

# **Phase Two Environmental Site Assessment – Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**

Final Report

March 18, 2026

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This report is limited by the following deviations in the sampling and analysis plan.

- Due to a physical impediment (i.e., a snow pile) at the southeast corner of the Site, the proposed location for borehole MW26-05 was adjusted slightly northward at the time of drilling.
- Insufficient groundwater recharge.
- Absence of well headspace vapour concentration.
- Groundwater flow direction flow interpretation.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.



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The conclusions are based on the Site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, Site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire Site. As the purpose of this report is to identify Site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the Site is beyond the scope of this assessment.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

This project and report were managed and prepared, respectively, by Mandy Witteman. This report was reviewed and/or approved for transmittal by Jaka Suryana and Jill Peters Dechman.



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## Executive Summary

Costco Wholesale Canada Ltd. (Costco) retained Stantec Consulting Ltd. (Stantec) to conduct a Phase Two Environmental Site Assessment (ESA) on the northeast part of 1900 Cyrville Road, Ottawa, Ontario, hereinafter referred to as the “Phase Two Property” or the “Site”.

The Phase Two Property consists of an asphalt paved parking area, approximately 2,858 square metres in size, and is bounded by parking areas to the north, west, and south, and by Cyrville Road to the east. The Site is located on the west side of Cyrville Road, approximately 30 metres (m) south of Innes Road. The Phase Two Property is designated and used for commercial parking associated with the off-site adjacent Costco Business Centre.

The Phase Two ESA was conducted in support of a Site Plan Control Application for a proposed Costco retail fuel facility at the Site. Stantec understands that a Record of Site Condition is not required by the Ontario Ministry of the Environment, Conservation and Parks (MECP), as the future land use of the Phase Two Property will remain unchanged from its existing commercial use. As such, the Phase Two ESA has been completed in general accordance with Ontario Regulation 153/04 (O. Reg. 153/04), as amended.

The objectives of the Phase Two ESA are to assess the soil and groundwater quality at the Phase Two Property with respect to areas of potential environmental concern (APECs), their related potentially contaminating activities (PCAs), and their respective contaminants of potential concern (COPCs) identified in the Phase One ESA completed by Stantec, entitled “*Phase One Environmental Site Assessment – Northeast Part of 1900 Cyrville Road, Ottawa, Ontario*”, dated March 3, 2026.

Based on the findings of the Phase One ESA, Stantec identified the following three APECs at the Phase One Property:

- APEC-1: *Item 30 - Importation of Fill Material of Unknown Quality*, resulting from the redevelopment of the Site in circa 1991, as identified during the 2025 subsurface investigation (PCA-1);
- APEC-2: *Other - Soil Contamination*, resulting from the on-site petroleum hydrocarbon (PHC) fraction 2 (F2)-impacted soil identified during the 2025 excess soil sampling program conducted by Stantec (PCA-2);
- APEC-3a: *Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems*, resulting from off-site historical commercial bus operations located at 1500-1550 Innes Road (now 1720 Innes Road and 1901 Cyrville Road), approximately 30 m east of the Site (PCA-3a); and
- APEC-3b: *Other - Hazardous Waste Generation*, resulting from the off-site historical commercial bus operations at 1500-1550 Innes Road (PCA-3b).

An initial subsurface investigation was completed in February 2025 by Stantec, consisting of an advancement of four boreholes across the Site (MW25-01, and BH25-02 to BH25-04), of which, one was instrumented with a monitoring well (MW25-01). A subsequent subsurface field program was completed between February 19 and 24, 2026, including an advancement of two additional boreholes at the Phase Two Property, both of which were instrumented with groundwater monitoring wells (MW26-05 and MW26-06). Boreholes were advanced to depths ranging from 3.7 m below ground surface (BGS) to 9.6 m BGS.



Soils encountered beneath the asphalt pavement generally consisted of fill material comprising silty sand with gravel and traces of clay, underlain by sand with some silt and gravel and traces of clay. This was followed by glacial till consisting of sandy silt with some crushed stone and traces of clay, underlain by weathered shale. Practical refusals at the bedrock surface were encountered at depths of 6.1 m BGS (MW26-05), 6.7 m BGS (MW26-06), and 7.7 m BGS (BH25-02). No evidence of contamination, staining, or unusual odours was observed during drilling or soil sampling.

A total of 16 soil samples were submitted for analysis of benzene, toluene, ethylbenzene, xylenes (BTEX), PHC fractions 1 to 4 (F1–F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals and/or inorganics. Laboratory results for all soil samples analyzed as part of this investigation reported concentrations below the applicable Table 3 Site Condition Standards (SCS), with the exception of a PHC F2 exceedance in soil at location MW25-01 (1,300 micrograms per gram [ $\mu\text{g/g}$ ]) at a depth of approximately 2.3–2.9 m BGS. The applicable Table 3 SCS for soil PHC F2 is 230  $\mu\text{g/g}$ .

Groundwater monitoring and sampling of the three monitoring wells (MW25-01, MW26-05 and MW26-06) were conducted on February 24, 2026. No signs of contamination were observed during this event. Groundwater samples from the three monitoring wells were analyzed for BTEX, PHC F1–F4, VOCs, and/or PAHs. Laboratory results for all analyzed groundwater samples reported concentrations below the applicable Table 3 SCS.

Quality assurance/quality control (QA/QC) measured were implemented during the Phase Two ESA through field and laboratory QA/QC. No QA/QC deficiencies were identified during the Phase Two ESA.

## **Recommendations**

### Soil

Based on the results of the Phase Two ESA, PHC F2-impacted soil, considered localized in the vicinity of MW25-01 at depths of approximately 2.3–2.9 m BGS, requires remediation. As this location corresponds to the future underground storage tank nest, as per Costco, Stantec recommends that the soil impact remediation be undertaken at the time of the Site redevelopment. Impacted soil should be excavated and transported to a Class 1 soil management facility for appropriate off-site disposal, and a qualified environmental consultant should be present to characterize the soil conditions within the final extent of the excavation.

Stantec understands that excess soil generation is anticipated during redevelopment of the Phase Two Property. Accordingly, a Soil Management Plan should be developed, incorporating the findings and recommendations of the 2025 Preliminary Excess Soil Sampling Program and this Phase Two ESA.

### Groundwater Monitoring Wells

If the monitoring wells installed on the Site are not going to be used in the future, or will be destroyed during site redevelopment, they should be abandoned according to O. Reg. 903. In the meantime, the wells will be registered with the MECP under this regulation.

The statements made in this Executive Summary are subject to the limitations included in the previous section above and are to be read in conjunction with the remainder of this report.



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# 1 Introduction

Costco Wholesale Canada Ltd. (Costco) retained Stantec Consulting Ltd. (Stantec) to conduct a Phase Two Environmental Site Assessment (ESA) on the northeast part of 1900 Cyrville Road, Ottawa, Ontario, hereinafter referred to as the "Phase Two Property" or the "Site". The Phase Two Property is located on the west side of Cyrville Road, approximately 30 metres (m) south of Innes Road, and exists as an asphalt paved parking area associated with the adjacent off-site Costco Business Centre operations.

The Phase Two ESA was conducted in support of a Site Plan Control Application (SPCA) for a proposed retail fuel outlet (RFO) facility development at the Site by Costco. Stantec understands that a Record of Site Condition (RSC) is not required by the Ontario Ministry of Environment, Conservation, and Parks (MECP) since the land use of the Phase Two Property will remain unchanged from its current commercial use. This Phase Two ESA was completed in general accordance with Ontario Regulation (O. Reg.) 153/04, as amended.

The objective of the Phase Two ESA is to assess the soil and groundwater quality at the Phase Two Property with respect to three areas of potential environmental concerns (APECs) and their respective contaminants of potential concern (COPCs) identified in the Phase One ESA completed by Stantec in March 2026 (Stantec, 2026).

## 1.1 Site Description

The Phase Two Property consists of an exterior parking lot with some landscaped area associated with the off-site Costco Business Centre operations and an access road fronting Cyrville Road on the north portion. A survey of the Phase Two Property is provided in **Appendix A**. Figures presenting the Site location and Site features are included on **Figure No. 1** and **Figure No. 2**, respectively. Information on the Phase Two Property is provided in **Table A** below.

**Table A: Phase Two Property Information**

Phase Two Property	Description
Municipal Address	Northeast part of 1900 Cyrville Road, Ottawa, Ontario
Legal Description	Part of Lot 22, Concession 3 of Ottawa Front, in the Geographical Township of Gloucester (now in the City of Ottawa), Northeast Portion of Part 1 of Plan 5R-13035.
Property Identification Number (PIN)	04351-0007 (northeast portion)
Coordinates (UTM)	18T 452878.14 E, 5029298.35 m N
Area	Approximately 0.29 hectares (ha)
Zoning*	GM12 – General Mixed-Use Zone (City of Ottawa Zoning By-law 2008-250)
Current Use	Vehicular parking associated with the Costco Business Centre
Utility Services	Municipal water and sanitary/sewer services



\* Note that a new Zoning By-law was approved by the Ottawa City Council on January 28, 2026 (New Zoning By-law 2026-50 – FINAL DRAFT). The Phase Two ESA Property is zoned as MS2 – Mixed Use Zone (Mainstreet) in the new Zoning By-law. An enactment of this new Zoning By-law is anticipated to be in mid-March 2026.

## **1.2 Property Ownership**

The Phase Two Property is currently owned by Costco Wholesale Canada Ltd. Stantec was commissioned by Costco Wholesale Canada Ltd. to conduct this Phase Two ESA. Contact information for the Phase Two Property owner is as follows:

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## **1.3 Current and Proposed Future Uses**

The Phase Two Property is currently an exterior asphalt paved parking area associated with the off-site Costco Business Centre operations adjacent to the Site. The Phase Two Property is currently proposed for an RFO. The proposed future land use will remain unchanged from the current commercial use, such that, an RSC is not required by the MECP, as per O. Reg. 153/04.

## **1.4 Applicable Site Condition Standards**

The applicable MECP Site Condition Standards (SCS) for the Phase Two Property were obtained from the MECP document entitled, “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,” (MECP, 2011) .

Selection of the applicable SCS for the Phase Two Property was based on Stantec’s review of site-specific characteristics of the Site, in accordance with the following sections of O. Reg. 154/03, as amended.

### **Non-Potable Site Condition Standards**

Section 35 applies if the Phase Two Property and properties within 250 m of the Site perimeter (the Study Area) do not rely upon potable groundwater.

A review of the MECP Well Records database for potable water wells indicated that there are no known potable wells at the Phase Two Property (MECP, 2014). Although potable well records from 1948 to 1962 were identified within the Study Area, Stantec inferred that these historical potable wells no longer exist and/or are not used for domestic use, given that potable water for the Phase Two Property and the surrounding properties is supplied by the municipality potable water distribution system sourced from the Ottawa River. Therefore, Section 35 applies to the Phase Two Property.



## Environmentally Sensitive Area

Section 41 states that a property is classified as an “environmentally sensitive area” if the pH of the surface soil (less than or equal to 1.5 metres below the ground surface [m BGS]) is less than 5 or greater than 9, or the pH of the subsurface soil (greater than 1.5 m BGS) is less than 5 or greater than 11, or the property is an area of natural scientific interest (ANSI) or is adjacent to or contains land within 30 m of an ANSI. Based on the Ontario Ministry of Natural Resources (MNR)’s Natural Heritage map, the Phase Two Property is neither situated in an ANSI nor adjacent to or contains land within 30 m of an ANSI (MNR, 2023).

Additionally, several representative soil samples were collected from the boreholes advanced at the Phase Two Property and submitted for pH analysis during the Phase Two ESA investigation. The soil pH results ranging from 7.65 to 8.12, were within the acceptable range of the standards. As such, Section 41 of O. Reg. 153/04 does not apply to the Site. The Phase Two Property is not classified as an environmentally sensitive area.

## Shallow Soil Property or Water Body

Section 43.1 applies to a property if the property is a shallow soil property in which one third ( $\frac{1}{3}$ ) or more of the area consists of soil equal to or less than 2 m in depth beneath the soil surface, excluding any non-soil surface treatment such as asphalt, concrete or aggregate, or the property includes all or part of a water body, or is adjacent to a water body, or includes land that is within 30 m of a water body.

The Phase Two Property neither contains in whole, or part of, a water body, nor it is located within 30 m of a water body. Based on the Geological Survey of Canada Surficial and Subsurface Mapping, bedrock in the area of the Phase Two Property is expected to be located between 5 and 10 m BGS (GSC, 2008). Additionally, bedrock was encountered during the Phase Two ESA investigation at location MW25-01 (BH25-01) at 7.6 m BGS. Practical refusal at the inferred bedrock surfaces were also encountered at locations BH25-02, MW26-05, and MW26-06 at depths of approximately from 6.1 to 7.7 m BGS. Given the above, Section 43.1 of O. Reg. 153/04 does not apply to the Phase Two Property (i.e., the Phase Two Property is not a shallow soil property).

## Soil Texture

Section 42.1 states that if the Qualified Person (QP) determines that at least  $\frac{1}{3}$  of the soil at the property, measured by volume, consists of coarse textured soil, then coarse textured soil standards shall be applied. In any other case, the QP may apply the standard for medium and fine textured soil. As defined in Section 42.2 of O. Reg. 153/04:

- “*Coarse textured soil*” means soil that contains more than 50 percent by mass of particles that are 75 micrometres ( $\mu\text{m}$ ) or larger in mean diameter; and
- “*Medium and fine textured soil*” means soil that contains 50 percent or more by mass of particles that are smaller than 75  $\mu\text{m}$  in mean diameter.

Eight representative soil samples were collected as part of a 2025 subsurface investigation (Stantec, 2025a; Stantec, 2025b) at sample depths ranging from approximately 0.75 to 6.7 m BGS and submitted to for grain size analysis.



Based on the analytical results, six of the eight soil samples comprised of 60 percent (or more) by mass of soil particles greater than 75 µm, classifying the soil as coarse grain, as defined by Section 42.2 of O. Reg. 153/04 – these results are consistent with the field observations recorded during the field program, as discussed further in **Section 5**.

### **Applicable Site Condition Standards**

Based on review of the property characteristics presented above, the following is considered applicable at the Phase Two Property:

- Full-depth soil condition;
- Coarse-grained soil condition;
- Non-potable groundwater condition; and
- Current and future Industrial/Commercial/Community (ICC) property use.

Given the above, the applicable standards for the Phase Two Property are the MECP Table 3 SCS for coarse-grained soils and ICC use with non-potable groundwater condition (the applicable Table 3 SCS).



## 2 Background Information

### 2.1 Physical Setting

The Phase Two Property is currently an exterior commercial parking area with a civic address of 1900 Cyrville Road (northern portion), associated with the off-site adjacent Costco Business Centre. The Site is located on the west side of Cyrville Road, approximately 30 m south of Innes Road. The Phase Two Property consists of an asphalt-concrete paved parking area encompassing approximately 2,858 square metres (m<sup>2</sup>) of land, as shown on **Figure No. 2**.

The Study Area includes the Site and surrounding properties within a 250 m perimeter of the Site boundaries. The Phase Two Property is situated in a general mixed-use zone consisting primarily of commercial land uses along Innes Road and Cyrville Road, and residential land uses farther north and northeast, off the main arterial roads (**Figure No. 3**).

The Site is situated slightly above the grade of the adjacent parking areas to the north, west, and south, and above Cyrville Road to the east. Site drainage consists primarily of sheet flow towards two on-site stormwater catch basins and towards off-site catch basins located on the north and south sides of the parking lot, respectively. Some infiltration is expected to occur within the landscaped area along the eastern side of the Site, with some overflow directed toward catch basins along Cyrville Road.

Based on an available topographic map for the area, the Phase Two Property is located at approximately 64 metres above mean sea level (m AMSL) and appears to slope slightly toward the south/southeast in the direction of Ruisseau Green's Creek, located approximately 120 m southeast of the Site (NRC, 2021). Surface drainage and inferred groundwater flow in the area are expected to follow the local topography in a southeasterly direction toward the creek.

It should be noted that the elevation of the local groundwater table may be influenced by subsurface structures such as building foundations, weeping tiles, and underground utility corridors. These features can result in spatially variable groundwater elevations that do not necessarily reflect the regional groundwater flow pattern or mimic the Site topography.

The geology in the area of the Phase Two Property consists of silt and fine glaciomarine deposits (OGS, 2010) with an overburden thickness ranging from 5 to 10 m (GSC, 2008), overlying shale with interbedded limestone bedrock of the Billings Formation (OGS, 2007). The geology of the area is consistent with the physiographic region of the Central St. Lawrence Lowlands.

A review of the MECP Source Protection Information Atlas indicates that the Phase Two Property and surrounding area are not located, in whole or in part, within an Intake Protection Zone (IPZ) or a Wellhead Protection Area (WHPA) identified by the City of Ottawa for groundwater protection (MECP, 2024).

As previously discussed in **Section 1.4**, the Phase Two Property is not located on or adjacent to an area of natural significance.



## 2.2 Past Investigations

### 2025 Subsurface Investigation

Stantec conducted a due diligence excess soil sampling program in conjunction with a geotechnical subsurface investigation for the Site. The Sampling and Analysis Plan (SAP) for the limited excess soil program was developed based on a preliminary record review of the Environmental Risk Information Services (ERIS) reports and aerial images for the Site and the neighbouring properties. Two potential environmental concerns in relation to the Site were identified as fill material of unknown quality and a historical operation (i.e., private fuel outlet [PFO] and a repair garage) of a commercial bus company at the adjacent east properties at 1720 Innes Road and 1901 Cyrville Road (formerly 1500 - 1550 Innes Road).

The subsurface investigation was carried out on February 27 and 28, 2025, and consisted of the advancement of four boreholes (MW25-01 and BH25-02 through BH25-04) across the Site, of which, one was completed as a groundwater monitoring well (MW25-01). No groundwater sample was submitted as part of this subsurface investigation. The locations of the boreholes and monitoring well are presented in **Figure No. 2**.

The Site geology encountered during the 2025 field investigation (Stantec, 2025b) beneath the asphalt consisted of fill material, followed by silty sand/sand with silt, underlain by till, followed by shale (weathered) bedrock. Fill material comprised of silty sand or sandy silt with gravel was encountered at all borehole locations. Bedrock was encountered at MW25-01 at 7.6 m BGS. Practical refusal to augering at inferred bedrock surface was encountered at BH25-02 at a depth of 7.7 m BGS. Field observations (i.e., native overburden and thickness, and bedrock geology) are consistent with the geological mapping of the Site as discussed in **Section 2.1**.

Ten soil samples were collected and submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), petroleum hydrocarbon fractions 1 to 4 (PHC F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals and inorganics as part of the preliminary excess soil sampling program (Stantec, 2025a).

As part of this assessment, the analytical results for soil were compared to the applicable Table 3 SCS. Based on the analytical results from 2025, the PHC F2 concentration in soil from location MW25-01 at the sample depth interval of 2.3 m to 2.9 m BGS exceeded the applicable Table 3 SCS.

### 2026 Phase One ESA

Stantec conducted a Phase One ESA in general accordance with O. Reg. 153/04, as amended, in support of the SPCA for the proposed RFO at the Site. Based on the assessment of historical and current uses of the Phase One Property and properties within the Phase One Study Area, four on-site and off-site potentially contaminating activities (PCAs) (PCA-1, PCA-2, PCA-3a, and PCA-3b) were determined to contribute to APECs at the Phase One Property (i.e., the Site), with the potential to impact the soil and groundwater quality at the Site. Stantec also identified eight additional off-site PCAs, however, these off-site PCAs were not considered to contribute to APECs at the Site based on the separation distances of these PCAs relative to the Phase One Property, the downgradient or cross-gradient locations relative to the inferred groundwater flow direction in the Phase One Study Area and/or the nature of operations and potential contaminants related to these operations.



**Phase Two Environmental Site Assessment – Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**

**2 Background Information**

March 18, 2026

A summary of the APECs, their locations at the Phase One Property, related PCAs, and COPCs associated with each PCA is provided in **Table B** and shown on **Figure No. 4**.

**Table B: Areas of Potential Environmental Concern**

<b>APEC No. (Description)</b>	<b>Location of APEC on Phase One Property</b>	<b>PCA Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)</b>	<b>Location of PCA (on- / off-site)</b>	<b>Contaminants of Potential Concern<sup>1</sup></b>	<b>Media Potentially Impacted (Groundwater, Soil and/or Sediment)</b>
<b>APEC-1</b> Fill material of unknown quality (PCA-1)	Across entire Phase One Property	Item 30 - Importation of Fill Material of Unknown Quality	On-Site	BTEX PHC F1-F4 PAHs Metals As, Sb, Se	Soil
<b>APEC-2</b> Identified PHC-impacted soil (PCA-2)	Northwest corner of Phase One Property	Other - Soil Contamination	On-Site	BTEX PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3a</b> Former commercial bus depot operations, including a PFO and repair garage at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3a)	Eastern Part of Phase One Property	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3b</b> Former hazardous waste generator associated with the commercial bus depot operations located at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3b)	Eastern Part of Phase One Property	Other - Hazardous Waste Generation	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater

**Notes:**

<sup>1</sup> – Contaminants of Potential Concern (COPCs):

BTEX: Benzene, Toluene, Ethylbenzene and Xylenes

PAHs: Polycyclic Aromatic Hydrocarbons

PHC F1-F4: Petroleum Hydrocarbon Fractions 1 to 4

VOCs: Volatile Organic Compounds

Hydride-forming metals: Arsenic (As), Antimony (Sb), Selenium (Se)

Based on the presence of the above APECs at the Site, Stantec recommended a Phase Two ESA to investigate the soil and groundwater quality.

Stantec has incorporated relevant findings of the 2025 subsurface investigation into this report to support the overall objectives of this Phase Two ESA, in accordance with O. Reg. 153/04.



## 3 Scope of the Investigation

### 3.1 Overview of Site Investigation

The Phase Two Subsurface Investigation was conducted during the 2025 subsurface investigation on February 27 and 28, 2025, and during the supplemental investigation in the interim of February 19 to 24, 2026.

A summary of the Phase Two Subsurface Investigation consisted of the following:

- Prepared a health and safety plan and arranged for the completion of underground utility locate clearance prior to the commencement of drilling activities.
- Prepared an SAP based on the Phase One Conceptual Site Model (Phase One CSM). The SAP was developed to meet the objectives of the Phase Two ESA prior to the subsurface drilling program. A summary of the SAP, entitled “*Phase Two ESA – Sampling and Analysis Plan for the Northeast Part of 1900 Cyrville Road, Ottawa, Ontario,*” dated February 2026 is provided in **Appendix B**.
- Retained driller subcontractor(s), licensed by the MECP in accordance with Revised Regulations of Ontario (R.R.O.) 1990, Regulation (Reg.) 903, as amended, to undertake borehole drilling and well installation activities.
  - Six boreholes were advanced, three of which were instrumented with monitoring wells.
- Collected soil samples at set intervals within each borehole. Stantec logged and field screened the soil samples for visual/olfactory evidence of impacts, as well as for combustible vapour concentrations (CVC) and total organic vapour (TOV) concentrations.
- Submitted select soil samples from each borehole for laboratory analysis of BTEX, PHC F1-F4, PAHs, VOCs, and/or metals including hydrides (As, Sb, Se).
- Submitted one duplicate soil sample for every ten samples submitted for laboratory analysis of select parameters for quality assurance/quality control (QA/QC) purposes.
- Developed each of the monitoring wells prior to the collection of groundwater samples.
- Conducted well monitoring which consisted of measurements of the well headspace CVC and TOV concentrations, the depths to groundwater, the depths to light/dense non-aqueous phase liquids (LNAPLs/DNAPLs), if present, and total well depths.
- Collected representative groundwater samples from the monitoring wells for laboratory analysis of BTEX, PHCs F1-F4, PAHs and/or VOCs.
- Collected one duplicate groundwater sample and one trip blank for the groundwater sampling program for the laboratory analysis of selected parameters and VOCs, respectively, for QA/QC purposes.



### 3 Scope of the Investigation

March 18, 2026

- Surveyed geodetic elevations of all monitoring wells at the Phase Two Property.
- Submitted samples collected for analytical testing to analytical laboratory provider(s). Formal chain-of-custody records of the sample submissions were maintained between Stantec and the analytical laboratories.
- Soil cuttings and liquids produced during this Phase Two ESA (i.e., purged groundwater produced during well development and sampling, and cleaning solution used to decontaminate the sampling equipment) were collected and sealed in 205-litre (55 gallon) plastic drums. These drums were stored temporarily at the Phase Two Property in order to be properly manifested/ disposed of by the waste facility manager.

Detailed investigation method is discussed further in **Section 4**.

## 3.2 Media Investigated

The scope of work for this Phase Two ESA was to address the APECs and corresponding media at the Phase Two Property as identified through the completion of the Phase One ESA, based on the identified on-site and off-site PCAs contributing to APECs at the Site and their corresponding COPCs, and the media of concern at the Phase Two Property.

Soil and groundwater were assessed at the Phase Two Property for the potential presence of COPCs associated with the APECs, as summarized in **Table B** above. Sediment was not considered a media of concern in this assessment as there are no surface water bodies in and or near the Phase Two Property, and therefore, no sources of sediment were considered to be present on-site.

A total of six boreholes (MW25-01, BH25-02 through BH25-04, MW26-05 and MW26-06) were advanced across the Phase Two Property within each identified APEC between February 27, 2025 and February 19, 2026 for the purpose of soil investigation. A total of 16 soil samples, including two field duplicates, from the boreholes were submitted for laboratory analysis of BTEX, PHC F1-F4, VOCs, PAHs, and/or metals and inorganics.

Groundwater monitoring wells were installed at three of the advanced boreholes (MW25-01, MW26-05 and MW26-06). A total of four groundwater samples, including one field duplicate, were collected and submitted for laboratory analysis of BTEX, PHC F1-F4, VOCs, and/or PAHs.

## 3.3 Phase One Conceptual Site Model

A conceptual site model (CSM) was created to provide a summary of the findings of the Phase One ESA. The Phase One CSM is summarized on **Figure No. 1** to **Figure No. 4**, which illustrate features and details in relation to the Phase One Property and the Phase One Study Area. In general, the figures illustrate the following, where applicable:

- Existing buildings and structures on the Phase One Property;
- Underground utilities and services at the Phase One Property;
- Geological and hydrogeological setting of the Phase One Property;
- Potable water wells located at the Phase One Property and Phase One Study Area;
- Water bodies and areas of natural significance located in whole or in part within the Phase One Study Area;



- Adjacent and neighbouring land uses;
- PCAs within the Phase One Study Area; and
- APECs at the Phase One Property.

The following provides a narrative summary of the Phase One CSM.

### **Existing Buildings and Structures**

Three street-parking lights (two on the west side and one on the east side) and a shopping cart park area (near the south-central portion) were identified at the Phase One Property. No other permanent above-ground buildings or structures are present at the Phase One Property.

### **Underground Utilities and Services**

Underground service locates were completed prior to the 2025 on-site subsurface drilling program. Identified utility services at the Phase One Property included municipal sanitary and sewer services, and electricity line that was observed to enter the northern part of the Phase One Property from the Innes Road.

Underground service corridors are generally situated at 1.5 to 2.5 m BGS and may act as a preferential pathway for contaminant transport and distribution. Utilities and services at the Phase One Property are shown on **Figure No. 4**.

### **Importation of Fill Material**

It is expected that the fill material of unknown origin was imported to grade the Phase One Property during redevelopment circa 1991. Fill material was observed at the Site during the 2025 subsurface investigation, as such, fill material of unknown quality across the Site was considered to contribute to an APEC (**APEC-1**) at the Phase One Property.

### **Geological Setting**

Based the OGS maps, the native surficial soils in the immediate are of the Phase One Property were identified to consist of silt and fine glaciomarine deposits (OGS, 2010). The reported overburden thickness ranges between 5 to 10 m BGS (GSC, 2008). Bedrock in the area of the Phase One Study Area is reported to consist of shale with limestone bedrock of the Billings Formation (OGS, 2007).

The Site geology encountered during the 2025 field investigation (Stantec, 2025b) consisted of silty sand/sand with silt, followed by till, overlying shale bedrock. Bedrock was encountered at MW25-01 at 7.6 m BGS. Practical refusal to augering at the inferred bedrock surface was encountered at BH25-02 at 7.7 m BGS. Wet soil conditions were encountered at approximate depths ranging from 3.2 to 4.6 m BGS at BH25-03 and BH25-01, respectively. These field observations are consistent with the OGS geological mapping of the Phase One Property.



### Inferred Groundwater Flow Direction

The Phase One Property is located approximately 64 m AMSL and slopes gently southeast/east toward Green's Creek, approximately 120 m southeast of the Site. Surface drainage and inferred groundwater flow are expected to mimic the local topography in a southeasterly direction towards the creek.

It should be noted that the elevation of the local groundwater table can be influenced by the presence of subsurface structures, such as building foundations, weeping tiles, and underground utility corridors that may result in spatially variable elevations that do not reflect the local groundwater flow or replicate the Site topography.

### Potable Water Wells

No potable well records were identified at the Phase One Property. 15 potable drinking wells were identified within the Phase One Study Area, all of which were drilled between 1948 to 1962. It is expected that these potable wells no longer exist given that potable drinking water in the Phase One Property and surrounding areas is serviced through the municipal distribution system sourced from the Ottawa River.

### Water Bodies and Areas of Natural Significance

Based on the Ontario MNR's Natural Heritage map, the nearest body of water is Green's Creek, located 120 m southeast of the Phase One Property, as shown on **Figure No. 2**. No areas of natural significance were identified within the Phase One Study Area, as shown on **Figure No. 3**.

### Neighbouring Land Uses

Neighbouring land uses within the Phase One Study Area consists primarily of commercial lands along Innes Road and Cyrville Road with a residential subdivision further northeast of the Phase One Property, as shown on **Figure No. 3**.

### Potentially Contaminating Activities and Areas of Potential Environmental Concern

A total of 11 PCAs were identified, two of which were identified at the Phase One Property and nine off-site within the Phase One Study Area, as presented on **Figure No. 3**.

Based on the proximity, the downgradient or cross-gradient locations relative to the inferred groundwater flow direction in the Phase One Study Area and/or nature of each PCA and the COPCs related to these PCAs, two on-site and two off-site PCAs were considered to contribute to APECs at the Phase One Property, as presented on **Figure No. 4** and in **Table B** above.



### Contaminants of Potential Concern

The COPCs associated with the APECs with respect to the soil matrix and/or groundwater in, on or under the Phase One Property include the following:

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX);
- Petroleum Hydrocarbons, fractions 1 through 4 (PHCs, F1-F4);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Volatile Organic Compounds (VOCs); and
- Metals, including hydrides.

### Discussion of Uncertainty or Absence of Information

The information available for review as part of the preparation of the Phase One ESA was considered to be sufficient to conclude that there are PCAs that have resulted in APECs at the Phase One Property, and that there are no deviations from the Phase One ESA requirements specified in O. Reg. 153/04, or absence of information that has resulted in uncertainty that would affect the validity of the Phase One CSM.

## 3.4 Deviations from Sampling and Analysis Plan

Deviations from the SAP with respect to the groundwater monitoring and sampling program for this Phase Two ESA, occurred due to the actual Site conditions at the time of the site visit, and are as follows:

- MW25-01 – due to snow melt, surface water had pooled outside the well casing, and continued to flow inwards into the annulus of the well casing. The peristaltic pump was used to continuously remove surface water to prevent it from entering the well, and therefore, limiting the ability to measure water quality parameters. Groundwater samples were collected using a manual inertial pump method (Waterra® polyethylene tubing and foot valves), while the peristaltic pump was used to pump out any surface water from entering into the well.
- Groundwater was limited at MW26-05 during the time of sampling, suspected due to slow recharge following the well development. The field duplicate groundwater sample (QC-03), pairing with MW26-05, was submitted for the analysis of BTEX and PHC F1 only, rather than PHC F1-F4.

No other deviations from the SAP were encountered during the soil and groundwater investigations.

## 3.5 Impediments

Stantec had full access to the Phase Two Property throughout this Phase Two ESA, with the exception of a snow pile on the southeast corner of the Site, which limited the placement of drilling location MW26-05. For safety reasons, drilling locations were placed within safe clearance distance from the on-site underground services identified during the locate activities.

No other restrictions were encountered during completion of the Phase Two ESA.



## 4 Investigation Method

### 4.1 General

Stantec implemented the field investigations for this Phase Two ESA as provided in the SAP in **Appendix B**. The SAP was developed in accordance with the procedures and protocols provided in the following MECP documents entitled:

- “*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*”, dated December 1996;
- “*Guide for completing phase two environmental site Assessments under Ontario Regulation 153/04*”, dated March 2016, Updated October 2021; and
- “*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality*”, dated March 2004, amended as of February 2021.

### 4.2 Environmental Drilling Program

A total of four boreholes (MW25-01 and BH25-02 through BH25-04) were advanced at the Phase Two Property between February 27 and 28, 2025 during the 2025 subsurface investigation (Stantec, 2025a; Stantec, 2025b). One borehole was instrumented with a groundwater monitoring well (MW25-01). The boreholes were advanced using a truck mounted CME-55 drill rig operated by George Downing Estate Drilling Ltd. (Downing) of East Hawkesbury, Ontario. The boreholes were advanced using a hollow-stem auger drill method to depths ranging from 3.7 to 9.6 m BGS. Practical refusal to augering at the inferred bedrock surface was encountered in borehole BH25-02 at 7.7 m BGS.

Strata Drilling Group (Strata) of Stouffville, Ontario was retained to complete the environmental drilling program at the Phase Two Property on February 19, 2026. Two additional boreholes (MW26-05 and MW26-06) were advanced at the Phase Two Property, both of which were instrumented with groundwater monitoring wells. The boreholes were advanced using a combination of hydraulic push drilling and air rotary drilling methods to depths ranging from 6.1 to 6.9 m BGS at practical refusal. Air rotary drilling was used intermittently to advance through the suspected rocks and boulders in the sand and till layers, respectively. The boreholes were advanced using a Massenza MI3 track rig operated by Strata.

Downing and Strata are both licensed well contractors under R.R.O. 1990, Reg. 903 of the *Ontario Water Resources Act*. Stantec personnel was present during the February 2025 and February 2026 drilling activities at the Phase Two Property.

Procedures and methods pertaining to overburden drilling using hollow-stem auger, hydraulic push, and/or rotary drilling methods are provided in the SAP (**Appendix B**).



### 4.3 Soil Sampling

Split-spoon (SS) soil sampling was conducted during the February 2025 field program using the hollow-stem auger drilling method. Soil samples were collected continuously at 0.76 m intervals for the full depth of each borehole (MW25-01 and BH25-02 through BH25-04). Measures were taken to minimize the potential for cross-contamination during the borehole drilling program by washing SS samplers and cleaning sampling tools after each run.

Direct push (DP) soil sampling was typically conducted on the February 19, 2026, field program using a hydraulic push rig (Massenza MI3 track rig). Air rotary drilling method was used intermittently to advance through the suspected rocks and boulders in the sand and till layers at select depths. Soil samples were collected continuously at 0.76 m intervals for the full depth of each borehole (MW26-05 and MW26-06). Potential cross-contamination of samples was reduced by using dedicated plastic soil liners and cleaning sampling tools after each run.

Disposable nitrile gloves were worn during the collection of each soil sample. Each soil sample was placed in a resealable plastic bag for field screening, and a portion of the soil sample was containerized in laboratory-supplied sampling containers and bags.

All soil samples tested for PHC F1 and VOCs were immediately collected into two 40 millilitre (mL) glass vials, pre-charged with 10 mL of methanol preservative, using a single-use 5 mL disposable soil core sampling device. Soils tested for PHC F2-F4 were sampled directly into 250 mL unpreserved glass jars, which were sealed with Teflon-lined lids.

Following sample collection, the sample containers were placed into dedicated coolers with ice for storage pending transport to the analytical laboratory provider(s). Samples were submitted to Bureau Veritas (BV) during the 2025 investigation and to Paracel Laboratories Ltd. (Paracel) during the 2026 investigation, both in Ottawa, Ontario. Formal chain-of-custody records were maintained between Stantec and the analytical laboratories (i.e., BV and Paracel). QA/QC measures taken during sample collection, containerization, handling and labelling of soil samples collected during this field program are provided in the SAP (**Appendix B**).

Subsurface soil conditions were logged on-site by Stantec personnel at the time of the borehole drilling program.

### 4.4 Field Screening Measurements

Field screening of soil samples was conducted using an RKI Eagle 2 gas detector. The RKI Eagle 2 measures CVC and is equipped with a photoionization detector (PID) for measurement of TOV concentrations. A portion of the soil samples collected during drilling was used for headspace vapour screening (where sufficient sample quantity was present) and for potential submission to the laboratory. Each sample for field headspace screening was placed into a new 500 mL sealable freezer bag and stored out of direct sunlight. Bags were one-third to one-half filled with soil to leave sufficient headspace above the sample and then sealed. The probe for the RKI Eagle 2 was then inserted into each bag to collect headspace vapour level readings. Equipment specification for the RKI Eagle 2 and calibration information is provided in the SAP (**Appendix B**).



Soil samples considered representative of subsurface conditions were selected for laboratory analysis representing “worst-case” (i.e., for that particular soil layer and location) based on field screening. In some cases, however, professional judgment was required to select samples for analysis that were more consistent with the potential mode of contaminant release or contaminant type (e.g., metals) than just relying on analyzing the sample with the maximum field soil headspace vapour reading. Field screening measurements are presented on the borehole logs in **Appendix C**.

## 4.5 Groundwater Monitoring Well Installations

Three groundwater monitoring wells (MW25-01, MW26-05, and MW26-06) were installed at the Phase Two Property. The installation of monitoring wells was completed in accordance with R.R.O. 1990, Reg. 903, and supervised by Stantec personnel. Three boreholes were instrumented with monitoring wells using 32 millimetres inner diameter (ID) flush-threaded Schedule 40 PVC risers, followed by a 3.0 m length of No. 10 slot PCV screen. Each well screen was sealed at the bottom using a threaded cap while each riser was sealed at the top with a lockable J-plug cap. Silica sand was placed around and above the screened interval to create a filter pack around the screened interval, followed by a layer of bentonite that extended just below the ground surface to create a seal between the riser and outer well casing. A protective flush-mount cover was installed at the ground surface over each riser pipe and outer casing and cemented in place. A summary of the monitoring well construction details is presented in **Table C**, and on the Borehole/Monitoring Well Records provided in **Appendix C**.

**Table C: New Monitoring Well Construction Details**

Monitoring Well Location	Ground Surface Elevation (m AMSL)	Depth of Well (m BGS)	Screened Interval (m BGS)	Silica Sand Pack (m BGS)	Bentonite Seal (m BGS)	Casing Type
MW25-01 <sup>1</sup>	66.37	9.60	8.10-9.60	5.80-9.60	4.90-5.80	Flushmount
MW26-05	65.53	6.68	3.68-6.68	3.35-6.68	0.23-3.35	Flushmount
MW26-06	66.66	6.10	3.10-6.10	2.74-6.10	0.23-2.74	Flushmount

*1- Monitoring well installed in February 2025 by Downing (Stantec, 2025b).*

Upon completion of the monitoring well installations, Strata completed and filed a Water Well Cluster Record with the MECP for MW26-05 and MW26-06. The monitoring wells were left undisturbed for at least 24 hours after installation to allow the bentonite seals to be set prior to the development of each well.

Potential cross-contamination of monitoring wells during installation was reduced by using new plastic-wrapped PVC pipe for each monitoring well, new well material (sand and bentonite), and those handling the well pipe wore new nitrile gloves for each well installation.

## 4.6 Monitoring Well Development

Stantec developed/purged the three monitoring wells (MW25-01, MW26-05 and MW26-06) using Waterra® tubing and the Waterra® foot valve manual inertial pump method in the late afternoon of February 20, 2026. The three monitoring wells were developed by removing a minimum of three to a maximum of seven standing water column volume (or purged dry). The well development activities were completed a minimum of 24 hours prior to the groundwater sampling activities.



Measures taken to minimize any potential for cross-contamination during well installation and well development included the use of dedicated disposable nitrile gloves for handling well materials during well installation and well development and dedicated manual inertial lift pumps (Waterra® polyethylene tubing and foot valves) for each well, as discussed in the SAP (**Appendix B**).

## 4.7 Groundwater Field Measurements

The on-site monitoring wells were monitored on February 23 and 24, 2026, prior to sampling of the groundwater. Well headspace CVC and TOV measurements were not collected because the Eagle 2 battery had depleted.

The depth to groundwater and presence/absence of LNAP/DNAPL were measured using an oil-water interface meter. The depth to groundwater was measured to the highest point on the well pipe riser.

Water quality parameters (pH, electrical conductivity [EC], temperature, dissolved oxygen [DO], oxidation-reduction potential [ORP], and turbidity) were measured during the low-flow sampling event using a Horiba U52 multi-parameter water quality meter. Groundwater samples were collected once water quality parameters stabilized. Equipment specification and calibration information are provided in the SAP (**Appendix B**).

It should be noted that field measurements of water quality parameters were not obtained at MW25-01. Details regarding this deviation is discussed in **Section 3.4**.

## 4.8 Groundwater Sampling

A low flow sampling method using a peristaltic pump was used to collect the groundwater samples from MW26-05 and MW26-06 on February 23 and 24, 2026. As discussed in **Section 3.4**, a low flow inertia pump (deviation from the SAP) was used to collect the groundwater sample from MW25-01.

Groundwater sampling equipment to collect groundwater samples was dedicated for single-use only (i.e., Waterra®, foot valves and low-flow sampling tubing) to avoid cross-contamination. Samples were handled with single-use disposable nitrile gloves (which were changed between samples) and collected directly into pre-labelled laboratory supplied bottles. Non-dedicated sampling equipment (e.g., the oil-water interface probe) were decontaminated with an Alconox™ and distilled water solution prior to each use. Groundwater samples were stored in ice-packed coolers and submitted under chain-of-custody protocols to Parcel.

## 4.9 Elevation Surveying

The ground surface elevations and top of pipe elevations of the existing and newly installed monitoring wells were surveyed by Stantec, using an on-site catchment basin as a target benchmark as shown on the Survey Plan in **Appendix A**. The monitoring well locations and elevations are presented on **Figure No. 5**.



## 4.10 Analytical Testing

Soil samples for the 2025 subsurface investigation were submitted for analytical testing at Bureau Veritas (BV), located at 6740 Campobello Road, Mississauga, Ontario, while soil and groundwater samples from the recent subsurface investigation were submitted to Paracel Laboratories Ltd. (Paracel), located at 2319 St. Laurent Blvd suite 300, Ottawa, Ontario. BV and Paracel are accredited by the Standards Council of Canada (SCC) and Canadian Association for Laboratory Accreditation Inc. (CALA), and thus, meet the accreditation requirements outlined in Section 47 of O.Reg.153/04.

Laboratory certificates of analysis and chain-of-custody forms are included as **Appendix D**. Included with the laboratory reports are the analytical methods used, and the laboratory reporting limits (RLs).

### 4.10.1 Soil Analysis

A total of 10 soil samples were submitted and analyzed as part of the February 2025 subsurface investigation completed by Stantec (Stantec, 2025a). As part of the February 2026 subsurface investigation, four soil samples plus two field duplicates were submitted for laboratory analysis based on the results of the field screening methods, while taking into consideration of the characteristics of each COPC associated with each identified PCA contributing to APECs at the Phase Two Property (**Table B, Section 2.2**).

The soil analysis plan was detailed further in the SAP (**Appendix B**). A summary of the soil samples submitted for analysis during this Phase Two ESA is provided in the **Table D** below.

**Table D: Soil Samples Submitted for Analysis**

Sample Information		COPCs						Rationale
Sample ID	Sample Depth Intervals & Stratigraphic Unit (m BGS)	BTEX, PHC F1-F4	VOCs	PAHs	Metals, As, Sb, Se	CrVI, Hg	EC, SAR, pH	
<b>February 27 and 28, 2025</b>								
BH25-01-SS3*	2.3-2.9 (SAND)	•	•	•	•	•	•	Assess the soil quality (APEC-2)
BH25-01-SS6*	4.6-5.2 (TILL)	•	•	•	•	•	•	Assess the soil quality (APEC-2)
BH25-02-SS2	1.5-2.1 (FILL)	•	•	•	•	•	•	Assess the quality of fill material (APEC-1)
BH25-02-SS4	3.0-3.7 (SAND)	•	•	•	•	•	•	Assess the soil quality (Stantec, 2025a)
BH25-02-SS7	5.3-5.8 (TILL)	•	•	•	•	•	•	Assess the soil quality (Stantec, 2025a)
BH25-03-SS2	1.5-2.1 (FILL)	•	•	•	•	•	•	Assess the quality of fill material (APEC-1)
BH25-03-SS5	3.8-4.4 (TILL)	•	•	•	•	•	•	Assess the soil quality (Stantec, 2025a)
BH25-03-SS8	6.1-6.7 (TILL)	•	•	•	•	•	•	Assess the soil quality (Stantec, 2025a)
BH25-04-SS1	0.76-1.4 (FILL)	•	•	•	•	•	•	Assess the quality of fill material (APEC-1)
BH25-04-SS3	2.3-2.9 (SAND)	•	•	•	•	•	•	Assess the soil quality (Stantec, 2025a)



Sample Information		COPCs						Rationale
Sample ID	Sample Depth Intervals & Stratigraphic Unit (m BGS)	BTEX, PHC F1-F4	VOCs	PAHs	Metals, As, Sb, Se	CrVI, Hg	EC, SAR, pH	
<b>February 19, 2026</b>								
MW26-05-02	0.8-1.5 (FILL)	•		•	•			Assess the quality of fill material (APEC-1)
MW26-05-05	3.0-3.8 (SAND)	•	•	•				Assess the soil quality (APEC-3)
MW26-06-01	0.2-0.75 (FILL)	•		•	•			Assess the quality of fill material (APEC-1)
MW26-06-03	1.5-2.1 (SAND)	•	•	•				Assess the soil quality (APEC-3)
QC1	3.0-3.8 (SAND)	•	•					Field duplicate sample of MW26-05-05 for QA/QC
QC2	1.5-2.1 (FILL)	•						Field duplicate sample of MW26-06-03 for QA/QC

**\*Notes:**

BH25-01 is the same location as MW25-01

Hg: Mercury

CrVI: Hexavalent chromium

EC: Electrical conductivity

SAR: Sodium adsorption ratio

Soil samples from 2025 and 2026 were submitted to and analyzed by BV and Paracel, respectively.

#### 4.10.2 Groundwater Analysis

A total of three groundwater samples, plus one field duplicate sample, were collected on February 23 and February 24, 2026 and submitted for laboratory analysis based on the COPCs associated with each PCA that contributed to APECs at the Phase Two Property.

Detailed groundwater analytical sampling plan is outlined in **Appendix B**. A summary of the groundwater samples submitted for analytical testing during the Phase Two ESA is provided in **Table E**.



**Table E: Groundwater Samples Submitted for Analytical Testing**

Sample Information		COPCs				Rationale
Sample ID	Screened Interval (m BGS)	BTEX, PHC F1-F4	BTEX, PHC F1	VOCs	PAHs	
<b>February 23 and 24, 2026</b>						
MW25-01	6.60-9.60	•	•	•	•	Assess the groundwater quality (APEC-2)
MW26-05	3.68-6.68	•	•	•	•	Assess the groundwater quality (APEC-3)
MW26-06	3.10-6.10	•	•	•	•	Assess the groundwater quality (APEC-3)
QC-03	3.68-6.68		•			Field duplicate sample of MW26-05 for QA/QC
Trip Blank	N/A		•	•		Field QA/QC

Groundwater samples were submitted to and analyzed by Paracel.

## 4.11 Residue Management Procedures

One composite soil sample, recovered from the drilling soil cuttings, was submitted for waste classification analyses to BV. Parameters analyzed using the toxicity characteristic leaching procedure (TCLP) included general chemistry, metals, VOCs, and semi-VOCs (sVOCs). The sample was also analyzed for ignitability and bulk polychlorinated biphenyls (PCBs). Residue management procedures are discussed in the SAP in **Appendix B**.

## 4.12 Quality Assurance/Quality Control Protocols

The QA/QC protocols performed throughout the subsurface field program were completed in order to obtain representative soil and groundwater samples at the Phase Two Property.

A detailed description of the QA/QC measures (i.e., sampling, containerizing, preservation, labelling, handling, and custody of samples), as well as methods to avoid cross-contamination undertaken during the field program, is provided in the Standard Operating Procedures (SOP) section of the SAP

(Appendix B).

### 4.12.1 Field Quality Control Measures

Field duplicate samples were collected during the Phase Two ESA for analysis of one or more of the COPCs. The frequency of field duplicate soil and groundwater sample analysis meet the requirements set by the MECP (MECP, 2021) and outlined in the SAP (**Appendix B**).



### Soil – Field Duplicate Samples

The following soil sample parent-field duplicate pairings and corresponding analytical schedules were submitted for QA/QC purposes:

- MW26-05-05 and QC1 sample pairing at a sample depth from 3.0-3.8 m BGS for the analysis of BTEX, PCH F1-F4, and VOCs; and
- MW26-06-03 and QC2 sample pairing at a sample depth from 1.5-2.1 m BGS for the analysis of BTEX and PHC F1-F4.

### Groundwater – Field Duplicate Samples

The following groundwater sample parent-field duplicate pairing and corresponding analytical schedule was submitted for QA/QC purposes:

- MW26-05 and QC-03 sample pairing at the screened interval between 3.68-6.68 m BGS for the analysis of BTEX and PHC F1.

One laboratory-prepared trip blank water sample was transported to the Site during the February 2026 sampling event and submitted for analyses of VOC parameters (including BTEX) and PHC F1 to comply with the requirement that a trip blank be analyzed for each submission of groundwater samples for VOC parameter analysis.

## 4.12.2 Deviations in QA/QC Sampling Procedures

Deviations in QA/QC sampling procedures were encountered during the sampling of groundwater from MW25-01 and MW26-05. The following challenges were encountered, resulting in deviations in the QA/QC sampling procedures:

- MW25-01 – due to snow melt, surface water had pooled outside the well casing, and continued to flow inwards into the annulus of the well casing. The peristaltic pump was used to continuously remove surface water to prevent it from entering the well, and therefore, limiting the ability to measure water quality parameters. Groundwater samples were collected using a manual inertial pump method (Waterra® polyethylene tubing and foot valves), while the peristaltic pump was used to pump out any surface water from entering into the well.
- Groundwater was limited at MW26-05 during the time of sampling, likely due to the slow groundwater recharge following the well development. The field duplicate groundwater sample (QC-03), pairing with MW26-05, was submitted for the analysis of BTEX and PHC F1 only, rather than PHC F1-F4 and PAHs.

No other deviations were encountered during the QA/QC sampling program.



## 5 Review and Evaluation

### 5.1 Geology

Based on information obtained from the OGS surficial and bedrock geological maps, the native surficial soils in the vicinity of the Phase Two Property are reported to consist of silt and fine glaciomarine deposits (OGS, 2010) with a drift thickness ranging from 5 to 10 m BGS (GSC, 2008). Bedrock geology in the immediate area of the Phase Two Property is reported to consist of shale with interbedded limestone of the Billings Formation (OGS, 2007).

In general, the soil stratigraphy encountered by Stantec during borehole drilling in February 2025 and 2026 consisted fill material comprised of silty sand, sand, gravel and trace clay, underlain by native sand with silt at MW25-01, BH25-03, BH25-04, and MW26-05 or silty sand at BH25-02 and MW26-06, followed by silty sand till with some gravel, trace clay, cobbles and boulders at all of the borehole locations except BH25-04, which was terminated in the sandy silt. Shale bedrock was encountered at MW25-01 during the February 2025 investigation at 7.6 m BGS, while the remaining boreholes, except for BH25-04, were terminated at practical refusal on inferred bedrock at depths ranging from 6.1 to 7.7 m BGS.

The Site geology encountered during the subsurface field programs are provided in the borehole logs, in **Appendix C**.

### 5.2 Groundwater Elevations, Flow Direction and Hydraulic Gradient

Three monitoring wells (MW25-01, MW26-05, and MW26-06) were installed at the Phase Two Property at depths intended to assess the groundwater quality in relation to the APECs and associated COPCs. The groundwater levels and the presence/absence of LNAPLs or DNAPLs were measured at all of the monitoring well, with the exception of MW25-01, prior to the collection and sampling of groundwater on February 24, 2026.

The shallow groundwater levels beneath the Phase Two Property were measured at depths of 4.06 m BGS at MW26-05 and 3.46 m BGS at MW26-06. The deeper groundwater level at MW25-01 was measured at 6.43 m BGS. No NAPL presence was detected in any of the monitoring wells. No visual or olfactory observations of NAPL were noted at the time of sampling event. A summary of the groundwater level depths measured, including, if present, LNAPL/DNAPL depth measurements are presented in

Table 1.

As indicated previously in **Section 4.9**, the ground surface elevations and top of pipe elevations for the monitoring wells were surveyed by Stantec on February 24, 2026. Triangulation of groundwater flow beneath the Phase Two Property could not be performed because wells MW26-05 and MW26-06 are screened within the overburden aquifer, whereas MW25-01 is screened within the underlying fractured bedrock aquifer, preventing hydraulic correlation across units.

Horizontal hydraulic gradient beneath the Phase Two Property could not be calculated based on the limited information obtained during the Phase Two ESA.



## 5.3 Soil Texture

Grain size distribution analysis was conducted as part of the 2025 subsurface investigation. Eight representative soil samples from MW25-01, BH25-02, BH25-03, and BH25-04 were collected at various stratigraphic units at depths ranging between approximately 0.75 and 6.1 m BGS and submitted for grain size analysis. Based on the 2025 Preliminary Geotechnical Investigation (Stantec, 2025b), six soil samples comprised of more than 68 percent by mass of soil particles larger than 75 µm, classifying the soil as coarse grain, as defined by Section 42.2 of O. Reg. 153/04 – these results are consistent with the field observations recorded during the field program. Soil samples and results of the grain size analysis are included in the borehole logs in **Appendix C**.

## 5.4 Soil Field Screening

As summarized in **Section 4.4**, soil field screening for potential impacts was completed using visual and olfactory observation and by measuring the headspace soil CVC and TOV concentrations. Headspace CVC for soil samples ranged from less than 5 parts per million by volume (ppm<sub>v</sub>) to 50 ppm<sub>v</sub> at MW26-05 (3.0 – 3.8 m BGS). Headspace TOV for soil samples ranged from less than 1 ppm<sub>v</sub> to 1 ppm<sub>v</sub> at various sample locations at MW26-05 and MW26-06. During the 2025 subsurface investigation the CVC and TOV concentrations measured in the screened soil samples were less than 5 ppm<sub>v</sub> and less than 2 ppm<sub>v</sub>, respectively.

One most apparent “worst case” soil sample from the fill material and native soil layer from each borehole (MW26-05 and MW26-06) were submitted for laboratory analysis of BTEX, PHC F1-F4, VOCs, and/or PAHs, based on the soil vapour headspace concentrations, visual and/or olfactory observations, and consideration for sample depth locations. Soil screening CVC and TOV readings are presented on the borehole logs in **Appendix C**.

## 5.5 Soil Quality

A total of 16 soil samples, including two field duplicates, were submitted as part of the 2025 and 2026 subsurface investigations at the Site for laboratory analysis of the BTEX, PHC F1-F4, VOCs, PAHs, and/or metals and inorganics. A summary soil samples submitted for analytical testing is presented in **Table D** in **Section 4.10.1**,

The soil analytical results, compared to the applicable Table 3 SCS, are presented in **Table 2**. The analytical test results for soil are also shown on **Figure No. 6a, 6b, and 6c**. Laboratory certificates of analysis are presented in **Appendix D**.

### 5.5.1 BTEX and VOCs

A total of 16 soil samples, including two field duplicate samples, were submitted for a combination of BTEX and VOCs analysis. Based on the analytical results, the analyzed parameter concentrations were below the applicable Table 3 SCS.



### 5.5.2 PHC F1-F4

A total of 16 soil samples, including two field duplicate samples, were submitted for the analysis of PHC F1-F4. Based on the analytical results, the analyzed parameter concentrations were below the Table 3 SCS, with the exception of one soil sample at location MW25-01 (BH25-01-SS5) at a sample depth interval of 2.3 - 2.9 m BGS, in which PHC F2 exceeded the applicable SCS (1,300 micrograms per gram [ $\mu\text{g/g}$ ] versus the SCS of 230  $\mu\text{g/g}$ ).

### 5.5.3 PAHs

A total of 14 soil samples were submitted for the analysis of PAHs. Based on the analytical results, the analyzed parameter concentrations were below the applicable Table 3 SCS.

### 5.5.4 Metals and Inorganics

A total of 14 soil samples were submitted for a combination of metals and inorganics. Based on the analytical results, the analyzed parameter concentrations were below the Table 3 SCS, with the exception of one soil sample from BH25-03 (BH25-03-SS5) at a sample depth interval of 3.8 - 4.4 m BGS, in which SAR exceeded the applicable SCS.

### 5.5.5 Waste Characterization

Based on laboratory analytical results for the composite soil sample submitted for waste classification analysis from the 2025 subsurface investigation, the analyzed soil would be classified as a non-hazardous material for offsite disposal purposes. The waste analytical results are presented in **Table 3**.

## 5.6 Groundwater Quality

A total of five groundwater samples, including a field duplicate and trip blank, were collected from MW25-01, MW26-05 and MW26-06, and submitted for laboratory analysis of the BTEX, PHC F1-F4, VOCs, and/or PAHs. A summary of groundwater samples submitted for analytical testing is presented in **Table E (Section 4.10.2)**.

The groundwater analytical test results, compared to the applicable Table 3 SCS, are presented in **Table 4**. The groundwater analytical results are also shown on **Figure No. 7a, 7b, and 7c**. Laboratory certificates of analysis for groundwater are presented in **Appendix D**.

### 5.6.1 BTEX and VOCs

A total of five groundwater samples, including a field duplicate and trip blank, were submitted for a combination of BTEX and VOCs analysis. Based on the analytical results, the analyzed parameter concentrations were below the applicable Table 3 SCS.



### **5.6.2 PHC F1-F4**

A total of four groundwater samples, including a field duplicate, were submitted for a combination of PHC F1-F4 and/or PHC F1 analysis. Based on the analytical results, the analyzed parameter concentrations were below the applicable Table 3 SCS.

### **5.6.3 PAHs**

A total of three groundwater samples were submitted for the analysis of PAHs. Based on the analytical results, the analyzed PAH parameter concentrations were below the applicable Table 3 SCS.

## **5.7 General Comments on the Environmental Condition**

### **5.7.1 Contaminants of Concern in, on or under the Phase Two Property**

The contaminants of concern (COCs) in, on or under the Phase Two Property included soil PHC F2 at BH25-01-SS3 at depths between 2.3 and 2.9 m BGS, and SAR at BH25-03-SS5 at depths between 3.8 and 4.4 m BGS. No COCs in groundwater since there were no reported groundwater concentrations in excess of the applicable Table 3 SCS.

### **5.7.2 Contaminants Related to Possible Chemical and Biological Transformations**

Stantec inferred that there were no contaminants related to chemical or biological transformation at the Site, given that there were no COCs, specifically VOCs, in, on or under the Phase Two Property.

### **5.7.3 Contamination Impact on Other Media**

PHC F2 impact was identified in the native sand layer at BH25-01-SS3 at depths from approximately 2.3 to 2.9 m BGS. PHC analytical results for the underlying native till layer and groundwater beneath the Phase Two Property all met the Table 3 SCS. As such, there was no evidence of other contamination in the groundwater or in the underlying till layer.

### **5.7.4 Presence of LNAPL/DNAPL**

As per the analytical results for groundwater, the groundwater samples submitted for BTEX, PHC F1-F4, and VOCs were below the applicable SCS and/or below the laboratory reported detection limit (RDL). In addition, NAPLs were not identified in the groundwater during monitoring. As such, there was no evidence of NAPLs in the groundwater.



## 5.8 Quality Assurance and Quality Control Results

### 5.8.1 Field QA/QC Results

The QA/QC samples for this Phase Two ESA investigation included two field duplicates for soil (**Table D**) and one field duplicate and trip blank for groundwater (**Table E**).

The purpose of the duplicate samples is to measure the precision or reproducibility of the field and laboratory methodology used in the collection and analysis of the samples to meet the Data Quality Objectives (DQOs) of the Phase Two ESA, as discussed in the SAP (**Appendix B**).

#### 5.8.1.1 Relative Percent Difference (RPD)

The precision is evaluated in terms of the RPD. The RPD values of the parent and duplicate samples are statistically valid when the concentrations of both the original and duplicate samples exceed five times the laboratory RDL (MECP, 2021).

RPDs were not calculated for the parent and duplicate sample pairings since the analyzed parameter concentrations were below the laboratory RDLs or less than five times of the method detection limit in both soil and groundwater samples. The analytical results of the parent and duplicate samples for soil and groundwater are presented in **Table 2** and **Table 3**, respectively.

#### 5.8.1.2 Trip Blank

The trip blank water sample, prepared by Paracel, was transported to the Site during the February 2026 groundwater sampling event, and was submitted with groundwater samples for analysis of VOCs (including BTEX). As presented in **Table 3**, no test parameters were detected above the laboratory RDLs. These findings indicated that ambient conditions during the transportation of the sample containers to and from the Phase Two Property, and during groundwater sampling, did not positively bias the analytical results for VOCs in the groundwater samples submitted for this Phase Two ESA.

#### 5.8.1.3 Deviations from Analytical Protocol

Samples were handled in accordance with the *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act* (Analytical Protocol, MECP, 2021) with respect to preservation methods, storage requirements, or container type without any exception. Holding times were met for all samples. Therefore, there were no deviations from the Analytical Protocol while caring out the Phase Two ESA.

### 5.8.2 Laboratory QA/QC Program

QA/QC also included performance evaluations of the laboratory analytical quality checks to assess the combined influence of field sampling and laboratory analysis and checks to specifically evaluate the potential for cross-contamination during sampling and sample handling during the Phase Two ESA. Both BV and Paracel analytical laboratories employed method blanks, internal laboratory duplicates, surrogate spike samples, matrix spike samples, and standard reference materials as a part of their QA/QC programs.



A review of the QA/QC sample results indicated that no issues were identified with respect to both the field collection methodology and the laboratory reporting, with the exception of one groundwater sample analyzed for VOCs.

As discussed in **Section 4.12.2**, deviations in QA/QC sampling procedures were encountered during the sampling of groundwater from MW25-01. As a result of the groundwater sampling method used, sample qualifiers were noted for MW25-01 for the analysis of VOCs only. The groundwater sample was decanted from the original sample vial prior VOC extraction in the gas chromatography-mass-spectrometry analysis due to the presence of sediment. Presence of sediment can generally yield inconsistent or bias results. However, given that VOCs are not a COC at the Site, it is Stantec's opinion that the VOC parameter concentrations at MW25-01 are considered to be representative of the groundwater quality beneath the Phase Two Property. Other analyzed parameters were considered unaffected (i.e., no reported sample qualifiers).

With respect to subsection 47(3) of O. Reg. 153/04, as amended, the Certificates of Analysis (COAs) or analytical reports pursuant to clause 47(2) (b) of the regulation comply with subsection 47(3). The COAs provided by BV and Paracel were received for the samples submitted for analysis in February 2025 and 2026, respectively. The laboratory COAs are provided in **Appendix D**.

### **5.8.3 Overall Quality of QA/QC Sampling Program**

Based on the above assessment, review of the sampling methods and the overall QA/QC program completed during this Phase Two ESA, it is Stantec's opinion that the results of the QA/QC procedures meet the DQOs for the soil and groundwater results and that the data were of acceptable quality and adequate for their intended use.

## **5.9 Phase Two Conceptual Site Model**

As per **Section 3.3**, the Phase One CSM was previously developed to provide a detailed description of the APECs that occurred on, in or under the Phase Two Property.

Stantec prepared a Phase Two CSM in general accordance with Section 43 of Schedule E of O. Reg. 153/04, as amended. The following subsections provide a narrative description and expand on the Phase One CSM with the findings of the Phase Two ESA (Phase Two CSM).

### **5.9.1 Potentially Contaminating Activities**

Several PCAs were identified on-site and off-site within the Phase One Study Area. A summary of the PCAs and respective locations with respect to the Phase One Property is provided in **Table F** and shown on **Figure No. 3**.



**Table F: Potentially Contaminating Activities**

<b>PCA No.</b>	<b>Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)</b>	<b>Description and Location of PCA</b>	<b>APEC No.</b>
PCA-1	Item 30 - Importation of Fill Material of Unknown Quality	Fill material of unknown quality on-site from redevelopment of the Phase One Property, circa 1991.	APEC-1
PCA-2	Other - Soil Contamination	PHC-impacted soil identified on-site at MW25-01 during the 2025 subsurface investigation.	APEC-2
PCA-3a	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Former PFO and maintenance/repair garage associated with the historical commercial bus company located at 1901 Cyrville Road and 1720 Innes Road (formerly 1500-1550 Innes Road), approximate 30 m east of the Phase One Property.	APEC-3a
PCA-3b	Other - Hazardous Waste Generation	Former hazardous waste generator associated with the historical commercial bus company located at 1901 Cyrville Road and 1720 Innes Road (formerly 1500-1550 Innes Road), approximate 30 m east of the Phase One Property.	APEC-3a
PCA-4a	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Former waste oil UST and Tire Care Centre located at 1900 Cyrville Road (Costco Business Centre), approximately 100 m southwest of the Phase One Property.	Not Applicable
PCA-4b	Other - Hazardous Waste Generation	Former and hazardous waste generator located at 1900 Cyrville Road, approximately 100 m southwest of the Phase One Property.	Not Applicable
PCA-5	Item 55 - Transformer Manufacturing, Processing and Use	Existing concrete pad-mounted transformer situated on the northwest corner of 1900 Cyrville Road, approximately 135 m west of the Phase One Property.	Not Applicable
PCA-6	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Existing RFO located at 1494 Innes Road, approximately 155 m west of the Phase One Property.	Not Applicable
PCA-7	Item 40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Storage of pesticides at RONA+ (formerly Lowe's) located at 1800 Innes Road, approximately 230 m east of the Phase One Property.	Not Applicable



<b>PCA No.</b>	<b>Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)</b>	<b>Description and Location of PCA</b>	<b>APEC No.</b>
PCA-8	Item 58 - Waste Disposal and Waste Management, including Thermal Treatment, Landfilling and Transfer of Waste, Other Than Use of Biosoils as Soil Conditioners	Former Eastview waste disposal site located at 1880 Innes Road, approximately 230 m east of the Phase One Property.	Not Applicable
PCA-9	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Former RFO located at 1741 Cyrville Road, approximately 200 m north of the Phase One Property.	Not Applicable
PCA-10	Item 18 - Electricity Generation, Transformation and Power Stations	Electrical substation/transformer station located at 1925 Cyrville Road, approximately 170 m southeast of the Phase One Property.	Not Applicable
PCA-11	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Former PFO located at 1501 Innes, approximate 120 m northwest of the Phase One Property.	Not Applicable

Based on the proximity, the downgradient or cross-gradient locations relative to the inferred groundwater flow direction in the Phase One Study Area and/or nature of each PCA and the COPCs related to these PCAs, two on-site and two off-site PCAs were considered to contribute to APECs at the Phase Two Property, as presented on **Figure No. 4**.

Given that the Phase Two Property exists as a parking lot, the use of road salt during winter seasons under ice and/or snow conditions is considered a PCA (*Other - Road Salting Activities*) contributing to an APEC at the Phase Two Property. As such, the following subsections herein have been updated to include additional COPCs associated with road salting activities at the Site.

### **5.9.2 Contaminants of Potential Concern**

Based on the findings of the Phase One ESA and this Phase Two ESA, the following COPCs were identified at the Phase Two Property:

#### **Organics – Soil and Groundwater**

- VOCs, including the BTEX group of parameters
- PHC F1-F4
- PAHs

#### **Inorganics – Soil**

- Metals
- Hydride: arsenic (As), antimony (Sb), and selenium (Se)
- Mercury (Hg) and hexavalent Chromium (CrVI)
- Electrical conductivity (EC) and sodium adsorption ratio (SAR)



### 5.9.3 Areas of Potential Environmental Concern

On-site and off-site PCAs contributing to APECs at the Phase Two Property, along with their respective PCAs and COPCs and media that could potentially be impacted, are summarized in **Table G**.



**Phase Two Environmental Site Assessment – Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**  
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**Table G: Areas of Potential Environmental Concern**

<b>APEC No. &amp; Description</b>	<b>Location of APEC on Phase One Property</b>	<b>PCA Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)</b>	<b>Location of PCA (on-/ off-site)</b>	<b>Contaminants of Potential Concern<sup>1</sup></b>	<b>Media Potentially Impacted (Groundwater, Soil and/or Sediment)</b>
<b>APEC-1</b> Fill material of unknown quality and application of road salt (PCA-1)	Across entire Phase One Property	Item 30 - Importation of Fill Material of Unknown Quality  Other - Road Salting Activities	On-Site	BTEX PHC F1-F4 PAHs Metals As, Sb, Se Hg, CrVI EC, SAR	Soil
<b>APEC-2</b> Identified PHC-impacted soil (PCA-2)	Northwest corner of Phase One Property	Other - Soil Contamination	On-Site	BTEX PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3</b> Former commercial bus depot operations, including a PFO and repair garage, hazardous waste generator at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3a, 3b)	Eastern Part of Phase One Property	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems  Other - Hazardous Waste Generation	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater

Note(s):

<sup>1</sup> Contaminants of Potential Concern (COPCs):

BTEX: Benzene, Toluene, Ethylbenzene and Xylene

PAHs: Polycyclic Aromatic Hydrocarbons

PHC F1-F4: Petroleum Hydrocarbon Fractions 1 to 4

VOCs: Volatile Organic Compounds

Hydride-forming Metals: Arsenic (As), Antimony (Sb), Selenium (Se)

Hg & CrVI: Mercury and Hexavalent Chromium

EC & SAR: Electrical Conductivity and Sodium Adsorption Ratio



The rationale for identifying the PCAs and their resulting APECs is based on a review of historical information (including but not limited to fire insurance plans, aerial photographs, city directories, municipal and federal records), personal interviews, and field observations.

Boreholes and monitoring wells were advanced within each APEC at the Phase Two Property in February 2025 and February 19, 2026. The borehole and monitoring well locations are presented on **Figure No. 5** and summarized in **Table H**.

**Table H: Summary of the Phase Two Subsurface Investigation**

<b>APEC No. &amp; PCA Item No.</b>	<b>Borehole / Monitoring Well Location</b>	<b>COPCs in Soil</b>	<b>COPCs in Groundwater</b>
<b>APEC-1</b> Resulting from Item 30 - Importation of Fill Material of Unknown Quality and Other - Road Salting Activities	BH25-02 <sup>1</sup> , BH25-03 <sup>1</sup> BH25-04 <sup>1</sup> MW26-05, MW26-06	BTEX, PHC F1-F4, PAHs, Metals, As, Sb, Se, Hg, CrVI, EC, SAR	Not Applicable
<b>APEC-2</b> Resulting from Other - Soil Contamination	MW25-01 <sup>1</sup>	BTEX, PHC F1-F4, VOCs, PAHs	BTEX, PHC F1-F4 PAHs
<b>APEC-3</b> Resulting from Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems and Other - Hazardous Waste Generation	MW25-02 <sup>1</sup> , BH25-02 <sup>1</sup> , BH25-03 <sup>1</sup> , BH25-04 <sup>1</sup> MW26-05	BTEX, PHC F1-F4, VOCs, PAHs, Metals, As, Sb, Se,	VOCs, PHC F1-F4, PAHs

<sup>1</sup> Existing monitoring well installed at the Phase Two Property in 2025 as part of the subsurface investigation by Stantec (2025a, 2025b).

### 5.9.4 Subsurface Structures and Utilities

Underground service locates were completed prior to the subsurface drilling programs. These services include municipal sanitary/stormwater sewer services and hydroelectricity and enter the Site from the southwest and east via along Cyrville Road, respectively. These underground services are shown on **Figure No. 5**. Approximate locations of utilities identified during the Phase Two ESA are shown on the private locate report included in **Appendix E**.

The known depth to groundwater beneath the Phase Two Property is approximately between 3.46 and 6.43 m BGS, which is below the estimated depths at which buried service lines are expected to be present. Although underground services are not generally expected to act as a preferential pathway for contaminant distribution and transport at the Phase Two Property, it is possible, given the native overburden at the Site.



## 5.9.5 Physical Setting

### Site Stratigraphy

The stratigraphy of the Phase Two Property generally consisted of the following:

- **Fill Material** consisting of silty sand with some gravel and trace clay was encountered at MW25-01, MW26-05, and MW26-06, extending to depths of approximately 1.52 to 1.77 m BGS, beneath the asphalt concrete pavement. Groundwater was not encountered in this unit.
- **Sand Fill** with some gravel was encountered at BH25-02, BH25-03, and BH25-04, extending to depths of approximately 2.25 to 2.32 m BGS beneath the asphalt concrete pavement. Groundwater was not encountered in this unit.
- **Native Sand** with some silt and trace clay or gravel was encountered at MW25-01 and MW26-05 beneath the fill layer, extending to depths of approximately 3.76 to 4.57 m BGS. Groundwater was not encountered in this unit.
- **Native Silty Sand** with trace clay or gravel was encountered at BH25-02, BH25-03, BH25-04, and MW26-06 beneath the fill layer, extending to depths of approximately 2.13 to 3.95 m BGS. BH25-04 was terminated within this unit at 3.70 m BGS. Groundwater was not encountered in this unit.
- **Sandy Silt Till** with trace clay, cobbles and gravel was encountered at BH-sand, some crushed stone was encountered at MW25-01, BH25-02, MW26-05, and MW26-06 beneath the native sand/silty sand extending to depth of approximately 5.35 to 7.60 m BGS. MW26-06 and MW26-05 were terminated within this unit at depths of approximately 6.10 to 6.68 m BGS, respectively. Groundwater was encountered in this unit at MW25-01, MW26-05, and MW26-06.
- **Silty Sand Till** with trace cobbles, gravel, and boulders was encountered at BH25-03 and BH25-03 beneath the native sand/silty sand and terminated at depths of approximately 6.70 and 7.70 m BGS, respectively.
- **Shale Bedrock** was encountered at MW25-01 beneath the sandy silt till layer and the well was terminated within this unit at 9.6 m BGS.

The Site stratigraphy is illustrated on **Figure No. 6b** and **Figure No. 7b** (Cross-Sections A-A'), and **Figure No. 6c** and **Figure No. 7c** (Cross-Sections B-B'). Borehole logs are presented in **Appendix C**.

### Hydrogeological Characteristics

Groundwater levels were measured in the three monitoring wells installed at the Phase Two Property on February 24, 2026, and summarized in **Table 1**. The highest and lowest static groundwater elevations from MW26-06 and MW25-01 were observed at 63.20 m AMSL and 59.91 m AMSL, respectively. However, the water table at MW25-01 is not representative of the shallow groundwater table and as such, the groundwater flow direction was not triangulated. Based on the local topographic map (NRC, 2021) the inferred groundwater flow direction is southeast.



### **Approximate Depth to Bedrock**

Bedrock was encountered at location MW25-01 at approximately 7.6 m BGS, while practical refusal on inferred bedrock surface was encountered at all BH25-02, MW26-05, and MW26-06 at approximate depths between 6.1 and 7.7 m BGS. The depths at which bedrock was encountered and/or inferred are consistent with the Geological Survey of Canada overburden/drift thickness map ranging between 5 to 10 m (GSC, 2008).

### **Approximate Depth of Water Table**

Groundwater level measurements were obtained from all three monitoring wells at the Phase Two Property on February 24, 2026. Depth to groundwater ranged between 3.46 and 6.43 m BGS.

### **Soil Importation**

There were no areas in, on or under the Phase Two Property where excess soil was finally placed during the completion of the Phase Two ESA program.

### **Existing Buildings and Structures**

Two street-parking lights (one on the west side and one on the east side) and a shopping cart park area (near the south-central portion) were identified at the Phase Two Property. No other permanent above-ground buildings or structures are present at the Phase Two Property.

### **Proposed Building and Other Structures**

The Phase Two Property currently exists as an asphalt paved parking area associated with the Costco Business Centre operations situated within the same municipally addressed property adjacent of the Site. The Phase Two Property is slated for a proposed RFO. The proposed land use of the Phase Two Property remains unchanged from the current commercial use, such that, an RSC is not required by the MECP, as per O. Reg. 153/04, as amended.

### **Application of Section 35 of O. Reg 153/04: Non-Potable Site Condition**

Section 35 applies if the Phase Two Property and properties within the 250 m study area do not rely upon potable groundwater. Based on Stantec's review, no existing potable drinking wells were identified at the Phase Two Property, nor are they expected to be present or used within the Study Area, as potable water is supplied by the municipality and sourced from the Ottawa River, respectively.

A review of the MECP Source Protection Information Map (MECP, 2024) indicated that the Phase Two Property and properties within the Study Area are not located, in whole or in part, within a potable water Intake Protection Zone (IPZ) or a Well Head Protection Area (WHPA) for the protection of groundwater. As such, Section 35 of O. Reg. 153/04 applies to the Phase Two Property.



### **Application of Section 41 of O. Reg 153/04: Environmentally Sensitive Areas**

Several representative soil samples were collected from the boreholes advanced at the Phase Two Property and submitted for pH analysis, all of which were within the acceptable range (7.65 to 8.12) of the standards (as presented on **Table 2**). As such, Section 41 of O. Reg. 153/04 does not apply to the Phase Two Property, in that the property is not classified as an environmentally sensitive.

### **Application of Section 43.1 of O. Reg 153/04: Shallow Soil Property or Water Body**

The Phase Two Property does not contain in whole, or part of, a water body, nor is it located within 30 m of a water body. Based on the findings of the subsurface investigations completed by Stantec in February 2025 and 2026, bedrock in the area of the Phase Two Property is situated approximately 6.1 to 7.7 m BGS. As such, Section 43.1 of O. Reg. 153/04 does not apply to the Phase Two Property, in that the property is not a shallow soil property.

### **Application of Section 42.1 of O. Reg 153/04: Grain Size**

Eight representative soil samples were collected as part of the 2025 subsurface investigation (Stantec 2025a, 2025b) at sample depths ranging from approximately 0.75 to 6.7 m BGS and submitted to for grain size analysis. Based on the analytical results, six of the eight soil samples comprised of 60 percent (or more) by mass of soil particles greater than 75 µm, classifying the soil as coarse grain, as defined by Section 42.2 of O. Reg. 153/04 – these results are consistent with the field observations recorded during the field program. Results of the grain size analysis are included with the laboratory COAs presented in **Appendix D**.

## **5.9.6 Applicable Site Conditions Standards**

Based on the information obtained from the Phase One CSM and findings of the Phase Two ESA, the applicable Site Condition Standards for the Phase Two Property are the “Table 3: Full Depth Generic Site Condition Standards for Use in a Non-Potable Ground Water Condition,” provided in the MECP document entitled, “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*,” dated April 15, 2011 (Table 3 SCS) for:

- Coarse grain soils; and
- Industrial/Commercial/Community (ICC) land use.

All of the analytical results have been compared to the applicable Table 3 SCS.

## **5.9.7 Contaminants Exceeding Applicable Site Condition**

The MECP Table 3 SCS for ICC land use for coarse-grained soil conditions under non-potable groundwater conditions are selected for the Phase Two Property. Specific areas where contaminants are present in, on, or under the Phase Two Property are discussed below.



## Soil

Based on the findings of the Phase Two ESA, PHC F2 exceedances of the applicable Table 3 SCS were identified in the immediate area of MW25-01 at depths of approximately 2.3 - 2.9 m BGS.

Additionally, SAR marginally exceeded the Table 3 SCS at BH25-03 at depths of approximately 2.3 - 2.9 m BGS. The presence of SAR exceedance at the Site was considered to be a result of road salting activities at the Site for vehicular traffic and pedestrian safety, as the Phase Two Property is an active parking lot. As such, SAR was not considered a COC at the Phase Two Property.

Soil exceedances at the Phase Two Property are presented on **Figure No. 6a**.

## Groundwater

Based on the findings of the analytical results, groundwater at the Phase Two Property met the applicable Table 3 SCS, as presented on **Figure No. 7a**.

### 5.9.8 Distribution and Areas Where Contaminants are Present

Based on the findings of the Phase Two ESA, the distribution of PHC F2 impact at MW25-01 appeared to be localized at this location within the native sand layer at depths of approximately 2.2 to 4.6 m BGS. Analytical results for the underlying native till layer and groundwater beneath the Phase Two Property met the applicable Table 3 SCS.

It is unknown if the PHC COC originated from the overlying fill material or from an off-site source, given that sand is generally considered highly permeable. It should be noted that MW25-01 is located at a topographic low compared to the remaining boreholes.

### 5.9.9 Discharge of Contaminants

The source of the PHC F2 contamination in the native sand on the northwest corner of the Phase Two Property is not known. As suggested above, the source of contamination could have been associated with an off-site source of release that could have migrated from a topographic high point to MW25-01 within the permeable sand unit.

### 5.9.10 Contaminants Migration and Preferential Pathways

Physical transport of contaminated soil at the Phase Two Property does not appear to have occurred beyond the extent in which PHC F2 and SAR were identified on the northwest corner and central west side of the Site.

The presence of coarse-grained soils (sand) and underground services across the Phase Two Property may act as a preferential pathway for contaminant migration.



### **5.9.11 Climatic or Meteorological Influences on Migration**

In general, climatic and meteorological conditions have the potential to affect contaminant distribution. Two ways by which climatic and meteorological conditions may affect contaminant distribution include the downward leaching of contaminants by means of the infiltration of precipitation and the migration of contaminants via groundwater levels and/or flow, which may fluctuate seasonally.

Given that the PHC impacted soil was identified above the water table, climatic and meteorological conditions are not considered to have created conditions where the water table rises to the depth of the impacted soil.

### **5.9.12 Soil Vapour Intrusion**

Presently, there is no potential for vapour intrusion or potential concern to human health given that there are no existing buildings or future plans for proposed buildings below grade. Based on the concept plan provided in **Appendix A**, any impacted soil in the immediate area of MW25-01 will be removed and excavated to accommodate the installation of three USTs as part of the proposed RFO. The proposed gas bar and enclosed attendant structure will be situated on the southern portion of the Phase Two Property, as shown in the concept plan provided in **Appendix A**.

### **5.9.13 Exemptions**

According to Section 49.1 of O.Reg.153/04, if an applicable site condition standard is exceeded at a property solely because of the following reason, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act: “The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both.”

An exemption is being relied upon for this Phase Two ESA in relation to the SAR exceedances identified at location BH25-03. The identified soil exceedances of the applicable Table 3 SCS were considered as a result of road salting within the parking lot area, and therefore the potential concerns associated with this PCA are exempted in the opinion of the qualified person supervising this Phase Two ESA.



## 6 Conclusions

Costco retained Stantec to conduct a Phase Two ESA on the Site. The Phase Two ESA was completed in general accordance with O. Reg. 153/04, as amended.

The Phase Two Property exists as an asphalt paved parking area, approximately 2,858 m<sup>2</sup> in size and bounded by off-site parking areas to the north, west, and south, and Cyrville Road to the east. The Phase Two Property is designated and used for commercial parking associated with the off-site adjacent Costco Business Centre.

The Phase Two ESA was conducted in support of a SPCA for a proposed RFO facility at the Site. The objectives of the Phase Two ESA were to assess the soil and groundwater quality at the Phase Two Property with respect to APECs, their related PCAs, and their respective COPCs previously identified in the Phase One ESA completed by Stantec in March 2026. The findings of the Phase Two ESA were as follows:

- The applicable MECP generic SCS for the Phase Two Property were considered to be the MECP Table 3 SCS for ICC land use in a non-potable groundwater condition, with coarse grain soil.
- In general, the soil stratigraphy encountered by Stantec during borehole drilling in February 2025 and 2026 consisted fill material comprised of silty sand, sand, gravel and trace clay, underlain by native sand with silt at MW25-01, BH25-03, BH25-04, and MW26-05 or silty sand at BH25-02 and MW26-06, followed by silty sand till with some gravel, trace clay, cobbles and boulders at all of the borehole locations except BH25-04, which was terminated in the sandy silt.
- Shale bedrock was encountered at MW25-01 during the February 2025 investigation at 7.6 m BGS, while the remaining boreholes, except for BH25-04, were terminated at practical refusal on inferred bedrock at depths ranging from 6.1 to 7.7 m BGS.
- Groundwater levels and surveying of the monitoring wells at the Site indicated the highest and lowest static groundwater elevations from MW26-06 and MW25-01 at 63.20 m AMSL and 59.91 m AMSL, respectively; however, the water table at MW25-01 is not representative of the shallow groundwater table and as such, the groundwater flow direction was not triangulated. Based on the local topographic map, the inferred groundwater flow direction is southeast.
- The soil samples collected and submitted for laboratory analysis met the applicable Table 3 SCS for each of the analyzed parameters, with the exception of one soil sample, BH25-01-SS5 at a sample depth interval of 2.3 - 2.9 m BGS. PHC F2 concentration exceeded the applicable SCS (1,300 µg/g versus 230 µg/g).
- The groundwater samples collected and submitted for laboratory analysis met the applicable Table 3 SCS for each of the analyzed parameters.



## 7 Recommendations

### Soil

Based on the results of the Phase Two ESA, PHC F2-impacted soil, considered localized in the vicinity of MW25-01 at depths of approximately 2.3–2.9 m BGS, requires remediation. As this location corresponds to the future underground storage tank nest, as per Costco, Stantec recommends that the soil impact remediation be undertaken at the time of the Site redevelopment. Impacted soil should be excavated and transported to a Class 1 soil management facility for appropriate off-site disposal, and a qualified environmental consultant should be present to characterize the soil conditions within the final extent of the excavation.

Stantec understands that excess soil generation is anticipated during redevelopment of the Phase Two Property. Accordingly, a Soil Management Plan should be developed, incorporating the findings and recommendations of the 2025 Preliminary Excess Soil Sampling Program and this Phase Two ESA.

### Groundwater Monitoring Wells

If the monitoring wells installed on the Site are not going to be used in the future, or will be destroyed during site redevelopment, they should be abandoned according to O. Reg. 903. In the meantime, the wells will be registered with the MECP under this regulation.



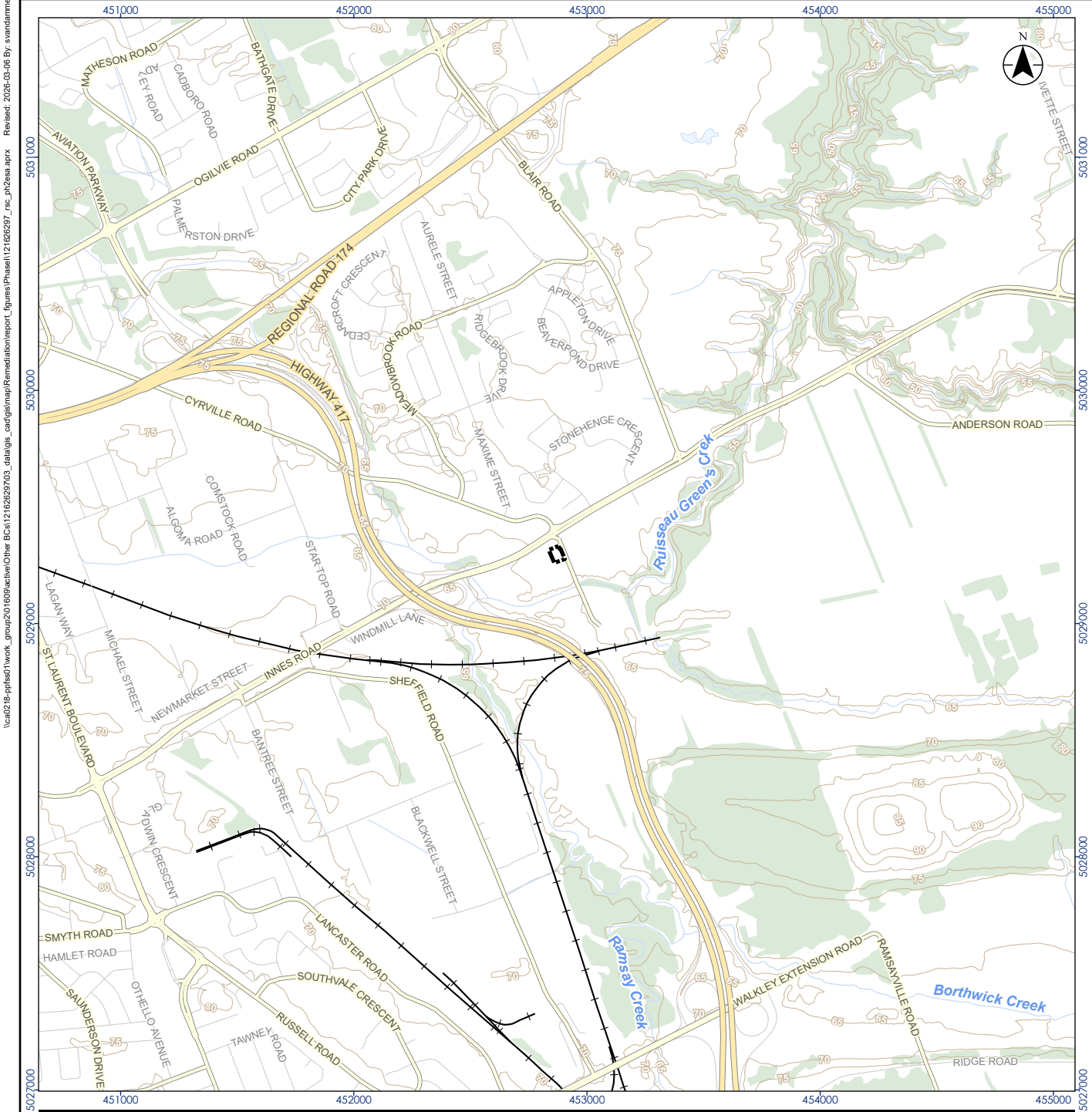
## 8 References

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# Figures



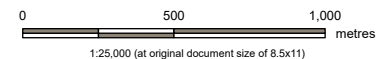


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 4. m AMSL - metres above mean sea level.

- Legend**
- Approximate Site Boundary
  - Expressway / Highway
  - Major Road
  - Minor Road
  - Railway - Operational
  - Topographic Contour (m AMSL)
  - Watercourse
  - Waterbody
  - Wooded Area
  - Municipal Boundary - Lower Tier



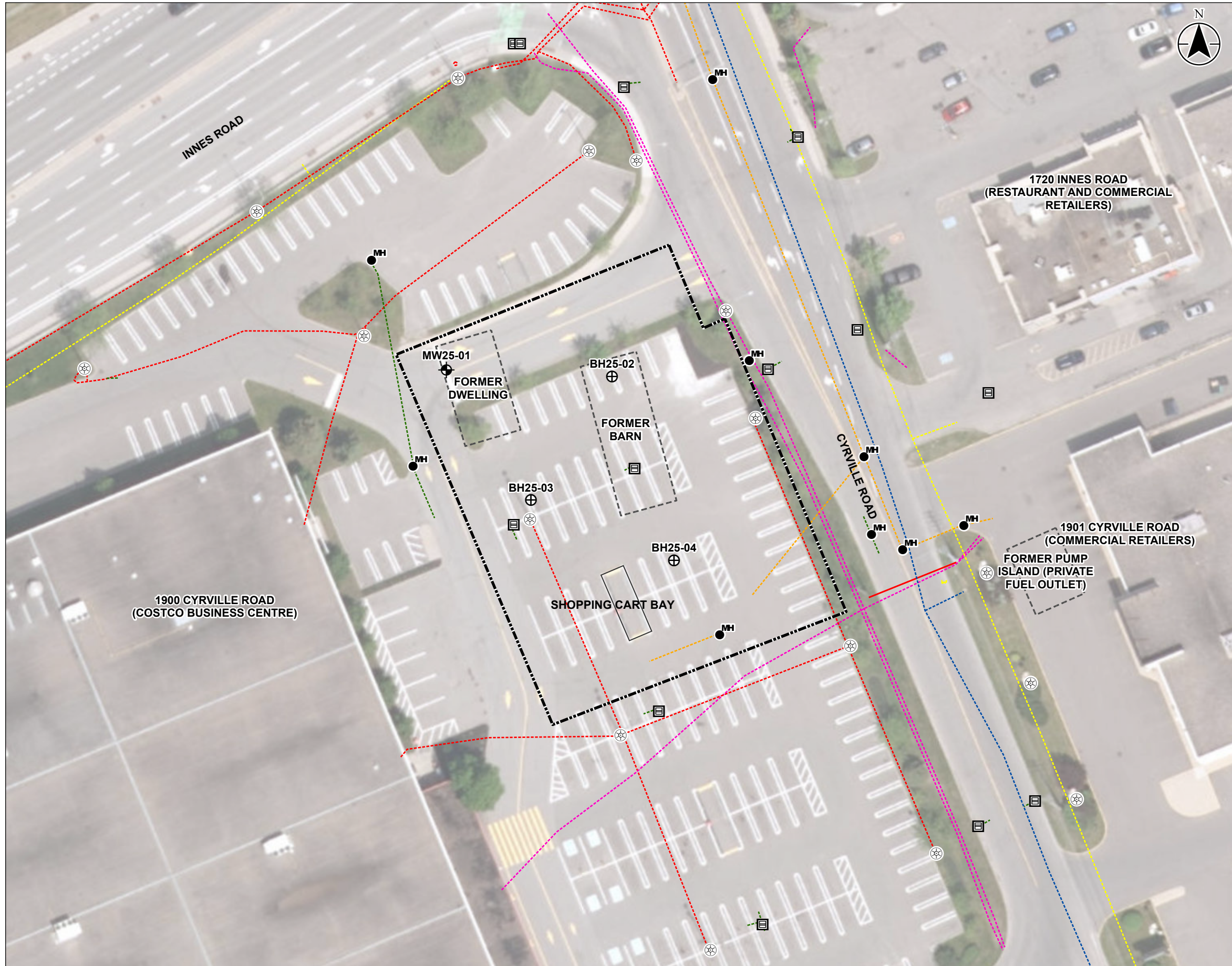
Project Location: Ottawa, Ontario  
 Project Number: 121626297  
 Prepared by: svandamme on 2026-03-06

Client/Project: COSTCO WHOLESALE CANADA LTD. PHASE TWO ENVIRONMENTAL SITE ASSESSMENT NORTHEAST PART OF 1900 CYRVILLE ROAD OTTAWA, ONTARIO

Figure No.: 1  
 Title: **Site Location**

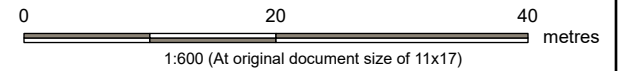
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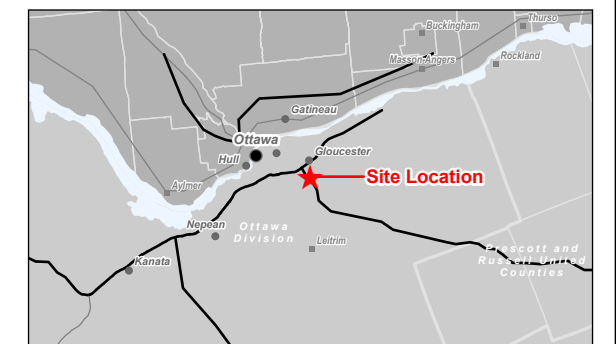
**Legend**

- ⊕ Approximate Borehole Location
- ⊕ with dot Approximate Monitoring Well Location
- ☒ Catch Basin
- MH Manhole
- ⊙ Light Standard
- Gas Line
- Fibre Optic/Telephone Line
- Underground Hydro Line
- Overhead Hydro Line
- Sanitary Sewer Line
- Storm Sewer Line
- Water Line
- Approximate Site Boundary



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 OTTAWA, ONTARIO

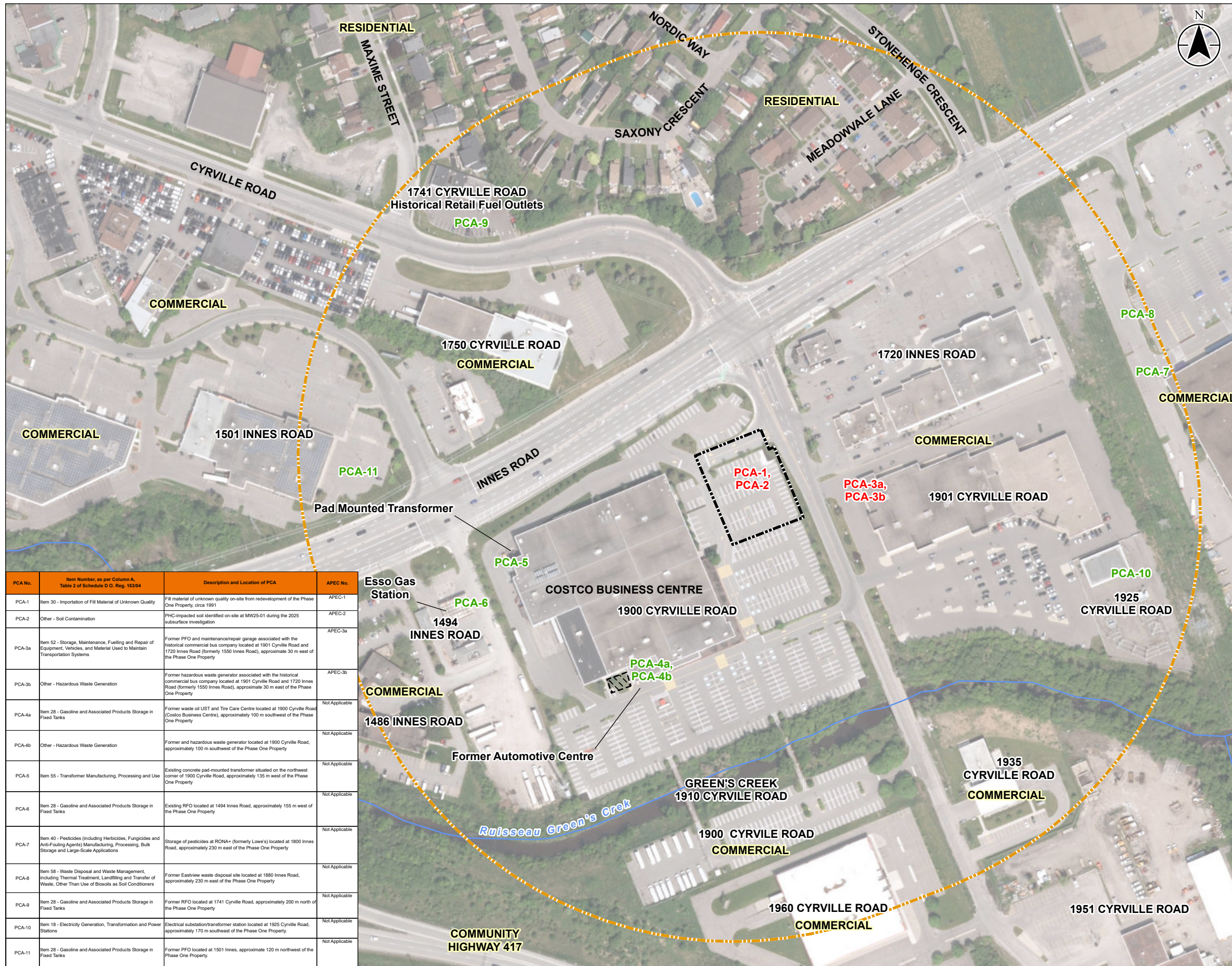
Figure No.

**2**

Title

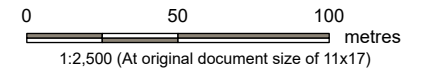
**Site Plan**

Reviewed: 2025-03-06 By: svandamme



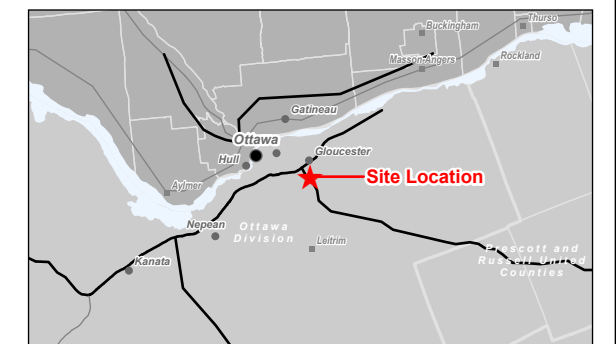
**Legend**

- Approximate Site Boundary
- Phase One Study Area
- Former Underground Storage Tank (UST Nest)
- Watercourse
- PCA-1** PCA # Represents an APEC at the Phase One Property
- PCA-4** PCA # Does Not Represent an APEC at the Phase One Property



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6. PCA - potentially contaminating activity
7. APEC - area potential environmental concern



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 Prepared by svandamme on 2026-03-06  
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Figure No.

**3**

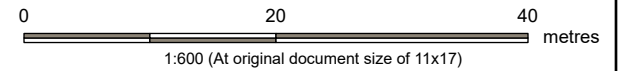
Title

**Site Plan Showing Potentially Contaminating Activities**

PCA No.	Item Number, as per Column A, Table 2 of Schedule O.D. Reg. 153/04	Description and Location of PCA	APEC No.
PCA-1	Item 30 - Importation of Fill Material of Unknown Quality	Fill material of unknown quality on-site from redevelopment of the Phase One Property, circa 1991	APEC-1
PCA-2	Other - Soil Contamination	PHC-impacted soil identified on-site at MW25-01 during the 2025 subsurface investigation	APEC-2
PCA-3a	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Former PFO and maintenance/repair garage associated with the historical commercial bus company located at 1901 Cyrville Road and 1720 Innes Road (formerly 1550 Innes Road), approximately 30 m east of the Phase One Property	APEC-3a
PCA-3b	Other - Hazardous Waste Generation	Former hazardous waste generator associated with the historical commercial bus company located at 1901 Cyrville Road and 1720 Innes Road (formerly 1550 Innes Road), approximately 30 m east of the Phase One Property	APEC-3b
PCA-4a	Item 26 - Gasoline and Associated Products Storage in Fixed Tanks	Former waste oil UST and Tire Care Centre located at 1900 Cyrville Road (Costco Business Centre), approximately 100 m southwest of the Phase One Property	Not Applicable
PCA-4b	Other - Hazardous Waste Generation	Former and hazardous waste generator located at 1900 Cyrville Road, approximately 100 m southwest of the Phase One Property	Not Applicable
PCA-5	Item 55 - Transformer Manufacturing, Processing and Use	Existing concrete pad-mounted transformer situated on the northwest corner of 1900 Cyrville Road, approximately 135 m west of the Phase One Property	Not Applicable
PCA-6	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Existing RFO located at 1494 Innes Road, approximately 155 m west of the Phase One Property	Not Applicable
PCA-7	Item 40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Storage of pesticides at RONA+ (formerly Lowe's) located at 1800 Innes Road, approximately 230 m east of the Phase One Property	Not Applicable
PCA-8	Item 58 - Waste Disposal and Waste Management, including Thermal Treatment, Landfilling and Transfer of Waste, Other Than Use of Biosols as Soil Conditioners	Former Eastview waste disposal site located at 1880 Innes Road, approximately 230 m east of the Phase One Property	Not Applicable
PCA-9	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	Former RFO located at 1741 Cyrville Road, approximately 200 m north of the Phase One Property	Not Applicable
PCA-10	Item 18 - Electricity Generation, Transformation and Power Stations	Electrical substation/transformer station located at 1925 Cyrville Road, approximately 170 m southeast of the Phase One Property	Not Applicable
PCA-11	Item 26 - Gasoline and Associated Products Storage in Fixed Tanks	Former PFO located at 1501 Innes, approximately 120 m northwest of the Phase One Property	Not Applicable

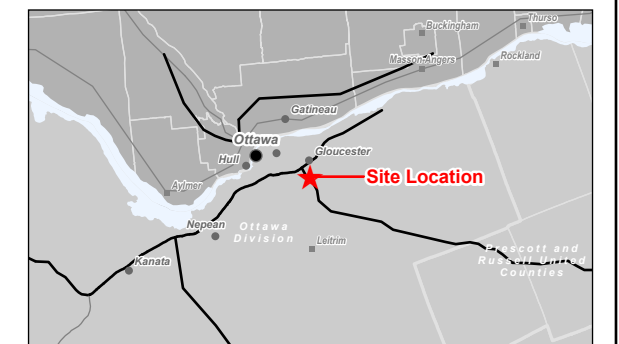
Legend

- Approximate Borehole Location
- Approximate Monitoring Well Location
- Catch Basin
- Manhole
- Light Standard
- Gas Line
- Fibre Optic/Telephone Line
- Underground Hydro Line
- Overhead Hydro Line
- Sanitary Sewer Line
- Storm Sewer Line
- Water Line
- Approximate Site Boundary
- APEC-1
- APEC-2
- APEC-3



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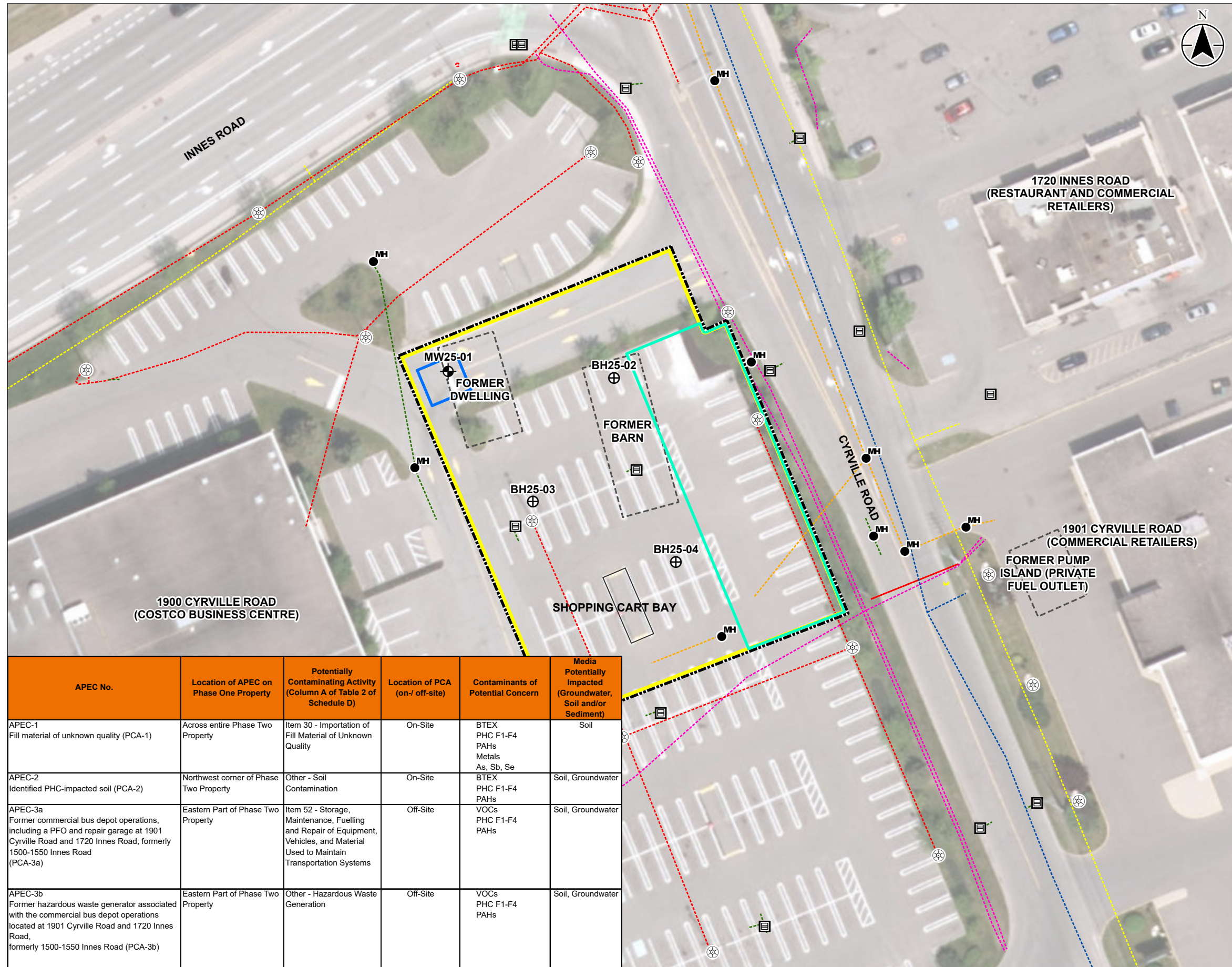
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 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

Figure No.

**4**

Title

**Site Plan Showing Areas of Potential Environmental Concern and Sampling Locations**

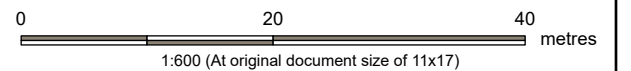


APEC No.	Location of APEC on Phase One Property	Potentially Contaminating Activity (Column A of Table 2 of Schedule D)	Location of PCA (on-/ off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
APEC-1	Across entire Phase Two Property	Item 30 - Importation of Fill Material of Unknown Quality	On-Site	BTEX PHC F1-F4 PAHs Metals As, Sb, Se	Soil
APEC-2	Northwest corner of Phase Two Property	Other - Soil Contamination	On-Site	BTEX PHC F1-F4 PAHs	Soil, Groundwater
APEC-3a	Eastern Part of Phase Two Property	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater
APEC-3b	Eastern Part of Phase Two Property	Other - Hazardous Waste Generation	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater

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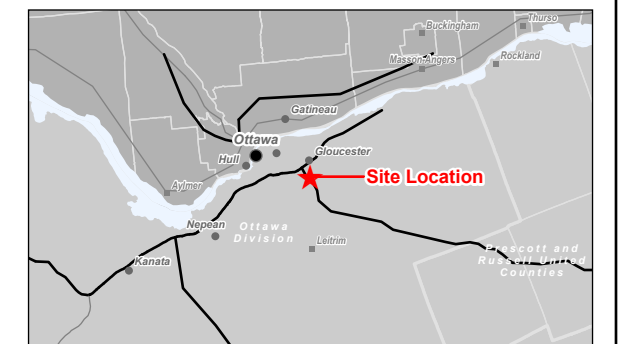
Legend

- Approximate Borehole Location
- Approximate Monitoring Well Location
- Catch Basin
- Manhole
- Light Standard
- Cross-Section Location
- Gas Line
- Fibre Optic/Telephone Line
- Underground Hydro Line
- Overhead Hydro Line
- Sanitary Sewer Line
- Storm Sewer Line
- Water Line
- Approximate Site Boundary
- APEC-1
- APEC-2
- APEC-3
- 67.54 Groundwater Elevation (m AMSL)
- 66.60 Ground Elevation



Notes

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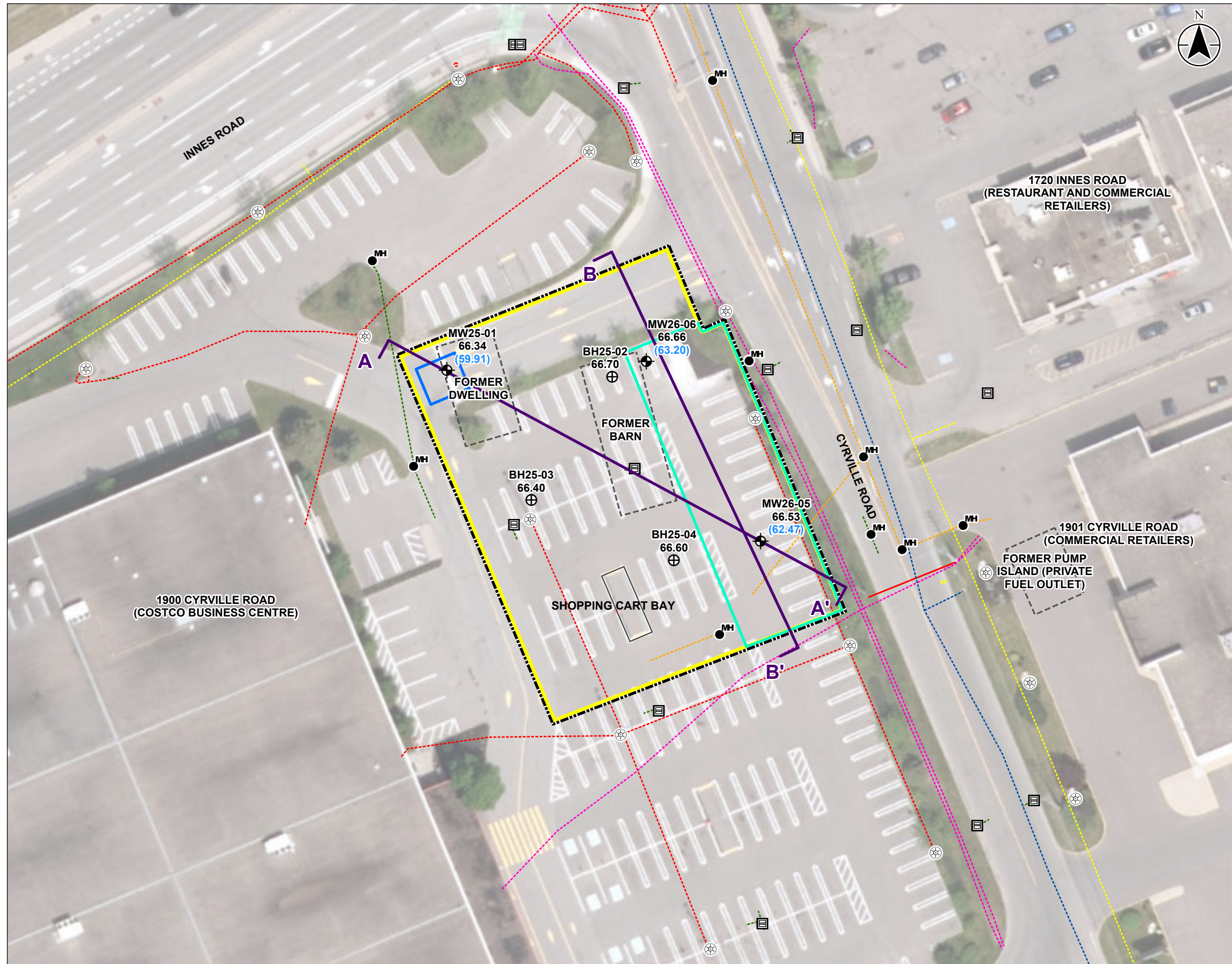
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Figure No.

5

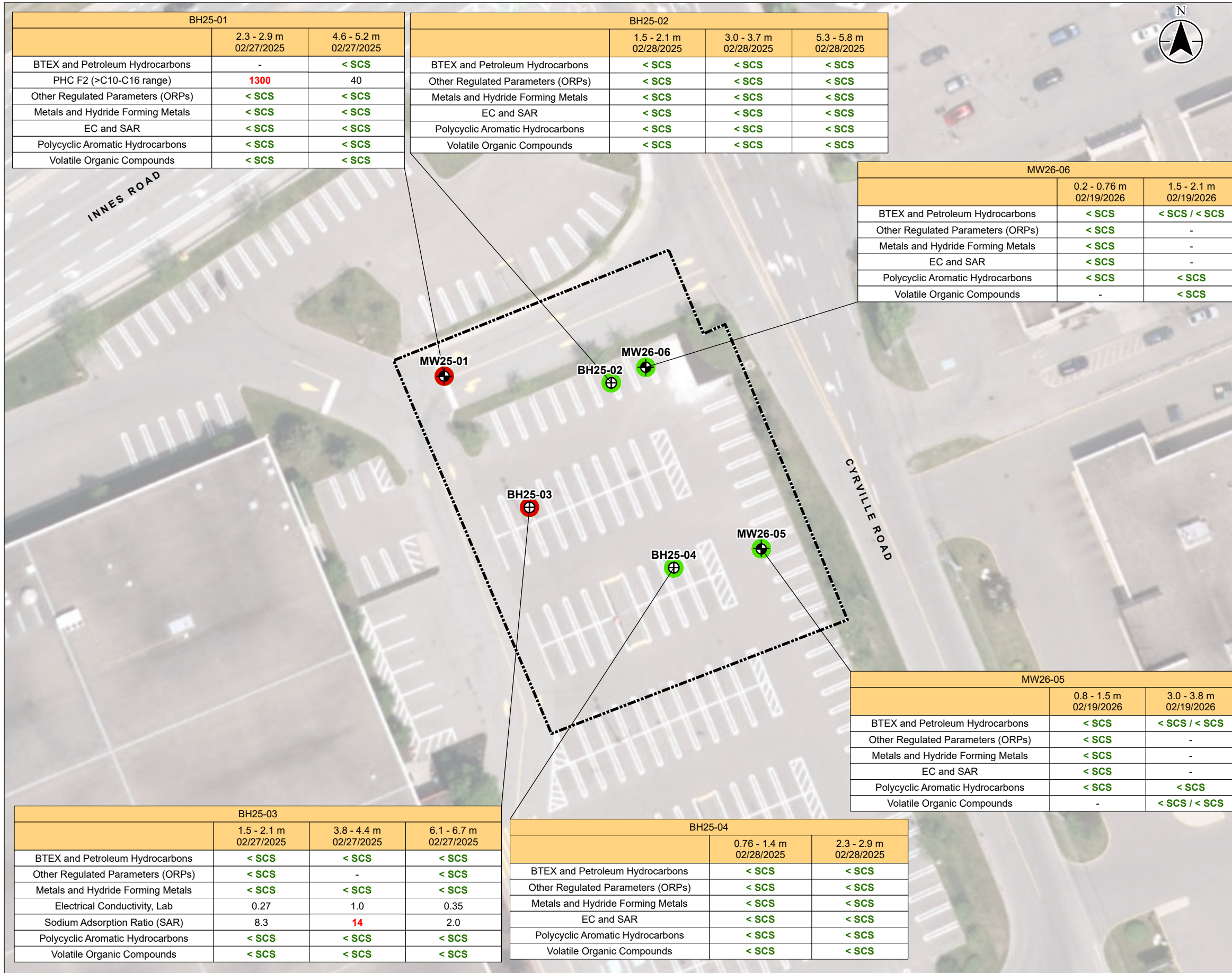
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**Borehole and Monitoring Well Location Plan**



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\\ca0218-ppf\ps01\work\_group\201609\active\Other\BC-121626297\02\_data\figs\Phase1\121626297\_figures\ph2naa.aprx Reviewed: 2025-05-09 By: svandamme



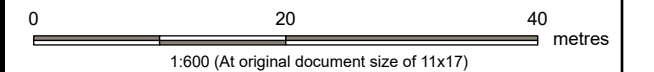
Legend

- Approximate Borehole Location
- Approximate Monitoring Well Location
- Soil Parameters Meet Regulatory Standards (2011 MECP Table 3 SCS)
- One or More Soil Parameters Exceed Regulatory Standards (2011 MECP Table 3 SCS)
- Approximate Site Boundary

Location ID	Sample Depth (m BGS)/ Sample Date	
BH25-01	2.3 - 2.9 m 02/27/2026	4.6 - 5.2 m 02/27/2026
BTEX and Petroleum Hydrocarbons	-	< SCS / < SCS
PHC F2 (>C10-C16 range)	1,300	40 / 40

Parameter	Concentration Exceeds SCS	All Parameters Met SCS	Value/Field Duplicate (µg/g)
Ontario SCS - Table 3			
Parameter	Units	Value	
PHC F2 (>C10-C16 range)	µg/g	230	
Electrical Conductivity, Lab	mS/cm	1.4	
Sodium Adsorption Ratio (SAR)	none	12	

\*The Electrical Conductivity and Sodium Adsorption Ratio concentrations documented at the Site were determined to have resulted from the application of a substance to ground surfaces for the safety of pedestrian and vehicular traffic under conditions of snow or ice and, per Section 49.1 of O. Reg. 153/04, are not deemed to represent an exceedance of the Site Condition Standard for the purposes of Part XV.1 of the Environmental Protection Act.



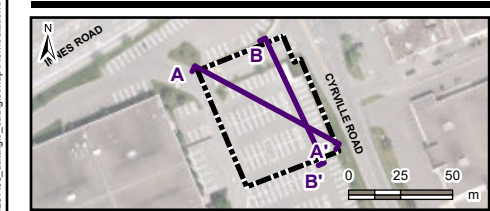
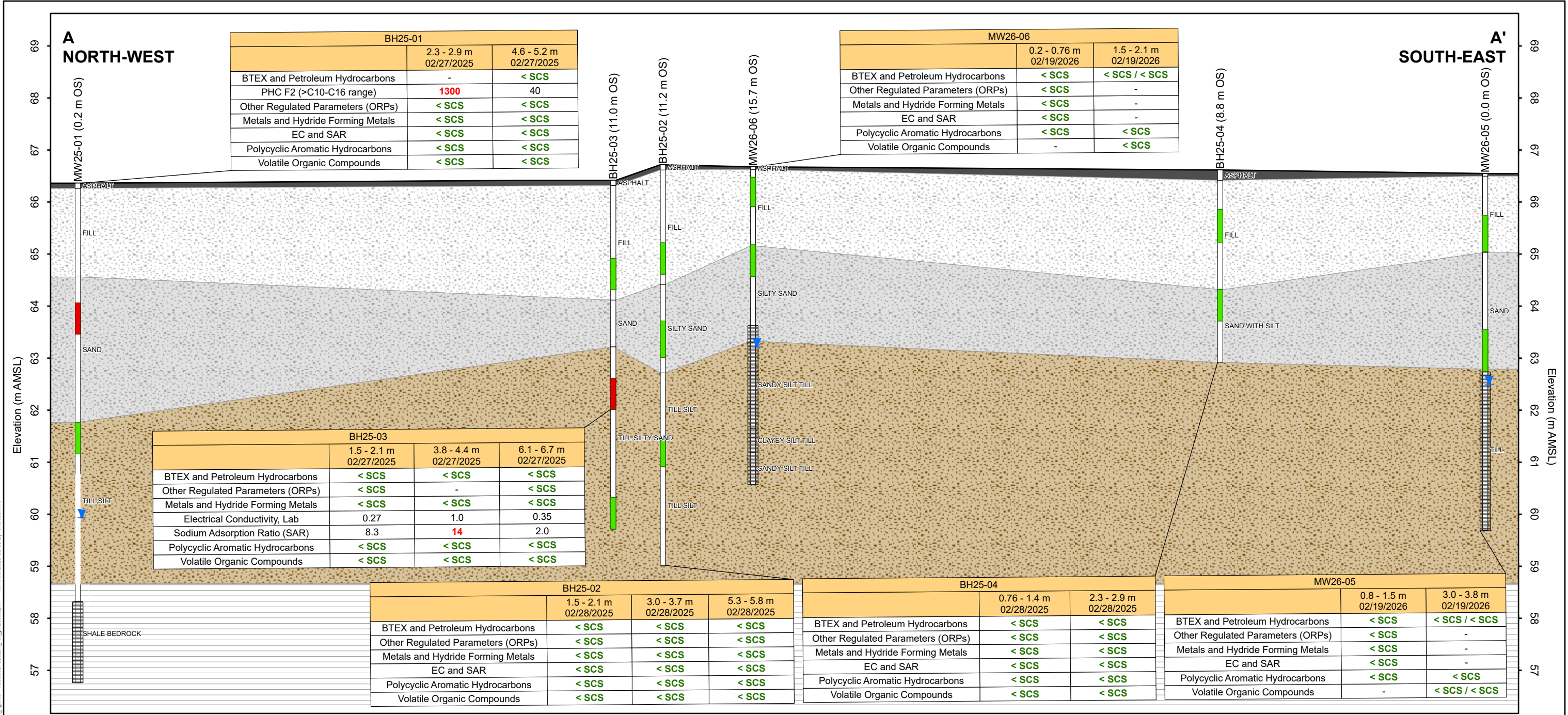
Notes

1. Coordinate System: NAD 1983 UTM Zone 18N
2. Contains information licensed under the Open Government Licence - Ontario.
3. Orthoimagery © First Base Solutions, 2025. Imagery Date, 2023.
4. Site features are based on field observations and should be considered approximate.
5. This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
6. MECP - Ministry of the Environment, Conservation and Parks.
7. SCS - Site Condition Standards.
8. All analytical results are provided in micrograms per gram (µg/g).
9. Table 3 - Industrial / Commercial / Community Property Use - Coarse Textured Soils.
10. EC - Electrical Conductivity, Lab.
11. SAR - Sodium Adsorption Ratio.

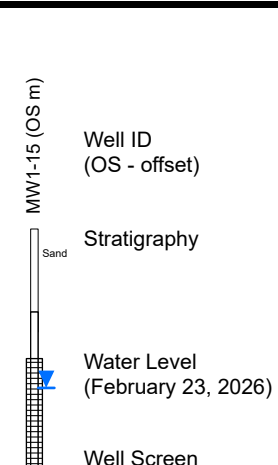
Project Location: Ottawa, Ontario  
 121626297  
 Prepared by SVD on 3/9/2026

Client/Project: COSTCO WHOLESALE CANADA LTD.  
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

Figure No.: 6a  
 Title: Summary of Soil Analytical Results



- Notes**
- This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
  - m AMSL - metres above mean sea level.
  - Refer to Figure 5a for cross-section location.
  - Refer to Borehole Logs for detailed stratigraphy.
  - MECP - Ministry of the Environment, Conservation and Parks.
  - SCS - Site Condition Standards.
  - All analytical results are provided in micrograms per gram (µg/g).
  - Table 3 - Industrial / Commercial / Community Property Use - Coarse Textured Soils.
  - EC - Electrical Conductivity, Lab.
  - SAR - Sodium Adsorption Ratio.



**Legend**

**AA\_Strata**

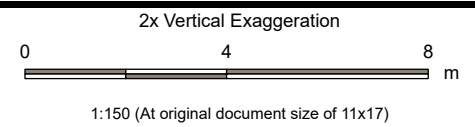
**DESC**

- Approximate Ground Surface
- █ Soil Parameters Met Regulatory Standards (2011 MECP Table 3 SCS)
- █ Asphalt
- █ Fill
- █ Silty Sand/Sand
- █ Till
- █ Shale Bedrock

\*The Electrical Conductivity and Sodium Adsorption Ratio concentrations documented at the Site were determined to have resulted from the application of a substance to ground surfaces for the safety of pedestrian and vehicular traffic under conditions of snow or ice and, per Section 49.1 of O. Reg. 153/04, are not deemed to represent an exceedance of the Site Condition Standard for the purposes of Part XV.1 of the Environmental Protection Act.

Ontario SCS - Table 3

Parameter	Units	Value
PHC F2 (>C10-C16 range)	µg/g	230
Electrical Conductivity, Lab	mS/cm	1.4
Sodium Adsorption Ratio (SAR)	none	12



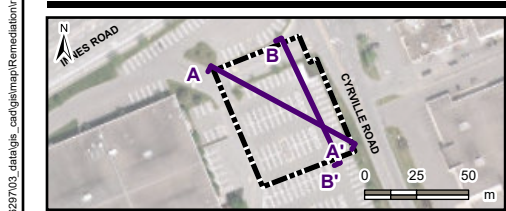
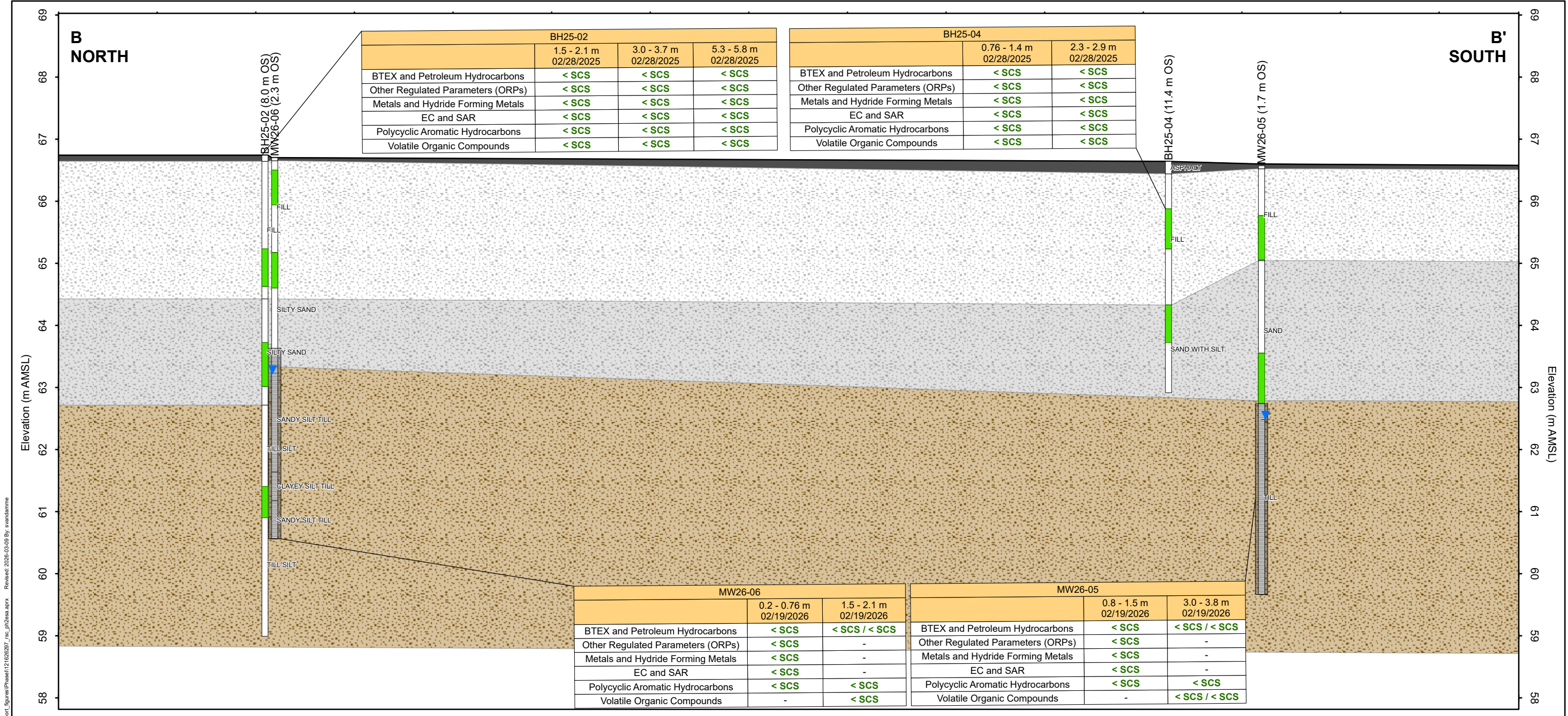
Parameter	Location ID		Sample Date
	BH25-01		
	2.3 - 2.9 m 02/27/2026	4.6 - 5.2 m 02/27/2026	
BTEX and Petroleum Hydrocarbons	-	< SCS / < SCS	
PHC F2 (>C10-C16 range)	1,300	40 / 40	



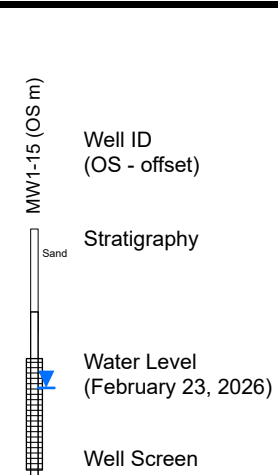
Project Location: Ottawa, Ontario  
 Prepared by SVD on 3/9/2026

Client/Project: COSTCO WHOLESALE CANADA LTD.  
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

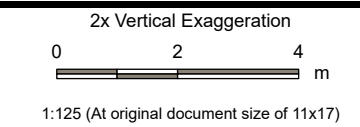
Figure No. **6b**  
 Title: **Cross-Section A-A' - Summary of Soil Analytical Results**



- Notes**
- This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
  - m AMSL - metres above mean sea level.
  - Refer to Figure 5a for cross-section location.
  - Refer to Borehole Logs for detailed stratigraphy.
  - MECP - Ministry of the Environment, Conservation and Parks.
  - SCS - Site Condition Standards.
  - All analytical results are provided in micrograms per gram (µg/g).
  - Table 3 - Industrial / Commercial / Community Property Use - Coarse Textured Soils.
  - EC - Electrical Conductivity, Lab.
  - SAR - Sodium Adsorption Ratio.



- Legend**
- Approximate Ground Surface
  - Soil Parameters Met Regulatory Standards (2011 MECP Table 3 SCS)
  - Asphalt
  - Fill
  - Silty Sand/Sand
  - Till



Location ID	Sample Depth (m BGS)/ Sample Date
BH25-01	2.3 - 2.9 m 02/27/2026
	4.6 - 5.2 m 02/27/2026
BTEX and Petroleum Hydrocarbons	< SCS / < SCS

Parameter: BTEX and Petroleum Hydrocarbons  
All Parameters Met SCS  
Value/Field Duplicate (µg/g)

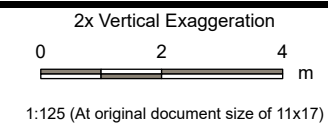
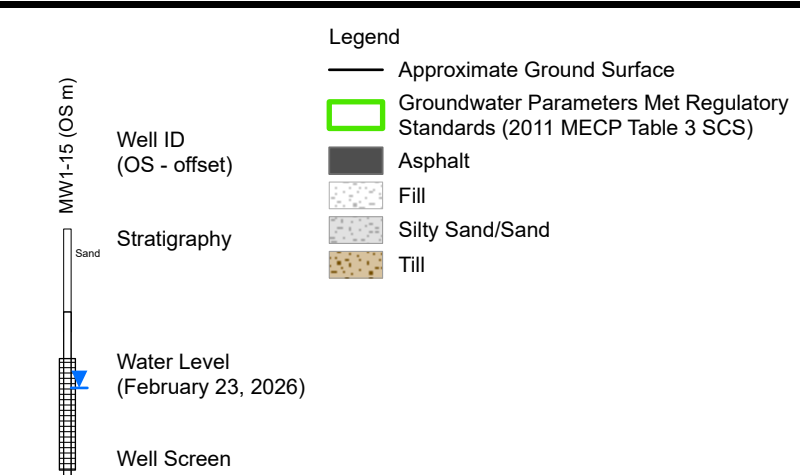
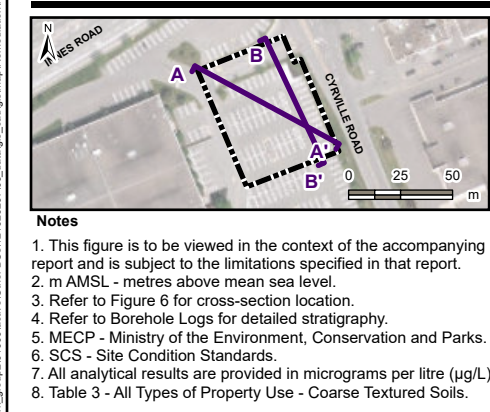
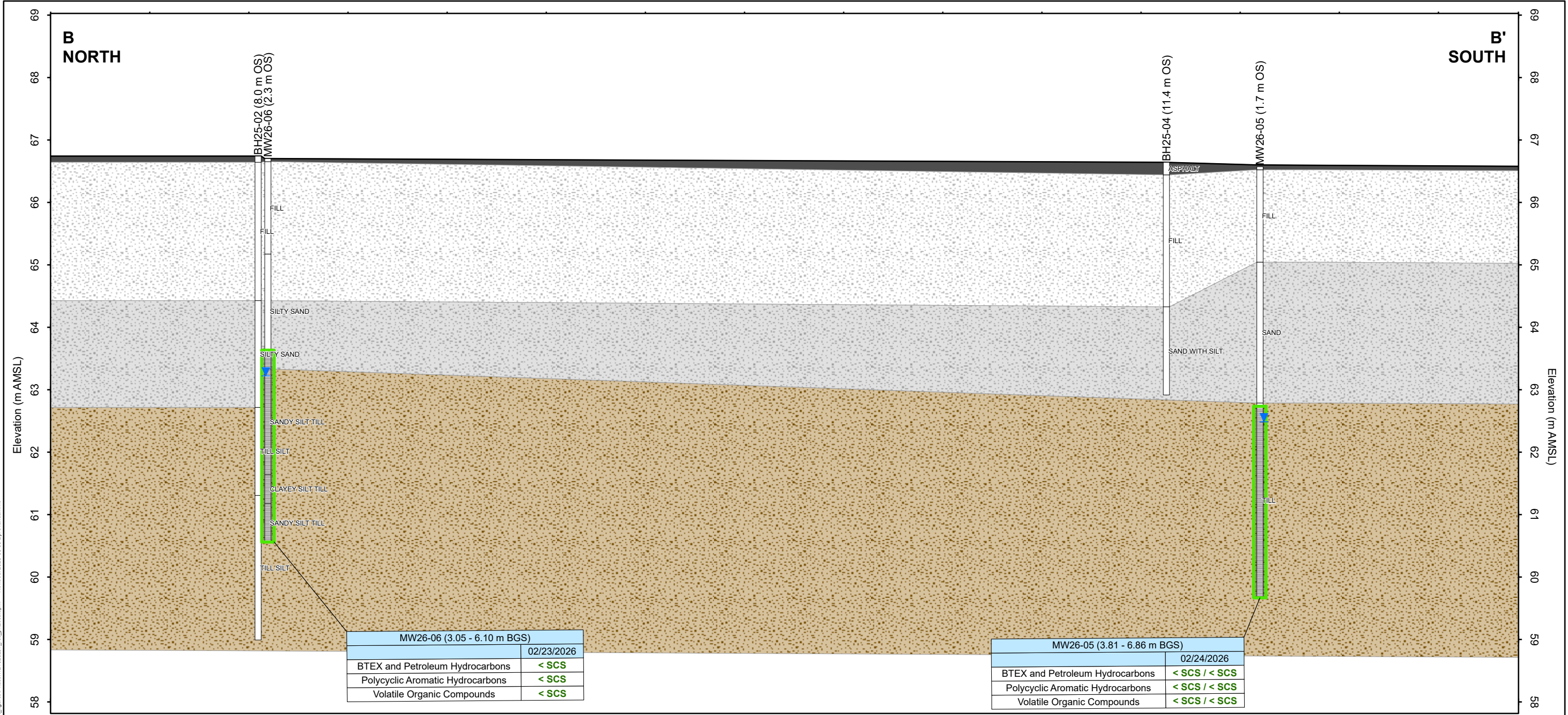
**Stantec**

Project Location: Ottawa, Ontario  
121626297  
Prepared by SVD on 3/9/2026

Client/Project: COSTCO WHOLESALE CANADA LTD.  
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
NORTHEAST PART OF 1900 CYRVILLE ROAD  
OTTAWA, ONTARIO

Figure No. **6c**

Title: **Cross-Section B-B' - Summary of Soil Analytical Results**



Location ID (screen interval)	Sample Date
MW26-05	02/24/2026
BTEX and Petroleum Hydrocarbons	< SCS / < SCS
Parameter	All Parameters Met SCS Value/Field Duplicate (µg/L)

**Project Location** 121626297  
Ottawa, Ontario Prepared by SVD on 3/9/2026

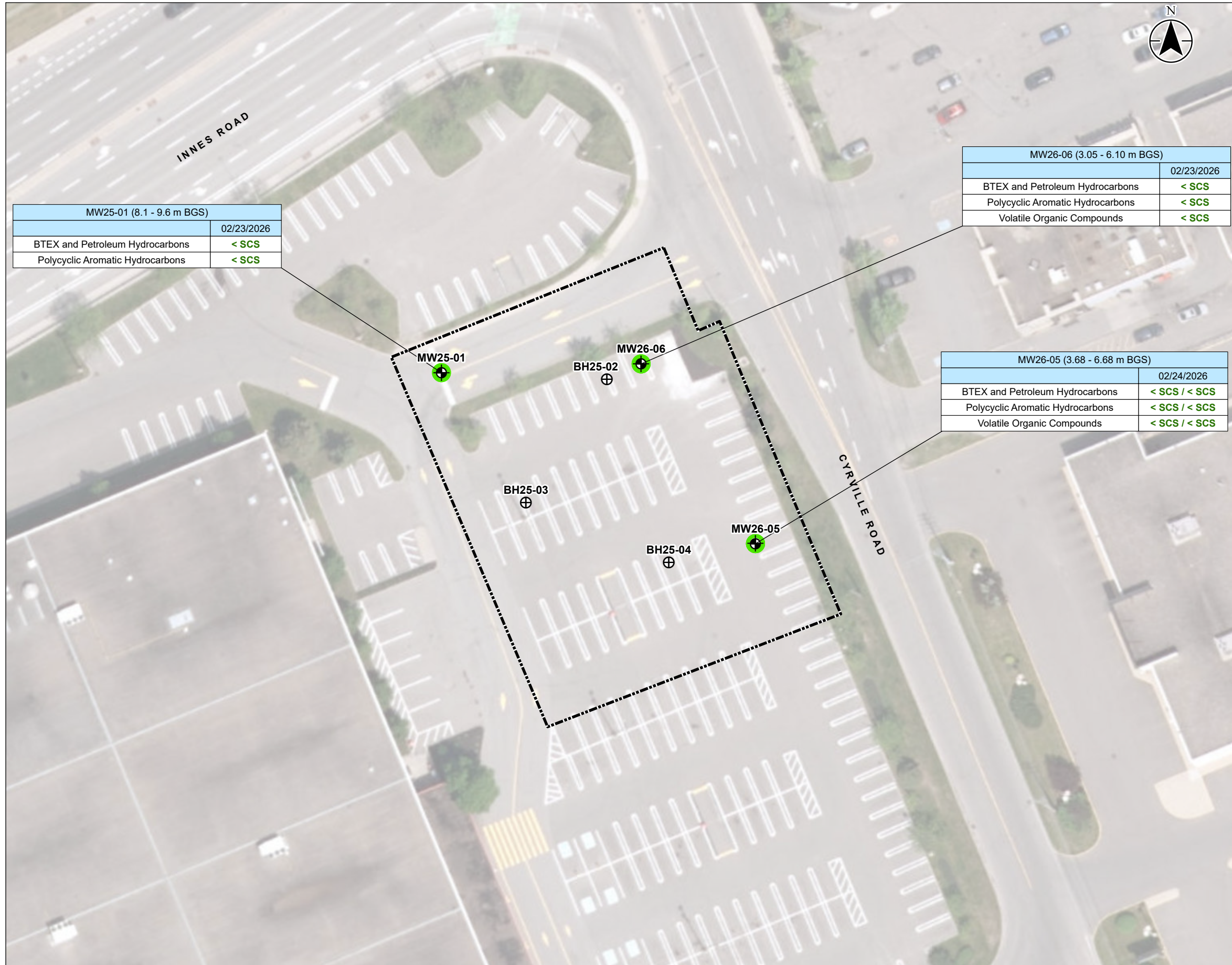
**Client/Project**  
COSTCO WHOLESALE CANADA LTD.  
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
NORTHEAST PART OF 1900 CYRVILLE ROAD  
OTTAWA, ONTARIO

**Figure No.**  
**7c**

**Title**  
**Cross-Section B-B' - Summary of Groundwater Analytical Results**

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\\s0218-ppf\as01\work\_group\201609\active\Other\BC\121626297\02\_data\figs\figmap\RemediationReport\_Figures\Phase1\121626297\_fig\_p12aa.aprx Reviewed: 2025-05-08 By: svandamme



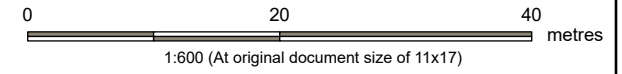
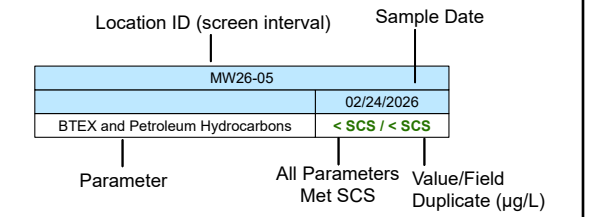
MW25-01 (8.1 - 9.6 m BGS)	
	02/23/2026
BTEX and Petroleum Hydrocarbons	< SCS
Polycyclic Aromatic Hydrocarbons	< SCS

MW26-06 (3.05 - 6.10 m BGS)	
	02/23/2026
BTEX and Petroleum Hydrocarbons	< SCS
Polycyclic Aromatic Hydrocarbons	< SCS
Volatile Organic Compounds	< SCS

MW26-05 (3.68 - 6.68 m BGS)	
	02/24/2026
BTEX and Petroleum Hydrocarbons	< SCS / < SCS
Polycyclic Aromatic Hydrocarbons	< SCS / < SCS
Volatile Organic Compounds	< SCS / < SCS



- Legend
- ⊕ Approximate Borehole Location
  - ⊕ with dot Approximate Monitoring Well Location
  - Groundwater Parameters Met Regulatory Standards (2011 MECP Table 3 SCS)
  - ⬡ Approximate Site Boundary

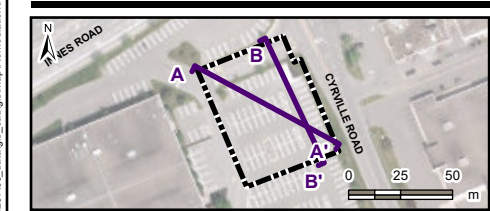
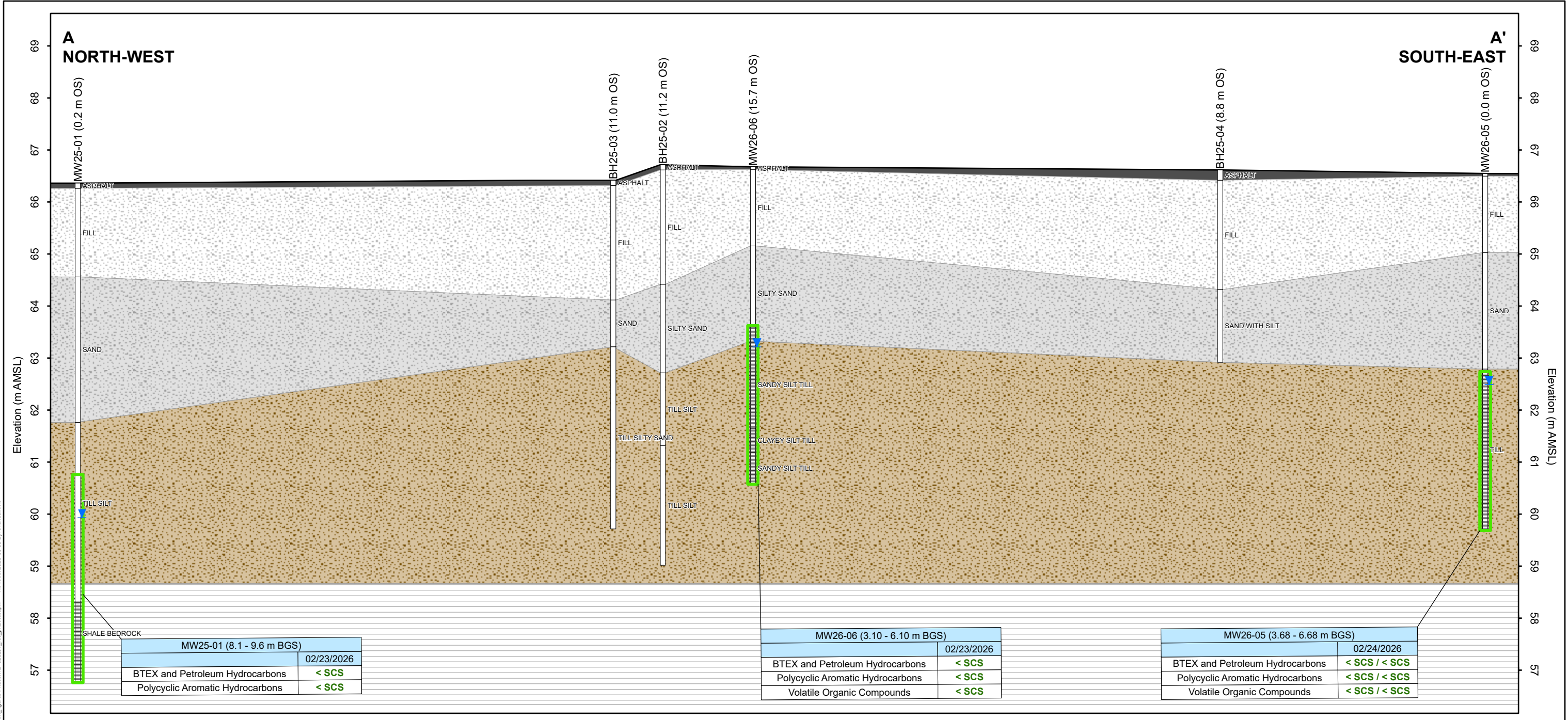


- Notes**
- Coordinate System: NAD 1983 UTM Zone 18N
  - Contains information licensed under the Open Government Licence - Ontario.
  - Orthoimagery © First Base Solutions, 2025. Imagery Date, 2023.
  - Site features are based on field observations and should be considered approximate.
  - This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
  - MECP - Ministry of the Environment, Conservation and Parks.
  - SCS - Site Condition Standards.
  - All analytical results are provided in micrograms per litre (µg/L).
  - Table 3 - All Types of Property Use - Coarse Textured Soils.

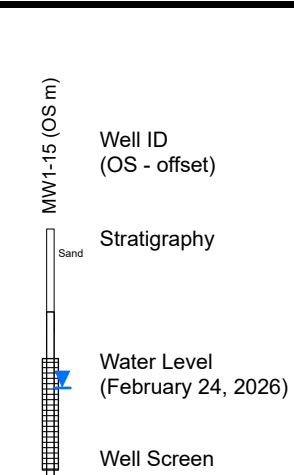
Project Location: Ottawa, Ontario  
 121626297  
 Prepared by SVD on 3/6/2026

Client/Project: COSTCO WHOLESALE CANADA LTD.  
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

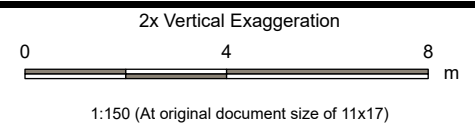
Figure No. **7a**  
 Title: **Summary of Groundwater Analytical Results**



- Notes**
1. This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
  2. m AMSL - metres above mean sea level.
  3. Refer to Figure 5a for cross-section location.
  4. Refer to Borehole Logs for detailed stratigraphy.
  5. MECP - Ministry of the Environment, Conservation and Parks.
  6. SCS - Site Condition Standards.
  7. All analytical results are provided in micrograms per litre (µg/L).
  8. Table 3 - All Types of Property Use - Coarse Textured Soils.



- Legend**
- AA\_Strata**
- DESC**
- Asphalt
  - Fill
  - Silty Sand/Sand
  - Till
  - Shale Bedrock
  - Approximate Ground Surface
  - Groundwater Parameters Met Regulatory Standards (2011 MECP Table 3 SCS)



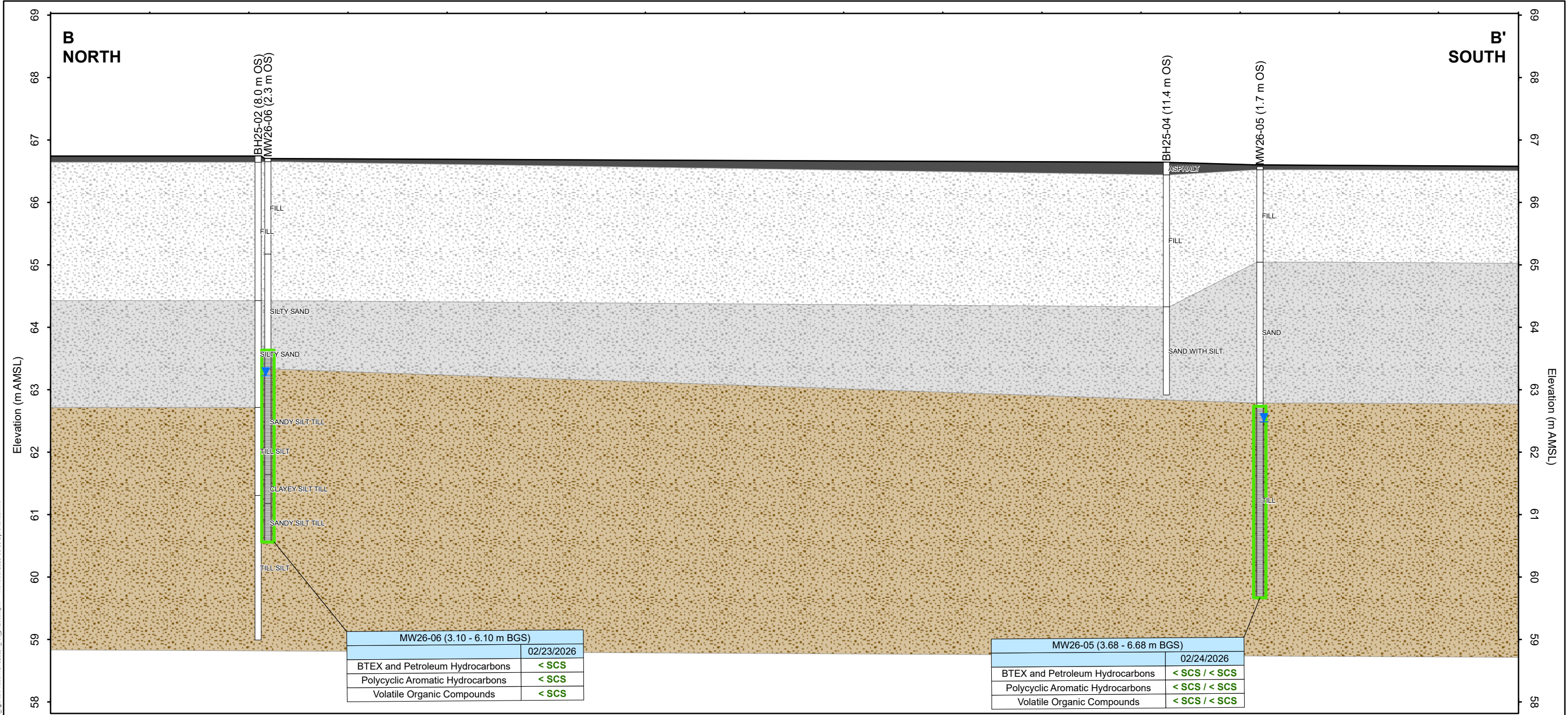
Location ID (screen interval)	Sample Date
MW26-05	02/24/2026
BTEX and Petroleum Hydrocarbons	< SCS / < SCS
Parameter	All Parameters Met SCS Value/Field Duplicate (µg/L)



Project Location: Ottawa, Ontario  
 Prepared by SVD on 3/9/2026

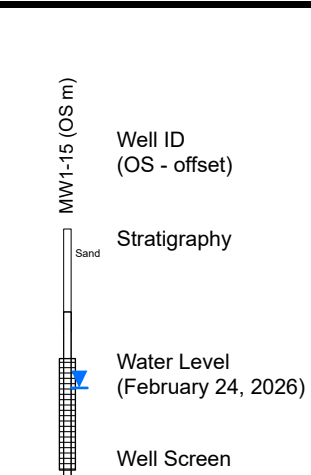
Client/Project: COSTCO WHOLESALE CANADA LTD. PHASE TWO ENVIRONMENTAL SITE ASSESSMENT NORTHEAST PART OF 1900 CYRVILLE ROAD OTTAWA, ONTARIO

Figure No. **7b**  
 Title: **Cross-Section A-A' - Summary of Groundwater Analytical Results**



**Notes**

- This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
- m AMSL - metres above mean sea level.
- Refer to Figure 5a for cross-section location.
- Refer to Borehole Logs for detailed stratigraphy.
- MECP - Ministry of the Environment, Conservation and Parks.
- SCS - Site Condition Standards.
- All analytical results are provided in micrograms per litre (µg/L).
- Table 3 - All Types of Property Use - Coarse Textured Soils.



**Legend**

- Approximate Ground Surface
- Groundwater Parameters Met Regulatory Standards (2011 MECP Table 3 SCS)
- Asphalt
- Fill
- Silty Sand/Sand
- Till

2x Vertical Exaggeration

0 2 4 m

1:125 (At original document size of 11x17)

Location ID (screen interval)	Sample Date
MW26-05	02/24/2026
BTEX and Petroleum Hydrocarbons	< SCS / < SCS
Parameter	All Parameters Met SCS Value/Field Duplicate (µg/L)

**Project Location**  
Ottawa, Ontario

**Client/Project**  
COSTCO WHOLESALE CANADA LTD.  
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
NORTHEAST PART OF 1900 CYRVILLE ROAD  
OTTAWA, ONTARIO

**Figure No.**  
**7c**

**Title**  
**Cross-Section B-B' - Summary of Groundwater Analytical Results**

121626297  
Prepared by SVD on 3/9/2026

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# Tables



**Table 1**  
**Summary of Field Data Monitoring Results**  
**Phase Two ESA - Northeast Part of 1900 Cyrville Road, Ottawa, ON**  
**Costco Wholesale Canada Ltd.**

Monitoring Location	Monitoring Date (dd-mmm-yy)	Ground Surface Elevation (m AMSL)	Top of Pipe Elevation (m AMSL)	Water Level Elevation (m AMSL)	Water Level Depth (m BTOP)	Water Level Depth (m BGS)	DNAPL / LNAPL Apparent Thickness (mm)	Well Headspace CVC (ppmv)	Well Headspace TOV (ppmv)	Temperature (°C)	Conductivity (mS)	pH	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)
MW25-01	24-Feb-26	66.34	66.23	59.91	6.32	6.43	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW26-05	24-Feb-26	66.53	66.41	62.47	3.94	4.06	0	N/A	N/A	4.31	13.70	7.82	519	4.65	-21
MW26-06	24-Feb-26	66.66	66.65	63.20	3.35	3.46	0	N/A	N/A	9.93	6.52	7.22	546	0.16	1

**Notes:**

- m AMSL Metres above mean sea level
- m BTOP Metres below top of pipe
- m BGS Metres below ground surface
- mm Millimetres
- CVC Combustable vapour concentration
- TOC Total organic vapour concentration
- ppm<sub>v</sub> Parts per million by volume
- mS milliesiemens
- mV millivolts
- N/A No measurement



**Table 3**  
**Summary of Waste Characterization Analytical Results**  
**Phase Two ESA - Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**  
**Costco Wholesale Canada Ltd.**

Sample Location			TCLP
Sample Date			28-Feb-25
Sample ID			TCLP
Sampling Company			STANTEC
Laboratory			BV
Laboratory Work Order			C522430
Laboratory Sample ID			AONQ36
Sample Type	Units	O.Reg. 347 Sch 4	
<b>Leachate Preparation</b>			
Amount Extracted (Wet Weight)	none	n/v	25
Extraction Fluid	none	n/v	FLUID 2
pH Final	S.U.	n/v	4.95
pH Initial	S.U.	n/v	9.63
Total Solids	%	n/v	100
<b>Ignitability</b>			
Ignitability	none	n/v	NF/NI
<b>General Chemistry - TCLP</b>			
Cyanide (Free)	mg/L	20 <sup>A</sup>	<0.010
Fluoride	mg/L	150 <sup>A</sup>	0.15
Nitrate (as N)	mg/L	n/v	<1.0
Nitrate + Nitrite (as N)	mg/L	1,000 <sup>A</sup>	<1.0
Nitrite (as N)	mg/L	n/v	<0.10
<b>Metals - TCLP</b>			
Arsenic	mg/L	2.5 <sup>A</sup>	<0.2
Barium	mg/L	100 <sup>A</sup>	1.1
Boron	mg/L	500 <sup>A</sup>	<0.1
Cadmium	mg/L	0.5 <sup>A</sup>	<0.05
Chromium	mg/L	5 <sup>A</sup>	<0.1
Lead	mg/L	5 <sup>A</sup>	<0.1
Mercury	mg/L	0.1 <sup>A</sup>	<0.001
Selenium	mg/L	1 <sup>A</sup>	<0.1
Silver	mg/L	5 <sup>A</sup>	<0.01
Uranium	mg/L	10 <sup>A</sup>	<0.01
<b>Semi-Volatile Organic Compounds - TCLP</b>			
Benzo(a)pyrene	µg/L	1 <sup>A</sup>	<0.10
Cresol, m & p- (Methylphenol, 3&4-)	µg/L	200,000 <sup>A</sup>	<2.5
Cresol, o- (Methylphenol, 2-)	µg/L	200,000 <sup>A</sup>	<2.5
Cresol, Total Leachable	µg/L	200,000 <sup>A</sup>	<2.5
Dichlorophenol, 2,4-	µg/L	90,000 <sup>A</sup>	<2.5
Dinitrotoluene, 2,4-	µg/L	130 <sup>A</sup>	<10
Hexachlorobenzene	µg/L	130 <sup>A</sup>	<10
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/L	500 <sup>A</sup>	<10
Hexachloroethane	µg/L	3,000 <sup>A</sup>	<10
Nitrobenzene	µg/L	2,000 <sup>A</sup>	<10
Pentachlorophenol	µg/L	6,000 <sup>A</sup>	<2.5
Pyridine	µg/L	5,000 <sup>A</sup>	<10
Tetrachlorophenol, 2,3,4,6-	µg/L	10,000 <sup>A</sup>	<2.5
Trichlorophenol, 2,4,5-	µg/L	400,000 <sup>A</sup>	<0.50
Trichlorophenol, 2,4,6-	µg/L	500 <sup>A</sup>	<2.5
<b>Polychlorinated Biphenyls - TCLP</b>			
Polychlorinated Biphenyls (PCBs)	µg/L	300 <sup>A</sup>	<3.0
<b>Volatile Organic Compounds - TCLP</b>			
Benzene	mg/L	0.5 <sup>A</sup>	<0.020
Carbon Tetrachloride (Tetrachloromethane)	mg/L	0.5 <sup>A</sup>	<0.020
Chlorobenzene (Monochlorobenzene)	mg/L	8 <sup>A</sup>	<0.020
Chloroform (Trichloromethane)	mg/L	10 <sup>A</sup>	<0.020
Dichlorobenzene, 1,2-	mg/L	20 <sup>A</sup>	<0.050
Dichlorobenzene, 1,4-	mg/L	0.5 <sup>A</sup>	<0.050
Dichloroethane, 1,2-	mg/L	0.5 <sup>A</sup>	<0.050
Dichloroethane, 1,1-	mg/L	1.4 <sup>A</sup>	<0.020
Methyl Ethyl Ketone (MEK) (2-Butanone)	mg/L	200 <sup>A</sup>	<1.0
Methylene Chloride (Dichloromethane)	mg/L	5 <sup>A</sup>	<0.20
Tetrachloroethene (PCE)	mg/L	3 <sup>A</sup>	<0.020
Trichloroethene (TCE)	mg/L	5 <sup>A</sup>	<0.020
Vinyl Chloride	mg/L	0.2 <sup>A</sup>	<0.020

**Notes:**

O.Reg. 347 Sch 4	Ontario Ministry of the Environment
<sup>A</sup>	MOE O.Reg. 347 of R.R.O. 1990 - Schedule 4 – Leachate Quality Criteria
<b>6.5<sup>A</sup></b>	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
NF/NI	Non-flammable and non-ignitable

**Table 4**  
**Summary of Groundwater Analytical Results**  
**Phase Two ESA - Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**  
**Costco Wholesale Canada Ltd.**

Sample Location			MW25-01	MW26-05			MW26-06	Trip Blank
Sample Date			23-Feb-26	24-Feb-26	23-Feb-26		23-Feb-26	20-Feb-26
Sample ID			MW25-01	MW26-05	QC-03		MW26-06	Trip Blank
Sampling Company			STANTEC	STANTEC	STANTEC		STANTEC	STANTEC
Laboratory			PARACEL	PARACEL	PARACEL		PARACEL	PARACEL
Laboratory Work Order			2609173	2609173	2609173		2609173	2609173
Laboratory Sample ID			2609173-01	2609173-04	2609173-03	RPD	2609173-02	2609173-05
Sample Type	Units	Ontario SCS			Field Duplicate	(%)		Trip Blank
<b>BTEX and Petroleum Hydrocarbons</b>								
Benzene	µg/L	44 <sup>A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
Toluene	µg/L	18,000 <sup>A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
Ethylbenzene	µg/L	2,300 <sup>A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
Xylene, m & p-	µg/L	s1 <sup>A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
Xylene, o-	µg/L	s1 <sup>A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
Xylenes, Total	µg/L	4,200 <sup>s1A</sup>	<0.5 GA	<0.5	<0.5	nc	<0.5	<0.5
PHC F1 (C6-C10 range) minus BTEX	µg/L	750 <sup>s7A</sup>	<25 GA	<25	<25	nc	<25	<25
PHC F2 (>C10-C16 range)	µg/L	150 <sup>s15A</sup>	<100	<100	-	-	<100	-
PHC F3 (>C16-C34 range)	µg/L	500 <sup>s8A</sup>	<100	<100	-	-	<100	-
PHC F4 (>C34-C50 range)	µg/L	500 <sup>s10A</sup>	<100	<100	-	-	<100	-
<b>Polycyclic Aromatic Hydrocarbons</b>								
Acenaphthene	µg/L	600 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Acenaphthylene	µg/L	1.8 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Anthracene	µg/L	2.4 <sup>A</sup>	<0.01	<0.01	-	-	<0.01	-
Benzo(a)anthracene	µg/L	4.7 <sup>A</sup>	<0.01	<0.01	-	-	<0.01	-
Benzo(a)pyrene	µg/L	0.81 <sup>A</sup>	<0.01	<0.01	-	-	<0.01	-
Benzo(b)fluoranthene	µg/L	0.75 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Benzo(g,h,i)perylene	µg/L	0.2 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Benzo(k)fluoranthene	µg/L	0.4 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Chrysene	µg/L	1 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Dibenzo(a,h)anthracene	µg/L	0.52 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Fluoranthene	µg/L	130 <sup>A</sup>	0.02	<0.01	-	-	0.01	-
Fluorene	µg/L	400 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Indeno(1,2,3-cd)pyrene	µg/L	0.2 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Methylnaphthalene (Total)	µg/L	1,800 <sup>s1A</sup>	<0.10	<0.10	-	-	<0.10	-
Methylnaphthalene, 1-	µg/L	s3 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Methylnaphthalene, 2-	µg/L	s3 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Naphthalene	µg/L	1,400 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Phenanthrene	µg/L	580 <sup>A</sup>	<0.05	<0.05	-	-	<0.05	-
Pyrene	µg/L	68 <sup>A</sup>	0.03	<0.01	-	-	0.01	-
<b>Volatile Organic Compounds</b>								
Acetone	µg/L	130,000 <sup>A</sup>	-	<5.0	-	-	<5.0	<5.0
Bromodichloromethane	µg/L	85,000 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Bromoform (Tribromomethane)	µg/L	380 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Bromomethane (Methyl bromide)	µg/L	5.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Carbon Tetrachloride (Tetrachloromethane)	µg/L	0.79 <sup>A</sup>	-	<0.2	-	-	<0.2	<0.2
Chlorobenzene (Monochlorobenzene)	µg/L	630 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Chloroform (Trichloromethane)	µg/L	2.4 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dibromochloromethane	µg/L	82,000 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichlorobenzene, 1,2-	µg/L	4,600 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	9,600 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	8 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichlorodifluoromethane (Freon 12)	µg/L	4,400 <sup>A</sup>	-	<1.0	-	-	<1.0	<1.0
Dichloroethane, 1,1-	µg/L	320 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloroethane, 1,1-	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloroethane, cis-1,2-	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloroethane, trans-1,2-	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	16 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L	5.2 <sup>s11A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloropropene, cis-1,3-	µg/L	s11 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Dichloropropene, trans-1,3-	µg/L	s11 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.25 <sup>A</sup>	-	<0.2	-	-	<0.2	<0.2
Hexane (n-Hexane)	µg/L	51 <sup>A</sup>	-	<1.0	-	-	<1.0	<1.0
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L	470,000 <sup>A</sup>	-	<5.0	-	-	<5.0	<5.0
Methyl Isobutyl Ketone (MIBK)	µg/L	140,000 <sup>A</sup>	-	<5.0	-	-	<5.0	<5.0
Methyl tert-butyl ether (MTBE)	µg/L	190 <sup>A</sup>	-	<2.0	-	-	<2.0	<2.0
Methylene Chloride (Dichloromethane)	µg/L	610 <sup>A</sup>	-	<5.0	-	-	<5.0	<5.0
Styrene	µg/L	1,300 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	3.3 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	3.2 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Tetrachloroethene (PCE)	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	640 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	4.7 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Trichloroethene (TCE)	µg/L	1.6 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5
Trichlorofluoromethane (Freon 11)	µg/L	2,500 <sup>A</sup>	-	<1.0	-	-	<1.0	<1.0
Vinyl Chloride	µg/L	0.5 <sup>A</sup>	-	<0.5	-	-	<0.5	<0.5

See notes on last page.

**Table 4**  
**Summary of Groundwater Analytical Results**  
**Phase Two ESA - Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**  
**Costco Wholesale Canada Ltd.**

**Notes:**

Ontario SCS Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOE, 2011) Site Condition Standards (SCS)

<sup>A</sup>	Table 3 - All Types of Property Use - Coarse Textured Soils
<b>6.5<sup>A</sup></b>	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<b>&lt;0.50</b>	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
s1	Standard is applicable to total xylenes, and m & p-xylenes and o-xylenes should be summed for comparison.
s3	Standard is applicable to both 1-methylnaphthalene and 2-methylnaphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.
s7	Standard is applicable to PHC in the F1 range minus BTEX.
s8	Standard is applicable to PHC in the F3 range, minus PAHs (other than naphthalene). If PAHs were not analyzed, the standard is applied to F3.
s10	If baseline is not reached during F4 analysis, then gravimetric analysis is to be performed, and the standard is applied to the higher of the two results.
s11	Standard is applicable to 1,3-Dichloropropene, and the individual isomers (cis + trans) should be added for comparison.
s15	Standard is applicable to PHC in the F2 range minus naphthalene. If naphthalene was not analyzed, the standard is applied to F2.
GA	The sample was decanted due to sediment content.
RPD	Relative Percent Difference.
<b>61%</b>	RPD exceeds data quality objective of 30%.
nc	RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

# Appendices



## **Appendix A      Survey of Phase Two Property**



**TOPOGRAPHIC SURVEY OF  
PART OF LOT 22  
CONCESSION 3**  
GEOGRAPHIC TOWNSHIP OF GLOUCESTER  
CITY OF OTTAWA

Scale 1:500  
0 10 20 30 METRES

Stantec Geomatics Ltd.  
ONTARIO LAND SURVEYORS

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

**HORIZONTAL DATUM NOTE**  
PROJECTION: MODIFIED TRANSVERSE MERCATOR  
(MTM, ZONE 9, CM74°30'W)  
DATUM: NAD 83 (ORIGINAL)

DISTANCES ON THIS PLAN ARE GROUND AND MAY BE CONVERTED TO GRID DISTANCES BY DIVIDING BY A COMBINED SCALE FACTOR OF 0.99994.

**VERTICAL DATUM NOTE**  
ELEVATIONS ARE REFERRED TO THE CANADIAN GEODETIC VERTICAL DATUM (CGVD-1928:1978) AND ARE DERIVED FROM BENCHMARK MONUMENT No. 001196530389, HAVING A PUBLISHED ELEVATION OF 67.097 METRES.

CONTOURS SHOWN HEREON ARE TO 0.10 METRES.

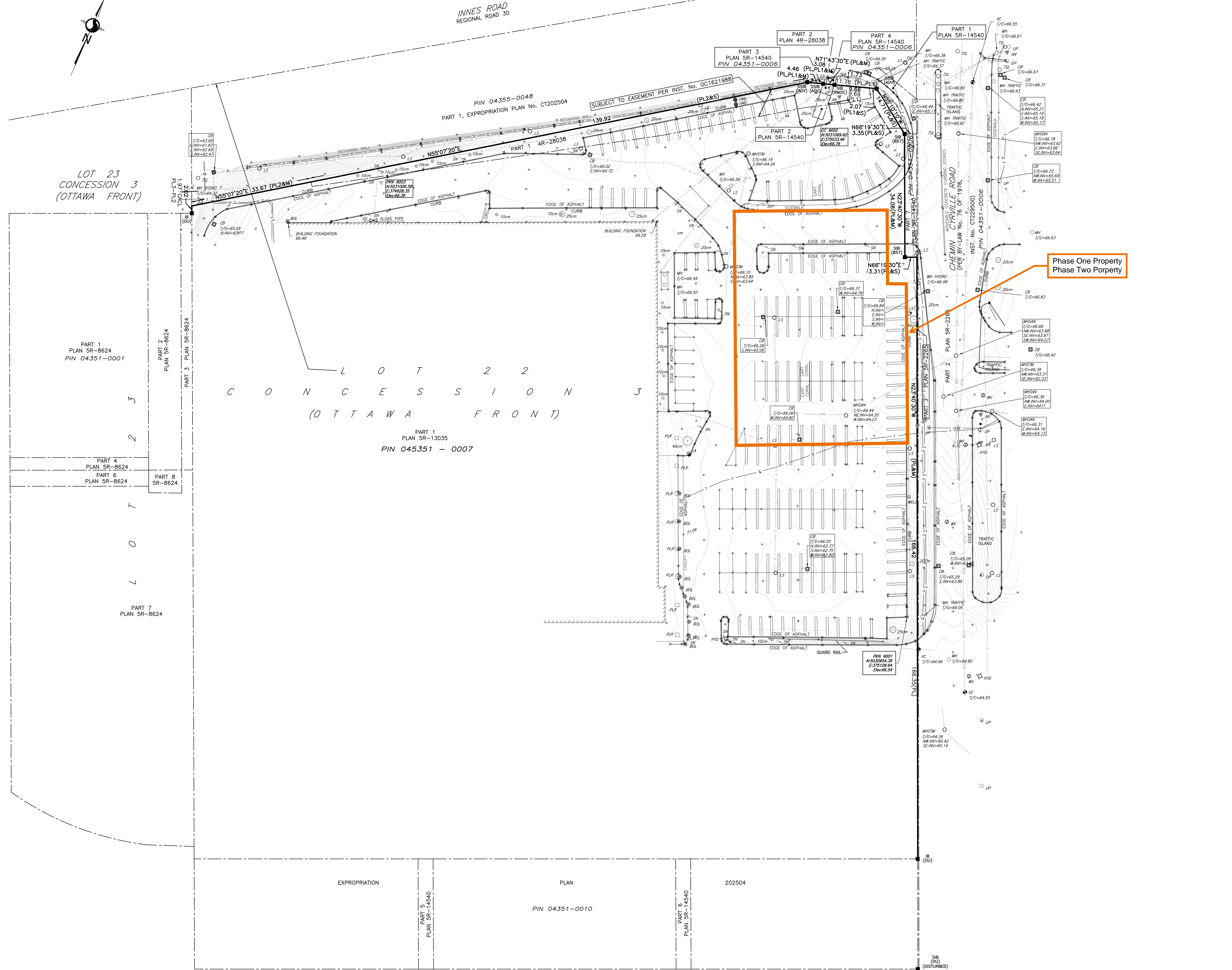
LOCATION OF SITE BENCHMARKS AS SHOWN HEREON

LEGEND	
■	FOUND MONUMENTS
□	SET MONUMENTS
IB	IRON BAR
IBP	ROUND IRON BAR
SIB	STANDARD IRON BAR
SSIB	SHORT STANDARD IRON BAR
CC	CUT CROSS
CP	CONCRETE PIN
WIT	WITNESS
IPW	PROPERTY IDENTIFICATION NUMBER
M/MEAS	MEASURED
PROP	PROPORTIONED
OU	ORIGIN UNKNOWN
SG	STANTEC GEOMATICS LTD.
PL	PLAN SR-14540
PL1	PLAN 4R-28038
PL2	PLAN SR-8624
PL3	PLAN SR-9014
ACU	AIR CONDITIONING UNIT
AN	ANCHOR
AP	AIR PUMP
ANT	ANTENNA
BH	BOREHOLE
BOL	BOLLARD
CB	CATCH BASIN
CBMH	CB MANHOLE
FP	FLAG POLE
FL	FLOOD LIGHT
GC	GARBAGE CAN
GP	POLE GUYWIRE
GSR	GAS SERVICE REGULATOR
GV	GAS VALVE
HLS	HYDRO LIGHT STANDARD
HM	HYDRO METER
HTN	HYDRO TRANSFORMER
HW	HAND WELL
HYD	FIRE HYDRANT
JBX	JUNCTION BOX
LS	LIGHT STANDARD
MIP	MONITORING PIN
MH	MAINTENANCE HOLE UNIDENTIFIED
MHB	MAINTENANCE HOLE BELL
MHF	MAINTENANCE HOLE FIBRE OPTIC
MHH	MAINTENANCE HOLE HYDRO
MHSAN	MAINTENANCE HOLE SANITARY
MHSTM	MAINTENANCE HOLE STORM
MHT	MAINTENANCE HOLE TRAFFIC
MW	MONITORING WELL
OLS	LIGHT STANDARD ORNAMENTAL
FLBX	PULL BOX
PLR	PILLAR
SH	SIGN
TB BELL	TERMINAL BOX - BELL
TB CATV	TERMINAL BOX - CABLE
TCP	TRAFFIC CONTROL BOX
TRF	TEST PIT
TSL	TRAFFIC SIGNAL LIGHT
UMB	MARKER BELL UNDERGROUND
UMC	MARKER CABLE UNDERGROUND
UMG	MARKER GAS UNDERGROUND
UMO	MARKER OIL UNDERGROUND
UP	UTILITY POLE
VB	VALVE BOX
VC	VALVE CHAMBER
WV	WATER VALVE
TS	TREE STUMP
TC	TREE CONIFEROUS (D.B.H. SHOWN)
TD	TREE DECIDUOUS (D.B.H. SHOWN)
T	UNDERGROUND TELEPHONE
P	UNDERGROUND HYDRO
WTM	WATERMAIN
CASMAN	CASIMAN
STM	STORM SEWER
FOTS	UNDERGROUND FIBRE OPTIC
OHW	OVERHEAD WIRE
SAN	SANITARY SEWER
CATV	UNDERGROUND CABLE
P	UNDERGROUND HYDRO
T	UNDERGROUND TELEPHONE

**SURVEYOR'S CERTIFICATE**  
I CERTIFY THAT:  
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.  
2. THE SURVEY WAS COMPLETED ON THE 12th DAY OF JUNE, 2025.

DATE: \_\_\_\_\_ R.G. BENNETT  
ONTARIO LAND SURVEYOR

DRAWN: DM CHECKED: CT PM: CT FIELD: RM/RJ PROJECT No.: 121625297-400





13 June 2025 8:14 AM

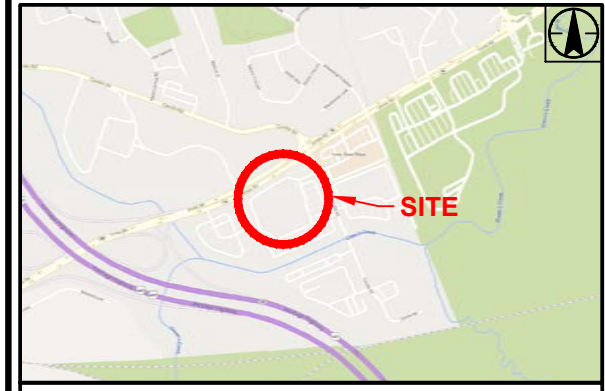
C:\Users\gbriones\appdata\local\temp\AcPublish\_18328\121626297\_Borehole Locations\_250404.dwg  
 Printed: Apr 04, 2025 By: G. Briones



300 - 1331 Clyde Avenue  
 Ottawa, ON, Canada K2C 3G4  
 www.stantec.com

**LEGEND**

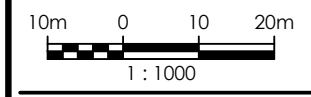
-  BOREHOLE (STANTEC, 2025)
-  MONITORING WELL (STANTEC, 2025)



**KEY PLAN** 1 : 20 000

**NOTES**

1. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N.
2. BASE PLAN: PDF COPY OF THE SITE PLAN PREPARED BY WSP, DWG. No. SP-11, DATED APRIL 29, 2022.
3. IMAGERY: © 2025 MICROSOFT CORPORATION © 2025 TOM TOM.



MARCH 2025  
 Project No. 121626297

Client/Project  
 COSTCO WHOLESALE  
 GEOTECHNICAL INVESTIGATION, FUEL STATION ADDITION  
 1900 CYRVILLE ROAD, OTTAWA, ONTARIO

Drawing No.  
 1

Title  
**BOREHOLE LOCATION PLAN**

## **Appendix B          Sampling and Analysis Plan**



# **Sampling and Analysis Plan – Northeast Part of 1900 Cyrville Road, Ottawa, Ontario**

Final Report

March 18, 2026

Prepared for:

Costco Wholesale Canada Ltd.  
#330, 9090 Avenue du Parc  
Montréal, QC H2N 1Y8

Prepared by:

Stantec Consulting Ltd.  
300 – 1331 Clyde Avenue  
Ottawa, ON K2C 3G4

Project/File:

121626297.300



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# 1 Introduction

Stantec Consulting Ltd. (Stantec) was retained by Costco Wholesale Canada Ltd. (Costco) to conduct a Phase Two Environmental Site Assessment (ESA) for lands located on the northeast part of 1900 Cyrville Road, Ottawa, Ontario, herein referred to as the “Phase Two Property” or the “Site”. A Site Location Plan is provided on **Figure No. 1** in **Appendix B-1**.

The Phase Two ESA was conducted in support of a Site Plan Control Application (SPCA) for a proposed retail fuel facility at the Phase Two Property. Stantec understands that a Record of Site Condition (RSC) is not required by the Ontario Ministry of the Environment, Conservation, and Parks (MECP). As such, the Phase Two ESA is completed in general accordance with Ontario Regulation 153/04 (O. Reg. 153/04), as amended.

The Phase Two Property consists of an asphalt- paved parking area, approximately 2,858 square metres (m<sup>2</sup>) in size, and is bounded by the remaining of the parking areas to the north, west, and south, and a landscaped area adjacent to Cyrville Road to the east, as shown on **Figure No. 2 (Appendix B-1)**.

This Sampling and Analysis Plan (SAP) outlines the scope of work and procedures for completing the subsurface investigation for the Phase Two ESA, as required by the O. Reg. 153/04, as amended.

# 2 Background and Project Objectives

As part of the initial assessment for the proposed Site redevelopment as a retail fuel facility, a geotechnical investigation (Stantec, 2025b) was conducted in February 2025. A due diligence excess soil sampling program was performed in conjunction with the geotechnical investigation. Soil samples were collected from five boreholes advanced (MW25-01, and BH25-02 to BH25-04) and submitted to the laboratory for analyses of select environmental parameters. One of the boreholes was completed as a groundwater monitoring well (MW25-01). The borehole and monitoring well locations are presented on **Figure No. 2** in **Appendix B-1**. Soils encountered during the drilling program generally consisted of fill material, followed by silty sand or sand with silt, then till, and finally weathered shale bedrock. The soil analytical results, for the purpose of the preliminary excess soil sampling program, identified a petroleum hydrocarbon (PHC) fraction 2 (F2) impact exceedance in soil from MW25-01 (Stantec, 2025a).

Subsequently, Stantec completed a Phase One ESA in general accordance of O. Reg. 153/04, as amended (Stantec, 2026). The Phase One ESA identified on-site and off-site potentially contaminating activities (PCAs) that may contribute to areas of potential environmental concern (APECs) at the Site. A Phase Two ESA was recommended to be completed.

A summary of the APECs, their associated PCAs, and contaminants of potential concern (COPCs) is provided in **Table A** below, and illustrated on **Figure No. 3, Appendix B-1**.



**Table A. Areas of Potential Environmental Concern**

<b>APEC No. Description (PCA)</b>	<b>Location of APEC on Phase One Property</b>	<b>PCA Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)</b>	<b>Location of PCA (on-/ off-site)</b>	<b>Contaminants of Potential Concern<sup>1</sup></b>	<b>Media Potentially Impacted (Groundwater, Soil and/or Sediment)</b>
<b>APEC-1</b> Fill material of unknown quality (PCA-1)	Across entire Phase One Property	Item 30 - Importation of Fill Material of Unknown Quality	On-Site	BTEX PHC F1-F4 PAHs Metals & Inorganics As, Sb, Se	Soil
<b>APEC-2</b> Identified PHC-impacted soil (Stantec, 2025a) (PCA-2)	Northwest corner of Phase One Property	Other - Soil Contamination	On-Site	BTEX PHC F1-F4 PAHs	Groundwater
<b>APEC-3a</b> Former commercial bus depot operations, including a PFO and repair garage at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3a)	Eastern Part of Phase One Property	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3b</b> Former hazardous waste generator associated with the commercial bus depot operations located at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3b)	Eastern Part of Phase One Property	Other - Hazardous Waste Generation	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater

Notes:

- <sup>1</sup> – Contaminants of Potential Concern (COPCs):
- BTEX: Benzene, Toluene, Ethylbenzene and Xylene
- PAHs: Polycyclic Aromatic Hydrocarbons
- PHC F1-F4: Petroleum Hydrocarbon Fractions 1 to 4
- VOCs: Volatile Organic Compounds
- Hydride-forming metals: Arsenic (As), Antimony (Sb), Selenium (Se)

The objective of the Phase Two ESA is to evaluate soil and groundwater quality at the Phase Two Property in relation to the identified APECs, their associated PCAs, and the corresponding COPCs that may affect the environmental condition of the Site. It should be noted that pertinent environmental data from the 2025 due diligence excess soil sampling program is incorporated into this Phase Two ESA.



### 3 Scope of Work

The scope of work for the Phase Two ESA subsurface field program was developed using the Phase One Conceptual Site Model (CSM) to identify the media requiring investigation (i.e., soil and/or groundwater), the appropriate locations and depths for sample collection, and the COPCs to be analyzed for each APEC at the Phase Two Property.

The Phase Two ESA scope of work includes evaluation and incorporation of the 2025 subsurface investigation data into the Phase Two ESA, and advancement of two additional boreholes, both to be completed as groundwater monitoring wells. The 2025 and additional borehole/monitoring well locations are shown on **Figure No. 4, Appendix B-1**.

The Phase Two ESA scope of work consists of the following:

- Boreholes and groundwater monitoring wells are situated within each identified APEC, and analyses of collected samples are based on the COPCs in each APEC, as summarized in **Table B** below.

**Table B. Boreholes/Monitoring Wells - Location and Rationale**

Borehole	Location & Rationale	Proposed Depth & Rationale
BH25-01/ MW25-01 <sup>1</sup>	Assess the soil and groundwater quality conditions on and beneath the Phase Two Property due to APEC-1 and APEC-2	Borehole to be advanced up to a maximum depth of 7.7 m BGS to intercept the inferred water table to install a groundwater monitoring well.
BH25-02 <sup>1</sup>	Assess the soil and fill quality on the Phase Two Property due to APEC-1 and APEC-3	Borehole to be advanced up to a maximum depth of 7.7 m BGS.
BH25-03 <sup>1</sup>	Assess the soil and fill quality on the Phase Two Property due to APEC-1 and extent of impacts from APEC-3 (downgradient)	Borehole to be advanced up to a maximum depth of 7.7 m BGS.
BH25-04 <sup>1</sup>	Assess the soil and fill quality on the Phase Two Property due to APEC-1 and APEC-3	Borehole to be advanced up to a maximum depth of 4.0 m BGS.
MW26-05	Assess the soil and groundwater quality on and beneath the Phase Two Property due to APEC-1 and APEC-3	Borehole to be advanced up to a maximum depth of 7.6 m BGS to intercept the inferred water table to install a groundwater monitoring well.
MW26-06	Assess the soil and groundwater quality conditions on and beneath the Phase Two Property due to APEC-1 and APEC-3	Borehole to be advanced up to a maximum depth of 7.6 m BGS to intercept the inferred water table to install a groundwater monitoring well.

<sup>1</sup> Boreholes and monitoring wells at the Phase Two Property advanced and/or installed in 2025 as part of the subsurface investigation by Stantec (2025a, 2025b).



- Media to be sampled at each location, at regular soil sampling depth intervals, monitoring well screen intervals, and sampling frequency.
- Number/frequency of samples per borehole or groundwater monitoring well to be collected and submitted for laboratory analysis.
- Depth to water measurements of all groundwater monitoring wells, including assessment for non-aqueous phase liquid. Depth to water measurements will be made during well development and groundwater sampling.
- Well development of all groundwater monitoring wells prior to groundwater sampling; and
- Completion of groundwater monitoring and sampling methods, as described in **Section 7.7**.

It should be noted that the borehole depths, monitoring well screen interval, and sampling frequency are based on Stantec’s current knowledge of subsurface conditions, including the estimated depth to groundwater of 3.0 to 4.5 m BGS, and may be revised based on the actual subsurface conditions encountered during the subsurface field program.

Additional scope of work items includes the following:

- Submission of at least one surface soil sample (0 to 1.5 m BGS) and one subsurface soil sample (deeper than 1.5m BGS) for pH analysis;
- Submission of at least two soil samples representative of the Site for soil texture/grain size; and
- Elevation surveying of the ground surface elevations of all borehole and monitoring well locations.

## 4 Sampling Plan – Rationale and Design

This section presents a summary of the rationale for selection of borehole, monitoring well and sample locations for the Phase Two ESA. In general, the borehole, monitoring well and sample locations were selected to assess the APECs. Deviations from the plan proposed herein, if any, and the rationale for such will be documented in the main text of the Phase Two ESA report.

As summarized in **Table C**, the soil and groundwater analytical sampling plan for the Phase Two ESA has been developed to adequately assess the APECs at the Phase Two Property.

**Table C. Proposed Soil and Groundwater Analytical Sampling Plan**

<b>APEC No. &amp; PCA Item No.</b>	<b>Borehole / Monitoring Well Location</b>	<b>Soil – Analytical Test Plan</b>	<b>Groundwater – Analytical Test Plan</b>
<b>APEC-1</b> Resulting from Item 30 - Importation of Fill Material of Unknown Quality	BH25-01/MW25-01 <sup>1</sup> , BH25-02 <sup>1</sup> , BH25-03 <sup>1</sup> , BH25-04 <sup>1</sup> , MW26-05, MW26-06	BTEX, PHC F1-F4, PAHs, Metals & Inorganics	Not Applicable
<b>APEC-2</b> Resulting from Other - Soil Contamination	MW25-01 <sup>1</sup>	BTEX, PHC F1-F4, VOCs, PAHs, Metals	BTEX, PHC F1-F4 PAHs



APEC No. & PCA Item No.	Borehole / Monitoring Well Location	Soil – Analytical Test Plan	Groundwater – Analytical Test Plan
<b>APEC-3a</b> Resulting from Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	MW25-01 <sup>1</sup> , BH25-02 <sup>1</sup> , BH25-03 <sup>1</sup> , BH25-04 <sup>1</sup> MW26-05	BTEX, PHC F1-F4, VOCs, PAHs, Metals	VOCs, PHC F1-F4, PAHs
<b>APEC-3b</b> Resulting from Other - Hazardous Waste Generation	MW25-01 <sup>1</sup> , BH25-02 <sup>1</sup> BH25-03 <sup>1</sup> , BH25-04 <sup>1</sup> MW26-06	BTEX, PHC F1-F4, VOCs, PAHs, Metals	VOCs, PHC F1-F4, PAHs

<sup>1</sup> Existing monitoring well installed at the Phase Two Property in 2025 as part of the subsurface investigation by Stantec (2025a, 2025b).

Any deviations from the proposed sampling plan are discussed in the Phase Two ESA.

## 5 Data Quality Objectives

The data quality objectives (DQOs) for the Phase Two ESA are to obtain unbiased analytical data that are representative of actual soil and groundwater conditions at the Phase Two Property. This will be accomplished by implementing a quality assurance/quality control (QA/QC) program, as described in **Section 6** below, and by completing the field work in accordance with Stantec’s standard operating procedures (SOPs), as described in **Section 7**.

The DQOs are intended to minimize uncertainty in the analytical data set such that the data are considered reliable enough to not affect the conclusions and recommendations of the Phase Two ESA and to meet the overall objective of the Phase Two ESA, which is to assess the environmental quality of the Phase Two Property in relation to the identified APECs.

## 6 Quality Assurance/Quality Control (QA/QC)

QA/QC procedures are implemented in the field and laboratory to demonstrate that the data generated are of a level of quality suitable for its intended purposes. Field QA/QC procedures include use of new sampling equipment, equipment cleaning procedures, blind duplicate and trip blank sample submittal, and adherence to published standards for field methodology, as discussed further in **Section 6.2**. Laboratory QA/QC procedures include following internal protocols and analysis of laboratory blank samples and laboratory reference standards, as discussed below in **Section 6.1**.



## 6.1 Data Validation Criteria

The electronic data received from the laboratory is imported into Stantec’s data management system. The data are output into report ready spreadsheets. After checking the spreadsheet, the compiled data are reviewed to confirm that the data are of satisfactory quality. Sample chain-of-custody, holding times, dilution factors, surrogate recoveries, replicate analyses, analytical quantitation limits, and blank analyses are reviewed and compared to applicable QC acceptance criteria.

A data review process, often referred to as “data validation”, is conducted to assess whether the DQOs were satisfied. Stantec establishes data validation criteria that require the analytical data to have an acceptable level of precision, accuracy, representativeness, comparability, and completeness (“PARCC” criteria). The data validation process is described below.

### 6.1.1 Precision

In regard to the quality of the field data, the analytical results will be evaluated by calculating the relative percent difference (RPD) for parameters analyzed for the original sample concentration and field duplicate sample concentration.

The RPD for each parameter detected above the laboratory-reported detection limit (RDL) will be calculated using the following equation:

$$RPD = \frac{(|C_1 - C_2|)}{\left(\frac{C_1 + C_2}{2}\right)} \times 100$$

where:  $C_1$  = parent sample concentration

$C_2$  = duplicate sample concentration

RPDs are calculated where both  $C_1$  and  $C_2$  are above the analytical RDL.

According to the MECP document entitled, “*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*,” MECP Analytical Protocols (2011), the RPD values are statistically valid when the concentrations of both the original and duplicate samples exceed five times the laboratory RDL. In accordance with the *Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, Volume 4 Analytical Methods document*, Canadian Council of Ministers of the Environment (CCME, 2016), the calculated field sample RPDs should be compared to screening-level acceptance criteria that is less than the laboratory duplicate performance criteria multiplied by a factor of two.

In other words, where the reported concentrations are less than or equal to 10 times the RDL, lower precision is expected, and the screening-level criterion does not apply. The screening-level acceptance criteria for each group parameter(s) are provided in **Table D**.



**Table D. Screening-Level Acceptance Criteria**

Parameters	RDP – Soil	RDP – Groundwater
PHC F1-F4	≤ 30%	≤ 30%
PAHs	≤ 40%	≤ 40%
BTEX and VOCs	≤ 50%	≤ 30%
Metals & Inorganics	≤ 30%	≤ 20%
Chromium VI, Chloride, and Cyanide	≤ 35%	≤ 20%
Hot Water Soluble Boron	≤ 40%	Not Applicable

Reported concentrations greater than 10 times the RDL and having an RPD greater than the screening-level criteria are considered to have failed the initial precision assessment. In this case, the data are considered an estimated value and corrective actions taken, such as further sample collection and analysis.

### 6.1.2 Accuracy

The accuracy of the analytical results is assessed by confirming that the reported laboratory surrogate recoveries and spike samples are within the acceptance criteria established by the laboratory as reported on the laboratory certificates of analysis.

The surrogate recoveries and spike samples consist of known concentrations of chemicals that the laboratory adds to the investigation samples.

The laboratory measures the amount detected, and then calculates the Percent Recovery (%R) to confirm the reported value is within reasonable agreement with the known value. The typical acceptance criterion requires %R to be within 70% and 130% (i.e., accuracy of approximately ±30%).

### 6.1.3 Representativeness

The representativeness of the analytical results is assessed by reviewing several factors of a qualitative nature, including the following:

- Field procedures and laboratory methods followed industry consensus practices (including sample collection methods; laboratory analytical methods; sample containers, preservative(s), holding times, and chain-of-custody documentation).
- Sampling design was appropriate to characterize the depth intervals of interest in the areas of potential environmental concern.
- Sample results were consistent with visual/olfactory observations, previous investigation results at nearby locations and/or the conceptual site model for the potential release of chemicals to the environment.



- The number of samples analyzed and parameters for which analyses were performed were considered by the Qualified Person for ESA (QPESA), under O. Reg. 153/04, to be sufficient for the purpose of the Phase Two ESA.
- Corrective actions were taken, as deemed appropriate, to resolve data anomalies or other quality issues that arose during the site investigation, including qualifying any data (as estimated or unreliable), sample re-analysis, or conducting additional sample collection, analysis and interpretation.

#### **6.1.4 Data Comparability and Completeness**

Data comparability is assessed qualitatively by confirming that the sampling locations, sampling depths, field methods and laboratory methods were the same, or as close as practical to the methods used in previous investigations.

Data completeness is assessed qualitatively by confirming that the analytical results were obtained for all the samples submitted and all the analytical parameters requested, including the supporting laboratory documentation and chain-of-custody documentation. Consideration is given to the significance of any data that were rejected based on poor data quality. The frequency of inclusion of QC samples is also considered.

#### **6.1.5 Other Assessment**

Other data collection activities, such as water level monitoring and field headspace screening, undergo QC checks confirm they meet the DQOs in **Section 6.1** and the SOPs in **Section 7**. Deviations that occur during the field investigations, if any, are documented in the main text of the Phase Two ESA report.



## 6.2 Field Quality Assurance/Quality Control

### 6.2.1 Non-Dedicated Sampling and Monitoring Equipment

Based on the proposed scope of work, the following non-dedicated sampling and monitoring equipment will be used during completion of the Phase Two ESA:

- Interface probe
- Water level tape
- Spatula for soil sampling
- Hollow-stem augers
- Split-spoon samplers
- Submersible pump
- Flow-through cell for groundwater sampling

All of the above-listed equipment will be cleaned prior to initial use and between samples or sampling locations, as appropriate, following Stantec’s SOP-ES4.08: Equipment Decontamination of field equipment. Any non-dedicated sampling or monitoring equipment not listed above that is used during the Phase Two ESA will also be cleaned in accordance with the above SOP.

### 6.2.2 Frequency of QC Sample Analysis – Field Duplicates and Trip Blanks

Field duplicate soil and groundwater samples will be collected for laboratory analysis in accordance with a frequency of one sample for every ten samples submitted for laboratory analysis, with a minimum of one sample per media sampled per COPC.

A trip blank is a set of VOC sample vials filled by the analytical laboratory with VOC-free distilled water and shipped with the groundwater sample containers. Trip blanks will be stored with the sample containers provided by the analytical laboratory during travel to the Phase Two Property, while on the Phase Two Property, and during travel from the Phase Two Property back to the analytical laboratory. The sample containers comprising a trip blank will not be opened in the field. One trip blank will accompany each submission to the laboratory. Each trip blank will be submitted for analysis of VOCs/BTEX.

A summary of the minimum QC sampling requirements is provided in **Table E**.

**Table E. Minimum QC Sample Analysis Frequency**

Medium	Soil	Groundwater
Trip Blank	Trip blanks are generally not submitted for soil	One per sample shipment for VOC analysis
Field Duplicate	One for every 10 investigation samples submitted for analysis.	One for every 10 investigation samples submitted for analysis.



## 6.2.3 Calibrations Checks on Field Instruments

### 6.2.3.1 Field Screening Instruments

The RKI Eagle 2 (Eagle 2) gas detector measures combustible vapour concentrations (CVC) and is equipped with a photoionization detector (PID) for measurement of total organic vapour (TOV). PIDs require a calibration check after approximately every 10 samples for field headspace screening, after every hour of continuous use for a soil vapour survey, and after very high sample readings, significant weather changes (from cool to hot, dry to humid, clear to overcast) or erratic behavior. The combustible gas detector is a more stable instrument than the PID and typically only requires calibration once per field event, with a calibration check generally at the start or end of each field day. Calibrate checks are to be made frequently and recorded in Stantec’s ESFF2.07: Field Instrument Calibration forms. The detailed equipment specifications are presented in **Table F**.

**Table F. RKI Eagle 2 - Equipment Specifications Used for Field Screening**

Parameter	RKI Eagle 2 PID	RKI Eagle 2 CGI
Detector	10.6eV ultraviolet (UV) lamp	Combustible gas by catalytic combustion
Chemicals Detected	VOCs	Hydrocarbons
Detection Limits	0 – 50 parts per million by volume (ppm <sub>v</sub> ) 0 – 4,000 ppm <sub>v</sub>	0 – 100% lower explosive limit (LEL) of methane (CH <sub>4</sub> ) 0 – 50,000 ppm <sub>v</sub> (CH <sub>4</sub> )
Accuracy	Not specified	±50 ppm or ±10% of reading ±5% of reading or ±2% LEL
Precision	Not specified	Not specified
Calibration Standards	Not specified	50% LEL CH <sub>4</sub>

### 6.2.3.2 Water Quality Measurements

Water quality instruments used to measure field parameters during groundwater sampling will be calibrated by the rental provider (Maxim Environmental) in accordance with the procedures described in the manufacturers’ manual. Stantec will be provided the calibration certificate by the rental provider.

Calibrate checks are to be completed once per day, generally at the start or end of each field day and typically consists of a calibration check followed by minor calibration adjustments, if required, and recorded in Stantec’s ESFF2.07: Field Instrument Calibration forms.

Detailed equipment specifications are summarized in the following table (**Table G**).



**Table G. Horiba - Equipment Specifications Used for Water Quality Measurements**

Parameter	pH	Conductivity	Temperature	Dissolved Oxygen	Oxidation-Reduction Potential
Range	0.00 to 14.00	0 to 200 mS	-5 to 45°C	0 to 50 mg/L	-1999 to +1999 mV
Resolution	0.01	0.001 mS/cm to 0.1 mS/cm (range dependent)	0.1°C	0.01 mg/L	0.1 mV
Accuracy	±0.2	±0.5% of reading or 0.001 mS/cm whichever is greater	±0.15 °C	0 to 20 mg/L: ± 2% of reading or 0.2 mg/L, whichever is greater 20 – 50 mg/L: ± 6% of reading	±20 mV in redox standards
Calibration Standards	pH 4.00, 7.00, & 10.00 solutions	1 mS/cm standard	Not required	100% water saturated air	240 mV solution

Note(s):  
 mS – millisiemens

## 7 Standard Operating Procedures

Stantec’s SOPs are based on the following documents:

- “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario”, MECP, dated December 1996 (MECP, 1996);
- The MECP Analytical Protocols (MECP, 2011).

Additionally, methods followed by Stantec field staff during field investigations are derived from industry consensus practices published by agencies including the ASTM (1993; 1998), and EPA (1996). SOPs are detailed, stepwise procedures for routinely performed activities, and are intended to improve: 1) data collection quality by following accepted industry standards of practice, and 2) data consistency by following these procedures during each sampling and measurement event.

Field technicians are to follow these SOPs, documenting any deviations and the rationale for the deviation in their field notes. Other than minor deviations, pre-authorization from the supervising QP<sub>ESA</sub> (e.g., licensed Professional Engineer or Professional Geoscientist) is required, and this discussion documented in the field notes. O. Reg. 153/04 requires the QP<sub>ESA</sub> to confirm there is a suitable rationale for deviations from the SOPs.

Note, not all field SOPs presented herein are applicable to all investigations.



## 7.1 Utility Locates

Stantec contacts Ontario One Call to arrange buried utility clearances before each field mobilization involving intrusive subsurface activities, such as drilling, test-pitting or remedial excavation. On private property, a private utility locating company is also retained to provide clearance of private utilities for each planned intrusive investigation/ remediation location.

In general, intrusive investigation locations can usually be adjusted so as not to correspond to a buried utility location without affecting the project objectives. Where intrusive locations need to be within approximately 2 m of a buried utility, increased measures are required by the contractor to protect the buried utility and worker health and safety. These measures may include daylighting the utility using hand digging or a mobile hydrovacuum excavation system.

The utility locate sheets are present on-site during the intrusive investigation activities. The drilling or excavation contractor is provided with copies of the utility locate sheets for review purposes before the intrusive investigations commence.

## 7.2 Overburden Drilling

Boreholes in overburden are drilled using a licensed well driller. Boreholes are typically advanced using one of the following conventional drilling techniques. No drilling fluids or lubricants are used. Where applicable, the asphalt or concrete surface is removed to expose soil before drilling commences.

**Geoprobe Direct-Push Drilling** - Soil cores are continuously collected as the drilling rig hydraulics push a 51 mm outside diameter (OD), 1.2 m long sampler to depth. The sampler is lined with a new, rigid plastic liner into which each soil core is collected.

Once advanced to depth, the sampler is removed from the ground, the liner is retrieved, and then split open to permit access to the soil for sub-sampling and geologic logging. The process is repeated to advance the borehole to the next deeper interval.

**Hollow-Stem Augering** – Boreholes are advanced using standard hollow-stem augers that are 210 mm (8.5 in.) OD, 108 mm (4.25 in.) inches inside diameter (ID) and 1.52 m (5 ft.) in length (equipment is sized in imperial units of measurement). A center plug is positioned at the leading edge of the augers and advanced using drill rods at the same rate as the augers to prevent soil from entering the augers as drilling proceeds. Soil cores are usually collected using standard split-spoons. At the top of a desired sampling interval, drilling stops, the drill rods and center plug are removed, and the split-spoon sampler is advanced ahead of the augers to collect the soil core into a standard split-spoon sampler. ASTM D1586 “Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils” describes the method of successively dropping a 34 kg (75 lb.) weight over a 0.61 m (2 ft.) distance to hammer the split-spoon into the ground. The blow counts for advancing the sampler each 150 mm (6 in.) interval is recorded in the field notes.



A less common method of soil core collection uses a CME™ continuous sampler, which is 108 mm (4.25 in.) OD and 1.52 m (5 ft.) in length (essentially a large split-spoon) that is advanced with the augers to collect a sample over the drilling interval. No center plug is used. The sampler is retrieved, and the process repeated to advance the borehole to the next interval.

Soil sub-samples are collected from the sampler for headspace screening (where sufficient sample quantity is present) and for potential submission to the laboratory. Each sample for field headspace screening is placed into a new, 500 mL sealable freezer bag and stored out of direct sunlight.

Bags are one-third to one-half filled with soil to leave sufficient headspace above the sample and then sealed. Soil samples for potential submission to the laboratory are placed directly into the appropriate sample containers supplied by the laboratory, labeled, and stored in a sample cooler containing ice.

### **7.3 Soil Sub-Sampling**

Soil sub-sampling consists of the selection of soil for potential laboratory analyses, the processing of this soil before it is placed into a sample container and documenting key information about each sample.

Sub-samples are collected as “discrete” in that each sample is collected from, and intended to represent only, one distinct soil layer or type at the sampling location. If inadequate sample is available in a soil core to fill sufficient sample containers to perform all planned laboratory analyses, then the analyses are prioritized and fewer analyses are performed. Soil from the adjacent, but different, soil layers is not used as a surrogate to represent the initial target soil layer.

Sub-samples are collected to represent “worst-case” for that particular sampling location and target chemical parameters, in consideration of field indications (e.g., headspace readings or visual-olfactory observations) and potential modes of contaminant release and migration.

In some cases, professional judgment is required to select samples for analysis that are more consistent with the potential mode of contaminant release than just relying on analyzing the sample with the maximum field headspace reading. Because contamination extent is defined by the distance (laterally and vertically) to the nearest sample that meets the applicable Site Condition Standards, samples to determine the “clean line” are still collected to represent “worst-case” (i.e., for that particular soil layer and location).

Grab samples of soil are collected for volatile parameters (VOCs and PHC fraction 1 (F1)) to minimize the potential for loss of constituents during the sample collection process.

Composite samples of soil are preferred for all non-volatile parameters as a means to address the small-scale heterogeneity in soil concentration, as described in MECP (1996). Under O. Reg. 153/04, composite samples are to consist of equal portions of material (aliquots) from multiple locations from the same soil layer and depth interval within a 2 m radius “sampling location”. The aliquots of material are placed in a stainless-steel bowl and mixed to homogenize the soil before placing a portion into to sample containers.



The intent of composite sampling is to provide a reproducible means to measure the average concentration of the soil at that sampling location, recognizing that once a technician is sampling worst-case conditions at a sampling location, it is not possible to differentiate in the field areas of higher or lower concentration. Composite sampling programs generally use between three and 10 aliquots per sample depending on the specific project objectives and effort required to obtain each aliquot.

Vertical compositing is conducted where collecting multiple aliquots of soil layers at depth is cost prohibitive. Where a soil core contains 0.3 m or more of like soil from the same soil layer, a vertical composite sample may be formed over a 0.3 m to 0.6 m interval by taking either discrete segments or a slice along the core length and mixing the sample in a stainless-steel bowl. Filling the sample container using material along a core length is not a composite sample because laboratories do not homogenize soil container contents before extracting the soil that is ultimately analyzed.

Particle sizes larger than small gravel need not be included in sample containers because standard laboratory methods disaggregate soil and sieve, but do not crush/grind. Thus, coarse sand and larger particle sizes are not included in laboratory analysis. In practice, the field technician can remove gravel-size particles from sample containers and soil mixing bowls.

Documentation of soil sub-sampling includes the following:

- Measurements and photographs of the lateral sampling location (taken parallel and perpendicular to fixed, permanent reference points such that returning to that location is possible in the future).
- Description of the soil coring interval (or equivalent, if applicable).
- Measurements of the depth interval for the soil layer being sampled.
- Measurement of the soil sub-sampling interval over which the grab sample or composite sample was obtained.
- Sample recovery for the soil core (if applicable).

## **7.4 Geologic Logging**

Soil cores are classified following the procedures described in the ASTM guidance for the visual-manual description and identification of soils (ASTM, 1993). For each soil core, the field technician logs the relevant descriptions of soil type, texture, color, structure, consistency, plasticity, and moisture content. Weathering features and secondary mineralization are logged, as are observations of the presence of man-made materials, such as brick, concrete, glass, ash, cinder, slag, asphalt, etc. Field technicians do not intentionally smell the cores; however, obvious odours of septic, solvents, petroleum hydrocarbons, burnt rubber, etc., are noted with a descriptor of weak, moderate, or strong.

Soils from test pits and surficial samplers (e.g., trowel, shovel, hand corer) are logged in a manner similar to soil obtained from soil cores. A borehole log is prepared for each location containing the detailed geologic descriptions described above.



The field log includes a scaled, graphical presentation of information. Where a monitoring well and piezometer, is installed in the completed borehole, the construction and installation details are added to the borehole log. The field log format also presents the locations where samples were collected for potential laboratory analysis and field headspace readings.

Where recovery in a core is less than 100%, Stantec uses the convention that the material obtained represents the upper portion of the interval sampled, unless evidence indicates otherwise, not counting the uppermost few centimetres of soft sediments that settle in the bottom of the borehole (“slough”) that the sampler may be driven through before encountering the undisturbed native materials. In graphically presenting an interval, the last encountered geologic unit is assumed to extend from the bottom of sample recovery, through the zone of no recovery to the top of the next sample interval.

## **7.5 Soil Headspace Screening**

Soil headspace screening is conducted on soil samples to monitor for the presence of total organic vapours (TOV) using one or both of a photoionization detector (PID) and a combustible gas detector.

A PID is generally used where VOCs, including chlorinated solvents and lighter-end PHCs (gasoline) are of primary concern.

A combustible gas detector is generally used where petroleum hydrocarbons, especially diesel-range and explosive levels are of primary concern. Both meters are used where both chlorinated solvents and diesel-range or explosive levels of petroleum hydrocarbons are of concern.

The PID is typically equipped with a 10.6 eV lamp, which is capable of measuring many of the most common chlorinated solvents of interest to environmental investigations. The PID displays the TOV in parts per million by volume (ppm<sub>v</sub>). The PID is calibrated to ambient air and 100 ppm<sub>v</sub> isobutylene span gas following the manufacturer’s instructions. A Tedlar bag is filled with the span gas to calibrate the PID at atmospheric pressure. The PID calibration is checked as the unit is used throughout the day and re-calibrated if the PID readings appear contradictory to other field indicators (e.g., odours and staining).

The combustible gas detector (e.g., RKI Eagle O<sub>2</sub>, CO, H<sub>2</sub>S and LEL gas monitor) is calibrated to ambient air and 400 ppm<sub>v</sub> hexane in a manner similar to that followed for the PID. The combustible gas detector displays the combustible soil vapor (CSV) reading in ppm<sub>v</sub> for low concentrations and percent of the lower explosive limit (%LEL) for higher concentrations. The meter is re-calibrated if it does not measure the ambient air or hexane gas concentrations accurately to within 3 ppm<sub>v</sub>. This meter tends to be more stable than a PID, and thus, typically requires fewer calibration checks and re-calibration of the unit.

Headspace measurements are performed after allowing the samples to warm to approximately room temperature, normally within 15 to 30 minutes after sample collection. The bags are gently kneaded and shaken to enhance gas equilibration between the soil and the headspace. The PID probe is then inserted into the soil bag, taking care not to contact any solids or liquids or the side of the bag. The highest reading is recorded. The bag is then re-sealed, permitted to stand for another 15 to 30 minutes, and a measurement taken using the combustible gas detector.



An alternative approach uses one sample bag for the PID reading and one for the combustible gas detector reading provided there is sufficient sample available. More recently, dual instrument device including both a PID and combustible gas detector have appeared allowing measurement of the TOV and CSV concentrations concurrently within the same sample bag.

## 7.6 Monitoring Well Installation

One monitoring well is installed in each select borehole after borehole advancement is completed to the desired depth. Each well is constructed of 51 mm ID, Schedule 40, poly vinyl chloride (PVC) materials with a 0.25-mm slot (“10-slot”), PVC well screen. The well materials are not removed from the protective plastic wrapping until required. The PVC screen and piping are flush-threaded and contain O-rings to provide watertight joints. Well screens are 3 m long and are generally positioned to intercept the water table. By installing monitoring wells with the water table at mid-screen at the time of installation, the water table can fluctuate approximately 1 m seasonally up or down with the well still being considered a water table well (containing sufficient water column to permit sampling).

To install a well, the well screen and riser are assembled, a threaded end plug installed, and the well materials lowered into the borehole. As the augers are removed (if used), silica sand is placed around the well screen and extended to a minimum of 0.6 m above the well screen. A bentonite seal is then placed to a minimum thickness of 0.6 m above the silica sand to isolate hydraulically the well screen. Municipal tap water is added to hydrate the bentonite if it is placed above the water table but is not required for wells installed below the water table.

The well is completed at ground surface with either a flush-mount or an above-grade protective cover set in a concrete pad. Wells are capped with either a locking J-plug or a PVC slip-cap. A lock is installed on wells equipped with a j-plug (typically those with flush-mount covers) and on the lid of the above-grade cover. The well drilling contractor applies a well tag and files a well record with MOE as required by Ontario Regulation 903.

Monitoring wells are not developed, purged, or sampled for a minimum of 24 hours after installation to permit the well seal to hydrate and the concrete pad to cure. The well construction details are presented on the borehole logs prepared for each borehole and monitoring well installation.

## 7.7 Monitoring Well Development, Purging and Sampling

The monitoring wells are developed and purged before first sampling. Wells are developed to remove fine-grained material from the well screen and filter-pack. Wells are purged to remove stagnant water from the well casing. The development and purging activities are typically performed using an inertial pumping system (consisting of dedicated polyethylene tubing and foot valve), an automated pumping system (e.g., using peristaltic or down hole pump and polyethylene tubing dedicated to each well), or a “clean” single-use bailer.



To develop and purge the well concurrently, approximately ten casing volumes of water are removed. The depth to water in the well and observations of the physical appearance of the purge water are noted (odour, colour, clarity, sediment load) after the removal of each casing volume of water, including the observed presence of any film, sheen or separate-phase product. Measurement of water quality parameters is also performed as described in the next section. Wells are developed before the first time they are sampled, and thereafter only required purging of approximately three to six casing volumes. Six casing volumes are usually purged from smaller diameter wells or from wells having short water columns because of the small corresponding casing volume. If water is used to control heaving conditions during drilling, a corresponding volume of water is removed during well development in addition to the six to ten casing volumes.

During well development, purging, and sampling, care is taken to control the degree of drawdown in the well and to limit induced well turbidity during successive activities:

- The target flow rate during sampling is up to 1 litre per minute (LPM), with target flow rates for purging and development set at two and four times the well sampling rate, respectively (i.e., 2 and 4 LPM). In concept, well sampling should not re-suspend excessive fine materials in the well at 1 LPM if such did not occur during purging and development at the higher flow rates.
- During development and purging, the pump intake starts at the bottom of the well and is moved progressively up the water column to approximately the mid-point of the saturated well screen length. Continual pumping of the well bottom tends to induce well turbidity.
- Pumping rates are generally adjusted during development, purging and sampling to maintain the saturated well-screen configuration:
  - Where the starting water level is above the top of the well screen, it is not lowered into the well screen during pumping;
  - Where the starting water is below but near the top of the well screen, the water level is not lowered below the middle of the well screen during pumping;
  - Where the starting water is near or below the middle of the well screen, the water level is not lowered by more than 25% of the height of the water column in the well during pumping; and
  - If the well is deemed low-yielding (requiring more than one hour to purge three casing volumes following the above method), return visits to the well are made to remove at least three casing volumes of water, with the need for further well purging assessed on a case-by-case basis, usually depending on the degree of suspended sediment in the water samples, target analytical parameters, and existing water quality results, etc. Full well development is not expected for low-yielding wells because the ability to remove fine-grained material is limited by the inability of the well to produce water.
- The depth to water, observations of water turbidity, pump intake depth, and pumping rate are documented and used to adjust the water removal activities, as well as providing an indication of the sustainable well yield and hydraulic conductivity of the screened interval.



Well purging is considered complete upon successive measurement of water quality parameters that have stabilized to within 10%, provided a minimum of three casing volumes have been purged. The rationale for concluding well purging for low-yielding wells is established and documented on a case-by-case basis and is usually set by logistical and/or time constraints.

Groundwater samples are collected directly into the appropriate sample containers. The sample containers are supplied by the laboratory and are pre-preserved, if and as appropriate, for the planned laboratory analyses. **Appendix B-2** of this SAP presents the specifications for number, size, and type of sample containers to be filled for each analytical parameter, as well as the preservation method, and associated analytical holding time.

Sample containers are filled, labeled, and then stored in a sample cooler containing ice as quickly as practical to minimize the time that samples are subject to potential damage and ambient conditions, like sunlight and hot temperatures.

Samples for metals analysis are first field-filtered using a new, single-use, 0.45 micron, in-line filter. At least two filter volumes are purged through the filter before starting to fill the sample container. As exceptions, analyses for certain parameters, including mercury and methyl mercury, are collected in separate sample containers and are not field-filtered. Additional guidance is provided in MECP (2011).

Samples for PAH analysis are not field filtered. If necessary, a separate sample is collected for laboratory filtration prior to analysis for benzo(a)pyrene.

The field notes document the well development, purging and sampling times (start/stop time for each activity), the initial depth of the water level relative to the well-screen (i.e., well development and purging approach), observations of water quality, water level, pump intake and cumulative water removed, as well the field measurements of water quality parameters (discussed below) and any sampling information (sample identifier, bottles filled, and any corresponding field duplicate samples). The rationale for concluding the development and purging activities, and the equipment used is also documented.

## **7.8 Order of Sample Collection**

Groundwater samples are typically collected in order from sample locations where contaminant concentrations are lowest to locations where contaminant concentrations are highest to reduce the potential for cross-contamination of samples.

Where a groundwater sampling location is planned for multiple laboratory analyses, some practitioners use a hierarchy to specify the order in which sample containers are filled.

Stantec does not follow a prescribed order. Instead, where sample volume is limited, sample containers are filled first for the primary contaminants of interest, then for secondary contaminants of interest, field headspace screening, quality control (QC) samples and lastly for physical analysis (e.g., grain size distribution curves). If analyses are planned for volatile parameters, these sample containers are filled first so that there is sufficient sample volume to fill the sample containers without leaving headspace, and so that the potential for volatile losses during sampling is reduced.



## 7.9 Field Measurement of Water Quality Parameters

Field measurement of the water quality parameters is conducted after each casing volume of water is removed. The temperature, pH, dissolved oxygen, and specific conductance of the water are measured using an appropriate field instrument(s) and a flow-through cell (if sufficient flow is available).

Alternatively, water is pumped into a beaker, the beaker rinsed and then half-filled with purge water from which the measurements are taken directly. Measurements are made as soon as the readings stabilize to reduce the exposure time of the purged water to atmospheric conditions. Care is taken during reading the specific conductivity measurement to note the units of measurement because many meters auto-scale, and thus, the units of measurement can automatically change between or during readings.

The meter is calibrated, used, and stored following the manufacturer's instructions. At the start of each field day, the meter calibration is checked in the calibration solutions, and the calibration adjusted if required. The pH probe is typically calibrated to two points using pH 4 and pH 10 calibration solutions. The specific conductivity probe is typically calibrated in a solution having specific conductance of 1413  $\mu\text{S}/\text{m}$ . The temperature probe does not require field calibration.

## 7.10 Sample Location and Identification

All investigation locations are assigned a unique identification codes for that location. In addition, each sample collected is assigned a unique identification code. Identification codes are selected to be unique such that they cannot be inadvertently repeated.

Numerous systems have been developed for selecting identification codes. The specific system used is a project-specific decision. Sometimes it is preferable to use the system previously used at a project site for continuity. It is also sometimes easier to maintain continuity of the units of measurement (metric or imperial). Imperial units are often used where drilling is involved because drilling equipment and well supplies are sized in imperial units. Spaces and apostrophes are not used in sample identification codes.

Blind identification systems or sequential numbering systems are rarely used where field decisions are required in real-time. Instead, informative identification systems are used because the sample identifier contains key information about each sample collected.

### **Sample Depth Interval**

Indicate the top and bottom of the depth interval over which the sample was collected for filling the sample container (e.g., "0.7-1.1") in metres. For nested monitoring wells, the depth interval of the well screen is identified using the letter "D" for the deepest well interval and then identifying shallower zones using "S".

### **QC Samples**

Field duplicate, trip blank, and/or field blank samples are submitted "blind" to the laboratory. A fictitious sample identifier and sample collection time is used so that the laboratory cannot identify the sample as a QC sample.



## 7.11 Sample Containers, Labeling, Handling and Custody

The analytical laboratory provides sample containers and preservative. Bureau Veritas Corporation (Bureau Veritas) of Mississauga, Ontario and Paracel Laboratories Ltd. (Paracel) of Ottawa, Ontario are the laboratories for this assignment. Bureau Veritas is a Standard Council of Canada (SCC)-accredited laboratory, and Paracel is accredited by Canadian Association for Laboratory Accreditation (CALA). The table in **Appendix B-2** of this SAP was provided by Bureau Veritas. The table presents, for each medium analyzed, the matrix of analytical parameters, sample container description (bottle type and number of bottles to fill), holding time, and preservation requirements (chemical and physical). Bureau Veritas and Paracel provided the sample containers for the 2025 and 2026 investigations, respectively.

Samples for laboratory analyses are packed carefully into sample coolers to prevent damage to the sample containers. Samples are maintained at a temperature between 4 and 10°C by including ice in sample coolers during on-site storage and transport to the laboratory. A chain-of-custody form is completed and included in each sample cooler. A custody seal is affixed to each cooler once packed and sealed. Samples are hand-delivered to the analytical laboratory, shipped by overnight courier, or picked up by the laboratory's courier service. The field technician maintains custody of the samples until custody is transferred to either laboratory reception or the delivery service.

## 7.12 Liquid Level Measurements

Water levels are measured to the nearest 0.01 m using a battery-operated, water level or interface-probe. Measurements are obtained by lowering the electrode, attached to the graduated polyethylene tape, slowly into the well until a tone sounds. If light non-aqueous phase liquid is detected, as indicated by an intermittent tone, the depth is read from the tape and recorded. If there is no non-aqueous phase liquid (NAPL) present (or it has already been detected by an intermittent tone) the electrode continues to be lowered into the well until a solid tone sounds indicating water.

The depth-to-water from the reference point on the well is then read from the tape and recorded. Duplicate measurements are performed at each location to attain 0.01 m repeatability.

The highest point of the well casing is used as the reference point. If the presence of dense non-aqueous phase liquid is suspected, the probe continues to be lowered to the bottom of the well, with an intermittent tone indicating the depth at which the probe transitions from water to dense phase-separated liquid.

In general, an interface probe is not used unless NAPLs are suspected to be present from initial borehole drilling and groundwater sampling results. When monitoring multiple wells at a site, monitoring proceeds from least contaminated to most contaminated areas to reduce the potential for cross-contamination from the water level or interface probe.



## 7.13 Equipment Cleaning

All non-dedicated sampling and monitoring equipment is cleaned before initial use and following each use. Drilling and field equipment is cleaned following common equipment cleaning procedures (MECP, 1996; ASTM, 1994). The samplers are cleaned by manually scrubbing using a brush and a phosphate-free soap solution and rinsing with distilled or tap water.

Equipment that may be damaged by immersion in water is wiped clean using a sponge, rinsed in phosphate-free soap solution, and then rinsed with tap water. The probe of the interface probe or water-level meter is cleaned by rinsing in a phosphate-free soap solution followed by distilled or tap water. A solvent rinse using reagent-grade, laboratory-supplied methanol is used (ASTM, 1994) when investigating areas of higher suspected VOC concentrations.

## 7.14 Analytical Testing

As noted previously, the analytical laboratory provides sample containers and preservative. Bureau Veritas and Paracel were the laboratories used for this project. Bureau Veritas and Paracel are an SCC and CALA-accredited laboratory, respectively.

## 7.15 Location and Elevation Surveys

Measurements are recorded and photographs taken to document each sampling location laterally. Measurements and photographs are taken parallel and perpendicular to fixed, permanent reference points to allow returning to that sampling location in the future, if required.

Stantec technician will survey the elevation of monitoring wells. The technician will also measure the lateral locations of boreholes, and wells, if appropriate, at large properties or at properties lacking permanent nearby reference points.

## 7.16 Groundwater Flow Direction and Hydraulic Gradient

Using the ground surface elevations and top of pipe elevations for all of the monitoring wells and the calculated water level elevations, a groundwater contour map is completed, where applicable, in order to triangulate the groundwater flow beneath the Site and hence, the groundwater flow direction. The average horizontal hydraulic gradient ( $i$ ) is calculated using the following equation:

$$i = \frac{\Delta h}{L}$$

where:  $i$  = horizontal hydraulic gradient ( $m/m$ )

$\Delta h = h_1 - h_2$  = change in hydraulic head ( $m$ )

$L$  = horizontal difference between  $h_1$  and  $h_2$  ( $m$ )



## 7.17 Residue Management

Soil cuttings, purge fluids, and cleaning fluids are typically placed into drums. Classification and disposal of drummed wastes are the client's responsibility. To facilitate the process, Stantec collects representative samples for waste classification purposes under O. Reg. 347. Drums are labeled and the contents added to each drum documented for tracking purposes. Drums are stored at a location designated by the property owner pending analysis and off-site disposal. For the remedial excavations, impacted soils are typically removed from Phase Two ESA Property by trucks retained by the client and transported for disposal to the MECP licensed waste disposal facility.

## 8 Physical Impediments

Stantec anticipates that there will be no physical impediments limiting access to the Phase Two Property during completion of the Phase Two ESA, with the following exceptions:

- Location of underground utilities and above ground service lines.
- Poor recovery from direct-push or split-spoon soil samples.
- Insufficient groundwater volume for groundwater sample recovery.
- Elevated detection limits due to matrix interference (generally related to soil colour or presence of organic material).
- Elevated detection limits due to high concentrations of certain parameters requiring dilution of samples in laboratory analyses.
- Drill rig or equipment breakdown.
- Weather conditions and/or Site restrictions due to health and safety concerns.
- Denial of Site access (e.g., building tenant refuses entry to Building).

It is the QP's opinion that the impediments to full access to the Phase Two Property will not affect the investigation of the APECs for COPCs and will have no impact on the overall findings and conclusions of the Phase Two ESA. Site-specific impediments encountered during the subsurface field program will be discussed in the Phase Two ESA report.



## 9 References

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- Stantec. (2025b). *Preliminary Geotechnical Investigation, Costco Gloucester Conversion to Business Center - Fuel Station Addition, 1900 Cyrville Road, Ottawa, ON, Job No. 161414322, dated May*. Stantec Consulting Ltd.
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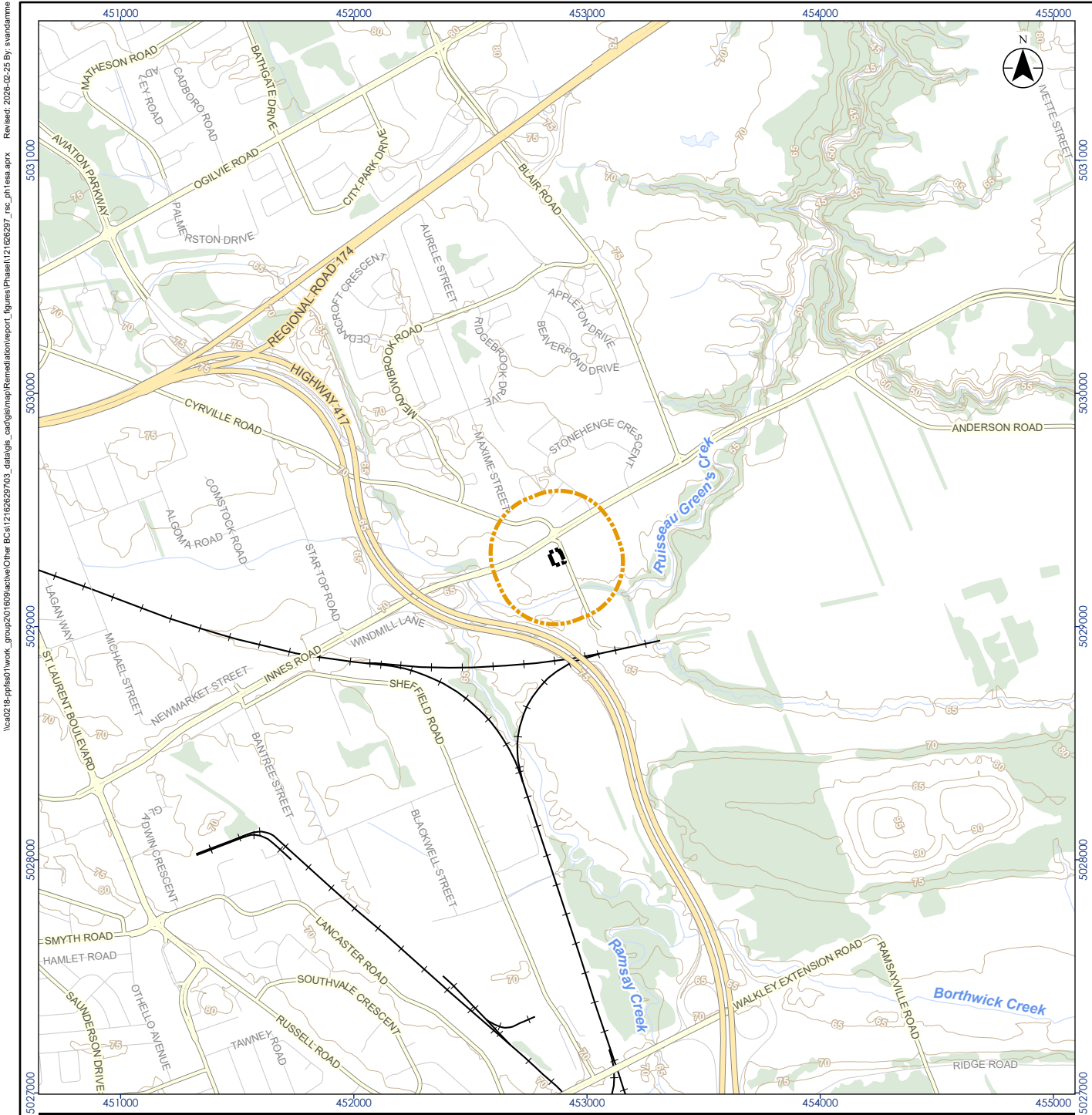


# **Appendices**

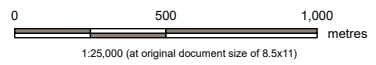


## Appendix B-1 Figures





- Legend**
- Phase One Property
  - Phase One Study Area
  - Expressway / Highway
  - Major Road
  - Minor Road
  - Railway - Operational
  - Topographic Contour (m AMSL)
  - Watercourse
  - Waterbody
  - Wooded Area
  - Municipal Boundary - Lower Tier



Project Location: Ottawa, Ontario  
 Prepared by svandamme on 2026-02-25

Client/Project: COSTCO WHOLESALE CANADA LTD. SAMPLING AND ANALYSIS PLAN NORTHEAST PART OF 1900 CYRVILLE ROAD OTTAWA, ONTARIO

Figure No. 1  
 Title: **Site Location**

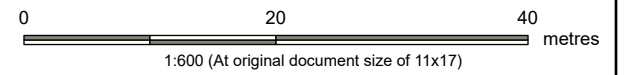
- Notes**
1. Coordinate System: NAD 1983 UTM Zone 18N
  2. Contains information licensed under the Open Government Licence - Ontario.
  3. This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.
  4. m AMSL - metres above mean sea level.

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Lead: 219-prjfs01work\_group2\01609\active\Other BCs\12 1626297\03\_cdn\angle\_cad\gis\map\Remediationreport\_figures\Phase1\121626297\_rsc\_ph1rsa.aprx Revised: 2026-02-25 By: svandamme

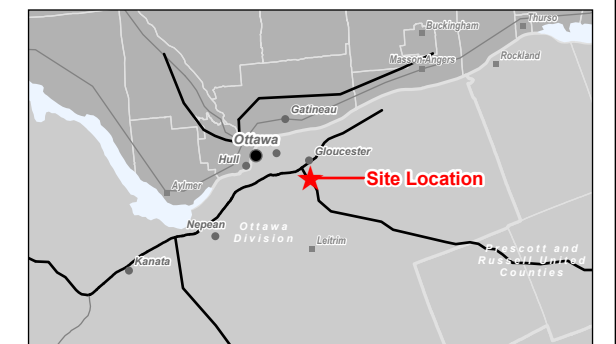
Legend

- Approximate Borehole Location (Stantec, 2025)
- Approximate Monitoring Well Location (Stantec, 2025)
- Catch Basin
- Manhole
- Light Standard
- Gas Line
- Fibre Optic/Telephone Line
- Underground Hydro Line
- Overhead Hydro Line
- Sanitary Sewer Line
- Storm Sewer Line
- Water Line
- Phase One Property



Notes

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3. Orthomagery © Geospatial Ontario, 2026. Imagery Date, 2022.
4. Site features are based on field observations and should be considered approximate.
5. This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.



Project Location: Ottawa, Ontario  
 Prepared by svandamme on 2026-02-25  
 121626297

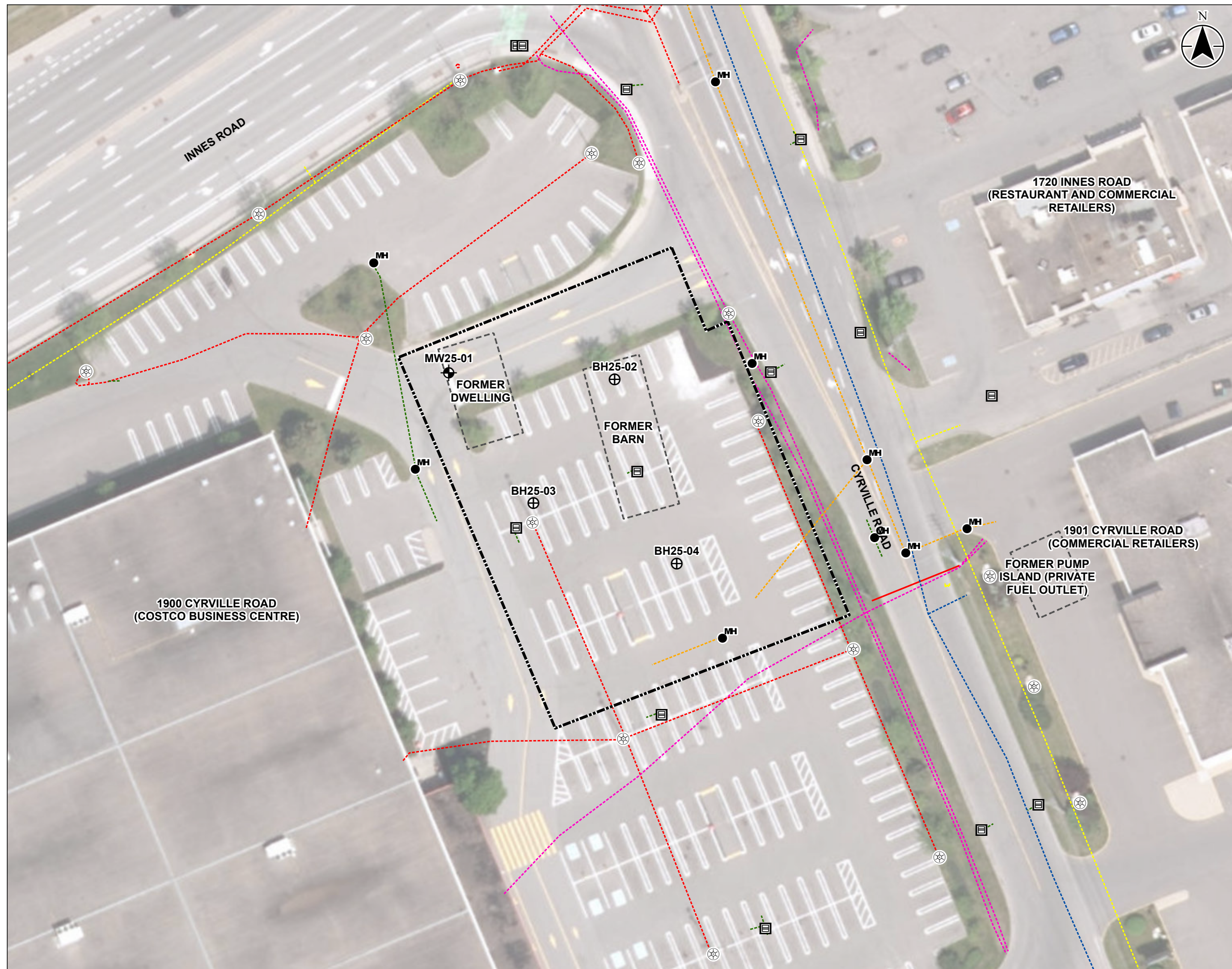
Client/Project  
 COSTCO WHOLESALE CANADA LTD.  
 SAMPLING AND ANALYSIS PLAN  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

Figure No.

**2**

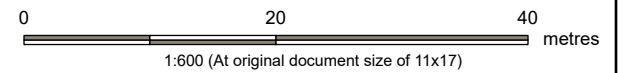
Title

**Phase Two Property**

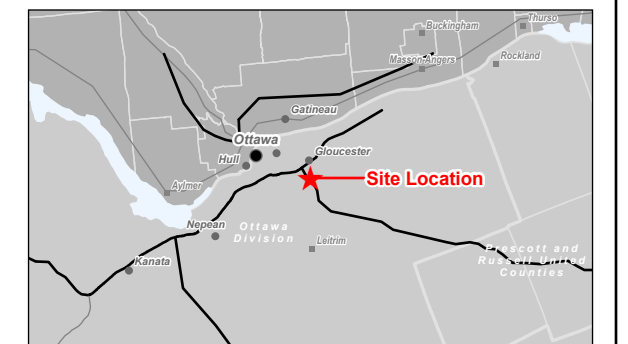


Legend

- Approximate Borehole Location (Stantec, 2025)
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- Manhole
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- Phase One Property
- APEC-1
- APEC-2
- APEC-3



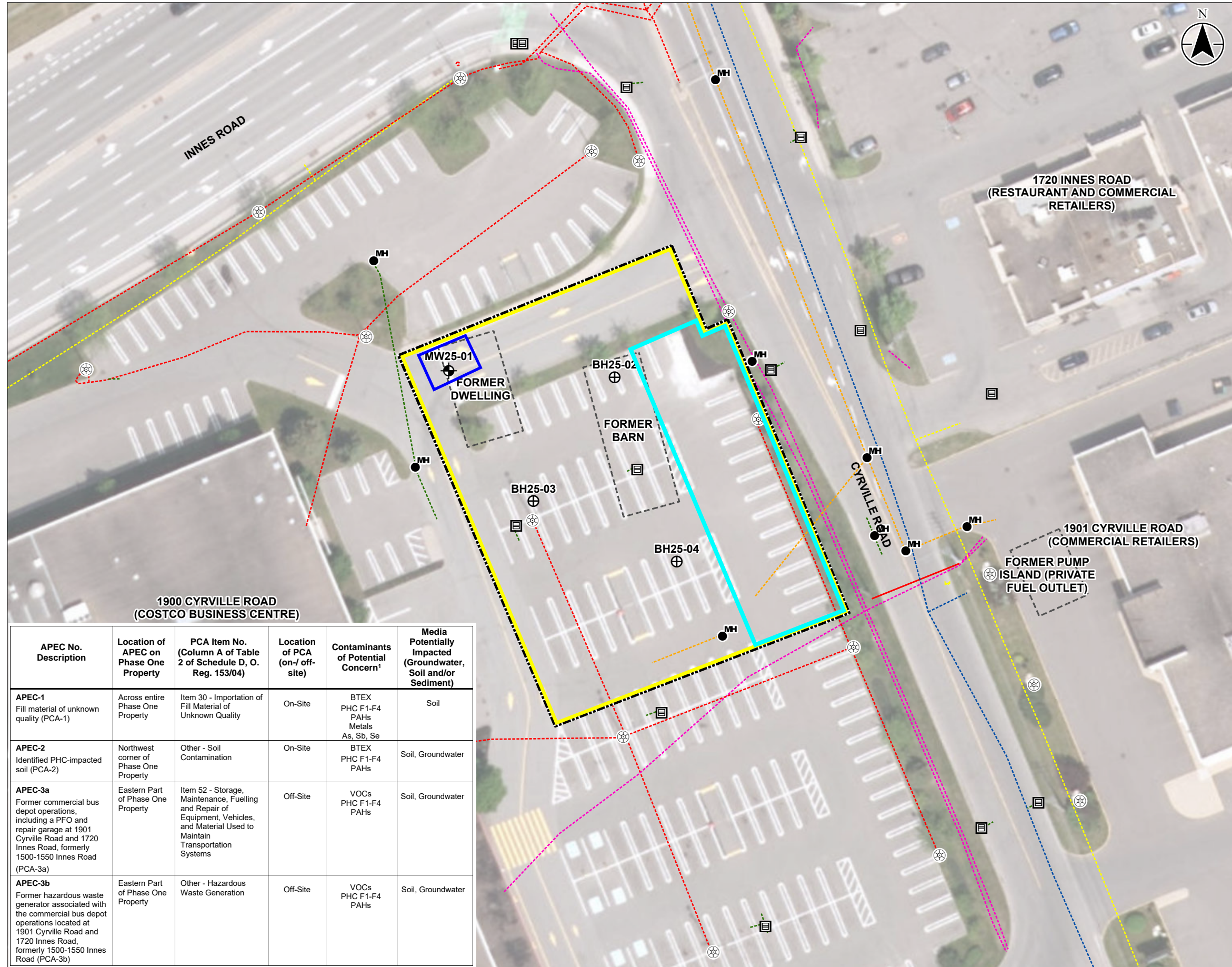
- Notes**
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  3. Orthoimagery © Geospatial Ontario, 2026. Imagery Date, 2022.
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 Prepared by svandamme on 2026-02-25  
 121626297

Client/Project: COSTCO WHOLESAL CANADA LTD.  
 SAMPLING AND ANALYSIS PLAN  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

Figure No.: **3**  
 Title: **Areas of Potential Environmental Concern (APECs)**

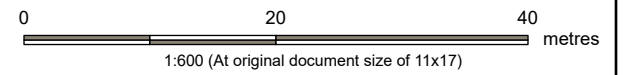


APEC No. Description	Location of APEC on Phase One Property	PCA Item No. (Column A of Table 2 of Schedule D, O. Reg. 153/04)	Location of PCA (on-/ off-site)	Contaminants of Potential Concern <sup>1</sup>	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>APEC-1</b> Fill material of unknown quality (PCA-1)	Across entire Phase One Property	Item 30 - Importation of Fill Material of Unknown Quality	On-Site	BTEX PHC F1-F4 PAHs Metals As, Sb, Se	Soil
<b>APEC-2</b> Identified PHC-impacted soil (PCA-2)	Northwest corner of Phase One Property	Other - Soil Contamination	On-Site	BTEX PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3a</b> Former commercial bus depot operations, including a PFO and repair garage at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3a)	Eastern Part of Phase One Property	Item 52 - Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater
<b>APEC-3b</b> Former hazardous waste generator associated with the commercial bus depot operations located at 1901 Cyrville Road and 1720 Innes Road, formerly 1500-1550 Innes Road (PCA-3b)	Eastern Part of Phase One Property	Other - Hazardous Waste Generation	Off-Site	VOCs PHC F1-F4 PAHs	Soil, Groundwater

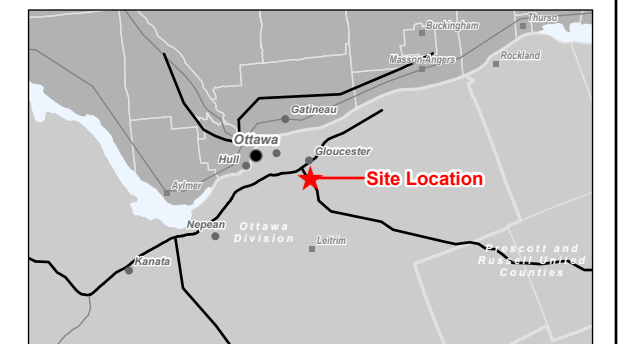
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 Reviewed: 2026-02-25 By: svandamme

Legend

- Approximate Borehole Location (Stantec, 2025)
- Approximate Monitoring Well Location (Stantec, 2025)
- Catch Basin
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- Storm Sewer Line
- Water Line
- Phase One Property
- APEC-1
- APEC-2
- APEC-3
- Proposed Monitoring Well



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Project Location: Ottawa, Ontario  
 Prepared by svandamme on 2026-02-25  
 121626297

Client/Project: COSTCO WHOLESALE CANADA LTD.  
 SAMPLING AND ANALYSIS PLAN  
 NORTHEAST PART OF 1900 CYRVILLE ROAD  
 OTTAWA, ONTARIO

Figure No. **4**

Title: **Proposed Borehole & Monitoring Well Locations**



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## **Appendix B-2 Sample Container, Preservation and Hold Time Information**



## Sample Container, Preservation, and Hold Time Information

*Hold Times and Container Types Do Not Apply to Drinking Water Samples*

WATER	Inorganic Parameters	Recommended Sample Container	Preservation	Hold Time*
	Alkalinity	500 mL plastic	None	14 days
Anions (Br, Cl, F, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	500 mL plastic	None	3/28 Days	
Biochemical Oxygen Demand (BOD)	120 mL plastic	None	4 days	
Carbon, Total Organic (TOC)	250 mL plastic	H <sub>2</sub> SO <sub>4</sub> (pH < 2)	10 days	
Carbon, Dissolved Organic (DOC)	120 mL plastic	None	3 days	
Chemical Oxygen Demand (COD)	250 mL plastic	H <sub>2</sub> SO <sub>4</sub> (pH < 2)	30 days	
Chlorine, Residual (Cl)	40 mL glass vial w/septum cap**	None	Immediate	
Chromium VI - FIELD FILTER GW (Reg. 153)	125 mL plastic	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> /NH <sub>4</sub> OH/NaOH	28 days	
Conductivity	500 mL plastic	None	28 days	
Cyanide (CN)	125 mL plastic	NaOH (pH > 12)	14 days	
Dissolved ICPMS, ICP Metals - FIELD FILTER GW	120 mL plastic	HNO <sub>3</sub> (pH < 2)	60 days	
Total ICPMS, ICP Metals - NOT FILTERED	120 mL plastic	HNO <sub>3</sub> (pH < 2)	30 days	
Mercury - FIELD FILTER GW (Reg. 153) / SW (PWQO)	100 mL clear glass	HCl (pH < 2)	28 days	
Methyl Mercury ( <i>Subcontracted</i> )	250 mL plastic jars (Teflon Lined)	HCl (pH < 2)	28 days	
Nitrogen - Ammonia ( NH <sub>3</sub> . N ) / Total Kjeldahl Nitrogen ( TKN )	250 mL plastic	H <sub>2</sub> SO <sub>4</sub> (pH < 2)	10 days	
Phenolics - Total	120 mL amber glass	H <sub>2</sub> SO <sub>4</sub> (pH < 2)	30 days	
Solids - ( TS, TSS, TDS )	500 mL plastic	None	7 days	
Sulphide ( S <sup>2-</sup> )	125 mL plastic	NaOH / ZnOAc (pH > 9)	7 days	
Total Phosphorus	250 mL plastic	H <sub>2</sub> SO <sub>4</sub> (pH < 2)	30 days	
Microbiological - Sewer	300 mL plastic - Sterilized	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	24 hours	
Microbiological - All Other	300 mL plastic - Sterilized	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	48 hours	
Organic Parameters	Recommended Sample Container	Preservation	Hold Time*	
ABNs (Acid & Base Neutral Extractables) or SVOCs (Semi-Volatiles)	2 x 1L amber glass	None	14 days	
Fatty and Resin Acids	2 x 1L amber glass	None	7 days	
Herbicides	2 x 1L amber glass	None	14 days	
Dioxins and Furans	2 x 1L amber glass	None	30 days/Indefinite	
Chlorophenols	2 x 1L amber glass	None	14 days	
PAHs	2 x 250 mL amber glass	NaHSO <sub>4</sub> (pH < 2)	14 days	
Pesticides / PCBs / Ocs	2 x 500 mL amber glass	None	14 days	
Oil & Grease / Heavy Oils	1 x 1L amber glass	HCl (pH < 2)	30 days	
F4 Gravimetric	1 x 250 mL amber glass	NaHSO <sub>4</sub> (pH < 2)	40 days	
CCME PHCs F2-F4 / Extractable Hydrocarbons	2 x 250 mL amber glass	NaHSO <sub>4</sub> (pH < 2)	40 days	
CCME PHCs F1 / BTEX	2 x 40 mL clear glass septum vial**	NaHSO <sub>4</sub> (pH < 2)	14 days	
THMs / VOC's	3 x 40 mL clear glass septum vial**	NaHSO <sub>4</sub> (pH < 2)	14 days	
1,4 Dioxane - processed as a VOC	3 x 40 mL clear glass septum vial**	NaHSO <sub>4</sub> (pH < 2)	14 days	
1,4 Dioxane - processed as an ABN	2 x 1L amber glass	None	14 days	

SOIL	Inorganic Parameters	Recommended Sample Container	Preservation	Hold Time*
	Anions (Br, F, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	250 mL glass jar	None	None Specified
Anions (Chloride)	250 mL glass jar	None	30 days	
Carbon, Total or Fraction of Organic (TOC/FOC)	250 mL glass jar, teflon lined lid	None	28 days	
Conductivity	250 mL glass jar	None	30 days	
Cyanide, Free	250 mL glass jar, teflon lined lid***	None	14 days	
Chromium VI	250 mL glass jar	None	30 days	
Metals (incl. Hydrides, SAR, HWS Boron, Ca, Mg, Na)	250 mL glass jar	None	180 days	
Mercury	250 mL glass jar	None	28 days	
Methyl Mercury ( <i>Subcontracted</i> )	250 mL glass jar	None	28 days	
Nitrogen - Ammonia ( NH <sub>3</sub> . N ) / Total Kjeldahl Nitrogen ( TKN )	250 mL glass jar	None	None Specified	
pH	250 mL glass jar	None	30 days	
Phenolics - Total	250 mL glass jar	None	None Specified	
Regulation 558 - TCLP - Inorganics & Organics	250 mL glass jar	None	14-180 days	
Regulation 558 - TCLP (Zero Headspace Extraction) - Volatiles	120 mL glass jar, teflon lined lid	None	14 days	
Organic Parameters	Recommended Sample Container	Preservation	Hold Time*	
BTEX, PHCs (F1), THMs, VOCs for Reg 153 - RSC work	40mL glass vial (plus 60mL jar for moisture)	10 mL methanol	14 days	
BTEX, PHCs (F1), THMs, VOCs for Reg 153 - RSC work	Hermetic Sampler (plus 60mL jar for moisture)	Stabilize with Methanol within 48 hrs of sampling		
PHCs (F2-F4) and Moisture	120 mL glass jar, teflon lined lid	None	14 days	
Herbicides, OP Pesticides	120 mL glass jar, teflon lined lid	None	14 days	
Dioxins and Furans, PCBs	120 mL glass jar, teflon lined lid	None	Indefinite storage time	
Oil & Grease, Heavy Oils	120 mL glass jar, teflon lined lid	None	30 days	
ABNs, Chlorophenols, OC Pesticides, PAHs	120 mL glass jar, teflon lined lid	None	60 days	
1,4-Dioxane - processed as a VOC	40mL glass vial (plus 60mL jar for moisture)	10 mL methanol	14 days	
1,4 Dioxane - processed as an ABN	120 mL glass jar, teflon lined lid	None	14 days	

\*Based upon Reg. 153 analytical protocols and MISA (Municipal and Industrial Strategy for Abatement)

\*\*No headspace or air bubbles in the container.

\*\*\*Protect from light

*Bureau Veritas Laboratories has provided a summary of holding times for convenience purposes only and is to be used only as a guide. Holding times may differ depending on required protocol.*

*Please consult the official regulations to ensure the appropriate holding times are followed. Please ensure samples are transported as quickly as possible to ensure hold times can be met.*

*Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlabs.com/terms-and-conditions>*

Reg 153 Metals and Inorganics Packages		
Reg 153 ICPMS Metals	Reg 153 Metals Package (Soil)	Reg 153 Metals Package (Water)
Antimony	Chromium VI HWS Boron Mercury	Chromium VI Mercury
Arsenic		
Barium	Reg 153 Metals & Inorganics Package (Soil)	Reg 153 Metals & Inorganics Package (Water)
Beryllium		
Boron (total)		
Cadmium		
Chromium (total)		
Cobalt		
Copper		
Lead		
Molybdenum		
Nickel		
Selenium	Reg 153 Metals Package with..	Reg 153 Metals Package with...
Silver	Electrical Conductivity	Chloride
Sodium ( <i>water only</i> )	Free Cyanide	Free Cyanide
Thallium	pH	
Uranium	Sodium Absorption Ratio	
Vanadium		
Zinc		

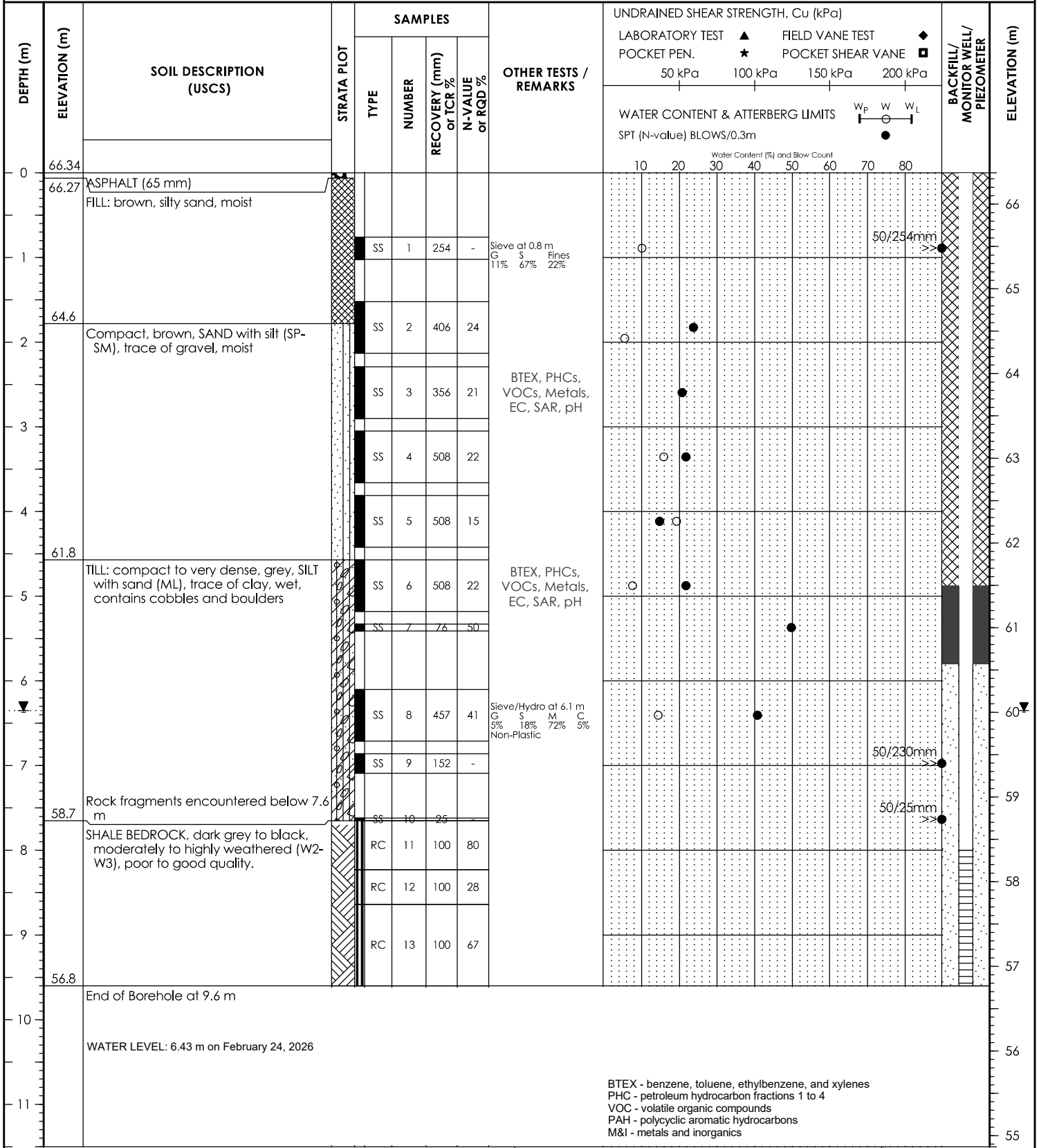
Bureau Veritas Laboratories Water Quality Packages		
RCAP - Comprehensive ICP/MS Metals - Dissolved	RCAP - Routine ICP Metals - Dissolved	RCAP - Surface Water ICP/MS Metals - Total
Alkalinity CaCO <sub>3</sub>	Alkalinity CaCO <sub>3</sub>	Alkalinity CaCO <sub>3</sub>
Ammonia as N	Ammonia as N	Ammonia as N
Carbon, Dissolved Org. as C	Carbon, Dissolved Org. as C	Carbon, Total Org. As C
Chloride	Chloride	Chloride
Conductivity	Conductivity	Conductivity
Nitrate as Nitrogen	Nitrate as Nitrogen	Nitrate as Nitrogen
Nitrite as Nitrogen	Nitrite as Nitrogen	Nitrite as Nitrogen
pH	pH	pH
Phosphate as o-PO <sub>4</sub>	Phosphate as o-PO <sub>4</sub>	Phosphate as o-PO <sub>4</sub>
Sulphate as SO <sub>4</sub>	Sulphate as SO <sub>4</sub>	Sulphate as SO <sub>4</sub>
		Total Phosphorus (colorimetric)
		Turbidity
CALCULATIONS:	CALCULATIONS:	CALCULATIONS:
TDS Calculated	TDS Calculated	TDS Calculated
Bicarbonate Alkalinity	Bicarbonate Alkalinity	Bicarbonate Alkalinity
Carbonate Alkalinity	Carbonate Alkalinity	Carbonate Alkalinity
Anion Sum	Anion Sum	Hardness
Cation Sum	Cation Sum	Langelier Index @5C
Hardness	Hardness	Langelier Index @20C
Ion Balance	Ion Balance	Saturation pH @5C
Langelier Index @5C	Langelier Index @5C	Saturation pH @20C
Langelier Index @20C	Langelier Index @20C	
Saturation pH @5C	Saturation pH @5C	
Saturation pH @20C	Saturation pH @20C	

**Note:** Samples are to be kept cool (less than 10°C) post collection; however, samples arriving at Bureau Veritas Laboratories the same day as they were collected, with an attempt made to cool, are not considered compromised at greater than 10°C.

## **Appendix C      Borehole Logs**



CLIENT: Costco Wholesale Canada Ltd. BH COORDINATES PROJECT NO.: 121626297  
 PROJECT: Fuel Station Addition BH ELEVATION: 66.34m  
 LOCATION: 1900 Cyrville Road, Gloucester, Ontario 5029311.3N 452846.5E DATUM: Geodetic  
 DATE BORED: February 27, 2025 WATER LEVEL: 6.4 m on April 1st, 2025



BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons  
 M&I - metals and inorganics

Printed Apr 4 2025 11:11:49 STANTEC GEO 2016 121626297\_COSTCO\_GLOUCESTER\_BOREHOLE\_LOGS.GPJ GINT\_1233\_SOIL\_2018\_DATA\_TEMP\_REV2.GDT 4/4/25

Water Level Measured On Date Indicated  
 BACKFILL SYMBOL: ASPHALT, BENTONITE, DRILL CUTTINGS, SAND, GROUT, CONCRETE, SLOUGH

Drilling Contractor: Downing  
 Drilling Method: HSA  
 Completion Depth: 9.6 m  
 Logged By: OE  
 Reviewed By: GC  
 Page 1 of 1

CLIENT: Costco Wholesale Canada Ltd. BH COORDINATES PROJECT NO.: 121626297  
 PROJECT: Fuel Station Addition BH ELEVATION: 66.65m  
 LOCATION: 1900 Cyrville Road, Gloucester, Ontario 452867.2N 5029312.7E DATUM: Geodetic  
 DATE BORED: February 28, 2025 WATER LEVEL: \_\_\_\_\_

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION (USCS)	STRATA PLOT	SAMPLES				OTHER TESTS / REMARKS	UNDRAINED SHEAR STRENGTH, Cu (kPa)				BACKFILL / MONITOR WELL / PIEZOMETER	ELEVATION (m)
				TYPE	NUMBER	RECOVERY (mm) or TCR %	N-VALUE or RQD %		LABORATORY TEST	FIELD VANE TEST	POCKET PEN.	POCKET SHEAR VANE		
0	66.7	ASPHALT (75 mm)												
	66.6	FILL: grey, sand with gravel, moist												
1				SS	1	102	-							66
2				SS	2	330	27	BTEX, PHCs, VOCs, Metals, EC, SAR, pH						65
	64.4	Compact, grey, Silty SAND (SM), moist		SS	3	356	12	Sieve at 2.3 m G 12% S 74% Fines 14%						64
3				SS	4	356	22	BTEX, PHCs, VOCs, Metals, EC, SAR, pH						63
4	62.7	TILL: dense to very dense, grey, Sandy SILT (ML), trace clay, moist		SS	5	381	35							62
5				SS	6	381	-	Sieve/Hydro at 4.6 m G 7% S 33% M 53% C 7%						62
6	61.3	TILL: very dense, grey, Silty SAND with gravel (SM), moist - contains cobbles and boulders		SS	7	381	-	BTEX, PHCs, VOCs, Metals, EC, SAR, pH						61
7				SS	8	127	-	Sieve at 6.1 m G 18% S 41% Fines 41%						60
8	59.0	Auger Refusal and End of Borehole at 7.7 m		SS	9	356	-							59
9				SS	10	50	-							59

BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons  
 M&I - metals and inorganics

BACKFILL SYMBOL: ASPHALT, BENTONITE, DRILL CUTTINGS, SAND, GROUT, CONCRETE, SLOUGH

Drilling Contractor: Downing  
 Drilling Method: HSA  
 Completion Depth: 7.7 m  
 Logged By: OE  
 Reviewed By: GC  
 Page 1 of 1

Printed Apr 4 2025 11:11:50 STANTEC GEO 2016 121626297\_COSTCO\_GLOUCESTER\_BOREHOLE\_LOGS.GPJ GINT\_1233\_SOIL\_2018\_DATA\_TEMP\_REV2.GDT 4/4/25

CLIENT: Costco Wholesale Canada Ltd.      BH COORDINATES: \_\_\_\_\_      PROJECT NO.: 121626297  
 PROJECT: Fuel Station Addition      BH ELEVATION: 66.38m  
 LOCATION: 1900 Cyrville Road, Gloucester, Ontario      452858.1N 5029294.5E      DATUM: Geodetic  
 DATE BORED: February 27, 2025      WATER LEVEL: \_\_\_\_\_

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION (USCS)	STRATA PLOT	SAMPLES				OTHER TESTS / REMARKS	UNDRAINED SHEAR STRENGTH, Cu (kPa)				BACKFILL / MONITOR WELL / PIEZOMETER	ELEVATION (m)	
				TYPE	NUMBER	RECOVERY (mm) or TCR %	N-VALUE or RQD %		50 kPa	100 kPa	150 kPa	200 kPa			
0	66.4	ASPHALT (65 mm)	[Cross-hatch]											66	
	66.3	FILL: brown, sand with gravel, moist	[Dotted]												
1			[Dotted]	SS	1	330	22	BTEX, PHCs, VOCs, Metals, EC, SAR, pH							
2			[Dotted]	SS	2	330	22								
	64.1	Loose to compact, light brown, SAND with silt (SW-SM), moist	[Dotted]												
3			[Dotted]	SS	3	356	15	Sieve/Hydro at 3.2 m G 29% S 39% M 24% C 8%							
4			[Dotted]	SS	4	305	9								
	63.2	TILL: loose to dense, grey, Silty SAND with gravel (SM), wet	[Dotted]												
4			[Dotted]	SS	5	330	8	BTEX, PHCs, VOCs, Metals, EC, SAR, pH							
5			[Dotted]	SS	6	406	16								
			[Dotted]	SS	7	406	22	BTEX, PHCs, VOCs, Metals, EC, SAR, pH							
6			[Dotted]	SS	8	381	40								
	59.7	End of Borehole at 6.7 m	[Dotted]												

BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons  
 M&I - metals and inorganics

Printed Apr 4 2025 11:1:52 STANTEC GEO 2016 121626297\_COSTCO\_GLOUCESTER\_BOREHOLE\_LOGS.GPJ GINT\_1233\_SOIL\_2018\_DATA\_TEMP\_REV2.GDT 4/4/25

CLIENT: Costco Wholesale Canada Ltd. BH COORDINATES PROJECT NO.: 121626297  
 PROJECT: Fuel Station Addition BH ELEVATION: 66.62m  
 LOCATION: 1900 Cyrville Road, Gloucester, Ontario 452881.8N 5029284.6E DATUM: Geodetic  
 DATE BORED: February 28, 2025 WATER LEVEL: \_\_\_\_\_

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION (USCS)	STRATA PLOT	SAMPLES				OTHER TESTS / REMARKS	UNDRAINED SHEAR STRENGTH, Cu (kPa)				BACKFILL / MONITOR WELL / PIEZOMETER	ELEVATION (m)
				TYPE	NUMBER	RECOVERY (mm) or TCR %	N-VALUE or RQD %		LABORATORY TEST	FIELD VANE TEST	POCKET PEN.	POCKET SHEAR VANE		
0	66.6	ASPHALT (100 mm)												
	66.5	FILL: brown, sand with gravel, moist - contains cobbles												
1				SS	1	610	89	BTEX, PHCs, VOCs, Metals, EC, SAR, pH						
2				SS	2	152	9							
	64.3	Compact, light brown, SAND with silt (SP-SM), moist												
3				SS	3	356	14	BTEX, PHCs, VOCs, Metals, EC, SAR, pH						
	62.9			SS	4	508	21	Sieve at 3.1 m G 9% S 82% Fines 9%						
4		End of Borehole at 3.7 m												

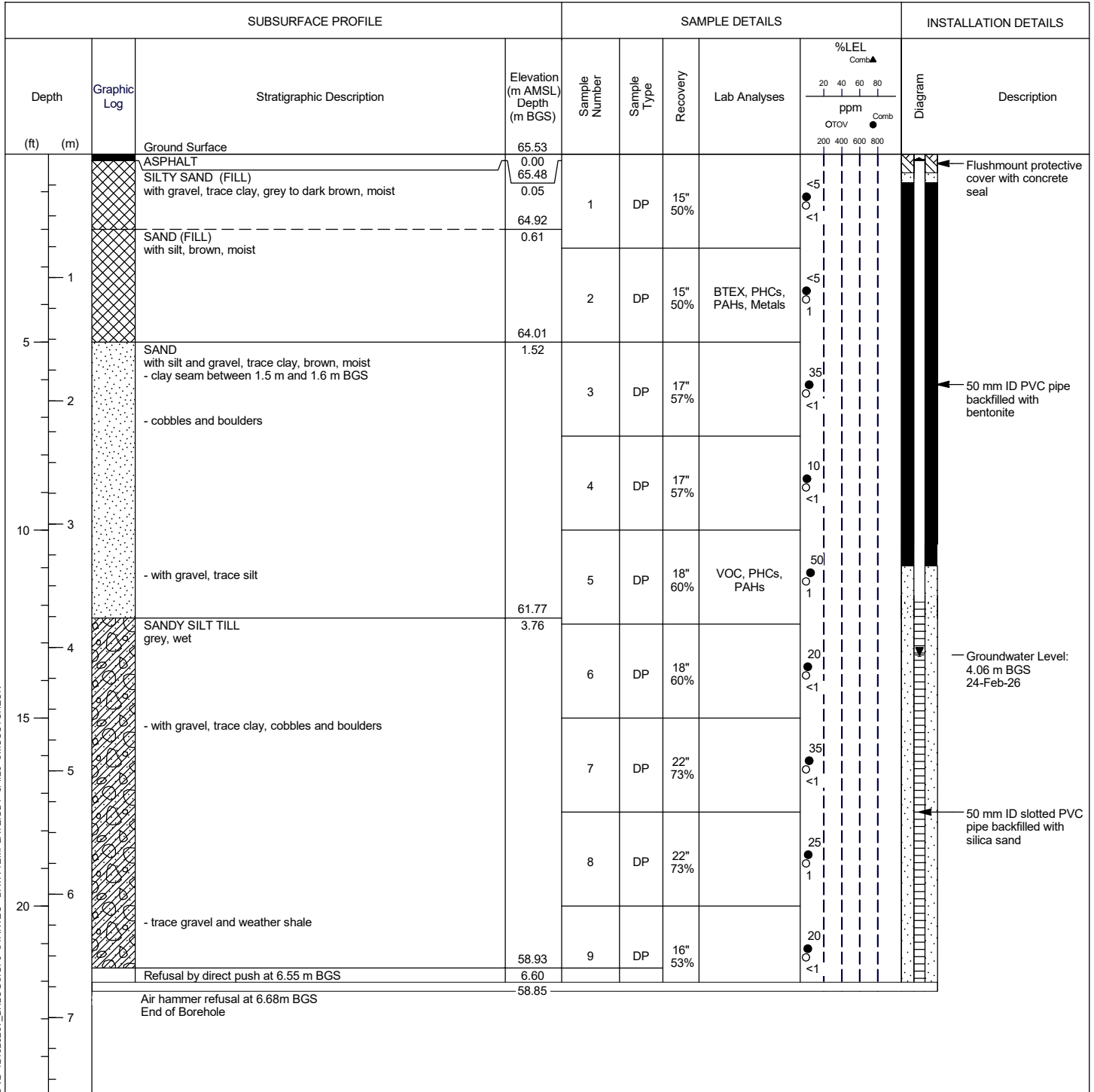
BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons  
 M&I - metals and inorganics

- BACKFILL SYMBOL
- ASPHALT
- GROUT
- CONCRETE
- BENTONITE
- DRILL CUTTINGS
- SAND
- SLOUGH

Drilling Contractor: Downing  
 Drilling Method: HSA  
 Completion Depth: 3.7 m  
 Logged By: OE  
 Reviewed By: GC  
 Page 1 of 1

# Monitoring Well: MW26-05

<b>Project:</b> Phase Two Environmental Site Assessment	<b>Method:</b> Direct Push (DP) and Air Rotary Drilling
<b>Client:</b> Costco Wholesale Canada Ltd.	<b>Date started/completed:</b> 19-Feb-2026
<b>Location:</b> Northeast Part of at 1990 Cyrville Road, Ottawa, Ontario	<b>Ground surface elevation:</b> 65.53 m AMSL
<b>Number:</b> 121626297	<b>Top of casing elevation:</b> 3.94 m
<b>Field investigator:</b> O. El-Ghazal / R. Story	<b>Easting:</b> n/a
<b>Contractor:</b> Strata Drilling Group	<b>Northing:</b> n/a



Screen Interval: 3.68 - 6.68 m BGS  
 Sand Pack Interval: 3.35 - 6.68 m BGS  
 Well Seal Interval: 0.23 - 3.35 m BGS

Notes:  
 m BGS - metres below ground surface  
 DP - direct push sample  
 ppm - parts per million by volume  
 %LEL - percent lower explosive limit  
 n/a - not available

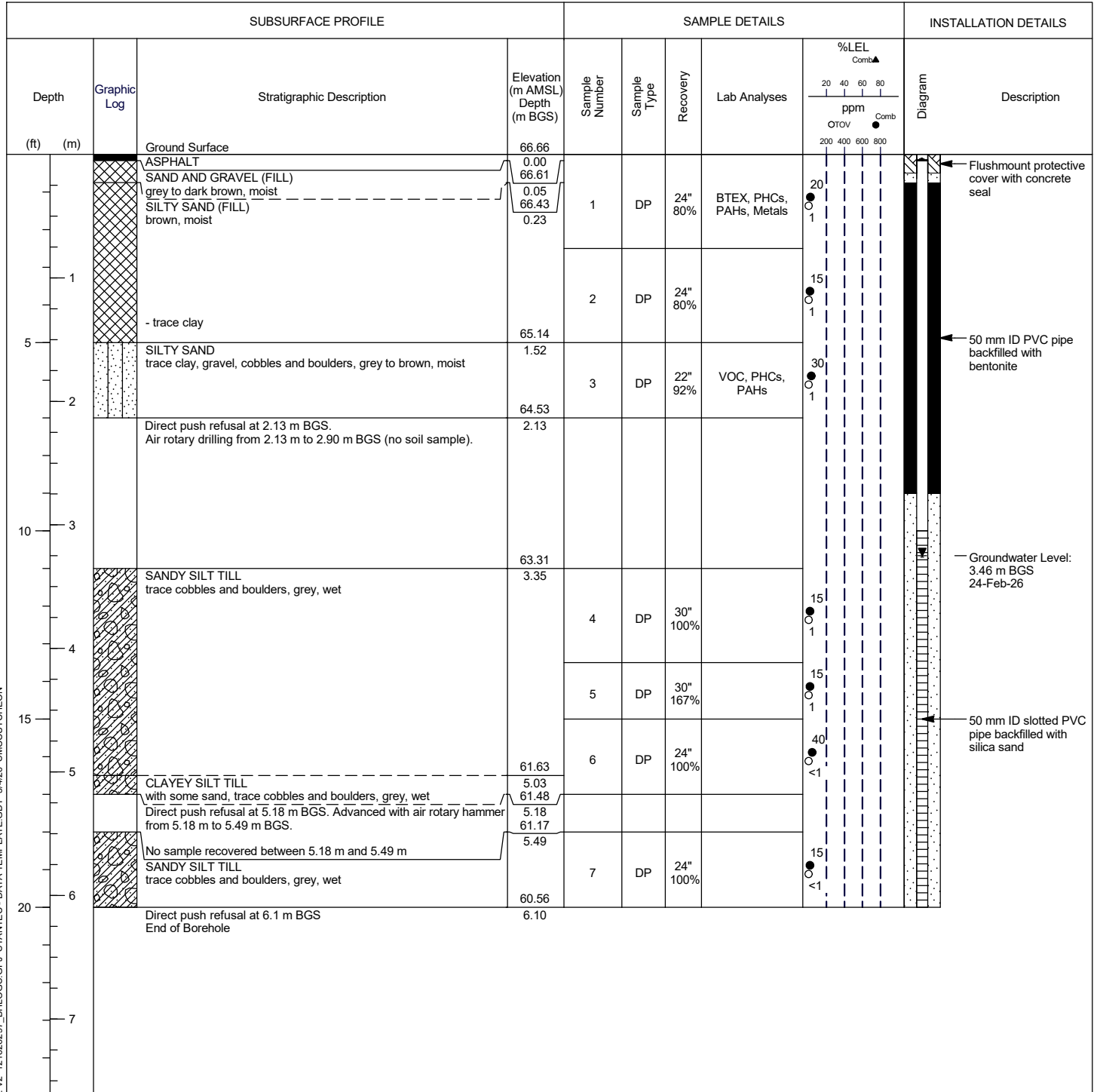
BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons



# Monitoring Well: MW26-06

**Project:** Phase Two Environmental Site Assessment  
**Client:** Costco Wholesale Canada Ltd.  
**Location:** Northeast Part of at 1990 Cyrville Road, Ottawa, Ontario  
**Number:** 121626297  
**Field investigator:** O. El-Ghazal / R. Story  
**Contractor:** Strata Drilling Group

**Method:** Direct Push (DP) and Air Rotary Drilling  
**Date started/completed:** 19-Feb-2026  
**Ground surface elevation:** 66.66 m AMSL  
**Top of casing elevation:** 3.35 m  
**Easting:** n/a  
**Northing:** n/a



STANTEC BOREHOLE AND WELL V2 121626297\_BHLOGS.GPJ STANTEC - DATA TEMPLATE.GDT 3/4/26 SMCCUTCHEON

Screen Interval: 3.10 - 6.10 m BGS  
 Sand Pack Interval: 2.74 - 6.10 m BGS  
 Well Seal Interval: 0.23 - 2.74 m BGS

Notes:  
 m BGS - metres below ground surface  
 DP - direct push sample  
 ppm - parts per million by volume  
 %LEL - percent lower explosive limit  
 n/a - not available

BTEX - benzene, toluene, ethylbenzene, and xylenes  
 PHC - petroleum hydrocarbon fractions 1 to 4  
 VOC - volatile organic compounds  
 PAH - polycyclic aromatic hydrocarbons



## **Appendix D      Laboratory Certificates of Analysis**



# GEOTECHNICAL INVESTIGATION REPORT

Results of Investigation  
May 2025

## Grain size distribution - Fill

Borehole No.	Sample ID	Depth (m)	Moisture Content %	Gravel (%)	Sand (%)	Fines (%) – Silt and Clay
BH25-01	SS1	0.75 – 1.0	10	11	67	22

## Grain size distribution - Native Sand/Sandy Silty

Borehole No.	Sample ID	Depth (m)	Moisture Content %	Gravel (%)	Sand (%)	Fines (%) – Silt and Clay
BH25-02	SS3	2.3 – 2.9	10	12	74	14
BH25-03	SS3	2.3 – 2.9	6	14	76	10
BH25-04	SS4	3.1 – 3.7	5	9	82	9

## Grain size distribution - Till

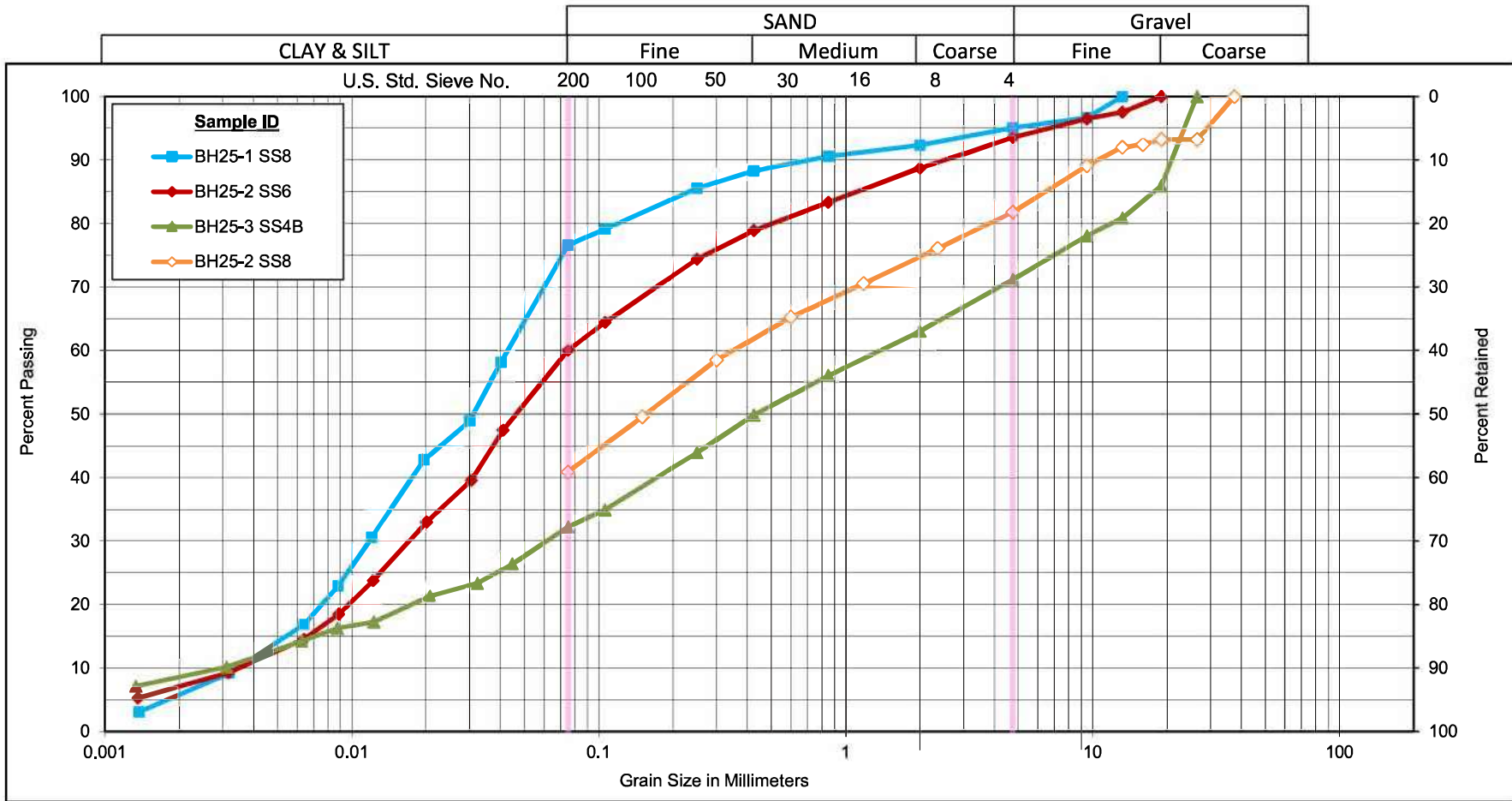
Borehole No.	Sample ID	Depth (m)	Water Content %	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH25-01	SS8	6.1 – 6.7	15	5	18	72	5
BH25-02	SS6	4.6 – 5.0	7	7	33	53	7
BH25-02	SS8	6.1 – 6.2	6	18	41	41	
BH25-03	SS4B	3.2 – 3.7	9	29	39	24	8

Silt – fraction of particles with sizes smaller than 0.075 mm and greater than 0.002 mm.

Clay – fraction of particles with sizes smaller than 0.002 mm.



# Unified Soil Classification System



## Grain Size Distribution of Till (SANDY SILT (ML) to SILTY SAND with Gravel (SM))

Costco Wholesale Canada Ltd.  
Costco Fuel Station

Figure No. 3

Project No. 121626297



Your Project #: 121626297.300  
 Your C.O.C. #: C#1035297-01-01

**Attention: Steve Hannington**

Stantec Consulting Ltd  
 1331 Clyde Avenue  
 Suite 400  
 Ottawa, ON  
 CANADA K2C 3G4

**Report Date: 2025/03/17**  
 Report #: R8503513  
 Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C522430**

**Received: 2025/03/03, 13:03**

Sample Matrix: Soil  
 # Samples Received: 11

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
Methylnaphthalene Sum (1)	10	N/A	2025/03/06	CAM SOP-00301	EPA 8270D m
Semivolatile Organic Compounds (TCLP) (1)	1	2025/03/07	2025/03/08	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron (1)	10	2025/03/07	2025/03/07	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum (1)	4	N/A	2025/03/14		EPA 8260D m
1,3-Dichloropropene Sum (1)	6	N/A	2025/03/06		EPA 8260C m
1,3-Dichloropropene Sum (1)	4	N/A	2025/03/07		EPA 8260C m
Free (WAD) Cyanide (1)	10	2025/03/07	2025/03/07	CAM SOP-00457	OMOE E3015 m
Cyanide (WAD) in Leachates (1)	1	N/A	2025/03/06	CAM SOP-00457	OMOE 3015 m
Conductivity (1)	10	2025/03/07	2025/03/07	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	10	2025/03/07	2025/03/07	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	5	2025/03/06	2025/03/06	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	5	2025/03/06	2025/03/07	CAM SOP-00316	CCME CWS m
Fluoride by ISE in Leachates (1)	1	2025/03/06	2025/03/06	CAM SOP-00449	SM 24 4500-F- C m
Acid Extractable Metals by ICPMS (1)	10	2025/03/06	2025/03/06	CAM SOP-00447	EPA 6020B m
Total Metals in TCLP Leachate by ICPMS (1)	1	2025/03/06	2025/03/06	CAM SOP-00447	EPA 6020B m
Total Metals in SPLP Leachate by ICPMS (1)	4	2025/03/14	2025/03/14	CAM SOP-00447	EPA 6020B m
Ignitability of a Sample (1)	1	2025/03/06	2025/03/06	CAM SOP-00432	EPA 1030 Rev. 1 m
Moisture (1)	10	N/A	2025/03/04	CAM SOP-00445	Carter 2nd ed 70.2 m
Modified SPLP extraction - Weight (1)	4	N/A	2025/03/14	CAM SOP-00941	OMOECP LaSB E9003 R3
Nitrate& Nitrite as Nitrogen in Leachate (1)	1	N/A	2025/03/06	CAM SOP-00440	SM 24 4500-NO3I/NO2B
PAH Compounds in Soil by GC/MS (SIM) (1)	10	2025/03/05	2025/03/06	CAM SOP-00318	EPA 8270E
Polychlorinated Biphenyl in Leachate (1)	1	2025/03/06	2025/03/06	CAM SOP-00309	EPA 8082A m
pH CaCl2 EXTRACT (1)	10	2025/03/07	2025/03/07	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	10	N/A	2025/03/10	CAM SOP-00102	EPA 6010C
SPLP Zero Headspace Extraction (1)	4	2025/03/12	2025/03/13	CAM SOP-00430	EPA 1312 m
TCLP - % Solids (1)	1	2025/03/05	2025/03/06	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid (1)	1	N/A	2025/03/06	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH (1)	1	N/A	2025/03/06	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction (1)	1	2025/03/06	2025/03/07	CAM SOP-00430	EPA 1311 m
Volatile Organic Compounds and F1 PHCs (1)	6	N/A	2025/03/05	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs (1)	4	N/A	2025/03/06	CAM SOP-00230	EPA 8260C m



Your Project #: 121626297.300  
Your C.O.C. #: C#1035297-01-01

**Attention: Steve Hannington**

Stantec Consulting Ltd  
1331 Clyde Avenue  
Suite 400  
Ottawa, ON  
CANADA K2C 3G4

**Report Date: 2025/03/17**  
Report #: R8503513  
Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C522430**

**Received: 2025/03/03, 13:03**

Sample Matrix: Soil  
# Samples Received: 11

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
VOCs in ZHE Leachates (1)	1	2025/03/07	2025/03/07	CAM SOP-00228	EPA 8260D
Volatile organics in SPLP leachates (1)	4	N/A	2025/03/13	CAM SOP-00228	EPA 8260D m

**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, EPA, APHA or the Quebec Ministry of Environment.

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.

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) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8

(2) Soils are reported on a dry weight basis unless otherwise specified.

(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Your Project #: 121626297.300  
Your C.O.C. #: C#1035297-01-01

**Attention: Steve Hannington**

Stantec Consulting Ltd  
1331 Clyde Avenue  
Suite 400  
Ottawa, ON  
CANADA K2C 3G4

**Report Date: 2025/03/17**  
Report #: R8503513  
Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BUREAU VERITAS JOB #: C522430**  
**Received: 2025/03/03, 13:03**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:  
Julie Clement, Technical Account Manager  
Email: Julie.CLEMENT@bureauveritas.com  
Phone# (613)868-6079

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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 #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK INORGANICS (SOIL)

Bureau Veritas ID		AONQ26		AONQ27		AONQ28		
Sampling Date		2025/02/27 10:15		2025/02/27 10:40		2025/02/28 08:55		
COC Number		C#1035297-01-01		C#1035297-01-01		C#1035297-01-01		
	UNITS	BH25-01-SS3	QC Batch	BH25-01-SS6	QC Batch	BH25-02-SS2	RDL	QC Batch
<b>Calculated Parameters</b>								
Sodium Adsorption Ratio	N/A	8.1	9884390	2.9	9884390	1.6		9884390
<b>Inorganics</b>								
Conductivity	mS/cm	0.38	9886970	0.45	9886970	0.37	0.002	9886970
Available (CaCl2) pH	pH	8.03	9886773	7.79	9886773	7.92		9886773
WAD Cyanide (Free)	ug/g	<0.01	9886746	<0.01	9886746	<0.01	0.01	9886746
Chromium (VI)	ug/g	<0.18	9887087	<0.18	9887087	<0.18	0.18	9887087
<b>Metals</b>								
Hot Water Ext. Boron (B)	ug/g	0.34	9886781	0.44	9886780	0.076	0.050	9886781
Acid Extractable Antimony (Sb)	ug/g	<0.20	9886552	0.20	9886552	<0.20	0.20	9886552
Acid Extractable Arsenic (As)	ug/g	<1.0	9886552	4.8	9886552	1.9	1.0	9886552
Acid Extractable Barium (Ba)	ug/g	57	9886552	150	9886552	200	0.50	9886552
Acid Extractable Beryllium (Be)	ug/g	<0.20	9886552	0.38	9886552	0.21	0.20	9886552
Acid Extractable Boron (B)	ug/g	<5.0	9886552	6.8	9886552	<5.0	5.0	9886552
Acid Extractable Cadmium (Cd)	ug/g	<0.10	9886552	0.13	9886552	<0.10	0.10	9886552
Acid Extractable Chromium (Cr)	ug/g	5.3	9886552	15	9886552	9.9	1.0	9886552
Acid Extractable Cobalt (Co)	ug/g	4.1	9886552	8.9	9886552	6.3	0.10	9886552
Acid Extractable Copper (Cu)	ug/g	6.1	9886552	25	9886552	13	0.50	9886552
Acid Extractable Lead (Pb)	ug/g	2.3	9886552	10	9886552	6.2	1.0	9886552
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	9886552	2.2	9886552	0.89	0.50	9886552
Acid Extractable Nickel (Ni)	ug/g	7.7	9886552	24	9886552	12	0.50	9886552
Acid Extractable Selenium (Se)	ug/g	<0.50	9886552	<0.50	9886552	<0.50	0.50	9886552
Acid Extractable Silver (Ag)	ug/g	<0.20	9886552	<0.20	9886552	<0.20	0.20	9886552
Acid Extractable Thallium (Tl)	ug/g	0.065	9886552	0.14	9886552	0.13	0.050	9886552
Acid Extractable Uranium (U)	ug/g	0.41	9886552	1.2	9886552	0.60	0.050	9886552
Acid Extractable Vanadium (V)	ug/g	12	9886552	22	9886552	20	5.0	9886552
Acid Extractable Zinc (Zn)	ug/g	11	9886552	43	9886552	18	5.0	9886552
Acid Extractable Mercury (Hg)	ug/g	<0.050	9886552	<0.050	9886552	<0.050	0.050	9886552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



BUREAU  
VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK INORGANICS (SOIL)

<b>Bureau Veritas ID</b>		AONQ29			AONQ29		
<b>Sampling Date</b>		2025/02/28 09:15			2025/02/28 09:15		
<b>COC Number</b>		C#1035297-01-01			C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-02-SS4</b>	<b>RDL</b>	<b>QC Batch</b>	<b>BH25-02-SS4 Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>							
Sodium Adsorption Ratio	N/A	7.2		9884390			
<b>Inorganics</b>							
Conductivity	mS/cm	0.61	0.002	9886970	0.64	0.002	9886970
Available (CaCl2) pH	pH	7.89		9886773			
WAD Cyanide (Free)	ug/g	<0.01	0.01	9886746			
Chromium (VI)	ug/g	<0.18	0.18	9887087			
<b>Metals</b>							
Hot Water Ext. Boron (B)	ug/g	0.063	0.050	9886781	0.055	0.050	9886781
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	9886552			
Acid Extractable Arsenic (As)	ug/g	1.3	1.0	9886552			
Acid Extractable Barium (Ba)	ug/g	72	0.50	9886552			
Acid Extractable Beryllium (Be)	ug/g	<0.20	0.20	9886552			
Acid Extractable Boron (B)	ug/g	<5.0	5.0	9886552			
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	9886552			
Acid Extractable Chromium (Cr)	ug/g	8.1	1.0	9886552			
Acid Extractable Cobalt (Co)	ug/g	4.0	0.10	9886552			
Acid Extractable Copper (Cu)	ug/g	8.9	0.50	9886552			
Acid Extractable Lead (Pb)	ug/g	3.4	1.0	9886552			
Acid Extractable Molybdenum (Mo)	ug/g	0.52	0.50	9886552			
Acid Extractable Nickel (Ni)	ug/g	8.0	0.50	9886552			
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	9886552			
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	9886552			
Acid Extractable Thallium (Tl)	ug/g	0.068	0.050	9886552			
Acid Extractable Uranium (U)	ug/g	0.71	0.050	9886552			
Acid Extractable Vanadium (V)	ug/g	13	5.0	9886552			
Acid Extractable Zinc (Zn)	ug/g	14	5.0	9886552			
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	9886552			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



BUREAU  
VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK INORGANICS (SOIL)**

Bureau Veritas ID		AONQ30		AONQ31	AONQ32		
Sampling Date		2025/02/28 09:55		2025/02/27 03:10	2025/02/27 03:30		
COC Number		C#1035297-01-01		C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-02-SS7	QC Batch	BH25-03-SS2	BH25-03-SS5	RDL	QC Batch
<b>Calculated Parameters</b>							
Sodium Adsorption Ratio	N/A	4.8	9884390	8.3	14		9884390
<b>Inorganics</b>							
Conductivity	mS/cm	0.46	9886970	0.27	1.0	0.002	9886970
Available (CaCl <sub>2</sub> ) pH	pH	7.99	9886773	8.12	7.82		9886773
WAD Cyanide (Free)	ug/g	<0.01	9886746	<0.01	<0.01	0.01	9886746
Chromium (VI)	ug/g	<0.18	9887087	<0.18	<0.18	0.18	9887087
<b>Metals</b>							
Hot Water Ext. Boron (B)	ug/g	0.22	9886781	0.071	0.15	0.050	9886780
Acid Extractable Antimony (Sb)	ug/g	<0.20	9886552	<0.20	<0.20	0.20	9886552
Acid Extractable Arsenic (As)	ug/g	2.3	9886552	1.4	3.9	1.0	9886552
Acid Extractable Barium (Ba)	ug/g	110	9886552	65	92	0.50	9886552
Acid Extractable Beryllium (Be)	ug/g	0.20	9886552	0.23	0.36	0.20	9886552
Acid Extractable Boron (B)	ug/g	<5.0	9886552	<5.0	5.6	5.0	9886552
Acid Extractable Cadmium (Cd)	ug/g	<0.10	9886552	<0.10	0.10	0.10	9886552
Acid Extractable Chromium (Cr)	ug/g	9.1	9886552	13	14	1.0	9886552
Acid Extractable Cobalt (Co)	ug/g	4.6	9886552	5.6	7.6	0.10	9886552
Acid Extractable Copper (Cu)	ug/g	16	9886552	13	22	0.50	9886552
Acid Extractable Lead (Pb)	ug/g	4.9	9886552	5.2	8.5	1.0	9886552
Acid Extractable Molybdenum (Mo)	ug/g	0.62	9886552	0.96	1.9	0.50	9886552
Acid Extractable Nickel (Ni)	ug/g	9.8	9886552	14	21	0.50	9886552
Acid Extractable Selenium (Se)	ug/g	<0.50	9886552	<0.50	<0.50	0.50	9886552
Acid Extractable Silver (Ag)	ug/g	<0.20	9886552	<0.20	<0.20	0.20	9886552
Acid Extractable Thallium (Tl)	ug/g	0.071	9886552	0.13	0.12	0.050	9886552
Acid Extractable Uranium (U)	ug/g	0.65	9886552	0.50	1.2	0.050	9886552
Acid Extractable Vanadium (V)	ug/g	17	9886552	20	21	5.0	9886552
Acid Extractable Zinc (Zn)	ug/g	25	9886552	22	34	5.0	9886552
Acid Extractable Mercury (Hg)	ug/g	<0.050	9886552	<0.050	<0.050	0.050	9886552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK INORGANICS (SOIL)

<b>Bureau Veritas ID</b>		AONQ32			AONQ33	AONQ34		
<b>Sampling Date</b>		2025/02/27 03:30			2025/02/27 03:45	2025/02/28 11:20		
<b>COC Number</b>		C#1035297-01-01			C#1035297-01-01	C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-03-SS5 Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>	<b>BH25-03-SS8</b>	<b>BH25-04-SS1</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Calculated Parameters</b>								
Sodium Adsorption Ratio	N/A				2.0	4.0		9884390
<b>Inorganics</b>								
Conductivity	mS/cm				0.35	0.94	0.002	9886970
Available (CaCl2) pH	pH				7.88	7.65		9886773
WAD Cyanide (Free)	ug/g				<0.01	<0.01	0.01	9886746
Chromium (VI)	ug/g				<0.18	<0.18	0.18	9887087
<b>Metals</b>								
Hot Water Ext. Boron (B)	ug/g				0.32	0.22	0.050	9886781
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	9886552	<0.20	0.28	0.20	9886552
Acid Extractable Arsenic (As)	ug/g	3.7	1.0	9886552	1.9	4.4	1.0	9886552
Acid Extractable Barium (Ba)	ug/g	91	0.50	9886552	73	69	0.50	9886552
Acid Extractable Beryllium (Be)	ug/g	0.35	0.20	9886552	<0.20	0.38	0.20	9886552
Acid Extractable Boron (B)	ug/g	5.6	5.0	9886552	<5.0	<5.0	5.0	9886552
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	9886552	<0.10	0.10	0.10	9886552
Acid Extractable Chromium (Cr)	ug/g	14	1.0	9886552	8.6	16	1.0	9886552
Acid Extractable Cobalt (Co)	ug/g	7.8	0.10	9886552	3.9	7.8	0.10	9886552
Acid Extractable Copper (Cu)	ug/g	21	0.50	9886552	14	14	0.50	9886552
Acid Extractable Lead (Pb)	ug/g	8.6	1.0	9886552	4.2	17	1.0	9886552
Acid Extractable Molybdenum (Mo)	ug/g	2.0	0.50	9886552	<0.50	1.6	0.50	9886552
Acid Extractable Nickel (Ni)	ug/g	21	0.50	9886552	8.6	17	0.50	9886552
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	9886552	<0.50	<0.50	0.50	9886552
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	9886552	<0.20	<0.20	0.20	9886552
Acid Extractable Thallium (Tl)	ug/g	0.13	0.050	9886552	0.052	0.20	0.050	9886552
Acid Extractable Uranium (U)	ug/g	1.2	0.050	9886552	0.61	0.79	0.050	9886552
Acid Extractable Vanadium (V)	ug/g	22	5.0	9886552	16	26	5.0	9886552
Acid Extractable Zinc (Zn)	ug/g	32	5.0	9886552	21	34	5.0	9886552
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	9886552	<0.050	<0.050	0.050	9886552

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 Lab-Dup = Laboratory Initiated Duplicate



BUREAU  
VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK INORGANICS (SOIL)

<b>Bureau Veritas ID</b>		AONQ35		
<b>Sampling Date</b>		2025/02/28 11:30		
<b>COC Number</b>		C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-04-SS3</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Sodium Adsorption Ratio	N/A	7.5		9884390
<b>Inorganics</b>				
Conductivity	mS/cm	0.50	0.002	9886970
Available (CaCl2) pH	pH	8.05		9886773
WAD Cyanide (Free)	ug/g	<0.01	0.01	9886746
Chromium (VI)	ug/g	<0.18	0.18	9887087
<b>Metals</b>				
Hot Water Ext. Boron (B)	ug/g	0.13	0.050	9886781
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	9886552
Acid Extractable Arsenic (As)	ug/g	1.5	1.0	9886552
Acid Extractable Barium (Ba)	ug/g	60	0.50	9886552
Acid Extractable Beryllium (Be)	ug/g	0.22	0.20	9886552
Acid Extractable Boron (B)	ug/g	<5.0	5.0	9886552
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	9886552
Acid Extractable Chromium (Cr)	ug/g	11	1.0	9886552
Acid Extractable Cobalt (Co)	ug/g	5.8	0.10	9886552
Acid Extractable Copper (Cu)	ug/g	12	0.50	9886552
Acid Extractable Lead (Pb)	ug/g	7.5	1.0	9886552
Acid Extractable Molybdenum (Mo)	ug/g	0.85	0.50	9886552
Acid Extractable Nickel (Ni)	ug/g	14	0.50	9886552
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	9886552
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	9886552
Acid Extractable Thallium (Tl)	ug/g	0.11	0.050	9886552
Acid Extractable Uranium (U)	ug/g	0.59	0.050	9886552
Acid Extractable Vanadium (V)	ug/g	18	5.0	9886552
Acid Extractable Zinc (Zn)	ug/g	25	5.0	9886552
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	9886552
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



BUREAU  
VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK PAHS (SOIL)

Bureau Veritas ID		AONQ26		AONQ27	AONQ28	AONQ29		
Sampling Date		2025/02/27 10:15		2025/02/27 10:40	2025/02/28 08:55	2025/02/28 09:15		
COC Number		C#1035297-01-01		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-01-SS3	RDL	BH25-01-SS6	BH25-02-SS2	BH25-02-SS4	RDL	QC Batch
<b>Calculated Parameters</b>								
Methylnaphthalene, 2-(1-)	ug/g	<0.071	0.071	<0.0071	<0.0071	<0.0071	0.0071	9884689
<b>Polyaromatic Hydrocarbons</b>								
Acenaphthene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Acenaphthylene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Anthracene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(a)anthracene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(a)pyrene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(b/j)fluoranthene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(g,h,i)perylene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(k)fluoranthene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Chrysene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Dibenzo(a,h)anthracene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Fluoranthene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Fluorene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Indeno(1,2,3-cd)pyrene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
1-Methylnaphthalene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
2-Methylnaphthalene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Naphthalene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Phenanthrene	ug/g	<0.050	0.050	0.011	<0.0050	<0.0050	0.0050	9885805
Pyrene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Biphenyl	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	9885805
<b>Surrogate Recovery (%)</b>								
D10-Anthracene	%	104		95	95	92		9885805
D14-Terphenyl (FS)	%	110		100	97	94		9885805
D8-Acenaphthylene	%	93		82	86	82		9885805
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK PAHS (SOIL)

<b>Bureau Veritas ID</b>		AONQ30	AONQ31	AONQ32	AONQ33	AONQ34		
<b>Sampling Date</b>		2025/02/28 09:55	2025/02/27 03:10	2025/02/27 03:30	2025/02/27 03:45	2025/02/28 11:20		
<b>COC Number</b>		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-02-SS7</b>	<b>BH25-03-SS2</b>	<b>BH25-03-SS5</b>	<b>BH25-03-SS8</b>	<b>BH25-04-SS1</b>	<b>RDL</b>	<b>QC Batch</b>

#### Calculated Parameters

Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	9884689
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#### Polyaromatic Hydrocarbons

Acenaphthene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Acenaphthylene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Anthracene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	0.0070	0.0050	9885805
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Chrysene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Fluorene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Naphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Phenanthrene	ug/g	<0.0050	<0.0050	0.0076	<0.0050	<0.0050	0.0050	9885805
Pyrene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805
Biphenyl	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9885805

#### Surrogate Recovery (%)

D10-Anthracene	%	102	101	98	100	94		9885805
D14-Terphenyl (FS)	%	104	102	102	101	94		9885805
D8-Acenaphthylene	%	86	91	84	87	82		9885805

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL BULK PAHS (SOIL)

<b>Bureau Veritas ID</b>		AONQ35		
<b>Sampling Date</b>		2025/02/28 11:30		
<b>COC Number</b>		C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-04-SS3</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	9884689
<b>Polyaromatic Hydrocarbons</b>				
Acenaphthene	ug/g	<0.0050	0.0050	9885805
Acenaphthylene	ug/g	<0.0050	0.0050	9885805
Anthracene	ug/g	<0.0050	0.0050	9885805
Benzo(a)anthracene	ug/g	<0.0050	0.0050	9885805
Benzo(a)pyrene	ug/g	<0.0050	0.0050	9885805
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	9885805
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	9885805
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	9885805
Chrysene	ug/g	<0.0050	0.0050	9885805
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	9885805
Fluoranthene	ug/g	<0.0050	0.0050	9885805
Fluorene	ug/g	<0.0050	0.0050	9885805
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	9885805
1-Methylnaphthalene	ug/g	<0.0050	0.0050	9885805
2-Methylnaphthalene	ug/g	<0.0050	0.0050	9885805
Naphthalene	ug/g	<0.0050	0.0050	9885805
Phenanthrene	ug/g	<0.0050	0.0050	9885805
Pyrene	ug/g	<0.0050	0.0050	9885805
Biphenyl	ug/g	<0.0050	0.0050	9885805
<b>Surrogate Recovery (%)</b>				
D10-Anthracene	%	103		9885805
D14-Terphenyl (FS)	%	104		9885805
D8-Acenaphthylene	%	92		9885805
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ26		AONQ27		AONQ28		
Sampling Date		2025/02/27 10:15		2025/02/27 10:40		2025/02/28 08:55		
COC Number		C#1035297-01-01		C#1035297-01-01		C#1035297-01-01		
	UNITS	BH25-01-SS3	RDL	BH25-01-SS6	RDL	BH25-02-SS2	RDL	QC Batch

Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	<0.050	0.050	<0.050	0.050	9884690
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	0.49	<1.1 (1)	1.1	<0.49	0.49	9885033
Benzene	ug/g	<0.0060	0.0060	<0.0060	0.0060	<0.0060	0.0060	9885033
Bromodichloromethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Bromoform	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Bromomethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Carbon Tetrachloride	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Chlorobenzene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Chloroform	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Dibromochloromethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,2-Dichlorobenzene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,3-Dichlorobenzene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,4-Dichlorobenzene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,1-Dichloroethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,2-Dichloroethane	ug/g	<0.049	0.049	<0.049	0.049	<0.049	0.049	9885033
1,1-Dichloroethylene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,2-Dichloropropane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	<0.030	0.030	<0.030	0.030	9885033
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Ethylbenzene	ug/g	<0.010	0.010	<0.010	0.010	<0.010	0.010	9885033
Ethylene Dibromide	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Hexane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	<0.049	0.049	<0.049	0.049	9885033
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	<0.40	0.40	<0.40	0.40	9885033
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	<0.40	0.40	<0.40	0.40	9885033
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Styrene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 (1) Detection limit was raised due to matrix interference.



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ26		AONQ27		AONQ28		
Sampling Date		2025/02/27 10:15		2025/02/27 10:40		2025/02/28 08:55		
COC Number		C#1035297-01-01		C#1035297-01-01		C#1035297-01-01		
	UNITS	BH25-01-SS3	RDL	BH25-01-SS6	RDL	BH25-02-SS2	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Tetrachloroethylene	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Toluene	ug/g	<0.020	0.020	<0.020	0.020	<0.020	0.020	9885033
1,1,1-Trichloroethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
1,1,2-Trichloroethane	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Trichloroethylene	ug/g	<0.010	0.010	<0.010	0.010	<0.010	0.010	9885033
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	<0.040	0.040	<0.040	0.040	9885033
Vinyl Chloride	ug/g	<0.019	0.019	<0.019	0.019	<0.019	0.019	9885033
p+m-Xylene	ug/g	<0.020	0.020	0.045	0.020	<0.020	0.020	9885033
o-Xylene	ug/g	<0.020	0.020	0.032	0.020	<0.020	0.020	9885033
Total Xylenes	ug/g	<0.020	0.020	0.077	0.020	<0.020	0.020	9885033
F1 (C6-C10)	ug/g	<10	10	15	10	12	10	9885033
F1 (C6-C10) - BTEX	ug/g	<10	10	15	10	12	10	9885033
<b>F2-F4 Hydrocarbons</b>								
F2 (C10-C16 Hydrocarbons)	ug/g	1300	7.0	40	7.0	<7.0	7.0	9885919
F3 (C16-C34 Hydrocarbons)	ug/g	1400	50	<50	50	<50	50	9885919
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	<50	50	<50	50	9885919
Reached Baseline at C50	ug/g	Yes		Yes		Yes		9885919
<b>Surrogate Recovery (%)</b>								
o-Terphenyl	%	94		89		88		9885919
4-Bromofluorobenzene	%	97		99		96		9885033
D10-o-Xylene	%	95		106		129		9885033
D4-1,2-Dichloroethane	%	106		95		99		9885033
D8-Toluene	%	92		93		93		9885033
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ28			AONQ29	AONQ30		
Sampling Date		2025/02/28 08:55			2025/02/28 09:15	2025/02/28 09:55		
COC Number		C#1035297-01-01			C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-02-SS2 Lab-Dup	RDL	QC Batch	BH25-02-SS4	BH25-02-SS7	RDL	QC Batch
<b>Calculated Parameters</b>								
1,3-Dichloropropene (cis+trans)	ug/g				<0.050	<0.050	0.050	9884690
<b>Volatile Organics</b>								
Acetone (2-Propanone)	ug/g				<0.49	<0.49	0.49	9885033
Benzene	ug/g				<0.0060	<0.0060	0.0060	9885033
Bromodichloromethane	ug/g				<0.040	<0.040	0.040	9885033
Bromoform	ug/g				<0.040	<0.040	0.040	9885033
Bromomethane	ug/g				<0.040	<0.040	0.040	9885033
Carbon Tetrachloride	ug/g				<0.040	<0.040	0.040	9885033
Chlorobenzene	ug/g				<0.040	<0.040	0.040	9885033
Chloroform	ug/g				<0.040	<0.040	0.040	9885033
Dibromochloromethane	ug/g				<0.040	<0.040	0.040	9885033
1,2-Dichlorobenzene	ug/g				<0.040	<0.040	0.040	9885033
1,3-Dichlorobenzene	ug/g				<0.040	<0.040	0.040	9885033
1,4-Dichlorobenzene	ug/g				<0.040	<0.040	0.040	9885033
Dichlorodifluoromethane (FREON 12)	ug/g				<0.040	<0.040	0.040	9885033
1,1-Dichloroethane	ug/g				<0.040	<0.040	0.040	9885033
1,2-Dichloroethane	ug/g				<0.049	<0.049	0.049	9885033
1,1-Dichloroethylene	ug/g				<0.040	<0.040	0.040	9885033
cis-1,2-Dichloroethylene	ug/g				<0.040	<0.040	0.040	9885033
trans-1,2-Dichloroethylene	ug/g				<0.040	<0.040	0.040	9885033
1,2-Dichloropropane	ug/g				<0.040	<0.040	0.040	9885033
cis-1,3-Dichloropropene	ug/g				<0.030	<0.030	0.030	9885033
trans-1,3-Dichloropropene	ug/g				<0.040	<0.040	0.040	9885033
Ethylbenzene	ug/g				<0.010	<0.010	0.010	9885033
Ethylene Dibromide	ug/g				<0.040	<0.040	0.040	9885033
Hexane	ug/g				<0.040	<0.040	0.040	9885033
Methylene Chloride(Dichloromethane)	ug/g				<0.049	<0.049	0.049	9885033
Methyl Ethyl Ketone (2-Butanone)	ug/g				<0.40	<0.40	0.40	9885033
Methyl Isobutyl Ketone	ug/g				<0.40	<0.40	0.40	9885033
Methyl t-butyl ether (MTBE)	ug/g				<0.040	<0.040	0.040	9885033
Styrene	ug/g				<0.040	<0.040	0.040	9885033
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate								



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ28			AONQ29	AONQ30		
Sampling Date		2025/02/28 08:55			2025/02/28 09:15	2025/02/28 09:55		
COC Number		C#1035297-01-01			C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-02-SS2 Lab-Dup	RDL	QC Batch	BH25-02-SS4	BH25-02-SS7	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g				<0.040	<0.040	0.040	9885033
1,1,2,2-Tetrachloroethane	ug/g				<0.040	<0.040	0.040	9885033
Tetrachloroethylene	ug/g				<0.040	<0.040	0.040	9885033
Toluene	ug/g				<0.020	<0.020	0.020	9885033
1,1,1-Trichloroethane	ug/g				<0.040	<0.040	0.040	9885033
1,1,2-Trichloroethane	ug/g				<0.040	<0.040	0.040	9885033
Trichloroethylene	ug/g				<0.010	<0.010	0.010	9885033
Trichlorofluoromethane (FREON 11)	ug/g				<0.040	<0.040	0.040	9885033
Vinyl Chloride	ug/g				<0.019	<0.019	0.019	9885033
p+m-Xylene	ug/g				<0.020	<0.020	0.020	9885033
o-Xylene	ug/g				<0.020	<0.020	0.020	9885033
Total Xylenes	ug/g				<0.020	<0.020	0.020	9885033
F1 (C6-C10)	ug/g				<10	<10	10	9885033
F1 (C6-C10) - BTEX	ug/g				<10	<10	10	9885033
<b>F2-F4 Hydrocarbons</b>								
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	7.0	9885919	<7.0	11	7.0	9885919
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	9885919	<50	69	50	9885919
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	9885919	<50	<50	50	9885919
Reached Baseline at C50	ug/g	Yes		9885919	Yes	Yes		9885919
<b>Surrogate Recovery (%)</b>								
o-Terphenyl	%	88		9885919	87	94		9885919
4-Bromofluorobenzene	%				96	97		9885033
D10-o-Xylene	%				118	115		9885033
D4-1,2-Dichloroethane	%				95	100		9885033
D8-Toluene	%				94	94		9885033
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate								



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

<b>Bureau Veritas ID</b>		AONQ31		AONQ32	AONQ33		
<b>Sampling Date</b>		2025/02/27 03:10		2025/02/27 03:30	2025/02/27 03:45		
<b>COC Number</b>		C#1035297-01-01		C#1035297-01-01	C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-03-SS2</b>	<b>QC Batch</b>	<b>BH25-03-SS5</b>	<b>BH25-03-SS8</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Calculated Parameters</b>							
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	9884690	<0.050	<0.050	0.050	9884690
<b>Volatile Organics</b>							
Acetone (2-Propanone)	ug/g	<0.49	9885033	<0.49	<0.49	0.49	9885628
Benzene	ug/g	<0.0060	9885033	<0.0060	<0.0060	0.0060	9885628
Bromodichloromethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Bromoform	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Bromomethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Carbon Tetrachloride	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Chlorobenzene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Chloroform	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Dibromochloromethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,2-Dichlorobenzene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,3-Dichlorobenzene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,4-Dichlorobenzene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,1-Dichloroethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,2-Dichloroethane	ug/g	<0.049	9885033	<0.049	<0.049	0.049	9885628
1,1-Dichloroethylene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
cis-1,2-Dichloroethylene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
trans-1,2-Dichloroethylene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,2-Dichloropropane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
cis-1,3-Dichloropropene	ug/g	<0.030	9885033	<0.030	<0.030	0.030	9885628
trans-1,3-Dichloropropene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Ethylbenzene	ug/g	<0.010	9885033	<0.010	<0.010	0.010	9885628
Ethylene Dibromide	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Hexane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Methylene Chloride(Dichloromethane)	ug/g	<0.049	9885033	<0.049	<0.049	0.049	9885628
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	9885033	<0.40	<0.40	0.40	9885628
Methyl Isobutyl Ketone	ug/g	<0.40	9885033	<0.40	<0.40	0.40	9885628
Methyl t-butyl ether (MTBE)	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Styrene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ31		AONQ32	AONQ33		
Sampling Date		2025/02/27 03:10		2025/02/27 03:30	2025/02/27 03:45		
COC Number		C#1035297-01-01		C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-03-SS2	QC Batch	BH25-03-SS5	BH25-03-SS8	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,1,2,2-Tetrachloroethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Tetrachloroethylene	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Toluene	ug/g	<0.020	9885033	<0.020	<0.020	0.020	9885628
1,1,1-Trichloroethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
1,1,2-Trichloroethane	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Trichloroethylene	ug/g	<0.010	9885033	<0.010	<0.010	0.010	9885628
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	9885033	<0.040	<0.040	0.040	9885628
Vinyl Chloride	ug/g	<0.019	9885033	<0.019	<0.019	0.019	9885628
p+m-Xylene	ug/g	<0.020	9885033	<0.020	<0.020	0.020	9885628
o-Xylene	ug/g	<0.020	9885033	<0.020	<0.020	0.020	9885628
Total Xylenes	ug/g	<0.020	9885033	<0.020	<0.020	0.020	9885628
F1 (C6-C10)	ug/g	<10	9885033	<10	<10	10	9885628
F1 (C6-C10) - BTEX	ug/g	<10	9885033	<10	<10	10	9885628
<b>F2-F4 Hydrocarbons</b>							
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	9885919	30	<7.0	7.0	9885919
F3 (C16-C34 Hydrocarbons)	ug/g	<50	9885919	<50	<50	50	9885919
F4 (C34-C50 Hydrocarbons)	ug/g	<50	9885919	<50	<50	50	9885919
Reached Baseline at C50	ug/g	Yes	9885919	Yes	Yes		9885919
<b>Surrogate Recovery (%)</b>							
o-Terphenyl	%	87	9885919	88	88		9885919
4-Bromofluorobenzene	%	97	9885033	101	99		9885628
D10-o-Xylene	%	100	9885033	91	106		9885628
D4-1,2-Dichloroethane	%	99	9885033	107	106		9885628
D8-Toluene	%	92	9885033	91	92		9885628
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



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Report Date: 2025/03/17

Stantec Consulting Ltd

Client Project #: 121626297.300

Sampler Initials: OEG

**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ34	AONQ35		
Sampling Date		2025/02/28 11:20	2025/02/28 11:30		
COC Number		C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-04-SS1	BH25-04-SS3	RDL	QC Batch
<b>Calculated Parameters</b>					
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	9884690
<b>Volatile Organics</b>					
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	9885628
Benzene	ug/g	<0.0060	<0.0060	0.0060	9885628
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	9885628
Bromoform	ug/g	<0.040	<0.040	0.040	9885628
Bromomethane	ug/g	<0.040	<0.040	0.040	9885628
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	9885628
Chlorobenzene	ug/g	<0.040	<0.040	0.040	9885628
Chloroform	ug/g	0.040	<0.040	0.040	9885628
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	9885628
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	9885628
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	9885628
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	9885628
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	9885628
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	9885628
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	9885628
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	9885628
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	9885628
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	9885628
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	9885628
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	9885628
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	9885628
Ethylbenzene	ug/g	<0.010	<0.010	0.010	9885628
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	9885628
Hexane	ug/g	<0.040	<0.040	0.040	9885628
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	0.049	9885628
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	9885628
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	9885628
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	9885628
Styrene	ug/g	<0.040	<0.040	0.040	9885628
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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**O.REG 406 EXCESS SOIL BULK VOCS/F1-F4 (SOIL)**

Bureau Veritas ID		AONQ34	AONQ35		
Sampling Date		2025/02/28 11:20	2025/02/28 11:30		
COC Number		C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-04-SS1	BH25-04-SS3	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	9885628
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	9885628
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	9885628
Toluene	ug/g	<0.020	<0.020	0.020	9885628
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	9885628
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	9885628
Trichloroethylene	ug/g	<0.010	<0.010	0.010	9885628
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	9885628
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	9885628
p+m-Xylene	ug/g	<0.020	<0.020	0.020	9885628
o-Xylene	ug/g	<0.020	<0.020	0.020	9885628
Total Xylenes	ug/g	<0.020	<0.020	0.020	9885628
F1 (C6-C10)	ug/g	<10	<10	10	9885628
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	9885628
<b>F2-F4 Hydrocarbons</b>					
F2 (C10-C16 Hydrocarbons)	ug/g	<7.0	<7.0	7.0	9885919
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	50	9885919
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	9885919
Reached Baseline at C50	ug/g	Yes	Yes		9885919
<b>Surrogate Recovery (%)</b>					
o-Terphenyl	%	86	92		9885919
4-Bromofluorobenzene	%	100	101		9885628
D10-o-Xylene	%	130	96		9885628
D4-1,2-Dichloroethane	%	105	106		9885628
D8-Toluene	%	92	91		9885628
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



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Bureau Veritas Job #: C522430  
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Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL SPLP METALS (SOIL)**

Bureau Veritas ID		AONQ27	AONQ28	AONQ32	AONQ34		
Sampling Date		2025/02/27 10:40	2025/02/28 08:55	2025/02/27 03:30	2025/02/28 11:20		
COC Number		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-01-SS6	BH25-02-SS2	BH25-03-SS5	BH25-04-SS1	RDL	QC Batch
<b>Metals</b>							
Leachable (SPLP) Antimony (Sb)	ug/L	0.8	<0.5	1.3	<0.5	0.5	9891248
Leachable (SPLP) Cadmium (Cd)	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	9891248
Leachable (SPLP) Molybdenum (Mo)	ug/L	7	2	8	3	1	9891248
Leachable (SPLP) Silver (Ag)	ug/L	<0.1	<0.1	<0.1	<0.1	0.1	9891248
Leachable (SPLP) Thallium (Tl)	ug/L	<0.05	<0.05	<0.05	<0.05	0.05	9891248
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



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Bureau Veritas Job #: C522430  
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Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 406 EXCESS SOIL MSPLP PREP (SOIL)**

<b>Bureau Veritas ID</b>		AONQ27	AONQ28	AONQ32	AONQ34	
<b>Sampling Date</b>		2025/02/27 10:40	2025/02/28 08:55	2025/02/27 03:30	2025/02/28 11:20	
<b>COC Number</b>		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	
	<b>UNITS</b>	<b>BH25-01-SS6</b>	<b>BH25-02-SS2</b>	<b>BH25-03-SS5</b>	<b>BH25-04-SS1</b>	<b>QC Batch</b>
<b>Inorganics</b>						
Dry Weight	g	100	100	100	100	9890601
QC Batch = Quality Control Batch						



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### O.REG 406 EXCESS SOIL SPLP VOCS (SOIL)

Bureau Veritas ID		AONQ27	AONQ28			AONQ28		
Sampling Date		2025/02/27 10:40	2025/02/28 08:55			2025/02/28 08:55		
COC Number		C#1035297-01-01	C#1035297-01-01			C#1035297-01-01		
	UNITS	BH25-01-SS6	BH25-02-SS2	RDL	QC Batch	BH25-02-SS2 Lab-Dup	RDL	QC Batch
<b>Charge/Prep Analysis</b>								
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	9889644	25	N/A	9889644
<b>Calculated Parameters</b>								
Leachable (ZHE) 1,3-Dichloropropene (cis+trans)	ug/L	<0.42	<0.42	0.42	9889584			
<b>Volatile Organics</b>								
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	0.19	9890337	<0.19	0.19	9890337
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	0.90	9890337	<0.90	0.90	9890337
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	9890337	<0.30	0.30	9890337
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	9890337	<0.30	0.30	9890337
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	9890337	<0.19	0.19	9890337
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	0.40	9890337	<0.40	0.40	9890337
<b>Surrogate Recovery (%)</b>								
Leachable (SPLP) 4-Bromofluorobenzene	%	100	100		9890337	101		9890337
Leachable (SPLP) D4-1,2-Dichloroethane	%	108	113		9890337	109		9890337
Leachable (SPLP) D8-Toluene	%	91	90		9890337	91		9890337
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable								



O.REG 406 EXCESS SOIL SPLP VOCS (SOIL)

Bureau Veritas ID		AONQ32	AONQ34		
Sampling Date		2025/02/27 03:30	2025/02/28 11:20		
COC Number		C#1035297-01-01	C#1035297-01-01		
	UNITS	BH25-03-SS5	BH25-04-SS1	RDL	QC Batch
<b>Charge/Prep Analysis</b>					
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	9889644
<b>Calculated Parameters</b>					
Leachable (ZHE) 1,3-Dichloropropene (cis+trans)	ug/L	<0.42	<0.42	0.42	9889584
<b>Volatile Organics</b>					
Leachable (SPLP) Bromomethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) Carbon Tetrachloride	ug/L	<0.19	<0.19	0.19	9890337
Leachable (SPLP) Chloroform	ug/L	<0.90	<0.90	0.90	9890337
Leachable (SPLP) 1,2-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,4-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,1-Dichloroethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,2-Dichloroethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,1-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) cis-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) trans-1,2-Dichloroethylene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,2-Dichloropropane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	9890337
Leachable (SPLP) trans-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	9890337
Leachable (SPLP) Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	9890337
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,1,1,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) Tetrachloroethylene	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) 1,1,2-Trichloroethane	ug/L	<0.40	<0.40	0.40	9890337
Leachable (SPLP) Trichloroethylene	ug/L	<0.40	<0.40	0.40	9890337
<b>Surrogate Recovery (%)</b>					
Leachable (SPLP) 4-Bromofluorobenzene	%	100	100		9890337
Leachable (SPLP) D4-1,2-Dichloroethane	%	109	109		9890337
Leachable (SPLP) D8-Toluene	%	90	91		9890337
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable					



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

**O.REG 558 TCLP INORGANICS PACKAGE (SOIL)**

<b>Bureau Veritas ID</b>		AONQ36		
<b>Sampling Date</b>		2025/02/28 12:00		
<b>COC Number</b>		C#1035297-01-01		
	<b>UNITS</b>	<b>TCLP</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>				
Leachable Fluoride (F-)	mg/L	0.15	0.10	9886373
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	9886375
Leachable Nitrite (N)	mg/L	<0.10	0.10	9886376
Leachable Nitrate (N)	mg/L	<1.0	1.0	9886376
Leachable Nitrate + Nitrite (N)	mg/L	<1.0	1.0	9886376
<b>Metals</b>				
Leachable Arsenic (As)	mg/L	<0.2	0.2	9886355
Leachable Barium (Ba)	mg/L	1.1	0.2	9886355
Leachable Boron (B)	mg/L	<0.1	0.1	9886355
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	9886355
Leachable Chromium (Cr)	mg/L	<0.1	0.1	9886355
Leachable Lead (Pb)	mg/L	<0.1	0.1	9886355
Leachable Mercury (Hg)	mg/L	<0.001	0.001	9886355
Leachable Selenium (Se)	mg/L	<0.1	0.1	9886355
Leachable Silver (Ag)	mg/L	<0.01	0.01	9886355
Leachable Uranium (U)	mg/L	<0.01	0.01	9886355
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



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### TCLP LEACHATE PREPARATION (SOIL)

<b>Bureau Veritas ID</b>		AONQ36		
<b>Sampling Date</b>		2025/02/28 12:00		
<b>COC Number</b>		C#1035297-01-01		
	<b>UNITS</b>	<b>TCLP</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>				
Final pH	pH	4.95		9886319
Initial pH	pH	9.63		9886319
TCLP - % Solids	%	100	0.2	9885385
TCLP Extraction Fluid	N/A	FLUID 2		9886317
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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### O.REG 558 TCLP PCBS (SOIL)

<b>Bureau Veritas ID</b>		AONQ36		
<b>Sampling Date</b>		2025/02/28 12:00		
<b>COC Number</b>		C#1035297-01-01		
	<b>UNITS</b>	<b>TCLP</b>	<b>RDL</b>	<b>QC Batch</b>
<b>PCBs</b>				
Leachable Total PCB	ug/L	<3.0	3.0	9886393
<b>Surrogate Recovery (%)</b>				
Leachable Decachlorobiphenyl	%	101		9886393
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



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### O.REG 558 TCLP SEMI-VOLATILE ORGANICS (SOIL)

Bureau Veritas ID		AONQ36	AONQ36		
Sampling Date		2025/02/28 12:00	2025/02/28 12:00		
COC Number		C#1035297-01-01	C#1035297-01-01		
	UNITS	TCLP	TCLP Lab-Dup	RDL	QC Batch
<b>Semivolatile Organics</b>					
Leachable Benzo(a)pyrene	ug/L	<0.10	<0.10	0.10	9887218
Leachable m/p-Cresol	ug/L	<2.5	<2.5	2.5	9887218
Leachable o-Cresol	ug/L	<2.5	<2.5	2.5	9887218
Leachable Cresol Total	ug/L	<2.5	<2.5	2.5	9887218
Leachable 2,4-Dichlorophenol	ug/L	<2.5	<2.5	2.5	9887218
Leachable 2,4-Dinitrotoluene	ug/L	<10	<10	10	9887218
Leachable Hexachlorobenzene	ug/L	<10	<10	10	9887218
Leachable Hexachlorobutadiene	ug/L	<10	<10	10	9887218
Leachable Hexachloroethane	ug/L	<10	<10	10	9887218
Leachable Nitrobenzene	ug/L	<10	<10	10	9887218
Leachable Pentachlorophenol	ug/L	<2.5	<2.5	2.5	9887218
Leachable Pyridine	ug/L	<10	<10	10	9887218
Leachable 2,3,4,6-Tetrachlorophenol	ug/L	<2.5	<2.5	2.5	9887218
Leachable 2,4,5-Trichlorophenol	ug/L	<0.50	<0.50	0.50	9887218
Leachable 2,4,6-Trichlorophenol	ug/L	<2.5	<2.5	2.5	9887218
<b>Surrogate Recovery (%)</b>					
Leachable 2,4,6-Tribromophenol	%	49	52		9887218
Leachable 2-Fluorobiphenyl	%	43	48		9887218
Leachable 2-Fluorophenol	%	41	31		9887218
Leachable D14-Terphenyl (FS)	%	82	85		9887218
Leachable D5-Nitrobenzene	%	56	60		9887218
Leachable D5-Phenol	%	27	19		9887218
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate					



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Stantec Consulting Ltd  
Client Project #: 121626297.300  
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### O.REG 558 TCLP VOCS BY HS (SOIL)

Bureau Veritas ID		AONQ36	AONQ36		
Sampling Date		2025/02/28 12:00	2025/02/28 12:00		
COC Number		C#1035297-01-01	C#1035297-01-01		
	UNITS	TCLP	TCLP Lab-Dup	RDL	QC Batch
<b>Charge/Prep Analysis</b>					
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	9886327
<b>Volatile Organics</b>					
Leachable Benzene	mg/L	<0.020	<0.020	0.020	9887042
Leachable Carbon Tetrachloride	mg/L	<0.020	<0.020	0.020	9887042
Leachable Chlorobenzene	mg/L	<0.020	<0.020	0.020	9887042
Leachable Chloroform	mg/L	<0.020	<0.020	0.020	9887042
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	<0.050	0.050	9887042
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	<0.050	0.050	9887042
Leachable 1,2-Dichloroethane	mg/L	<0.050	<0.050	0.050	9887042
Leachable 1,1-Dichloroethylene	mg/L	<0.020	<0.020	0.020	9887042
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	<0.20	0.20	9887042
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	<1.0	1.0	9887042
Leachable Tetrachloroethylene	mg/L	<0.020	<0.020	0.020	9887042
Leachable Trichloroethylene	mg/L	<0.020	<0.020	0.020	9887042
Leachable Vinyl Chloride	mg/L	<0.020	<0.020	0.020	9887042
<b>Surrogate Recovery (%)</b>					
Leachable 4-Bromofluorobenzene	%	95	95		9887042
Leachable D4-1,2-Dichloroethane	%	104	105		9887042
Leachable D8-Toluene	%	102	102		9887042
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					



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### RESULTS OF ANALYSES OF SOIL

<b>Bureau Veritas ID</b>		AONQ26	AONQ27	AONQ28	AONQ29	AONQ30		
<b>Sampling Date</b>		2025/02/27 10:15	2025/02/27 10:40	2025/02/28 08:55	2025/02/28 09:15	2025/02/28 09:55		
<b>COC Number</b>		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-01-SS3</b>	<b>BH25-01-SS6</b>	<b>BH25-02-SS2</b>	<b>BH25-02-SS4</b>	<b>BH25-02-SS7</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Inorganics</b>								
Moisture	%	4.2	8.8	4.0	12	8.1	1.0	9884965
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								

<b>Bureau Veritas ID</b>		AONQ31	AONQ32	AONQ33	AONQ34	AONQ35		
<b>Sampling Date</b>		2025/02/27 03:10	2025/02/27 03:30	2025/02/27 03:45	2025/02/28 11:20	2025/02/28 11:30		
<b>COC Number</b>		C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01	C#1035297-01-01		
	<b>UNITS</b>	<b>BH25-03-SS2</b>	<b>BH25-03-SS5</b>	<b>BH25-03-SS8</b>	<b>BH25-04-SS1</b>	<b>BH25-04-SS3</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Inorganics</b>								
Moisture	%	2.7	9.4	13	9.1	3.6	1.0	9884965
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



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**MISCELLANEOUS (SOIL)**

<b>Bureau Veritas ID</b>		AONQ36	
<b>Sampling Date</b>		2025/02/28 12:00	
<b>COC Number</b>		C#1035297-01-01	
	<b>UNITS</b>	<b>TCLP</b>	<b>QC Batch</b>
<b>Inorganics</b>			
Ignitability	N/A	NF/NI	9886113
QC Batch = Quality Control Batch			



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
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### TEST SUMMARY

**Bureau Veritas ID:** AONQ26  
**Sample ID:** BH25-01-SS3  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon

**Bureau Veritas ID:** AONQ27  
**Sample ID:** BH25-01-SS6  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886780	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9889584	N/A	2025/03/14	Automated Statchk
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Total Metals in SPLP Leachate by ICPMS	ICP/MS	9891248	2025/03/14	2025/03/14	Azita Fazaeli
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
Modified SPLP extraction - Weight		9890601	N/A	2025/03/14	Ken Wang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
SPLP Zero Headspace Extraction		9889644	2025/03/12	2025/03/13	Abdul Rahman Mohammed
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon
Volatile organics in SPLP leachates	HS/MS	9890337	N/A	2025/03/13	Gabriella Morrone

**Bureau Veritas ID:** AONQ28  
**Sample ID:** BH25-02-SS2  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9889584	N/A	2025/03/14	Automated Statchk



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### TEST SUMMARY

**Bureau Veritas ID:** AONQ28  
**Sample ID:** BH25-02-SS2  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Total Metals in SPLP Leachate by ICPMS	ICP/MS	9891248	2025/03/14	2025/03/14	Azita Fazaeli
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
Modified SPLP extraction - Weight		9890601	N/A	2025/03/14	Ken Wang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
SPLP Zero Headspace Extraction		9889644	2025/03/12	2025/03/13	Abdul Rahman Mohammed
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon
Volatile organics in SPLP leachates	HS/MS	9890337	N/A	2025/03/13	Gabriella Morrone

**Bureau Veritas ID:** AONQ28 Dup  
**Sample ID:** BH25-02-SS2  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
SPLP Zero Headspace Extraction		9889644	2025/03/12	2025/03/13	Abdul Rahman Mohammed
Volatile organics in SPLP leachates	HS/MS	9890337	N/A	2025/03/13	Gabriella Morrone

**Bureau Veritas ID:** AONQ29  
**Sample ID:** BH25-02-SS4  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon



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### TEST SUMMARY

**Bureau Veritas ID:** AONQ29 Dup  
**Sample ID:** BH25-02-SS4  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran

**Bureau Veritas ID:** AONQ30  
**Sample ID:** BH25-02-SS7  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/06	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon

**Bureau Veritas ID:** AONQ31  
**Sample ID:** BH25-03-SS2  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886780	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/06	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/07	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885033	N/A	2025/03/05	Blair Gannon



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Stantec Consulting Ltd  
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### TEST SUMMARY

**Bureau Veritas ID:** AONQ32  
**Sample ID:** BH25-03-SS5  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886780	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9889584	N/A	2025/03/14	Automated Statchk
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/07	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/07	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Total Metals in SPLP Leachate by ICPMS	ICP/MS	9891248	2025/03/14	2025/03/14	Azita Fazaeli
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
Modified SPLP extraction - Weight		9890601	N/A	2025/03/14	Ken Wang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
SPLP Zero Headspace Extraction		9889644	2025/03/12	2025/03/13	Abdul Rahman Mohammed
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885628	N/A	2025/03/06	Gladys Guerrero
Volatile organics in SPLP leachates	HS/MS	9890337	N/A	2025/03/13	Gabriella Morrone

**Bureau Veritas ID:** AONQ32 Dup  
**Sample ID:** BH25-03-SS5  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu

**Bureau Veritas ID:** AONQ33  
**Sample ID:** BH25-03-SS8  
**Matrix:** Soil

**Collected:** 2025/02/27  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/07	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/07	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885628	N/A	2025/03/06	Gladys Guerrero



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VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### TEST SUMMARY

**Bureau Veritas ID:** AONQ34  
**Sample ID:** BH25-04-SS1  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9889584	N/A	2025/03/14	Automated Statchk
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/07	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/07	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Total Metals in SPLP Leachate by ICPMS	ICP/MS	9891248	2025/03/14	2025/03/14	Azita Fazaeli
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
Modified SPLP extraction - Weight		9890601	N/A	2025/03/14	Ken Wang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
SPLP Zero Headspace Extraction		9889644	2025/03/12	2025/03/13	Abdul Rahman Mohammed
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885628	N/A	2025/03/06	Gladys Guerrero
Volatile organics in SPLP leachates	HS/MS	9890337	N/A	2025/03/13	Gabriella Morrone

**Bureau Veritas ID:** AONQ35  
**Sample ID:** BH25-04-SS3  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9884689	N/A	2025/03/06	Automated Statchk
Hot Water Extractable Boron	ICP	9886781	2025/03/07	2025/03/07	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9884690	N/A	2025/03/07	Automated Statchk
Free (WAD) Cyanide	TECH	9886746	2025/03/07	2025/03/07	Prgya Panchal
Conductivity	AT	9886970	2025/03/07	2025/03/07	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	9887087	2025/03/07	2025/03/07	Sousan Besharatlou
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9885919	2025/03/06	2025/03/07	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	9886552	2025/03/06	2025/03/06	Daniel Teclu
Moisture	BAL	9884965	N/A	2025/03/04	Raj Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9885805	2025/03/05	2025/03/06	Jonghan Yoon
pH CaCl2 EXTRACT	AT	9886773	2025/03/07	2025/03/07	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	9884390	N/A	2025/03/10	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9885628	N/A	2025/03/06	Gladys Guerrero

**Bureau Veritas ID:** AONQ36  
**Sample ID:** TCLP  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Semivolatile Organic Compounds (TCLP)	GC/MS	9887218	2025/03/07	2025/03/08	Wendy Zhao
Cyanide (WAD) in Leachates	SKAL/CN	9886375	N/A	2025/03/06	Prgya Panchal
Fluoride by ISE in Leachates	ISE	9886373	2025/03/06	2025/03/06	Nachiketa Gohil



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Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### TEST SUMMARY

**Bureau Veritas ID:** AONQ36  
**Sample ID:** TCLP  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals in TCLP Leachate by ICPMS	ICP1/MS	9886355	2025/03/06	2025/03/06	Nan Raykha
Ignitability of a Sample	BAL	9886113	2025/03/06	2025/03/06	Joe Thomas
Nitrate& Nitrite as Nitrogen in Leachate	LACH	9886376	N/A	2025/03/06	Chandra Nandlal
Polychlorinated Biphenyl in Leachate	GC/ECD	9886393	2025/03/06	2025/03/06	Debashis Saha
TCLP - % Solids	BAL	9885385	2025/03/05	2025/03/06	Ken Wang
TCLP - Extraction Fluid		9886317	N/A	2025/03/06	Ken Wang
TCLP - Initial and final pH	PH	9886319	N/A	2025/03/06	Ken Wang
TCLP Zero Headspace Extraction		9886327	2025/03/06	2025/03/07	Archit Prajapati
VOCs in ZHE Leachates	GC/MS	9887042	2025/03/07	2025/03/07	Manpreet Sarao

**Bureau Veritas ID:** AONQ36 Dup  
**Sample ID:** TCLP  
**Matrix:** Soil

**Collected:** 2025/02/28  
**Shipped:**  
**Received:** 2025/03/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Semivolatile Organic Compounds (TCLP)	GC/MS	9887218	2025/03/07	2025/03/08	Wendy Zhao
TCLP Zero Headspace Extraction		9886327	2025/03/06	2025/03/07	Archit Prajapati
VOCs in ZHE Leachates	GC/MS	9887042	2025/03/07	2025/03/07	Manpreet Sarao



### GENERAL COMMENTS

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

Package 1	9.3°C
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Revised report [2025/03/12] SPLP VOC and metals added as requested

Sample AONQ26 [BH25-01-SS3] : PAH Analysis: Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Sample AONQ28 [BH25-02-SS2] : VOC/F1 Analysis: One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample AONQ29 [BH25-02-SS4] : VOC/F1 Analysis: One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample AONQ32 [BH25-03-SS5] : VOC/F1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample AONQ36 [TCLP] : NF/NI = Non Flammable and Non Ignitable

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



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VERITAS

Bureau Veritas Job #: C522430

Report Date: 2025/03/17

### QUALITY ASSURANCE REPORT

Stantec Consulting Ltd

Client Project #: 121626297.300

Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9885033	4-Bromofluorobenzene	2025/03/05	101	60 - 140	101	60 - 140	97	%				
9885033	D10-o-Xylene	2025/03/05	108	60 - 130	104	60 - 130	94	%				
9885033	D4-1,2-Dichloroethane	2025/03/05	98	60 - 140	98	60 - 140	103	%				
9885033	D8-Toluene	2025/03/05	104	60 - 140	103	60 - 140	93	%				
9885628	4-Bromofluorobenzene	2025/03/06	101	60 - 140	101	60 - 140	100	%				
9885628	D10-o-Xylene	2025/03/06	97	60 - 130	105	60 - 130	81	%				
9885628	D4-1,2-Dichloroethane	2025/03/06	105	60 - 140	107	60 - 140	107	%				
9885628	D8-Toluene	2025/03/06	104	60 - 140	104	60 - 140	92	%				
9885805	D10-Anthracene	2025/03/05	90	50 - 130	96	50 - 130	99	%				
9885805	D14-Terphenyl (FS)	2025/03/05	94	50 - 130	100	50 - 130	99	%				
9885805	D8-Acenaphthylene	2025/03/05	80	50 - 130	87	50 - 130	88	%				
9885919	o-Terphenyl	2025/03/06	90	60 - 140	85	60 - 140	93	%				
9886393	Leachable Decachlorobiphenyl	2025/03/06	100	30 - 130	92	30 - 130	97	%				
9887042	Leachable 4-Bromofluorobenzene	2025/03/07	95	70 - 130	95	70 - 130	95	%				
9887042	Leachable D4-1,2-Dichloroethane	2025/03/07	108	70 - 130	114	70 - 130	105	%				
9887042	Leachable D8-Toluene	2025/03/07	102	70 - 130	102	70 - 130	101	%				
9887218	Leachable 2,4,6-Tribromophenol	2025/03/08	77	10 - 130	89	10 - 130	73	%				
9887218	Leachable 2-Fluorobiphenyl	2025/03/08	62	30 - 130	79	30 - 130	78	%				
9887218	Leachable 2-Fluorophenol	2025/03/08	31	10 - 130	81	10 - 130	64	%				
9887218	Leachable D14-Terphenyl (FS)	2025/03/08	93	30 - 130	93	30 - 130	82	%				
9887218	Leachable D5-Nitrobenzene	2025/03/08	71	30 - 130	94	30 - 130	84	%				
9887218	Leachable D5-Phenol	2025/03/08	14	10 - 130	51	10 - 130	44	%				
9890337	Leachable (SPLP) 4-Bromofluorobenzene	2025/03/13	101	70 - 130	102	70 - 130	102	%				
9890337	Leachable (SPLP) D4-1,2-Dichloroethane	2025/03/13	106	70 - 130	104	70 - 130	110	%				
9890337	Leachable (SPLP) D8-Toluene	2025/03/13	103	70 - 130	102	70 - 130	90	%				
9884965	Moisture	2025/03/04							0.54	20		
9885033	1,1,1,2-Tetrachloroethane	2025/03/05	110	60 - 140	107	60 - 130	<0.040	ug/g	NC	50		
9885033	1,1,1-Trichloroethane	2025/03/05	101	60 - 140	97	60 - 130	<0.040	ug/g	NC	50		
9885033	1,1,2,2-Tetrachloroethane	2025/03/05	91	60 - 140	92	60 - 130	<0.040	ug/g	NC	50		
9885033	1,1,2-Trichloroethane	2025/03/05	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50		
9885033	1,1-Dichloroethane	2025/03/05	99	60 - 140	95	60 - 130	<0.040	ug/g	NC	50		
9885033	1,1-Dichloroethylene	2025/03/05	101	60 - 140	96	60 - 130	<0.040	ug/g	NC	50		



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VERITAS

Bureau Veritas Job #: C522430

Report Date: 2025/03/17

### QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd

Client Project #: 121626297.300

Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9885033	1,2-Dichlorobenzene	2025/03/05	102	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885033	1,2-Dichloroethane	2025/03/05	103	60 - 140	103	60 - 130	<0.049	ug/g	NC	50		
9885033	1,2-Dichloropropane	2025/03/05	102	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885033	1,3-Dichlorobenzene	2025/03/05	103	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885033	1,4-Dichlorobenzene	2025/03/05	103	60 - 140	100	60 - 130	<0.040	ug/g	NC	50		
9885033	Acetone (2-Propanone)	2025/03/05	97	60 - 140	98	60 - 140	<0.49	ug/g	NC	50		
9885033	Benzene	2025/03/05	102	60 - 140	100	60 - 130	<0.0060	ug/g	NC	50		
9885033	Bromodichloromethane	2025/03/05	98	60 - 140	96	60 - 130	<0.040	ug/g	NC	50		
9885033	Bromoform	2025/03/05	102	60 - 140	102	60 - 130	<0.040	ug/g	NC	50		
9885033	Bromomethane	2025/03/05	100	60 - 140	97	60 - 140	<0.040	ug/g	NC	50		
9885033	Carbon Tetrachloride	2025/03/05	107	60 - 140	103	60 - 130	<0.040	ug/g	NC	50		
9885033	Chlorobenzene	2025/03/05	95	60 - 140	93	60 - 130	<0.040	ug/g	NC	50		
9885033	Chloroform	2025/03/05	101	60 - 140	98	60 - 130	<0.040	ug/g	NC	50		
9885033	cis-1,2-Dichloroethylene	2025/03/05	107	60 - 140	104	60 - 130	<0.040	ug/g	NC	50		
9885033	cis-1,3-Dichloropropene	2025/03/05	93	60 - 140	95	60 - 130	<0.030	ug/g	NC	50		
9885033	Dibromochloromethane	2025/03/05	104	60 - 140	103	60 - 130	<0.040	ug/g	NC	50		
9885033	Dichlorodifluoromethane (FREON 12)	2025/03/05	107	60 - 140	102	60 - 140	<0.040	ug/g	NC	50		
9885033	Ethylbenzene	2025/03/05	98	60 - 140	96	60 - 130	<0.010	ug/g	NC	50		
9885033	Ethylene Dibromide	2025/03/05	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885033	F1 (C6-C10) - BTEX	2025/03/05					<10	ug/g	NC	30		
9885033	F1 (C6-C10)	2025/03/05	93	60 - 140	96	80 - 120	<10	ug/g	NC	30		
9885033	Hexane	2025/03/05	112	60 - 140	109	60 - 130	<0.040	ug/g	NC	50		
9885033	Methyl Ethyl Ketone (2-Butanone)	2025/03/05	100	60 - 140	102	60 - 140	<0.40	ug/g	NC	50		
9885033	Methyl Isobutyl Ketone	2025/03/05	95	60 - 140	97	60 - 130	<0.40	ug/g	NC	50		
9885033	Methyl t-butyl ether (MTBE)	2025/03/05	97	60 - 140	97	60 - 130	<0.040	ug/g	NC	50		
9885033	Methylene Chloride(Dichloromethane)	2025/03/05	111	60 - 140	108	60 - 130	<0.049	ug/g	NC	50		
9885033	o-Xylene	2025/03/05	106	60 - 140	104	60 - 130	<0.020	ug/g	NC	50		
9885033	p+m-Xylene	2025/03/05	98	60 - 140	96	60 - 130	<0.020	ug/g	NC	50		
9885033	Styrene	2025/03/05	100	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885033	Tetrachloroethylene	2025/03/05	100	60 - 140	96	60 - 130	<0.040	ug/g	NC	50		
9885033	Toluene	2025/03/05	102	60 - 140	100	60 - 130	<0.020	ug/g	NC	50		
9885033	Total Xylenes	2025/03/05					<0.020	ug/g	NC	50		



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VERITAS

Bureau Veritas Job #: C522430

Report Date: 2025/03/17

### QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd

Client Project #: 121626297.300

Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9885033	trans-1,2-Dichloroethylene	2025/03/05	109	60 - 140	105	60 - 130	<0.040	ug/g	NC	50		
9885033	trans-1,3-Dichloropropene	2025/03/05	107	60 - 140	108	60 - 130	<0.040	ug/g	NC	50		
9885033	Trichloroethylene	2025/03/05	103	60 - 140	101	60 - 130	<0.010	ug/g	NC	50		
9885033	Trichlorofluoromethane (FREON 11)	2025/03/05	100	60 - 140	94	60 - 130	<0.040	ug/g	NC	50		
9885033	Vinyl Chloride	2025/03/05	104	60 - 140	99	60 - 130	<0.019	ug/g	NC	50		
9885628	1,1,1,2-Tetrachloroethane	2025/03/06	85	60 - 140	107	60 - 130	<0.040	ug/g	NC	50		
9885628	1,1,1-Trichloroethane	2025/03/06	69	60 - 140	95	60 - 130	<0.040	ug/g	NC	50		
9885628	1,1,2,2-Tetrachloroethane	2025/03/06	90	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885628	1,1,2-Trichloroethane	2025/03/06	93	60 - 140	109	60 - 130	<0.040	ug/g	NC	50		
9885628	1,1-Dichloroethane	2025/03/06	72	60 - 140	98	60 - 130	<0.040	ug/g	NC	50		
9885628	1,1-Dichloroethylene	2025/03/06	68	60 - 140	98	60 - 130	<0.040	ug/g	NC	50		
9885628	1,2-Dichlorobenzene	2025/03/06	80	60 - 140	98	60 - 130	<0.040	ug/g	NC	50		
9885628	1,2-Dichloroethane	2025/03/06	88	60 - 140	107	60 - 130	<0.049	ug/g	NC	50		
9885628	1,2-Dichloropropane	2025/03/06	77	60 - 140	100	60 - 130	<0.040	ug/g	NC	50		
9885628	1,3-Dichlorobenzene	2025/03/06	79	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885628	1,4-Dichlorobenzene	2025/03/06	78	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885628	Acetone (2-Propanone)	2025/03/06	109	60 - 140	113	60 - 140	<0.49	ug/g	NC	50		
9885628	Benzene	2025/03/06	73	60 - 140	99	60 - 130	<0.0060	ug/g	NC	50		
9885628	Bromodichloromethane	2025/03/06	79	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885628	Bromoform	2025/03/06	89	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885628	Bromomethane	2025/03/06	66	60 - 140	92	60 - 140	<0.040	ug/g	NC	50		
9885628	Carbon Tetrachloride	2025/03/06	72	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885628	Chlorobenzene	2025/03/06	70	60 - 140	90	60 - 130	<0.040	ug/g	NC	50		
9885628	Chloroform	2025/03/06	76	60 - 140	101	60 - 130	<0.040	ug/g	NC	50		
9885628	cis-1,2-Dichloroethylene	2025/03/06	78	60 - 140	104	60 - 130	<0.040	ug/g	NC	50		
9885628	cis-1,3-Dichloropropene	2025/03/06	71	60 - 140	90	60 - 130	<0.030	ug/g	NC	50		
9885628	Dibromochloromethane	2025/03/06	88	60 - 140	104	60 - 130	<0.040	ug/g	NC	50		
9885628	Dichlorodifluoromethane (FREON 12)	2025/03/06	60	60 - 140	94	60 - 140	<0.040	ug/g	NC	50		
9885628	Ethylbenzene	2025/03/06	70	60 - 140	96	60 - 130	<0.010	ug/g	NC	50		
9885628	Ethylene Dibromide	2025/03/06	89	60 - 140	102	60 - 130	<0.040	ug/g	NC	50		
9885628	F1 (C6-C10) - BTEX	2025/03/06					<10	ug/g	NC	30		
9885628	F1 (C6-C10)	2025/03/06	75	60 - 140	84	80 - 120	<10	ug/g	NC	30		



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### QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd

Client Project #: 121626297.300

Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9885628	Hexane	2025/03/06	58 (1)	60 - 140	107	60 - 130	<0.040	ug/g	NC	50		
9885628	Methyl Ethyl Ketone (2-Butanone)	2025/03/06	92	60 - 140	98	60 - 140	<0.40	ug/g	NC	50		
9885628	Methyl Isobutyl Ketone	2025/03/06	95	60 - 140	105	60 - 130	<0.40	ug/g	NC	50		
9885628	Methyl t-butyl ether (MTBE)	2025/03/06	81	60 - 140	96	60 - 130	<0.040	ug/g	NC	50		
9885628	Methylene Chloride(Dichloromethane)	2025/03/06	76	60 - 140	98	60 - 130	<0.049	ug/g	NC	50		
9885628	o-Xylene	2025/03/06	77	60 - 140	104	60 - 130	<0.020	ug/g	NC	50		
9885628	p+m-Xylene	2025/03/06	70	60 - 140	95	60 - 130	<0.020	ug/g	NC	50		
9885628	Styrene	2025/03/06	75	60 - 140	99	60 - 130	<0.040	ug/g	NC	50		
9885628	Tetrachloroethylene	2025/03/06	71	60 - 140	97	60 - 130	<0.040	ug/g	NC	50		
9885628	Toluene	2025/03/06	73	60 - 140	99	60 - 130	<0.020	ug/g	NC	50		
9885628	Total Xylenes	2025/03/06					<0.020	ug/g	NC	50		
9885628	trans-1,2-Dichloroethylene	2025/03/06	74	60 - 140	103	60 - 130	<0.040	ug/g	NC	50		
9885628	trans-1,3-Dichloropropene	2025/03/06	85	60 - 140	103	60 - 130	<0.040	ug/g	NC	50		
9885628	Trichloroethylene	2025/03/06	71	60 - 140	98	60 - 130	<0.010	ug/g	NC	50		
9885628	Trichlorofluoromethane (FREON 11)	2025/03/06	65	60 - 140	94	60 - 130	<0.040	ug/g	NC	50		
9885628	Vinyl Chloride	2025/03/06	65	60 - 140	96	60 - 130	<0.019	ug/g	NC	50		
9885805	1-Methylnaphthalene	2025/03/05	88	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40		
9885805	2-Methylnaphthalene	2025/03/05	91	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40		
9885805	Acenaphthene	2025/03/05	90	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40		
9885805	Acenaphthylene	2025/03/05	81	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
9885805	Anthracene	2025/03/05	99	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40		
9885805	Benzo(a)anthracene	2025/03/05	97	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40		
9885805	Benzo(a)pyrene	2025/03/05	91	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40		
9885805	Benzo(b/j)fluoranthene	2025/03/05	95	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40		
9885805	Benzo(g,h,i)perylene	2025/03/05	97	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40		
9885805	Benzo(k)fluoranthene	2025/03/05	93	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40		
9885805	Biphenyl	2025/03/05	86	50 - 130	88	50 - 130	<0.0050	ug/g				
9885805	Chrysene	2025/03/05	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40		
9885805	Dibenzo(a,h)anthracene	2025/03/05	96	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40		
9885805	Fluoranthene	2025/03/05	96	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40		
9885805	Fluorene	2025/03/05	90	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40		
9885805	Indeno(1,2,3-cd)pyrene	2025/03/05	99	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40		



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Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9885805	Naphthalene	2025/03/05	83	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40		
9885805	Phenanthrene	2025/03/05	90	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40		
9885805	Pyrene	2025/03/05	97	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40		
9885919	F2 (C10-C16 Hydrocarbons)	2025/03/06	93	60 - 140	87	80 - 120	<7.0	ug/g	NC	30		
9885919	F3 (C16-C34 Hydrocarbons)	2025/03/06	96	60 - 140	89	80 - 120	<50	ug/g	NC	30		
9885919	F4 (C34-C50 Hydrocarbons)	2025/03/06	91	60 - 140	84	80 - 120	<50	ug/g	NC	30		
9886355	Leachable Arsenic (As)	2025/03/06	96	80 - 120	95	80 - 120	<0.2	mg/L	NC	35	<0.2	mg/L
9886355	Leachable Barium (Ba)	2025/03/06	NC	80 - 120	96	80 - 120	<0.2	mg/L	4.7	35	<0.2	mg/L
9886355	Leachable Boron (B)	2025/03/06	89	80 - 120	94	80 - 120	<0.1	mg/L	3.7	35	<0.1	mg/L
9886355	Leachable Cadmium (Cd)	2025/03/06	95	80 - 120	93	80 - 120	<0.05	mg/L	NC	35	<0.05	mg/L
9886355	Leachable Chromium (Cr)	2025/03/06	97	80 - 120	95	80 - 120	<0.1	mg/L	NC	35	<0.1	mg/L
9886355	Leachable Lead (Pb)	2025/03/06	93	80 - 120	93	80 - 120	<0.1	mg/L	NC	35	<0.1	mg/L
9886355	Leachable Mercury (Hg)	2025/03/06	92	80 - 120	92	80 - 120	<0.001	mg/L	NC	35	<0.001	mg/L
9886355	Leachable Selenium (Se)	2025/03/06	97	80 - 120	95	80 - 120	<0.1	mg/L	NC	35	<0.1	mg/L
9886355	Leachable Silver (Ag)	2025/03/06	93	80 - 120	91	80 - 120	<0.01	mg/L	NC	35	<0.01	mg/L
9886355	Leachable Uranium (U)	2025/03/06	95	80 - 120	94	80 - 120	<0.01	mg/L	NC	35	<0.01	mg/L
9886373	Leachable Fluoride (F-)	2025/03/06	100	80 - 120	102	80 - 120	<0.10	mg/L	0.47	25	<0.10	mg/L
9886375	Leachable WAD Cyanide (Free)	2025/03/06	80	80 - 120	94	80 - 120	<0.0020	mg/L	NC	20	<0.010	mg/L
9886376	Leachable Nitrate (N)	2025/03/06	82	80 - 120	99	80 - 120	<1.0	mg/L	NC	20	<1.0	mg/L
9886376	Leachable Nitrate + Nitrite (N)	2025/03/06	84	80 - 120	99	80 - 120	<1.0	mg/L	NC	20	<1.0	mg/L
9886376	Leachable Nitrite (N)	2025/03/06	91	80 - 120	102	80 - 120	<0.10	mg/L	NC	20	<0.10	mg/L
9886393	Leachable Total PCB	2025/03/06	102	30 - 130	94	30 - 130	<3.0	ug/L	NC	40		
9886552	Acid Extractable Antimony (Sb)	2025/03/06	107	75 - 125	116	80 - 120	<0.20	ug/g	NC	30		
9886552	Acid Extractable Arsenic (As)	2025/03/06	96	75 - 125	98	80 - 120	<1.0	ug/g	3.9	30		
9886552	Acid Extractable Barium (Ba)	2025/03/06	NC	75 - 125	96	80 - 120	<0.50	ug/g	1.3	30		
9886552	Acid Extractable Beryllium (Be)	2025/03/06	94	75 - 125	94	80 - 120	<0.20	ug/g	3.7	30		
9886552	Acid Extractable Boron (B)	2025/03/06	90	75 - 125	88	80 - 120	<5.0	ug/g	0.15	30		
9886552	Acid Extractable Cadmium (Cd)	2025/03/06	97	75 - 125	99	80 - 120	<0.10	ug/g	0.76	30		
9886552	Acid Extractable Chromium (Cr)	2025/03/06	99	75 - 125	97	80 - 120	<1.0	ug/g	2.2	30		
9886552	Acid Extractable Cobalt (Co)	2025/03/06	95	75 - 125	98	80 - 120	<0.10	ug/g	2.4	30		
9886552	Acid Extractable Copper (Cu)	2025/03/06	93	75 - 125	97	80 - 120	<0.50	ug/g	1.5	30		
9886552	Acid Extractable Lead (Pb)	2025/03/06	97	75 - 125	99	80 - 120	<1.0	ug/g	1.7	30		



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Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9886552	Acid Extractable Mercury (Hg)	2025/03/06	98	75 - 125	103	80 - 120	<0.050	ug/g	NC	30		
9886552	Acid Extractable Molybdenum (Mo)	2025/03/06	93	75 - 125	95	80 - 120	<0.50	ug/g	4.7	30		
9886552	Acid Extractable Nickel (Ni)	2025/03/06	100	75 - 125	103	80 - 120	<0.50	ug/g	2.3	30		
9886552	Acid Extractable Selenium (Se)	2025/03/06	93	75 - 125	96	80 - 120	<0.50	ug/g	NC	30		
9886552	Acid Extractable Silver (Ag)	2025/03/06	96	75 - 125	98	80 - 120	<0.20	ug/g	NC	30		
9886552	Acid Extractable Thallium (Tl)	2025/03/06	93	75 - 125	101	80 - 120	<0.050	ug/g	8.0	30		
9886552	Acid Extractable Uranium (U)	2025/03/06	101	75 - 125	105	80 - 120	<0.050	ug/g	1.8	30		
9886552	Acid Extractable Vanadium (V)	2025/03/06	103	75 - 125	100	80 - 120	<5.0	ug/g	4.3	30		
9886552	Acid Extractable Zinc (Zn)	2025/03/06	NC	75 - 125	104	80 - 120	<5.0	ug/g	4.9	30		
9886746	WAD Cyanide (Free)	2025/03/07	94	75 - 125	97	80 - 120	<0.01	ug/g	NC	35		
9886773	Available (CaCl2) pH	2025/03/07			100	97 - 103			0.025	N/A		
9886780	Hot Water Ext. Boron (B)	2025/03/07	103	75 - 125	97	75 - 125	<0.050	ug/g	6.3	40		
9886781	Hot Water Ext. Boron (B)	2025/03/07	103	75 - 125	100	75 - 125	<0.050	ug/g	15	40		
9886970	Conductivity	2025/03/07			103	90 - 110	<0.002	mS/cm	4.7	10		
9887042	Leachable 1,1-Dichloroethylene	2025/03/07	101	70 - 130	99	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable 1,2-Dichlorobenzene	2025/03/07	107	70 - 130	106	70 - 130	<0.050	mg/L	NC	30		
9887042	Leachable 1,2-Dichloroethane	2025/03/07	115	70 - 130	120	70 - 130	<0.050	mg/L	NC	30		
9887042	Leachable 1,4-Dichlorobenzene	2025/03/07	106	70 - 130	101	70 - 130	<0.050	mg/L	NC	30		
9887042	Leachable Benzene	2025/03/07	103	70 - 130	103	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Carbon Tetrachloride	2025/03/07	111	70 - 130	109	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Chlorobenzene	2025/03/07	99	70 - 130	98	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Chloroform	2025/03/07	101	70 - 130	101	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Methyl Ethyl Ketone (2-Butanone)	2025/03/07	102	60 - 140	114	60 - 140	<1.0	mg/L	NC	30		
9887042	Leachable Methylene Chloride (Dichloromethane)	2025/03/07	106	70 - 130	108	70 - 130	<0.20	mg/L	NC	30		
9887042	Leachable Tetrachloroethylene	2025/03/07	105	70 - 130	101	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Trichloroethylene	2025/03/07	104	70 - 130	102	70 - 130	<0.020	mg/L	NC	30		
9887042	Leachable Vinyl Chloride	2025/03/07	91	70 - 130	89	70 - 130	<0.020	mg/L	NC	30		
9887087	Chromium (VI)	2025/03/07	83	70 - 130	88	80 - 120	<0.18	ug/g	NC	35		
9887218	Leachable 2,3,4,6-Tetrachlorophenol	2025/03/08	81	10 - 130	99	10 - 130	<2.5	ug/L	NC	40		
9887218	Leachable 2,4,5-Trichlorophenol	2025/03/08	70	10 - 130	90	10 - 130	<0.50	ug/L	NC	40		
9887218	Leachable 2,4,6-Trichlorophenol	2025/03/08	61	10 - 130	92	10 - 130	<2.5	ug/L	NC	40		



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Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9887218	Leachable 2,4-Dichlorophenol	2025/03/08	61	10 - 130	90	10 - 130	<2.5	ug/L	NC	40		
9887218	Leachable 2,4-Dinitrotoluene	2025/03/08	85	30 - 130	90	30 - 130	<10	ug/L	NC	40		
9887218	Leachable Benzo(a)pyrene	2025/03/08	113	30 - 130	113	30 - 130	<0.10	ug/L	NC	40		
9887218	Leachable Cresol Total	2025/03/08	38	10 - 130	85	10 - 130	<2.5	ug/L	NC	40		
9887218	Leachable Hexachlorobenzene	2025/03/08	86	30 - 130	93	30 - 130	<10	ug/L	NC	40		
9887218	Leachable Hexachlorobutadiene	2025/03/08	60	30 - 130	81	30 - 130	<10	ug/L	NC	40		
9887218	Leachable Hexachloroethane	2025/03/08	64	30 - 130	86	30 - 130	<10	ug/L	NC	40		
9887218	Leachable m/p-Cresol	2025/03/08	34	10 - 130	81	10 - 130	<2.5	ug/L	NC	40		
9887218	Leachable Nitrobenzene	2025/03/08	76	30 - 130	100	30 - 130	<10	ug/L	NC	40		
9887218	Leachable o-Cresol	2025/03/08	42	10 - 130	89	10 - 130	<2.5	ug/L	NC	40		
9887218	Leachable Pentachlorophenol	2025/03/08	89	30 - 130	97	30 - 130	<2.5	ug/L	NC	40		
9887218	Leachable Pyridine	2025/03/08	30	10 - 130	42	10 - 130	<10	ug/L	NC	40		
9890337	Leachable (SPLP) 1,1,1,2-Tetrachloroethane	2025/03/13	114	70 - 130	107	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,1,2,2-Tetrachloroethane	2025/03/13	104	70 - 130	95	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,1,2-Trichloroethane	2025/03/13	118	70 - 130	108	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,1-Dichloroethane	2025/03/13	101	70 - 130	93	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,1-Dichloroethylene	2025/03/13	100	70 - 130	94	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,2-Dichlorobenzene	2025/03/13	106	70 - 130	102	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,2-Dichloroethane	2025/03/13	115	70 - 130	107	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,2-Dichloropropane	2025/03/13	107	70 - 130	99	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) 1,4-Dichlorobenzene	2025/03/13	105	70 - 130	101	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) Bromomethane	2025/03/13	101	60 - 140	90	60 - 140	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) Carbon Tetrachloride	2025/03/13	110	70 - 130	104	70 - 130	<0.19	ug/L	NC	30		
9890337	Leachable (SPLP) Chloroform	2025/03/13	106	70 - 130	100	70 - 130	<0.90	ug/L	NC	30		
9890337	Leachable (SPLP) cis-1,2-Dichloroethylene	2025/03/13	111	70 - 130	104	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) cis-1,3-Dichloropropene	2025/03/13	106	70 - 130	94	70 - 130	<0.30	ug/L	NC	30		
9890337	Leachable (SPLP) Ethylene Dibromide	2025/03/13	109	70 - 130	100	70 - 130	<0.19	ug/L	NC	30		
9890337	Leachable (SPLP) Tetrachloroethylene	2025/03/13	102	70 - 130	97	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) trans-1,2-Dichloroethylene	2025/03/13	108	70 - 130	102	70 - 130	<0.40	ug/L	NC	30		
9890337	Leachable (SPLP) trans-1,3-Dichloropropene	2025/03/13	119	70 - 130	100	70 - 130	<0.30	ug/L	NC	30		
9890337	Leachable (SPLP) Trichloroethylene	2025/03/13	107	70 - 130	102	70 - 130	<0.40	ug/L	NC	30		
9891248	Leachable (SPLP) Antimony (Sb)	2025/03/14	103	80 - 120	100	80 - 120	<0.5	ug/L	NC	35	<0.5	ug/L



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Sampler Initials: OEG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
9891248	Leachable (SPLP) Cadmium (Cd)	2025/03/14	104	80 - 120	98	80 - 120	<0.1	ug/L	NC	35	<0.1	ug/L
9891248	Leachable (SPLP) Molybdenum (Mo)	2025/03/14	101	80 - 120	96	80 - 120	<1	ug/L	0.50	35	<1	ug/L
9891248	Leachable (SPLP) Silver (Ag)	2025/03/14	102	80 - 120	95	80 - 120	<0.1	ug/L	NC	35	<0.1	ug/L
9891248	Leachable (SPLP) Thallium (Tl)	2025/03/14	105	80 - 120	100	80 - 120	<0.05	ug/L	NC	35	<0.05	ug/L

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

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.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 <= 2x RDL).

(1) The recovery was below the lower control limit. This may represent a low bias in some results for this specific analyte.



BUREAU  
VERITAS

Bureau Veritas Job #: C522430  
Report Date: 2025/03/17

Stantec Consulting Ltd  
Client Project #: 121626297.300  
Sampler Initials: OEG

### 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

*Louise A Harding*

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Louise Harding, Scientific Specialist

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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.

## Certificate of Analysis

**Stantec Consulting Ltd. (Ottawa)**

1331 Clyde Avenue, Suite 300  
Ottawa, ON K2C 3G4  
Attn: Mandy Witteman

Client PO:  
Project: 121626297.300  
Custody: 150748

Report Date: 23-Feb-2026  
Order Date: 19-Feb-2026

**Order #: 2608308**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
2608308-01	MW26-05-02
2608308-02	MW26-05-05
2608308-03	MW26-06-01
2608308-04	MW26-06-03
2608308-05	QC1
2608308-06	QC2

Approved By:



Adriana Tirca, B.Eng (Chem)

Supervisor

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

**Analysis Summary Table**

Analysis	Method Reference/Description	Lab Location	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	Ottawa	21-Feb-26	21-Feb-26
PHC F1	CWS Tier 1 - P&T GC-FID	Ottawa	21-Feb-26	21-Feb-26
PHC F4G (gravimetric)	CWS Tier 1 - Extraction Gravimetric	Ottawa	23-Feb-26	23-Feb-26
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	Ottawa	20-Feb-26	20-Feb-26
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	Ottawa	20-Feb-26	20-Feb-26
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	Ottawa	20-Feb-26	23-Feb-26
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	Ottawa	21-Feb-26	21-Feb-26
Solids, %	CWS Tier 1 - Gravimetric		20-Feb-26	23-Feb-26

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW26-05-02	MW26-05-05	MW26-06-01	MW26-06-03	-	-
<b>Sample Date:</b>	19-Feb-26 13:10	19-Feb-26 13:20	19-Feb-26 10:30	19-Feb-26 10:40	-	-
<b>Sample ID:</b>	2608308-01	2608308-02	2608308-03	2608308-04	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Physical Characteristics**

% Solids	0.1 % by Wt.	94.0	94.9	95.0	96.4	-	-
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**Metals**

Antimony	1.0 ug/g	<1.0	-	<1.0	-	-	-
Arsenic	1.0 ug/g	3.5	-	7.0	-	-	-
Barium	1.0 ug/g	81.3	-	78.5	-	-	-
Beryllium	0.5 ug/g	<0.5	-	<0.5	-	-	-
Boron	5.0 ug/g	<5.0	-	6.8	-	-	-
Cadmium	0.5 ug/g	<0.5	-	<0.5	-	-	-
Chromium	5.0 ug/g	14.2	-	18.9	-	-	-
Cobalt	1.0 ug/g	6.9	-	9.4	-	-	-
Copper	5.0 ug/g	12.9	-	14.0	-	-	-
Lead	1.0 ug/g	6.9	-	14.4	-	-	-
Molybdenum	1.0 ug/g	1.5	-	4.1	-	-	-
Nickel	5.0 ug/g	14.4	-	18.7	-	-	-
Selenium	1.0 ug/g	<1.0	-	<1.0	-	-	-
Silver	0.3 ug/g	<0.3	-	<0.3	-	-	-
Thallium	1.0 ug/g	<1.0	-	<1.0	-	-	-
Uranium	1.0 ug/g	<1.0	-	<1.0	-	-	-
Vanadium	10.0 ug/g	22.1	-	21.2	-	-	-
Zinc	20.0 ug/g	23.6	-	22.2	-	-	-

**Volatiles**

Acetone	0.50 ug/g	-	<0.50	-	<0.50	-	-
Benzene	0.02 ug/g	-	<0.02	-	<0.02	-	-
Bromodichloromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Bromoform	0.05 ug/g	-	<0.05	-	<0.05	-	-

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW26-05-02	MW26-05-05	MW26-06-01	MW26-06-03	-	-
<b>Sample Date:</b>	19-Feb-26 13:10	19-Feb-26 13:20	19-Feb-26 10:30	19-Feb-26 10:40	-	-
<b>Sample ID:</b>	2608308-01	2608308-02	2608308-03	2608308-04	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Volatiles**

	0.05 ug/g	-	<0.05	-	<0.05	-	-
Bromomethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Carbon Tetrachloride	0.05 ug/g	-	<0.05	-	<0.05	-	-
Chlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Chloroform	0.05 ug/g	-	<0.05	-	<0.05	-	-
Dibromochloromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,2-Dichloropropane	0.05 ug/g	-	<0.05	-	<0.05	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	-	<0.05	-	-
Ethylene dibromide (dibromoethane)	0.05 ug/g	-	<0.05	-	<0.05	-	-
Ethylbenzene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Hexane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	<0.50	-	<0.50	-	-
Methyl Isobutyl Ketone	0.50 ug/g	-	<0.50	-	<0.50	-	-
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	-	<0.05	-	-
Methylene Chloride	0.05 ug/g	-	<0.05	-	<0.05	-	-

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW26-05-02	MW26-05-05	MW26-06-01	MW26-06-03	-	-
<b>Sample Date:</b>	19-Feb-26 13:10	19-Feb-26 13:20	19-Feb-26 10:30	19-Feb-26 10:40	-	-
<b>Sample ID:</b>	2608308-01	2608308-02	2608308-03	2608308-04	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Volatiles**

Styrene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Tetrachloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Toluene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Trichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Trichlorofluoromethane	0.05 ug/g	-	<0.05	-	<0.05	-	-
Vinyl chloride	0.02 ug/g	-	<0.02	-	<0.02	-	-
m,p-Xylenes	0.05 ug/g	-	<0.05	-	<0.05	-	-
o-Xylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Xylenes, total	0.05 ug/g	-	<0.05	-	<0.05	-	-
Dibromofluoromethane	Surrogate	-	69.7%	-	68.6%	-	-
Toluene-d8	Surrogate	-	104%	-	101%	-	-
4-Bromofluorobenzene	Surrogate	-	112%	-	110%	-	-
Benzene	0.02 ug/g	<0.02	-	<0.02	-	-	-
Ethylbenzene	0.05 ug/g	<0.05	-	<0.05	-	-	-
Toluene	0.05 ug/g	<0.05	-	<0.05	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	-	<0.05	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	<0.05	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	<0.05	-	-	-
Toluene-d8	Surrogate	104%	-	104%	-	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	-	-
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Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW26-05-02	MW26-05-05	MW26-06-01	MW26-06-03	-	-
<b>Sample Date:</b>	19-Feb-26 13:10	19-Feb-26 13:20	19-Feb-26 10:30	19-Feb-26 10:40	-	-
<b>Sample ID:</b>	2608308-01	2608308-02	2608308-03	2608308-04	-	-
<b>Matrix:</b>	Soil	Soil	Soil	Soil	-	-
<b>MDL/Units</b>						

**Hydrocarbons**

F2 PHCs (C10-C16)	4 ug/g	<4	<4	6	<4	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	16	89	50	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	15	73 [1]	76 [1]	-	-
F4G PHCs (gravimetric)	50 ug/g	-	-	189	228	-	-

**Semi-Volatiles**

Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Chrysene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	<0.04	<0.04	<0.04	-	-
Naphthalene	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
Phenanthrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
2-Fluorobiphenyl	Surrogate	51.2%	74.1%	78.4%	87.5%	-	-

Certificate of Analysis

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Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW26-05-02	MW26-05-05	MW26-06-01	MW26-06-03		
<b>Sample Date:</b>	19-Feb-26 13:10	19-Feb-26 13:20	19-Feb-26 10:30	19-Feb-26 10:40	-	-
<b>Sample ID:</b>	2608308-01	2608308-02	2608308-03	2608308-04		
<b>Matrix:</b>	Soil	Soil	Soil	Soil		
<b>MDL/Units</b>						

**Semi-Volatiles**

Terphenyl-d14	Surrogate	75.2%	77.0%	79.4%	90.3%	-	-
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Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	QC1	QC2			
<b>Sample Date:</b>	19-Feb-26 11:00	19-Feb-26 13:30			
<b>Sample ID:</b>	2608308-05	2608308-06			
<b>Matrix:</b>	Soil	Soil			
<b>MDL/Units</b>					

**Physical Characteristics**

% Solids	0.1 % by Wt.	95.0	96.3	-	-	-	-
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**Volatiles**

Acetone	0.50 ug/g	<0.50	-	-	-	-	-
Benzene	0.02 ug/g	<0.02	-	-	-	-	-
Bromodichloromethane	0.05 ug/g	<0.05	-	-	-	-	-
Bromoform	0.05 ug/g	<0.05	-	-	-	-	-
Bromomethane	0.05 ug/g	<0.05	-	-	-	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	-	-	-	-	-
Chlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
Chloroform	0.05 ug/g	<0.05	-	-	-	-	-
Dibromochloromethane	0.05 ug/g	<0.05	-	-	-	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	-	-	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	-	-	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	-	-	-	-	-
1,3-Dichloropropene, total	0.05 ug/g	<0.05	-	-	-	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	-	-	-	-	-

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	QC1	QC2				
<b>Sample Date:</b>	19-Feb-26 11:00	19-Feb-26 13:30				
<b>Sample ID:</b>	2608308-05	2608308-06				
<b>Matrix:</b>	Soil	Soil				
<b>MDL/Units</b>						

**Volatiles**

Ethylbenzene	0.05 ug/g	<0.05	-	-	-	-
Hexane	0.05 ug/g	<0.05	-	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	<0.50	-	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g	<0.50	-	-	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	-	-	-	-
Methylene Chloride	0.05 ug/g	<0.05	-	-	-	-
Styrene	0.05 ug/g	<0.05	-	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	-	-	-	-
Toluene	0.05 ug/g	<0.05	-	-	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	-	-	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	-	-	-	-
Trichloroethylene	0.05 ug/g	<0.05	-	-	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	-	-	-	-
Vinyl chloride	0.02 ug/g	<0.02	-	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	-	-	-
Toluene-d8	Surrogate	104%	-	-	-	-
Dibromofluoromethane	Surrogate	69.7%	-	-	-	-
4-Bromofluorobenzene	Surrogate	111%	-	-	-	-
Benzene	0.02 ug/g	-	<0.02	-	-	-
Ethylbenzene	0.05 ug/g	-	<0.05	-	-	-
Toluene	0.05 ug/g	-	<0.05	-	-	-

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	QC1	QC2				
<b>Sample Date:</b>	19-Feb-26 11:00	19-Feb-26 13:30			-	-
<b>Sample ID:</b>	2608308-05	2608308-06				
<b>Matrix:</b>	Soil	Soil				
<b>MDL/Units</b>						

**Volatiles**

m,p-Xylenes	0.05 ug/g	-	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	-	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	-	<0.05	-	-	-	-
Toluene-d8	Surrogate	-	103%	-	-	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g	<7	<7	-	-	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	-	-	-	-
F3 PHCs (C16-C34)	8 ug/g	16	17	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	12	16	-	-	-	-

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>								
F4G PHCs (gravimetric)	ND	50	ug/g					
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
<b>Metals</b>								
Antimony	ND	1.0	ug/g					
Arsenic	ND	1.0	ug/g					
Barium	ND	1.0	ug/g					
Beryllium	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					
<b>Semi-Volatiles</b>								
Acenaphthene	ND	0.02	ug/g					
Acenaphthylene	ND	0.02	ug/g					
Anthracene	ND	0.02	ug/g					
Benzo [a] anthracene	ND	0.02	ug/g					
Benzo [a] pyrene	ND	0.02	ug/g					
Benzo [b] fluoranthene	ND	0.02	ug/g					
Benzo [g,h,i] perylene	ND	0.02	ug/g					

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**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [k] fluoranthene	ND	0.02	ug/g					
Chrysene	ND	0.02	ug/g					
Dibenzo [a,h] anthracene	ND	0.02	ug/g					
Fluoranthene	ND	0.02	ug/g					
Fluorene	ND	0.02	ug/g					
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g					
1-Methylnaphthalene	ND	0.02	ug/g					
2-Methylnaphthalene	ND	0.02	ug/g					
Methylnaphthalene (1&2)	ND	0.04	ug/g					
Naphthalene	ND	0.01	ug/g					
Phenanthrene	ND	0.02	ug/g					
Pyrene	ND	0.02	ug/g					
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>1.23</i>		%	<i>92.0</i>	<i>50-140</i>			
<i>Surrogate: Terphenyl-d14</i>	<i>1.29</i>		%	<i>96.6</i>	<i>50-140</i>			
<b>Volatiles</b>								
Benzene	ND	0.02	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
<i>Surrogate: Toluene-d8</i>	<i>8.35</i>		%	<i>104</i>	<i>50-140</i>			
Acetone	ND	0.50	ug/g					
Benzene	ND	0.02	ug/g					
Bromodichloromethane	ND	0.05	ug/g					
Bromoform	ND	0.05	ug/g					
Bromomethane	ND	0.05	ug/g					
Carbon Tetrachloride	ND	0.05	ug/g					
Chlorobenzene	ND	0.05	ug/g					
Chloroform	ND	0.05	ug/g					
Dibromochloromethane	ND	0.05	ug/g					
Dichlorodifluoromethane	ND	0.05	ug/g					

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Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	ND	0.05	ug/g					
1,3-Dichlorobenzene	ND	0.05	ug/g					
1,4-Dichlorobenzene	ND	0.05	ug/g					
1,1-Dichloroethane	ND	0.05	ug/g					
1,2-Dichloroethane	ND	0.05	ug/g					
1,1-Dichloroethylene	ND	0.05	ug/g					
cis-1,2-Dichloroethylene	ND	0.05	ug/g					
trans-1,2-Dichloroethylene	ND	0.05	ug/g					
1,2-Dichloropropane	ND	0.05	ug/g					
cis-1,3-Dichloropropylene	ND	0.05	ug/g					
trans-1,3-Dichloropropylene	ND	0.05	ug/g					
1,3-Dichloropropene, total	ND	0.05	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g					
Hexane	ND	0.05	ug/g					
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g					
Methyl Isobutyl Ketone	ND	0.50	ug/g					
Methyl tert-butyl ether	ND	0.05	ug/g					
Methylene Chloride	ND	0.05	ug/g					
Styrene	ND	0.05	ug/g					
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g					
1,1,1,2,2-Tetrachloroethane	ND	0.05	ug/g					
Tetrachloroethylene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
1,1,1-Trichloroethane	ND	0.05	ug/g					
1,1,2-Trichloroethane	ND	0.05	ug/g					
Trichloroethylene	ND	0.05	ug/g					
Trichlorofluoromethane	ND	0.05	ug/g					
Vinyl chloride	ND	0.02	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					

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Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: 4-Bromofluorobenzene	8.52		%	106	50-140			
Surrogate: Dibromofluoromethane	4.81		%	60.1	50-140			
Surrogate: Toluene-d8	8.35		%	104	50-140			

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**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
<b>Metals</b>									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	3.6	1.0	ug/g	3.6			0.0	30	
Barium	125	1.0	ug/g	119			4.9	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron	9.0	5.0	ug/g	7.8			13.9	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	20.9	5.0	ug/g	20.2			3.5	30	
Cobalt	7.0	1.0	ug/g	6.7			4.4	30	
Copper	14.9	5.0	ug/g	13.7			7.9	30	
Lead	10.5	1.0	ug/g	10.4			1.4	30	
Molybdenum	1.1	1.0	ug/g	1.2			1.3	30	
Nickel	14.0	5.0	ug/g	14.0			0.2	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	28.8	10.0	ug/g	28.3			1.9	30	
Zinc	79.0	20.0	ug/g	84.9			7.2	30	
<b>Physical Characteristics</b>									
% Solids	95.0	0.1	% by Wt.	95.0			0.0	25	
<b>Semi-Volatiles</b>									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	ND			NC	40	
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	ND			NC	40	

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] pyrene	ND	0.02	ug/g	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Chrysene	ND	0.02	ug/g	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	ND			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	ND			NC	40	
<i>Surrogate: 2-Fluorobiphenyl</i>	1.20		%		80.7	50-140			
<i>Surrogate: Terphenyl-d14</i>	1.29		%		86.6	50-140			
<b>Volatiles</b>									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	9.40		%		110	50-140			
Surrogate: Dibromofluoromethane	5.90		%		69.3	50-140			
Surrogate: Toluene-d8	8.86		%		104	50-140			
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Toluene	ND	0.05	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
<i>Surrogate: Toluene-d8</i>	8.86		%		104	50-140			

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**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	153	7	ug/g	ND	89.0	85-115			
F2 PHCs (C10-C16)	74	4	ug/g	ND	87.1	60-140			
F3 PHCs (C16-C34)	220	8	ug/g	ND	105	60-140			
F4 PHCs (C34-C50)	153	6	ug/g	ND	116	60-140			
F4G PHCs (gravimetric)	1040	50	ug/g	ND	104	80-120			
<b>Metals</b>									
Arsenic	47.6	1.0	ug/g	1.5	92.2	70-130			
Barium	89.0	1.0	ug/g	47.8	82.6	70-130			
Beryllium	48.2	0.5	ug/g	ND	96.0	70-130			
Boron	48.5	5.0	ug/g	ND	90.8	70-130			
Cadmium	42.8	0.5	ug/g	ND	85.6	70-130			
Chromium	57.2	5.0	ug/g	8.1	98.3	70-130			
Cobalt	50.6	1.0	ug/g	2.7	95.9	70-130			
Copper	49.9	5.0	ug/g	5.5	88.8	70-130			
Lead	45.4	1.0	ug/g	4.1	82.5	70-130			
Molybdenum	48.4	1.0	ug/g	ND	95.9	70-130			
Nickel	52.0	5.0	ug/g	5.6	92.8	70-130			
Selenium	45.5	1.0	ug/g	ND	90.7	70-130			
Silver	42.6	0.3	ug/g	ND	85.1	70-130			
Thallium	43.9	1.0	ug/g	ND	87.6	70-130			
Uranium	44.7	1.0	ug/g	ND	88.9	70-130			
Vanadium	60.3	10.0	ug/g	11.3	98.0	70-130			
Zinc	74.1	20.0	ug/g	34.0	80.3	70-130			
<b>Semi-Volatiles</b>									
Acenaphthene	0.171	0.02	ug/g	ND	92.2	50-140			
Acenaphthylene	0.156	0.02	ug/g	ND	84.1	50-140			
Anthracene	0.195	0.02	ug/g	ND	105	50-140			
Benzo [a] anthracene	0.148	0.02	ug/g	ND	79.8	50-140			
Benzo [a] pyrene	0.168	0.02	ug/g	ND	90.4	50-140			
Benzo [b] fluoranthene	0.151	0.02	ug/g	ND	81.4	50-140			

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**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [g,h,i] perylene	0.165	0.02	ug/g	ND	88.7	50-140			
Benzo [k] fluoranthene	0.138	0.02	ug/g	ND	74.4	50-140			
Chrysene	0.158	0.02	ug/g	ND	84.9	50-140			
Dibenzo [a,h] anthracene	0.160	0.02	ug/g	ND	86.1	50-140			
Fluoranthene	0.164	0.02	ug/g	ND	88.2	50-140			
Fluorene	0.159	0.02	ug/g	ND	85.3	50-140			
Indeno [1,2,3-cd] pyrene	0.159	0.02	ug/g	ND	85.3	50-140			
1-Methylnaphthalene	0.169	0.02	ug/g	ND	90.8	50-140			
2-Methylnaphthalene	0.169	0.02	ug/g	ND	91.0	50-140			
Naphthalene	0.163	0.01	ug/g	ND	87.7	50-140			
Phenanthrene	0.167	0.02	ug/g	ND	89.8	50-140			
Pyrene	0.163	0.02	ug/g	ND	87.5	50-140			
<i>Surrogate: 2-Fluorobiphenyl</i>	1.23		%		82.5	50-140			
<i>Surrogate: Terphenyl-d14</i>	1.27		%		85.1	50-140			
<b>Volatiles</b>									
Acetone	10.8	0.50	ug/g	ND	108	50-140			
Benzene	4.15	0.02	ug/g	ND	104	60-130			
Bromodichloromethane	4.38	0.05	ug/g	ND	109	60-130			
Bromoform	4.14	0.05	ug/g	ND	103	60-130			
Bromomethane	4.38	0.05	ug/g	ND	110	50-140			
Carbon Tetrachloride	3.74	0.05	ug/g	ND	93.6	60-130			
Chlorobenzene	4.70	0.05	ug/g	ND	117	60-130			
Chloroform	4.31	0.05	ug/g	ND	108	60-130			
Dibromochloromethane	3.74	0.05	ug/g	ND	93.5	60-130			
Dichlorodifluoromethane	3.81	0.05	ug/g	ND	95.3	50-140			
1,2-Dichlorobenzene	4.81	0.05	ug/g	ND	120	60-130			
1,3-Dichlorobenzene	4.91	0.05	ug/g	ND	123	60-130			
1,4-Dichlorobenzene	4.86	0.05	ug/g	ND	122	60-130			
1,1-Dichloroethane	4.34	0.05	ug/g	ND	108	60-130			
1,2-Dichloroethane	4.23	0.05	ug/g	ND	106	60-130			
1,1-Dichloroethylene	4.63	0.05	ug/g	ND	116	60-130			

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**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
cis-1,2-Dichloroethylene	4.59	0.05	ug/g	ND	115	60-130			
trans-1,2-Dichloroethylene	4.60	0.05	ug/g	ND	115	60-130			
1,2-Dichloropropane	4.46	0.05	ug/g	ND	112	60-130			
cis-1,3-Dichloropropylene	4.32	0.05	ug/g	ND	108	60-130			
trans-1,3-Dichloropropylene	4.33	0.05	ug/g	ND	108	60-130			
Ethylbenzene	4.99	0.05	ug/g	ND	125	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.72	0.05	ug/g	ND	92.9	60-130			
Hexane	4.50	0.05	ug/g	ND	112	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.7	0.50	ug/g	ND	117	50-140			
Methyl Isobutyl Ketone	11.9	0.50	ug/g	ND	119	50-140			
Methyl tert-butyl ether	11.6	0.05	ug/g	ND	116	50-140			
Methylene Chloride	4.95	0.05	ug/g	ND	124	60-130			
Styrene	4.93	0.05	ug/g	ND	123	60-130			
1,1,1,2-Tetrachloroethane	3.94	0.05	ug/g	ND	98.6	60-130			
1,1,2,2-Tetrachloroethane	3.61	0.05	ug/g	ND	90.2	60-130			
Tetrachloroethylene	3.84	0.05	ug/g	ND	95.9	60-130			
Toluene	4.90	0.05	ug/g	ND	122	60-130			
1,1,1-Trichloroethane	4.13	0.05	ug/g	ND	103	60-130			
1,1,2-Trichloroethane	4.81	0.05	ug/g	ND	120	60-130			
Trichloroethylene	4.36	0.05	ug/g	ND	109	60-130			
Trichlorofluoromethane	4.45	0.05	ug/g	ND	111	50-140			
Vinyl chloride	4.02	0.02	ug/g	ND	101	50-140			
m,p-Xylenes	9.53	0.05	ug/g	ND	119	60-130			
o-Xylene	5.03	0.05	ug/g	ND	126	60-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	8.49		%		106	50-140			
<i>Surrogate: Dibromofluoromethane</i>	5.28		%		66.0	50-140			
<i>Surrogate: Toluene-d8</i>	7.97		%		99.6	50-140			
Benzene	4.15	0.02	ug/g	ND	104	60-130			
Ethylbenzene	4.99	0.05	ug/g	ND	125	60-130			
Toluene	4.90	0.05	ug/g	ND	122	60-130			
m,p-Xylenes	9.53	0.05	ug/g	ND	119	60-130			

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**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	5.03	0.05	ug/g	ND	126	60-130			
Surrogate: Toluene-d8	7.97		%		99.6	50-140			

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Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

Qualifier Notes:

**Sample Qualifiers :**

- 1: GC-FID signal did not return to baseline by C50  
Applies to Samples: MW26-06-01, MW26-06-03

Sample Data Revisions:

None

Certificate of Analysis

Report Date: 23-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 19-Feb-2026

Client PO:

Project Description: 121626297.300

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unless otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

*CCME PHC additional information:*

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



Parcel ID: 2608308



Head Office  
30 2319 St. Laurent Blvd.  
Ottawa, Ontario K1G 4J8  
1-800-749-8947  
paracel@paracelabs.com  
www.paracelabs.com

Parcel Order Number  
(Lab Use Only)

2608308

Chain Of Custody  
(Lab Use Only)  
No 150748

Client Name: Stantec Consulting Project Ref: 121626297.300 Page 1 of 1

Contact Name: Mandy Witteman Quote #:

Address: 1331 Clyde Avenue Suite 300 PO #:  
Ottawa Ontario K2C 3G4 E-mail: Mandy.witteman@stantec.com

Telephone: (613) 704-1419 Date Required:

**Turnaround Time**

1 day  3 day  
 2 day  Regular

REG 153/04 <input type="checkbox"/> REG 406/19 <input type="checkbox"/> Other Regulation		Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)				Required Analysis								
<input type="checkbox"/> Table 1 <input type="checkbox"/> Agri/Other <input type="checkbox"/> Med/Fine	<input type="checkbox"/> REG 558 <input type="checkbox"/> PWQO	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken		PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWE)
<input type="checkbox"/> Table 2 <input type="checkbox"/> Res/Park <input type="checkbox"/> Coarse	<input type="checkbox"/> CCME <input type="checkbox"/> MISA					Date	Time							
<input checked="" type="checkbox"/> Table 3 <input type="checkbox"/> Ind/Comm	<input type="checkbox"/> SU - Sani <input type="checkbox"/> SU - Storm													
<input type="checkbox"/> Table _____	Mun: _____													
For RSC: <input type="checkbox"/> Yes <input type="checkbox"/> No														
Sample ID/Location Name														
1	MW26-05-02	S		2		2026/02/19	13:10	X		X	X			
2	MW26-05-05	S		2			13:20	X	X	X				
3	MW26-06-01	S		2			10:30	X		X	X			
4	MW26-06-03	S		2			10:40	X	X	X				
5	<del>MW26-07</del>	<del>S</del>		<del>2</del>			<del>14:40</del>							
6	<del>MW26-07</del>	<del>S</del>		<del>2</del>			<del>14:50</del>							
7	QC1	S		2			11:00	X	X					
8	QC2	S		2			13:30	X						
9	<del>QC3</del>	<del>S</del>		<del>2</del>			<del>15:00</del>							
10														

Comments:

Method of Delivery: Walk In

Unless otherwise negotiated by the parties, by signing Parcel's Chain of Custody form, you are agreeing to Paracel Laboratories Terms and Conditions and are subject to the terms and conditions thereof. Available at [www.paracelabs.com](http://www.paracelabs.com)

Relinquished By (Sign): <u>mm-s</u>	Received at Depot:	Received at Lab: <u>Mandi Fitt</u>	Verified By: <u>[Signature]</u>
Relinquished By (Print): <u>Ryan Story</u>	Date/Time:	Date/Time: <u>Feb 19/26 5:30PM</u>	Date/Time: <u>Feb 20 813</u>
Date/Time:	Temperature: _____ °C	Temperature: <u>4.3</u> °C	pH Verified: <input type="checkbox"/> By: _____

## Certificate of Analysis

**Stantec Consulting Ltd. (Ottawa)**

1331 Clyde Avenue, Suite 300  
Ottawa, ON K2C 3G4  
Attn: Mandy Witteman

Client PO:  
Project: 121626297.300  
Custody: 150732

Report Date: 25-Feb-2026  
Order Date: 24-Feb-2026

**Order #: 2609173**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2609173-01	MW25-01
2609173-02	MW26-06
2609173-03	QC-03
2609173-04	MW26-05
2609173-05	Trip Blank

Approved By:



Mark Foto, M.Sc.  
Laboratory Director

Certificate of Analysis

Report Date: 25-Feb-2026

 Client: **Stantec Consulting Ltd. (Ottawa)**

Order Date: 24-Feb-2026

Client PO:

**Project Description: 121626297.300**
**Analysis Summary Table**

Analysis	Method Reference/Description	Lab Location	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 624 - P&T GC-MS	Ottawa	25-Feb-26	25-Feb-26
PHC F1	CWS Tier 1 - P&T GC-FID	Ottawa	24-Feb-26	25-Feb-26
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	Ottawa	25-Feb-26	25-Feb-26
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	Ottawa	25-Feb-26	25-Feb-26
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	Ottawa	24-Feb-26	25-Feb-26

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW25-01	MW26-06	QC-03	MW26-05	-	-
<b>Sample Date:</b>	23-Feb-26 12:15	23-Feb-26 13:09	23-Feb-26 09:00	24-Feb-26 09:00	-	-
<b>Sample ID:</b>	2609173-01	2609173-02	2609173-03	2609173-04	-	-
<b>Matrix:</b>	Ground Water	Ground Water	Ground Water	Ground Water	-	-
<b>MDL/Units</b>						

**Volatiles**

Acetone	5.0 ug/L	-	<5.0	-	<5.0	-	-
Benzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Bromodichloromethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
Bromoform	0.5 ug/L	-	<0.5	-	<0.5	-	-
Bromomethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	-	<0.2	-	<0.2	-	-
Chlorobenzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Chloroform	0.5 ug/L	-	<0.5	-	<0.5	-	-
Dibromochloromethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	-	<1.0	-	<1.0	-	-
1,2-Dichlorobenzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	-	<0.5	-	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	-	<0.5	-	<0.5	-	-
Ethylbenzene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Ethylene dibromide	0.2 ug/L	-	<0.2	-	<0.2	-	-
Hexane	1.0 ug/L	-	<1.0	-	<1.0	-	-

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW25-01	MW26-06	QC-03	MW26-05	-	-
<b>Sample Date:</b>	23-Feb-26 12:15	23-Feb-26 13:09	23-Feb-26 09:00	24-Feb-26 09:00	-	-
<b>Sample ID:</b>	2609173-01	2609173-02	2609173-03	2609173-04	-	-
<b>Matrix:</b>	Ground Water	Ground Water	Ground Water	Ground Water	-	-
<b>MDL/Units</b>						

**Volatiles**

Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	-	<5.0	-	<5.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	-	<5.0	-	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	-	<2.0	-	<2.0	-	-
Methylene Chloride	5.0 ug/L	-	<5.0	-	<5.0	-	-
Styrene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Toluene	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
1,1,2-Trichloroethane	0.5 ug/L	-	<0.5	-	<0.5	-	-
Trichloroethylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	-	<1.0	-	<1.0	-	-
Vinyl chloride	0.5 ug/L	-	<0.5	-	<0.5	-	-
m,p-Xylenes	0.5 ug/L	-	<0.5	-	<0.5	-	-
o-Xylene	0.5 ug/L	-	<0.5	-	<0.5	-	-
Xylenes, total	0.5 ug/L	-	<0.5	-	<0.5	-	-
Toluene-d8	Surrogate	-	91.4%	-	90.4%	-	-
4-Bromofluorobenzene	Surrogate	-	101%	-	103%	-	-
Dibromofluoromethane	Surrogate	-	129%	-	139%	-	-
Benzene	0.5 ug/L	<0.5 [3]	-	<0.5	-	-	-
Ethylbenzene	0.5 ug/L	<0.5 [3]	-	<0.5	-	-	-
Toluene	0.5 ug/L	<0.5 [3]	-	<0.5	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5 [3]	-	<0.5	-	-	-
o-Xylene	0.5 ug/L	<0.5 [3]	-	<0.5	-	-	-

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW25-01	MW26-06	QC-03	MW26-05	-	-
<b>Sample Date:</b>	23-Feb-26 12:15	23-Feb-26 13:09	23-Feb-26 09:00	24-Feb-26 09:00	-	-
<b>Sample ID:</b>	2609173-01	2609173-02	2609173-03	2609173-04	-	-
<b>Matrix:</b>	Ground Water	Ground Water	Ground Water	Ground Water	-	-
<b>MDL/Units</b>						

**Volatiles**

Xylenes, total	0.5 ug/L	<0.5 [3]	-	<0.5	-	-
Toluene-d8	Surrogate	90.6% [3]	-	90.7%	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	25 ug/L	<25 [3]	<25	<25	<25	-	-
F2 PHCs (C10-C16)	100 ug/L	<100 [2]	<100	-	<100	-	-
F3 PHCs (C16-C34)	100 ug/L	<100 [2]	<100	-	<100	-	-
F4 PHCs (C34-C50)	100 ug/L	<100 [2]	<100	-	<100	-	-

**Semi-Volatiles**

Acenaphthene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Acenaphthylene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Anthracene	0.01 ug/L	<0.01 [2]	<0.01	-	<0.01	-	-
Benzo [a] anthracene	0.01 ug/L	<0.01 [2]	<0.01	-	<0.01	-	-
Benzo [a] pyrene	0.01 ug/L	<0.01 [2]	<0.01	-	<0.01	-	-
Benzo [b] fluoranthene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Benzo [g,h,i] perylene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Benzo [k] fluoranthene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Chrysene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Dibenzo [a,h] anthracene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Fluoranthene	0.01 ug/L	0.02 [2]	0.01	-	<0.01	-	-
Fluorene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
1-Methylnaphthalene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
2-Methylnaphthalene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Methylnaphthalene (1&2)	0.10 ug/L	<0.10 [2]	<0.10	-	<0.10	-	-
Naphthalene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	MW25-01	MW26-06	QC-03	MW26-05	-	-
<b>Sample Date:</b>	23-Feb-26 12:15	23-Feb-26 13:09	23-Feb-26 09:00	24-Feb-26 09:00	-	-
<b>Sample ID:</b>	2609173-01	2609173-02	2609173-03	2609173-04	-	-
<b>Matrix:</b>	Ground Water	Ground Water	Ground Water	Ground Water	-	-
<b>MDL/Units</b>						

**Semi-Volatiles**

Phenanthrene	0.05 ug/L	<0.05 [2]	<0.05	-	<0.05	-	-
Pyrene	0.01 ug/L	0.03 [2]	0.01	-	<0.01	-	-
2-Fluorobiphenyl	Surrogate	102% [2]	98.6%	-	103%	-	-
Terphenyl-d14	Surrogate	110% [2]	110%	-	111%	-	-

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	Trip Blank						
<b>Sample Date:</b>	20-Feb-26 09:00						
<b>Sample ID:</b>	2609173-05						
<b>Matrix:</b>	Ground Water						
<b>MDL/Units</b>							

**Volatiles**

Acetone	5.0 ug/L	<5.0	-	-	-	-	-
Benzene	0.5 ug/L	<0.5	-	-	-	-	-
Bromodichloromethane	0.5 ug/L	<0.5	-	-	-	-	-
Bromoform	0.5 ug/L	<0.5	-	-	-	-	-
Bromomethane	0.5 ug/L	<0.5	-	-	-	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	-	-	-	-	-
Chlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
Chloroform	0.5 ug/L	<0.5	-	-	-	-	-
Dibromochloromethane	0.5 ug/L	<0.5	-	-	-	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	-	-	-	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	-	-	-	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	-	-	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	-	-	-	-	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-	-	-
Ethylene dibromide	0.2 ug/L	<0.2	-	-	-	-	-
Hexane	1.0 ug/L	<1.0	-	-	-	-	-

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

<b>Client ID:</b>	Trip Blank						
<b>Sample Date:</b>	20-Feb-26 09:00						
<b>Sample ID:</b>	2609173-05						
<b>Matrix:</b>	Ground Water						
<b>MDL/Units</b>							

**Volatiles**

Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	-	-	-	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	-	-	-	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	-	-	-	-	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-	-	-
Styrene	0.5 ug/L	<0.5	-	-	-	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
Toluene	0.5 ug/L	<0.5	-	-	-	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	-	-	-	-	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	-	-	-	-	-
Vinyl chloride	0.5 ug/L	<0.5	-	-	-	-	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-	-	-
Toluene-d8	Surrogate	90.5%	-	-	-	-	-
Dibromofluoromethane	Surrogate	129%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	104%	-	-	-	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	25 ug/L	<25	-	-	-	-	-
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Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>								
F1 PHCs (C6-C10)	ND	25	ug/L					
F2 PHCs (C10-C16)	ND	100	ug/L					
F3 PHCs (C16-C34)	ND	100	ug/L					
F4 PHCs (C34-C50)	ND	100	ug/L					
<b>Semi-Volatiles</b>								
Acenaphthene	ND	0.05	ug/L					
Acenaphthylene	ND	0.05	ug/L					
Anthracene	ND	0.01	ug/L					
Benzo [a] anthracene	ND	0.01	ug/L					
Benzo [a] pyrene	ND	0.01	ug/L					
Benzo [b] fluoranthene	ND	0.05	ug/L					
Benzo [g,h,i] perylene	ND	0.05	ug/L					
Benzo [k] fluoranthene	ND	0.05	ug/L					
Chrysene	ND	0.05	ug/L					
Dibenzo [a,h] anthracene	ND	0.05	ug/L					
Fluoranthene	ND	0.01	ug/L					
Fluorene	ND	0.05	ug/L					
Indeno [1,2,3-cd] pyrene	ND	0.05	ug/L					
1-Methylnaphthalene	ND	0.05	ug/L					
2-Methylnaphthalene	ND	0.05	ug/L					
Methylnaphthalene (1&2)	ND	0.10	ug/L					
Naphthalene	ND	0.05	ug/L					
Phenanthrene	ND	0.05	ug/L					
Pyrene	ND	0.01	ug/L					
Surrogate: 2-Fluorobiphenyl	20.3		%	101	50-140			
Surrogate: Terphenyl-d14	22.8		%	114	50-140			
<b>Volatiles</b>								
Benzene	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
Surrogate: Toluene-d8	73.6		%	92.0	50-140			
Acetone	ND	5.0	ug/L					
Benzene	ND	0.5	ug/L					
Bromodichloromethane	ND	0.5	ug/L					
Bromoform	ND	0.5	ug/L					
Bromomethane	ND	0.5	ug/L					
Carbon Tetrachloride	ND	0.2	ug/L					
Chlorobenzene	ND	0.5	ug/L					
Chloroform	ND	0.5	ug/L					
Dibromochloromethane	ND	0.5	ug/L					
Dichlorodifluoromethane	ND	1.0	ug/L					
1,2-Dichlorobenzene	ND	0.5	ug/L					
1,3-Dichlorobenzene	ND	0.5	ug/L					
1,4-Dichlorobenzene	ND	0.5	ug/L					
1,1-Dichloroethane	ND	0.5	ug/L					
1,2-Dichloroethane	ND	0.5	ug/L					
1,1-Dichloroethylene	ND	0.5	ug/L					
cis-1,2-Dichloroethylene	ND	0.5	ug/L					
trans-1,2-Dichloroethylene	ND	0.5	ug/L					
1,2-Dichloropropane	ND	0.5	ug/L					
cis-1,3-Dichloropropylene	ND	0.5	ug/L					
trans-1,3-Dichloropropylene	ND	0.5	ug/L					
1,3-Dichloropropene, total	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L					
Hexane	ND	1.0	ug/L					
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L					
Methyl Isobutyl Ketone	ND	5.0	ug/L					
Methyl tert-butyl ether	ND	2.0	ug/L					
Methylene Chloride	ND	5.0	ug/L					

Certificate of Analysis

Report Date: 25-Feb-2026

Client: **Stantec Consulting Ltd. (Ottawa)**

Order Date: 24-Feb-2026

Client PO:

**Project Description: 121626297.300**

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Styrene	ND	0.5	ug/L					
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L					
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L					
Tetrachloroethylene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
1,1,1-Trichloroethane	ND	0.5	ug/L					
1,1,2-Trichloroethane	ND	0.5	ug/L					
Trichloroethylene	ND	0.5	ug/L					
Trichlorofluoromethane	ND	1.0	ug/L					
Vinyl chloride	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
<i>Surrogate: 4-Bromofluorobenzene</i>	81.7		%	102	50-140			
<i>Surrogate: Dibromofluoromethane</i>	84.2		%	105	50-140			
<i>Surrogate: Toluene-d8</i>	73.6		%	92.0	50-140			

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	25	ug/L	ND			NC	30	
F2 PHCs (C10-C16)	ND	100	ug/L	ND			NC	30	
F3 PHCs (C16-C34)	ND	100	ug/L	ND			NC	30	
F4 PHCs (C34-C50)	ND	100	ug/L	ND			NC	30	
<b>Volatiles</b>									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	0.57	0.5	ug/L	0.60			5.1	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	

Certificate of Analysis

Report Date: 25-Feb-2026

Client: **Stantec Consulting Ltd. (Ottawa)**

Order Date: 24-Feb-2026

Client PO:

**Project Description: 121626297.300**

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	37.9	0.5	ug/L	39.4			3.7	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	0.72	0.5	ug/L	0.73			1.4	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>84.4</i>		%		<i>106</i>	<i>50-140</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>94.6</i>		%		<i>118</i>	<i>50-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>73.2</i>		%		<i>91.5</i>	<i>50-140</i>			
Benzene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
<i>Surrogate: Toluene-d8</i>	<i>73.2</i>		%		<i>91.5</i>	<i>50-140</i>			

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	1850	25	ug/L	ND	108	85-115			
F2 PHCs (C10-C16)	1580	100	ug/L	ND	108	60-140			
F3 PHCs (C16-C34)	4430	100	ug/L	ND	123	60-140			
F4 PHCs (C34-C50)	2640	100	ug/L	ND	116	60-140			
<b>Semi-Volatiles</b>									
Acenaphthene	5.37	0.05	ug/L	ND	107	50-140			
Acenaphthylene	4.87	0.05	ug/L	ND	97.3	50-140			
Anthracene	5.35	0.01	ug/L	ND	107	50-140			
Benzo [a] anthracene	4.93	0.01	ug/L	ND	98.6	50-140			
Benzo [a] pyrene	5.76	0.01	ug/L	ND	115	50-140			
Benzo [b] fluoranthene	4.97	0.05	ug/L	ND	99.5	50-140			
Benzo [g,h,i] perylene	5.56	0.05	ug/L	ND	111	50-140			
Benzo [k] fluoranthene	4.59	0.05	ug/L	ND	91.8	50-140			
Chrysene	5.07	0.05	ug/L	ND	101	50-140			
Dibenzo [a,h] anthracene	5.52	0.05	ug/L	ND	110	50-140			
Fluoranthene	5.32	0.01	ug/L	ND	106	50-140			
Fluorene	4.95	0.05	ug/L	ND	99.0	50-140			
Indeno [1,2,3-cd] pyrene	5.50	0.05	ug/L	ND	110	50-140			
1-Methylnaphthalene	5.20	0.05	ug/L	ND	104	50-140			
2-Methylnaphthalene	5.28	0.05	ug/L	ND	106	50-140			
Naphthalene	5.28	0.05	ug/L	ND	106	50-140			
Phenanthrene	5.20	0.05	ug/L	ND	104	50-140			
Pyrene	5.29	0.01	ug/L	ND	106	50-140			
Surrogate: 2-Fluorobiphenyl	20.2		%		101	50-140			
Surrogate: Terphenyl-d14	22.2		%		111	50-140			
<b>Volatiles</b>									
Acetone	117	5.0	ug/L	ND	117	50-140			
Benzene	50.6	0.5	ug/L	ND	126	60-130			
Bromodichloromethane	45.4	0.5	ug/L	ND	114	60-130			
Bromoform	39.0	0.5	ug/L	ND	97.5	60-130			

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Bromomethane	43.3	0.5	ug/L	ND	108	50-140			
Carbon Tetrachloride	38.7	0.2	ug/L	ND	96.8	60-130			
Chlorobenzene	38.5	0.5	ug/L	ND	96.2	60-130			
Chloroform	46.8	0.5	ug/L	ND	117	60-130			
Dibromochloromethane	31.6	0.5	ug/L	ND	79.1	60-130			
Dichlorodifluoromethane	42.6	1.0	ug/L	ND	107	50-140			
1,2-Dichlorobenzene	31.8	0.5	ug/L	ND	79.5	60-130			
1,3-Dichlorobenzene	31.3	0.5	ug/L	ND	78.3	60-130			
1,4-Dichlorobenzene	32.8	0.5	ug/L	ND	82.1	60-130			
1,1-Dichloroethane	52.0	0.5	ug/L	ND	130	60-130			
1,2-Dichloroethane	49.4	0.5	ug/L	ND	123	60-130			
1,1-Dichloroethylene	48.3	0.5	ug/L	ND	121	60-130			
cis-1,2-Dichloroethylene	43.1	0.5	ug/L	ND	108	60-130			
trans-1,2-Dichloroethylene	46.3	0.5	ug/L	ND	116	60-130			
1,2-Dichloropropane	49.3	0.5	ug/L	ND	123	60-130			
cis-1,3-Dichloropropylene	41.7	0.5	ug/L	ND	104	60-130			
trans-1,3-Dichloropropylene	49.9	0.5	ug/L	ND	125	60-130			
Ethylbenzene	42.0	0.5	ug/L	ND	105	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	33.6	0.2	ug/L	ND	84.0	60-130			
Hexane	42.8	1.0	ug/L	ND	107	60-130			
Methyl Ethyl Ketone (2-Butanone)	127	5.0	ug/L	ND	127	50-140			
Methyl Isobutyl Ketone	140	5.0	ug/L	ND	140	50-140			
Methyl tert-butyl ether	135	2.0	ug/L	ND	135	50-140			
Methylene Chloride	50.5	5.0	ug/L	ND	126	60-130			
Styrene	42.8	0.5	ug/L	ND	107	60-130			
1,1,1,2-Tetrachloroethane	36.9	0.5	ug/L	ND	92.2	60-130			
1,1,2,2-Tetrachloroethane	35.4	0.5	ug/L	ND	88.6	60-130			
Tetrachloroethylene	33.6	0.5	ug/L	ND	84.0	60-130			
Toluene	41.0	0.5	ug/L	ND	103	60-130			
1,1,1-Trichloroethane	45.3	0.5	ug/L	ND	113	60-130			
1,1,2-Trichloroethane	47.9	0.5	ug/L	ND	120	60-130			

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichloroethylene	43.4	0.5	ug/L	ND	108	60-130			
Trichlorofluoromethane	45.5	1.0	ug/L	ND	114	60-130			
Vinyl chloride	33.9	0.5	ug/L	ND	84.7	50-140			
m,p-Xylenes	87.0	0.5	ug/L	ND	109	60-130			
o-Xylene	44.3	0.5	ug/L	ND	111	60-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	76.3		%		95.4	50-140			
<i>Surrogate: Dibromofluoromethane</i>	84.5		%		106	50-140			
<i>Surrogate: Toluene-d8</i>	71.5		%		89.3	50-140			
Benzene	50.6	0.5	ug/L	ND	126	60-130			
Ethylbenzene	42.0	0.5	ug/L	ND	105	60-130			
Toluene	41.0	0.5	ug/L	ND	103	60-130			
m,p-Xylenes	87.0	0.5	ug/L	ND	109	60-130			
o-Xylene	44.3	0.5	ug/L	ND	111	60-130			
<i>Surrogate: Toluene-d8</i>	71.5		%		89.3	50-140			

Certificate of Analysis

Report Date: 25-Feb-2026

Client: **Stantec Consulting Ltd. (Ottawa)**

Order Date: 24-Feb-2026

Client PO:

**Project Description: 121626297.300**

**Qualifier Notes:**

**Login Qualifiers :**

Sample - Received with >5% sediment, directed by client to decant and analyze without sediment

Applies to Samples: MW25-01

**Sample Qualifiers :**

- 2: Sample decanted prior to analysis due to sediments.
- 3: Submitted VOC vials were decanted into a single vial prior to analysis due to the presence of sediments.

**Sample Data Revisions:**

None

Certificate of Analysis

Report Date: 25-Feb-2026

Client: Stantec Consulting Ltd. (Ottawa)

Order Date: 24-Feb-2026

Client PO:

Project Description: 121626297.300

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

*CCME PHC additional information:*

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



ent Blvd.  
K1G 4J8  
llabs.com  
.com

Parcel Order Number  
(Lab Use Only)  
**2609173**

Chain Of Custody  
(Lab Use Only)  
No **150732**

Client Name: **Stantec Consulting Ltd.** Project Ref: **121626297.300**  
 Contact Name: **Mandy Witteman** Quote #:  
 Address: **1331 Clyde, Ottawa, ON** PO #:  
 Telephone: **613-282-4487** E-mail: **mandy.witteman@stantec.com**

Page 1 of 1  
**Turnaround Time**  
 1 day  3 day  
 2 day  Regular  
 Date Required:

REG 153/04  REG 406/19  Other Regulation  
 Table 1  Agri/Other  Med/Fine  REG 558  PWQO  
 Table 2  Res/Park  Coarse  CCME  MISA  
 Table 3  Ind/Comm  SU - Sani  SU - Storm  
 Table \_\_\_\_\_  
 For RSC:  Yes  No  Other:

Matrix Type: **S** (Soil/Sed.) **GW** (Ground Water)  
**SW** (Surface Water) **SS** (Storm/Sanitary Sewer)  
**P** (Paint) **A** (Air) **O** (Other)

**Required Analysis**

Sample ID/Location Name	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken		PHCS F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CvI	B (HWE)	PHC - FI	BTEX
					Date	Time									
1 MW25-01	GW		5	No	23 Feb 2026	12:15	✓	✓							
2 MW26-06	GW		5	No	1	13:09	✓	✓							
3 QC-03	GW		4	No	1	-		✓	✓						
4 MW26-05	GW		5	No	26/2/24		✓	✓						✓	✓
5 Trip Blank	W		2	No	26/2/20		✓							✓	
6															
7															
8															
9															
10															

Comments:

Method of Delivery:  
**Walk-In**

Unless otherwise negotiated by the parties, by signing Paracel's Chain of Custody form, you are agreeing to Paracel Laboratories Terms and Conditions and are subject to the terms and conditions thereof. Available at www.paracellabs.com

Relinquished By (Sign): *[Signature]* Received at Depot: \_\_\_\_\_  
 Relinquished By (Print): **PRAGNA MYSORE Unwashed** Date/Time: \_\_\_\_\_  
 Date/Time: **24/2/24** Temperature: \_\_\_\_\_ °C  
 Received at Lab: \_\_\_\_\_ Date/Time: **Feb. 24 15:40** Verified By: *[Signature]*  
 Date/Time: \_\_\_\_\_ Temperature: **9.0** °C  
 pH Verified:  By: \_\_\_\_\_

## **Appendix E      Utility Locates**





multiVIEW Locates Inc  
 Phone: 1-800-363-3116  
 Fax: 1-866-571-5946  
 www.multiview.ca

**Primary  
 Locate  
 Report**

multiVIEW Locate Sheet 1 of 3  
 Project # WO-65619 | OTHER  
 Locate Valid for:  Excavation  Design

**A COPY OF THIS LOCATE REPORT MUST BE ON SITE AND IN POSSESSION OF THE MACHINE OPERATOR DURING EXCAVATION**

<b>REQUEST</b>	
Customer: Stantec Geomatics Ltd.	Site Address: 1900 Cyrville Road
Contact Name: Mandy Witteman	Phone: _____ City: Ottawa
Reference:	Type of Work: Private
Project Description: Private	

UTILITY	Gas	Electrical	Water	Sanitary Services	Storm Sewer	Communications	Other/Unknown
Status	C	C	C	M	M	C	C
Page #							

This table summarizes the **private property utilities** requested to be located. Any public utilities will be sent as separate documents if requested by the customer  
 \*Status M - Marked on site C - Clear for all locate areas NL - Not locatable (see Terms & Conditions) SP - See Page # NR - Not Requested

**NOTES/WARNINGS: CUSTOMER MUST OBTAIN PUBLIC UTILITY CLEARANCES PRIOR TO EXCAVATION**

Located buried private utilities within 5m of marked BH's  
 Do not drill more than 3m away from marked BH's  
 Do no drill within 2m of marked sewer lines.  
 Could not see all sewer pipes due to ice and snow in the catch basins.  
 Placed BH's in locations away from potential sewer conflicts from previous sewer information.

**CAUTION**

Hand dig within 3 metres of all terminal poles, splice pits + pad mounted equipment (transformers, etc)

- Exposed or damaged utilities must be immediately reported to multiVIEW @ 1-800-363-3116 and utility owner as soon as possible
- Each Locate Sketch is only valid for 30 days from the date of completion.
- The markings may disappear or be misplaced. Should sketch markings not coincide, a new stakeout must be obtained.
- Please read the warnings/terms/guidelines on the back of all individual utility locate forms attached
- The CLIENT must not work outside the indicated Locate Area without a new locate.

multiVIEW

2024 / J. H.  
Locator ID Initials

02/17/2026  
mm / dd / yyyy  
 Date

**Client Company Acknowledgments**

I have read fully and understand the Terms and Conditions shown on the reverse side of this form under which this information was provided. I further understand that this information is provided only for the convenience of the Client and does not relieve the Client for any claims or damages associated with subsequent activities and that multiVIEW shall not be liable for any amount in excess of the fees paid by the Client under any circumstances. I understand that this information does not substitute for an authorized location by the owners of any underground plant. multiVIEW Locates Inc. cannot locate underground facilities unless the Client provides direct physical access to each individual underground facility. In the event that a credit card has been taken for backup and payment has NOT been received within 10 business days of commencement of the field work, then the credit card will be charged. multiVIEW shall not be liable for any amount in excess of the the fees paid by the Client to multiVIEW for the Service on account of any loss, injury, death, or damage whether resulting directly or indirectly to a person or property irrespective of the cause or origin of such loss, injury, death or damage including, without limitation, loss, injury, death, or damage attributable to the negligence of multiVIEW, its employees and agents in the performance or nonperformance of the Service.

\_\_\_\_\_  
 Print name of client company representative

\_\_\_\_\_  
 Client company representative signature

Customer: Stantec Geomatics Ltd.

Marking Method:  Paint  Pin Flags  Wood Stakes  Marker/Crayon  Chalk  Other: \_\_\_\_\_

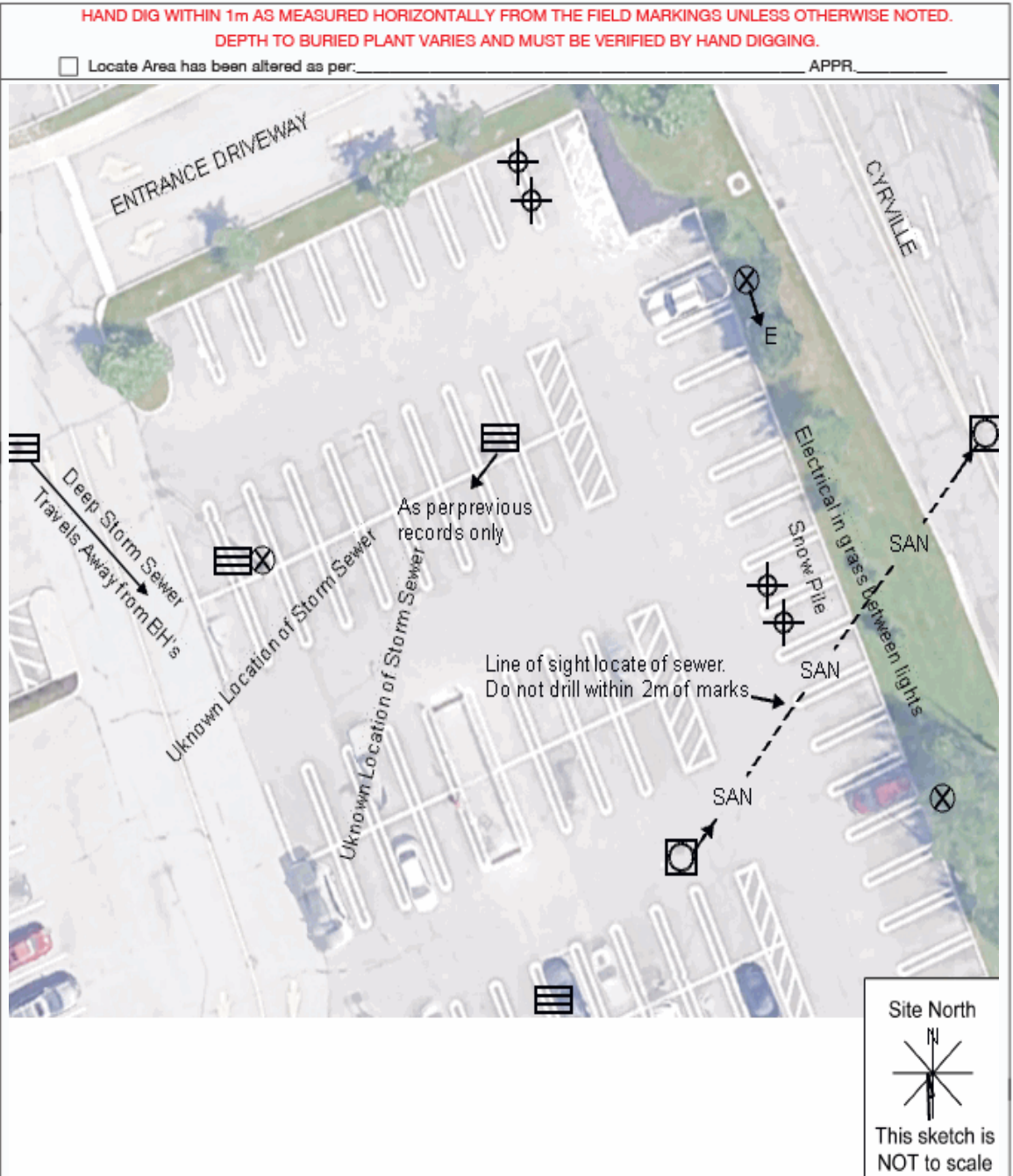
### LOCATE AREA

From: Within 5m of marked BH's	To:
From:	To:

LEGEND		
Feature	Symbol	Paint
Gas	- G -	Yellow
Electric	- E -	Red
Water	- W -	Blue
Sanitary Sewer	- SAN -	Green
Storm Sewer	- ST -	Green
Communications	- COMM -	Orange
Unknown	- ? -	Pink

DESIGN Only		
Gas Main	- GM -	Pink
Toronto Hydro	- H -	Pink
Traffic Lights	- TL -	Pink
Street Lights	- SL -	Pink
Bell	- BT -	Pink

Transformer	
Street Light	
Pole	
Hand Well	
Pedestal	
Hydrant	
Valve	
Valve Chamber	
Manhole	
Catch Basin	
Curb Line	- CL -
Building Line	- BL -
Fence Line	- X - X -
Sidewalk	- SW -
Centre Line	- C -
Railway	+ + + + +
Tree/Bush	
BH/Test Pit	



<input checked="" type="checkbox"/> Raining/Wet Ground	<input type="checkbox"/> Loose/Dirt Soil	<input checked="" type="checkbox"/> Snow Ice Covered	<input type="checkbox"/> Outline Mark & Fax	<input type="checkbox"/> Offsets Use
<input type="checkbox"/> Locate marks by measurement from maps	<input type="checkbox"/> Easement Present	<input type="checkbox"/> Buried utility maps provided		
<input checked="" type="checkbox"/> Drill within 3m radius of centre mark of proposed BH location (unless otherwise noted)	<input type="checkbox"/> Access NOT provided for proper locating			

Customer: Stantec Geomatics Ltd.

Marking Method:  Paint  Pin Flags  Wood Stakes  Marker/Crayon  Chalk  Other: \_\_\_\_\_

### LOCATE AREA

From: Within 5m of marked BH's	To:
From:	To:

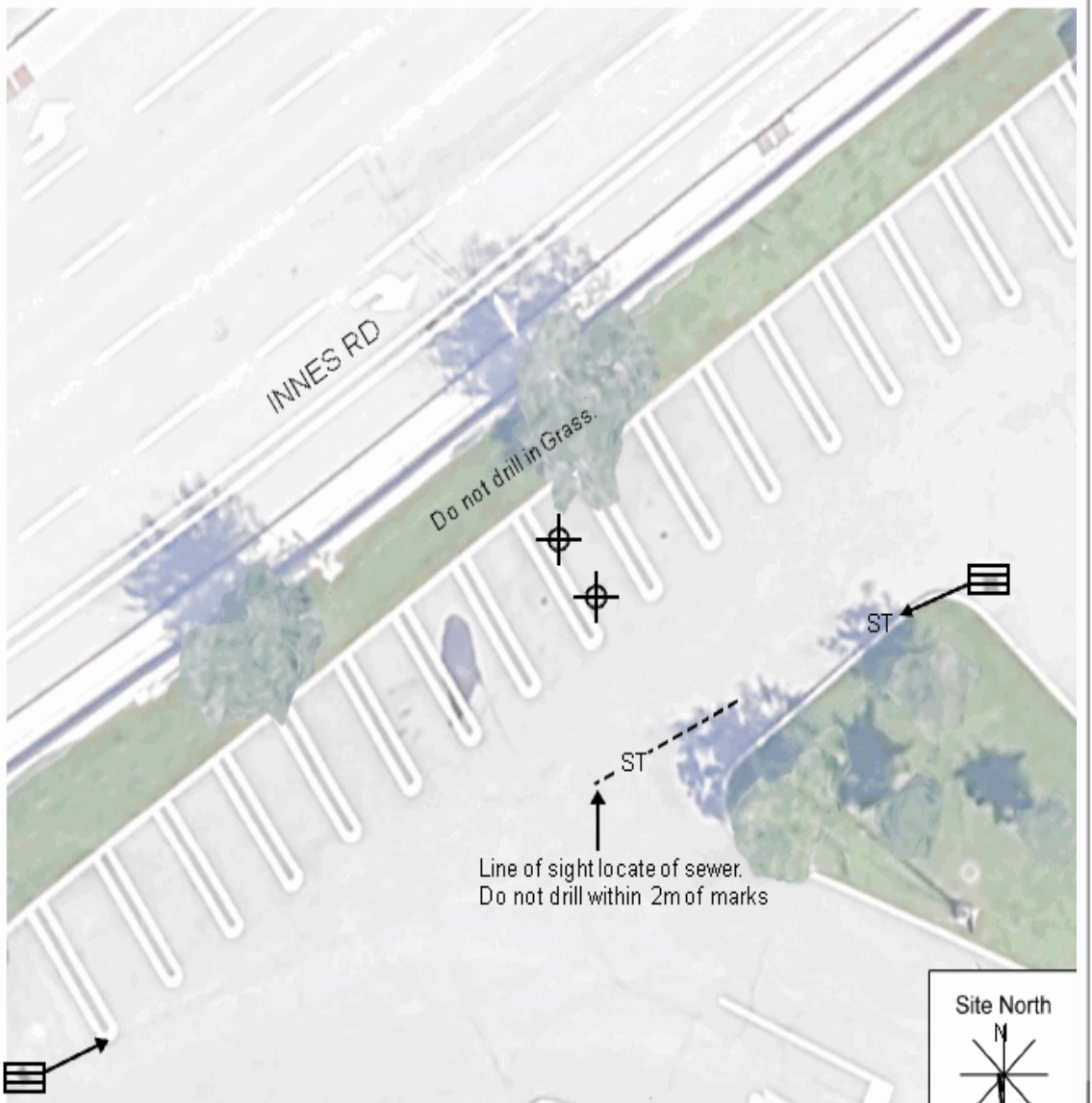
LEGEND		
Feature	Symbol	Paint
Gas	- G -	Yellow
Electric	- E -	Red
Water	- W -	Blue
Sanitary Sewer	- SAN -	Green
Storm Sewer	- ST -	Green
Communications	- COMM -	Orange
Unknown	- ? -	Pink

DESIGN Only		
Gas Main	- GM -	Pink
Toronto Hydro	- H -	Pink
Traffic Lights	- TL -	Pink
Street Lights	- SL -	Pink
Bell	- BT -	Pink

Transformer	
Street Light	
Pole	
Hand Well	
Pedestal	
Hydrant	
Valve	
Valve Chamber	
Manhole	
Catch Basin	
Curb Line	- CL -
Building Line	- BL -
Fence Line	- X - - X -
Sidewalk	- SW -
Centre Line	- C -
Railway	+ + + + +
Tree/Bush	
BH/Test Pit	

**HAND DIG WITHIN 1m AS MEASURED HORIZONTALLY FROM THE FIELD MARKINGS UNLESS OTHERWISE NOTED.  
 DEPTH TO BURIED PLANT VARIES AND MUST BE VERIFIED BY HAND DIGGING.**

Locate Area has been altered as per: \_\_\_\_\_ APPR. \_\_\_\_\_



Site North  
  
 This sketch is NOT to scale

- |  |  |   |   |                                      |
|--|--|---|---|--------------------------------------|
| <input checked="" type="checkbox"/> Raining/Wet Ground   | <input type="checkbox"/> Loose/Dirt Soil                         | <input checked="" type="checkbox"/> Snow Ice Covered  | <input type="checkbox"/> Outline Mark & Fax | <input type="checkbox"/> Offsets Use |
| <input type="checkbox"/> Locate marks by measurement from maps   | <input type="checkbox"/> Easement Present                        | <input type="checkbox"/> Buried utility maps provided |   |                                      |
| <input checked="" type="checkbox"/> Drill within 3m radius of centre mark of proposed BH location (unless otherwise noted) | <input type="checkbox"/> Access NOT provided for proper locating |   |   |                                      |

# Terms and Conditions for Field Services

## A. Technical Limitations

- A.1 The Client acknowledges that the laws of fundamental physics apply and do not enable multiVIEW Locates Inc (multiVIEW) locating equipment to detect all utilities, objects, features and structures or to provide all coordinates of the position thereof. Pipe, cable, conduit, utilities, objects, features or structures which are not detectable (i.e. not "Locatable") because of the laws of fundamental physics cannot be located by multiVIEW and are not the subject of the provision of the Service pursuant to this contract.
- A.2 The "Service" to be provided pursuant to this contract is the location, laterally and longitudinally, of Locatable Utilities, objects, features or structures and the subsequent marking of the site according to standard subsurface utility locating industry practice. The depth and/or 5128 of pipe, cable, conduits, utilities, objects, features and structures is Non-Locatable and is not part of the Service.
- A.3 Locatable buried utilities are normally defined as:
- (a) metallic pipes, cables and conduits which are capable of carrying an electrical current, are accessible for direct coupling or inductive coupling of an energizing current or naturally are actively carrying an identifiable electric current and such current is sufficiently large to be detectable by instruments according to the laws of fundamental physics;
  - (b) non-metallic pipes, cables and conduits which have continuous associated tracer wire capable of carrying an electric current, which is accessible for direct coupling of an energizing current or naturally are actively carrying an identifiable electric current and such current is sufficiently large to be detectable by instruments according to the laws of fundamental physics;
  - (c) As in A.3 (a) or (b) above, provided that the material either surrounding and/or enclosing and/or above the pipe, cable or conduit does not interfere with the energizing current and the operation of the locating instrument.
- A.4 It is the responsibility of the Client to identify and provide direct and simple access (including provision of licensed plumbing, electrical or confined space entry personnel if required) to any and all access points for any and all individual pipes, cables, conduits, etc to permit application of a current as detailed in section A.3. multiVIEW accepts no responsibility for locating any such lines where the Client does not provide access and/or appropriate workplace safety measures.
- A.5 "Non-Locatable Utilities" are defined as all utilities which are not locatable. Examples of Non-Locatable Utilities include, but are not limited to, the following:
- (a) pipes, cables and conduits whose depth of burial is too great and/or overlain by or in proximity to metallic material which results in signal distortion thus preventing physically measurable signals at the surface or where burial material interferes with current generation and signal emissions;
  - (b) normally locatable utilities as defined in section A.3 situated in, or emerging from, an area which is an Inaccessible Area (as defined in Section A.4 and A.10);
  - (c) normally locatable utilities as defined in section A.3 with a break or breaks to the electrical continuity of any metallic pipe, cable or tracer wire (i.e. segmented lengths, corroded connections, sections of plastic repair, etc.);
  - (d) non-metallic pipe, cable and conduits other than those described in Sections A.7, A.8 and A.9;
  - (e) individual pipes, cables and conduits in an area where there are Clustered Utilities (as defined in Section A.6)
- A.6 Specific pipes, cables, conduits, utilities, objects, features and structures are Non-Locatable where numerous pipes, cables, conduits, utilities, objects, features and structures are clustered together either vertically and/or horizontally ("Clustered Utilities").
- A.7 Non-metallic pipe and cable (i.e. fibre-optic systems, etc.) are Non-Locatable unless either an unbroken tracer wire or continuous metallic sheathing surrounding such buried plant is easily accessible from the surface. The Client must identify and provide all access as detailed in A.4.
- A.8 Non-metallic pipe and conduits (i.e. plastic, concrete, asbestos, clay, etc.) under pressure (i.e. water, gas, forcemain systems, etc.) are Non-Locatable unless an unbroken tracer wire is attached to the pipe and this tracer wire is easily accessible from the surface. The Client must identify and provide all access as detailed in A.4.
- A.9 Non-pressurized, non-metallic (i.e. plastic, concrete, asbestos, clay, etc.) conduits or pipe (i.e. sewers, drains, empty ducts, etc.) are Non-Locatable unless a transmitting sonde can be inserted throughout the full length of the pipe or conduit. The Client must identify and provide all access as detailed in A.4.
- A.10 Areas considered to be inaccessible (an "Inaccessible Area") for the Service include, but are not limited to, the following: those of physically restricted access; those covered by a structure or object (i.e. building walls, vehicles, equipment, debris, stockpiles of material or snow, etc.); those covered by open water; those covered by woods or vegetation too thick to permit easy walking; those with surface terrain slopes steeper than 1:3; and, those where the safety of the operator is jeopardized (i.e. unstable footing, environmental hazards, uncontrolled roads, etc.). The judgment of the multiVIEW operator will prevail on accessibility decisions. Inaccessible Areas will be marked on the sketch map of the work area.

## B. Limits on multiVIEW Liability

- B.1 Any information provided by multiVIEW regarding the location of underground utilities does not substitute for an authorized location by the owners of the underground facilities. The Service is provided to assist with excavation planning only. The Client is always responsible for obtaining sanctioned locates from the owners of underground plant such as hydroelectric, natural gas, telecommunications, cable TV, fibre-optics, water, sewer, oil, steam, etc. The Client must contact the utility owners directly, or their call-centre, to facilitate these locates.
- B.2 multiVIEW's marking of underground utilities is only for the convenience of the Client, and this does not relieve the Client, or any other person, or corporation, from liability for damages for personal injury including death, or for property damage or liability caused to or from any underground utility, within the area on the property where the underground utility and/or clearance was marked, or any other property, by reason of the Client, its representatives, or any other person, or corporation having relied upon the surface marking provided by multiVIEW.
- B.3 Cables carrying DC voltages and/or small diameter cables (i.e. fire alarm or security systems, remote signal cables, inaccessible tracer wire, perfectly balanced AC cables, etc.) can only be detected by direct connection methods. Where a sensitive or dangerous connection is involved, the Client must provide qualified personnel to isolate and enable direct access to these systems. The Client is responsible for defining the impact of locating signals on sensitive electronics. multiVIEW accepts no responsibility for any damage to plant, or any third party, caused by locating signals. Technical information about locating signals is available from multiVIEW upon request.
- B.4 multiVIEW is not liable for damages resulting from physical exposure of any underground utilities by the Client its representatives, their sub-contractors or any other person- or corporation
- B.5 multiVIEW accepts no responsibility and is not liable for damages suffered by any third party as a result of decisions or actions based on the performance of the Service or multiVIEW's failure to perform the Service.
- B.6 multiVIEW accepts no responsibility and is not liable for conduit blockage, or restoration of the site to pre-survey conditions, as a result of survey practices needed to fulfill the objectives of the Service provided.
- B.7 The Service completed by multiVIEW is based on information provided by the Client at or prior to the earlier of the time when the Service is described in this contract or the performance of the Service. The Service provided by multiVIEW regarding the location of any underground utility, object or structure, is on a best effort and best practices basis. The sketch map provided by multiVIEW to the Client at the time of the Service defines the extent of the area investigated.
- B.8 The Client agrees that excavation (defined as digging, drilling or disturbing the ground in any fashion) work required within a minimum of 1.0 metre (or greater if indicated by multiVIEW at the time of the Service) of the ground surface markings provided by multiVIEW will be completed by hand digging only. The Client acknowledges the risk of damage to underground utilities and structures and the possibility of resultant injury to persons, damage to property and businesses if the Client or its representatives or sub-contractors or any other person or corporation does not perform its covenant to excavate by hand digging only within a minimum of 1.0 metre (or greater if indicated by multiVIEW at the time of the Service) or the ground surface markings provided by multiVIEW.
- B.9 A re-mark of surficial markings placed on the site by multiVIEW must be obtained prior to any excavation, if:
- (a) markings become unclear, disappear, are disturbed or displaced;
  - (b) 30 days have elapsed since the Service was provided;
  - (c) the sketch and site markings do not coincide;
  - (d) the work location has changed;
  - (e) the nature of the work to be performed at the site has changed, or
  - (f) anything occurs which may indicate that a new or better or different locate service is needed.
- B.10 If the Client excavates outside the limit of the sketched map area or under any of the circumstances identified in Section B.9, multiVIEW accepts no responsibility.
- B.11 Except as written in this contract, multiVIEW disclaims any and all promises, representations, warranties and covenants, express, implied statutory or otherwise.
- B.12 The Client warrants that multiVIEW Locates Inc will not be liable for any claims for damages to any underground plant where multiVIEW Locates Inc was not notified of such damage within a reasonable time such that multiVIEW Locates Inc. can complete a damage investigation to physically view any such damaged underground plant whether or not any such damage may be attributed to errors or omissions committed by multiVIEW Locates Inc. In performing this work.
- B.13 multiVIEW shall not be liable for any amount in excess of the fees paid by the Client to multiVIEW for the Service on account of any loss, injury, death or damage whether resulting directly or indirectly to a person or property irrespective of the cause or origin of such loss, injury, death or damage including, without limitation, loss, injury, death or damage attributable to the negligence of multiVIEW, its employees and agents in the performance or nonperformance of the Service.

## C. Additional Limitations for Concrete Scanning Services

- C.1 An "Inaccessible Area" includes all issues as in Item A.10 above and also includes: working on concrete less than 6 months cured, those covered by terrazzo tile or any other flooring with wire mesh screed;
- C.2 The Client is aware that this service will only identify the approximate centre-line position of features that are in the plane of the scanned surface to an accuracy of  $\pm 5$  cm from the edges of the centre-line marking. multiVIEW will not accept any responsibility or liability for detecting features at angles to the scanned surface, which include dipping, spiralled or perpendicular targets.
- C.3 The limit of the areas scanned for 'locatable features' are defined by the outer limit of the markings as painted on site at the location of the work area as defined by the Client.