (N) Blows/0.3m			
95						Silty CLAY- very stiff, brown, moist Becoming stiff	SS1	9	25%					Su = 172kPa	
1.0	94						SS2	5	42%					Su = 74kPa	
2.0	93						SS3	3	75%					Su = 74kPa	
3.0	92					Becoming wet	TW1	-	-						
							SS4	0	92%						
4.0	91					Becoming grey	V1	-	-	4				Su = 88kPa	
							V2	-	-	4				Su = 56kPa	
5.0	90						SS5	0	100%						
						Becoming firm Becoming stiff	V3	-	-	11				Su = 47kPa	
6.0	89						V4	-	-	12				Su = 53kPa	
						TW2	-	-							
7.0	88					Becoming firm	V5	-	-					Su = 88kPa	
							V6	-	-	12				Su = 35kPa	
8.0	87					SS6	0	100%							
						Becoming stiff Becoming firm	V7	-	-	66				Su = 53kPa	
9.0	86						V8	-	-	6				Su = 47kPa	
						SS7	0	100%							
10.0	85					TW3	-	-							
						Becoming stiff	SS8	0	100%						
11.0	84						V9	-	-	8				Su = 59kPa	
						V10	-	-	6						

BOREHOLE (THUNDER BAY) 02211293 40 FRANK NIGHBOR PLACE.GPJ DATA TEMPLATE.GDT 3/8/23



ENGLOBE  
 2713 LANCASTER ROAD  
 OTTAWA, ON, K1B 5R6  
 PH: 1-877-300-4800  
 FX: 1-888-979-6772  
 Web: www.englobecorp.com

### SAMPLE TYPE LEGEND

Auger Sample	Rock Core
Split Spoon Sample	Core Sample
Bulk Sample	Shelby Tube

### WELL LEGEND

Bentonite
Sand
Screen

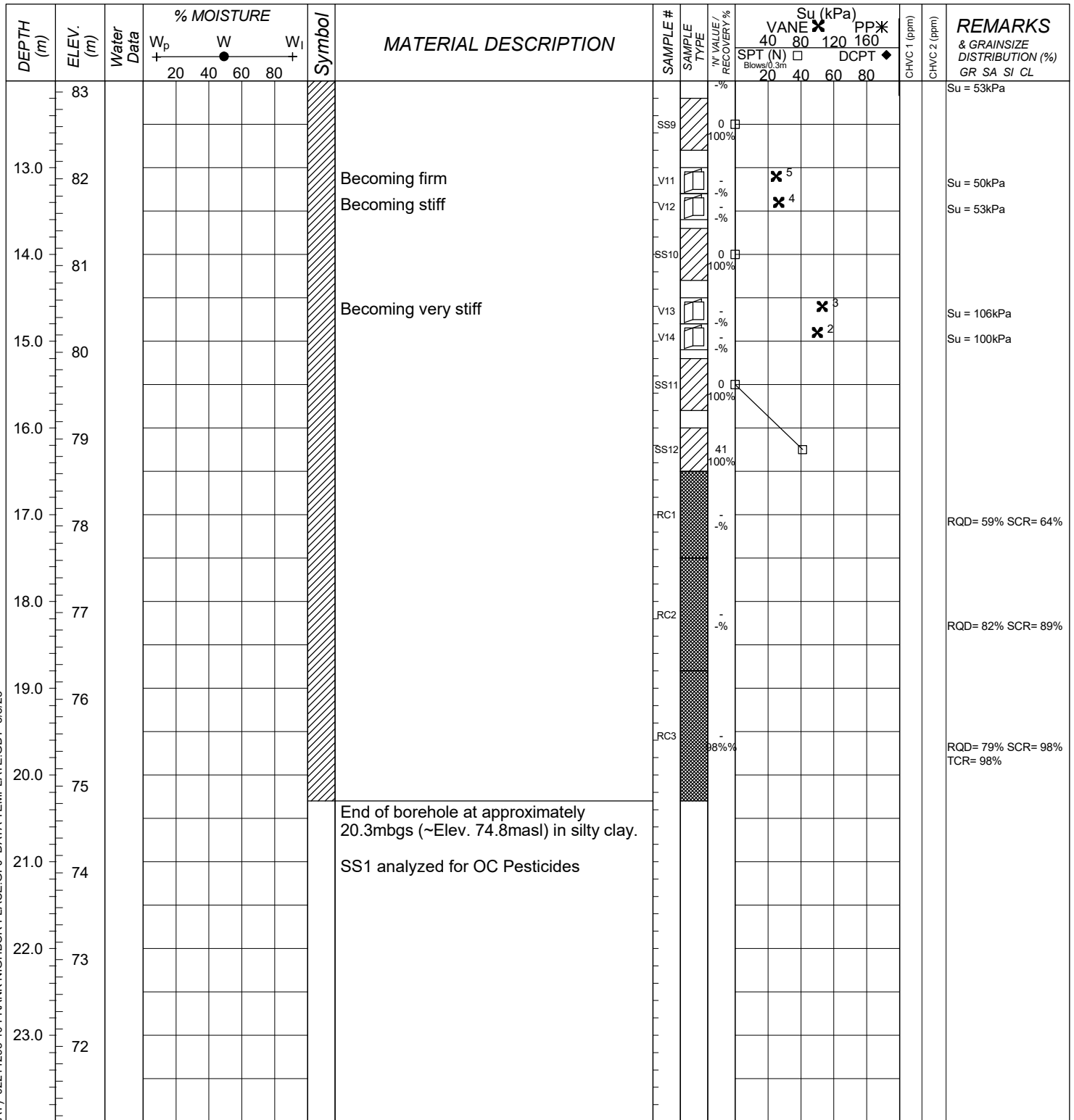
\*<sup>3</sup> Numbers refers to Sensitivity  
 PP: Pocket Penetrometer  
 CHVC: Combustible Headspace Vapor Concentration  
 NFP: No Further Penetration

### ENCLOSURE 3

# LOG OF BOREHOLE BH23-04

Englobe REF. No.: 02211293  
 CLIENT: API Consultants Inc.  
 PROJECT: Proposed 6-Storey Marriot Hotel  
 LOCATION: 40 Frank Nighbor Drive, Ottawa, ON  
 SURFACE ELEV.: 95.06 meters

Drilling Data  
 METHOD: Hollow Stem Auger and Casings  
 START DATE: 2/23/2023  
 COMPLETION DATE: 2/23/2023  
 COORDINATES: 428069 m N, 5016723 m E



BOREHOLE (THUNDER BAY) 02211293 40 FRANK NIGHBOR PLACE.GPJ DATA TEMPLATE.GDT 3/8/23

**ENGLOBE** ENGLOBE  
 2713 LANCASTER ROAD  
 OTTAWA, ON, K1B 5R6  
 PH: 1-877-300-4800  
 FX: 1-888-979-6772  
 Web: www.englobecorp.com

**SAMPLE TYPE LEGEND**

Auger Sample	Rock Core
Split Spoon Sample	Core Sample
Bulk Sample	Shelby Tube

**WELL LEGEND**

Bentonite
Sand
Screen

**ENCLOSURE 4**

\*<sup>3</sup> Numbers refers to Sensitivity  
 PP: Pocket Penetrometer  
 CHVC: Combustable Headspace Vapor Concentration  
 NFP: No Further Penetration

PAGE 2 OF 2

# Appendix D

## Laboratory Analytical Results



**eNGLOBE**



Table D-1: Soil Analytical Results

Parameter	MECP Table 3 SCS (µg/g)	BH23-01 SS2	BH123-01 SS2*	BH23-01 SS7	MW23-02 SS2	BH23-03 SS1	BH23-03 SS2	BH23-04 SS1
		0.76 - 01.37 m bgs	0.76 - 01.37 m bgs	4.57 - 5.18 m bgs	0.61 - 1.37 m bgs	0.0 - 0.61 m bgs	0.61 - 1.37 m bgs	0.0 - 0.61 m bgs
		23-Feb-2023	23-Feb-2023	23-Feb-2023	21-Feb-2023	21-Feb-2023	22-Feb-2023	22-Feb-2023
<b>Inorganics</b>								
Available (CaCl2) pH	NG	N/A	N/A	8.12	N/A	N/A	7.51	N/A
<b>OC Pesticides</b>								
Aldrin	0.088	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Aroclor 1242	NG	<0.015	<0.015	N/A	<0.015	<0.015	N/A	<0.015
Aroclor 1248	NG	<0.015	<0.015	N/A	<0.015	<0.015	N/A	<0.015
Aroclor 1254	NG	<0.015	<0.015	N/A	<0.015	<0.015	N/A	<0.015
Aroclor 1260	NG	<0.015	<0.015	N/A	<0.015	<0.015	N/A	<0.015
a-Chlordane	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
g-Chlordane	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Chlordane (Total)	0.05	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDD	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
p,p-DDD	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDD + p,p-DDD	4.6	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDE	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
p,p-DDE	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDE + p,p-DDE	0.52	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDT	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
p,p-DDT	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
o,p-DDT + p,p-DDT	1.4	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Dieldrin	0.088	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Endosulfan I (alpha)	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Endosulfan II (beta)	NG	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Total Endosulfan	0.3	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Endrin	0.04	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Heptachlor	0.19	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Heptachlor epoxide	0.05	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Hexachlorobenzene	0.66	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Hexachlorobutadiene	0.031	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Hexachloroethane	0.21	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Lindane/ Gamma-Hexachlorocyclohexane	0.056	<0.0020	<0.0020	N/A	<0.0020	<0.0020	N/A	<0.0020
Methoxychlor	1.6	<0.0050	<0.0050	N/A	<0.0050	<0.0050	N/A	<0.0050
Total PCB	1.1	<0.015	<0.015	N/A	<0.015	<0.015	N/A	<0.015

**Notes:**

MECP Table 3 SCS Ontario Ministry of the Environment, Conservation, and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 2011. Table 3: Full Depth Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition; Soil Standard (other than sediment) µg/g. Industrial/Commercial/Community Property Use (Coarse Textured Soils)

NG No Guideline Available

< Less Than Reportable Detection Limit

N/A Parameter Not Analyzed

\* Duplicate of BH23-01 SS2

Value Sample Exceeds Applicable MECP Standard

Table D-2: Groundwater Analytical Results

Parameter	MECP Table 3 SCS (µg/L)	MW23-02
		24-Feb-2023
<b>OC Pesticides</b>		
Aldrin	8.5	<0.005
Aroclor 1242	NG	<0.05
Aroclor 1248	NG	<0.05
Aroclor 1254	NG	<0.05
Aroclor 1260	NG	<0.05
α-Chlordane	NG	<0.005
γ-Chlordane	NG	<0.005
Chlordane (Total)	28	<0.005
o,p-DDD	NG	<0.005
p,p-DDD	NG	<0.005
o,p-DDD + p,p-DDD	45	<0.005
o,p-DDE	NG	<0.005
p,p-DDE	NG	<0.005
o,p-DDE + p,p-DDE	20	<0.005
o,p-DDT	NG	<0.005
p,p-DDT	NG	<0.005
o,p-DDT + p,p-DDT	2.8	<0.005
Dieldrin	0.75	<0.005
Endosulfan I (alpha)	NG	<0.005
Endosulfan II (beta)	NG	<0.005
Total Endosulfan	1.5	<0.005
Endrin	0.48	<0.005
Heptachlor	2.5	<0.005
Heptachlor epoxide	0.048	<0.005
Hexachlorobenzene	3.1	<0.005
Hexachlorobutadiene	0.44	<0.009
Hexachloroethane	94	<0.01
Lindane/ Gamma-Hexachlorocyclohexane	1.2	<0.003
Methoxychlor	6.5	<0.01
Total PCB	7.8	<0.05

**Notes:**

MECP Table 3 SCS

Ontario Ministry of the Environment, Conservation, and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 2011. Table 3: Full Depth Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition; All Types of Property Use, coarse textured soils.

NG

No Guideline Available

<

Less Than Reportable Detection Limit

N/A

Parameter Not Analyzed

Value

Sample Exceeds Applicable MECP Standard

# Appendix E

## Laboratory Certificates of Analysis



eNGLOBE



Your Project #: 02211293.000  
 Site Location: 40 FRANK NIGHBOR  
 Your C.O.C. #: 922166-01-01

**Attention: Colette Robitaille**

Englobe Corp.  
 Ottawa - Standing Offer  
 2713 Lancaster Road  
 Unit 101  
 Ottawa, ON  
 CANADA K1B 5R6

**Report Date: 2023/03/16**  
 Report #: R7548878  
 Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C354885**

**Received: 2023/02/24, 14:56**

Sample Matrix: Soil  
 # Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Moisture	4	N/A	2023/02/27	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	1	N/A	2023/02/28	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (1)	5	2023/03/05	2023/03/05	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	4	N/A	2023/02/28	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	1	N/A	2023/03/01	CAM SOP-00307	EPA 8081B/ 8082A
pH CaCl2 EXTRACT	2	2023/03/02	2023/03/02	CAM SOP-00413	EPA 9045 D m

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
OC Pesticides (Selected) & PCB (1)	1	2023/03/01	2023/03/04	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	1	N/A	2023/03/03	CAM SOP-00307	EPA 8081B/ 8082A

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.



Your Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Your C.O.C. #: 922166-01-01

**Attention: Colette Robitaille**

Englobe Corp.  
Ottawa - Standing Offer  
2713 Lancaster Road  
Unit 101  
Ottawa, ON  
CANADA K1B 5R6

**Report Date: 2023/03/16**  
Report #: R7548878  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C354885**

**Received: 2023/02/24, 14:56**

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Chlordane ( Total) = Alpha Chlordane + Gamma Chlordane

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to:

Katherine Szozda, Project Manager  
Email: Katherine.Szozda@bureauveritas.com  
Phone# (613)274-0573 Ext:7063633

=====

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



BUREAU  
VERITAS

Bureau Veritas Job #: C354885  
Report Date: 2023/03/16

Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

### RESULTS OF ANALYSES OF SOIL

<b>Bureau Veritas ID</b>		VDM205	VDM205	VDM206	VDM207			VDM208	
<b>Sampling Date</b>		2023/02/21 10:00	2023/02/21 10:00	2023/02/21 13:00	2023/02/22 08:30			2023/02/22 10:00	
<b>COC Number</b>		922166-01-01	922166-01-01	922166-01-01	922166-01-01			922166-01-01	
	<b>UNITS</b>	<b>BH23-03 SS1</b>	<b>BH23-03 SS1 Lab-Dup</b>	<b>MW23-02 SS2</b>	<b>BH23-04 SS1</b>	<b>RDL</b>	<b>QC Batch</b>	<b>BH23-03 SS2</b>	<b>QC Batch</b>

<b>Inorganics</b>									
Moisture	%	19	18	23	20	1.0	8524831		
Available (CaCl2) pH	pH							7.51	8530553
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate									

<b>Bureau Veritas ID</b>		VDM209		VDM210			VDM211	VDM211	
<b>Sampling Date</b>		2023/02/23 12:10		2023/02/23 12:10			2023/02/23 12:10	2023/02/23 12:10	
<b>COC Number</b>		922166-01-01		922166-01-01			922166-01-01	922166-01-01	
	<b>UNITS</b>	<b>BH23-01 SS2</b>	<b>QC Batch</b>	<b>BH123-01 SS2</b>	<b>RDL</b>	<b>QC Batch</b>	<b>BH23-01 SS7</b>	<b>BH23-01 SS7 Lab-Dup</b>	<b>QC Batch</b>

<b>Inorganics</b>									
Moisture	%	20	8524831	20	1.0	8527241			
Available (CaCl2) pH	pH						8.12	8.14	8530553
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate									



BUREAU  
VERITAS

Bureau Veritas Job #: C354885

Report Date: 2023/03/16

Englobe Corp.

Client Project #: 02211293.000

Site Location: 40 FRANK NIGHBOR

Sampler Initials: JB

### ORGANOCHLORINATED PESTICIDES BY GC-ECD (SOIL)

Bureau Veritas ID		VDM205	VDM206	VDM207	VDM209	VDM210		
Sampling Date		2023/02/21 10:00	2023/02/21 13:00	2023/02/22 08:30	2023/02/23 12:10	2023/02/23 12:10		
COC Number		922166-01-01	922166-01-01	922166-01-01	922166-01-01	922166-01-01		
	UNITS	BH23-03 SS1	MW23-02 SS2	BH23-04 SS1	BH23-01 SS2	BH123-01 SS2	RDL	QC Batch
<b>Calculated Parameters</b>								
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8522369
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8522369
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8522369
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8522369
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8522369
Total PCB	ug/g	<0.015	<0.015	<0.015	<0.015	<0.015	0.015	8522369
<b>Pesticides &amp; Herbicides</b>								
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8535302
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8535302
Aroclor 1242	ug/g	<0.015	<0.015	<0.015	<0.015	<0.015	0.015	8535302
Aroclor 1248	ug/g	<0.015	<0.015	<0.015	<0.015	<0.015	0.015	8535302
Aroclor 1254	ug/g	<0.015	<0.015	<0.015	<0.015	<0.015	0.015	8535302
Aroclor 1260	ug/g	<0.015	<0.015	<0.015	<0.015	<0.015	0.015	8535302
<b>Surrogate Recovery (%)</b>								
2,4,5,6-Tetrachloro-m-xylene	%	88	94	93	87	72		8535302
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



BUREAU  
VERITAS

Bureau Veritas Job #: C354885  
Report Date: 2023/03/16

Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

**ORGANOCHLORINATED PESTICIDES BY GC-ECD (SOIL)**

Bureau Veritas ID		VDM205	VDM206	VDM207	VDM209	VDM210		
Sampling Date		2023/02/21 10:00	2023/02/21 13:00	2023/02/22 08:30	2023/02/23 12:10	2023/02/23 12:10		
COC Number		922166-01-01	922166-01-01	922166-01-01	922166-01-01	922166-01-01		
	UNITS	BH23-03 SS1	MW23-02 SS2	BH23-04 SS1	BH23-01 SS2	BH123-01 SS2	RDL	QC Batch
Decachlorobiphenyl	%	106	120	113	109	90		8535302
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								





BUREAU  
VERITAS

Bureau Veritas Job #: C354885  
Report Date: 2023/03/16

Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

**ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)**

<b>Bureau Veritas ID</b>		VDM213		
<b>Sampling Date</b>		2023/02/24 14:30		
<b>COC Number</b>		922166-01-01		
	<b>UNITS</b>	<b>BH23-04</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Chlordane (Total)	ug/L	<0.005	0.005	8522396
o,p-DDD + p,p-DDD	ug/L	<0.005	0.005	8522396
o,p-DDE + p,p-DDE	ug/L	<0.005	0.005	8522396
o,p-DDT + p,p-DDT	ug/L	<0.005	0.005	8522396
Total Endosulfan	ug/L	<0.005	0.005	8522396
Total PCB	ug/L	<0.05	0.05	8522396
<b>Pesticides &amp; Herbicides</b>				
Aldrin	ug/L	<0.005	0.005	8529367
Dieldrin	ug/L	<0.005	0.005	8529367
a-Chlordane	ug/L	<0.005	0.005	8529367
g-Chlordane	ug/L	<0.005	0.005	8529367
o,p-DDD	ug/L	<0.005	0.005	8529367
p,p-DDD	ug/L	<0.005	0.005	8529367
o,p-DDE	ug/L	<0.005	0.005	8529367
p,p-DDE	ug/L	<0.005	0.005	8529367
o,p-DDT	ug/L	<0.005	0.005	8529367
p,p-DDT	ug/L	<0.005	0.005	8529367
Lindane	ug/L	<0.003	0.003	8529367
Endosulfan I (alpha)	ug/L	<0.005	0.005	8529367
Endosulfan II (beta)	ug/L	<0.005	0.005	8529367
Endrin	ug/L	<0.005	0.005	8529367
Heptachlor	ug/L	<0.005	0.005	8529367
Heptachlor epoxide	ug/L	<0.005	0.005	8529367
Hexachlorobenzene	ug/L	<0.005	0.005	8529367
Hexachlorobutadiene	ug/L	<0.009	0.009	8529367
Hexachloroethane	ug/L	<0.01	0.01	8529367
Methoxychlor	ug/L	<0.01	0.01	8529367
Aroclor 1242	ug/L	<0.05	0.05	8529367
Aroclor 1248	ug/L	<0.05	0.05	8529367
Aroclor 1254	ug/L	<0.05	0.05	8529367
Aroclor 1260	ug/L	<0.05	0.05	8529367
<b>Surrogate Recovery (%)</b>				
2,4,5,6-Tetrachloro-m-xylene	%	75		8529367
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



**BUREAU  
VERITAS**

Bureau Veritas Job #: C354885  
Report Date: 2023/03/16

Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

**ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)**

<b>Bureau Veritas ID</b>		VDM213		
<b>Sampling Date</b>		2023/02/24 14:30		
<b>COC Number</b>		922166-01-01		
	<b>UNITS</b>	<b>BH23-04</b>	<b>RDL</b>	<b>QC Batch</b>
Decachlorobiphenyl	%	88		8529367
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



BUREAU  
VERITAS

Bureau Veritas Job #: C354885  
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Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

### TEST SUMMARY

**Bureau Veritas ID:** VDM205  
**Sample ID:** BH23-03 SS1  
**Matrix:** Soil

**Collected:** 2023/02/21  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8524831	N/A	2023/02/27	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8535302	2023/03/05	2023/03/05	Joy Zhang
OC Pesticides Summed Parameters	CALC	8522369	N/A	2023/02/28	Automated Statchk

**Bureau Veritas ID:** VDM205 Dup  
**Sample ID:** BH23-03 SS1  
**Matrix:** Soil

**Collected:** 2023/02/21  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8524831	N/A	2023/02/27	Simrat Bhathal

**Bureau Veritas ID:** VDM206  
**Sample ID:** MW23-02 SS2  
**Matrix:** Soil

**Collected:** 2023/02/21  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8524831	N/A	2023/02/27	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8535302	2023/03/05	2023/03/05	Joy Zhang
OC Pesticides Summed Parameters	CALC	8522369	N/A	2023/02/28	Automated Statchk

**Bureau Veritas ID:** VDM207  
**Sample ID:** BH23-04 SS1  
**Matrix:** Soil

**Collected:** 2023/02/22  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8524831	N/A	2023/02/27	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8535302	2023/03/05	2023/03/05	Joy Zhang
OC Pesticides Summed Parameters	CALC	8522369	N/A	2023/02/28	Automated Statchk

**Bureau Veritas ID:** VDM208  
**Sample ID:** BH23-03 SS2  
**Matrix:** Soil

**Collected:** 2023/02/22  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8530553	2023/03/02	2023/03/02	Taslina Aktar

**Bureau Veritas ID:** VDM209  
**Sample ID:** BH23-01 SS2  
**Matrix:** Soil

**Collected:** 2023/02/23  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8524831	N/A	2023/02/27	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8535302	2023/03/05	2023/03/05	Joy Zhang
OC Pesticides Summed Parameters	CALC	8522369	N/A	2023/02/28	Automated Statchk



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Bureau Veritas Job #: C354885  
Report Date: 2023/03/16

Englobe Corp.  
Client Project #: 02211293.000  
Site Location: 40 FRANK NIGHBOR  
Sampler Initials: JB

### TEST SUMMARY

**Bureau Veritas ID:** VDM210  
**Sample ID:** BH123-01 SS2  
**Matrix:** Soil

**Collected:** 2023/02/23  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8527241	N/A	2023/02/28	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8535302	2023/03/05	2023/03/05	Joy Zhang
OC Pesticides Summed Parameters	CALC	8522369	N/A	2023/03/01	Automated Statchk

**Bureau Veritas ID:** VDM211  
**Sample ID:** BH23-01 SS7  
**Matrix:** Soil

**Collected:** 2023/02/23  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8530553	2023/03/02	2023/03/02	Taslina Aktar

**Bureau Veritas ID:** VDM211 Dup  
**Sample ID:** BH23-01 SS7  
**Matrix:** Soil

**Collected:** 2023/02/23  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8530553	2023/03/02	2023/03/02	Taslina Aktar

**Bureau Veritas ID:** VDM213  
**Sample ID:** BH23-04  
**Matrix:** Water

**Collected:** 2023/02/24  
**Shipped:**  
**Received:** 2023/02/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	8529367	2023/03/01	2023/03/04	Mahmudul Khan
OC Pesticides Summed Parameters	CALC	8522396	N/A	2023/03/03	Automated Statchk



### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.3°C
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Revised Report (2023/03/16): Site location amended per client request  
Revised Report (2023/03/14): Split report per client request

**Results relate only to the items tested.**



BUREAU  
VERITAS

Bureau Veritas Job #: C354885

Report Date: 2023/03/16

### QUALITY ASSURANCE REPORT

Englobe Corp.

Client Project #: 02211293.000

Site Location: 40 FRANK NIGHBOR

Sampler Initials: JB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8529367	2,4,5,6-Tetrachloro-m-xylene	2023/03/04	70	50 - 130	65	50 - 130	64	%		
8529367	Decachlorobiphenyl	2023/03/04	107	50 - 130	108	50 - 130	94	%		
8535302	2,4,5,6-Tetrachloro-m-xylene	2023/03/05	82	50 - 130	75	50 - 130	99	%		
8535302	Decachlorobiphenyl	2023/03/05	101	50 - 130	97	50 - 130	119	%		
8524831	Moisture	2023/02/27							1.6	20
8527241	Moisture	2023/02/28							2.7	20
8529367	a-Chlordane	2023/03/04	97	50 - 130	96	50 - 130	<0.005	ug/L	NC	30
8529367	Aldrin	2023/03/04	85	50 - 130	84	50 - 130	<0.005	ug/L	NC	30
8529367	Aroclor 1242	2023/03/04					<0.05	ug/L	NC	30
8529367	Aroclor 1248	2023/03/04					<0.05	ug/L	NC	30
8529367	Aroclor 1254	2023/03/04					<0.05	ug/L	NC	30
8529367	Aroclor 1260	2023/03/04					<0.05	ug/L	NC	30
8529367	Dieldrin	2023/03/04	104	50 - 130	104	50 - 130	<0.005	ug/L	NC	30
8529367	Endosulfan I (alpha)	2023/03/04	103	50 - 130	96	50 - 130	<0.005	ug/L	NC	30
8529367	Endosulfan II (beta)	2023/03/04	89	50 - 130	81	50 - 130	<0.005	ug/L	NC	30
8529367	Endrin	2023/03/04	96	50 - 130	97	50 - 130	<0.005	ug/L	NC	30
8529367	g-Chlordane	2023/03/04	99	50 - 130	92	50 - 130	<0.005	ug/L	NC	30
8529367	Heptachlor epoxide	2023/03/04	96	50 - 130	96	50 - 130	<0.005	ug/L	NC	30
8529367	Heptachlor	2023/03/04	90	50 - 130	65	50 - 130	<0.005	ug/L	NC	30
8529367	Hexachlorobenzene	2023/03/04	85	50 - 130	86	50 - 130	<0.005	ug/L	NC	30
8529367	Hexachlorobutadiene	2023/03/04	75	50 - 130	81	50 - 130	<0.009	ug/L	NC	30
8529367	Hexachloroethane	2023/03/04	66	50 - 130	69	50 - 130	<0.01	ug/L	NC	30
8529367	Lindane	2023/03/04	84	50 - 130	85	50 - 130	<0.003	ug/L	NC	30
8529367	Methoxychlor	2023/03/04	102	50 - 130	96	50 - 130	<0.01	ug/L	NC	30
8529367	o,p-DDD	2023/03/04	102	50 - 130	102	50 - 130	<0.005	ug/L	NC	30
8529367	o,p-DDE	2023/03/04	94	50 - 130	96	50 - 130	<0.005	ug/L	NC	30
8529367	o,p-DDT	2023/03/04	97	50 - 130	92	50 - 130	<0.005	ug/L	NC	30
8529367	p,p-DDD	2023/03/04	100	50 - 130	98	50 - 130	<0.005	ug/L	NC	30
8529367	p,p-DDE	2023/03/04	99	50 - 130	98	50 - 130	<0.005	ug/L	NC	30
8529367	p,p-DDT	2023/03/04	105	50 - 130	98	50 - 130	<0.005	ug/L	NC	30
8530553	Available (CaCl2) pH	2023/03/02			100	97 - 103			0.26	N/A



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Bureau Veritas Job #: C354885

Report Date: 2023/03/16

### QUALITY ASSURANCE REPORT(CONT'D)

Englobe Corp.

Client Project #: 02211293.000

Site Location: 40 FRANK NIGHBOR

Sampler Initials: JB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8535302	a-Chlordane	2023/03/05	97	50 - 130	81	50 - 130	<0.0020	ug/g	NC	40
8535302	Aldrin	2023/03/05	90	50 - 130	82	50 - 130	<0.0020	ug/g	NC	40
8535302	Aroclor 1242	2023/03/05					<0.015	ug/g	NC	40
8535302	Aroclor 1248	2023/03/05					<0.015	ug/g	NC	40
8535302	Aroclor 1254	2023/03/05					<0.015	ug/g	NC	40
8535302	Aroclor 1260	2023/03/05					<0.015	ug/g	NC	40
8535302	Dieldrin	2023/03/05	92	50 - 130	76	50 - 130	<0.0020	ug/g	NC	40
8535302	Endosulfan I (alpha)	2023/03/05	103	50 - 130	73	50 - 130	<0.0020	ug/g	NC	40
8535302	Endosulfan II (beta)	2023/03/05	66	50 - 130	66	50 - 130	<0.0020	ug/g	NC	40
8535302	Endrin	2023/03/05	91	50 - 130	71	50 - 130	<0.0020	ug/g	NC	40
8535302	g-Chlordane	2023/03/05	94	50 - 130	78	50 - 130	<0.0020	ug/g	NC	40
8535302	Heptachlor epoxide	2023/03/05	91	50 - 130	69	50 - 130	<0.0020	ug/g	NC	40
8535302	Heptachlor	2023/03/05	76	50 - 130	69	50 - 130	<0.0020	ug/g	NC	40
8535302	Hexachlorobenzene	2023/03/05	82	50 - 130	75	50 - 130	<0.0020	ug/g	NC	40
8535302	Hexachlorobutadiene	2023/03/05	96	50 - 130	91	50 - 130	<0.0020	ug/g	NC	40
8535302	Hexachloroethane	2023/03/05	76	50 - 130	70	50 - 130	<0.0020	ug/g	NC	40
8535302	Lindane	2023/03/05	81	50 - 130	68	50 - 130	<0.0020	ug/g	NC	40
8535302	Methoxychlor	2023/03/05	60	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8535302	o,p-DDD	2023/03/05	95	50 - 130	82	50 - 130	<0.0020	ug/g	NC	40
8535302	o,p-DDE	2023/03/05	92	50 - 130	79	50 - 130	<0.0020	ug/g	NC	40
8535302	o,p-DDT	2023/03/05	79	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
8535302	p,p-DDD	2023/03/05	89	50 - 130	78	50 - 130	<0.0020	ug/g	NC	40
8535302	p,p-DDE	2023/03/05	89	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40



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VERITAS

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### QUALITY ASSURANCE REPORT(CONT'D)

Englobe Corp.

Client Project #: 02211293.000

Site Location: 40 FRANK NIGHBOR

Sampler Initials: JB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8535302	p,p-DDT	2023/03/05	75	50 - 130	95	50 - 130	<0.0020	ug/g	NC	40
<p>N/A = Not Applicable</p> <p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference &lt;= 2x RDL).</p>										





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Sampler Initials: JB

### VALIDATION SIGNATURE PAGE


The analytical data and all QC contained in this report were reviewed and validated by:

*Cristina Carriere*

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Cristina Carriere, Senior Scientific Specialist

*Ewa Pranjic*



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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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