Phase Two Environmental Site Assessment - 2405 and 2419 Mer Bleue Road, Ottawa, Ontario

April 4, 2025

Prepared for:
Conseil des écoles publiques de l'Est de l'Ontario

Cambium Reference: 20361-003

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1.0 Executive Summary

Conseil des écoles publiques de l'Est de l'Ontario (Client) retained Cambium Inc. (Cambium) to complete a Phase Two Environmental Site Assessment (ESA) at 2405 and 2419 Mer Bleue Road in Ottawa, Ontario ('Site' or 'Phase Two Property'). The Phase Two ESA will be used to support a Site Plan Approval (SPA) application with the City of Ottawa and has been completed to meet the requirements of Ontario Regulation (O.Reg.) 153/04.

The roughly 3.61 ha Site is east of Mer Bleue Road and approximately 90 m south of the intersection of Mer Bleue Road and Renaud Road. The Site consists of a vacant residential dwelling and vacant undeveloped/vegetated land. A review of historical documents indicated that the first developed land use at the site was for residential purposes in approximately 1925. The Site is proposed to be redeveloped for institutional use.

The Phase One ESA identified eight potentially contaminating activities (PCAs), eight on-site and none off-site, within the Phase One study area. The on-site PCAs contributed to areas of potential environmental concern (APECs). The related contaminants of potential concern (COPCs) were petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), metals, hydride-forming metals, and other regulated parameters (ORPs) including hot water soluble boron (B-HWS), hexavalent chromium [Cr(VI)], mercury (Hg), cyanide, chloride, sodium, pH, electrical conductivity (EC), and sodium adsorption ratio (SAR). Potentially contaminated media was soil and groundwater.

A Phase Two ESA work program was developed to investigate COPCs in soil and groundwater. The Phase Two ESA included five boreholes, three of which were instrumented with groundwater monitoring wells.

Concentrations of COPCs in the analyzed soil samples met the applicable Table 6 Site Condition Standards (SCS) for residential, parkland, and institutional (RPI) land use, with the exception of EC, vanadium and/or cobalt concentrations in soil, as well as sodium and chloride concentrations in groundwater, as follows:

- Vanadium and cobalt in the soil sample collected from borehole BH114-25 (and its duplicate) which marginally exceeded the Table 6 SCS. Given that these soil samples were collected from the native silty clay, which is a marine clay deposit known to contain naturally elevated metals concentrations (Geofirma Engineering, 2023), the vanadium and cobalt exceedances are likely attributed to background soil concentrations. As such, it is Cambium's opinion that the reported vanadium and cobalt concentrations are naturally occurring and do not represent an environmental concern for the Site.
- EC in the soil samples collected from borehole BH114-25 (and its duplicate) and BH117-25, which exceeded the Table 6 SCS. The QP_{ESA} has determined that the above-noted exceedances are associated with a substance which has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon, and the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act.
- Soil pH was above the acceptable pH range for surface (≤1.5 mbgs) soil in samples collected from 0 to 0.8 mbgs at boreholes BH116-25 and BH117-25. These exceedances were vertically delineated by deeper soil samples (0.8 to 1.5 mbgs) at each location, which were within the acceptable pH range for surface soil. On-site sub-surface (>1.5 mbgs) soil samples were within the acceptable pH range. It is Cambium's opinion that the elevated pH levels are not representative of the entire Site and are localized to surficial soil in the vicinity of the former landscaping storage yard.

Concentrations of COPCs in the analyzed groundwater samples met the applicable Table 6 SCS, with the exception of the following:

- Chloride in the groundwater samples collected from BH113-25 and BH115-25, and sodium in the groundwater samples collected from BH113-25, BH114-25 and its duplicate sample exceeded the Table 6 SCS. The QP_{ESA} has determined that the above-noted exceedances are associated with a substance which has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the

exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon, and the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act.

Cambium recommends that the pH of the surficial soil at 2419 Mer Bleue Road should be tested and amended as directed by a landscape architect during Site development. However, no further environmental investigation is necessary at this time and a SPA application can be submitted for the Site.

2.0 Introduction

The Client retained Cambium to complete a Phase Two ESA at 2405 and 2419 Mer Bleue Road, Ottawa, Ontario. The Phase Two ESA was completed to meet the requirements of O.Reg. 153/04 and will be used to support a SPA application for the Site.

2.1 Site Description

The Site is east of Mer Bleue Road and approximately 90 m south of the intersection of Mer Bleue Road and Renaud Road. The municipal address is 2405 and 2419 Mer Bleue Road in Ottawa, Ontario. Site information and property owner information are summarized below.

The Phase Two Property location is shown on Figure 1. The Phase Two Property boundary is shown on Figure 2.

Site Identification Information

Municipal Address	2405 and 2419 Mer Bleue Road, Ottawa, Ontario
Historical Land Use	Residential and agricultural
Current Land Use	Residential
Future Land Use	Institutional
PIN	14563-1816 (LT) and 14563-0541 (LT)
Universal Transverse Mercator Coordinates*	Zone 18T 461,436 m E, 5,031,623 m N
Legal Description	Part 1 on 50R-3974 and 50R-29146, Part of Lot 4, Concession (Township of Cumberland), formerly Town of Orleans, now City of Ottawa; Regional Municipality of Ottawa-Carleton.
Site Area	≈3.61 ha (8.92 acre)

* The Universal Transverse Mercator measurements were obtained from Google Earth Pro.

2.2 Property Ownership

Property Owner	Contact Information
Conseil des écoles publiques de l'Est de l'Ontario 2445 St. Laurent Boulevard, Ottawa, Ontario K1G 6C3	Omar Ben Hadda Construction Project Manager Email: omar.ben@cepeo.on.ca

2.3 Current and Proposed Future Uses

The Site is developed with one building that is currently a vacant residential building. The Site is proposed to be redeveloped for institutional use.

2.4 Applicable Site Condition Standards

The *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MOECC, 2011) were used to determine the applicable SCS for the Site. The following site characteristics were considered when choosing which standards should be applied:

- The proposed future use of the Site is institutional use.
- The area being investigated is not within 30 m of a water body as defined in O.Reg. 153/04. As such, Section 43.1 of O.Reg. 153/04 does not apply to the Site.
- For a property to be considered non-potable groundwater, all properties within 250 m of the property must be supplied by a municipal drinking water system that does not obtain its water from a groundwater source. The Site is in an area that is supplied by a municipal water supply, however the Ministry Water Well Information System identified two records for on-site water wells and nine water well records within the Phase One study area used or intended for use as a source of water for human consumption or agriculture, therefore potable standards apply to the Site.

- The property is not located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.
- The stratigraphy consisted of a surficial layer of native sand with trace gravel overlying clay at depths of 0.3 to 0.6 m below ground surface (mbgs). Bedrock was not encountered within the maximum drilled depth of 3.1 mbgs. Water well records within the Phase One study area identified bedrock at depths of approximately 25 to 40 mbgs. Based on grain size analysis and field observations, SCS for medium/fine-grained soil were considered appropriate.
- The average depth to groundwater was less than 3 mbgs; therefore, the SCS for shallow soil were considered applicable to account for potential decreased biodegradation and groundwater dilution and increased vapour to indoor air migration.
- No area of natural significance, as defined in Section 1 of O.Reg. 153/04, is in whole or in part within the Phase Two study area. Two on-site shallow soil samples (0 to 0.8 mbgs) were marginally above the acceptable pH range (pH 5 – pH 9) for surface soil (≤1.5 mbgs); however, deeper surface soil samples (0.8 to 1.5 mbgs) submitted at each location, were within the acceptable range for surface soil. On-site sub-surface (>1.5 mbgs) soil samples were within the acceptable pH range. It is Cambium's opinion that the elevated pH levels are not representative of the entire Site and were localized to surficial soil in the vicinity of the former landscaping storage yard. As such, the Site is not environmentally sensitive as per Section 41 of O.Reg. 153/04.

Based on the above information, the applicable SCS for the Site were the Table 6 *Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition*. Institutional property use and medium/fine soil texture were selected to determine concentration exceedances for the analyzed parameters.

2.5 General Objectives

The general objectives of the Phase Two ESA were to determine the location and concentration of contaminants in the soil or water on, in or under the Phase Two Property; and subsequently determine if the SCS for contaminants on, in or under the Phase Two Property were met. These objectives were achieved by developing an understanding of the geological and hydrogeological conditions at the Phase Two Property and conducting field investigations for the identified COPCs. The Phase Two ESA included a soil and groundwater investigation.

3.0 Background Information

3.1 Physical Setting

Review of a topographic map (MNRF, 2024) indicates that the Site and surrounding area is generally level with a gentle slope down to the northeast toward a stormwater management pond (Summerside West Pond) which flows into a tributary of McKinnon's Creek.

The Site is within a physiographic region characterized by clay plains (Chapman & Putnam, 1984). In the general area, the overburden is silt and clay, minor sand and gravel (OGS, 2010). The soils overlie shale, limestone, dolostone, and/or siltstone of the Ottawa Group; Simcoe Group and Shadow Lake formations (OGS, 2007).

The closest water body to the Site is a tributary of McKinnon's Creek, about 660 m northeast of the Site, which flows southeast, into Bear Brook and the South Nation River. The provincially significant wetland, Mer Bleue Bog, is located 1950 m south of the Site. No provincially significant wetlands are within 250 m of the Site. No areas of natural or scientific interest, adjacent to, or within 30 m of the Site, were identified by the Ministry of Natural Resources (MNR, 2025).

The Phase One study area is primarily municipally serviced for drinking water. No drinking water wells were observed at the Site. However, records identified that a water supply well was installed at the Site in 1972. The Phase One study area is not within a well-head protection area. The City of Ottawa obtains drinking water from the Ottawa River.

A search of the Ministry Water Well Information System by ERIS identified two records for on-site water wells and nine water well records within the Phase One study area, ranging from about 15 m to 25 m from the Site. The stratigraphy, depth to bedrock, and depth to water table indicated on these well records were reviewed and incorporated throughout this report. Nine of the records identified wells used for domestic water supply, the nearest being about 15 m north of the Site.

4.0 Scope of the Investigation

4.1 Overview of the Site Investigation

The proposed scope of work for the Phase Two ESA was based on the requirements of O.Reg. 153/04 and the findings of the Phase One ESA. Soil and groundwater samples were submitted to Paracel Laboratories Ltd. (Paracel), an accredited analytical laboratory located in Ottawa, Ontario. The Phase Two ESA was subject to a Quality Assurance/Quality Control (QA/QC) program, including analysis of blind duplicate soil and groundwater samples and trip blanks.

Cambium coordinated all subcontractors required to complete the work, including utility locators, a licensed well drilling contractor, and the laboratory. Prior to conducting field work, Cambium prepared a Health and Safety Plan (HASP) tailored to the known and possible on-site contaminants, physical site hazards, and the type of work to be conducted. Included in the HASP was a detailed map showing the transportation route to the nearest hospital, emergency contact numbers, and other pertinent information required for work on potentially contaminated sites. All persons entering the Site, as contractors or otherwise, were required to review and sign the HASP prior to their admission.

Cambium arranged for underground services to be located and marked by public and private utility companies prior to starting intrusive investigations. The proposed borehole locations were clear of utilities.

A sampling and analysis plan (SAP) was prepared to address the identified APECs and is included in Appendix A.

4.2 Media Investigated

The Phase Two ESA investigated soil and groundwater. As no water bodies exist on the Site, surface water and sediment sampling were not applicable. Soil quality at the Site was investigated through drilling and soil sampling. Monitoring wells were installed in three of the drilled boreholes for groundwater sampling.

4.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model (CSM) is required to assist the Qualified Person (QP) in illustrating the results of the Phase One ESA and to provide a basis for further work, if required. The Phase One CSM Study Area is shown on Figure 2. The Phase One CSM Site Plan is shown on Figure 3. The following descriptions and discussion supplement the figures and together comprise the CSM.

4.3.1 Site Description

The roughly 3.61 ha Site is east of Mer Bleue Road and approximately 90 m south of the intersection of Mer Bleue Road and Renaud Road in Ottawa, Ontario. The municipal address is 2405 and 2419 Mer Bleue Road. The PINs for the Site are 14563-1816 (LT) and 14563-0541 (LT); and the legal description is Part 1 on 50R-3974 and 50R-29146, Part of Lot 4, Concession (Township of Cumberland), formerly Town of Orleans, now City of Ottawa; Regional Municipality of Ottawa-Carleton. The Universal Transverse Mercator coordinates for the Site are Zone 18T, 461436 m E, 5031623 m N.

Property use surrounding the Site is as follows.

North – Residential

South – Residential

East – Land under development, residential and parkland

West – Residential, vacant undeveloped land and commercial

4.3.2 Existing Buildings and Structures

There was one vacant residential building on the west-central portion of the Site. The building was reportedly constructed in the early 1970s.

4.3.3 Water Bodies and Areas of Natural Significance

The closest water body to the Site is a tributary of McKinnon's Creek, about 660 m northeast of the Site, which flows southeast into Bear Brook, which flows east into the South Nation River. The provincially significant wetland, Mer Bleue Bog, is located 1950 m south of the Site.

Based on the topography, the drainage flow pattern of the surrounding area, and the distance and direction of these waterbodies, the regional groundwater flow direction is inferred to be southeast.

The following were reviewed to identify if the Site includes, is adjacent to, or is within 30 m of an area of natural significance:

1. The study area does not include areas reserved or set apart as a provincial park or conservation reserve (Ontario, 2023).
2. No provincially significant wetlands, nor areas of natural or scientific interest, adjacent to, or within 30 m of the Site, were identified by the Ministry of Natural Resources (MNR, 2025).
3. The Site does not include areas designated as a wilderness area (MNRF, 2024)
4. The Natural Heritage Information Centre (NHIC) identified the potential presence of habitat within the 1 km grid overlapping the Site for the following threatened or endangered species (MNR, 2025).
   - Eastern Meadowlark (*Sturnella magna)* – threatened

The Site is located in an urban area surrounded by residential homes, community and commercial buildings, the majority of greenspaces are landscaped grass or manicured gardens; therefore, there are no potential habitats of the identified species at risk within the Phase One study area.

Based on this review, the Phase One study area is not considered an area of natural significance as defined in Section 1 of O.Reg. 153/04.

4.3.4 Drinking Water Wells

The Phase One study area is municipally serviced for drinking water. No drinking water wells were observed on the Site and no records of drinking water wells at the Site were identified by the records review, with the exception of a historical water supply well installed on-site in 1972. At the time of Cambium's site visit, the Site was serviced by municipal services and the drinking water well was no longer in use. The Phase One study area is not within a well-head protection area. The City of Ottawa obtains drinking water from the Ottawa River.

A search of the Ministry Water Well Information System by ERIS identified nine water well records within the Phase One study area, ranging from about 15 m to 25 m from the Site. The wells were identified as domestic water supply.

Stratigraphy recorded in the well records for the on-site wells was generally clay overlying gravel at about 29 mbgs, with bedrock at about 35 mbgs. Stratigraphy in the off-site wells within 100 m of the Site was generally surficial sand overlying clay with bedrock at 26 to 31 mbgs.

4.3.5 Potentially Contaminating Activities

Cambium reviewed information available for the Phase One study area to identify environmental issues normally assessed in a Phase One ESA. Ten PCAs were identified within the Phase One study area, consisting of ten on-site and no off-site PCAs. Refer to Table 1 for further description of the PCAs, and Figure 2 for PCA locations.

The following PCAs contribute to APECs:

PCA 1 – On-site – fill material of unknown quality

PCA 2 – On-site – a former 1,360 L gasoline AST

PCA 3 – On-site – a former 2,200 L diesel AST

PCA 4 – On-site – former automotive repair/servicing operations

PCA 5 – On-site – previous subsurface investigations at the Site identified soil impacts at the Site (i.e., SAR, EC and B-HWS (available))

PCA 6 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

PCA 7 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

PCA 8 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride, sodium, and PAHs [benzo(a)pyrene, chrysene and fluoranthene])

4.3.6 Areas of Potential Environmental Concern

The APECs are summarized below. Refer to Table 2 for further descriptions of the APECs, and Figure 3 for APEC locations.

APEC 1 – South portion of the Site, associated with PCA 1, fill of unknown quality.

APEC 2 – South portion of the Site, associated with PCA 2, a former 1,360 L gasoline AST

APEC 3 – South portion of the Site, associated with PCA 3, a former 2,200 L diesel AST

APEC 4 – South portion of the Site, associated with PCA 4, former automotive repair/servicing operations

APEC 5 – South portion of the Site, associated with PCA 5, previous subsurface investigations at the Site identified soil impacts at the Site (i.e., SAR, EC and B-HWS)

APEC 6 – Central portion of the Site, associated with PCA 6, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

APEC 7 – Central portion of the Site, associated with PCA 7, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

APEC 8 – South-central portion of the Site, associated with PCA 8, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride, sodium and PAHs [benzo(a)pyrene, chrysene and fluoranthene])

4.3.7 Contaminants of Potential Concern

COPCs were identified for each PCA contributing to an APEC. The COPCs specific to each APEC are summarized in Table 2. PHCs, VOCs, BTEX, PAHs, metals, hydride-forming metals, and ORPs including B-HWS, Cr(VI), Hg, cyanide, chloride, sodium, pH, EC, and SAR were identified as COPCs related to the current and historical on-site PCAs.

4.3.8 Contaminant Distribution and Transport

Various underground utilities (i.e., natural gas, electricity, and communications) were identified under the Site. Contaminant distribution and transport may be influenced by the presence of utility trenches that were historically present on the Site.

No specific climatic or meteorological conditions were observed that may influence the distribution or migration of contaminants.

4.3.9 Geological and Hydrogeological Setting

Review of a topographic map (MNRF, 2024) indicates that the Site and surrounding area generally slopes down to the northeast toward a tributary of McKinnon's Creek to the northeast and flows east.

The Site is within a physiographic region characterized by clay plains (Chapman & Putnam, 1984). In the general area, the overburden is silt and clay, minor sand and gravel (OGS, 2010). The soils overlie shale, limestone, dolostone, and/or siltstone of the Ottawa Group; Simcoe Group and Shadow Lake formations (OGS, 2007).

Gemtec identified the following soil profile at the Site during a Phase ll ESA (Gemtec, 2018):

- Stratigraphy at the Site consists primarily of silty clay to 10.37 mbgs, with the exception of fill material (silty sand, gravel and asphalt) observed in BH-18-1, BH-18-2, BH-18-3 and BH-18-4 to a depth ranging between approximately 0.61 m and 1.37 mbgs.

Groundwater measurements collected at the Site ranged between 0.31 m (BH-19-6) and 1.99 mbgs (BH-18-3).

4.3.10 Uncertainty or Absence of Information

All aspects of the Phase One ESA were conducted consistent with O.Reg. 153/04, and as such, the Site was investigated thoroughly. As access to the entire Site was possible, and adequate historical information was available through the interviewee's, records review, and FOI requests, uncertainty or absence of information is not expected to result in environmental concerns at the Site.

4.4 Deviations From Sampling and Analysis Plan

No deviations were made from the Sampling and Analysis Plan for the Phase Two ESA, except for limited sample volume for groundwater from BH113-25 and BH114-25 due to slow groundwater recharge at those wells. As a result, the reportable detection limit for one PAH parameter (benzo[a]pyrene) was raised to 0.02 ug/L, which was above the Table 6 standard of 0.01 ug/L. There were no detectable concentrations of PAHs in groundwater at the Site. The raised detection limit does not change the conclusion this analysis.

4.5 Impediments

No physical impediments or denial of access were encountered during the Phase Two ESA.

5.0 Investigation Method

5.1 General

The following sections provide a detailed description of the subsurface investigations. Soil and groundwater samples were analyzed for one or more of PHCs, VOCs, BTEX, PAHs, metals, hydride-forming metals, and ORPs including B-HWS, Cr(VI), Hg, cyanide, chloride, sodium, pH, EC, and SAR.

As indicated in Section 2.4, based on the site characteristics as well as the proposed future use of the Site, the applicable standards for the Site are Table 6 SCS. Institutional property use and medium/fine soil texture were selected to identify analyzed parameters present on the Site at concentrations exceeding the SCS.

5.2 Soil: Drilling

The drilling investigation was completed on January 7, 2025. Strata Drilling Group (Strata) advanced five boreholes into overburden to a maximum depth of 3.1 mbgs. Borehole locations are shown on Figure 4.

5.3 Soil: Sampling

During the drilling program, soil samples were collected continuously. Each sample was handled solely by the Cambium field technician using dedicated nitrile gloves to reduce the potential for cross-contamination.

Soil samples were logged for soil type, moisture content, presence of odour, and signs of impacts such as staining, consistent with standard geotechnical and environmental soil descriptions and nomenclature. The samples were divided on-site, a portion was placed in dedicated sample jars for submission to the laboratory, with the remainder placed in sealed plastic sample bags and used to screen for combustible and/or organic vapours present in the soil headspace. The field screening observations were used to determine which samples to submit for laboratory analysis. Samples to be submitted for analysis of volatile parameters

were collected applying the appropriate techniques, as per O.Reg. 153/04 (i.e., pre-calibrated syringe sampler and methanol preserved vial).

5.4 Field Screening Measurements

Olfactory and visual observations of the soil samples were documented immediately upon extraction for soil characteristics and potential indicators of environmental contamination. Soil samples were screened using an RKI Eagle 2 portable gas detector for concentrations of combustible soil vapour (CSV) and organic vapour (OV), calibrated to hexane and isobutylene, respectively. After agitating the sample, the peak reading was recorded by inserting the meter probe into the sample bag. Refer to the borehole logs in Appendix B for the recorded vapour readings.

5.5 Groundwater: Monitoring Well Installation

Monitoring wells were installed in three of the boreholes (i.e., BH113-25, BH114-25 and BH115-25) and were constructed using 50 mm inner diameter, flush threaded PVC well pipe with a section of screen at the base of the well. The annular space was filled with washed silica sand filter pack to 0.3 m above the top of the screen and the wells were completed with bentonite (seal) and native soil cuttings to at least 0.3 mbgs. The monitoring wells were completed with monument steel protective covers. Borehole logs illustrating the monitoring well installation details are included in Appendix B. Monitoring wells were installed such that the well screen intersected the surface of the shallowest water-bearing unit identified during drilling.

Following installation of each monitoring well, a minimum of three well volumes of groundwater, if present, was purged to remove sediment from the well, stabilize and grade the filter pack, improve connectivity between the well and the formation, and restore groundwater that may have been disturbed during the drilling process. Each groundwater monitoring well was purged using dedicated polyethylene tubing and an inertial lift foot valve. The volume of water to be purged from each well was calculated on-site during the monitoring events using the measured water levels and the well diameter.

5.6 Groundwater: Sampling

Groundwater sampling was conducted on January 24, 2025, consistent with O.Reg. 153/04 under the supervision of a QP.

Prior to sampling, the static water level was recorded at each of the monitoring wells using an interface probe, which can accurately measure the depth to groundwater and the thickness of dense and light non-aqueous phase liquids (DNAPL & LNAPL).

Groundwater samples were collected using a peristaltic pump, with dedicated tubing installed in each of the monitoring wells. The peristaltic pump reduces the amount of sediment entrained in the collected groundwater samples, as agitation of the water column is kept to a minimum by lowering the pumping rate and limiting the movement of the tubing in the water column. Water quality parameters were measured using a flow-through cell and allowed to stabilize prior to sample collection, to ensure samples were representative of the surrounding groundwater aquifer. Groundwater samples submitted for analysis of metals were field-filtered.

Technicians wore nitrile gloves while collecting the groundwater samples and replaced the glove set between each sample location.

5.7 Analytical Testing

All samples potentially requiring laboratory analysis were placed in a cooler and kept at less than 10°C for transport to the laboratory.

Samples were submitted for analysis of one or more of the COPCs. The analytical results are discussed in Section 6.0 and copies of the laboratory Certificates of Analysis as received from the analytical laboratory are included in Appendix C. The following samples were submitted for analysis.

- Based on field observations and screening, the following soil samples were submitted for analysis:
    - Three samples for BTEX and PHCs
    - Three samples for VOCs

- Three samples for PAHs
- Two samples for boron
- Three samples for metals, hydride-forming metals, B-HWS, cyanide-, Cr(VI), mercury, EC, SAR
- Five samples for pH
- Two samples for grain-size analysis

- The following groundwater samples were submitted for analysis:
  - Three samples for BTEX and PHCs
  - Three samples for VOCs
  - Three samples for PAHs
  - Three samples for metals, hydride-forming metals, cyanide-, chloride, Cr(VI), mercury, , sodium, pH
- One water trip blank was submitted for analysis of VOCs.

5.8 Residue Management Procedures

Soil cuttings from the drilling program, and purge water from well development, were placed in drums and left on-site for later disposal.

5.9 Elevation Surveying

Ground surface and top of pipe elevations were surveyed at the boreholes and monitoring wells. Elevations were determined relative to the top nut on the fire hydrant adjacent to the Site, as illustrated and described in the notes on Figure 4.

5.10 Quality Assurance and Quality Control Measures

As part of the QA/QC program, blind duplicate soil and groundwater samples were submitted at a rate of one duplicate sample for every ten samples analyzed. Blind duplicate samples

were collected at the same time as the parent sample and placed into a separate container; split sampling methodology was used to ensure that the sampling was completed using the same method for both parent and duplicate samples. Refer to Section 6.8 for the results of the QA/QC program.

A trip blank was prepared by the laboratory and submitted for analysis of VOCs together with the groundwater samples. A trip blank is a sample of laboratory grade water that has negligible or immeasurable amounts of the substance of interest, and is transported to and from the sampling location, and carried through the entire sampling and analytical process.

Equipment and tools used to obtain soil samples were cleaned with Alconox© and rinsed with distilled water before the collection of each sample. Technicians wore dedicated nitrile gloves, which were replaced for each sample.

6.0 Review and Evaluation

6.1 Geology

The physiography and geology of the Site has been discussed previously in Section 3.1 and a detailed description of the subsurface soils can be found on the borehole logs in Appendix B. These logs present detailed descriptions of the soils and their associated characteristics to the maximum depth of investigation. Borehole and monitoring well locations are shown on Figure 4.

The stratigraphy consisted of native sand with trace gravel overlying clay and trace silt. Bedrock was not reached on-site to a maximum depth of investigation of 1.5 mbgs. Based on a review of nearby well records, bedrock is presumed to be at approximately between 25 and 30 mbgs.

6.2 Groundwater: Elevations and Flow Direction

To determine the relative groundwater elevation, the horizontal gradient, and the groundwater flow direction, water level measurements were recorded on January 24, 2025, as summarized in Table 3. Groundwater depth ranged from 0.97 mbgs to 1.42 mbgs. Groundwater flow was to the southeast as shown on Figure 4.

Groundwater flow direction can be influenced by seasonal fluctuation, utility services, and other subsurface features and can only be confirmed with long term monitoring.

6.3 Groundwater: Hydraulic Gradients and Conductivity

The horizontal hydraulic gradient was 0.006 m/m based on groundwater levels measured on January 24, 2025.

Based on the predominant soil type in the saturated zone (clay) observed during the field investigation, subsurface hydraulic conductivity in the shallow water-bearing sand and silt layer likely ranges from 1×10^{-12} to 1×10^{-9} m/s (Cherry & Freeze, 1979).

6.4 Medium/fine Soil Texture

Soil samples were collected from two soil units identified at the Site. The lower and upper unit were medium/fine-textured, based on grain size results. The laboratory certificates of analysis for the grain size analyses are included in Appendix C.

6.5 Soil: Field Screening

Refer to the detailed borehole logs included with this report as Appendix B for the results of field soil screening. Minor measurable CSV was detected in soil samples from BH114-25 from 1.5 to 2.3 mbgs, with a maximum concentration of 30 ppm. No measurable OV was detected in the soil samples.

6.6 Soil Quality

A general discussion of the submission and analysis of soil samples obtained during the subsurface investigation was presented Section 5.7.

Samples were submitted for analysis of one or more of the following: PHCs, VOCs, BTEX, PAHs, metals, hydride-forming metals, and ORPs including B-HWS, Cr(VI), Hg, cyanide, chloride, sodium, pH, EC, and SAR Soil analysis results are presented in Table 4. Laboratory Certificates of Analysis are included in Appendix C. The soil sampling locations are shown on Figure 4 and Figure 6..

6.6.1 BTEX and PHCs

Two soil samples and one duplicate sample were submitted for analysis of BTEX and PHCs. Concentrations were less than the Table 6 SCS in the analyzed soil samples.

6.6.2 VOCs

Two soil samples and one duplicate sample were submitted for analysis of VOCs. Concentrations were less than the Table 6 SCS in the analyzed soil samples.

6.6.3 PAHs

Two soil samples and one duplicate sample were submitted for analysis of PAHs. Concentrations were less than the Table 6 SCS in the analyzed soil samples, as shown on Figure 6.

6.6.4 Metals and ORPs, and pH

Two soil samples and one duplicate sample were submitted for analysis of metals, hydride-forming metals, B-HWS, Cr(VI), Hg, cyanide, pH, EC, and SAR. Concentrations were less than the Table 6 SCS in the analyzed soil samples, with the exception of the following:

BH114-25 (1.5-2.3 mbgs) – EC, vanadium and cobalt.

BH117-25 (0.0-0.8 mbgs) – EC.

QA/QC (1.5-2.3 mbgs) – EC, vanadium and cobalt.

Based on the above-noted EC exceedances, it is likely associated with the application of road salt at the Site. The QP_{ESA} has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon.

The vanadium and/or cobalt concentrations in BH114-25 and QA/QC marginally exceeded the Table 6 SCS.

Within the former Champlain Sea basin which includes Ottawa and a large portion of eastern Ontario and Western Quebec, including the Site, fine-grained Champlain Sea sediments are present which have documented naturally occurring metals concentrations exceeding several of the O.Reg. 153/04 SCS. Geofirma Engineering published a report entitled, "Background Metals in Champlain Sea Sediments: Updates from 2019 Drilling and Sampling Program" (Geofirma Engineering, 2023), which detailed work completed in 2017 and 2019 across the Ottawa region on this issue. Champlain Sea Clays from across the region were tested, and it was determined that average concentrations of barium, chromium, cobalt, and vanadium exceeded O.Reg. 153/04 Table 1 SCS. From conducting statistical analysis of the data, this report generated proposed region-specific background values for these four metals in line with

actual analytical data. Cambium noted that all samples with metals exceedances were fine grained clays, assumed to be Champlain Sea Clay, and as such has included Embedded Table 1 below comparing the Table 6 RPI metals exceedances noted at the Site with the proposed geo-regional values in order to illustrate that the concentrations measured generally align with known region-specific background values for these metals.

Embedded Table 1 Exceedances compared to region-specific background values

Borehole	Metals with Exceedances	Table 6 RPI SCS (ug/g)	Measured Concentration (ug/g)	Updated (2019) Proposed Region-Specific Background Values (ug/g)
BH114-25	Cobalt	22	23.3	28
	Vanadium	86	92.2	122
QA/QC	Cobalt	22	25.7	28
	Vanadium	86	94.2	122

As shown in the Embedded Table 1 above, all concentrations of vanadium and cobalt which were found to exceed Table 6 RPI SCS, meet the proposed region-specific background values. As such, it is Cambium's opinion that the reported vanadium and cobalt concentrations are naturally occurring and do not represent an environmental concern for the Site.

Furthermore, five samples were analyzed for pH. On-site soil pH was within the acceptable ranges for surface (≤1.5 mbgs) and sub-surface (>1.5 mbgs) soil, with the exception of the following:

- BH116-25 (0.0-0.8 mbgs) – 9.61 pH units vs. 9.00 pH units.
- BH117-25 (0.0-0.8 mbgs) – 9.01 pH units vs. 9.00 pH units.

Cambium submitted soil samples from BH114-25 and BH117-25 directly below the above-noted exceedances (i.e., 0.8-1.5 mbgs) and the on-site soil pH was within the acceptable range (i.e., 7.57 pH units and 7.32 pH units, respectively). Based on the above-noted information, it is Cambium's opinion that the former on-site landscaping operations included the storage of crushed limestone which can result in elevated pH concentrations and the pH concentration is localized to surficial soil in this area. As such, the Site is not environmentally

sensitive as per Section 41 of O.Reg. 153/04. Cambium compared the soil and groundwater results to O.Reg. Table 1, which would be applicable if this was an environmentally sensitive site, and found no additional exceedances of the SCS except for barium and chromium at concentrations consistent with Champlain Sea Clays.

6.7 Groundwater Quality

A general discussion of the submission and analysis of groundwater samples obtained during the investigation was presented in Section 5.7.

Groundwater samples were collected from three monitoring wells. Samples were submitted for analysis of one or more of the following: PHCs, VOCs including BTEX, PAHs, metals, hydride-forming metals, and ORPs including Cr(VI), Hg, cyanide, chloride, sodium and pH. Groundwater analysis results are presented in Table 5. Laboratory Certificates of Analysis are included in Appendix C. The groundwater sampling locations are shown on Figure 4.

6.7.1 BTEX and PHCs

Three groundwater samples and two duplicate samples were submitted for analysis of BTEX and PHCs. Concentrations were less than the Table 6 SCS in the analyzed groundwater samples.

6.7.2 VOCs

Three groundwater samples and two duplicate samples were submitted for analysis of VOCs. Concentrations were less than the Table 6 SCS in the analyzed groundwater samples.

6.7.3 PAHs

Three groundwater samples were submitted for analysis of PAHs. There were no detectable concentrations of PAHs in the analyzed groundwater samples. Due to limited sample volume from two of the groundwater wells, the reportable detection limit (RDL) for benzo(a)pyrene (i.e., 0.02 ug/L) is above the Table 6 SCS criteria (i.e., 0.01 ug/L) for BH113-25 and BH114-25. It is Cambium's opinion that the above-noted concentrations are not considered to be groundwater impacts at the Site and no additional work is warranted at this time.

6.7.4 Metals and ORPs

Three groundwater samples and one duplicate sample were submitted for analysis of metals, hydride-forming metals, chloride, Cr(VI), cyanide, mercury, and sodium. Concentrations were less than the Table 6 SCS in the analyzed groundwater samples, with the exception of the following:

- BH113-25 – chloride and sodium.
- BH114-25 and QA/QC01-25 – sodium.
- BH115-25 – chloride.

Based on the above-noted exceedances, it is likely associated with the application of road salt at the Site. The QP$_{ESA}$ has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon.

The groundwater analysis results are presented in Table 5 and exceedances are presented on Figure 9.

6.8 Quality Assurance and Quality Control

Duplicate soil and groundwater samples were collected for each parameter group. Where analytical parameters were detected in both the parent and the duplicate samples at more than five times the detection limits, relative percent difference (RPD) was calculated to assess the precision of the analytical data. The calculated RPD results were compared to the performance criteria for each parameter group as outlined in the *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality* (MECP, 2021). RPD was calculated as follows:

$$RPD(\%) = \frac{|x_1 - x_2|}{x_m} \times 100\%$$

Where: x_1 = parent sample result

x_2 = duplicate sample result

x_m = arithmetic mean of initial and duplicate sample results

RPD is more sensitive to low concentrations; as such, RPDs were not calculated where the parameter concentration in the parent and/or duplicate sample was less than five times the laboratory reportable detection limit (RDL).

RPDs met the DQO for soil and groundwater. Overall, the duplicate samples match very closely with the parent samples. Accordingly, the soil and groundwater analysis results were considered acceptable and indicated that the analytical data were suitable for use in evaluating soil and groundwater quality at the Site.

The trip blank sample was submitted for analysis of VOCs with the groundwater sampling event to determine whether VOCs may have been introduced into a sample during transport to and from the laboratory. The analysis results indicated that VOCs were not present at concentrations greater than the laboratory RDLs in the trip blank.

Certificates of Analysis received for each submitted sample are included in Appendix C. All laboratory Certificates of Analysis pursuant to clause 47 (2) (b) of O.Reg. 153/04 comply with subsection 47(3) of the regulation.

Based on the results of the QA/QC program, the analytical results discussed herein can be interpreted with confidence.

6.9 Phase Two Conceptual Site Model

As per Table 1 of Schedule E of O.Reg. 153/04, a CSM is required to assist the QP in illustrating the results of the Phase Two ESA, demonstrating the current condition of the Phase Two Property, or where remedial actions have been undertaken, the condition of the Phase Two Property before the remedial actions were undertaken.

The following sections describe in detail the Phase Two CSM and provide the requisite narrative that assists in describing the attached figures.

6.9.1 Site Description and Ownership

The Site is on the east side of Mer Bleue Road and approximately 90 m south of the intersection of Mer Bleue Road and Renaud Road. The municipal address is 2405 and 2419 Mer Bleue Road. The closest water body to the Site is a tributary of McKinnon's Creek, about 660 m northeast of the Site, which flows in an easterly direction.

Property use surrounding the Site is as follows.

North – Residential

South – Residential

East – Land under development, residential and parkland

West – Residential, vacant undeveloped land and commercial

The Site is currently residential and is owned by the Conseil des écoles publiques de l'Est de l'Ontario. The Site includes PINs 14563-1816 (LT) and 14563-0541 (LT). The proposed future land use is institutional.

6.9.2 Potentially Contaminating Activities

Eight PCAs were identified within the Phase One study area, consisting of eight on-site and no off-site PCAs. Refer to Table 1 for further description of the PCAs, and Figure 2 for PCA locations.

PCA 1 – On-site – fill material of unknown quality

PCA 2 – On-site – a former 1,360 L gasoline AST

PCA 3 – On-site – a former 2,200 L diesel AST

PCA 4 – On-site – former automotive repair/servicing operations

PCA 5 – On-site – previous subsurface investigations at the Site identified soil impacts at the Site (i.e., SAR, EC and boron (available))

PCA 6 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

PCA 7 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium)

PCA 8 – On-site – previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride, sodium, benzo(a)pyrene, chrysene and fluoranthene)

6.9.3 Areas of Potential Environmental Concern

As required by O.Reg. 153/04, all on-site PCAs result in an APEC. The APECs are summarized below. Refer to Table 2 for further descriptions of the APECs, and Figure 3 for APEC locations.

APEC 1 – South portion of the Site,, associated with PCA 1, fill of unknown quality.

APEC 2 – South portion of the Site, associated with PCA 2, a former 1,360 L gasoline AST.

APEC 3 – South portion of the Site, associated with PCA 3, a former 2,200 L diesel AST.

APEC 4 – South portion of the Site, associated with PCA 4, former automotive repair/servicing operations.

APEC 5 – South portion of the Site, associated with PCA 5, previous subsurface investigations at the Site identified soil impacts at the Site (i.e., SAR, EC and boron (available)).

APEC 6 – Central portion of the Site, associated with PCA 6, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium).

APEC 7 – Central portion of the Site, associated with PCA 7, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride and sodium).

APEC 8 – South-central portion of the Site, associated with PCA 8, previous subsurface investigations at the Site identified groundwater impacts at the Site (i.e., chloride, sodium, benzo(a)pyrene, chrysene and fluoranthene).

The SAP was designed to assess the APECs. Samples for analysis of volatile parameters such as PHCs and VOCs were selected based primarily on soil screening results. Samples for analysis of all other parameters were selected based primarily on visual observation and depth.

The QP_{ESA} has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon.

6.9.4 Subsurface Structures and Utilities

Various underground utilities (i.e., natural gas, electricity, and communications) were identified under the Site. Contaminant distribution and transport may be influenced by the presence of utility trenches that were historically present on the Site.

The Site Building is equipped with a basement. Various underground utilities (i.e., natural gas, electricity, and communications) run from Mer Bleue along the west portion of the Site. The utilities are not expected to affect contaminant distribution and transport.

6.9.5 Stratigraphy

The stratigraphy consisted of native sand with trace gravel overlying clay and trace silt. Bedrock was not encountered within the maximum drilled depth of 3.1 mbgs. Based on a review of nearby well records, bedrock was encountered at a depth ranging between 25.9 and 30.5 mbgs. Cross-section locations are shown on Figure 4 and the stratigraphy is shown on Figure 7 and Figure 8.

6.9.6 Hydrogeological Characteristics and Groundwater Elevations

The closest water body to the Site is a tributary of McKinnon's Creek, about 660 m northeast of the Site., which flows in a easterly direction.

To determine the relative groundwater elevation, the horizontal gradient, and the groundwater flow direction, water level measurements were recorded on January 24, 2025. The horizontal hydraulic gradient was 0.006 m/m and the depth to groundwater ranged from 0.97 to 1.39 mbgs on January 24, 2025. Groundwater flow was to the west. The groundwater flow direction are presented on Figure 4.

6.9.7 Applicable Site Condition Standards

The *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MOECC, 2011) were used to determine the applicable SCS for the Site. The following site characteristics were considered when choosing which standards should be applied:

- The proposed future use of the Site is institutional use.
- The area being investigated is not within 30 m of a water body as defined in O.Reg. 153/04. As such, Section 43.1 of O.Reg. 153/04 does not apply to the Site.
- For a property to be considered non-potable groundwater, all properties within 250 m of the property must be supplied by a municipal drinking water system that does not obtain its water from a groundwater source. The Site is in an area that is supplied by a municipal water supply.
- The property is not located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.
- No properties in the Phase One study area have a well used or intended for use as a source of water for human consumption or agriculture.
- The stratigraphy consisted of native sand with trace gravel overlying clay and trace silt. Bedrock was not encountered within the maximum drilled depth of 3.1 mbgs. Based on grain size analysis, SCS for medium/fine-grained soil were considered appropriate.
- No area of natural significance, as defined in Section 1 of O.Reg. 153/04, is in whole or in part within the Phase Two study area. Two on-site soil pH samples were not within the acceptable ranges for surface (≤1.5 mbgs) and sub-surface (>1.5 mbgs) soil; however, Cambium submitted soil samples beneath the elevated pH levels which were within the acceptable ranges. In addition, Cambium notes that the soil samples collected for pH analysis were in the vicinity of a former landscaping storage yard which included limestone, a common source for elevated pH levels. Based on the above-noted information, it is

Cambium's opinion that the pH levels that were not within the acceptable ranges are not representative of the entire Site and localized to surficial soil in the vicinity of the former landscaping storage yard. As such, the Site is not environmentally sensitive as per Section 41 of O.Reg. 153/04.

Based on the above information, the applicable SCS for the Site were the Table 6 *Generic Site Condition Standards in a Potable Groundwater Condition* for institutional property use and medium/fine texture were selected to determine concentration exceedances for the analyzed parameters.

6.9.8 Contaminant Identification and Distribution

Site features and sampling locations are shown on Figure 4. Stratigraphy is shown in the borehole logs in Appendix B.

Concentrations of the analysed COPCs were less than the Table 6 SCS in the analyzed soil samples, with the exception of the soil samples collected from BH114-25 (EC, vanadium and cobalt), BH117-25 (EC) and QA/QC (EC, vanadium and cobalt), as well as, groundwater samples collected from BH113-25 (chloride and sodium), BH114-25 (sodium), BH115-25 (chloride) and QA/QC (sodium).

The above-noted EC, chloride and sodium exceedances are likely associated with the application of road salt at the Site. The QP_{ESA} has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon.

Given that these soil samples were collected from the native silty clay, and elevated concentrations of these metals are known to occur locally within the Champlain Sea Clay, as detailed in Section 6.4.4, the vanadium and cobalt exceedances are likely attributed to naturally elevated background soil concentrations. As such, it is Cambium's opinion that the reported vanadium and cobalt concentrations are naturally occurring and do not represent an environmental concern for the Site.

6.9.9 Contaminant Migration and Transport

As noted in Sections 6.6.4 and 6.7.4, the soil and groundwater exceedances are attributed to naturally elevated background soil concentrations and/or the application of road salt at the Site. Based on the above-noted information, it is Cambium's opinion that contaminant migration is not applicable.

6.9.10 Exposure Pathways and Receptors

As noted in Sections 6.6.4 and 6.7.4, the soil and groundwater exceedances are attributed to naturally elevated background soil concentrations and/or the application of road salt at the Site. Based on the above-noted information, exposure pathways and receptors are not applicable.

6.9.11 Location of Buildings and Structures

The Site consists of one building located on the west-central portion of the Site and is currently a vacant residential building.

The proposed redevelopment of the property includes an institutional building on the north portion of the Site.

6.9.12 Areas of Contamination on the Property

Concentrations of the analysed COPCs were less than the Table 6 SCS in the analyzed soil and groundwater samples, with the exception of EC, vanadium and/or cobalt concentrations in soil, as well as sodium and chloride concentrations in groundwater.

As noted above, concentrations of vanadium and/or cobalt in boreholes BH113-25, BH114-25, BH115-25, BH116-25, BH117-25 marginally exceeded the Table 6 SCS. Given that these soil samples were collected from the native silty clay, it is inferred that the exceedances are attributed to naturally elevated background soil concentrations. As such, it is Cambium's opinion that the reported concentrations are naturally occurring and do not represent an environmental concern for the Site.

The EC exceedance in soil, and chloride and sodium exceedances in groundwater are likely associated with the application of road salt at the Site. The QP_{ESA} has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon

As such, there were no areas of contamination identified on the Site.

7.0 Conclusions

Conclusions regarding the current environmental conditions at the Site are based solely on the results of the Phase One ESA and this Phase Two ESA.

7.1 Environmental Conditions

A Phase Two ESA work program was developed to investigate COPCs (PHCs, VOCs including BTEX, PAHs, metals, hydride-forming metals, and ORPs including B-HWS, Cr(VI), Hg, cyanide, chloride, sodium, pH, EC, and SAR) in soil and groundwater. The Phase Two ESA included five boreholes, three of which were instrumented with groundwater monitoring wells.

Concentrations of the analysed COPCs were less than the Table 6 SCS in the analyzed soil and groundwater samples, with the exception of shallow pH, EC, vanadium and/or cobalt concentrations in soil as well as, sodium and chloride concentrations in groundwater. As noted above, given that these soil samples were collected from the native silty clay which is known to have naturally occurring metals concentrations within these ranges (Geofirma Engineering, 2023), it is inferred that the vanadium and cobalt exceedances are attributed to naturally elevated background soil concentrations. As such, it is Cambium's opinion that the reported vanadium and cobalt concentrations are naturally occurring and do not represent an environmental concern for the Site.

In addition, the above-noted EC exceedances in soil and sodium and chloride exceedances in groundwater, are likely associated with the application of road salt at the Site. The QP_{ESA} has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice at the Site. As such, the exemption set out in paragraph 1 of section 49.1 of O.Reg. 153/04 will be relied upon.

As noted in Section 6.6.4, on-site soil pH was within the acceptable ranges for surface sub-surface (>1.5 mbgs) soil; however, shallow soil samples (≤1.5 mbgs) marginally exceeded the acceptable range. Cambium notes that the soil samples collected for pH analysis were in the vicinity of a former landscaping storage yard which included limestone, a common source for

elevated pH levels. Based on the above-noted information, it is Cambium's opinion that the pH levels that were not within the acceptable ranges are not representative of the entire Site and localized to surficial soil in the vicinity of the former landscaping storage yard. As such, the Site is not environmentally sensitive as per Section 41 of O.Reg. 153/04.

Based on the results of the Phase Two ESA investigation, it is Cambium's opinion that the pH of the surficial soil within the former landscaping storage yard should be tested and amended as directed by a landscape architect during Site development. However, no further environmental investigation is necessary at this time and a SPA can be filed for the Site.

7.2 Signatures

This Phase Two ESA was completed by Mr. Dave Labelle, B.A., EP, under the supervision of Ms. Sheila Barter, P.Geo., QP_{ESA}, as per O.Reg. 153/04, as amended. Information presented in this report is true and accurate to the best of the assessors' knowledge.

Respectfully submitted,

Cambium Inc.

DocuSigned by:
A5EE10141E91415...
Dave Labelle, B.A., EP
Coordinator

DS

PROFESSIONAL GEOSCIENTIST
SHEILA BARTER
PRACTISING MEMBER
3493
ONTARIO

2025-04-04

Signed by:
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Sheila Barter, P.Geo., QP_{ESA}
Senior Project Manager

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9.0 Standard Limitation

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A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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Personal Liability

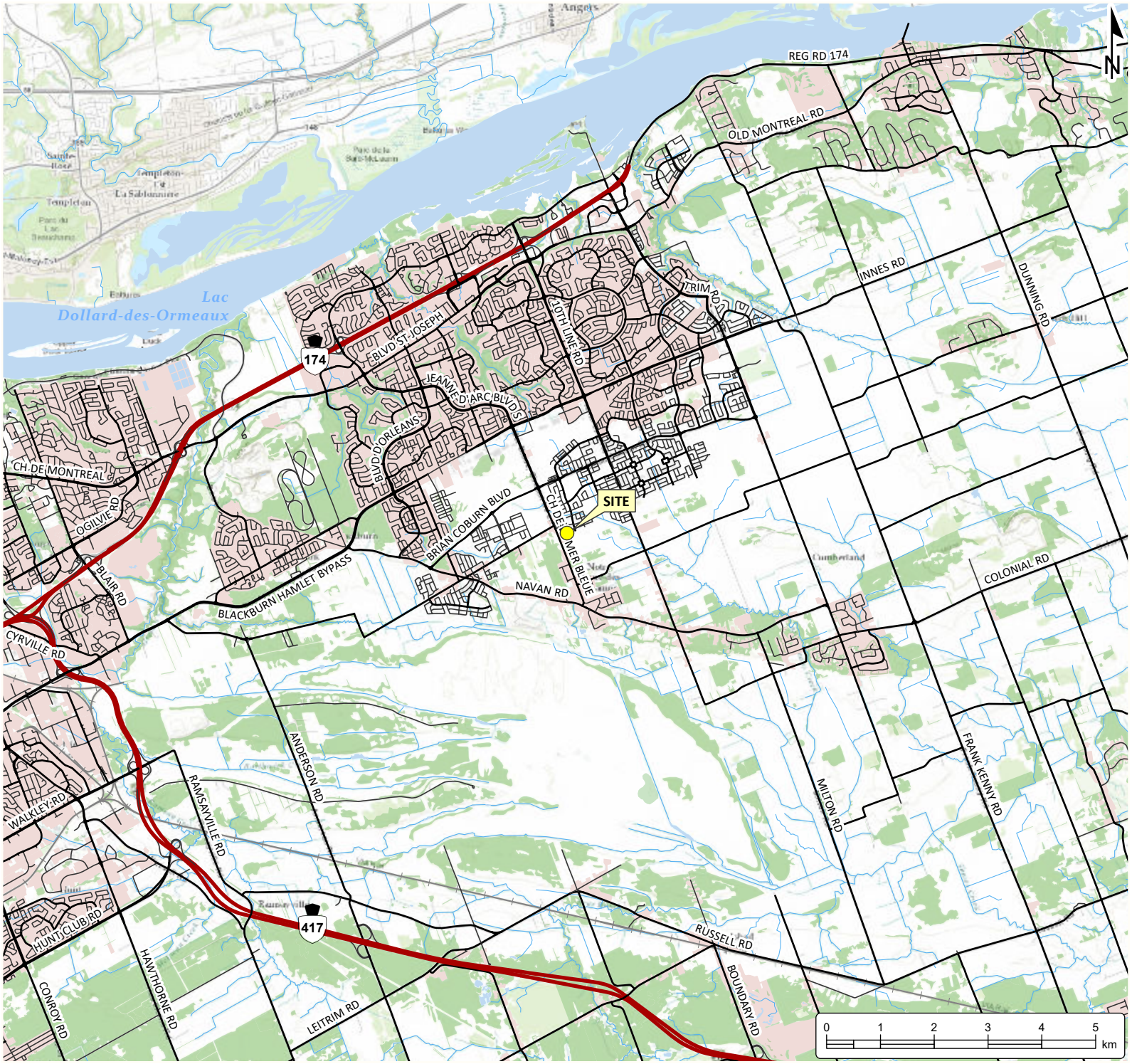
The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.

Appended Figures

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario



LEGEND

- Highway
- Major Road
- Minor Road
- Railway
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

Notes:
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SITE LOCATION PLAN

Project No.:	20361-003	Date:	April 2025
		Rev.:	
Scale:	1:100,000	Projection:	NAD 1983 UTM Zone 18N
Created by:	DBC	Checked by:	SB
Figure:	1		

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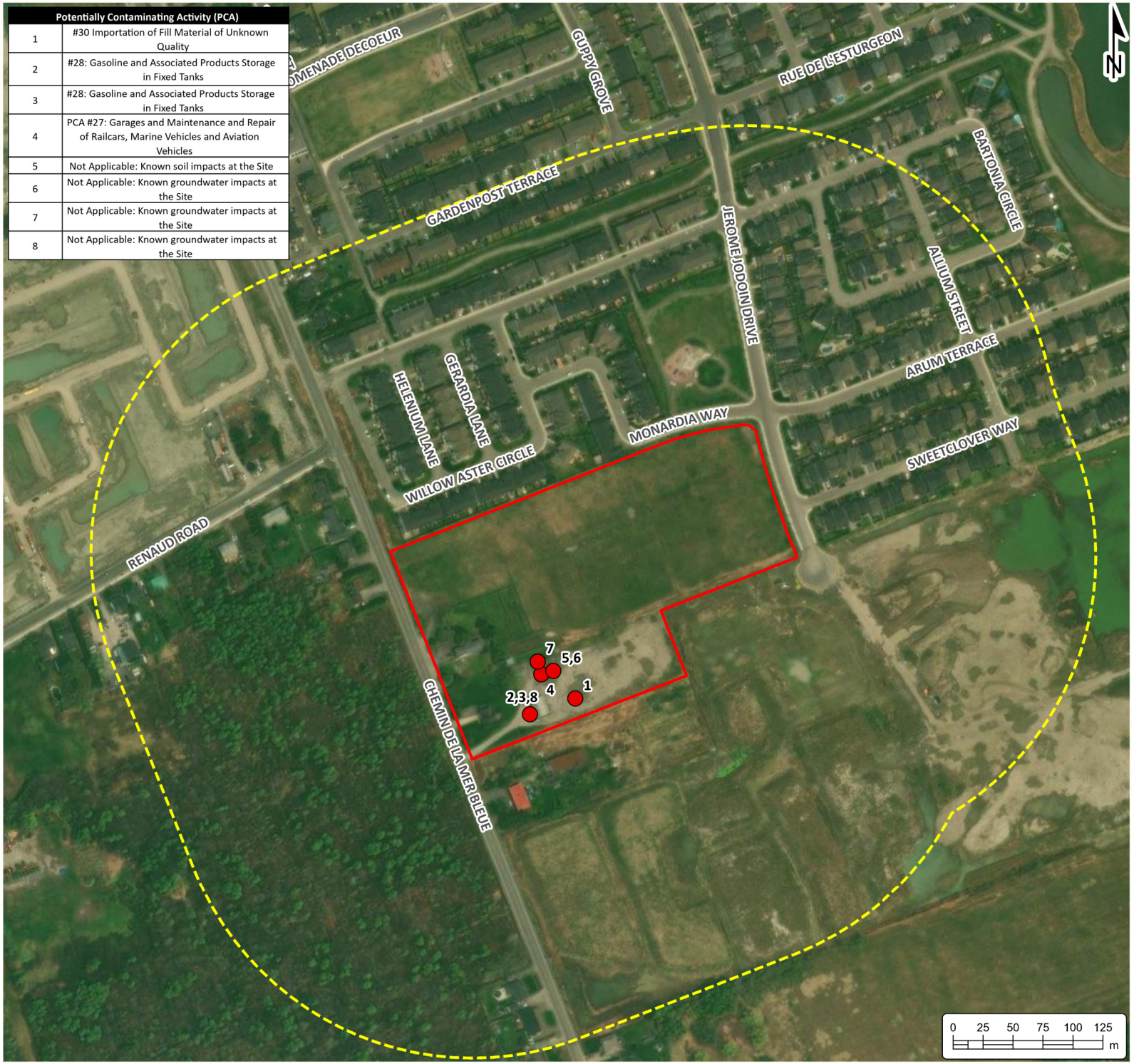

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO
2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Site (approximate)
- 250m Study Area

Potentially Contaminating Activity:

- Does Not Contribute to APEC
- Contributes to APEC

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CONCEPTUAL SITE MODEL STUDY AREA

Project No.: 20361-003		Date: April 2025	Rev.:
Scale: 1:4,500		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: 2	

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APEC #	Potentially Contaminating Activity [2]
1	Item 30 - Importation of Fill Material of Unknown Quality
2	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks
3	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks
4	Item 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
5	Not Applicable - Known soil impacts at the Site
6	Not Applicable - Known groundwater impacts at the Site
7	Not Applicable - Known groundwater impacts at the Site
8	Not Applicable - Known groundwater impacts at the Site

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Site (approximate)

Area of Potential Environmental Concern:

- APEC 1
- APEC 2
- APEC 3
- APEC 4
- APEC 5
- APEC 6
- APEC 7
- APEC 8

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CONCEPTUAL SITE MODEL SITE PLAN

Project No.: 20361-003		Date: April 2025	Rev.:
Scale: 1:2,500		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: 3	

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PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Benchmark
- Borehole
- Monitoring Well
- Cross Section
- Site (approximate)

Area of Potential Environmental Concern:

- APEC 1
- APEC 2
- APEC 3
- APEC 4
- APEC 5
- APEC 6
- APEC 7
- APEC 8

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INVESTIGATION LOCATIONS

Project No.: 20361-003		Date: April 2025	
		Rev.:	
Scale: 1:1,750		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: 4	

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PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Benchmark
- Borehole
- Monitoring Well
- Inferred Groundwater Flow Direction
- Site (approximate)

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GROUNDWATER CONFIGURATION PLAN

Project No.: 20361-003		Date: April 2025	Rev.:
Scale: 1:1,250		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: 5	

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BH117-25	Units	7-Jan-25	7-Jan-25
Depth	m	0.0-0.8	0.8-1.5
pH	pH/units	**9.01**	7.32

BH116-25	Units	7-Jan-25	7-Jan-25
Depth	m	0.0-0.8	0.8-1.5
pH	pH/units	**9.61**	7.57

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Benchmark
- Borehole
- Monitoring Well
- Meets Table 6, RPI
- Exceeds Table 6, RPI
- Site (approximate)

Contaminant	Units	Acceptable Range
pH	pH/units	5.0-9.0

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SOIL QUALITY

Project No.: 20361-003		Date: April 2025 Rev.:	
Scale: 1:1,500		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: **6**	

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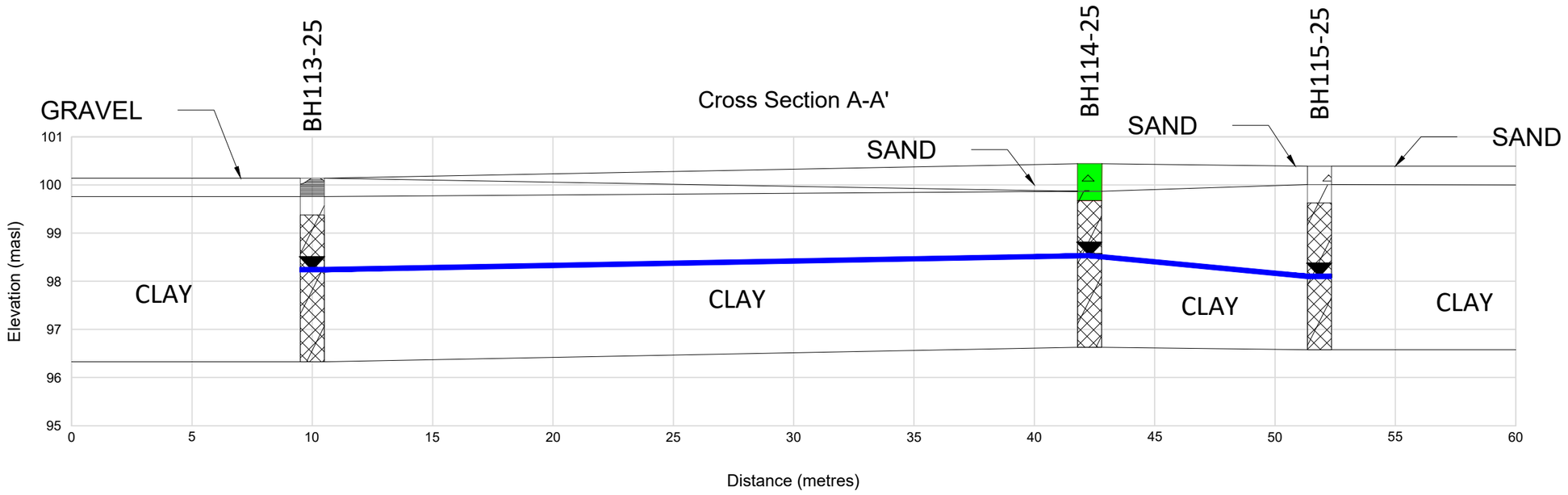
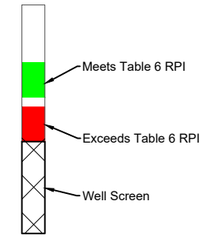


PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO
2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Water Level
- Water Elevation
- Gravel
- Clay
- Sand



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CROSS SECTIONS
A-A' SOIL

Project No.: 20361-003		Date: March 2025	Rev.:
Horizontal Scale: 1:200		Vertical Scale: 1:100 (2x)	
Drawn By: DBC	Checked By: SB	Figure: 7	

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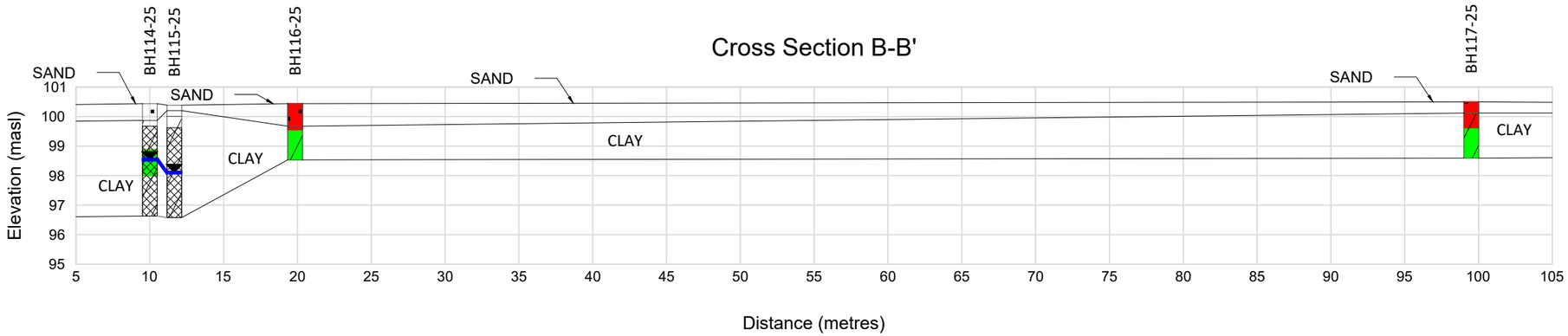
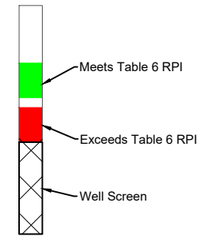


PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO
2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Water Level
- Water Elevation
- Gravel
- Clay
- Sand



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CROSS SECTIONS B-B' SOIL

Project No.: 20361-003		Date: March 2025	Rev.:
Horizontal Scale: 1:350		Vertical Scale: 1:175 (2x)	
Drawn By: DBC	Checked By: SB	Figure: 8	

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BH115-25	Units	24-Jan-25
Chloride	µg/L	**1,260,000**

		24-Jan-25	
BH114-25	**Units**	**BH114-25**	**QA/QC**
Sodium	µg/L	**745,000**	**643,000**

BH113-25	Units	24-Jan-25
Chloride	µg/L	**1,120,000**
Sodium	µg/L	**543,000**

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO

2405 and 2419 Mer Bleue Road
Ottawa, Ontario

LEGEND

- Benchmark
- Borehole
- Monitoring Well
- Meets Table 6, RPI
- Exceeds Table 6, RPI
- Site (approximate)

Contaminant	Units	Table 6, RPI
Chloride	µg/L	490,000
Sodium	µg/L	790,000

Table 6: Residential/Parkland/Institutional (RPI) Property Use, Medium/Fine Texture

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GROUNDWATER QUALITY

Project No.: 20361-003		Date: April 2025 Rev.:	
Scale: 1:1,500		Projection: NAD 1983 UTM Zone 18N	
Created by: DBC	Checked by: SB	Figure: **9**	

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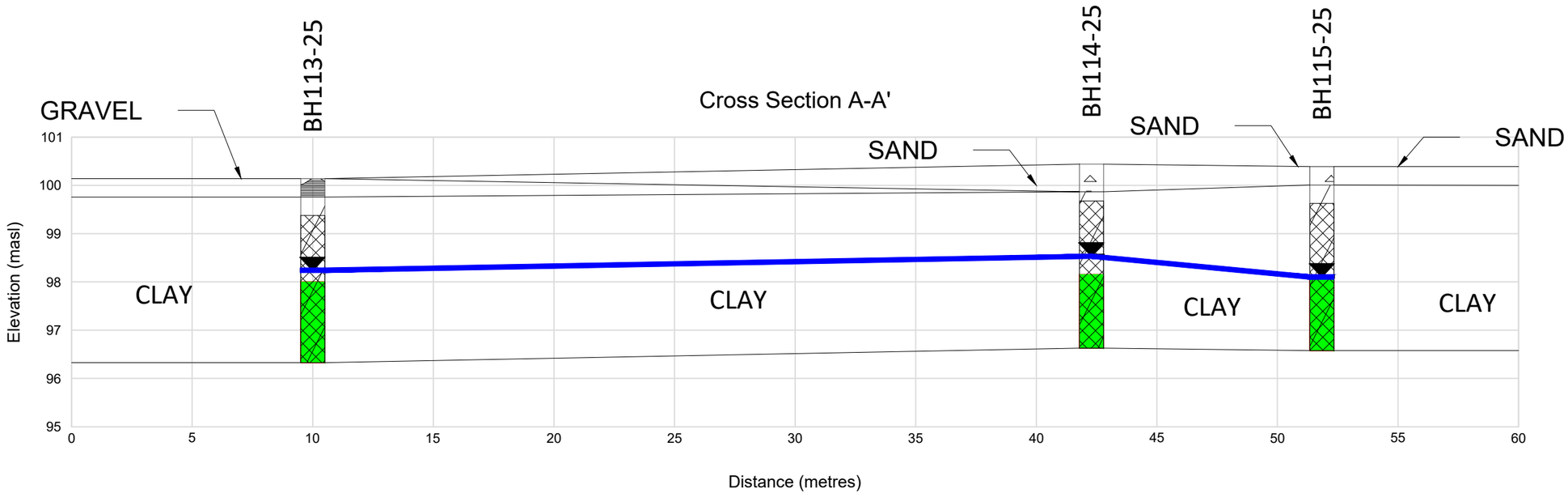
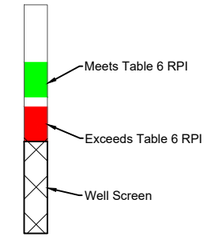
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CONSEIL DES ECOLES PUBLIQUES DE L'EST DE L'ONTARIO
2405 and 2419 Mer Bleue Road
Ottawa, Ontario



LEGEND

- Water Level
- Water Elevation
- Gravel
- Clay
- Sand



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CROSS SECTIONS A-A' GROUNDWATER

Project No.: 20361-003	Date: March 2025
	Rev.:
Horizontal Scale: 1:200	Vertical Scale: 1:100 (2x)
Drawn By: DBC	Checked By: SB
	Figure: 10

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Appended Tables

Table 1 - Table of Potentially Contaminating Activities

PCA ID #	Potentially Contaminating Activity[1]	Location of PCA	PCA Description	APEC[2] (Yes/No)
1	PCA #30: Importation of Fill Material of Unknown Quality	On-site, south portion of the Site.	Based on previous operations at the Site (i.e., landscaping) fill material of unknown quality was imported to the Site	Yes
2	PCA #28: Gasoline and Associated Products Storage in Fixed Tanks	On-site, south portion of the Site	A former 1,360 L gasoline AST, based on a review of a 2007 Insurance Inspection report	Yes
3	PCA #28: Gasoline and Associated Products Storage in Fixed Tanks	On-site, south portion of the Site	A former 2,200 L diesel AST, based on a review of a 2007 Insurance Inspection report	Yes
4	PCA #27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-site, former building located on the south-central portion of the Site	Former tenant conducted personal automotive repair/servicing operations based on a review of a 2007 Insurance Inspection report	Yes
5	Not Applicable: Known soil impacts at the Site	On-site, south portion of the Site	Based on the results of a previous Phase Two ESA completed at the Site in 2018.	Yes
6	Not Applicable: Known groundwater impacts at the Site	On-site, central portion of the Site	Based on the results of a previous Phase Two ESA completed at the Site in 2018.	Yes
7	Not Applicable: Known groundwater impacts at the Site	On-site, central portion of the Site	Based on the results of a previous Phase Two ESA completed at the Site in 2018.	Yes

PCA ID #	Potentially Contaminating Activity[1]	Location of PCA	PCA Description	APEC[2] (Yes/No)
8	Not Applicable: Known groundwater impacts at the Site	On-site, south-central portion of the Site	Based on the results of a previous Phase Two ESA completed at the Site in 2018.	Yes

Notes:

1 - Potentially Contaminating Activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

2 - Area of Potential Environmental Concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment, including through,

(a) identification of past or present uses on, in or under the phase one property, and
(b) identification of potentially contaminating activity.

Table 2 – Table of Areas of Potential Environmental Concern

APEC[1]	**Location of APEC on the Phase One Property**	**PCA[2]**		**Location of PCA (on-site or off-site)**	**Contaminants of Potential Concern[3]**	**Media Potentially Impacted (groundwater, soil, and/or sediment)**
APEC 1	South portion of the Site	1	PCA #30: Importation of Fill Material of Unknown Quality	On-site, south portion of the Site	PHCs, BTEX, PAHs, metals and hydride-forming metals, B-HWS, Cr(VI), Hg, cyanide, pH, EC and SAR	Groundwater and soil
APEC 2	South portion of the Site	2	PCA #28: Gasoline and Associated Products Storage in Fixed Tanks	On-site, south portion of the Site	PHCs, BTEX, PAHs and metals	Groundwater and soil
APEC 3	South portion of the Site	3	PCA #28: Gasoline and Associated Products Storage in Fixed Tanks	On-site, south portion of the Site	PHCs, BTEX, PAHs and metals	Groundwater and soil
APEC 4	South portion of the Site	4	PCA #27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-site, former building located on the south-central portion of the Site	PHCs, BTEX, VOCs, PAHs and metals	Groundwater and soil
APEC 5	South portion of the Site	5	Not Applicable: Known soil impacts at the Site	On-site, south portion of the Site	SAR, EC and B-HWS	Soil
APEC 6	Central portion of the Site	6	Not Applicable: Known groundwater impacts at the Site	On-site, central portion of the Site	chloride and sodium	Groundwater

APEC[1]	Location of APEC on the Phase One Property	PCA[2]		Location of PCA (on-site or off-site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (groundwater, soil, and/or sediment)
APEC 7	Central portion of the Site	7	Not Applicable: Known groundwater impacts at the Site	On-site, central portion of the Site	chloride and sodium	Groundwater
APEC 8	South-central portion of the Site	8	Not Applicable: Known groundwater impacts at the Site	On-site, south-central portion of the Site	chloride, sodium and PAHs (benzo(a)pyrene, chrysene and fluoranthene)	Groundwater

Notes

1 - Area of Potential Environmental Concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment, including through,

(a) identification of past or present uses on, in or under the phase one property, and
(b) identification of potentially contaminating activity.

2 - Potentially Contaminating Activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

3 - when completing this column, identify all contaminants of potential concern using the Method Groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011, as specified below:

ABNs	*PCBs*	*Metals*	*Electrical Conductivity*	*SAR*
CPs	*PAHs*	*As, Sb, Se*	*Cr (VI)*	
1,4-Dioxane	*THMs*	*Na*	*Hg*	
Dioxins/Furans, PCDDs/PCDFs	*VOCs*	*B-HWS*	*Methyl Mercury*	
OCs	*BTEX*	*Cl-*	*high pH*	
PHCs	*Ca, Mg*	*CN-*	*low pH*	

Table 3 - Groundwater Elevations

Location	UTM Zone	Easting	Northing	Ground Surface Elevation (masl)	Top of Pipe Elevation (masl)	Measured Depth of Well (mbtp)	Measured Depth of Well (mbgs)	Screen Length (m)	Screen Depth - Top (mbgs)	Screen Depth - Bottom (mbgs)	Screen elevation (top) (masl)	Screen Elevation (Bottom) (masl)	GW Depth (mbtop)	GW Depth (mbgs)	GW Elevation (masl)
													January 22, 2025		
BH113-25	18T	461472.705	5031626.72	87.34	88.42	4.21	3.1	2.4	0.7	3.1	86.61	84.21	2.05	0.97	86.37
BH114-25	18T	461482.42	5031657.99	87.59	88.66	4.17	3.1	2.4	0.7	3.1	86.89	84.49	2.49	1.42	86.17
BH115-25	18T	461479.808	5031669.7	87.54	88.65	4.12	3.0	2.4	0.6	3.0	86.93	84.53	2.47	1.36	86.18

Table 4 - Soil Quality

			Location Code	BH114-25	BH114-25	BH116-25	BH116-25	BH117-25	BH117-25
			Field ID	BH114-25_1.5-2.3	QA/QC-1	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	BH117-25_0.8-1.5
			Depth	1.5 - 2.3	1.5 - 2.3	0 - 0.8	0.8 - 1.5	0 - 0.8	0.8 - 1.5
			Date	07 Jan 2025	07 Jan 2025	07 Jan 2025	07 Jan 2025	07 Jan 2025	07 Jan 2025
	Unit	EQL	**Table 6 - RPI, fine/medium soil**						
BTEX									
Benzene	µg/g	0.02	**0.17**	<0.02	<0.02	-	-	<0.02	-
Toluene	µg/g	0.05	**6**	<0.05	<0.05	-	-	<0.05	-
Ethylbenzene	µg/g	0.05	**1.6**	<0.05	<0.05	-	-	<0.05	-
Xylene Total	µg/g	0.05	**25**[#1]	<0.05	<0.05	-	-	<0.05	-
PHCs									
F2	µg/g	4	**150**[#2]	<4	<4	-	-	<4	-
F3	µg/g	8	**1,300**[#3]	<8	<8	-	-	31	-
F4	µg/g	6	**5,600**	<6	<6	-	-	33	-
PAHs									
Acenaphthene	µg/g	0.02	**29**	<0.02	<0.02	-	-	<0.02	-
Acenaphthylene	µg/g	0.02	**0.17**	<0.02	<0.02	-	-	<0.02	-
Anthracene	µg/g	0.02	**0.74**	<0.02	<0.02	-	-	<0.02	-
Benzo(a)anthracene	µg/g	0.02	**0.63**	<0.02	<0.02	-	-	<0.02	-
Benzo(a)pyrene	µg/g	0.02	**0.3**	<0.02	<0.02	-	-	<0.02	-
Benzo(g,h,i)perylene	µg/g	0.02	**7.8**	<0.02	<0.02	-	-	<0.02	-
Benzo(k)fluoranthene	µg/g	0.02	**0.78**	<0.02	<0.02	-	-	<0.02	-
Benzo(b/j)fluoranthene	µg/g	0.02	**0.78**[#4]	<0.02	<0.02	-	-	<0.02	-
Chrysene	µg/g	0.02	**7.8**	<0.02	<0.02	-	-	<0.02	-
Dibenzo(a,h)anthracene	µg/g	0.02	**0.1**	<0.02	<0.02	-	-	<0.02	-
Fluoranthene	µg/g	0.02	**0.69**	<0.02	<0.02	-	-	<0.02	-
Fluorene	µg/g	0.02	**69**	<0.02	<0.02	-	-	<0.02	-
Indeno(1,2,3-c,d)pyrene	µg/g	0.02	**0.48**	<0.02	<0.02	-	-	<0.02	-
Methylnaphthalene 1 & 2	µg/g	0.04	**3.4**[#5]	<0.04	<0.04	-	-	<0.04	-
Naphthalene	µg/g	0.01	**0.75**	<0.01	<0.01	-	-	<0.01	-
Phenanthrene	µg/g	0.02	**7.8**	<0.02	<0.02	-	-	<0.02	-
Pyrene	µg/g	0.02	**78**	<0.02	<0.02	-	-	<0.02	-
Phenols									
2-Fluorobiphenyl	mg/kg			1.14	1.19	-	-	0.831	-
4-Terphenyl-d14	mg/kg			1.49	1.48	-	-	0.948	-
VOCs									
Acetone	µg/g	0.5	**28**	<0.50	<0.50	-	-	<0.50	-
Bromomethane	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Bromoform	µg/g	0.05	**0.26**	<0.05	<0.05	-	-	<0.05	-
Bromodichloromethane	µg/g	0.05	**1.9**	<0.05	<0.05	-	-	<0.05	-
Carbon tetrachloride	µg/g	0.05	**0.12**	<0.05	<0.05	-	-	<0.05	-
Chlorobenzene	µg/g	0.05	**2.7**	<0.05	<0.05	-	-	<0.05	-
Chloroform	µg/g	0.05	**0.17**	<0.05	<0.05	-	-	<0.05	-
Dibromoethane,1,2-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Dichlorobenzene, 1,2-	µg/g	0.05	**1.7**	<0.05	<0.05	-	-	<0.05	-
Dichlorobenzene, 1,3-	µg/g	0.05	**6**	<0.05	<0.05	-	-	<0.05	-
Dichlorobenzene, 1,4-	µg/g	0.05	**0.097**	<0.05	<0.05	-	-	<0.05	-
Dichlorodifluoromethane	µg/g	0.05	**25**	<0.05	<0.05	-	-	<0.05	-
Dichloroethane, 1,1-	µg/g	0.05	**0.6**	<0.05	<0.05	-	-	<0.05	-
Dichloroethane, 1,2-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Dichloroethylene, 1,1-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Dichloroethylene, 1,2-trans-	µg/g	0.05	**0.75**	<0.05	<0.05	-	-	<0.05	-
Dichloroethylene, 1,2-cis-	µg/g	0.05	**2.5**	<0.05	<0.05	-	-	<0.05	-
Dichloromethane	µg/g	0.05	**0.96**	<0.05	<0.05	-	-	<0.05	-
Dichloropropane, 1,2-	µg/g	0.05	**0.085**	<0.05	<0.05	-	-	<0.05	-
Dichloropropene, 1,3- cis	µg/g	0.05		<0.05	<0.05	-	-	<0.05	-
Dichloropropene, 1,3- trans	µg/g	0.05		<0.05	<0.05	-	-	<0.05	-
Dichloropropene, 1,3- cis & trans	µg/g	0.05	**0.081**[#6]	<0.05	<0.05	-	-	<0.05	-
Dibromochloromethane	µg/g	0.05	**2.9**	<0.05	<0.05	-	-	<0.05	-
Hexane	µg/g	0.05	**34**	<0.05	<0.05	-	-	<0.05	-
Methyl Ethyl Ketone	µg/g	0.5	**44**	<0.50	<0.50	-	-	<0.50	-
Methyl Iso-Butyl Ketone	µg/g	0.5	**4.3**	<0.50	<0.50	-	-	<0.50	-
MTBE	µg/g	0.05	**1.4**	<0.05	<0.05	-	-	<0.05	-
Styrene	µg/g	0.05	**2.2**	<0.05	<0.05	-	-	<0.05	-
Tetrachloroethylene	µg/g	0.05	**2.3**	<0.05	<0.05	-	-	<0.05	-
Tetrachloroethane, 1,1,1,2-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Trichloroethane, 1,1,1-	µg/g	0.05	**3.4**	<0.05	<0.05	-	-	<0.05	-
Trichloroethane, 1,1,2-	µg/g	0.05	**0.05**	<0.05	<0.05	-	-	<0.05	-
Trichloroethylene	µg/g	0.05	**0.52**	<0.05	<0.05	-	-	<0.05	-
Trichlorofluoromethane	µg/g	0.05	**5.8**	<0.05	<0.05	-	-	<0.05	-
Vinyl chloride	µg/g	0.02	**0.022**	<0.02	<0.02	-	-	<0.02	-
Metals									
Antimony	µg/g	1	**7.5**	<1.0	<1.0	-	<1.0	<1.0	<1.0
Arsenic	µg/g	1	**18**	4.1	4.3	-	2.8	2.0	3.1
Barium	µg/g	1	**390**	248	266	-	92.7	85.3	106
Beryllium	µg/g	0.5	**5**	1.2	1.2	-	0.6	<0.5	<0.5
Boron	µg/g	5	**120**[#7]	16.2	15.5	6.3	7.3	<5.0	6.5
Cadmium	µg/g	0.5	**1.2**	<0.5	<0.5	-	<0.5	<0.5	<0.5
Chromium (III+VI)	µg/g	5	**160**	115	118	-	49.8	28.0	35.4
Cobalt	µg/g	1	**22**	**23.3**	**25.7**	-	9.8	6.6	9.5
Copper	µg/g	5	**180**	55.3	55.2	-	15.3	17.3	21.9
Lead	µg/g	1	**120**	11.1	11.9	-	10.2	16.3	5.9
Molybdenum	µg/g	1	**6.9**	<1.0	<1.0	-	<1.0	<1.0	1.1
Nickel	µg/g	5	**130**	67.1	71.0	-	24.0	15.5	19.3
Selenium	µg/g	1	**2.4**	<1.0	<1.0	-	<1.0	<1.0	<1.0
Silver	µg/g	0.3	**25**	<0.3	<0.3	-	<0.3	<0.3	<0.3
Thallium	µg/g	1	**1**	<1.0	<1.0	-	<1.0	<1.0	<1.0
Uranium	µg/g	1	**23**	<1.0	1.0	-	1.3	<1.0	1.2
Vanadium	µg/g	10	**86**	**92.2**	**94.2**	-	45.3	24.1	34.3
Zinc	µg/g	20	**340**	110	114	-	46.0	38.6	40.4
ORPs									
Boron (hot water soluble)	µg/g	0.5	**1.5**[#8]	<0.5	<0.5	-	-	<0.5	-
Chromium (VI)	µg/g	0.2	**10**	0.4	0.5	-	-	<0.2	-
Cyanide (Free)	µg/g	0.03	**0.051**	<0.03	<0.03	-	-	<0.03	-
Electrical Conductivity (Lab)	µS/cm	5	**700**	**1,230**	**1,030**	-	-	**886**	-
Mercury	µg/g	0.1	**1.8**	<0.1	<0.1	-	-	<0.1	-
pH (Lab)	pH	0.05	**5-9**	7.44	7.72	**9.61**	7.57	**9.01**	7.32
Sodium Adsorption Ratio	-	0.01	**5**	1.61	1.71	-	-	0.38	-

Comments

#1 Standard is applicable to total xylenes; m & p-xylenes and o-xylenes should be summed for comparison.
#2 Standard is applicable to PHC F2 minus naphthalene. If naphthalene is not analyzed, the standard is applied to F2.
#3 Standard is applicable to PHC F3 minus PAHs (other than naphthalene). If PAHs have not been measured, the standard is applied to F3.
#4 Standard is for benzo(b)fluoranthene; however, the laboratory can not distinguish between benzo(b)fluoranthene and benzo(j)fluoranthene.
#5 Standard is applicable to Methylnaphthalene, 1- and Methylnaphthalene, 2-. If both are detected, the sum of the two must not exceed the standard.
#6 Standard is applicable to 1,3-Dichloropropene. Individual isomers (cis + trans) should be added for comparison.
#7 Total Boron standard is for sub-surface soil (>1.5 m).
#8 HWS Boron standard is for surface soil (<1.5 m).

Table 5 - Groundwater Quality

			Location Code		BH113-25	BH114-25	BH114-25	BH115-25	BH115-25
			Lab Report Number	2504459	2504459	2504459	2504459	2504459	2504459
			Field ID	Trip Blank	BH113-25	BH114-25	QAQC01-25	BH115-25	QAQC02-25
			Date	04 Jan 2025	24 Jan 2025	24 Jan 2025	24 Jan 2025	24 Jan 2025	24 Jan 2025
	Unit	EQL	**Table 6 - All Types of Property Use**						
BTEX									
Benzene	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Toluene	µg/L	0.5	**24**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Ethylbenzene	µg/L	0.5	**2.4**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Xylene Total	µg/L	0.5	**72**[#1]	<0.5	<0.5	<0.5	<0.5	<0.5	-
PHCs									
F2	µg/L	100	**150**[#2]	-	<100	<100	-	<100	<100
F3	µg/L	100	**500**[#3]	-	<100	<100	-	<100	<100
F4	µg/L	100	**500**	-	<100	<100	-	<100	<100
PAHs									
Acenaphthene	µg/L	0.05	**4.1**	-	<0.08	<0.10	-	<0.05	-
Acenaphthylene	µg/L	0.05	**1**	-	<0.08	<0.10	-	<0.05	-
Anthracene	µg/L	0.01	**1**	-	<0.02	<0.02	-	<0.01	-
Benzo(a)anthracene	µg/L	0.01	**1**	-	<0.02	<0.02	-	<0.01	-
Benzo(a)pyrene	µg/L	0.01	**0.01**	-	**<0.02**	**<0.02**	-	<0.01	-
Benzo(g,h,i)perylene	µg/L	0.05	**0.2**	-	<0.08	<0.10	-	<0.05	-
Benzo(k)fluoranthene	µg/L	0.05	**0.1**	-	<0.08	<0.10	-	<0.05	-
Benzo(b/j)fluoranthene	µg/L	0.05	**0.1**[#4]	-	<0.08	<0.10	-	<0.05	-
Chrysene	µg/L	0.05	**0.1**	-	<0.08	<0.10	-	<0.05	-
Dibenzo(a,h)anthracene	µg/L	0.05	**0.2**	-	<0.08	<0.10	-	<0.05	-
Fluoranthene	µg/L	0.01	**0.41**	-	<0.02	<0.02	-	<0.01	-
Fluorene	µg/L	0.05	**120**	-	<0.08	<0.10	-	<0.05	-
Indeno(1,2,3-c,d)pyrene	µg/L	0.05	**0.2**	-	<0.08	<0.10	-	<0.05	-
Methylnaphthalene 1 & 2	µg/L	0.1	**3.2**[#5]	-	<0.17	<0.20	-	<0.10	-
Naphthalene	µg/L	0.05	**7**	-	<0.08	<0.10	-	<0.05	-
Phenanthrene	µg/L	0.05	**1**	-	<0.08	<0.10	-	<0.05	-
Pyrene	µg/L	0.01	**4.1**	-	<0.02	<0.02	-	<0.01	-
VOCs									
Acetone	µg/L	5	**2,700**	<5.0	<5.0	<5.0	<5.0	<5.0	-
Bromomethane	µg/L	0.5	**0.89**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Bromoform	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Bromodichloromethane	µg/L	0.5	**16**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Carbon tetrachloride	µg/L	0.2	**0.2**	<0.2	<0.2	<0.2	<0.2	<0.2	-
Chlorobenzene	µg/L	0.5	**30**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Chloroform	µg/L	0.5	**2**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dibromoethane,1,2-	µg/L	0.2	**0.2**	<0.2	<0.2	<0.2	<0.2	<0.2	-
Dichlorobenzene, 1,2-	µg/L	0.5	**3**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichlorobenzene, 1,3-	µg/L	0.5	**59**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichlorobenzene, 1,4-	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichlorodifluoromethane	µg/L	1	**590**	<1.0	<1.0	<1.0	<1.0	<1.0	-
Dichloroethane, 1,1-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloroethane, 1,2-	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloroethylene, 1,1-	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloroethylene, 1,2-trans-	µg/L	0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloroethylene, 1,2-cis-	µg/L	0.5	**1.6**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloromethane	µg/L	5	**26**	<5.0	<5.0	<5.0	<5.0	<5.0	-
Dichloropropane, 1,2-	µg/L	0.5	**0.58**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloropropene, 1,3- cis & trans	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dibromochloromethane	µg/L	0.5	**25**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Hexane	µg/L	1	**5**	<1.0	<1.0	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone	µg/L	5	**1,800**	<5.0	<5.0	<5.0	<5.0	<5.0	-
Methyl Iso-Butyl Ketone	µg/L	5	**640**	<5.0	<5.0	<5.0	<5.0	<5.0	-
MTBE	µg/L	2	**15**	<2.0	<2.0	<2.0	<2.0	<2.0	-
Styrene	µg/L	0.5	**5.4**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Tetrachloroethylene	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	**1.1**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Trichloroethane, 1,1,1-	µg/L	0.5	**23**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Trichloroethane, 1,1,2-	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Trichloroethylene	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Trichlorofluoromethane	µg/L	1	**150**	<1.0	<1.0	<1.0	<1.0	<1.0	-
Vinyl chloride	µg/L	0.5	**0.5**	<0.5	<0.5	<0.5	<0.5	<0.5	-
Metals									
Antimony	µg/L	0.5	**6**	-	<0.5	<0.5	<0.5	<0.5	-
Arsenic	µg/L	1	**25**	-	<1	<1	<1	<1	-
Barium	µg/L	1	**1,000**	-	80	72	63	74	-
Beryllium	µg/L	0.5	**4**	-	<0.5	<0.5	<0.5	<0.5	-
Boron	µg/L	10	**5,000**	-	109	211	182	95	-
Cadmium	µg/L	0.1	**2.1**	-	<0.1	<0.1	<0.1	<0.1	-
Chromium (III+VI)	µg/L	1	**50**	-	<1	<1	<1	<1	-
Cobalt	µg/L	0.5	**3.8**	-	0.6	0.8	0.6	0.6	-
Copper	µg/L	0.5	**69**	-	3.1	1.9	2.3	2.6	-
Lead	µg/L	0.1	**10**	-	<0.1	<0.1	<0.1	<0.1	-
Molybdenum	µg/L	0.5	**70**	-	2.3	1.9	1.7	1.4	-
Nickel	µg/L	1	**100**	-	3	2	2	2	-
Selenium	µg/L	1	**10**	-	<1	<1	<1	<1	-
Silver	µg/L	0.1	**1.2**	-	<0.1	<0.1	<0.1	<0.1	-
Thallium	µg/L	0.1	**2**	-	<0.1	<0.1	<0.1	<0.1	-
Uranium	µg/L	0.1	**20**	-	5.3	2.1	2.2	3.1	-
Vanadium	µg/L	0.5	**6.2**	-	2.0	2.4	2.3	1.6	-
Zinc	µg/L	5	**890**	-	<5	<5	<5	<5	-
ORPs									
Chromium (VI)	µg/L	10	**25**	-	<10	<10	-	<10	<10
Cyanide (Free)	µg/L	2	**52**	-	<2	<2	-	<2	<2
Mercury	µg/L	0.1	**0.1**	-	<0.1	<0.1	-	<0.1	<0.1
Chloride	µg/L	5,000	**790,000**	-	**1,120,000**	608,000	-	**1,260,000**	-
pH (Lab)	-	0.1		-	7.8	8.2	-	7.7	-
Sodium	ug/L	694	**490,000**	-	**543,000**	**745,000**	**643,000**	444,000	-

Comments
#1 Standard is applicable to total xylenes; m & p-xylenes and o-xylenes should be summed for comparison.
#2 Standard is applicable to PHC F2 minus naphthalene. If naphthalene is not analyzed, the standard is applied to F2.
#3 Standard is applicable to PHC F3 minus PAHs (other than naphthalene). If PAHs have not been measured, the standard is applied to F3.
#4 Standard is for benzo(b)fluoranthene; however, the laboratory can not distinguish between benzo(b)fluoranthene and benzo(j)fluoranthene.
#5 Standard is applicable to Methylnaphthalene, 1- and Methylnaphthalene, 2-. If both are detected, the sum of the two must not exceed the standard.

Appendix A

Sampling and Analysis Plan

Sampling and Analysis Plan - 2405 and 2419 Mer Bleue Road, Ottawa, Ontario

April 4, 2025

Prepared for:
Conseil des ecoles publiques de l'Est de l'Ontario

Cambium Reference: 20361-003

CAMBIUM INC.

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Table of Contents

1.0 Introduction

This document outlines the Sampling and Analysis Plan (SAP) for the field work proposed for the Phase Two Environmental Site Assessment (ESA) being completed at 2405 and 2419 Mer Bleue Road in Ottawa, Ontario (the Site). The roughly 3.61 ha Site on the east side of Mer Bleue Road and approximately 90 m south of the intersection of Mer Bleue Road and Renaud Road. The Site is developed with one building that is currently a vacant residential building.

The Phase Two ESA includes the advancement of five boreholes to a maximum depth of 3.1 m below ground surface (mbgs). In addition, three boreholes were installed as groundwater monitoring wells.

This SAP establishes a quality assurance and quality control (QA/QC) program, data quality objectives, standard operating procedures, and a description of potential physical impediments that may limit the ability to conduct sampling and analysis.

1.1 Objectives

Cambium Inc. (Cambium) completed a Phase One ESA for the Site (Cambium, 2024) which identified areas of potential environmental concern (APECs) associated with current and former uses of the site and surrounding properties.

The purpose of the soil characterization will be to investigate soil quality in the identified APECs through the advancement of boreholes, and the collection of soil samples.

The contaminants of potential concern (COPCs) associated with the APECs include benzene, toluene, ethylbenzene, xylenes (BTEX), petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals, hydride-forming metals, hot water soluble boron, hexavalent chromium, and mercury.

The overall objective of the Phase Two ESA work program is to identify areas of contamination at the Phase Two property, if any, to support the filing of a Site Plan Approval (SPA) application with the City of Clarence-Rockland in accordance with the requirements of Ontario Regulation (O.Reg.) 153/04.

2.0 Work Proposed

Proposed boreholes and monitoring well locations and rationale are included in the following table:

Location ID	Rationale	Proposed Sample Depth	COPCs
BH113-25	Investigate groundwater quality on the southwest portion of the Site for a former 1,360 L gasoline AST (APEC2) and previously identified groundwater exceedances (APEC 8)	N/A	BTEX, PHCs, VOCs, PAHs, metals, hydride-forming metals, hot water soluble boron, hexavalent chromium, mercury
BH114-25	Investigate soil and groundwater quality on the central portion of the Site for former automotive repair/servicing (APEC4)	0.0 to 0.5 mbgs & 0.5 to 1.5 mbgs	BTEX, PHCs, VOCs, PAHs, metals, hydride-forming metals, hot water soluble boron, hexavalent chromium, mercury
BH115-25	Investigate groundwater quality on the central portion of the Site for previously identified groundwater exceedances (APEC 7)	N/A	BTEX, PHCs, VOCs, PAHs, metals, hydride-forming metals, hot water soluble boron, hexavalent chromium, mercury
BH116-25	Investigate soil quality on the central portion of the Site for fill material (APEC1) and previously identified soil exceedances (APEC 6)	0.0-1.5 mbgs	Boron
BH117-25	Investigate soil quality on the east portion of the Site for fill material (APEC1)	0.0-1.5 mbgs	BTEX, PHCs, VOCs, PAHs, metals, hydride-forming metals, hot water soluble boron, hexavalent chromium, mercury

To meet the objectives outlined above, the Phase Two ESA work program will generally consist of the following:

- Advance boreholes at least to the depth of the water table, or test pits at least to native soil;
- Collect soil samples continuously at regular intervals (0.76 metres) using a dual tube sampling system;
- Instrument three boreholes with a monitoring well; and,
- Collect groundwater samples using a low-flow sampling method.

2.1 Quality Assurance

Cambium will maintain the following quality control measures throughout the Phase Two work program:

- Non-dedicated sampling and monitoring equipment will be decontaminated following each use and between each sampling location.
- A minimum of one (1) duplicate sample will be collected for every ten samples collected, for both soil and groundwater.
- Groundwater trip blanks will be submitted for analysis of VOCs with every groundwater VOC sample submission.

Paracel Laboratories Ltd. (Paracel), an analytical laboratory accredited by the Canadian Association of Laboratory Accreditation (CALA) will be utilized, and the laboratory will complete additional quality control measures (i.e. duplicates, method spikes) as required by its accreditation.

All laboratory certificates of analysis will be reviewed by Cambium for data integrity and quality control. If anomalies in the reported data are identified, Cambium will resample or collect additional samples, where possible and as required.

2.2 Sampling Methods

Boreholes will be advanced using a track-mounted drill rig. Retrieved soil samples will be inspected for visible and olfactory evidence of contamination. Soil samples will be divided, with half or more of the sample placed in a dedicated polyethylene sample bag and sealed for field screening, and the remaining sample placed in dedicated sample jars or vials for analytical submission. Samples to be submitted for analysis of PHC F1 and/or VOCs will be collected using a pre-calibrated syringe sampler and methanol preserved vial.

Each sample will be handled by a Cambium field technician using dedicated nitrile gloves to minimize the potential for cross-contamination.

2.2.1 Sample Handling and Custody

Samples will be collected in laboratory-supplied sample containers, with preservative as necessary. All samples requiring laboratory analysis will be placed in a cooler and maintained at less than 10°C prior to and during transport to the laboratory.

Samples will be labelled with a unique sample ID, sampling date, and project number. All samples will be shipped to the laboratory under chain of custody protocols.

2.2.2 Instrumentation

The Phase Two work program will require the use of the following non-dedicated instrumentation and equipment: RKI Eagle 2 portable gas detector, field water quality kit, peristaltic pump, and interface probe. Equipment will be inspected daily for damage or defects, and appropriate measures will be taken if necessary, prior to commencing field work.

An RKI Eagle 2 portable gas detector will be used to screen the soil samples for concentrations of combustible soil vapour (CSV) and organic vapour (OV). The RKI will be calibrated to hexane and isobutylene standards. After agitating the sample, the peak concentration will be recorded by inserting the RKI probe into the sample bag.

The interface probe will be decontaminated between monitoring wells using an Alconox wash, and rinsed with distilled water.

2.3 Quality Control

2.3.1 Verification and Validation Methods

To validate the integrity of the laboratory analytical data as well as sampling methods, Cambium will determine the relative percent difference (RPD) of QA/QC duplicate samples and the corresponding numbered samples. Cambium will also review the analysis of trip blanks and laboratory completed matrix spikes.

RPD is calculated using the following formula:

$$RPD(\%) = \frac{|x_1 - x_2|}{x_m} \times 100\%$$

Where: x_1 = parent sample result

x_2 = duplicate sample result

x_m = arithmetic mean of parent and duplicate sample results

Low concentrations are more sensitive to RPD values; as such, RPDs will not be calculated where the parameter concentration in the sample and/or duplicate is less than five (5) times the laboratory RDL.

The calculated RPD results were compared to the performance criteria for each parameter group as outlined in the *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality* (MECP, 2021).

If an RPD is calculated above the allowable limits, Cambium will attempt to determine the source of the variance, and will assess whether the elevated RPD affects the integrity and usability of the data.

If detectable contaminant concentrations are identified in the trip blank, Cambium will assess the chain of custody protocols and sample transport procedures, and determine if there are impacts to the integrity of the data.

2.4 Quality Control

2.4.1 Verification and Validation Methods

To validate the integrity of the laboratory analytical data as well as sampling methods, Cambium will determine the relative percent difference (RPD) of QA/QC duplicate samples and the corresponding numbered samples. Cambium will also review the analysis of trip blanks and laboratory completed matrix spikes.

RPD is calculated using the following formula:

$$RPD(\%) = \frac{|x_1 - x_2|}{x_m} \times 100\%$$

Where: x_1 = parent sample result

x_2 = duplicate sample result

x_m = arithmetic mean of parent and duplicate sample results

Low concentrations are more sensitive to RPD values; as such, RPDs will not be calculated where the parameter concentration in the sample and/or duplicate is less than five (5) times the laboratory RDL.

The calculated RPD results were compared to the performance criteria for each parameter group as outlined in the *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality* (MECP, 2021).

If an RPD is calculated above the allowable limits, Cambium will attempt to determine the source of the variance, and will assess whether the elevated RPD affects the integrity and usability of the data.

If detectable contaminant concentrations are identified in the trip blank, Cambium will assess the chain of custody protocols and sample transport procedures, and determine if there are impacts to the integrity of the data.

Appendix B

Borehole Logs

Client: Conseil des ecoles publiques de l'Est de l'Ontario
Contractor: Strata
Project No.: 20361-003
Location: 2405 chemin Mer Bleue, Ottawa ON

Project Name: 2405 chemin Mer Bleue, Orléans
Method: Direct Push
Elevation: 99.11 mREL
UTM: 18T **N:** 5031626 **E:** 461472

Log of Borehole: BH113-25
Page: 1 of 1
Date Completed: January 7th, 2025

SUBSURFACE PROFILE				SAMPLE										
Elevation (m) / Depth	Lithology	Description (Elevation / Depth)		Number	Type	CSV (ppm)	OV (ppm)	% Recovery	SPT (N)/DCPT	Atterberg Limits (%) LL PL PI; 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa (nat V., rem V.); 20 40 60 80 / SPT (N) / DCPT 20 40 60 80	Well Installation	Log Notes
99.1 / 0		**(GW) sandy GRAVEL:** sandy gravel	98.81										
			0.30	1	DT	0	0	70				Cap, Bentonite Plug, Riser	
98.6 / 0.5		**(CL) CLAY:** clay, some silt, no odour, no sheen, dry											
98.1 / 1				2	DT	0	0	70					
97.6 / 1.5		Soil becoming wet at 1.5 m											Insufficient soil to collect for lab analysis
97.1 / 2				3	DT	0	0	70				Sand Pack, PVC Screen	
96.6 / 2.5				4	DT	0	0	70					
96.1 / 3			96.06									Cap	
		Borehole terminated @ 3 mbgs due to target depth achieved.	3.05										Borehole Termination at 3.04 mbgs
95.6 / 3.5													
95.1 / 4													
94.6 / 4.5													
94.1 / 5													
93.6 / 5.5													
93.1 / 6													
92.6 / 6.5													
92.1 / 7													
91.6													

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DL **Input By:** PL

Peterborough, Barrie, Ottawa, Kingston, Whitby

Client: Conseil des ecoles publiques de l'Est de l'Ontario
Contractor: Strata
Project No.: 20361-003
Location: 2405 chemin Mer Bleue, Ottawa ON

Project Name: 2405 chemin Mer Bleue, Orléans
Method: Direct Push
Elevation: 99.35 mREL
UTM: 18T **N:** 5031657 **E:** 461482

Log of Borehole: BH114-25
Page: 1 of 1
Date Completed: January 7th, 2025

SUBSURFACE PROFILE				SAMPLE											
Elevation (m) / Depth	Lithology	Description	Elevation / Depth	Number	Type	CSV (ppm)	OV (ppm)	% Recovery	SPT (N)/DCPT	Atterberg Limits (%) LL PL PI 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa nat V. rem V. 20 40 60 80 / SPT (N) / DCPT 20 40 60 80	Well Installation	Log Notes
99.4 — 0		**(SW) SAND:** sand and gravel	98.89 / 0.46	1	DT	0	0	80				Cap, Bentonite Plug, Riser	
98.8 — 0.5		**(CL) CLAY:** clay, no odour, no sheen											
98.4 — 1				2	DT	0	0	80					
97.8 — 1.5		Soil becoming wet at 1.5 m										Sand Pack, PVC Screen	BH114-25_1.5-2.3: PHCs, PAHs, VOCs, Metals by ICP, ORPs QAQC1
97.4 — 2				3	DT	30	0	100					
96.8 — 2.5				4	DT	0	0	100					
96.4 — 3			96.30 / 3.05									Cap	Borehole Termination at 3.04 m
95.8 — 3.5		Borehole terminated @ 3 mbgs due to target depth achieved.											
95.4 — 4													
94.8 — 4.5													
94.4 — 5													
93.8 — 5.5													
93.4 — 6													
92.8 — 6.5													
92.4 — 7													
91.8													

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DL **Input By:** PL

Peterborough, Barrie, Ottawa, Kingston, Whitby

Client:	Conseil des ecoles publiques de l'Est de l'Ontario	**Project Name:**	2405 chemin Mer Bleue, Orléans	**Log of Borehole:**	BH115-25
Contractor:	Strata	**Method:**	Direct Push	Page:	1 of 1
Project No.:	20361-003	**Elevation:**	99.31 mREL	**Date Completed:**	January 7th, 2025
Location:	2405 chemin Mer Bleue, Ottawa ON	**UTM:**	18T **N:** 5031669 **E:** 461479		

SUBSURFACE PROFILE				SAMPLE											
Elevation (m) / Depth	Lithology	Description (Elevation / Depth)		Number	Type	CSV (ppm)	OV (ppm)	% Recovery	SPT (N)/DCPT	Atterberg Limits (%) LL PL PI; 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa (nat V., rem V.); 20 40 60 80 / SPT (N) / DCPT 20 40 60 80	Well Installation	Log Notes
99.3 — 0		**(SW) SAND:** sand and gravel, no odour	99.16 / 0.15									Cap, Bentonite Plug, Riser	
98.8 — 0.5		**(SW) SAND:** sand, no odour	99.01 / 0.30	1	DT	0	0	100					
98.3 — 1		**(CL) CLAY:** clay, no odour		2	DT	0	0	100					
97.8 — 1.5													Insufficient soil to collect for lab analysis
97.3 — 2		Soil becoming wet at 1.8 m		3	DT	0	0	100				Sand Pack, PVC Screen	
96.8 — 2.5				4	DT	0	0	100					
96.3 — 3			96.26 / 3.05									Cap	Borehole Termination at 3.04 mbgs
95.8 — 3.5		Borehole terminated @ 3 mbgs due to target depth achieved.											
95.3 — 4													
94.8 — 4.5													
94.3 — 5													
93.8 — 5.5													
93.3 — 6													
92.8 — 6.5													
92.3 — 7													
91.8													

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DL **Input By:** PL

Peterborough, Barrie, Ottawa, Kingston, Whitby

Client: Conseil des ecoles publiques de l'Est de l'Ontario
Contractor: Strata
Project No.: 20361-003
Location: 2405 chemin Mer Bleue, Ottawa ON

Project Name: 2405 chemin Mer Bleue, Orléans
Method: Direct Push
Elevation: 99.35 mREL
UTM: 18T **N:** 5031661 **E:** 461491

Log of Borehole: BH116-25
Page: 1 of 1
Date Completed: January 7th, 2025

SUBSURFACE PROFILE				SAMPLE											
Elevation (m) / Depth	Lithology	Description	Elevation / Depth	Number	Type	CSV (ppm)	OV (ppm)	% Recovery	SPT (N)/DCPT	Atterberg Limits (%) LL PL PI; 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa (nat V., rem V.); 20 40 60 80 / SPT (N) / DCPT 20 40 60 80	Well Installation	Log Notes
99.4 — 0		**(SW) SAND:** sand and gravel, no odour	98.74	1	DT	0	0	100					BH115-25_0.0-0.8: Boron
98.8 — 0.5		**(CL) CLAY:** clay, no odour	0.61										
98.4 — 1				2	DT	0	0	100					
97.8 — 1.5			97.83										Borehole Termination at 1.5 mbgs
97.4 — 2		Borehole terminated @ 1.5 mbgs due to target depth achieved.	1.52										
96.8 — 2.5													
96.4 — 3													
95.8 — 3.5													
95.4 — 4													
94.8 — 4.5													
94.4 — 5													
93.8 — 5.5													
93.4 — 6													
92.8 — 6.5													
92.4 — 7													
91.8													

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DL **Input By:** PL

Peterborough, Barrie, Ottawa, Kingston, Whitby

Client: Conseil des ecoles publiques de l'Est de l'Ontario
Contractor: Strata
Project No.: 20361-003
Location: 2405 chemin Mer Bleue, Ottawa ON

Project Name: 2405 chemin Mer Bleue, Orléans
Method: Direct Push
Elevation: 99.40 mREL
UTM: 18T **N:** 5031688 **E:** 461566

Log of Borehole: BH117-25
Page: 1 of 1
Date Completed: January 7th, 2025

SUBSURFACE PROFILE				SAMPLE										
Elevation (m) / Depth	Lithology	Description	Elevation / Depth	Number	Type	CSV (ppm)	OV (ppm)	% Recovery	SPT (N)/DCPT	Atterberg Limits (%) LL PL PI; 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa (nat V., rem V.); 20 40 60 80 / SPT (N) / DCPT 20 40 60 80	Well Installation	Log Notes
99.4 / 0		**(SW) SAND:** sand and gravel, no odour	99.10										
		(CL) CLAY: clay, no odour	0.30	1	DT	0	0	100					BH117-25_0.0-0.8: PHCs, PAHs, VOCs, Metals by ICP, ORPs
98.9 / 0.5													
98.4 / 1				2	DT	0	0	100					
97.9 / 1.5			97.88										
		Borehole terminated @ 1.5 mbgs due to target depth achieved.	1.52										Borehole Termination at 1.5 m
97.4 / 2													
96.9 / 2.5													
96.4 / 3													
95.9 / 3.5													
95.4 / 4													

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DL **Input By:** PL

Peterborough, Barrie, Ottawa, Kingston, Whitby

Appendix C

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.
TRUSTED. RESPONSIVE. RELIABLE.

300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

Cambium Inc. (Ottawa)
102-343 Preston Street
Ottawa, ON K7K 7G3
Attn: Dave Labelle

Client PO:
Project: 20361-003
Custody: 77287

Report Date: 3-Feb-2025
Order Date: 7-Jan-2025

Revised Report

Order #: 2502112

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

Paracel ID	Client ID
2502112-03	BH114-25_1.5-2.3
2502112-05	BH116-25_0.0-0.8
2502112-06	BH116-25_0.8-1.5
2502112-07	BH117-25_0.0-0.8
2502112-08	BH117-25_0.8-1.5
2502112-09	QA/QC-1

Approved By:

Mark Foto, M.Sc.
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.8 - ICP-MS	8-Jan-25	8-Jan-25
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	8-Jan-25	9-Jan-25
Conductivity	MOE E3138 - probe @25 °C, water ext	8-Jan-25	8-Jan-25
Cyanide, free	MOE E3015 - Auto Colour, water extraction	10-Jan-25	10-Jan-25
Mercury by CVAA	EPA 7471B - CVAA, digestion	8-Jan-25	8-Jan-25
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	9-Jan-25	9-Jan-25
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	8-Jan-25	8-Jan-25
PHC F1	CWS Tier 1 - P&T GC-FID	8-Jan-25	8-Jan-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	8-Jan-25	8-Jan-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	8-Jan-25	8-Jan-25
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	9-Jan-25	10-Jan-25
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	8-Jan-25	8-Jan-25
SAR	Calculated	8-Jan-25	8-Jan-25
Solids, %	CWS Tier 1 - Gravimetric	7-Jan-25	8-Jan-25
Texture - Coarse Med/Fine	Based on ASTM D2487	29-Jan-25	30-Jan-25

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
BH114-25_1.5-2.3	Conductivity	5 uS/cm	1230	0.7 mS/cm	0.7 mS/cm
BH114-25_1.5-2.3	Cobalt	1.0 ug/g	23.3	22 ug/g	22 ug/g
BH114-25_1.5-2.3	Vanadium	10.0 ug/g	92.2	86 ug/g	86 ug/g
BH116-25_0.0-0.8	pH	0.05 pH Units	9.61	5.00 - 9.00 pH Units	5.00 - 9.00 pH Units
BH117-25_0.0-0.8	Conductivity	5 uS/cm	886	0.7 mS/cm	0.7 mS/cm
BH117-25_0.0-0.8	pH	0.05 pH Units	9.01	5.00 - 9.00 pH Units	5.00 - 9.00 pH Units
QA/QC-1	Conductivity	5 uS/cm	1030	0.7 mS/cm	0.7 mS/cm
QA/QC-1	Cobalt	1.0 ug/g	25.7	22 ug/g	22 ug/g
QA/QC-1	Vanadium	10.0 ug/g	94.2	86 ug/g	86 ug/g

Certificate of Analysis

Report Date: 03-Feb-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 7-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25_1.5-2.3	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-03	2502112-05	2502112-06	2502112-07		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	72.1	82.9	75.5	87.9	-	-
>75 um	0.1 %	-	-	10.2	48.9	-	-
<75 um	0.1 %	-	-	89.8	51.1	-	-
Texture	0.1 %	-	-	Med/Fine	Med/Fine	-	-
General Inorganics							
SAR	0.01 N/A	1.61	-	-	0.38	5 N/A	5 N/A
Conductivity	5 uS/cm	1230	-	-	886	0.7 mS/cm	0.7 mS/cm
Cyanide, free	0.03 ug/g	<0.03	-	-	<0.03	0.051 ug/g	0.051 ug/g
pH	0.05 pH Units	7.44	9.61	7.57	9.01	5.00 - 9.00 pH Units	5.00 - 9.00 pH Units
Metals							
Antimony	1.0 ug/g	<1.0	-	<1.0	<1.0	7.5 ug/g	7.5 ug/g
Arsenic	1.0 ug/g	4.1	-	2.8	2.0	18 ug/g	18 ug/g
Barium	1.0 ug/g	248	-	92.7	85.3	390 ug/g	390 ug/g
Beryllium	0.5 ug/g	1.2	-	0.6	<0.5	4 ug/g	5 ug/g
Boron	5.0 ug/g	16.2	6.3	7.3	<5.0	120 ug/g	120 ug/g
Boron, available	0.5 ug/g	<0.5	-	-	<0.5	1.5 ug/g	1.5 ug/g
Cadmium	0.5 ug/g	<0.5	-	<0.5	<0.5	1.2 ug/g	1.2 ug/g
Chromium	5.0 ug/g	115	-	49.8	28.0	160 ug/g	160 ug/g
Chromium (VI)	0.2 ug/g	0.4	-	-	<0.2	8 ug/g	10 ug/g
Cobalt	1.0 ug/g	23.3	-	9.8	6.6	22 ug/g	22 ug/g
Copper	5.0 ug/g	55.3	-	15.3	17.3	140 ug/g	180 ug/g
Lead	1.0 ug/g	11.1	-	10.2	16.3	120 ug/g	120 ug/g
Mercury	0.1 ug/g	<0.1	-	-	<0.1	0.27 ug/g	1.8 ug/g
Molybdenum	1.0 ug/g	<1.0	-	<1.0	<1.0	6.9 ug/g	6.9 ug/g
Nickel	5.0 ug/g	67.1	-	24.0	15.5	100 ug/g	130 ug/g

Certificate of Analysis

Report Date: 03-Feb-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 7-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25_1.5-2.3	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-03	2502112-05	2502112-06	2502112-07		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Metals							
Selenium	1.0 ug/g	<1.0	-	<1.0	<1.0	2.4 ug/g	2.4 ug/g
Silver	0.3 ug/g	<0.3	-	<0.3	<0.3	20 ug/g	25 ug/g
Thallium	1.0 ug/g	<1.0	-	<1.0	<1.0	1 ug/g	1 ug/g
Uranium	1.0 ug/g	<1.0	-	1.3	<1.0	23 ug/g	23 ug/g
Vanadium	10.0 ug/g	92.2	-	45.3	24.1	86 ug/g	86 ug/g
Zinc	20.0 ug/g	110	-	46.0	38.6	340 ug/g	340 ug/g
Volatiles							
Acetone	0.50 ug/g	<0.50	-	-	<0.50	16 ug/g	28 ug/g
Benzene	0.02 ug/g	<0.02	-	-	<0.02	0.21 ug/g	0.17 ug/g
Bromodichloromethane	0.05 ug/g	<0.05	-	-	<0.05	1.5 ug/g	1.9 ug/g
Bromoform	0.05 ug/g	<0.05	-	-	<0.05	0.27 ug/g	0.26 ug/g
Bromomethane	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
Carbon Tetrachloride	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.12 ug/g
Chlorobenzene	0.05 ug/g	<0.05	-	-	<0.05	2.4 ug/g	2.7 ug/g
Chloroform	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.18 ug/g
Dibromochloromethane	0.05 ug/g	<0.05	-	-	<0.05	2.3 ug/g	2.9 ug/g
Dichlorodifluoromethane	0.05 ug/g	<0.05	-	-	<0.05	16 ug/g	25 ug/g
1,2-Dichlorobenzene	0.05 ug/g	<0.05	-	-	<0.05	1.2 ug/g	1.7 ug/g
1,3-Dichlorobenzene	0.05 ug/g	<0.05	-	-	<0.05	4.8 ug/g	6 ug/g
1,4-Dichlorobenzene	0.05 ug/g	<0.05	-	-	<0.05	0.083 ug/g	0.097 ug/g
1,1-Dichloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.47 ug/g	0.6 ug/g
1,2-Dichloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
1,1-Dichloroethylene	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	<0.05	1.9 ug/g	2.5 ug/g
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	<0.05	0.084 ug/g	0.75 ug/g

	Client ID:	BH114-25_1.5-2.3	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-03	2502112-05	2502112-06	2502112-07		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
1,2-Dichloropropane	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.085 ug/g
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	0.05 ug/g	0.081 ug/g
Ethylbenzene	0.05 ug/g	<0.05	-	-	<0.05	1.1 ug/g	1.6 ug/g
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
Hexane	0.05 ug/g	<0.05	-	-	<0.05	2.8 ug/g	34 ug/g
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	<0.50	-	-	<0.50	16 ug/g	44 ug/g
Methyl Isobutyl Ketone	0.50 ug/g	<0.50	-	-	<0.50	1.7 ug/g	4.3 ug/g
Methyl tert-butyl ether	0.05 ug/g	<0.05	-	-	<0.05	0.75 ug/g	1.4 ug/g
Methylene Chloride	0.05 ug/g	<0.05	-	-	<0.05	0.1 ug/g	0.96 ug/g
Styrene	0.05 ug/g	<0.05	-	-	<0.05	0.7 ug/g	2.2 ug/g
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.058 ug/g	0.05 ug/g
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
Tetrachloroethylene	0.05 ug/g	<0.05	-	-	<0.05	0.28 ug/g	2.3 ug/g
Toluene	0.05 ug/g	<0.05	-	-	<0.05	2.3 ug/g	6 ug/g
1,1,1-Trichloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.38 ug/g	3.4 ug/g
1,1,2-Trichloroethane	0.05 ug/g	<0.05	-	-	<0.05	0.05 ug/g	0.05 ug/g
Trichloroethylene	0.05 ug/g	<0.05	-	-	<0.05	0.061 ug/g	0.52 ug/g
Trichlorofluoromethane	0.05 ug/g	<0.05	-	-	<0.05	4 ug/g	5.8 ug/g
Vinyl chloride	0.02 ug/g	<0.02	-	-	<0.02	0.02 ug/g	0.022 ug/g
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	3.1 ug/g	25 ug/g
Toluene-d8	Surrogate	113%	-	-	99.4%	-	-

Certificate of Analysis

Report Date: 03-Feb-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 7-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25_1.5-2.3	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-03	2502112-05	2502112-06	2502112-07		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Dibromofluoromethane	Surrogate	117%	-	-	116%	-	-
4-Bromofluorobenzene	Surrogate	107%	-	-	99.5%	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	-	-	<7	55 ug/g	65 ug/g
F2 PHCs (C10-C16)	4 ug/g	<4	-	-	<4	98 ug/g	150 ug/g
F3 PHCs (C16-C34)	8 ug/g	<8	-	-	31	300 ug/g	1300 ug/g
F4 PHCs (C34-C50)	6 ug/g	<6	-	-	33	2800 ug/g	5600 ug/g
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	-	-	<0.02	7.9 ug/g	29 ug/g
Acenaphthylene	0.02 ug/g	<0.02	-	-	<0.02	0.15 ug/g	0.17 ug/g
Anthracene	0.02 ug/g	<0.02	-	-	<0.02	0.67 ug/g	0.74 ug/g
Benzo [a] anthracene	0.02 ug/g	<0.02	-	-	<0.02	0.5 ug/g	0.63 ug/g
Benzo [a] pyrene	0.02 ug/g	<0.02	-	-	<0.02	0.3 ug/g	0.3 ug/g
Benzo [b] fluoranthene	0.02 ug/g	<0.02	-	-	<0.02	0.78 ug/g	0.78 ug/g
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	-	-	<0.02	6.6 ug/g	7.8 ug/g
Benzo [k] fluoranthene	0.02 ug/g	<0.02	-	-	<0.02	0.78 ug/g	0.78 ug/g
Chrysene	0.02 ug/g	<0.02	-	-	<0.02	7 ug/g	7.8 ug/g
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	-	-	<0.02	0.1 ug/g	0.1 ug/g
Fluoranthene	0.02 ug/g	<0.02	-	-	<0.02	0.69 ug/g	0.69 ug/g
Fluorene	0.02 ug/g	<0.02	-	-	<0.02	62 ug/g	69 ug/g
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	-	-	<0.02	0.38 ug/g	0.48 ug/g
1-Methylnaphthalene	0.02 ug/g	<0.02	-	-	<0.02	0.99 ug/g	3.4 ug/g
2-Methylnaphthalene	0.02 ug/g	<0.02	-	-	<0.02	0.99 ug/g	3.4 ug/g
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	-	-	<0.04	0.99 ug/g	3.4 ug/g
Naphthalene	0.01 ug/g	<0.01	-	-	<0.01	0.6 ug/g	0.75 ug/g

	Client ID:	BH114-25_1.5-2.3	BH116-25_0.0-0.8	BH116-25_0.8-1.5	BH117-25_0.0-0.8	Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	07-Jan-25 09:00	Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-03	2502112-05	2502112-06	2502112-07		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Phenanthrene	0.02 ug/g	<0.02	-	-	<0.02	6.2 ug/g	7.8 ug/g
Pyrene	0.02 ug/g	<0.02	-	-	<0.02	78 ug/g	78 ug/g
2-Fluorobiphenyl	Surrogate	61.4%	-	-	54.7%	-	-
Terphenyl-d14	Surrogate	80.6%	-	-	62.4%	-	-

Certificate of Analysis

Report Date: 03-Feb-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 7-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH117-25_0.8-1.5	QA/QC-1			Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00			Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-08	2502112-09				
	Matrix:	Soil	Soil				
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	74.4	72.4	-	-	-	-
>75 um	0.1 %	32.1	-	-	-	-	-
<75 um	0.1 %	67.9	-	-	-	-	-
Texture	0.1 %	Med/Fine	-	-	-	-	-
General Inorganics							
SAR	0.01 N/A	-	1.71	-	-	5 N/A	5 N/A
Conductivity	5 uS/cm	-	1030	-	-	0.7 mS/cm	0.7 mS/cm
Cyanide, free	0.03 ug/g	-	<0.03	-	-	0.051 ug/g	0.051 ug/g
pH	0.05 pH Units	7.32	7.72	-	-	5.00 - 9.00 pH Units	5.00 - 9.00 pH Units
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	-	-	7.5 ug/g	7.5 ug/g
Arsenic	1.0 ug/g	3.1	4.3	-	-	18 ug/g	18 ug/g
Barium	1.0 ug/g	106	266	-	-	390 ug/g	390 ug/g
Beryllium	0.5 ug/g	<0.5	1.2	-	-	4 ug/g	5 ug/g
Boron	5.0 ug/g	6.5	15.5	-	-	120 ug/g	120 ug/g
Boron, available	0.5 ug/g	-	<0.5	-	-	1.5 ug/g	1.5 ug/g
Cadmium	0.5 ug/g	<0.5	<0.5	-	-	1.2 ug/g	1.2 ug/g
Chromium (VI)	0.2 ug/g	-	0.5	-	-	8 ug/g	10 ug/g
Chromium	5.0 ug/g	35.4	118	-	-	160 ug/g	160 ug/g
Cobalt	1.0 ug/g	9.5	25.7	-	-	22 ug/g	22 ug/g
Copper	5.0 ug/g	21.9	55.2	-	-	140 ug/g	180 ug/g
Lead	1.0 ug/g	5.9	11.9	-	-	120 ug/g	120 ug/g
Mercury	0.1 ug/g	-	<0.1	-	-	0.27 ug/g	1.8 ug/g
Molybdenum	1.0 ug/g	1.1	<1.0	-	-	6.9 ug/g	6.9 ug/g
Nickel	5.0 ug/g	19.3	71.0	-	-	100 ug/g	130 ug/g

	Client ID:	BH117-25_0.8-1.5	QA/QC-1			Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00			Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-08	2502112-09				
	Matrix:	Soil	Soil				
	MDL/Units						
Metals							
Selenium	1.0 ug/g	<1.0	<1.0	-	-	2.4 ug/g	2.4 ug/g
Silver	0.3 ug/g	<0.3	<0.3	-	-	20 ug/g	25 ug/g
Thallium	1.0 ug/g	<1.0	<1.0	-	-	1 ug/g	1 ug/g
Uranium	1.0 ug/g	1.2	1.0	-	-	23 ug/g	23 ug/g
Vanadium	10.0 ug/g	34.3	94.2	-	-	86 ug/g	86 ug/g
Zinc	20.0 ug/g	40.4	114	-	-	340 ug/g	340 ug/g
Volatiles							
Acetone	0.50 ug/g	-	<0.50	-	-	16 ug/g	28 ug/g
Benzene	0.02 ug/g	-	<0.02	-	-	0.21 ug/g	0.17 ug/g
Bromodichloromethane	0.05 ug/g	-	<0.05	-	-	1.5 ug/g	1.9 ug/g
Bromoform	0.05 ug/g	-	<0.05	-	-	0.27 ug/g	0.26 ug/g
Bromomethane	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
Carbon Tetrachloride	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.12 ug/g
Chlorobenzene	0.05 ug/g	-	<0.05	-	-	2.4 ug/g	2.7 ug/g
Chloroform	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.18 ug/g
Dibromochloromethane	0.05 ug/g	-	<0.05	-	-	2.3 ug/g	2.9 ug/g
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	-	-	16 ug/g	25 ug/g
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	-	-	1.2 ug/g	1.7 ug/g
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	-	-	4.8 ug/g	6 ug/g
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	-	-	0.083 ug/g	0.097 ug/g
1,1-Dichloroethane	0.05 ug/g	-	<0.05	-	-	0.47 ug/g	0.6 ug/g
1,2-Dichloroethane	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	-	1.9 ug/g	2.5 ug/g
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	-	0.084 ug/g	0.75 ug/g

	Client ID:	BH117-25_0.8-1.5	QA/QC-1			Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00			Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-08	2502112-09				
	Matrix:	Soil	Soil				
	MDL/Units						
Volatiles							
1,2-Dichloropropane	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.085 ug/g
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	-	-	0.05 ug/g	0.081 ug/g
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
Ethylbenzene	0.05 ug/g	-	<0.05	-	-	1.1 ug/g	1.6 ug/g
Hexane	0.05 ug/g	-	<0.05	-	-	2.8 ug/g	34 ug/g
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	<0.50	-	-	16 ug/g	44 ug/g
Methyl Isobutyl Ketone	0.50 ug/g	-	<0.50	-	-	1.7 ug/g	4.3 ug/g
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	-	-	0.75 ug/g	1.4 ug/g
Methylene Chloride	0.05 ug/g	-	<0.05	-	-	0.1 ug/g	0.96 ug/g
Styrene	0.05 ug/g	-	<0.05	-	-	0.7 ug/g	2.2 ug/g
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	-	0.058 ug/g	0.05 ug/g
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
Tetrachloroethylene	0.05 ug/g	-	<0.05	-	-	0.28 ug/g	2.3 ug/g
Toluene	0.05 ug/g	-	<0.05	-	-	2.3 ug/g	6 ug/g
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	-	-	0.38 ug/g	3.4 ug/g
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	-	-	0.05 ug/g	0.05 ug/g
Trichloroethylene	0.05 ug/g	-	<0.05	-	-	0.061 ug/g	0.52 ug/g
Trichlorofluoromethane	0.05 ug/g	-	<0.05	-	-	4 ug/g	5.8 ug/g
Vinyl chloride	0.02 ug/g	-	<0.02	-	-	0.02 ug/g	0.022 ug/g
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	-	-	3.1 ug/g	25 ug/g
Toluene-d8	Surrogate	-	111%	-	-	-	-

		Client ID:	BH117-25_0.8-1.5	QA/QC-1			**Criteria:**	
		Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00			**Reg 153/04 -T6**	**Reg 153/04 -T6**
		Sample ID:	2502112-08	2502112-09			**Res/Park, coarse**	**Res/Park, fine**
		Matrix:	Soil	Soil				
	MDL/Units							
Volatiles								
Dibromofluoromethane	Surrogate	-	119%	-	-	-	-	
4-Bromofluorobenzene	Surrogate	-	108%	-	-	-	-	
Hydrocarbons								
F1 PHCs (C6-C10)	7 ug/g	-	<7	-	-	55 ug/g	65 ug/g	
F2 PHCs (C10-C16)	4 ug/g	-	<4	-	-	98 ug/g	150 ug/g	
F3 PHCs (C16-C34)	8 ug/g	-	<8	-	-	300 ug/g	1300 ug/g	
F4 PHCs (C34-C50)	6 ug/g	-	<6	-	-	2800 ug/g	5600 ug/g	
Semi-Volatiles								
Acenaphthene	0.02 ug/g	-	<0.02	-	-	7.9 ug/g	29 ug/g	
Acenaphthylene	0.02 ug/g	-	<0.02	-	-	0.15 ug/g	0.17 ug/g	
Anthracene	0.02 ug/g	-	<0.02	-	-	0.67 ug/g	0.74 ug/g	
Benzo [a] anthracene	0.02 ug/g	-	<0.02	-	-	0.5 ug/g	0.63 ug/g	
Benzo [a] pyrene	0.02 ug/g	-	<0.02	-	-	0.3 ug/g	0.3 ug/g	
Benzo [b] fluoranthene	0.02 ug/g	-	<0.02	-	-	0.78 ug/g	0.78 ug/g	
Benzo [g,h,i] perylene	0.02 ug/g	-	<0.02	-	-	6.6 ug/g	7.8 ug/g	
Benzo [k] fluoranthene	0.02 ug/g	-	<0.02	-	-	0.78 ug/g	0.78 ug/g	
Chrysene	0.02 ug/g	-	<0.02	-	-	7 ug/g	7.8 ug/g	
Dibenzo [a,h] anthracene	0.02 ug/g	-	<0.02	-	-	0.1 ug/g	0.1 ug/g	
Fluoranthene	0.02 ug/g	-	<0.02	-	-	0.69 ug/g	0.69 ug/g	
Fluorene	0.02 ug/g	-	<0.02	-	-	62 ug/g	69 ug/g	
Indeno [1,2,3-cd] pyrene	0.02 ug/g	-	<0.02	-	-	0.38 ug/g	0.48 ug/g	
1-Methylnaphthalene	0.02 ug/g	-	<0.02	-	-	0.99 ug/g	3.4 ug/g	
2-Methylnaphthalene	0.02 ug/g	-	<0.02	-	-	0.99 ug/g	3.4 ug/g	
Methylnaphthalene (1&2)	0.04 ug/g	-	<0.04	-	-	0.99 ug/g	3.4 ug/g	
Naphthalene	0.01 ug/g	-	<0.01	-	-	0.6 ug/g	0.75 ug/g	

	Client ID:	BH117-25_0.8-1.5	QA/QC-1			Criteria:	
	Sample Date:	07-Jan-25 09:00	07-Jan-25 09:00			Reg 153/04 -T6 Res/Park, coarse	Reg 153/04 -T6 Res/Park, fine
	Sample ID:	2502112-08	2502112-09				
	Matrix:	Soil	Soil				
	MDL/Units						
Semi-Volatiles							
Phenanthrene	0.02 ug/g	-	<0.02	-	-	6.2 ug/g	7.8 ug/g
Pyrene	0.02 ug/g	-	<0.02	-	-	78 ug/g	78 ug/g
2-Fluorobiphenyl	Surrogate	-	64.5%	-	-	-	-
Terphenyl-d14	Surrogate	-	80.4%	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Conductivity	ND	5	uS/cm					
Cyanide, free	ND	0.03	ug/g					
Hydrocarbons								
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					
Metals								
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, available	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium (VI)	ND	0.2	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					
Mercury	ND	0.1	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					
Semi-Volatiles								
Acenaphthene	ND	0.02	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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					
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					
Surrogate: 2-Fluorobiphenyl	*0.692*		*%*	*51.9*	*50-140*			
Surrogate: Terphenyl-d14	*0.852*		*%*	*63.9*	*50-140*			
Volatiles								
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					
1,2-Dichlorobenzene	ND	0.05	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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					
1,1,2,2-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					
Surrogate: 4-Bromofluorobenzene	*7.37*		*%*	*92.1*	*50-140*			

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*7.24*		*%*	*90.6*	*50-140*			
Surrogate: Toluene-d8	*8.46*		*%*	*106*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	4.29	0.01	N/A	4.08			5.0	30	
Conductivity	1870	5	uS/cm	1830			2.2	5	
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	11.42	0.05	pH Units	11.44			0.2	2.3	
Hydrocarbons									
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)	12	8	ug/g	18			NC	30	
F4 PHCs (C34-C50)	9	6	ug/g	ND			NC	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	6.4	1.0	ug/g	6.6			3.8	30	
Barium	95.7	1.0	ug/g	93.0			2.9	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron, available	0.61	0.5	ug/g	0.59			3.5	35	
Boron	14.3	5.0	ug/g	17.4			19.3	30	
Boron	10.4	5.0	ug/g	10.5			1.4	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g	ND			NC	35	
Chromium	29.7	5.0	ug/g	25.3			16.2	30	
Cobalt	7.8	1.0	ug/g	7.7			0.3	30	
Copper	12.6	5.0	ug/g	12.5			1.2	30	
Lead	15.6	1.0	ug/g	14.5			7.0	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	4.3	1.0	ug/g	4.2			2.5	30	
Nickel	15.8	5.0	ug/g	15.5			1.9	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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Vanadium	26.5	10.0	ug/g	29.7			11.4	30	
Zinc	24.6	20.0	ug/g	30.4			21.2	30	
Physical Characteristics									
% Solids	82.8	0.1	% by Wt.	84.8			2.3	25	
Semi-Volatiles									
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	
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	
Surrogate: 2-Fluorobiphenyl	*1.04*		*%*		*56.2*	*50-140*			
Surrogate: Terphenyl-d14	*1.40*		*%*		*75.5*	*50-140*			
Volatiles									
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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	
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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*7.99*		*%*		*95.6*	*50-140*			
Surrogate: Dibromofluoromethane	*9.06*		*%*		*108*	*50-140*			
Surrogate: Toluene-d8	*8.28*		*%*		*99.1*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.256	0.03	ug/g	ND	79.4	50-150			
Hydrocarbons									
F1 PHCs (C6-C10)	154	7	ug/g	ND	89.7	85-115			
F2 PHCs (C10-C16)	94	4	ug/g	ND	109	60-140			
F3 PHCs (C16-C34)	276	8	ug/g	18	122	60-140			
F4 PHCs (C34-C50)	174	6	ug/g	ND	130	60-140			
Metals									
Antimony	57.2	1.0	ug/g	ND	113	70-130			
Arsenic	55.3	1.0	ug/g	2.6	105	70-130			
Barium	94.4	1.0	ug/g	37.2	114	70-130			
Beryllium	51.8	0.5	ug/g	ND	103	70-130			
Boron, available	4.20	0.5	ug/g	0.59	72.1	70-122			
Boron	52.8	5.0	ug/g	6.9	91.6	70-130			
Boron	52.1	5.0	ug/g	ND	95.9	70-130			
Cadmium	53.3	0.5	ug/g	ND	107	70-130			
Chromium (VI)	0.2	0.2	ug/g	ND	77.5	48-112			
Chromium	66.1	5.0	ug/g	10.1	112	70-130			
Cobalt	58.3	1.0	ug/g	3.1	110	70-130			
Copper	57.3	5.0	ug/g	5.0	105	70-130			
Lead	54.2	1.0	ug/g	5.8	96.8	70-130			
Mercury	1.56	0.1	ug/g	ND	104	70-130			
Molybdenum	54.1	1.0	ug/g	1.7	105	70-130			
Nickel	60.8	5.0	ug/g	6.2	109	70-130			
Selenium	47.7	1.0	ug/g	ND	95.1	70-130			
Silver	47.1	0.3	ug/g	ND	94.1	70-130			
Thallium	47.9	1.0	ug/g	ND	95.7	70-130			
Uranium	49.3	1.0	ug/g	ND	98.0	70-130			
Vanadium	63.9	10.0	ug/g	11.9	104	70-130			
Zinc	58.4	20.0	ug/g	ND	92.4	70-130			
Semi-Volatiles									

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Acenaphthene	0.205	0.02	ug/g	ND	88.7	50-140			
Acenaphthylene	0.191	0.02	ug/g	ND	82.5	50-140			
Anthracene	0.175	0.02	ug/g	ND	75.7	50-140			
Benzo [a] anthracene	0.130	0.02	ug/g	ND	56.4	50-140			
Benzo [a] pyrene	0.129	0.02	ug/g	ND	55.6	50-140			
Benzo [b] fluoranthene	0.121	0.02	ug/g	ND	52.4	50-140			
Benzo [g,h,i] perylene	0.136	0.02	ug/g	ND	58.7	50-140			
Benzo [k] fluoranthene	0.119	0.02	ug/g	ND	51.4	50-140			
Chrysene	0.160	0.02	ug/g	ND	69.0	50-140			
Dibenzo [a,h] anthracene	0.125	0.02	ug/g	ND	54.0	50-140			
Fluoranthene	0.202	0.02	ug/g	ND	87.3	50-140			
Fluorene	0.175	0.02	ug/g	ND	75.5	50-140			
Indeno [1,2,3-cd] pyrene	0.129	0.02	ug/g	ND	55.8	50-140			
1-Methylnaphthalene	0.181	0.02	ug/g	ND	78.4	50-140			
2-Methylnaphthalene	0.167	0.02	ug/g	ND	72.2	50-140			
Naphthalene	0.210	0.01	ug/g	ND	90.9	50-140			
Phenanthrene	0.212	0.02	ug/g	ND	91.7	50-140			
Pyrene	0.208	0.02	ug/g	ND	89.8	50-140			
Surrogate: 2-Fluorobiphenyl	*1.10*		*%*		*59.6*	*50-140*			
Surrogate: Terphenyl-d14	*1.57*		*%*		*84.6*	*50-140*			
Volatiles									
Acetone	9.18	0.50	ug/g	ND	91.8	50-140			
Benzene	3.19	0.02	ug/g	ND	79.6	60-130			
Bromodichloromethane	2.88	0.05	ug/g	ND	72.0	60-130			
Bromoform	2.98	0.05	ug/g	ND	74.5	60-130			
Bromomethane	4.53	0.05	ug/g	ND	113	50-140			
Carbon Tetrachloride	2.74	0.05	ug/g	ND	68.5	60-130			
Chlorobenzene	3.30	0.05	ug/g	ND	82.4	60-130			
Chloroform	2.96	0.05	ug/g	ND	74.1	60-130			
Dibromochloromethane	2.86	0.05	ug/g	ND	71.4	60-130			
Dichlorodifluoromethane	4.47	0.05	ug/g	ND	112	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	3.29	0.05	ug/g	ND	82.2	60-130			
1,3-Dichlorobenzene	3.54	0.05	ug/g	ND	88.6	60-130			
1,4-Dichlorobenzene	3.41	0.05	ug/g	ND	85.4	60-130			
1,1-Dichloroethane	3.68	0.05	ug/g	ND	92.0	60-130			
1,2-Dichloroethane	2.77	0.05	ug/g	ND	69.3	60-130			
1,1-Dichloroethylene	4.59	0.05	ug/g	ND	115	60-130			
cis-1,2-Dichloroethylene	3.18	0.05	ug/g	ND	79.4	60-130			
trans-1,2-Dichloroethylene	4.83	0.05	ug/g	ND	121	60-130			
1,2-Dichloropropane	2.77	0.05	ug/g	ND	69.3	60-130			
cis-1,3-Dichloropropylene	2.78	0.05	ug/g	ND	69.4	60-130			
trans-1,3-Dichloropropylene	3.15	0.05	ug/g	ND	78.7	60-130			
Ethylbenzene	3.79	0.05	ug/g	ND	94.6	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	2.62	0.05	ug/g	ND	65.5	60-130			
Hexane	4.32	0.05	ug/g	ND	108	60-130			
Methyl Ethyl Ketone (2-Butanone)	8.44	0.50	ug/g	ND	84.4	50-140			
Methyl Isobutyl Ketone	6.97	0.50	ug/g	ND	69.7	50-140			
Methyl tert-butyl ether	9.62	0.05	ug/g	ND	96.2	50-140			
Methylene Chloride	4.89	0.05	ug/g	ND	122	60-130			
Styrene	3.14	0.05	ug/g	ND	78.4	60-130			
1,1,1,2-Tetrachloroethane	2.72	0.05	ug/g	ND	67.9	60-130			
1,1,2,2-Tetrachloroethane	2.84	0.05	ug/g	ND	70.9	60-130			
Tetrachloroethylene	2.73	0.05	ug/g	ND	68.3	60-130			
Toluene	3.22	0.05	ug/g	ND	80.5	60-130			
1,1,1-Trichloroethane	3.02	0.05	ug/g	ND	75.5	60-130			
1,1,2-Trichloroethane	3.36	0.05	ug/g	ND	84.1	60-130			
Trichloroethylene	2.91	0.05	ug/g	ND	72.8	60-130			
Trichlorofluoromethane	4.63	0.05	ug/g	ND	116	50-140			
Vinyl chloride	4.51	0.02	ug/g	ND	113	50-140			
m,p-Xylenes	7.66	0.05	ug/g	ND	95.7	60-130			
o-Xylene	3.58	0.05	ug/g	ND	89.5	60-130			
Surrogate: 4-Bromofluorobenzene	*7.50*		*%*		*93.8*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*6.66*		*%*		*83.2*	*50-140*			
Surrogate: Toluene-d8	*8.12*		*%*		*101*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

QC Qualifiers:

Sample Data Revisions:

None

Work Order Revisions / Comments:

REVISION-1: This report includes additional texture data.

REVISION-2: This report includes additional pH, metals and texture data.

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 unlesss 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.

PARACE LABORATORIES

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Paracel Order Number (Lab Use Only): 2502112

Chain Of Custody (Lab Use Only) № 77287

Client Name: Combium
Contact Name: Dave Labelle, Sheila Barter
Address: 343 Preston Street, Ottawa, Ontario
Telephone: 613-876-1304

Project Ref: 20361-003
Quote #:
PO #:
E-mail: dave.labelle@combium-ix.com
sheila.barter@combium-inc.com

Page 1 of 1

Turnaround Time
☐ 1 day ☐ 3 day
☐ 2 day ☒ Regular
Date Required: _____

☐ REG 153/04 ☐ REG 406/19
☐ Table 1 ☐ Agri/Other ☐ Med/Fine
☐ Table 2 ☒ Res/Park ☒ Coarse
☐ Table 3 ☐ Ind/Comm
☒ Table 6
For RSC: ☒ Yes ☐ No

Other Regulation
☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun: _____
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken: Date	Sample Taken: Time	PHCs	PAHs	VOCs	metals and inorganics	Boron	Hold	pH
1	BH114-25_0.0-0.8	S		2		Jan 7							X	
2	BH114-25_0.8-1.5			3									X	
3	BH114-25_1.5-2.3			3				X	X	X	X			X
4	BH114-25_2.3-3.1			3									X	
5	BH116-25_0.0-0.8			2								X		X
6	BH116-25_0.8-1.5			2									X	
7	BH117-25_0.0-0.8			3				X	X	X	X			
8	BH117-25_0.8-1.5			3									X	
9	QA/QC-1			3				X	X	X	X			X
10														

Comments:

Method of Delivery: Walk-In

Relinquished By (Sign):	Received at Depot:	Received at Lab: SO	Verified By: SO
Relinquished By (Print): Dave Labelle	Date/Time:	Date/Time: Jan 7, 2025 2:[illegible]	Date/Time: Jan 7, 2025 3:00 pm
Date/Time: Jan 7, 2025	Temperature: °C	Temperature: -1.4 °C	pH Verified: ☐ By:

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Certificate of Analysis

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Attn: Sheila Barter

Client PO:
Project: 20361-003
Custody: 76527

Report Date: 31-Jan-2025
Order Date: 24-Jan-2025

Order #: 2504459

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

Paracel ID	Client ID
2504459-01	BH114-25
2504459-02	QAQC01-25
2504459-03	BH113-25
2504459-04	BH115-25
2504459-05	QAQC02-25
2504459-06	Trip Blank

Approved By:

Mark Foto, M.Sc.

Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Anions	EPA 300.1 - IC	27-Jan-25	27-Jan-25
Chromium, hexavalent - water	MOE E3056 - colourimetric	28-Jan-25	28-Jan-25
Cyanide, free	MOE E3015 - Auto Colour	29-Jan-25	29-Jan-25
Mercury by CVAA	EPA 245.2 - Cold Vapour AA	28-Jan-25	28-Jan-25
Metals, ICP-MS	EPA 200.8 - ICP-MS	24-Jan-25	27-Jan-25
pH	EPA 150.1 - pH probe @25 °C	27-Jan-25	27-Jan-25
PHC F1	CWS Tier 1 - P&T GC-FID	27-Jan-25	27-Jan-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	27-Jan-25	27-Jan-25
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	29-Jan-25	30-Jan-25
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	27-Jan-25	27-Jan-25

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T6 Potable Groundwater	-
BH114-25	Sodium	200 ug/L	745000	490000 ug/L	-
BH114-25	Benzo [a] pyrene	0.01 ug/L	<0.02 [1]	0.01 ug/L	-
QAQC01-25	Sodium	200 ug/L	643000	490000 ug/L	-
BH113-25	Chloride	1 mg/L	1120	790000 ug/L	-
BH113-25	Sodium	200 ug/L	543000	490000 ug/L	-
BH113-25	Benzo [a] pyrene	0.01 ug/L	<0.02 [1]	0.01 ug/L	-
BH115-25	Chloride	1 mg/L	1260	790000 ug/L	-

Certificate of Analysis

Report Date: 31-Jan-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 24-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25	QAQC01-25	BH113-25	BH115-25	Criteria:	
	Sample Date:	24-Jan-25 10:15	24-Jan-25 10:15	24-Jan-25 11:00	24-Jan-25 11:50	Reg 153/04 -T6 Potable Groundwater	-
	Sample ID:	2504459-01	2504459-02	2504459-03	2504459-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
General Inorganics							
Cyanide, free	2 ug/L	<2	-	<2	<2	52 ug/L	-
pH	0.1 pH Units	8.2	-	7.8	7.7	5.00 - 9.00 pH Units	-
Anions							
Chloride	1 mg/L	608	-	1120	1260	790000 ug/L	-
Metals							
Mercury	0.1 ug/L	<0.1	-	<0.1	<0.1	0.1 ug/L	-
Antimony	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	6 ug/L	-
Arsenic	1 ug/L	<1	<1	<1	<1	25 ug/L	-
Barium	1 ug/L	72	63	80	74	1000 ug/L	-
Beryllium	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	4 ug/L	-
Boron	10 ug/L	211	182	109	95	5000 ug/L	-
Cadmium	0.1 ug/L	<0.1	<0.1	<0.1	<0.1	2.1 ug/L	-
Chromium (VI)	10 ug/L	<10	-	<10	<10	25 ug/L	-
Chromium	1 ug/L	<1	<1	<1	<1	50 ug/L	-
Cobalt	0.5 ug/L	0.8	0.6	0.6	0.6	3.8 ug/L	-
Copper	0.5 ug/L	1.9	2.3	3.1	2.6	69 ug/L	-
Lead	0.1 ug/L	<0.1	<0.1	<0.1	<0.1	10 ug/L	-
Molybdenum	0.5 ug/L	1.9	1.7	2.3	1.4	70 ug/L	-
Nickel	1 ug/L	2	2	3	2	100 ug/L	-
Selenium	1 ug/L	<1	<1	<1	<1	10 ug/L	-
Silver	0.1 ug/L	<0.1	<0.1	<0.1	<0.1	1.2 ug/L	-
Sodium	200 ug/L	745000	643000	543000	444000	490000 ug/L	-
Thallium	0.1 ug/L	<0.1	<0.1	<0.1	<0.1	2 ug/L	-
Uranium	0.1 ug/L	2.1	2.2	5.3	3.1	20 ug/L	-
Vanadium	0.5 ug/L	2.4	2.3	2.0	1.6	6.2 ug/L	-

Certificate of Analysis

Report Date: 31-Jan-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 24-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25	QAQC01-25	BH113-25	BH115-25	Criteria:	
	Sample Date:	24-Jan-25 10:15	24-Jan-25 10:15	24-Jan-25 11:00	24-Jan-25 11:50	Reg 153/04 -T6 Potable Groundwater	-
	Sample ID:	2504459-01	2504459-02	2504459-03	2504459-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Metals							
Zinc	5 ug/L	<5	<5	<5	<5	890 ug/L	-
Volatiles							
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0	2700 ug/L	-
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	16 ug/L	-
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5 ug/L	-
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.89 ug/L	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	0.2 ug/L	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	30 ug/L	-
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	2 ug/L	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	25 ug/L	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0	590 ug/L	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	3 ug/L	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	59 ug/L	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5 ug/L	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.58 ug/L	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Ethylene dibromide (dibromoethane,	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	0.2 ug/L	-

	Client ID:	BH114-25	QAQC01-25	BH113-25	BH115-25	Criteria:	
	Sample Date:	24-Jan-25 10:15	24-Jan-25 10:15	24-Jan-25 11:00	24-Jan-25 11:50	Reg 153/04 -T6 Potable Groundwater	-
	Sample ID:	2504459-01	2504459-02	2504459-03	2504459-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Volatiles							
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	2.4 ug/L	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0	5 ug/L	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0	1800 ug/L	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0	640 ug/L	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0	15 ug/L	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0	26 ug/L	-
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5.4 ug/L	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.1 ug/L	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	24 ug/L	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	23 ug/L	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0	150 ug/L	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	72 ug/L	-
Dibromofluoromethane	Surrogate	91.0%	93.0%	94.6%	96.6%	-	-
Toluene-d8	Surrogate	104%	106%	106%	105%	-	-
4-Bromofluorobenzene	Surrogate	109%	106%	105%	107%	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	<25	<25	<25	<25	420 ug/L	-
F2 PHCs (C10-C16)	100 ug/L	<100	-	<100	<100	150 ug/L	-

Certificate of Analysis

Report Date: 31-Jan-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 24-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	BH114-25	QAQC01-25	BH113-25	BH115-25	Criteria:	
	Sample Date:	24-Jan-25 10:15	24-Jan-25 10:15	24-Jan-25 11:00	24-Jan-25 11:50	Reg 153/04 -T6 Potable Groundwater	-
	Sample ID:	2504459-01	2504459-02	2504459-03	2504459-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Hydrocarbons							
F3 PHCs (C16-C34)	100 ug/L	<100	-	<100	<100	500 ug/L	-
F4 PHCs (C34-C50)	100 ug/L	<100	-	<100	<100	500 ug/L	-
Semi-Volatiles							
Acenaphthene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	4.1 ug/L	-
Acenaphthylene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	1 ug/L	-
Anthracene	0.01 ug/L	<0.02 [1]	-	<0.02 [1]	<0.01	1 ug/L	-
Benzo [a] anthracene	0.01 ug/L	<0.02 [1]	-	<0.02 [1]	<0.01	1 ug/L	-
Benzo [a] pyrene	0.01 ug/L	<0.02 [1]	-	<0.02 [1]	<0.01	0.01 ug/L	-
Benzo [b] fluoranthene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.1 ug/L	-
Benzo [g,h,i] perylene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.2 ug/L	-
Benzo [k] fluoranthene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.1 ug/L	-
Chrysene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.1 ug/L	-
Dibenzo [a,h] anthracene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.2 ug/L	-
Fluoranthene	0.01 ug/L	<0.02 [1]	-	<0.02 [1]	<0.01	0.41 ug/L	-
Fluorene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	120 ug/L	-
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	0.2 ug/L	-
1-Methylnaphthalene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	3.2 ug/L	-
2-Methylnaphthalene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	3.2 ug/L	-
Methylnaphthalene (1&2)	0.10 ug/L	<0.20 [1]	-	<0.17 [1]	<0.10	3.2 ug/L	-
Naphthalene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	7 ug/L	-
Phenanthrene	0.05 ug/L	<0.10 [1]	-	<0.08 [1]	<0.05	1 ug/L	-
Pyrene	0.01 ug/L	<0.02 [1]	-	<0.02 [1]	<0.01	4.1 ug/L	-
2-Fluorobiphenyl	Surrogate	77.1% [1]	-	72.3% [1]	69.5%	-	-
Terphenyl-d14	Surrogate	91.1% [1]	-	83.4% [1]	79.5%	-	-

	Client ID:	QAQC02-25	Trip Blank			**Criteria:**	
	Sample Date:	24-Jan-25 11:50	04-Jan-25 08:00			**Reg 153/04 -T6 Potable Groundwater**	-
	Sample ID:	2504459-05	2504459-06				
	Matrix:	Ground Water	Ground Water				
	MDL/Units						
General Inorganics							
Cyanide, free	2 ug/L	<2	-	-	-	52 ug/L	-
Metals							
Mercury	0.1 ug/L	<0.1	-	-	-	0.1 ug/L	-
Chromium (VI)	10 ug/L	<10	-	-	-	25 ug/L	-
Volatiles							
Acetone	5.0 ug/L	-	<5.0	-	-	2700 ug/L	-
Benzene	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Bromodichloromethane	0.5 ug/L	-	<0.5	-	-	16 ug/L	-
Bromoform	0.5 ug/L	-	<0.5	-	-	5 ug/L	-
Bromomethane	0.5 ug/L	-	<0.5	-	-	0.89 ug/L	-
Carbon Tetrachloride	0.2 ug/L	-	<0.2	-	-	0.2 ug/L	-
Chlorobenzene	0.5 ug/L	-	<0.5	-	-	30 ug/L	-
Chloroform	0.5 ug/L	-	<0.5	-	-	2 ug/L	-
Dibromochloromethane	0.5 ug/L	-	<0.5	-	-	25 ug/L	-
Dichlorodifluoromethane	1.0 ug/L	-	<1.0	-	-	590 ug/L	-
1,2-Dichlorobenzene	0.5 ug/L	-	<0.5	-	-	3 ug/L	-
1,3-Dichlorobenzene	0.5 ug/L	-	<0.5	-	-	59 ug/L	-
1,4-Dichlorobenzene	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
1,1-Dichloroethane	0.5 ug/L	-	<0.5	-	-	5 ug/L	-
1,2-Dichloroethane	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
1,1-Dichloroethylene	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
cis-1,2-Dichloroethylene	0.5 ug/L	-	<0.5	-	-	1.6 ug/L	-
trans-1,2-Dichloroethylene	0.5 ug/L	-	<0.5	-	-	1.6 ug/L	-
1,2-Dichloropropane	0.5 ug/L	-	<0.5	-	-	0.58 ug/L	-
cis-1,3-Dichloropropylene	0.5 ug/L	-	<0.5	-	-	-	-

	Client ID:	QAQC02-25	Trip Blank			Criteria:	
	Sample Date:	24-Jan-25 11:50	04-Jan-25 08:00			Reg 153/04 -T6 Potable Groundwater	-
	Sample ID:	2504459-05	2504459-06				
	Matrix:	Ground Water	Ground Water				
	MDL/Units						
Volatiles							
trans-1,3-Dichloropropylene	0.5 ug/L	-	<0.5	-	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Ethylbenzene	0.5 ug/L	-	<0.5	-	-	2.4 ug/L	-
Ethylene dibromide (dibromoethane,	0.2 ug/L	-	<0.2	-	-	0.2 ug/L	-
Hexane	1.0 ug/L	-	<1.0	-	-	5 ug/L	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	-	<5.0	-	-	1800 ug/L	-
Methyl Isobutyl Ketone	5.0 ug/L	-	<5.0	-	-	640 ug/L	-
Methyl tert-butyl ether	2.0 ug/L	-	<2.0	-	-	15 ug/L	-
Methylene Chloride	5.0 ug/L	-	<5.0	-	-	26 ug/L	-
Styrene	0.5 ug/L	-	<0.5	-	-	5.4 ug/L	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	-	<0.5	-	-	1.1 ug/L	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Tetrachloroethylene	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Toluene	0.5 ug/L	-	<0.5	-	-	24 ug/L	-
1,1,1-Trichloroethane	0.5 ug/L	-	<0.5	-	-	23 ug/L	-
1,1,2-Trichloroethane	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Trichloroethylene	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
Trichlorofluoromethane	1.0 ug/L	-	<1.0	-	-	150 ug/L	-
Vinyl chloride	0.5 ug/L	-	<0.5	-	-	0.5 ug/L	-
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	-	-	72 ug/L	-
Dibromofluoromethane	Surrogate	-	94.5%	-	-	-	-
4-Bromofluorobenzene	Surrogate	-	110%	-	-	-	-
Toluene-d8	Surrogate	-	104%	-	-	-	-

Certificate of Analysis

Report Date: 31-Jan-2025

Client: **Cambium Inc. (Ottawa)**

Order Date: 24-Jan-2025

Client PO:

Project Description: 20361-003

	Client ID:	QAQC02-25	Trip Blank			**Criteria:**	
	Sample Date:	24-Jan-25 11:50	04-Jan-25 08:00			**Reg 153/04 -T6 Potable Groundwater**	-
	Sample ID:	2504459-05	2504459-06				
	Matrix:	Ground Water	Ground Water				
	MDL/Units						
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	-	<25	-	-	420 ug/L	-
F2 PHCs (C10-C16)	100 ug/L	<100	-	-	-	150 ug/L	-
F3 PHCs (C16-C34)	100 ug/L	<100	-	-	-	500 ug/L	-
F4 PHCs (C34-C50)	100 ug/L	<100	-	-	-	500 ug/L	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions								
Chloride	ND	1	mg/L					
Hydrocarbons								
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					
Metals								
Mercury	ND	0.1	ug/L					
Antimony	ND	0.5	ug/L					
Arsenic	ND	1	ug/L					
Barium	ND	1	ug/L					
Beryllium	ND	0.5	ug/L					
Boron	ND	10	ug/L					
Cadmium	ND	0.1	ug/L					
Chromium (VI)	ND	10	ug/L					
Chromium	ND	1	ug/L					
Cobalt	ND	0.5	ug/L					
Copper	ND	0.5	ug/L					
Lead	ND	0.1	ug/L					
Molybdenum	ND	0.5	ug/L					
Nickel	ND	1	ug/L					
Selenium	ND	1	ug/L					
Silver	ND	0.1	ug/L					
Sodium	ND	200	ug/L					
Thallium	ND	0.1	ug/L					
Uranium	ND	0.1	ug/L					
Vanadium	ND	0.5	ug/L					
Zinc	ND	5	ug/L					
Semi-Volatiles								
Acenaphthene	ND	0.05	ug/L					
Acenaphthylene	ND	0.05	ug/L					
Anthracene	ND	0.01	ug/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*14.9*		*%*	*74.4*	*50-140*			
Surrogate: Terphenyl-d14	*17.4*		*%*	*87.0*	*50-140*			
Volatiles								
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					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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					
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					
Surrogate: 4-Bromofluorobenzene	*89.6*		*%*	*112*	*50-140*			
Surrogate: Dibromofluoromethane	*75.6*		*%*	*94.5*	*50-140*			
Surrogate: Toluene-d8	*83.0*		*%*	*104*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	607	5	mg/L	608			0.3	20	
General Inorganics									
Cyanide, free	ND	2	ug/L	ND			NC	20	
pH	7.7	0.1	pH Units	7.7			0.0	3.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND			NC	30	
Metals									
Mercury	ND	0.1	ug/L	ND			NC	20	
Antimony	ND	0.5	ug/L	ND			NC	20	
Arsenic	ND	1	ug/L	ND			NC	20	
Barium	24.0	1	ug/L	23.1			3.7	20	
Beryllium	ND	0.5	ug/L	ND			NC	20	
Boron	20	10	ug/L	21			3.2	20	
Cadmium	ND	0.1	ug/L	ND			NC	20	
Chromium (VI)	ND	10	ug/L	ND			NC	20	
Chromium	ND	1	ug/L	ND			NC	20	
Cobalt	ND	0.5	ug/L	ND			NC	20	
Copper	1.29	0.5	ug/L	1.24			4.2	20	
Lead	ND	0.1	ug/L	ND			NC	20	
Molybdenum	1.15	0.5	ug/L	0.96			17.8	20	
Nickel	ND	1	ug/L	ND			NC	20	
Selenium	ND	1	ug/L	ND			NC	20	
Silver	ND	0.1	ug/L	ND			NC	20	
Sodium	15200	200	ug/L	14600			3.9	20	
Thallium	ND	0.1	ug/L	ND			NC	20	
Uranium	ND	0.1	ug/L	ND			NC	20	
Vanadium	ND	0.5	ug/L	ND			NC	20	
Zinc	6	5	ug/L	6			2.9	20	
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	ND	0.5	ug/L	ND			NC	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	
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	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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	ND	0.5	ug/L	ND			NC	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	
Surrogate: 4-Bromofluorobenzene	*88.9*		*%*		*111*	*50-140*			
Surrogate: Dibromofluoromethane	*76.9*		*%*		*96.2*	*50-140*			
Surrogate: Toluene-d8	*83.1*		*%*		*104*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	9.49	1	mg/L	ND	94.9	78-114			
General Inorganics									
Cyanide, free	43.8	2	ug/L	ND	87.7	61-139			
Hydrocarbons									
F1 PHCs (C6-C10)	1820	25	ug/L	ND	90.9	85-115			
F2 PHCs (C10-C16)	1530	100	ug/L	ND	95.9	60-140			
F3 PHCs (C16-C34)	4280	100	ug/L	ND	109	60-140			
F4 PHCs (C34-C50)	2800	100	ug/L	ND	113	60-140			
Metals									
Mercury	2.77	0.1	ug/L	ND	92.4	70-130			
Arsenic	50.2	1	ug/L	ND	99.7	80-120			
Barium	78.2	1	ug/L	23.1	110	80-120			
Beryllium	53.2	0.5	ug/L	ND	106	80-120			
Boron	65	10	ug/L	21	87.1	80-120			
Cadmium	53.0	0.1	ug/L	ND	106	80-120			
Chromium (VI)	185	10	ug/L	ND	92.5	75-115			
Chromium	54.1	1	ug/L	ND	108	80-120			
Cobalt	51.4	0.5	ug/L	ND	103	80-120			
Copper	50.6	0.5	ug/L	1.24	98.8	80-120			
Lead	47.0	0.1	ug/L	ND	94.0	80-120			
Molybdenum	45.0	0.5	ug/L	0.96	88.1	80-120			
Nickel	51.5	1	ug/L	ND	102	80-120			
Selenium	47.4	1	ug/L	ND	94.4	80-120			
Silver	47.2	0.1	ug/L	ND	94.5	80-120			
Sodium	23500	200	ug/L	14600	88.4	80-120			
Thallium	46.7	0.1	ug/L	ND	93.5	80-120			
Uranium	48.7	0.1	ug/L	ND	97.4	80-120			
Vanadium	53.9	0.5	ug/L	ND	108	80-120			
Zinc	57	5	ug/L	6	102	80-120			
Semi-Volatiles									

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Acenaphthene	4.10	0.05	ug/L	ND	82.0	50-140			
Acenaphthylene	4.03	0.05	ug/L	ND	80.6	50-140			
Anthracene	4.03	0.01	ug/L	ND	80.5	50-140			
Benzo [a] anthracene	4.27	0.01	ug/L	ND	85.4	50-140			
Benzo [a] pyrene	4.47	0.01	ug/L	ND	89.4	50-140			
Benzo [b] fluoranthene	4.03	0.05	ug/L	ND	80.6	50-140			
Benzo [g,h,i] perylene	4.24	0.05	ug/L	ND	84.7	50-140			
Benzo [k] fluoranthene	4.80	0.05	ug/L	ND	96.0	50-140			
Chrysene	4.77	0.05	ug/L	ND	95.3	50-140			
Dibenzo [a,h] anthracene	4.60	0.05	ug/L	ND	92.0	50-140			
Fluoranthene	4.83	0.01	ug/L	ND	96.6	50-140			
Fluorene	4.10	0.05	ug/L	ND	82.0	50-140			
Indeno [1,2,3-cd] pyrene	4.36	0.05	ug/L	ND	87.1	50-140			
1-Methylnaphthalene	3.76	0.05	ug/L	ND	75.1	50-140			
2-Methylnaphthalene	4.09	0.05	ug/L	ND	81.9	50-140			
Naphthalene	3.94	0.05	ug/L	ND	78.7	50-140			
Phenanthrene	4.27	0.05	ug/L	ND	85.4	50-140			
Pyrene	4.09	0.01	ug/L	ND	81.9	50-140			
Surrogate: 2-Fluorobiphenyl	*14.6*		*%*		*72.9*	*50-140*			
Surrogate: Terphenyl-d14	*16.1*		*%*		*80.3*	*50-140*			
Volatiles									
Acetone	114	5.0	ug/L	ND	114	50-140			
Benzene	47.3	0.5	ug/L	ND	118	60-130			
Bromodichloromethane	48.0	0.5	ug/L	ND	120	60-130			
Bromoform	46.6	0.5	ug/L	ND	116	60-130			
Bromomethane	50.3	0.5	ug/L	ND	126	50-140			
Carbon Tetrachloride	46.5	0.2	ug/L	ND	116	60-130			
Chlorobenzene	49.4	0.5	ug/L	ND	124	60-130			
Chloroform	48.3	0.5	ug/L	ND	121	60-130			
Dibromochloromethane	48.1	0.5	ug/L	ND	120	60-130			
Dichlorodifluoromethane	36.7	1.0	ug/L	ND	91.8	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichlorobenzene	48.9	0.5	ug/L	ND	122	60-130			
1,3-Dichlorobenzene	49.2	0.5	ug/L	ND	123	60-130			
1,4-Dichlorobenzene	49.0	0.5	ug/L	ND	123	60-130			
1,1-Dichloroethane	47.3	0.5	ug/L	ND	118	60-130			
1,2-Dichloroethane	46.9	0.5	ug/L	ND	117	60-130			
1,1-Dichloroethylene	44.7	0.5	ug/L	ND	112	60-130			
cis-1,2-Dichloroethylene	45.1	0.5	ug/L	ND	113	60-130			
trans-1,2-Dichloroethylene	46.6	0.5	ug/L	ND	117	60-130			
1,2-Dichloropropane	45.6	0.5	ug/L	ND	114	60-130			
cis-1,3-Dichloropropylene	44.5	0.5	ug/L	ND	111	60-130			
trans-1,3-Dichloropropylene	44.4	0.5	ug/L	ND	111	60-130			
Ethylbenzene	48.1	0.5	ug/L	ND	120	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	46.0	0.2	ug/L	ND	115	60-130			
Hexane	46.6	1.0	ug/L	ND	117	60-130			
Methyl Ethyl Ketone (2-Butanone)	104	5.0	ug/L	ND	104	50-140			
Methyl Isobutyl Ketone	107	5.0	ug/L	ND	107	50-140			
Methyl tert-butyl ether	110	2.0	ug/L	ND	110	50-140			
Methylene Chloride	45.1	5.0	ug/L	ND	113	60-130			
Styrene	45.8	0.5	ug/L	ND	114	60-130			
1,1,1,2-Tetrachloroethane	48.5	0.5	ug/L	ND	121	60-130			
1,1,2,2-Tetrachloroethane	48.2	0.5	ug/L	ND	121	60-130			
Tetrachloroethylene	47.5	0.5	ug/L	ND	119	60-130			
Toluene	48.3	0.5	ug/L	ND	121	60-130			
1,1,1-Trichloroethane	45.4	0.5	ug/L	ND	113	60-130			
1,1,2-Trichloroethane	46.4	0.5	ug/L	ND	116	60-130			
Trichloroethylene	44.4	0.5	ug/L	ND	111	60-130			
Trichlorofluoromethane	45.6	1.0	ug/L	ND	114	60-130			
Vinyl chloride	46.1	0.5	ug/L	ND	115	50-140			
m,p-Xylenes	97.0	0.5	ug/L	ND	121	60-130			
o-Xylene	49.3	0.5	ug/L	ND	123	60-130			
Surrogate: 4-Bromofluorobenzene	*71.7*		*%*		*89.6*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*78.3*		*%*		*97.9*	*50-140*			
Surrogate: Toluene-d8	*73.5*		*%*		*91.9*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

1: Elevated Reporting Limits due to limited sample volume.
Applies to Samples: BH114-25, BH113-25

Sample Data Revisions:

None

Work Order Revisions / Comments:

The Sample Date for lab provided Trip QC samples is based on the date of preparation at the lab.

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.

PARACEL LABORATORIES

Paracel ID: 2504459

: Blvd.
3 4J8

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Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2504459	№ 76527

Client Name: CAMBIUM
Contact Name: SHEILA BARTER
Address: 343 PRESTON ST. OTTAWA, ON
Telephone: 705-243-1942

Project Ref: 20361-003
Quote #:
PO #:
E-mail: sheila.barter@cambium-inc.com

Page 1 of 1

Turnaround Time

☐ 1 day ☐ 3 day
☐ 2 day ☒ Regular
Date Required:

☒ REG 153/04 ☐ REG 406/19

☐ Table 1 ☐ Agri/Other ☐ Med/Fine
☐ Table 2 ☐ Res/Park ☐ Coarse
☐ Table 3 ☐ Ind/Comm
☒ Table 6
For RSC: ☐ Yes ☒ No

Other Regulation

☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun:
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken Date	Sample Taken Time	Required Analysis: VOC's, F1 BTEX	PHC F2-F4	PAH	ICP Metals	CrVI	Hg	Cyanide	Chloride, pH			
1	BH114-25	GW		9	Y	2025-01-24	10:15	✓	✓	✓	✓	✓	✓	✓	✓			
2	QAQC01-25	GW		3	Y	"	10:15	✓			✓							
3	BH113-25	GW		9	Y	"	11:00	✓	✓	✓	✓	✓	✓	✓	✓			
4	BH115-25	GW		9	Y	"	11:50	✓	✓	✓	✓	✓	✓	✓	✓			
5	QAQC02-25	GW		4	Y	"	11:50		✓			✓	✓	✓				
6	Trip Blank	O		1		2025-01-04		✓										
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Walk-In

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): JAMES SULLIVAN	Date/Time:	Date/Time: Jan 24 1318	Date/Time: Jan 24 1353
Date/Time: 2025-01-24 13:18	Temperature: °C	Temperature: 8.1 °C	pH Verified: ☑ By: