



Phase Two Environmental Site Assessment - 30 Sophia Street West, Barrie, Ontario

December 20, 2022

Prepared for: 2426011 Ontario Inc.

Cambium Reference: 14909-002

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1.0 Executive Summary

2426011 Ontario Inc. (Client) retained Cambium Inc. (Cambium) to complete a Phase Two Environmental Site Assessment (ESA) at 30 Sophia Street West in Barrie, Ontario (Site or Phase Two Property). The Phase Two ESA will be used to support filing a Record of Site Condition (RSC) and was, therefore, completed to meet the requirements of Ontario Regulation (O.Reg.) 153/04.

The 0.2367 ha Site is on the northeast corner of Mary Street and Sophia Street West. The first developed land use at the Site was for industrial purposes in 1908 when the Site was occupied by Barrie Planing Mill. The Site was most recently used for commercial purposes as Parry Automotive who operated a machine shop for the rebuilding of engines and retail parts sales. The Site is currently vacant.

The Phase One ESA identified 39 potentially contaminating activities (PCAs), 6 on-site and 33 off-site within the phase one study area. The on-site PCAs contributed to areas of potential environmental concern (APECs) at the Site. Based on a review of potential to result in contamination at the Site, no off-site PCAs contributed to APECs. The related contaminants of potential environmental concern were petroleum hydrocarbons (PHCs) F1-F4, volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), acid/base/neutral compounds (ABNs) including chlorophenols (CPs), metals including hydride-forming, mercury, cyanide, pH, electrical conductivity (EC), sodium adsorption ratio (SAR), sodium, and chloride. Potentially impacted 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 six boreholes, three of which were completed as a groundwater monitoring well. A groundwater sample was also collected from an existing on-site monitoring well.

The investigation results identified concentrations of PHCs, PAHs, and metals, in soil at concentrations greater than the applicable standard.



2.0 Introduction

The Client retained Cambium to complete a Phase Two ESA at 30 Sophia Street West in Barrie, Ontario. The Phase Two ESA will be used to support filing an RSC under Section 168.3.1 of Part XV.1 of the *Environmental Protection Act* and was, therefore, completed to meet the requirements of O.Reg. 153/04.

2.1 Site Description

The Site is on the northeast corner of Mary Street and Sophia Street West in the City of Barrie. 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	30 Sophia Street West, Barrie, Ontario
Historical Land Use	Industrial, commercial, residential
Current Land Use	Vacant former commercial
Future Land Use	Mixed use residential and commercial
PIN	58800-0040 (LT)
Roll No.	434203100702600
Universal Transverse Mercator Coordinates*	Zone 17T 603985 m E, 4916183 m N
Legal Description	Part of Lot 6 East Side of Mary Street, Part of Lots 7 and 8 West Side of Maple Street, Registered Plan 121, City of Barrie, County of Simcoe.
Site Area	0.2367 ha (0.5849 acres)

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



2.2 Property Ownership

Property Owner	Contact Information
2426011 Ontario Inc. 66 Leek Crescent Richmond Hill, Ontario L4B 1H1	Roman Fedyay Corporate Officer Phone: (905) 475-0707 Email: roman@solidgc.ca

2.3 Current and Proposed Future Uses

The Site is developed with a two-storey building that is currently vacant and was most recently utilized for commercial purposes by Parry Automotive who operated a machine shop for the rebuilding of engines and retail parts sales.

The Client intends to redevelop the Site with a four-storey, mixed-use, residential and commercial building, which constitutes a change to a more sensitive land use. The proposed development will consist of underground parking with first floor residential and commercial units, and residential units on the second, third, and fourth floors.

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 mixed commercial and residential use.
- Following the planned relocation of the on-site water channel, the closest water body as defined in O.Reg. 153/04, will be the portion of Sophia Creek that travels through Queens Park, roughly 140 m southwest of the Site. As such, Section 43.1 of O.Reg. 153/04 does not apply to the Site.
- The Site is in an area that is supplied by a municipal water supply which obtains its drinking water, in part, from groundwater.

- The stratigraphy consisted of sand fill to a maximum depth of 1.5 m below ground surface (bgs). Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits. Four soil samples collected from depths ranging from 1.5 to 3.7 mbgs were submitted for grain size analysis as part of the geotechnical investigation. Soils were identified as sand or silty sand (Cambium, 2022b). Accordingly, SCS for coarse-grained soil were considered appropriate.
- On-site soil pH was within the acceptable ranges for surface (≤ 1.5 mbgs) and sub-surface (> 1.5 mbgs) soil.
- An area of natural significance, as defined in Section 1 of O.Reg. 153/04, may be present on the Site, due to the potential presence of species at risk habitat for threatened and/or endangered species. As such, the Site may be 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 1 *Full Depth Background Site Condition Standards*. Residential property use was 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

A topographic survey of the Site (Rudy Mak, 2022) indicates the Site is generally flat at approximately 234 metres above sea level (masl). There is a sharp ravine that bisects the east side of the Site. The open channel of water is identified as Sophia Creek. Water enters the channel from a stormwater culvert on the adjacent property to the east, travels a roughly 20 m open channel, and then discharges into a stormwater culvert that underlies the currently developed, west side of the Site. The ravine has a minimum elevation of 232.20 masl, immediately before discharging into the culvert beneath the west portion of the Site.

Regionally topography slopes down to the south toward Kempenfelt Bay about 700 m south-southeast of the Site (MNRF, 2022).

The Site is within the Simcoe Lowlands physiographic region (Chapman & Putnam, 2007), characterized by level plains composed of sand, silt and clay. Overburden is mapped as coarse-textured glaciolacustrine deposits of sand and gravel with minor silt and clay (OGS, 2010). Bedrock is mapped as limestone, dolostone, shale, arkose, and sandstone (OGS, 2007).

Following the planned relocation of the stormwater culvert beneath the Site, including the roughly 20 m on-site open channel, the closest water body will be the portion of Sophia Creek that travels through Queens Park, roughly 140 m southwest of the Site. Based on the measured groundwater elevations, the groundwater flow direction in the phase two study area is southwest toward Sophia Creek.

The Site may be considered an Area of Natural Significance, as defined in Section 1 of O.Reg. 153/04, due to the potential presence of species at risk habitat for threatened and/or endangered species.

The phase two 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. The City of Barrie obtains drinking water, in part, from groundwater. The

Site is within a Highly Vulnerable Aquifer (HVA), a Well Head Protection Area D (WHPA-D), Significant Groundwater Recharge Area (SGRA), and Issue Contributing Area (ICA) for contaminants sodium and chloride (MECP, 2022).

A search of the Ministry Water Well Information System by ERIS identified three on-site records and 23 records within the phase one study area ranging from about 65 m to 300 m from the Site. The wells were identified as observation or monitoring wells, and monitoring and test holes. On-site stratigraphy was topsoil above silt with sand and gravel to a termination depth of 4 mbgs. Stratigraphy in the off-site wells within 100 m of the Site was generally sand fill above native sand to a maximum depth of 15.2 mbgs. Bedrock was not encountered.

3.2 Past Investigations

The following reports were reviewed by Cambium.

Phase One Environmental Site Assessment (Cambium, 2022a)

A Phase One ESA was completed for the Site consistent with O.Reg. 153/04 to support filing an RSC.

The first developed land use at the Site was for industrial purposes in 1908 when the Site was occupied by Barrie Planing Mill. The Site was most recently used for commercial purposes as Parry Automotive who operated a machine shop for the rebuilding of engines and retail parts sales. The Site is currently vacant.

The Phase One ESA identified 39 potentially contaminating activities (PCAs), 6 on-site and 33 off-site within the phase one study area. The on-site PCAs contributed to areas of potential environmental concern (APECs) at the Site. Based on a review of potential to result in contamination at the Site, no off-site PCAs contributed to APECs.

Based on the observations and information obtained for the Site during the Phase One ESA, Cambium concluded a Phase Two ESA was required to support filing an RSC.

Geotechnical Investigation (Cambium, 2022b)

Four boreholes were advanced to 6.7 m below ground surface (bgs) across the Site. Three boreholes were completed as monitoring wells. Subsurface conditions at the site generally consisted of paved asphalt or topsoil overlying sand fill to a maximum depth of 1.5 mbgs. Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits with some gravel. Bedrock was not encountered to the maximum depth of the investigation. Groundwater levels collected over four months generally ranged from 0.85 to 2.85 mbgs.

Hydrogeological Assessment (Cambium, 2022c)

On-site drainage is assumed to flow towards Sophia Creek, which bisects the eastern portion of the Site prior to discharging into a culvert that runs underneath the western portion of the Site. The surface water within Sophia Creek flows to the west and ultimately flows into the Kempenfelt Bay, about 700 m south-southeast of the Site.

The MECP Source Water Protection Atlas map and Lake Simcoe Protection Plan indicate that the Site is within the following areas:

- Partially within a Highly Vulnerable Aquifer (HVA), vulnerability score of 6
- Partially within a Significant Groundwater Recharge Area (SGRA), vulnerability score of 4 and 6
- Issue Contributing Area (ICA) for contaminants sodium and chloride
- Wellhead Protection Area D (WHPA-D), vulnerability score of 2
- Wellhead Protection Area Q2 (WHPA-Q2), with low stress

Groundwater levels ranged from 0.85 to 2.58 mbgs on April 29, 2022, and groundwater flow was determined to be to the southwest.

Hydraulic conductivity values measured using single well response tests ranged from 2.61×10^{-7} m/s to 2.11×10^{-5} m/s with a geometric mean of 2.08×10^{-6} m/s.

The City of Barrie has indicated that the stormwater culvert beneath the Site including the roughly 20 m open channel identified as Sophia Creek, will be relocated to the stormwater sewer beneath the roadway in Spring 2023.

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 an analytical laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA). 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 will exist on the Site at the time of RSC submission, surface water and sediment sampling were not applicable. Soil quality at the Site was investigated through drilling, hand auger holes, and soil sampling. Monitoring wells were installed in select drilled boreholes for groundwater sampling. Groundwater sampling was also completed at an existing on-site monitoring well.

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 Site is on the northeast corner of Mary Street and Sophia Street West in Barrie, Ontario in the County of Simcoe. The legal description of the Site is *Part of Lot 6 East Side of Mary Street, Part of Lots 7 and 8 West Side of Maple Street, Registered Plan 121, City of Barrie, County of Simcoe*. The Property Identification Number (PIN) is 58800-0040 (LT). The Universal Transverse Mercator (UTM) coordinates for the centroid for the Site are Zone 17 T, 603985 m east and 4916183 m north. The 0.2367 ha Site is bound by residential to the north, Sophia Street to the south with commercial use beyond, commercial land use to the northeast/east, and Mary Street to the west with residential use beyond.

4.3.2 Existing Buildings and Structures

The Site is developed with a two storey, slab-on-grade building, built in 1908. The building is vacant.



A roughly 20 m open channel of water, identified as Sophia Creek, transects the east side of the Site. The water discharges into a concrete stormwater culvert that underlies the currently developed, west side of the Site.

4.3.3 Water Bodies and Areas of Natural Significance

Following the planned relocation of the on-site water channel, the closest water body will be the portion of Sophia Creek that travels through Queens Park, roughly 140 m southwest of the Site. As a result, the Site is not considered to be within 30 m of a water body, as defined in O.Reg. 153/04.

The Site may be considered an Area of Natural Significance, as defined in Section 1 of O.Reg. 153/04, due to the potential presence of species at risk habitat for threatened and/or endangered species.

4.3.4 Drinking Water Wells

The Site 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.

A search of the Ministry Water Well Information System by ERIS identified three on-site records and 23 records within the phase one study area ranging from about 65 m to 300 m from the Site. The wells were identified as observation or monitoring wells, and monitoring and test holes.

4.3.5 Potentially Contaminating Activities

Based on the records review, site reconnaissance, and interviews, 39 PCAs (6 on-site and 33 off-site) were identified within the phase one study area. Refer to Table 1 for further description of the identified PCAs and Figure 2 for locations of the identified PCAs.

All on-site PCAs contribute to APECs.



PCA 1 – On-site: former wood storage (Barrie Planing Mill); 59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products

PCA 2 – On-site: former farm equipment storage (Parker & Hannah, agricultural implements dealer); 52 - Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems

PCA 3 – On-site: fill of unknown quality; 30 - Importation of Fill Material of Unknown Quality

PCA 4 – On-site: former machine shop for rebuilding engines (Parry Automotive); 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 5 – On-site: former tanks of degreaser

PCA 6 – On-site: salt application for de-icing

Off-site PCAs do not contribute to APECs.

PCA 7 – Off-site (Mary Street, 30 m south): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 8 – Off-site (121 Mary Street, 45 m north): contaminated soil from former fuel UST

PCA 9 – Off-site (136 Bayfield Street, 45 m northeast): generation of alkaline wastes (other metals) and oil skimmings & sludges

PCA 10 – Off-site (140 Bayfield Street, 100 m northeast): fuel oil UST, fuel oil AST and diesel ASTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 11 – Off-site (140 Bayfield Street, 100 m northeast): spill of hydraulic oil

PCA 12 – Off-site (125 Bayfield Street, 150 m northeast): generation of oil skimmings & sludges

PCA 13 – Off-site (Bayfield Street and Sophia Street, 125 m to the east): spills of transmission fluid, an oily substance, and coolant

PCA 14 – Off-site (104 Bayfield Street, 100 m east): spill of transformer oil



PCA 15 – Off-site (102 Bayfield Street, 110 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 16 – Off-site (102 Bayfield Street, 110 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 17 – Off-site (103 Bayfield Street, 150 m southeast): dry cleaner; 37 - Operation of Dry Cleaning Equipment (where chemicals are used)

PCA 18 – Off-site (103 Bayfield Street, 150 m southeast): spill of dry cleaning solvent

PCA 19 – Off-site (17 Sophia Street East, 245 m east): chlorinated solvent contamination in groundwater

PCA 20 – Off-site (North of Ross Street from Maple Avenue to Bayfield Street, 110 m southeast): Engine manufacturer (The Canada Producer and Gas Engine Co Limited); 34 - Metal Fabrication

PCA 21 – Off-site (80 Bayfield Street, 150 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 22 – Off-site (80 Bayfield Street, 150 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 23 – Off-site (80 Bayfield Street, 150 m southeast): spill of gasoline to a catch basin

PCA 24 – Off-site (Bayfield Street and Ross Street, 200 m southeast): spill of transformer oil

PCA 25 – Off-site (85 Bayfield Street, 220 m southeast): gasoline UST; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 26 – Off-site (65 Bayfield Street, 220 m southeast): furnace oil spill

PCA 27 – Off-site (65 Bayfield Street, 220 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 28 – Off-site (65 Bayfield Street, 220 m southeast): gasoline UST; 28 - Gasoline and Associated Products Storage in Fixed Tanks



PCA 29 – Off-site (Southwest corner of Ross Street and Bayfield Street, 240 m southeast): Sheet metal workers building (The Ball Planing Company); 33 - Metal Treatment, Coating, Plating and Finishing

PCA 30 – Off-site (Southwest corner of Ross Street and Bayfield Street, 240 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 31 – Off-site (59 Maple Avenue, 150 m southeast): suspected spill of motor oil

PCA 32 – Off-site (76 Maple Avenue, 150 m southeast): spill of motor oil

PCA 33 – Off-site (Toronto Street and Park Street, 200 m southwest): spills of diesel to a catch basin

PCA 34 – Off-site (Toronto Street and Ross Street, 100 m west): spills of gasoline and engine fluids to a catch basin

PCA 35 – Off-site (74/76 Ross Street, 200 m west): spill of coolant to the road

PCA 36 – Off-site (74/76 Ross Street, 200 m west): generation of aromatic solvents, halogenated solvents, and oil skimmings & sludges

PCA 37 – Off-site (74/76 Ross Street, 200 m west): diesel AST; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 38 – Off-site (153 Bayfield Street, 240 m northeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 39 – Off-site (153 Bayfield Street, 240 m northeast): spill of gasoline

4.3.6 Areas of Potential Environmental Concern

As required by O.Reg. 153/04, all on-site PCAs contributed to an APEC. Based on a review of potential to result in contamination at the Site, no off-site PCAs contributed to APECs. Refer to Table 2 for APEC details and Figure 3 for APEC locations.

APEC A – Northwest and central portions of the Site, associated with PCA 1 - Storage of wood (Barrie Planing Mill). COPCs are PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, ABNs including CPs.

APEC B – West and north portions of Site, associated with PCA 2 - Storage of farm equipment (Parker & Hannah, agricultural implements dealer). COPCs are PHC F1-F4, VOCs incl. BTEX, metals incl. hydride-forming.

APEC C – Entire Site, associated with PCA 3 – Fill of unknown quality. COPCs are PHC F1-F4, BTEX, PAHs, metals incl. hydride-forming.

APEC D – North portion of on-site building, associated with PCA 4 - Machine shop for the rebuilding of engines (Parry Automotive). COPCs are PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, mercury, cyanide, pH.

APEC E – North side of building and northwest exterior of building, associated with PCA 5 - Two tanks of degreaser. COPCs include PHC F1-F4, VOCs incl. BTEX, pH.

APEC F – West side of Site, exterior to the on-site building, associated with PCA 7 - Salt application for de-icing. COPCs are EC, SAR, sodium, chloride.

The qualified person 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 exemptions set out in paragraphs 1.1, 2 and 3 of section 49.1 of O.Reg. 153/04 will not be relied upon.

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. BTEX/PHCs, VOCs, PAHs, ABNs, metals including hydride-forming, mercury, cyanide, pH, EC, SAR, sodium and chloride were identified as COPCs related to the PCAs that contributed to APECs.

4.3.8 Contaminant Distribution and Transport

Natural gas, water, sewer services and a stormwater culvert are present beneath the west side of the Site. Contaminant distribution and transport may be influenced by the presence of utility trenches.

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

4.3.9 Geological and Hydrogeological Setting

A topographic survey of the Site (Rudy Mak, 2022) indicates the Site is generally flat at approximately 234 metres above sea level (masl). There is a sharp ravine that bisects the east side of the Site where Sophia Creek flows through, with a minimum elevation of 232.20 masl immediately before the creek discharges into the culvert that underlies the currently developed, west side of the Site.

Regionally topography slopes down to the south toward Kempenfelt Bay about 700 m south-southeast of the Site (MNRF, 2022).

The Site is within the Simcoe Lowlands physiographic region (Chapman & Putnam, 2007), characterized by level plains composed of sand, silt and clay. Overburden is mapped as coarse-textured glaciolacustrine deposits of sand and gravel with minor silt and clay (OGS, 2010). Bedrock is mapped as limestone, dolostone, shale, arkose, and sandstone (OGS, 2007).

A review of Ministry water well records (MECP, 2022) identified three records for on-site monitoring wells and seven records within 100 m of the Site. On-site stratigraphy was topsoil above silt with sand and gravel to a termination depth of 4 mbgs. Stratigraphy in the off-site wells within 100 m of the Site was generally sand fill above native sand to a maximum depth of 15.2 mbgs. Bedrock was not encountered.

Subsurface conditions at the Site encountered during the geotechnical investigation (Cambium, 2022b), generally consisted of paved asphalt or topsoil overlying sand fill to a

maximum depth of 1.5 mbgs. Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits with some gravel to the maximum depth of the investigation, 6.7 mbgs. Groundwater levels collected over four months generally ranged from 0.85 to 2.85 mbgs.

A hydrogeological assessment (Cambium, 2022c) indicated that groundwater levels ranged from 0.85 to 2.58 mbgs on April 29, 2022, and shallow groundwater flow beneath the Site was southwest. Hydraulic conductivity values measured using single well response tests ranged from 2.61×10^{-7} m/s to 2.11×10^{-5} m/s with a geometric mean of 2.08×10^{-6} m/s.

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 interviewees and records review, uncertainty or absence of information is not expected. While the placement of historical on- and off-site structures and PCAs based on fire insurance plans (FIPs) may be of low accuracy, investigations completed during the Phase Two ESA can account for this uncertainty.

4.4 Deviations From Sampling and Analysis Plan

Two hand auger holes were advanced on December 7, 2022. Hand auger HA201 was advanced adjacent to BH201 and HA204 was advanced adjacent to BH204. The hand auger holes were advanced to collect soil samples for analysis of COPCs not completed during the advancement of BH201 and BH204 due to insufficient soil sample recovery.

5.0 Investigation Method

5.1 General

The following sections provide a detailed description of the subsurface investigations. The COPCs at the Site were related to on-site activities: storage of wood, storage of farm equipment, fill of unknown quality, machine shop for engine repairs, and tanks of degreaser. Soil and groundwater samples were selectively analyzed for BTEX/PHCs, VOCs, PAHs, metals including hydride-forming, mercury, cyanide, and pH.

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 1 SCS. Residential property use was selected to identify analyzed parameters present on the Site at concentrations exceeding the SCS.

5.2 Soil: Drilling

The drilling investigation was completed on October 26 and November 17 and 18, 2022. Strata Drilling Group (Strata) advanced six boreholes into overburden to a maximum depth of 4.6 mbgs. Borehole locations are shown on Figure 4.

5.3 Soil: Sampling

Soil samples were collected during the drilling program and from two hand auger holes advanced adjacent to boreholes.

During drilling and hand auger holes, 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 collected during the drilling program, 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 (BH202, BH204, and BH206) 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). The monitoring wells were completed with flush-mount 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 10 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.

5.6 Groundwater: Sampling

Groundwater sampling was conducted on November 22 and December 8, 2022, 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 low-flow sampling methodology with a peristaltic pump and 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. Prior to sample collection, groundwater was purged until field measured water quality parameters stabilized, 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, soil samples were submitted for the following analysis:

- Ten samples, including one quality control sample, for BTEX and PHCs



- Nine samples, including one quality control sample, for VOCs
- Twelve samples, including two quality control samples, for PAHs
- Thirteen samples, including two quality control samples, for metals including hydride-forming metals
- Five samples, including one quality control sample, for mercury
- Four samples, including one quality control sample, for cyanide
- Nine samples, including one quality control sample, for pH

Groundwater samples, including quality control samples, were submitted for the following analysis:

- Five samples, including one quality control sample, for BTEX and PHCs
- Five samples, including one quality control sample, for VOCs
- Two samples for PAHs
- Five samples, including one quality control sample, for metals including hydride-forming metals
- One sample for mercury
- Two samples, including one quality control sample, for cyanide

Two 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 an assumed elevation of 100.000 m assigned to the top panel of the gas metre on the west side of the on-site building.

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 6.7.4 for the results of the QA/QC program.

Trip blanks were 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.

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 sand fill to a maximum depth of 1.5 m below ground surface (bgs). Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits. Bedrock was not encountered to the maximum depth of the investigation, 4.6 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 December 9, 2022, as summarized in Table 3. Groundwater levels ranged from 0.91 to 2.40 mbgs and groundwater flow was to the southwest as shown on Figure 5.

The hydrogeology assessment which reported that on April 29, 2022, groundwater levels ranged from 0.85 to 2.58 mbgs, and groundwater flow was determined to be to the southwest (Cambium, 2022c).

6.3 Groundwater: Hydraulic Gradients and Conductivity

The horizontal hydraulic gradient was 0.03 m/m based on groundwater levels measured on December 9, 2022.

As part of the hydrogeology assessment, hydraulic conductivity values were measured using single well response tests and ranged from 2.61×10^{-7} m/s to 2.11×10^{-5} m/s with a geometric mean of 2.08×10^{-6} m/s.

Assuming a porosity range of 20%, hydraulic gradient of 0.03 m/m, and a mean hydraulic conductivity of 2.08×10^{-6} m/s, the average groundwater flow velocity was roughly 10 m per year.

6.4 Coarse Soil Texture

Four soil samples from depths ranging from 1.5 to 3.7 mbgs were submitted for grain size analysis as part of the geotechnical investigation. Soils were identified as sand or silty sand (Cambium, 2022b). Accordingly, the SCS for coarse-textured soil were utilized.

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. Measurable CSV was detected in soil samples from BH201, BH202, BH203, BH204, and BH205, with a maximum concentration of 2300 ppm at BH205, 3.0 – 3.5 mbgs. Minor measurable OV was detected in soil samples from BH206, with a maximum concentration of 4 ppm at BH206, 0.3 – 1.5 metres below floor grade.

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: BTEX/PHCs, VOCs, PAHs, metals including hydride-forming, mercury, cyanide, and pH. Soil analysis results are presented in Table 4. Laboratory Certificates of Analysis are included in Appendix C. Soil sampling locations are shown on Figure 4.

6.6.1 BTEX and PHCs

Nine soil samples were submitted for analysis of BTEX and PHCs. Concentrations of PHC F3 and F4 were greater than the Table 1 SCS at BH203, 0.4-1.1 mbgs. Concentrations of PHCs in a deeper soil sample at BH203, 1.5-1.8 mbgs, were less than the Table 1 SCS. Soil samples analyzed for BTEX and PHCs are shown on Figure 6.

6.6.2 VOCs

Eight soil samples were submitted for analysis of VOCs. Concentrations were less than the Table 1 SCS in the analyzed soil samples as shown on Figure 7.

6.6.3 PAHs

Ten soil samples were submitted for analysis of PAHs. Concentrations of PAHs were greater than the Table 1 SCS at BH205, 0.3-0.8 mbgs. Concentrations of PAHs in a deeper soil sample at BH205, 3.0-3.5 mbgs, were less than the Table 1 SCS. Soil samples analyzed for PAHs are shown on Figure 8.

6.6.4 Metals and Other Regulated Parameters

Eleven soil samples were submitted for analysis of metals including hydride-forming metals. Concentrations of metals were greater than the Table 1 SCS in soil samples analyzed at BH202, BH203, BH205, and BH206. Concentrations of metals in a deeper soil sample ranging from 2.6 to 4.4 mbgs at BH202, BH205, and BH206, were less than the Table 1 SCS.

Three soil samples were submitted for analysis of cyanide and four soil samples were submitted for analysis of mercury. Concentrations were less than the Table 1 SCS in the analyzed soil samples.

Soil samples analyzed for metals, cyanide, and mercury are shown on Figure 9.

Three surface soil samples (≤ 1.5 mbgs) and five subsurface soil samples (> 1.5 mbgs) were analyzed for pH. Soil pH was within the acceptable ranges for surface and sub-surface soil.

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: BTEX/PHCs, VOCs, PAHs, metals including hydride-forming, mercury, and cyanide. Groundwater analysis results are presented in Table 5.

Laboratory Certificates of Analysis are included in Appendix C. Groundwater sampling locations are shown on Figure 4.

6.7.1 BTEX and PHCs

Four monitoring wells were sampled for analysis of BTEX and PHCs. Concentrations were less than the Table 1 SCS in the analyzed groundwater samples as shown on Figure 10.

6.7.2 VOCs

Four monitoring wells were sampled for analysis of VOCs. Concentrations were less than the Table 1 SCS in the analyzed groundwater samples as shown on Figure 11.

6.7.3 PAHs

Two monitoring wells were sampled for analysis of PAHs. Concentrations were less than the Table 1 SCS in the analyzed groundwater samples as shown on Figure 12.

6.7.4 Metals and Other Regulated Parameters

Four monitoring wells were sampled for analysis of metals, including hydride-forming metals. One monitoring well was sampled for analysis of cyanide and mercury. Concentrations were less than the Table 1 SCS in the analyzed groundwater samples as shown on Figure 13.

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 results were evaluated based on data quality objectives (DQOs) of 50% for soil and 30% for water. 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. 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.

Trip blank samples were submitted for analysis of VOCs with the groundwater sampling events 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 blanks.

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 for a Phase Two ESA 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 northeast corner of Mary Street and Sophia Street West in Barrie, Ontario in the County of Simcoe. The municipal address is 30 Sophia Street West. The legal description of the Site is *Part of Lot 6 East Side of Mary Street, Part of Lots 7 and 8 West Side of Maple Street, Registered Plan 121, City of Barrie, County of Simcoe*. The Property Identification Number (PIN) is 58800-0040 (LT). The 0.2367 ha Site is bound by residential to the north, Sophia Street to the south with commercial use beyond, commercial land use to the northeast/east, and Mary Street to the west with residential use beyond.

The Site is currently vacant and was most recently used for commercial purposes. The Site is owned by 2426011 Ontario Inc. The proposed future land use is mixed commercial and residential.

6.9.2 Potentially Contaminating Activities

Thirty-nine PCAs were identified within the phase one study area, consisting of six on-site and thirty-three off-site PCAs. Refer to Table 1 for further description of the PCAs, and Figure 2 for PCA locations.

All on-site PCAs contribute to APECs.

PCA 1 – On-site: former wood storage (Barrie Planing Mill); 59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products

PCA 2 – On-site: former farm equipment storage (Parker & Hannah, agricultural implements dealer); 52 - Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems

PCA 3 – On-site: fill of unknown quality; 30 - Importation of Fill Material of Unknown Quality

PCA 4 – On-site: former machine shop for rebuilding engines (Parry Automotive); 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 5 – On-site: former tanks of degreaser

PCA 6 – On-site: salt application for de-icing



Off-site PCAs do not contribute to APECs.

PCA 7 – Off-site (Mary Street, 30 m south): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 8 – Off-site (121 Mary Street, 45 m north): contaminated soil from former fuel UST

PCA 9 – Off-site (136 Bayfield Street, 45 m northeast): generation of alkaline wastes (other metals) and oil skimmings & sludges

PCA 10 – Off-site (140 Bayfield Street, 100 m northeast): fuel oil UST, fuel oil AST and diesel ASTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 11 – Off-site (140 Bayfield Street, 100 m northeast): spill of hydraulic oil

PCA 12 – Off-site (125 Bayfield Street, 150 m northeast): generation of oil skimmings & sludges

PCA 13 – Off-site (Bayfield Street and Sophia Street, 125 m to the east): spills of transmission fluid, an oily substance, and coolant

PCA 14 – Off-site (104 Bayfield Street, 100 m east): spill of transformer oil

PCA 15 – Off-site (102 Bayfield Street, 110 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 16 – Off-site (102 Bayfield Street, 110 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 17 – Off-site (103 Bayfield Street, 150 m southeast): dry cleaner; 37 - Operation of Dry Cleaning Equipment (where chemicals are used)

PCA 18 – Off-site (103 Bayfield Street, 150 m southeast): spill of dry cleaning solvent

PCA 19 – Off-site (17 Sophia Street East, 245 m east): chlorinated solvent contamination in groundwater



PCA 20 – Off-site (North of Ross Street from Maple Avenue to Bayfield Street, 110 m southeast): Engine manufacturer (The Canada Producer and Gas Engine Co Limited); 34 - Metal Fabrication

PCA 21 – Off-site (80 Bayfield Street, 150 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 22 – Off-site (80 Bayfield Street, 150 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 23 – Off-site (80 Bayfield Street, 150 m southeast): spill of gasoline to a catch basin

PCA 24 – Off-site (Bayfield Street and Ross Street, 200 m southeast): spill of transformer oil

PCA 25 – Off-site (85 Bayfield Street, 220 m southeast): gasoline UST; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 26 – Off-site (65 Bayfield Street, 220 m southeast): furnace oil spill

PCA 27 – Off-site (65 Bayfield Street, 220 m southeast): automotive repair garage; 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles

PCA 28 – Off-site (65 Bayfield Street, 220 m southeast): gasoline UST; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 29 – Off-site (Southwest corner of Ross Street and Bayfield Street, 240 m southeast): Sheet metal workers building (The Ball Planing Company); 33 - Metal Treatment, Coating, Plating and Finishing

PCA 30 – Off-site (Southwest corner of Ross Street and Bayfield Street, 240 m southeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 31 – Off-site (59 Maple Avenue, 150 m southeast): suspected spill of motor oil

PCA 32 – Off-site (76 Maple Avenue, 150 m southeast): spill of motor oil

PCA 33 – Off-site (Toronto Street and Park Street, 200 m southwest): spills of diesel to a catch basin



PCA 34 – Off-site (Toronto Street and Ross Street, 100 m west): spills of gasoline and engine fluids to a catch basin

PCA 35 – Off-site (74/76 Ross Street, 200 m west): spill of coolant to the road

PCA 36 – Off-site (74/76 Ross Street, 200 m west): generation of aromatic solvents, halogenated solvents, and oil skimmings & sludges

PCA 37 – Off-site (74/76 Ross Street, 200 m west): diesel AST; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 38 – Off-site (153 Bayfield Street, 240 m northeast): gasoline USTs; 28 - Gasoline and Associated Products Storage in Fixed Tanks

PCA 39 – Off-site (153 Bayfield Street, 240 m northeast): spill of gasoline

6.9.3 Areas of Potential Environmental Concern

As required by O.Reg. 153/04, all on-site PCAs result in an APEC. Based on a review of the potential to result in contamination at the Site, no off-site PCAs contributed to APECs. Refer to Table 2 for further descriptions of the APECs, and Figure 3 for APEC locations.

APEC A – Northwest and central portions of the Site, associated with PCA 1 - Storage of wood (Barrie Planing Mill). COPCs are PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, ABNs including CPs.

APEC B – West and north portions of Site, associated with PCA 2 - Storage of farm equipment (Parker & Hannah, agricultural implements dealer). COPCs are PHC F1-F4, VOCs incl. BTEX, metals incl. hydride-forming.

APEC C – Entire Site, associated with PCA 3 – Fill of unknown quality. COPCs are PHC F1-F4, BTEX, PAHs, metals incl. hydride-forming.

APEC D – North portion of on-site building, associated with PCA 4 - Machine shop for the rebuilding of engines (Parry Automotive. COPCs are PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, mercury, cyanide, pH.



APEC E – North side of building and northwest exterior of building, associated with PCA 5 - Two tanks of degreaser. COPCs include PHC F1-F4, VOCs incl. BTEX, pH.

APEC F – West side of Site, exterior to the on-site building, associated with PCA 7 - Salt application for de-icing. COPCs are EC, SAR, sodium, chloride.

The qualified person 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 sampling and analysis plan was designed to assess the APECs. The following list documents how the investigation sufficiently characterized the APECs. Samples for analysis of volatile parameters such as PHCs and VOCs were selected based primarily on soil screening results and proximity to the water table. Samples for analysis of all other parameters were selected based primarily on visual observation and depth. Monitoring wells were installed such that the screened portion of the well intersected the shallow water-bearing unit.

- BH201 and BH204, completed as a monitoring well, investigated APEC A;
- All borehole locations, three of which were completed as monitoring wells, and existing monitoring well, EMW2, investigated APEC B;
- BH201 to BH205, two of which were completed as monitoring wells, and existing monitoring well, EMW2, investigated APEC C;
- BH206, completed as a monitoring well, investigated APEC D;
- BH202 and BH206, completed as monitoring wells, investigated APEC E.

Refer to Figure 4 for borehole and monitoring well locations.

6.9.4 Subsurface Structures and Utilities

Natural gas, water, sewer services and a stormwater culvert are present beneath the west side of the Site. Concentrations of all COPCs were less than the Table 1 SCS in the analyzed groundwater samples. Accordingly, contaminant distribution and transport is not a concern.

6.9.5 Stratigraphy

The stratigraphy consisted of sand fill to a maximum depth of 1.5 m below ground surface (bgs). Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits. Bedrock was not encountered to the maximum depth of the investigation, 4.6 mbgs.

6.9.6 Hydrogeological Characteristics and Groundwater Elevations

Following the planned relocation of the on-site water channel, the closest water body will be the portion of Sophia Creek which flows south through Queens Park, roughly 140 m southwest of the Site.

To determine the relative groundwater elevation, the horizontal gradient, and the groundwater flow direction, water level measurements were recorded on December 9, 2022, as summarized in Table 3. Groundwater levels ranged from 0.91 to 2.40 mbgs and groundwater flow was to the southwest as shown on Figure 5.

The hydrogeology assessment which reported that on April 29, 2022, groundwater levels ranged from 0.85 to 2.58 mbgs, and groundwater flow was determined to be to the southwest (Cambium, 2022c).

The horizontal hydraulic gradient was 0.03 m/m based on groundwater levels measured on December 9, 2022.

As part of the hydrogeology assessment, hydraulic conductivity values were measured using single well response tests and ranged from 2.61×10^{-7} m/s to 2.11×10^{-5} m/s with a geometric mean of 2.08×10^{-6} m/s.

Assuming a porosity range of 20%, hydraulic gradient of 0.03 m/m, and a mean hydraulic conductivity of 2.08×10^{-6} m/s, the average groundwater flow velocity was roughly 10 m per year.

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 mixed commercial and residential use.
- Following the planned relocation of the on-site water channel, the closest water body as defined in O.Reg. 153/04, will be the portion of Sophia Creek that travels through Queens Park, roughly 140 m southwest of the Site. As such, Section 43.1 of O.Reg. 153/04 does not apply to the Site.
- The Site is in an area that is supplied by a municipal water supply which obtains its drinking water, in part, from groundwater.
- The stratigraphy consisted of sand fill to a maximum depth of 1.5 m below ground surface (bgs). Underlying the fill, was native soils consisting of sand to silty sand with varying amounts of gravel and clay, and sand and silt deposits. Four soil samples collected from depths ranging from 1.5 to 3.7 mbgs were submitted for grain size analysis as part of the geotechnical investigation. Soils were identified as sand or silty sand (Cambium, 2022b). Accordingly, SCS for coarse-grained soil were considered appropriate.
- On-site soil pH was within the acceptable ranges for surface (≤ 1.5 mbgs) and sub-surface (> 1.5 mbgs) soil.
- An area of natural significance, as defined in Section 1 of O.Reg. 153/04, may be present on the Site, due to the potential presence of species at risk habitat for threatened and/or endangered species. As such, the Site may be 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 1 *Full Depth Background Site Condition Standards*. Residential property use was 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. The interpreted groundwater flow direction is shown on Figure 5.

Concentrations of all COPCs were less than the Table 1 SCS in the analyzed groundwater samples.

PHCs, PAHs, and metals were present in soil at concentrations greater than the Table 1 SCS.

6.9.8.1 PHCs in Soil

PHC F3 and F4 impacts were present in shallow soil up to 1.5 mbgs at BH203. Concentrations of PHCs collected from shallow soil (<1.5 mbgs) at BH201, BH204, and BH206 met the Table 1 SCS. Sample locations, depths and results are shown on Figure 6.

6.9.8.2 PAHs in Soil

PAH impacts were present in soil to 3.0 mbgs at BH205. Concentrations of PAHs collected from soil above 3.0 mbgs at BH201, BH202, BH203, BH204, and BH206 met the Table 1 SCS. Sample locations, depths and results are shown on Figure 8.

6.9.8.3 Metals in Soil

Metal impacts were present in soil to roughly 2.6 mbgs across the north portion of the Site. Sample locations, depths and results are shown on Figure 13.

6.9.9 Contaminant Migration and Transport

Concentrations of all COPCs were less than the Table 1 SCS in the analyzed groundwater samples. Accordingly, contaminant migration is not expected.

6.9.10 Exposure Pathways and Receptors

Concentrations of PHCs, PAHs, and metals in soil exceeded the Table 1 SCS. Prior to development, impacted soil is to be remediated.

As concentrations of COPCs will be less than Table 1 SCS in the analyzed soil and groundwater samples, exposure pathways and receptors are not applicable for the proposed development.

6.9.11 Location of Buildings and Structures

The Site is developed with a two storey, slab-on-grade building on the west side of the property.

The proposed redevelopment consists of a four-storey, mixed-use, residential and commercial building. The building will contain underground parking with first floor residential and commercial units, and residential units on the second, third, and fourth floors. A row of above grade parking stalls will be present along the north side of the Site.

6.9.12 Areas of Contamination on the Property

Concentrations of PHCs, PAHs, and metals exceeding the Table 1 SCS were present in soil up to 3.0 mbgs across the north portion of the Site.

Concentrations of all COPCs were less than the Table 1 SCS in the analyzed groundwater samples.

6.10 Contaminant Management Plan

Concentrations of PHCs, PAHs, and metals exceeding the Table 1 SCS were present in soil up to 3.0 mbgs across the north portion of the Site. Concentrations of all COPCs were less than the Table 1 SCS in the analyzed groundwater samples.

Impacted soil will be removed during construction, thus, mobilization of soil contamination as a result of stormwater infiltration is not considered an issue.



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.

The subsurface investigation program was conducted from October 26 to December 9, 2022. Based on results, PHCs, PAHs, and metals, are present in soil at concentrations greater than the applicable standard.

7.1 Signatures

This Phase Two ESA was completed under the supervision of Ms. Natalie Wright, P.Eng., QP_{ESA}, as per O.Reg. 153/04. Information presented in this report is true and accurate to the best of the assessors' knowledge.

Respectfully submitted,

Cambium Inc.



Natalie Wright, P.Eng., QP_{ESA}
Project Manager

8.0 References

- Cambium. (2022a). *Phase One Environmental Site Assessment - 30 Sophia Street West, Barrie, Ontario*. Cambium Inc. December 14, 2022.
- Cambium. (2022b). *Draft Geotechnical Investigation Report - 30 Sophia Street West, Barrie, Ontario*. Cambium Inc. July 27, 2022.
- Cambium. (2022c). *Hydrogeological Assessment, 30 Sophia Street West, Barrie, Ontario*. Cambium Inc. October 4, 2022.
- Chapman, L., & Putnam, D. (2007). *The Physiographic Regions of Southern Ontario; Miscellaneous Release--Data 228*. Ontario Geological Survey.
- MECP. (2022, 10 06). *Map: Well Records*. Retrieved from Ministry of the Environment, Conservation and Parks: <https://www.ontario.ca/environment-and-energy/map-well-records>
- MECP. (2022, 12 14). *Source Protection Information Atlas*. Retrieved from Ministry of the Environment, Conservation and Parks: <https://www.lioapplications.lrc.gov.on.ca/SourceWaterProtection/index.html?viewer=SourceWaterProtection.SWPViewer&locale=en-CA>
- MNRF. (2022, 10 06). *Make a Topographic Map*. Retrieved from Ministry of Natural Resources and Forestry: https://www.lioapplications.lrc.gov.on.ca/MakeATopographicMap/index.html?viewer=Make_A_Topographic_Map.MATM&locale=en-US
- MOECC. (2011). *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*. Queen's Printer for Ontario.
- OGS. (2007). *Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 219*. Ontario Geological Survey.
- OGS. (2010). *Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV*. Ontario Geological Survey.



Rudy Mak. (2022). *Plan of Survey, Part of Lot 6, East Side of Mary Street, Part of Lots 7 and 8, West Side of Maple Street, Registered Plan 121, City of Barrie, County of Simcoe*. Rudy Mak Surveying Ltd. March 14, 2022.



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Appended Figures

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- + Railroad
- Watercourse
- Water Area
- Provincial Park
- Wooded Area
- Built Up Area

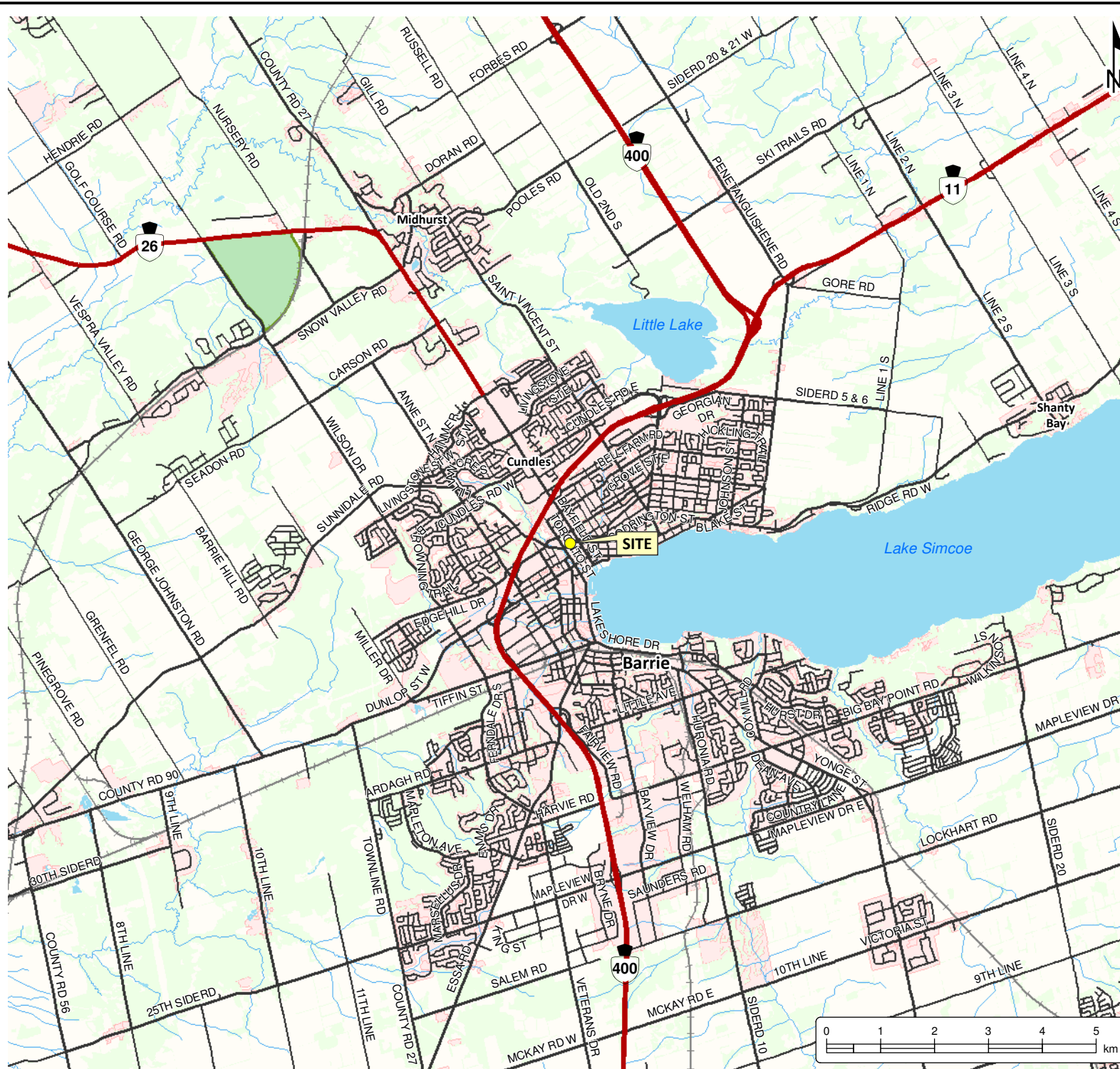
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SITE LOCATION MAP

Project No.: 14909-002	Date: December 2022
Scale: 1:100,000	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 1	



O:\GIS\MXDs\14000-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 2 - Conceptual Site Model - Phase One Study Area.mxd



**PHASE TWO
ENVIRONMENTAL
SITE ASSESSMENT**
2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- 250m Study Area
 Site (approximate)

Potentially Contaminating Activity:

- Contributes to APECs
 Does not contribute to APECs

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**CONCEPTUAL SITE MODEL
PHASE ONE STUDY AREA**

Project No.: 14909-002	Date: December 2022
Scale: 1:3,000	Rev.: Rev.
Created by: DBB	Checked by: NCW
Figure: 2	



PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Former Building
- Site (approximate)
- Area of Potential Environmental Concern**
- APEC A
- APEC B
- APEC C
- APEC D
- APEC E
- APEC F

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CONCEPTUAL SITE MODEL PHASE ONE SITE PLAN

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Rev.: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 3	

O:\GIS\MXDs\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 4 - Borehole and monitoring well Locations.mxd



**PHASE TWO
ENVIRONMENTAL
SITE ASSESSMENT**
2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

-  Borehole
-  Monitoring Well
-  Existing Well
-  Former Building
-  Site (approximate)

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**BOREHOLE AND MONITORING
WELL LOCATIONS**

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Rev.: Rev.
Created by: DBB	Checked by: NCW
Figure: 4	



PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Groundwater Contour
- Borehole
- Monitoring Well
- Existing Well
- Site (approximate)
- (98.66)** Groundwater Elevation
(December 8, 2022)
- ➔ Groundwater Flow Direction
(December 8, 2022)

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GROUNDWATER FLOW

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Rev.: Rev.:
Created by: DBB	Checked by: NCW
Figure: 5	

O:\GIS\MD\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 6 - Soil quality BTEX and PHCs.mxd



PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

Parameter	Table 1 RPICC
Benzene	0.02
Toluene	0.2
Ethylbenzene	0.05
Xylenes	0.05
F1 (C6-C10)	25
F2 (C10-C16)	10
F3 (C16-C34)	240
F4 (C34-C50)	120

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SOIL QUALITY BTEX AND PHCs

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 6	

O:\GIS\MXDs\14909-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 7: Soil quality VOCs.mxd



**PHASE TWO
ENVIRONMENTAL
SITE ASSESSMENT**
2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

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SOIL QUALITY VOCs

Project No.:	14909-002	Date:	December 2022
Scale:	1:500	Rev.:	
Created by:	DBB	Projection:	NAD 1983 UTM Zone 17N
Checked by:	NCW	Figure:	7



**PHASE TWO
ENVIRONMENTAL
SITE ASSESSMENT**
2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

Parameter	Table 1 RPIIC
Methylnaphthalene, 2-(1-)	0.59
Acenaphthene	0.072
Acenaphthylene	0.093
Anthracene	0.16
Benzo(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Benzo(k)fluoranthene	0.48
Chrysene	2.8
Dibenzo(a,h)anthracene	0.1
Fluoranthene	0.56
Fluorene	0.12
Indeno(1,2,3-cd)pyrene	0.23
1-Methylnaphthalene	0.59
2-Methylnaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69
Pyrene	1

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SOIL QUALITY PAHs

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Rev.: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 8	

**PHASE TWO
ENVIRONMENTAL
SITE ASSESSMENT**
2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

-  Borehole
 Monitoring Well
 Existing Well
 Meets Table 1 Standard
 Meets Table 1 Standard
 Site (approximate)

Parameter	Table 1 RPLICC
Antimony	1.3
Arsenic	18
Barium	220
Beryllium	2.5
Boron	36
Cadmium	1.2
Chromium	70
Cobalt	21
Copper	92
Cyanide	0.051
Lead	120
Molybdenum	2
Mercury	0.27
Nickel	82
Selenium	1.5
Silver	0.5
Thallium	1
Uranium	2.5
Vanadium	86
Zinc	290

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SOIL QUALITY METALS

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Rev.: NAD 1983 UTM Zone 17N
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Figure: 9	

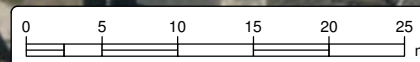
BH203		
Depth	0.4 - 1.1	1.5 - 1.8
Antimony	12	1.8
Arsenic	3.8	<1.0
Barium	78	43
Beryllium	0.29	0.21
Boron	7.2	<5.0
Cadmium	0.37	<0.10
Chromium	20	14
Cobalt	3.8	3.3
Copper	38	7.3
Cyanide	-	-
Lead	270	14
Molybdenum	0.99	1.3
Mercury	-	-
Nickel	7.1	5.9
Selenium	<0.50	<0.50
Silver	<0.20	<0.20
Thallium	0.11	<0.050
Uranium	0.35	0.28
Vanadium	31	23
Zinc	180	19

BH205		
Depth	0.3 - 0.8	3.0 - 3.5
Antimony	0.68	<0.20
Arsenic	6.2	<1.0
Barium	170	16
Beryllium	0.25	<0.20
Boron	6.6	<5.0
Cadmium	0.37	<0.10
Chromium	22	10
Cobalt	3.8	1.5
Copper	33	2.8
Cyanide	-	-
Lead	240	2.6
Molybdenum	<0.50	1.6
Mercury	-	-
Nickel	6.7	3
Selenium	<0.50	<0.50
Silver	0.27	<0.20
Thallium	0.059	<0.050
Uranium	0.34	0.28
Vanadium	25	19
Zinc	150	6.4

BH202		
Depth	0.3 - 1.5	2.6 - 3.0
Antimony	18	<0.20
Arsenic	50	<1.0
Barium	260	13
Beryllium	0.28	<0.20
Boron	7.8	<5.0
Cadmium	5.7	<0.10
Chromium	340	5.1
Cobalt	39	1.3
Copper	650	2.4
Cyanide	-	-
Lead	2600	1.1
Molybdenum	22	<0.50
Mercury	0.11	-
Nickel	180	2.4
Selenium	<0.50	<0.50
Silver	0.26	<0.20
Thallium	0.068	<0.050
Uranium	0.29	0.24
Vanadium	22	13
Zinc	430	5.8

BH206				
Depth	0.0 - 0.3	3.2 - 3.6	3.6 - 4.1	
Antimony	2.3	<0.20	<0.20	<0.20
Arsenic	1.2	<1.0	<1.0	<1.0
Barium	47	20	25	15
Beryllium	0.21	<0.20	<0.20	<0.20
Boron	5	<5.0	<5.0	<5.0
Cadmium	0.41	<0.10	<0.10	0.18
Chromium	15	9.5	8.8	8.4
Cobalt	7.4	2	2.3	1.8
Copper	13	4	4.1	3.3
Cyanide	<0.01	<0.01	<0.01	<0.01
Lead	43	11	1.5	3.3
Molybdenum	1	0.69	<0.50	0.75
Mercury	<0.050	<0.050	<0.050	<0.050
Nickel	8.9	3.4	3.7	2.9
Selenium	<0.50	<0.50	<0.50	<0.50
Silver	<0.20	<0.20	<0.20	<0.20
Thallium	0.075	<0.050	<0.050	<0.050
Uranium	0.29	0.29	0.3	0.25
Vanadium	25	20	24	19
Zinc	81	15	11	14

Sample Location	BH201/HA201		BH202		BH203		BH204/HA204	BH205		BH206	
Sample Date (dd-mm-yy)	07-Dec-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	18-Nov-22	18-Nov-22	18-Nov-22
Sample Depth (mbgs)	0.9 - 1.2	2.6 - 3.0	0.3 - 1.5	2.6 - 3.0	0.4 - 1.1	1.5 - 1.8	0.6 - 1.2	0.3 - 0.8	3.0 - 3.5	0.0 - 0.3	3.2 - 3.6



O:\GIS\MXDs\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 11 - Groundwater Quality BTEX and PHCs.mxd



Well ID	Top of Screen (m rel)	Bottom of Screen (m rel)
EMW2	98.61	95.61
BH202	98.20	95.20
BH204	97.93	94.93
BH206	98.25	95.25

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

(0.96 - 3.96) Screen Interval in meters
below ground Surface
(mbgs)

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GROUNDWATER QUALITY BTEX AND PHCs

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 10	

O:\GIS\MD\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 12 - Groundwater Quality VOCs.mxd



Well ID	Top of Screen (m rel)	Bottom of Screen (m rel)
EMW2	98.61	95.61
BH202	98.20	95.20
BH204	97.93	94.93
BH206	98.25	95.25

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

(0.96 - 3.96) Screen Interval in meters
below ground Surface
(mbgs)

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GROUNDWATER QUALITY VOCs

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 11	

O:\GIS\MD\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 13 - Groundwater Quality PAHs.mxd



Well ID	Top of Screen (m rel)	Bottom of Screen (m rel)
EMW2	98.61	95.61
BH202	98.20	95.20
BH204	97.93	94.93
BH206	98.25	95.25

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

(0.96 - 3.96) Screen Interval in meters
below ground Surface
(mbgs)

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GROUNDWATER QUALITY PAHs

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 12	

O:\GIS\MXDs\14900-14999\14909-002 Innovative Planning Solutions - Phase One\Two ESA & RSC - 30 Sophia St, Barrie\Phase II\2022-12-16 FIG 15 - Groundwater Quality Metals.mxd



Well ID	Top of Screen (m rel)	Bottom of Screen (m rel)
EMW2	98.61	95.61
BH202	98.20	95.20
BH204	97.93	94.93
BH206	98.25	95.25

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

2426011 ONTARIO INC.
30 Sophia Street West
Barrie, Ontario

LEGEND

- Borehole
- Monitoring Well
- Existing Well
- Meets Table 1 Standard
- Exceeds Table 1 Standard
- Site (approximate)

(0.96 - 3.96) Screen Interval in meters
below ground Surface
(mbgs)

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GROUNDWATER QUALITY METALS

Project No.: 14909-002	Date: December 2022
Scale: 1:500	Projection: NAD 1983 UTM Zone 17N
Created by: DBB	Checked by: NCW
Figure: 13	



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Appended Tables



Table 1 - Potentially Contaminating Activities

PCA ID #	Potentially Contaminating Activity ¹	Location of PCA	PCA Description	APEC ² (Yes/No)
1	59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site: Former wood storage on northwest and central portions of the Site	Storage of wood (Barrie Planing Mill)	Yes
2	52 - Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	On-site: West and north portions of Site	Storage of farm equipment (Parker & Hannah, agricultural implements dealer)	Yes
3	30 - Importation of Fill Material of Unknown Quality	On-site: Across the Site	Fill of unknown quality	Yes
4	27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-site: North side of the building	Machine shop for the rebuilding of engines (Parry Automotive)	Yes
5	Other - Tanks of degreaser	On-site: Possible locations of ASTs in north side of building or northwest exterior of building	Two tanks of degreaser were present in the machine shop	Yes
6	Other - Salt application for de-icing	On-site: West side of the site, exterior to the building	Salt application for de-icing	Yes
7	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: Mary Street, 30 m south	Gasoline USTs	No
8	Other - Spill	Off-site: 121 Mary Street, 45 m north	Contaminated soil from former fuel UST	No
9	Other - Waste generation	Off-site: 136 Bayfield Street, 45 m northeast	Generation of alkaline wastes (other metals) and oil skimmings & sludges	No
10	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 140 Bayfield Street, 100 m northeast	Fuel oil UST, fuel oil AST and diesel ASTs	
11	Other - Spill	Off-site: 140 Bayfield Street, 100 m northeast	Spill of hydraulic oil	No
12	Other - Waste generation	Off-site: 125 Bayfield Street, 150 m northeast	Generation of oil skimmings & sludges	No
13	Other - Spills	Off-site: Bayfield Street and Sophia Street, 125 m to the east	Spills of transmission fluid, an oily substance, and coolant	No
14	Other - Spill	Off-site: 104 Bayfield Street, 100 m east	Spill of transformer oil	No
15	27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Off-site: 102 Bayfield Street, 110 m southeast	Automotive repair garage	No
16	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 102 Bayfield Street, 110 m southeast	Gasoline USTs	No
17	37 - Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site: 103 Bayfield Street, 150 m southeast	Dry cleaner	No
18	Other - Spill	Off-site: 103 Bayfield Street, 150 m southeast	Spill of dry cleaning solvent	No
19	Other - Groundwater Contamination	Off-site: 17 Sophia Street East, 245 m east	Chlorinated solvent contamination in groundwater	No
20	34 - Metal Fabrication	Off-site: North of Ross Street from Maple Avenue to Bayfield Street, 110 m southeast	Engine manufacturer (The Canada Producer and Gas Engine Co Limited)	No
21	27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Off-site: 80 Bayfield Street, 150 m southeast	Automotive repair garage	No
22	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 80 Bayfield Street, 150 m southeast	Gasoline USTs	No
23	Other - Spill	Off-site: 80 Bayfield Street, 150 m southeast	Spill of gasoline to a catch basin	No
24	Other - Spill	Off-site: Bayfield Street and Ross Street, 200 m southeast	Spill of transformer oil to the road	No
25	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 85 Bayfield Street, 220 m southeast	Gasoline UST	No
26	Other - Spill	Off-site: 65 Bayfield Street, 220 m southeast	Furnace oil spill	No
27	27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Off-site: 65 Bayfield Street, 220 m southeast	Automotive repair garage	No
28	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 65 Bayfield Street, 220 m southeast	Gasoline UST	No
29	33 - Metal Treatment, Coating, Plating and Finishing	Off-site: Southwest corner of Ross Street and Bayfield Street, 240 m southeast	Sheet metal workers building (The Ball Planing Company)	No
30	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: Southwest corner of Ross Street and Bayfield Street, 245 m southeast	Gasoline USTs	No



Table 1 - Potentially Contaminating Activities

PCA ID #	Potentially Contaminating Activity ¹	Location of PCA	PCA Description	APEC ² (Yes/No)
31	Other - Spills	Off-site: 59 Maple Avenue, 150 m southeast	Suspected spill of motor oil	No
32	Other - Spills	Off-site: 76 Maple Avenue, 150 m southeast	Spill of motor oil	No
33	Other - Spills	Off-site: Toronto Street and Park Street, 200 m southwest	Spills of diesel to a catch basin	No
34	Other - Spills	Off-site: Toronto Street and Ross Street, 100 m west	Spills of gasoline and engine fluids to a catch basin	No
35	Other - Spills	Off-site: 74/76 Ross Street, 200 m west	Spill of coolant to the road	No
36	Other - Waste generation	Off-site: 74/76 Ross Street, 200 m west	Generation of aromatic solvents, halogenated solvents, and oil skimmings & sludges	No
37	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 74/76 Ross Street, 200 m west	Diesel AST	No
38	28 - Gasoline and Associated Products Storage in Fixed Tanks	Off-site: 153 Bayfield Street, 240 m northeast	Gasoline USTs	No
39	Other - Spills	Off-site: 153 Bayfield Street, 240 m northeast	Spill of gasoline	No

- Notes:
1. Potentially Contaminating Activity (PCA) means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in the phase one study area.
 2. Area of Potential Environmental Concern (APEC) means the area on, in, or under a phase one property where one or more contaminants are potentially present.



Table 2 - Areas of Potential Environmental Concern

APEC ¹	Location of APEC on Phase One Property	PCA ²		Location of PCA	Contaminants of Potential Concern ³	Media Potentially Impacted
A	Northwest and central portions of the Site	1	59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site: Former wood storage on northwest and central portions of the Site	PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, acid/base/neutral compounds incl. chlorophenols	Soil and groundwater
B	West and north portions of Site	2	52 - Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	On-site: West and north portions of Site	PHC F1-F4, VOCs incl. BTEX, metals incl. hydride-forming	Soil and groundwater
C	Footprint of Site	3	30 - Importation of Fill Material of Unknown Quality	On-site: Across the Site	PHC F1-F4, BTEX, PAHs, metals incl. hydride-forming	Soil
D	North portion of on-site building	4	27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-site: North side of the building	PHC F1-F4, VOCs incl. BTEX, PAHs, metals incl. hydride-forming, mercury, cyanide, pH	Soil and groundwater
E	North side of building and northwest exterior of building	5	Other - Tanks of degreaser	On-site: Possible locations of ASTs in north side of building or northwest exterior of building	PHC F1-F4, VOCs incl. BTEX, pH	Soil and groundwater
F	West side of Site, exterior to the on-site buiding	7	Other - Salt use for de-icing	On-site: West side of the site, exterior to the building	EC, SAR, sodium, chloride	Soil and groundwater

- Notes:
- 1. Area of Potential Environmental Concern (APEC) means the area on, in, or under a phase one property where one or more contaminants are potentially present.
 - 2. Potentially Contaminating Activity (PCA) means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in the phase one study area.
 - 3. Method groups as defined in 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



Table 3 - Groundwater Elevations

Installed By	Well ID	UTM		Top of Casing Elevation (m rel)	Ground Surface Elevation (m rel)	Top of Screen Depth (mbgs)	Bottom of Screen Depth (mbgs)	Top of Screen Depth (m rel)	Bottom of Screen Depth (m rel)	9-Dec-22		
		Easting	Northing							Depth (mbtop)	Depth (mbgs)	Elevation (m rel)
Unknown	EMW1 Well Tag A260047/Record 7368458	603,966	4,916,173	99.122	99.209	0.96	3.96	98.25	95.25	2.31	2.40	96.81
	EMW2 Well Tag A260045/Record 7337081	603,999	4,916,212	99.443	99.571	0.96	3.96	98.61	95.61	0.78	0.91	98.66
Cambium Inc.	BH202	603,966	4,916,180	99.057	99.163	0.96	3.96	98.20	95.20	1.60	1.71	97.46
	BH204	603,997	4,916,177	98.800	98.893	0.96	3.96	97.93	94.93	1.29	1.38	97.51
	BH206	603,971	4,916,175	99.204	99.364	1.11	4.11	98.25	95.25	1.84	2.00	97.36

Notes:
m rel - metres relative to a benchmark with an assumed elevation of 100.000 m
mbgs - metres below ground surface
mbtop - metres below top of pipe



Table 4 - Soil Quality

Sample Location		Units	RDL	Table 1 Standards	BH201		BH202				RPD (%)	BH203		BH204		RPD (%)	BH204		BH205		BH206				RPD (%)		
Sample ID	Sample Date (dd-mm-yy)				BH201_2.6-3.0	BH202_0.3-1.5	BH202_2.6-3.0	BH202_3.0-3.4	QA/QC	BH203_0.4-1.1		BH203_1.5-1.8	BH204_0.6-1.2	QA/QC#2	BH204_1.5-1.8		BH205_0.3-0.8	BH205_3.0-3.5	BH101_0-0.30	BH101_3.20-3.65	BH101_3.65-4.11	QA/QC1					
Sample Date (dd-mm-yy)	Sample Date (dd-mm-yy)				26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22		26-Oct-22	26-Oct-22	26-Oct-22	26-Oct-22		26-Oct-22	26-Oct-22	18-Nov-22	18-Nov-22	18-Nov-22	18-Nov-22					
Sample Depth (mbgs)	Sample Depth (mbgs)				2.6 - 3.0	0.3 - 1.5	2.6 - 3.0	3.0 - 3.4	3.0 - 3.4	0.4 - 1.1		1.5 - 1.8	0.6 - 1.2	0.6 - 1.2	1.5 - 1.8		0.3 - 0.8	3.0 - 3.5	0.3 - 0.6	3.5 - 4.0	4.0 - 4.4						
BTEX and Petroleum Hydrocarbons (PHCs)																											
Benzene	µg/g	0.02	0.02	<0.0060	-	-	<0.0060	<0.0060	NV	<0.020	<0.0060	<0.020	-	-	<0.0060	-	<0.0060	<0.0060	<0.0060	<0.0060	-	-	-	-			
Toluene	µg/g	0.02	0.2	<0.020	-	-	<0.020	<0.020	NV	0.026	<0.020	<0.020	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020	-	-	-	-			
Ethylbenzene	µg/g	0.02	0.05	<0.010	-	-	<0.010	<0.010	NV	<0.020	<0.010	<0.020	-	-	<0.010	-	<0.010	<0.010	<0.010	<0.010	-	-	-	-			
Xylenes	µg/g	0.04	0.05	<0.020	-	-	<0.020	<0.020	NV	<0.040	<0.020	<0.040	-	-	<0.020	-	<0.020	<0.020	<0.020	<0.020	-	-	-	-			
F1 (C6-C10)	µg/g	10	25	<10	-	-	<10	<10	NV	<10	<10	<10	-	-	<10	-	<10	<10	<10	<10	-	-	-	-			
F2 (C10-C16)	µg/g	10	10	<10	-	-	<10	<10	NV	<10	<10	<10	-	-	<10	-	<10	<10	<10	<10	-	-	-	-			
F3 (C16-C34)	µg/g	50	240	<50	-	-	<50	<50	NV	330	<50	<50	-	-	<50	-	<50	98	<50	<50	-	-	-	-			
F4 (C34-C50)	µg/g	50	120	<50	-	-	<50	<50	NV	250	<50	<50	-	-	<50	-	<50	<50	<50	<50	-	-	-	-			
Volatile Organic Compounds (VOCs)																											
1,3-Dichloropropene	µg/g	0.05	0.05	<0.050	-	-	<0.050	<0.050	NV	-	<0.050	-	-	-	<0.050	-	<0.050	<0.050	<0.050	<0.050	-	-	-	-			
Acetone	µg/g	0.49	0.5	<0.49	-	-	<0.49	<0.49	NV	-	<0.49	<0.49	-	-	<0.49	-	<0.49	<0.49	<0.49	<0.49	-	-	-	-			
Bromodichloromethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Bromoform	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Bromomethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Carbon Tetrachloride	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Chlorobenzene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Chloroform	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Dibromochloromethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,2-Dichlorobenzene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,3-Dichlorobenzene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,4-Dichlorobenzene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Dichlorodifluoromethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,1-Dichloroethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,2-Dichloroethane	µg/g	0.049	0.05	<0.049	-	-	<0.049	<0.049	NV	-	<0.049	<0.049	-	-	<0.049	-	<0.049	<0.049	<0.049	<0.049	-	-	-	-			
1,1-Dichloroethylene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
cis-1,2-Dichloroethylene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
trans-1,2-Dichloroethylene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,2-Dichloropropane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
cis-1,3-Dichloropropene	µg/g	0.03	NV	<0.030	-	-	<0.030	<0.030	NV	-	<0.030	<0.030	-	-	<0.030	-	<0.030	<0.030	<0.030	<0.030	-	-	-	-			
trans-1,3-Dichloropropene	µg/g	0.04	NV	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Ethylene Dibromide	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Hexane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Methylene Chloride	µg/g	0.049	0.05	<0.049	-	-	<0.049	<0.049	NV	-	<0.049	<0.049	-	-	<0.049	-	<0.049	<0.049	<0.049	<0.049	-	-	-	-			
Methyl Ethyl Ketone	µg/g	0.4	0.5	<0.40	-	-	<0.40	<0.40	NV	-	<0.40	<0.40	-	-	<0.40	-	<0.40	<0.40	<0.40	<0.40	-	-	-	-			
Methyl Isobutyl Ketone	µg/g	0.4	0.5	<0.40	-	-	<0.40	<0.40	NV	-	<0.40	<0.40	-	-	<0.40	-	<0.40	<0.40	<0.40	<0.40	-	-	-	-			
Methyl t-butyl Ether (MTBE)	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Styrene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,1,1,2-Tetrachloroethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,1,2,2-Tetrachloroethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Tetrachloroethylene	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,1,1-Trichloroethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
1,1,2-Trichloroethane	µg/g	0.04	0.05	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
Trichloroethylene	µg/g	0.01	0.05	<0.010	-	-	<0.010	<0.010	NV	-	<0.010	<0.010	-	-	<0.010	-	<0.010	<0.010	<0.010	<0.010	-	-	-	-			
Trichlorofluoromethane	µg/g	0.04	0.25	<0.040	-	-	<0.040	<0.040	NV	-	<0.040	<0.040	-	-	<0.040	-	<0.040	<0.040	<0.040	<0.040	-	-	-	-			
V																											



Table 5 - Groundwater Quality

Sample Location	Units	RDL	Table 1 Standards	BH202	BH204		RPD (%)	BH206		RPD (%)	EMW2
Sample ID				MW202	BH204	QA/QC#2		MW201	QA/QC1		EMW2
Sample Date (dd-mmm-yy)				22-Nov-22	8-Dec-22	8-Dec-22		22-Nov-22	22-Nov-22		8-Dec-22
BTEX and Petroleum Hydrocarbons (PHCs)											
Benzene	µg/L	0.5	0.5	<0.17	<0.17	<0.17	NV	<0.17	-	-	<0.17
Toluene	µg/L	0.05	0.8	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Ethylbenzene	µg/L	0.05	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Xylenes	µg/L	0.2	72	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
PHC F1 (C6-C10)	µg/L	25	420	<25	<25	<25	NV	<25	-	-	<25
PHC F2 (>C10-C16)	µg/L	100	150	<100	<100	<100	NV	<100	-	-	<100
PHC F3 (>C16-C34)	µg/L	200	500	<200	<200	<200	NV	<200	-	-	<200
PHC F4 (>C34-C50)	µg/L	200	500	<200	<200	<200	NV	<200	-	-	<200
Volatile Organic Compounds (VOCs)											
1,3-Dichloropropene (cis+trans)	µg/L	1	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Acetone	µg/L	0.1	2700	<10	<10	<10	NV	<10	-	-	<10
Bromodichloromethane	µg/L	1	2	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Bromoform	µg/L	2	5	<1.0	<1.0	<1.0	NV	<1.0	-	-	<1.0
Bromomethane	µg/L	0.4	0.89	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Carbon Tetrachloride	µg/L	10	0.2	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Chlorobenzene	µg/L	0.09	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Chloroform	µg/L	5	2	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Dibromochloromethane	µg/L	0.5	2	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,2-Dichlorobenzene	µg/L	0.9	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,3-Dichlorobenzene	µg/L	0.5	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,4-Dichlorobenzene	µg/L	0.5	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Dichlorodifluoromethane	µg/L	1	590	<1.0	<1.0	<1.0	NV	<1.0	-	-	<1.0
1,1-Dichloroethane	µg/L	2	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
1,2-Dichloroethane	µg/L	0.09	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,1-Dichloroethylene	µg/L	100	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
cis-1,2-Dichloroethylene	µg/L	0.05	1.6	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
trans-1,2-Dichloroethylene	µg/L	0.1	1.6	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,2-Dichloropropane	µg/L	0.5	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
cis-1,3-Dichloropropene	µg/L	5	0.5	<0.30	<0.30	<0.30	NV	<0.30	-	-	<0.30
trans-1,3-Dichloropropene	µg/L	0.05	0.5	<0.40	<0.40	<0.40	NV	<0.40	-	-	<0.40
Ethylene Dibromide	µg/L	0.05	0.2	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Hexane	µg/L	0.05	5	<1.0	<1.0	<1.0	NV	<1.0	-	-	<1.0
Methylene Chloride	µg/L	0.009	5	<2.0	<2.0	<2.0	NV	<2.0	-	-	<2.0
Methyl Ethyl Ketone	µg/L	0.05	400	<10	<10	<10	NV	<10	-	-	<10
Methyl Isobutyl Ketone	µg/L	0.05	640	<5.0	<5.0	<5.0	NV	<5.0	-	-	<5.0
Methyl t-butyl ether (MTBE)	µg/L	0.05	15	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Styrene	µg/L	0.05	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,1,1,2-Tetrachloroethane	µg/L	0.05	1.1	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
1,1,2,2-Tetrachloroethane	µg/L	0.05	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Tetrachloroethylene	µg/L	0.05	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
1,1,1-Trichloroethane	µg/L	0.05	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
1,1,2-Trichloroethane	µg/L	0.05	0.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Trichloroethylene	µg/L	0.05	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Trichlorofluoromethane	µg/L	0.03	150	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Vinyl Chloride	µg/L	0.05	0.5	<0.20	<0.20	<0.20	NV	<0.20	-	-	<0.20
Polycyclic Aromatic Hydrocarbons (PAHs)											
Methylnaphthalene, 2-(1-)	µg/L	0.071	2	<0.071	-	-	-	<0.071	-	-	-
Acenaphthene	µg/L	0.05	4.1	<0.050	-	-	-	<0.050	-	-	-
Acenaphthylene	µg/L	0.05	1	<0.050	-	-	-	<0.050	-	-	-
Anthracene	µg/L	0.05	0.1	<0.050	-	-	-	<0.050	-	-	-
Benzo(a)anthracene	µg/L	0.05	0.2	<0.050	-	-	-	<0.050	-	-	-
Benzo(a)pyrene	µg/L	0.009	0.01	<0.0090	-	-	-	<0.0090	-	-	-
Benzo(b)fluoranthene	µg/L	0.05	0.1	<0.050	-	-	-	<0.050	-	-	-
Benzo(g,h,i)perylene	µg/L	0.05	0.2	<0.050	-	-	-	<0.050	-	-	-
Benzo(k)fluoranthene	µg/L	0.05	0.1	<0.050	-	-	-	<0.050	-	-	-
Chrysene	µg/L	0.05	0.1	<0.050	-	-	-	<0.050	-	-	-
Dibenzo(a,h)anthracene	µg/L	0.05	0.2	<0.050	-	-	-	<0.050	-	-	-
Fluoranthene	µg/L	0.05	0.4	<0.050	-	-	-	<0.050	-	-	-
Fluorene	µg/L	0.05	120	<0.050	-	-	-	<0.050	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	0.05	0.2	<0.050	-	-	-	<0.050	-	-	-
1-Methylnaphthalene	µg/L	0.05	2	<0.050	-	-	-	<0.050	-	-	-
2-Methylnaphthalene	µg/L	0.05	2	<0.050	-	-	-	<0.050	-	-	-
Naphthalene	µg/L	0.05	7	<0.050	-	-	-	<0.050	-	-	-
Phenanthrene	µg/L	0.03	0.1	<0.030	-	-	-	<0.030	-	-	-
Pyrene	µg/L	0.05	0.2	<0.050	-	-	-	<0.050	-	-	-
Metals and Other Regulated Parameters											
Antimony	µg/L	0.5	1.5	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Arsenic	µg/L	1	13	<1.0	<1.0	<1.0	NV	<1.0	-	-	<1.0
Barium	µg/L	2	610	73	82	81	1	76	-	-	130
Beryllium	µg/L	0.4	0.5	<0.40	<0.40	<0.40	NV	<0.40	-	-	<0.40
Boron	µg/L	10	1700	31	16	18	12	46	-	-	21
Cadmium	µg/L	0.09	0.5	<0.090	<0.090	<0.090	NV	<0.090	-	-	<0.090
Chromium	µg/L	5	11	<5.0	<5.0	<5.0	NV	<5.0	-	-	<5.0
Cobalt	µg/L	0.5	3.8	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Copper	µg/L	0.9	5	1.6	<0.90	2.5	NV	<0.90	-	-	2.5
Cyanide	µg/L	1	5	-	-	-	-	<1	<1	NV	-
Lead	µg/L	0.5	1.9	<0.50	<0.50	<0.50	NV	<0.50	-	-	<0.50
Mercury	µg/L	0.1	0.1	-	-	-	-	<0.10	-	-	-
Molybdenum	µg/L	0.5	23	2.6	3.3	3.2	3	6.7	-	-	1.2
Nickel	µg/L	1	14	<1.0	<1.0	<1.0	NV	<1.0	-	-	<1.0
Selenium	µg/L	2	5	<2.0	<2.0	<2.0	NV	<2.0	-	-	<2.0
Silver	µg/L	0.09	0.3	<0.090	<0.090	<0.090	NV	<0.090	-	-	<0.090
Sodium	µg/L	100	490000	35000	54000	52000	4	49000	-	-	140000
Thallium	µg/L	0.05	0.5	<0.050	<0.050	<0.050	NV	<0.050	-	-	<0.050
Uranium	µg/L	0.1	8.9	0.86	1.1	1.1	0	0.72	-	-	0.55
Vanadium	µg/L	0.5	3.9	0.94	1	1.1	10	1.1	-	-	0.58
Zinc	µg/L	5	160	<5.0	<5.0	<5.0	NV	<5.0	-	-	11

Notes:
Table 1 Standards - Full Depth Background Site Condition Standards -
Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
*- not analyzed



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Appendix A

Sampling and Analysis Plan



Sampling and Analysis Plan - 30 Sophia Street West, Barrie, Ontario

October 24, 2022

Prepared for: 2426011 Ontario Inc.

Cambium Reference: 14909-002

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1.0 Introduction

2426011 Ontario Inc. (Client) retained Cambium Inc. (Cambium) to complete a Phase Two Environmental Site Assessment (ESA) at 30 Sophia Street West in Barrie, Ontario (Site or Phase Two Property).

This document outlines the Sampling and Analysis Plan (SAP) for the field work proposed for the Phase Two ESA being completed at the Site. 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

The purpose of the Phase Two ESA will be to investigate soil and groundwater quality in the areas of potential environmental concerns (APECs) through the drilling of boreholes, installation of monitoring wells, and the collection of soil and groundwater samples.

Contaminants of potential concern (COPCs) are petroleum hydrocarbon fractions 1 to 4 (PHC F1-F4), volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), acid/base/neutral compounds (ABNs) including chlorophenols (CPs), metals including hydride-forming, mercury, cyanide, and pH. Potentially contaminated media is soil and groundwater.

The overall objective of the Phase Two work program is to identify areas of contamination at the Phase Two property, if any, to support the filing of a Record of Site Condition (RSC) in accordance with Ontario Regulation (O.Reg.) 153/04.



2.0 Work Proposed

Proposed borehole and monitoring well locations, and rationale, are listed in the below table.

Borehole / Monitoring Well	Rationale
BH201	Investigate soil quality for the COPCs related to APEC A (wood storage), APEC B (storage of agricultural equipment), and APEC C (fill of unknown quality).
BH202	Investigate soil and groundwater quality for the COPCs related to APEC B (storage of agricultural equipment), APEC C (fill of unknown quality), and APEC E (degreaser tanks).
BH203	Investigate soil quality for the COPCs related to APEC B (storage of agricultural equipment) and APEC C (fill of unknown quality).
BH204	Investigate soil and groundwater quality for the COPCs related to APEC A (wood storage), APEC B (storage of agricultural equipment), and APEC C (fill of unknown quality).
BH205	Investigate soil quality for the COPCs related to APEC B (storage of agricultural equipment) and APEC C (fill of unknown quality).
BH206	Investigate soil and groundwater quality for the COPCs related to APEC B (storage of agricultural equipment), APEC C (fill of unknown quality), APEC D (machine shop for engine repairs), and APEC E (degreaser tanks).
EMW2	Investigate groundwater quality for the COPCs related to APEC B (storage of agricultural equipment).

Water levels will be collected from BH202, BH204, BH206, EMW1, and EMW2 to calculate shallow groundwater flow direction.

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

- Advance six boreholes (BH201 to BH206) at least to the depth of the water table.
- Collect continuous soil samples using a direct push sampling system;
- Instrument three boreholes (BH202, BH204, and BH206) with a monitoring well; and,
- Collect groundwater samples from new and existing monitoring wells 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.

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 truck-mounted or 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.

Two-inch monitoring wells will be installed by a licensed well contractor. Monitoring wells will generally consist of a 3.1 m length of PVC screen with riser to the top of the well. Wells will be completed with either a flush-mount casing or a protective steel monument casing.



Groundwater samples will be collected following development of newly installed wells to ensure representative formation waters. Samples from each well will be collected using a low-flow peristaltic pump, with dedicated tubing installed in each of the monitoring wells.

Groundwater samples requiring filtration will be field filtered using an in-line filter attached to the end of the polyethylene tubing.

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: 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. 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:

$$RPD = \frac{|S - D|}{1/2(S + D)} * 100$$

Where S = numbered sample value

D = duplicate value

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 times the laboratory reported detection limit (RDL).

RPD values evaluated based on a data quality objective (DQOs) of 50% for soil and 30% for water.

If an RPD is calculated above the DQO, 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.



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Appendix B

Borehole Logs



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Log of Borehole:

BH201

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

Method: Direct Push

Date Completed: 10/26/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,954 m E; 4,916,183 m N

Elevation: 99.571 m rel

SUBSURFACE PROFILE				SAMPLING INFO					Well Installation	Remarks	
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)			OV (ppm)
0	0		Fill: Dark brown gravelly sand, some asphalt, trace organics, moist	99	1	DP	50				
1			light brown sand, some gravel, some asphalt					<1	<1		
2			Topsoil	98							
3	1		Sand: Brown, trace silt, moist					<1	<1		
4			Silty Sand: Brownish grey, trace gravel, moist	98							
5								<1	<1		
6	2		wet saturated	97							
7								<1	<1		
8			wet saturated	97							
9								<1	<1		
10	3		wet saturated	96							
11								280	<1		
12			wet saturated	96							
13								550	<1		
14	4		wet saturated	95							
15								<1	<1		
16			Terminated at 4.6 mbgs	95							

Logged By: N. Wright

Input By: N. Wright



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Log of Borehole:

HA201

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: N/A

Method: Hand Auger

Date Completed: 12/07/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,954 m E; 4,916,183 m N

Elevation: 99.571 m rel

SUBSURFACE PROFILE					SAMPLING INFO					Well Installation	Remarks
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)	OV (ppm)		
0	0		Fill: Dark brown gravelly sand, some asphalt, trace organics, moist	99							
1			light brown sand, some gravel, some asphalt								
2			Topsoil	98							
3	1		Sand: Brown, trace silt, moist								
4			Terminated at 1.2 mbgs	97							
5											
6											
7	2										
8											
9											
10	3										
11											
12											
13	4										
14											
15											
16											
				95							

Logged By: N. Wright

Input By: N. Wright



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Log of Borehole:

BH202

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

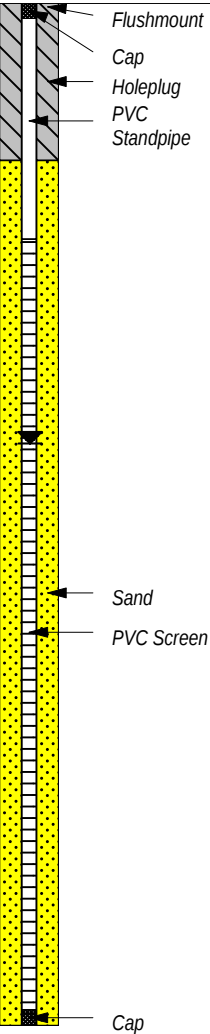
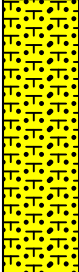
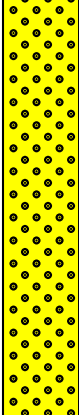
Method: Direct Push

Date Completed: 10/26/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,966 m E; 4,916,180 m N

Elevation: 99.163 m rel

SUBSURFACE PROFILE					SAMPLING INFO					Well Installation	Remarks
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)	OV (ppm)		
0	0		Topsoil	99	1	DP	25	<1	<1		Water level measured 12/09/2022
1			Fill: Dark brown sand, trace gravel, brick fragments, moist					<1	<1		
2											
3	1			98			<1	<1			
4											
5			Silty Sand: Light brown, trace gravel, moist		2	DP	100	<1	<1		
6								<1	<1		
7	2		grey	97							
8											
9			Sand: Grey, some silt, trace gravel, saturated		3	DP	100	<1	<1		
10	3			96				1250	<1		
11								305	<1		
12											
13	4			95	5	<1					
14					<1	<1					
15											
16			Terminated at 4.6 mbgs								

Logged By: N. Wright

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Log of Borehole:

BH203

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Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

Method: Direct Push

Date Completed: 10/26/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,976 m E; 4,916,188 m N

Elevation: 99.209 m rel

SUBSURFACE PROFILE					SAMPLING INFO					Well Installation	Remarks		
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)	OV (ppm)				
0	0		Fill: Dark brown sand, some gravel, brick fragments, moist	99	1	DP	35	<1	<1				
1								<1	<1				
2								<1	<1				
3	1		Silty Sand: Light brown, trace gravel, moist	98	2	DP	100	<1	<1				
4								<1	<1				
5			saturated					1100	<1				
6			grey					<1	<1				
7	2			97				<1	<1				
8								<1	<1				
9			Sand: Grey, some silt, saturated		3	DP	100	<1	<1				
10	3			96				1050	<1				
11								<1	<1				
12								<1	<1				
13	4			95				<1	<1				
14								10	<1				
15			Terminated at 4.6 mbgs										
16													

Logged By: N. Wright

Input By: N. Wright



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Log of Borehole:

BH204

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

Method: Direct Push

Date Completed: 10/26/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,997 m E; 4,916,177 m N

Elevation: 98.893 m rel

SUBSURFACE PROFILE				SAMPLING INFO					Well Installation	Remarks				
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)			OV (ppm)			
0	0		Fill: Light brown sand, trace gravel, trace organics, moist	98	1	DP	70	<1	<1	Flushmount Cap Holeplug PVC Standpipe Sand PVC Screen Cap	Water level measured 12/09/2022			
1									<1			<1		
2			Sand: Light brown with orange mottling, trace silt, trace gravel, moist											
3	1						<1	<1						
4			wet				<1	<1						
5			saturated				135	<1						
6			Silty Sand: Grey, trace gravel, saturated	97	2	DP	100	<1	<1					
7	2												<1	<1
8														
9				96				<1	<1					
10	3												100	<1
11													20	<1
12				95	3	DP	100	<1	<1					
13	4												<1	<1
14														
15			Terminated at 4.6 mbgs											
16														

Logged By: N. Wright

Input By: N. Wright



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Log of Borehole:

HA204

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Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: N/A

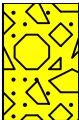
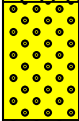
Method: Hand Auger

Date Completed: 12/07/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,997 m E; 4,916,177 m N

Elevation: 98.893 m rel

SUBSURFACE PROFILE					SAMPLING INFO					Well Installation	Remarks
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)	OV (ppm)		
0	0		Fill: Light brown sand, trace gravel, trace organics, moist								
1											
2			Sand: Light brown with orange mottling, trace silt, trace gravel, moist								
3	1		Terminated at 0.9 mbgs	98							
4											
5											
6				97							
7	2										
8											
9				96							
10	3										
11											
12				95							
13	4										
14											
15											
16											

Logged By: N. Wright

Input By: N. Wright



Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Borehole:

BH205

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

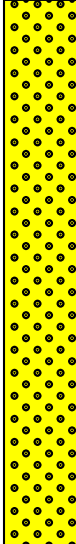
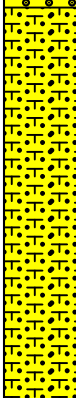
Method: Direct Push

Date Completed: 10/26/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,998 m E; 4,916,211 m N

Elevation: 99.571 m rel

SUBSURFACE PROFILE					SAMPLING INFO					Well Installation	Remarks
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)	OV (ppm)		
0	0		Topsoil		1	DP	65				
1			Fill: Dark brown sand, some organics, brick fragments, moist								
2											
3	1		Topsoil								
4			Sand: Grey, some silt, trace gravel, saturated								
5			trace clay	98	2	DP	75				
6											
7	2										
8											
9											
10	3		Silty Sand: Grey, trace gravel, saturated		3	DP	100				
11											
12											
13	4										
14											
15			Terminated at 4.6 mbgs	95							
16											

Logged By: N. Wright

Input By: N. Wright



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Log of Borehole:

BH206

Page 1 of 1

Client: 2426011 Ontario Inc.

Project Name: Phase Two ESA

Project No.: 14909-002

Contractor: Strata Drilling Group

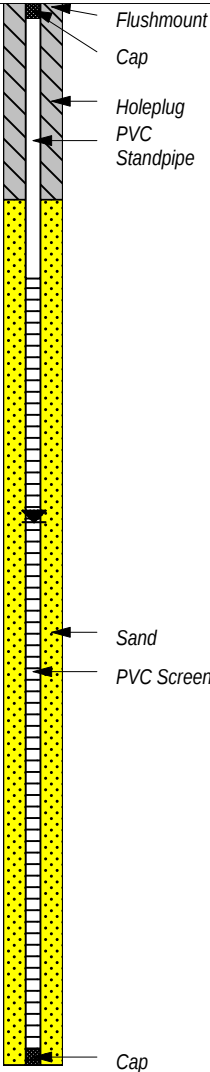
Method: Direct Push

Date Completed: 11/18/2022

Location: 30 Sophia Street West, Barrie

UTM: 603,971 m E; 4,916,175 m N

Elevation: 99.364 m rel

SUBSURFACE PROFILE				SAMPLING INFO					Well Installation	Remarks	
Depth (ft)	Depth (m)	Lithology	Description	Elevation (m)	Number	Type	% Recovery	CSV (ppm)			OV (ppm)
0	0		Concrete								
1			Fill: Dark brown sand, some gravel, trace silt, moist	99				<1	4		
2			Silt: Light brown, some sand, trace clay, moist					<1	1		
3					1	DP	5	<1	<1		
4	1			98							
5								<1	<1		
6											
7	2		grey, some clay, wet	97	2	DP	100	<1	<1		
8								<1	<1		
9			some sand					<1	<1		
10	3		Clay: Grey, some silt, wet	96	3	DP	100	<1	<1		
11								<1	<1		
12			Silty Sand: Grey, saturated					<1	<1		
13	4			95	4	DP	100	<1	<1		
14								<1	<1		
15			Terminated at 4.4 mbgs								
16											

Logged By: A. Bunn

Input By: N. Wright



DRAFT

Appendix C

Laboratory Certificates of Analysis



Your Project #: 14909-002
Your C.O.C. #: 904335-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/17
Report #: R7393060
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2V6091

Received: 2022/10/28, 12:28

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	1	N/A	2022/11/17	CAM SOP-00301	EPA 8270D m
Methylnaphthalene Sum	7	N/A	2022/11/07	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/11/13		EPA 8260C m
1,3-Dichloropropene Sum	5	N/A	2022/11/02		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	2	N/A	2022/11/03	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	7	2022/11/05	2022/11/06	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	1	2022/11/09	2022/11/09	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	3	2022/11/11	2022/11/12	CAM SOP-00447	EPA 6020B m
Acid Extractable Metals by ICPMS	6	2022/11/02	2022/11/03	CAM SOP-00447	EPA 6020B m
Moisture	9	N/A	2022/11/01	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	1	N/A	2022/11/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	1	2022/11/15	2022/11/16	CAM SOP-00318	EPA 8270D m
PAH Compounds in Soil by GC/MS (SIM)	1	2022/11/06	2022/11/06	CAM SOP-00318	EPA 8270D m
PAH Compounds in Soil by GC/MS (SIM)	6	2022/11/06	2022/11/07	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	5	2022/11/02	2022/11/02	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	1	N/A	2022/11/01	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs	1	N/A	2022/11/12	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs	4	N/A	2022/11/02	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.



Your Project #: 14909-002
Your C.O.C. #: 904335-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/17
Report #: R7393060
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2V6091

Received: 2022/10/28, 12:28

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.

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

Encryption Key

Gemarie Balatico
Project Manager
17 Nov 2022 18:07:21

Please direct all questions regarding this Certificate of Analysis to:

Gemarie Balatico, Project Manager

Email: Gemarie.Balatico@bureauveritas.com

Phone# (905)817-5787

=====

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



RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		UDM058	UDM061		UDM063		UDM065		
Sampling Date		2022/10/26 09:20	2022/10/26 10:00		2022/10/26 10:20		2022/10/26 10:45		
COC Number		904335-01-01	904335-01-01		904335-01-01		904335-01-01		
	UNITS	BH201_2.6-3.0	BH202_0.3-1.5	QC Batch	BH202_3.0-3.4	QC Batch	BH203_0.4-1.1	RDL	QC Batch

Inorganics									
Moisture	%	10	14	8319726	13	8319726	11	1.0	8319726
Available (CaCl ₂) pH	pH				7.95	8321901			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

Bureau Veritas ID		UDM066		UDM070		UDM071	UDM073		
Sampling Date		2022/10/26 10:55		2022/10/26 11:30		2022/10/26 11:40	2022/10/26 12:05		
COC Number		904335-01-01		904335-01-01		904335-01-01	904335-01-01		
	UNITS	BH203_1.5-1.8	QC Batch	BH204_0.6-1.2	QC Batch	BH204_1.5-1.8	BH205_0.3-0.8	RDL	QC Batch

Inorganics									
Moisture	%	13	8335325	13	8319726	14	12	1.0	8319726
Available (CaCl ₂) pH	pH			7.69	8321888	7.83	7.62		8321901
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

Bureau Veritas ID		UDM074		UDM074	UDM076		
Sampling Date		2022/10/26 12:15		2022/10/26 12:15	2022/10/26		
COC Number		904335-01-01		904335-01-01	904335-01-01		
	UNITS	BH205_3.0-3.5	QC Batch	BH205_3.0-3.5 Lab-Dup	QA/QC	RDL	QC Batch
Inorganics							
Moisture	%	15	8319726	15	12	1.0	8319726
Available (CaCl ₂) pH	pH	7.95	8321901				
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID			UDM058			UDM061		
Sampling Date			2022/10/26 09:20			2022/10/26 10:00		
COC Number			904335-01-01			904335-01-01		
	UNITS	Criteria	BH201_2.6-3.0	RDL	QC Batch	BH202_0.3-1.5	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	0.20	8320894	18	0.20	8320894
Acid Extractable Arsenic (As)	ug/g	18	<1.0	1.0	8320894	50	1.0	8320894
Acid Extractable Barium (Ba)	ug/g	220	41	0.50	8320894	260	0.50	8320894
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	0.20	8320894	0.28	0.20	8320894
Acid Extractable Boron (B)	ug/g	36	<5.0	5.0	8320894	7.8	5.0	8320894
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	0.10	8320894	5.7	0.10	8320894
Acid Extractable Chromium (Cr)	ug/g	70	10	1.0	8320894	340	1.0	8320894
Acid Extractable Cobalt (Co)	ug/g	21	2.8	0.10	8320894	39	0.10	8320894
Acid Extractable Copper (Cu)	ug/g	92	5.7	0.50	8320894	650	0.50	8320894
Acid Extractable Lead (Pb)	ug/g	120	3.8	1.0	8320894	2600	1.0	8320894
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	0.50	8320894	22	0.50	8320894
Acid Extractable Nickel (Ni)	ug/g	82	5.3	0.50	8320894	180	0.50	8320894
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	0.50	8320894	<0.50	0.50	8320894
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	0.20	8320894	0.26	0.20	8320894
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	0.050	8320894	0.068	0.050	8320894
Acid Extractable Uranium (U)	ug/g	2.5	0.32	0.050	8320894	0.29	0.050	8320894
Acid Extractable Vanadium (V)	ug/g	86	20	5.0	8320894	22	5.0	8320894
Acid Extractable Zinc (Zn)	ug/g	290	13	5.0	8320894	430	5.0	8320894
Acid Extractable Mercury (Hg)	ug/g	0.27				0.11	0.050	8320894
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 1: Full Depth Background Site Condition Standards								
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use								



BUREAU
VERITAS

Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID			UDM062		UDM065		UDM066		
Sampling Date			2022/10/26 10:15		2022/10/26 10:45		2022/10/26 10:55		
COC Number			904335-01-01		904335-01-01		904335-01-01		
	UNITS	Criteria	BH202_2.6-3.0	QC Batch	BH203_0.4-1.1	QC Batch	BH203_1.5-1.8	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	8340708	12	8320894	1.8	0.20	8340708
Acid Extractable Arsenic (As)	ug/g	18	<1.0	8340708	3.8	8320894	<1.0	1.0	8340708
Acid Extractable Barium (Ba)	ug/g	220	13	8340708	78	8320894	43	0.50	8340708
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	8340708	0.29	8320894	0.21	0.20	8340708
Acid Extractable Boron (B)	ug/g	36	<5.0	8340708	7.2	8320894	<5.0	5.0	8340708
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	8340708	0.37	8320894	<0.10	0.10	8340708
Acid Extractable Chromium (Cr)	ug/g	70	5.1	8340708	20	8320894	14	1.0	8340708
Acid Extractable Cobalt (Co)	ug/g	21	1.3	8340708	3.8	8320894	3.3	0.10	8340708
Acid Extractable Copper (Cu)	ug/g	92	2.4	8340708	38	8320894	7.3	0.50	8340708
Acid Extractable Lead (Pb)	ug/g	120	1.1	8340708	270	8320894	14	1.0	8340708
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	8340708	0.99	8320894	1.3	0.50	8340708
Acid Extractable Nickel (Ni)	ug/g	82	2.4	8340708	7.1	8320894	5.9	0.50	8340708
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	8340708	<0.50	8320894	<0.50	0.50	8340708
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	8340708	<0.20	8320894	<0.20	0.20	8340708
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	8340708	0.11	8320894	<0.050	0.050	8340708
Acid Extractable Uranium (U)	ug/g	2.5	0.24	8340708	0.35	8320894	0.28	0.050	8340708
Acid Extractable Vanadium (V)	ug/g	86	13	8340708	31	8320894	23	5.0	8340708
Acid Extractable Zinc (Zn)	ug/g	290	5.8	8340708	180	8320894	19	5.0	8340708
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 1: Full Depth Background Site Condition Standards									
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use									



BUREAU
VERITAS

Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID			UDM070	UDM070	UDM073		UDM074		
Sampling Date			2022/10/26 11:30	2022/10/26 11:30	2022/10/26 12:05		2022/10/26 12:15		
COC Number			904335-01-01	904335-01-01	904335-01-01		904335-01-01		
	UNITS	Criteria	BH204_0.6-1.2	BH204_0.6-1.2 Lab-Dup	BH205_0.3-0.8	QC Batch	BH205_3.0-3.5	RDL	QC Batch

Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	0.68	8320894	<0.20	0.20	8340708
Acid Extractable Arsenic (As)	ug/g	18	<1.0	<1.0	6.2	8320894	<1.0	1.0	8340708
Acid Extractable Barium (Ba)	ug/g	220	17	16	170	8320894	16	0.50	8340708
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	<0.20	0.25	8320894	<0.20	0.20	8340708
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	6.6	8320894	<5.0	5.0	8340708
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	<0.10	0.37	8320894	<0.10	0.10	8340708
Acid Extractable Chromium (Cr)	ug/g	70	11	11	22	8320894	10	1.0	8340708
Acid Extractable Cobalt (Co)	ug/g	21	2.2	2.2	3.8	8320894	1.5	0.10	8340708
Acid Extractable Copper (Cu)	ug/g	92	4.5	4.1	33	8320894	2.8	0.50	8340708
Acid Extractable Lead (Pb)	ug/g	120	2.3	2.1	240	8320894	2.6	1.0	8340708
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	<0.50	<0.50	8320894	1.6	0.50	8340708
Acid Extractable Nickel (Ni)	ug/g	82	3.8	3.7	6.7	8320894	3.0	0.50	8340708
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	8320894	<0.50	0.50	8340708
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	0.27	8320894	<0.20	0.20	8340708
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	<0.050	0.059	8320894	<0.050	0.050	8340708
Acid Extractable Uranium (U)	ug/g	2.5	0.31	0.32	0.34	8320894	0.28	0.050	8340708
Acid Extractable Vanadium (V)	ug/g	86	31	29	25	8320894	19	5.0	8340708
Acid Extractable Zinc (Zn)	ug/g	290	10	10	150	8320894	6.4	5.0	8340708

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels
RDL = Reportable Detection Limit	
QC Batch = Quality Control Batch	
Lab-Dup = Laboratory Initiated Duplicate	
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)	
Table 1: Full Depth Background Site Condition Standards	
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use	



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID			UDM074		UDM077		
Sampling Date			2022/10/26 12:15		2022/10/26		
COC Number			904335-01-01		904335-01-01		
	UNITS	Criteria	BH205_3.0-3.5 Lab-Dup	QC Batch	QA/QC#2	RDL	QC Batch
Metals							
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	8340708	<0.20	0.20	8320894
Acid Extractable Arsenic (As)	ug/g	18	<1.0	8340708	<1.0	1.0	8320894
Acid Extractable Barium (Ba)	ug/g	220	15	8340708	16	0.50	8320894
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	8340708	<0.20	0.20	8320894
Acid Extractable Boron (B)	ug/g	36	<5.0	8340708	<5.0	5.0	8320894
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	8340708	<0.10	0.10	8320894
Acid Extractable Chromium (Cr)	ug/g	70	9.9	8340708	11	1.0	8320894
Acid Extractable Cobalt (Co)	ug/g	21	1.4	8340708	2.2	0.10	8320894
Acid Extractable Copper (Cu)	ug/g	92	2.7	8340708	4.4	0.50	8320894
Acid Extractable Lead (Pb)	ug/g	120	2.4	8340708	2.1	1.0	8320894
Acid Extractable Molybdenum (Mo)	ug/g	2	1.3	8340708	<0.50	0.50	8320894
Acid Extractable Nickel (Ni)	ug/g	82	2.8	8340708	3.6	0.50	8320894
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	8340708	<0.50	0.50	8320894
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	8340708	<0.20	0.20	8320894
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	8340708	<0.050	0.050	8320894
Acid Extractable Uranium (U)	ug/g	2.5	0.65 (1)	8340708	0.31	0.050	8320894
Acid Extractable Vanadium (V)	ug/g	86	18	8340708	27	5.0	8320894
Acid Extractable Zinc (Zn)	ug/g	290	6.2	8340708	9.7	5.0	8320894
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Lab-Dup = Laboratory Initiated Duplicate							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.							



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID			UDM058			UDM058			UDM061		
Sampling Date			2022/10/26 09:20			2022/10/26 09:20			2022/10/26 10:00		
COC Number			904335-01-01			904335-01-01			904335-01-01		
	UNITS	Criteria	BH201_2.6-3.0	RDL	QC Batch	BH201_2.6-3.0 Lab-Dup	RDL	QC Batch	BH202_0.3-1.5	RDL	QC Batch

Calculated Parameters

Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8313809				<0.071	0.071	8313809
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Polyaromatic Hydrocarbons

Acenaphthene	ug/g	0.072	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Anthracene	ug/g	0.16	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.11	0.050	8329354
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.11	0.050	8329354
Benzo(b,j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.21	0.050	8329354
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.22	0.050	8329354
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.068	0.050	8329354
Chrysene	ug/g	2.8	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.11	0.050	8329354
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.24	0.050	8329354
Fluorene	ug/g	0.12	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.12	0.050	8329354
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Naphthalene	ug/g	0.09	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	<0.050	0.050	8329354
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.10	0.050	8329354
Pyrene	ug/g	1	<0.0050	0.0050	8329354	<0.0050	0.0050	8329354	0.22	0.050	8329354

Surrogate Recovery (%)

D10-Anthracene	%	-	99		8329354	99		8329354	128		8329354
D14-Terphenyl (FS)	%	-	109		8329354	103		8329354	100		8329354
D8-Acenaphthylene	%	-	86		8329354	89		8329354	105		8329354

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 1: Full Depth Background Site Condition Standards

Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID			UDM063		UDM065		UDM070	UDM073		
Sampling Date			2022/10/26 10:20		2022/10/26 10:45		2022/10/26 11:30	2022/10/26 12:05		
COC Number			904335-01-01		904335-01-01		904335-01-01	904335-01-01		
	UNITS	Criteria	BH202_3.0-3.4	RDL	BH203_0.4-1.1	RDL	BH204_0.6-1.2	BH205_0.3-0.8	RDL	QC Batch
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	<0.071	0.071	<0.0071	0.035	0.0071	8313809
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	0.0050	<0.050	0.050	<0.0050	0.049	0.0050	8329354
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	0.067	0.050	<0.0050	0.050	0.0050	8329354
Anthracene	ug/g	0.16	<0.0050	0.0050	0.062	0.050	<0.0050	0.25	0.0050	8329354
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	0.22	0.050	<0.0050	0.58	0.0050	8329354
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	0.26	0.050	<0.0050	0.55	0.0050	8329354
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	0.33	0.050	<0.0050	0.66	0.0050	8329354
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	0.23	0.050	<0.0050	0.44	0.0050	8329354
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	0.12	0.050	<0.0050	0.28	0.0050	8329354
Chrysene	ug/g	2.8	<0.0050	0.0050	0.20	0.050	<0.0050	0.56	0.0050	8329354
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	<0.050	0.050	<0.0050	0.14	0.0050	8329354
Fluoranthene	ug/g	0.56	<0.0050	0.0050	0.38	0.050	<0.0050	1.0	0.0050	8329354
Fluorene	ug/g	0.12	<0.0050	0.0050	<0.050	0.050	<0.0050	0.072	0.0050	8329354
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	0.20	0.050	<0.0050	0.43	0.0050	8329354
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	<0.050	0.050	<0.0050	0.017	0.0050	8329354
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	<0.050	0.050	<0.0050	0.018	0.0050	8329354
Naphthalene	ug/g	0.09	<0.0050	0.0050	<0.050	0.050	<0.0050	0.024	0.0050	8329354
Phenanthrene	ug/g	0.69	<0.0050	0.0050	0.17	0.050	<0.0050	0.70	0.0050	8329354
Pyrene	ug/g	1	<0.0050	0.0050	0.37	0.050	<0.0050	0.86	0.0050	8329354
Surrogate Recovery (%)										
D10-Anthracene	%	-	100		121		100	94		8329354
D14-Terphenyl (FS)	%	-	114		107		97	107		8329354
D8-Acenaphthylene	%	-	87		104		93	93		8329354
No Fill	No Exceedance									
Grey	Exceeds 1 criteria policy/level									
Black	Exceeds both criteria/levels									
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 1: Full Depth Background Site Condition Standards										
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use										



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID			UDM074		UDM076		
Sampling Date			2022/10/26 12:15		2022/10/26		
COC Number			904335-01-01		904335-01-01		
	UNITS	Criteria	BH205_3.0-3.5	QC Batch	QA/QC	RDL	QC Batch
Calculated Parameters							
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	8332238	<0.0071	0.0071	8313809
Polyaromatic Hydrocarbons							
Acenaphthene	ug/g	0.072	<0.0050	8346973	<0.0050	0.0050	8329354
Acenaphthylene	ug/g	0.093	<0.0050	8346973	<0.0050	0.0050	8329354
Anthracene	ug/g	0.16	<0.0050	8346973	<0.0050	0.0050	8329354
Benzo(a)anthracene	ug/g	0.36	<0.0050	8346973	<0.0050	0.0050	8329354
Benzo(a)pyrene	ug/g	0.3	<0.0050	8346973	<0.0050	0.0050	8329354
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	8346973	<0.0050	0.0050	8329354
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	8346973	<0.0050	0.0050	8329354
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	8346973	<0.0050	0.0050	8329354
Chrysene	ug/g	2.8	<0.0050	8346973	<0.0050	0.0050	8329354
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	8346973	<0.0050	0.0050	8329354
Fluoranthene	ug/g	0.56	<0.0050	8346973	<0.0050	0.0050	8329354
Fluorene	ug/g	0.12	<0.0050	8346973	<0.0050	0.0050	8329354
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	8346973	<0.0050	0.0050	8329354
1-Methylnaphthalene	ug/g	0.59	<0.0050	8346973	<0.0050	0.0050	8329354
2-Methylnaphthalene	ug/g	0.59	<0.0050	8346973	<0.0050	0.0050	8329354
Naphthalene	ug/g	0.09	<0.0050	8346973	<0.0050	0.0050	8329354
Phenanthrene	ug/g	0.69	<0.0050	8346973	<0.0050	0.0050	8329354
Pyrene	ug/g	1	<0.0050	8346973	<0.0050	0.0050	8329354
Surrogate Recovery (%)							
D10-Anthracene	%	-	110	8346973	101		8329354
D14-Terphenyl (FS)	%	-	106	8346973	108		8329354
D8-Acenaphthylene	%	-	83	8346973	89		8329354
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM058			UDM058		
Sampling Date			2022/10/26 09:20			2022/10/26 09:20		
COC Number			904335-01-01			904335-01-01		
	UNITS	Criteria	BH201_2.6-3.0	RDL	QC Batch	BH201_2.6-3.0 Lab-Dup	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	0.050	8314051			
Volatile Organics								
Acetone (2-Propanone)	ug/g	0.5	<0.49	0.49	8315439	<0.49	0.49	8315439
Benzene	ug/g	0.02	<0.0060	0.0060	8315439	<0.0060	0.0060	8315439
Bromodichloromethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Bromoform	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Bromomethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Carbon Tetrachloride	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Chlorobenzene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Chloroform	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Dibromochloromethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,2-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,3-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,4-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,1-Dichloroethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,2-Dichloroethane	ug/g	0.05	<0.049	0.049	8315439	<0.049	0.049	8315439
1,1-Dichloroethylene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,2-Dichloropropane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	0.030	8315439	<0.030	0.030	8315439
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Ethylbenzene	ug/g	0.05	<0.010	0.010	8315439	<0.010	0.010	8315439
Ethylene Dibromide	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Hexane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	0.049	8315439	<0.049	0.049	8315439
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	0.40	8315439	<0.40	0.40	8315439
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 1: Full Depth Background Site Condition Standards								
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use								



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM058			UDM058		
Sampling Date			2022/10/26 09:20			2022/10/26 09:20		
COC Number			904335-01-01			904335-01-01		
	UNITS	Criteria	BH201_2.6-3.0	RDL	QC Batch	BH201_2.6-3.0 Lab-Dup	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	0.40	8315439	<0.40	0.40	8315439
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Styrene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Tetrachloroethylene	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Toluene	ug/g	0.2	<0.020	0.020	8315439	<0.020	0.020	8315439
1,1,1-Trichloroethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
1,1,2-Trichloroethane	ug/g	0.05	<0.040	0.040	8315439	<0.040	0.040	8315439
Trichloroethylene	ug/g	0.05	<0.010	0.010	8315439	<0.010	0.010	8315439
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	0.040	8315439	<0.040	0.040	8315439
Vinyl Chloride	ug/g	0.02	<0.019	0.019	8315439	<0.019	0.019	8315439
p+m-Xylene	ug/g	-	<0.020	0.020	8315439	<0.020	0.020	8315439
o-Xylene	ug/g	-	<0.020	0.020	8315439	<0.020	0.020	8315439
Total Xylenes	ug/g	0.05	<0.020	0.020	8315439	<0.020	0.020	8315439
F1 (C6-C10)	ug/g	25	<10	10	8315439	<10	10	8315439
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8315439	<10	10	8315439
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	-	92		8315439	93		8315439
D10-o-Xylene	%	-	92		8315439	92		8315439
D4-1,2-Dichloroethane	%	-	98		8315439	99		8315439
D8-Toluene	%	-	100		8315439	100		8315439
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 1: Full Depth Background Site Condition Standards								
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use								

BUREAU
VERITAS

Bureau Veritas Job #: C2V6091

Report Date: 2022/11/17

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: NW

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM063		UDM066		UDM071		
Sampling Date			2022/10/26 10:20		2022/10/26 10:55		2022/10/26 11:40		
COC Number			904335-01-01		904335-01-01		904335-01-01		
	UNITS	Criteria	BH202_3.0-3.4	QC Batch	BH203_1.5-1.8	QC Batch	BH204_1.5-1.8	RDL	QC Batch

Calculated Parameters

1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	8314051	<0.050	8332093	<0.050	0.050	8314051
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Volatile Organics

Acetone (2-Propanone)	ug/g	0.5	<0.49	8315439	<0.49	8337065	<0.49	0.49	8315439
Benzene	ug/g	0.02	<0.0060	8315439	<0.0060	8337065	<0.0060	0.0060	8315439
Bromodichloromethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Bromoform	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Bromomethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Carbon Tetrachloride	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Chlorobenzene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Chloroform	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Dibromochloromethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,2-Dichlorobenzene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,3-Dichlorobenzene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,4-Dichlorobenzene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,1-Dichloroethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,2-Dichloroethane	ug/g	0.05	<0.049	8315439	<0.049	8337065	<0.049	0.049	8315439
1,1-Dichloroethylene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,2-Dichloropropane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	8315439	<0.030	8337065	<0.030	0.030	8315439
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Ethylbenzene	ug/g	0.05	<0.010	8315439	<0.010	8337065	<0.010	0.010	8315439
Ethylene Dibromide	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Hexane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	8315439	<0.049	8337065	<0.049	0.049	8315439
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	8315439	<0.40	8337065	<0.40	0.40	8315439
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	8315439	<0.40	8337065	<0.40	0.40	8315439

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 1: Full Depth Background Site Condition Standards

Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use



BUREAU
VERITAS

Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM063		UDM066		UDM071		
Sampling Date			2022/10/26 10:20		2022/10/26 10:55		2022/10/26 11:40		
COC Number			904335-01-01		904335-01-01		904335-01-01		
	UNITS	Criteria	BH202_3.0-3.4	QC Batch	BH203_1.5-1.8	QC Batch	BH204_1.5-1.8	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Styrene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Tetrachloroethylene	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Toluene	ug/g	0.2	<0.020	8315439	<0.020	8337065	<0.020	0.020	8315439
1,1,1-Trichloroethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
1,1,2-Trichloroethane	ug/g	0.05	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Trichloroethylene	ug/g	0.05	<0.010	8315439	<0.010	8337065	<0.010	0.010	8315439
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	8315439	<0.040	8337065	<0.040	0.040	8315439
Vinyl Chloride	ug/g	0.02	<0.019	8315439	<0.019	8337065	<0.019	0.019	8315439
p+m-Xylene	ug/g	-	<0.020	8315439	<0.020	8337065	<0.020	0.020	8315439
o-Xylene	ug/g	-	<0.020	8315439	<0.020	8337065	<0.020	0.020	8315439
Total Xylenes	ug/g	0.05	<0.020	8315439	<0.020	8337065	<0.020	0.020	8315439
F1 (C6-C10)	ug/g	25	<10	8315439	<10	8337065	<10	10	8315439
F1 (C6-C10) - BTEX	ug/g	25	<10	8315439	<10	8337065	<10	10	8315439
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	86	8315439	93	8337065	88		8315439
D10-o-Xylene	%	-	85	8315439	101	8337065	83		8315439
D4-1,2-Dichloroethane	%	-	103	8315439	97	8337065	100		8315439
D8-Toluene	%	-	97	8315439	95	8337065	96		8315439
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 1: Full Depth Background Site Condition Standards									
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use									



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM074	UDM076		
Sampling Date			2022/10/26 12:15	2022/10/26		
COC Number			904335-01-01	904335-01-01		
	UNITS	Criteria	BH205_3.0-3.5	QA/QC	RDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	<0.050	0.050	8314051
Volatile Organics						
Acetone (2-Propanone)	ug/g	0.5	<0.49	<0.49	0.49	8315439
Benzene	ug/g	0.02	<0.0060	<0.0060	0.0060	8315439
Bromodichloromethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
Bromoform	ug/g	0.05	<0.040	<0.040	0.040	8315439
Bromomethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
Carbon Tetrachloride	ug/g	0.05	<0.040	<0.040	0.040	8315439
Chlorobenzene	ug/g	0.05	<0.040	<0.040	0.040	8315439
Chloroform	ug/g	0.05	<0.040	<0.040	0.040	8315439
Dibromochloromethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,2-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,3-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,4-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	0.040	8315439
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,1-Dichloroethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,2-Dichloroethane	ug/g	0.05	<0.049	<0.049	0.049	8315439
1,1-Dichloroethylene	ug/g	0.05	<0.040	<0.040	0.040	8315439
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	0.040	8315439
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,2-Dichloropropane	ug/g	0.05	<0.040	<0.040	0.040	8315439
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	<0.030	0.030	8315439
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	<0.040	0.040	8315439
Ethylbenzene	ug/g	0.05	<0.010	<0.010	0.010	8315439
Ethylene Dibromide	ug/g	0.05	<0.040	<0.040	0.040	8315439
Hexane	ug/g	0.05	<0.040	<0.040	0.040	8315439
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	<0.049	0.049	8315439
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	<0.40	0.40	8315439
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	<0.40	0.40	8315439
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use						



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID			UDM074	UDM076		
Sampling Date			2022/10/26 12:15	2022/10/26		
COC Number			904335-01-01	904335-01-01		
	UNITS	Criteria	BH205_3.0-3.5	QA/QC	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	<0.040	0.040	8315439
Styrene	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
Tetrachloroethylene	ug/g	0.05	<0.040	<0.040	0.040	8315439
Toluene	ug/g	0.2	<0.020	<0.020	0.020	8315439
1,1,1-Trichloroethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
1,1,2-Trichloroethane	ug/g	0.05	<0.040	<0.040	0.040	8315439
Trichloroethylene	ug/g	0.05	<0.010	<0.010	0.010	8315439
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	<0.040	0.040	8315439
Vinyl Chloride	ug/g	0.02	<0.019	<0.019	0.019	8315439
p+m-Xylene	ug/g	-	<0.020	<0.020	0.020	8315439
o-Xylene	ug/g	-	<0.020	<0.020	0.020	8315439
Total Xylenes	ug/g	0.05	<0.020	<0.020	0.020	8315439
F1 (C6-C10)	ug/g	25	<10	<10	10	8315439
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	10	8315439
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	86	83		8315439
D10-o-Xylene	%	-	83	84		8315439
D4-1,2-Dichloroethane	%	-	103	103		8315439
D8-Toluene	%	-	95	94		8315439
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use						



PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID			UDM058	UDM063			UDM065		
Sampling Date			2022/10/26 09:20	2022/10/26 10:20			2022/10/26 10:45		
COC Number			904335-01-01	904335-01-01			904335-01-01		
	UNITS	Criteria	BH201_2.6-3.0	BH202_3.0-3.4	RDL	QC Batch	BH203_0.4-1.1	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02					<0.020	0.020	8320266
Toluene	ug/g	0.2					0.026	0.020	8320266
Ethylbenzene	ug/g	0.05					<0.020	0.020	8320266
o-Xylene	ug/g	-					<0.020	0.020	8320266
p+m-Xylene	ug/g	-					<0.040	0.040	8320266
Total Xylenes	ug/g	0.05					<0.040	0.040	8320266
F1 (C6-C10)	ug/g	25					<10	10	8320266
F1 (C6-C10) - BTEX	ug/g	25					<10	10	8320266
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	10	8328565	<10	10	8328565
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	50	8328565	330	50	8328565
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	50	8328565	250	50	8328565
Reached Baseline at C50	ug/g	-	Yes	Yes		8328565	Yes		8328565
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-					103		8320266
4-Bromofluorobenzene	%	-					91		8320266
D10-o-Xylene	%	-					98		8320266
D4-1,2-Dichloroethane	%	-					91		8320266
o-Terphenyl	%	-	105	101		8328565	101		8328565
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 1: Full Depth Background Site Condition Standards									
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use									



PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID			UDM066	UDM066			UDM070		
Sampling Date			2022/10/26 10:55	2022/10/26 10:55			2022/10/26 11:30		
COC Number			904335-01-01	904335-01-01			904335-01-01		
	UNITS	Criteria	BH203_1.5-1.8	BH203_1.5-1.8 Lab-Dup	RDL	QC Batch	BH204_0.6-1.2	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02					<0.020	0.020	8320266
Toluene	ug/g	0.2					<0.020	0.020	8320266
Ethylbenzene	ug/g	0.05					<0.020	0.020	8320266
o-Xylene	ug/g	-					<0.020	0.020	8320266
p+m-Xylene	ug/g	-					<0.040	0.040	8320266
Total Xylenes	ug/g	0.05					<0.040	0.040	8320266
F1 (C6-C10)	ug/g	25					<10	10	8320266
F1 (C6-C10) - BTEX	ug/g	25					<10	10	8320266
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	10	8335427	<10	10	8328565
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	50	8335427	<50	50	8328565
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	50	8335427	<50	50	8328565
Reached Baseline at C50	ug/g	-	Yes	Yes		8335427	Yes		8328565
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-					98		8320266
4-Bromofluorobenzene	%	-					99		8320266
D10-o-Xylene	%	-					94		8320266
D4-1,2-Dichloroethane	%	-					96		8320266
o-Terphenyl	%	-	93	91		8335427	106		8328565
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 1: Full Depth Background Site Condition Standards									
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use									



PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID			UDM071	UDM074	UDM076		
Sampling Date			2022/10/26 11:40	2022/10/26 12:15	2022/10/26		
COC Number			904335-01-01	904335-01-01	904335-01-01		
	UNITS	Criteria	BH204_1.5-1.8	BH205_3.0-3.5	QA/QC	RDL	QC Batch
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	10	8328565
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	<50	50	8328565
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	<50	50	8328565
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes		8328565
Surrogate Recovery (%)							
o-Terphenyl	%	-	108	105	108		8328565
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							



Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: UDM058
Sample ID: BH201_2.6-3.0
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
1,3-Dichloropropene Sum	CALC	8314051	N/A	2022/11/02	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/06	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/01	Jett Wu

Bureau Veritas ID: UDM058 Dup
Sample ID: BH201_2.6-3.0
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/06	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/01	Jett Wu

Bureau Veritas ID: UDM061
Sample ID: BH202_0.3-1.5
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino

Bureau Veritas ID: UDM062
Sample ID: BH202_2.6-3.0
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8340708	2022/11/11	2022/11/12	Daniel Teclu

Bureau Veritas ID: UDM063
Sample ID: BH202_3.0-3.4
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
1,3-Dichloropropene Sum	CALC	8314051	N/A	2022/11/02	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino
pH CaCl2 EXTRACT	AT	8321901	2022/11/02	2022/11/02	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/02	Jett Wu



TEST SUMMARY

Bureau Veritas ID: UDM065
Sample ID: BH203_0.4-1.1
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8320266	N/A	2022/11/03	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino

Bureau Veritas ID: UDM066
Sample ID: BH203_1.5-1.8
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8332093	N/A	2022/11/13	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8335427	2022/11/09	2022/11/09	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8340708	2022/11/11	2022/11/12	Daniel Teclu
Moisture	BAL	8335325	N/A	2022/11/09	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8337065	N/A	2022/11/12	Rebecca McClean

Bureau Veritas ID: UDM066 Dup
Sample ID: BH203_1.5-1.8
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8335427	2022/11/09	2022/11/09	Ksenia Trofimova

Bureau Veritas ID: UDM070
Sample ID: BH204_0.6-1.2
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8320266	N/A	2022/11/03	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino
pH CaCl2 EXTRACT	AT	8321888	2022/11/02	2022/11/02	Taslina Aktar

Bureau Veritas ID: UDM070 Dup
Sample ID: BH204_0.6-1.2
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr



TEST SUMMARY

Bureau Veritas ID: UDM071
Sample ID: BH204_1.5-1.8
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8314051	N/A	2022/11/02	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8321901	2022/11/02	2022/11/02	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/02	Jett Wu

Bureau Veritas ID: UDM073
Sample ID: BH205_0.3-0.8
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino
pH CaCl2 EXTRACT	AT	8321901	2022/11/02	2022/11/02	Taslina Aktar

Bureau Veritas ID: UDM074
Sample ID: BH205_3.0-3.5
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8332238	N/A	2022/11/17	Automated Statchk
1,3-Dichloropropene Sum	CALC	8314051	N/A	2022/11/02	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8340708	2022/11/11	2022/11/12	Daniel Teclu
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8346973	2022/11/15	2022/11/16	Jonghan Yoon
pH CaCl2 EXTRACT	AT	8321901	2022/11/02	2022/11/02	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/02	Jett Wu

Bureau Veritas ID: UDM074 Dup
Sample ID: BH205_3.0-3.5
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8340708	2022/11/11	2022/11/12	Daniel Teclu
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal

Bureau Veritas ID: UDM076
Sample ID: QA/QC
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8313809	N/A	2022/11/07	Automated Statchk
1,3-Dichloropropene Sum	CALC	8314051	N/A	2022/11/02	Automated Statchk



Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

TEST SUMMARY

Bureau Veritas ID: UDM076
Sample ID: QA/QC
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8328565	2022/11/05	2022/11/06	Jeevaraj Jeevaratnam
Moisture	BAL	8319726	N/A	2022/11/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8329354	2022/11/06	2022/11/07	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8315439	N/A	2022/11/02	Jett Wu

Bureau Veritas ID: UDM077
Sample ID: QA/QC#2
Matrix: Soil

Collected: 2022/10/26
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8320894	2022/11/02	2022/11/03	Medhat Nasr



GENERAL COMMENTS

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

Package 1	3.7°C
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Revised Report (2022/11/17): Polynuclear Aromatic Hydrocarbons analysis have been included in this report.

Revised Report (2022/11/15): Metals, Volatile Organic Compounds, Polynuclear Aromatic Hydrocarbons and Petroleum Hydrocarbons analysis have been included in this report.

Sample UDM061 [BH202_0.3-1.5] : PAH Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample UDM065 [BH203_0.4-1.1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

PAH Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample UDM066 [BH203_1.5-1.8] : VOCF1 Analysis: The sample extract was transferred from the soil before 14 days. Analysis was completed within the 40 day specified hold time.

Sample UDM070 [BH204_0.6-1.2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UDM074 [BH205_3.0-3.5] : VOCF1 Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8315439	4-Bromofluorobenzene	2022/11/01	103	60 - 140	104	60 - 140	93	%		
8315439	D10-o-Xylene	2022/11/01	103	60 - 130	103	60 - 130	88	%		
8315439	D4-1,2-Dichloroethane	2022/11/01	100	60 - 140	98	60 - 140	99	%		
8315439	D8-Toluene	2022/11/01	105	60 - 140	106	60 - 140	99	%		
8320266	1,4-Difluorobenzene	2022/11/02	102	60 - 140	101	60 - 140	104	%		
8320266	4-Bromofluorobenzene	2022/11/02	97	60 - 140	98	60 - 140	92	%		
8320266	D10-o-Xylene	2022/11/02	100	60 - 140	98	60 - 140	96	%		
8320266	D4-1,2-Dichloroethane	2022/11/02	92	60 - 140	95	60 - 140	97	%		
8328565	o-Terphenyl	2022/11/06	101	60 - 130	101	60 - 130	102	%		
8329354	D10-Anthracene	2022/11/06	93	50 - 130	97	50 - 130	107	%		
8329354	D14-Terphenyl (FS)	2022/11/06	108	50 - 130	100	50 - 130	96	%		
8329354	D8-Acenaphthylene	2022/11/06	91	50 - 130	97	50 - 130	95	%		
8335427	o-Terphenyl	2022/11/09	94	60 - 130	94	60 - 130	96	%		
8337065	4-Bromofluorobenzene	2022/11/12	100	60 - 140	101	60 - 140	92	%		
8337065	D10-o-Xylene	2022/11/12	105	60 - 130	89	60 - 130	95	%		
8337065	D4-1,2-Dichloroethane	2022/11/12	93	60 - 140	92	60 - 140	98	%		
8337065	D8-Toluene	2022/11/12	107	60 - 140	108	60 - 140	95	%		
8346973	D10-Anthracene	2022/11/15	100	50 - 130	103	50 - 130	119	%		
8346973	D14-Terphenyl (FS)	2022/11/15	97	50 - 130	103	50 - 130	106	%		
8346973	D8-Acenaphthylene	2022/11/15	86	50 - 130	91	50 - 130	85	%		
8315439	1,1,1,2-Tetrachloroethane	2022/11/01	94	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8315439	1,1,1-Trichloroethane	2022/11/01	90	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8315439	1,1,2,2-Tetrachloroethane	2022/11/01	97	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8315439	1,1,2-Trichloroethane	2022/11/01	96	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8315439	1,1-Dichloroethane	2022/11/01	94	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8315439	1,1-Dichloroethylene	2022/11/01	99	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8315439	1,2-Dichlorobenzene	2022/11/01	97	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8315439	1,2-Dichloroethane	2022/11/01	86	60 - 140	89	60 - 130	<0.049	ug/g	NC	50
8315439	1,2-Dichloropropane	2022/11/01	99	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8315439	1,3-Dichlorobenzene	2022/11/01	101	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8315439	1,4-Dichlorobenzene	2022/11/01	107	60 - 140	112	60 - 130	<0.040	ug/g	NC	50



QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8315439	Acetone (2-Propanone)	2022/11/01	99	60 - 140	102	60 - 140	<0.49	ug/g	NC	50
8315439	Benzene	2022/11/01	90	60 - 140	93	60 - 130	<0.0060	ug/g	NC	50
8315439	Bromodichloromethane	2022/11/01	92	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8315439	Bromoform	2022/11/01	92	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8315439	Bromomethane	2022/11/01	84	60 - 140	89	60 - 140	<0.040	ug/g	NC	50
8315439	Carbon Tetrachloride	2022/11/01	86	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8315439	Chlorobenzene	2022/11/01	93	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8315439	Chloroform	2022/11/01	89	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8315439	cis-1,2-Dichloroethylene	2022/11/01	91	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8315439	cis-1,3-Dichloropropene	2022/11/01	82	60 - 140	86	60 - 130	<0.030	ug/g	NC	50
8315439	Dibromochloromethane	2022/11/01	89	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8315439	Dichlorodifluoromethane (FREON 12)	2022/11/01	102	60 - 140	111	60 - 140	<0.040	ug/g	NC	50
8315439	Ethylbenzene	2022/11/01	90	60 - 140	94	60 - 130	<0.010	ug/g	NC	50
8315439	Ethylene Dibromide	2022/11/01	87	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8315439	F1 (C6-C10) - BTEX	2022/11/01					<10	ug/g	NC	30
8315439	F1 (C6-C10)	2022/11/01	87	60 - 140	85	80 - 120	<10	ug/g	NC	30
8315439	Hexane	2022/11/01	107	60 - 140	117	60 - 130	<0.040	ug/g	NC	50
8315439	Methyl Ethyl Ketone (2-Butanone)	2022/11/01	109	60 - 140	112	60 - 140	<0.40	ug/g	NC	50
8315439	Methyl Isobutyl Ketone	2022/11/01	83	60 - 140	85	60 - 130	<0.40	ug/g	NC	50
8315439	Methyl t-butyl ether (MTBE)	2022/11/01	89	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8315439	Methylene Chloride(Dichloromethane)	2022/11/01	95	60 - 140	100	60 - 130	<0.049	ug/g	NC	50
8315439	o-Xylene	2022/11/01	90	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
8315439	p+m-Xylene	2022/11/01	92	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
8315439	Styrene	2022/11/01	103	60 - 140	109	60 - 130	<0.040	ug/g	NC	50
8315439	Tetrachloroethylene	2022/11/01	89	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8315439	Toluene	2022/11/01	89	60 - 140	93	60 - 130	<0.020	ug/g	NC	50
8315439	Total Xylenes	2022/11/01					<0.020	ug/g	NC	50
8315439	trans-1,2-Dichloroethylene	2022/11/01	93	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8315439	trans-1,3-Dichloropropene	2022/11/01	84	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8315439	Trichloroethylene	2022/11/01	94	60 - 140	98	60 - 130	<0.010	ug/g	NC	50
8315439	Trichlorofluoromethane (FREON 11)	2022/11/01	84	60 - 140	88	60 - 130	<0.040	ug/g	NC	50



QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8315439	Vinyl Chloride	2022/11/01	99	60 - 140	104	60 - 130	<0.019	ug/g	NC	50
8319726	Moisture	2022/11/01							2.0	20
8320266	Benzene	2022/11/02	95	50 - 140	95	50 - 140	<0.020	ug/g	NC	50
8320266	Ethylbenzene	2022/11/02	104	50 - 140	102	50 - 140	<0.020	ug/g	NC	50
8320266	F1 (C6-C10) - BTEX	2022/11/02					<10	ug/g	NC	30
8320266	F1 (C6-C10)	2022/11/02	100	60 - 140	98	80 - 120	<10	ug/g	NC	30
8320266	o-Xylene	2022/11/02	99	50 - 140	99	50 - 140	<0.020	ug/g	NC	50
8320266	p+m-Xylene	2022/11/02	109	50 - 140	108	50 - 140	<0.040	ug/g	NC	50
8320266	Toluene	2022/11/02	96	50 - 140	95	50 - 140	<0.020	ug/g	NC	50
8320266	Total Xylenes	2022/11/02					<0.040	ug/g	NC	50
8320894	Acid Extractable Antimony (Sb)	2022/11/03	107	75 - 125	105	80 - 120	<0.20	ug/g	NC	30
8320894	Acid Extractable Arsenic (As)	2022/11/03	106	75 - 125	97	80 - 120	<1.0	ug/g	NC	30
8320894	Acid Extractable Barium (Ba)	2022/11/03	106	75 - 125	99	80 - 120	<0.50	ug/g	6.3	30
8320894	Acid Extractable Beryllium (Be)	2022/11/03	105	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
8320894	Acid Extractable Boron (B)	2022/11/03	101	75 - 125	97	80 - 120	<5.0	ug/g	NC	30
8320894	Acid Extractable Cadmium (Cd)	2022/11/03	109	75 - 125	101	80 - 120	<0.10	ug/g	NC	30
8320894	Acid Extractable Chromium (Cr)	2022/11/03	106	75 - 125	101	80 - 120	<1.0	ug/g	7.2	30
8320894	Acid Extractable Cobalt (Co)	2022/11/03	106	75 - 125	98	80 - 120	<0.10	ug/g	0.032	30
8320894	Acid Extractable Copper (Cu)	2022/11/03	106	75 - 125	98	80 - 120	<0.50	ug/g	7.6	30
8320894	Acid Extractable Lead (Pb)	2022/11/03	109	75 - 125	102	80 - 120	<1.0	ug/g	12	30
8320894	Acid Extractable Mercury (Hg)	2022/11/03	96	75 - 125	91	80 - 120	<0.050	ug/g		
8320894	Acid Extractable Molybdenum (Mo)	2022/11/03	111	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
8320894	Acid Extractable Nickel (Ni)	2022/11/03	106	75 - 125	100	80 - 120	<0.50	ug/g	1.9	30
8320894	Acid Extractable Selenium (Se)	2022/11/03	112	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
8320894	Acid Extractable Silver (Ag)	2022/11/03	111	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8320894	Acid Extractable Thallium (Tl)	2022/11/03	110	75 - 125	101	80 - 120	<0.050	ug/g	NC	30
8320894	Acid Extractable Uranium (U)	2022/11/03	113	75 - 125	103	80 - 120	<0.050	ug/g	0.69	30
8320894	Acid Extractable Vanadium (V)	2022/11/03	NC	75 - 125	95	80 - 120	<5.0	ug/g	8.4	30
8320894	Acid Extractable Zinc (Zn)	2022/11/03	111	75 - 125	97	80 - 120	<5.0	ug/g	0.69	30
8321888	Available (CaCl2) pH	2022/11/02			100	97 - 103			0.16	N/A
8321901	Available (CaCl2) pH	2022/11/02			101	97 - 103			0.052	N/A



Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8328565	F2 (C10-C16 Hydrocarbons)	2022/11/06	102	60 - 130	100	80 - 120	<10	ug/g	4.5	30
8328565	F3 (C16-C34 Hydrocarbons)	2022/11/06	100	60 - 130	100	80 - 120	<50	ug/g	3.2	30
8328565	F4 (C34-C50 Hydrocarbons)	2022/11/06	99	60 - 130	101	80 - 120	<50	ug/g	3.1	30
8329354	1-Methylnaphthalene	2022/11/06	102	50 - 130	113	50 - 130	<0.0050	ug/g	NC	40
8329354	2-Methylnaphthalene	2022/11/06	96	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
8329354	Acenaphthene	2022/11/06	100	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8329354	Acenaphthylene	2022/11/06	98	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8329354	Anthracene	2022/11/06	104	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8329354	Benzo(a)anthracene	2022/11/06	106	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
8329354	Benzo(a)pyrene	2022/11/06	97	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8329354	Benzo(b,j)fluoranthene	2022/11/06	99	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8329354	Benzo(g,h,i)perylene	2022/11/06	103	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8329354	Benzo(k)fluoranthene	2022/11/06	105	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8329354	Chrysene	2022/11/06	105	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8329354	Dibenzo(a,h)anthracene	2022/11/06	101	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8329354	Fluoranthene	2022/11/06	119	50 - 130	110	50 - 130	<0.0050	ug/g	NC	40
8329354	Fluorene	2022/11/06	102	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8329354	Indeno(1,2,3-cd)pyrene	2022/11/06	97	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8329354	Naphthalene	2022/11/06	86	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8329354	Phenanthrene	2022/11/06	100	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8329354	Pyrene	2022/11/06	119	50 - 130	109	50 - 130	<0.0050	ug/g	NC	40
8335325	Moisture	2022/11/09							1.4	20
8335427	F2 (C10-C16 Hydrocarbons)	2022/11/09	95	60 - 130	95	80 - 120	<10	ug/g	NC	30
8335427	F3 (C16-C34 Hydrocarbons)	2022/11/09	96	60 - 130	96	80 - 120	<50	ug/g	NC	30
8335427	F4 (C34-C50 Hydrocarbons)	2022/11/09	101	60 - 130	101	80 - 120	<50	ug/g	NC	30
8337065	1,1,1,2-Tetrachloroethane	2022/11/12	102	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8337065	1,1,1-Trichloroethane	2022/11/12	91	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8337065	1,1,2,2-Tetrachloroethane	2022/11/12	100	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8337065	1,1,2-Trichloroethane	2022/11/12	105	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8337065	1,1-Dichloroethane	2022/11/12	84	60 - 140	84	60 - 130	<0.040	ug/g	NC	50
8337065	1,1-Dichloroethylene	2022/11/12	86	60 - 140	87	60 - 130	<0.040	ug/g	NC	50



QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8337065	1,2-Dichlorobenzene	2022/11/12	97	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8337065	1,2-Dichloroethane	2022/11/12	86	60 - 140	86	60 - 130	<0.049	ug/g	NC	50
8337065	1,2-Dichloropropane	2022/11/12	86	60 - 140	86	60 - 130	<0.040	ug/g	NC	50
8337065	1,3-Dichlorobenzene	2022/11/12	93	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8337065	1,4-Dichlorobenzene	2022/11/12	107	60 - 140	109	60 - 130	<0.040	ug/g	NC	50
8337065	Acetone (2-Propanone)	2022/11/12	101	60 - 140	98	60 - 140	<0.49	ug/g	NC	50
8337065	Benzene	2022/11/12	81	60 - 140	83	60 - 130	<0.0060	ug/g	NC	50
8337065	Bromodichloromethane	2022/11/12	91	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8337065	Bromoform	2022/11/12	103	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8337065	Bromomethane	2022/11/12	83	60 - 140	84	60 - 140	<0.040	ug/g	NC	50
8337065	Carbon Tetrachloride	2022/11/12	87	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
8337065	Chlorobenzene	2022/11/12	98	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8337065	Chloroform	2022/11/12	86	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
8337065	cis-1,2-Dichloroethylene	2022/11/12	89	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8337065	cis-1,3-Dichloropropene	2022/11/12	81	60 - 140	81	60 - 130	<0.030	ug/g	NC	50
8337065	Dibromochloromethane	2022/11/12	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8337065	Dichlorodifluoromethane (FREON 12)	2022/11/12	97	60 - 140	98	60 - 140	<0.040	ug/g	NC	50
8337065	Ethylbenzene	2022/11/12	86	60 - 140	88	60 - 130	<0.010	ug/g	NC	50
8337065	Ethylene Dibromide	2022/11/12	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8337065	F1 (C6-C10) - BTEX	2022/11/12					<10	ug/g	NC	30
8337065	F1 (C6-C10)	2022/11/12	95	60 - 140	99	80 - 120	<10	ug/g	NC	30
8337065	Hexane	2022/11/12	91	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8337065	Methyl Ethyl Ketone (2-Butanone)	2022/11/12	100	60 - 140	98	60 - 140	<0.40	ug/g	NC	50
8337065	Methyl Isobutyl Ketone	2022/11/12	95	60 - 140	93	60 - 130	<0.40	ug/g	NC	50
8337065	Methyl t-butyl ether (MTBE)	2022/11/12	88	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
8337065	Methylene Chloride(Dichloromethane)	2022/11/12	91	60 - 140	92	60 - 130	<0.049	ug/g	NC	50
8337065	o-Xylene	2022/11/12	93	60 - 140	94	60 - 130	<0.020	ug/g	NC	50
8337065	p+m-Xylene	2022/11/12	89	60 - 140	91	60 - 130	<0.020	ug/g	NC	50
8337065	Styrene	2022/11/12	105	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
8337065	Tetrachloroethylene	2022/11/12	90	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8337065	Toluene	2022/11/12	98	60 - 140	100	60 - 130	<0.020	ug/g	NC	50



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8337065	Total Xylenes	2022/11/12					<0.020	ug/g	NC	50
8337065	trans-1,2-Dichloroethylene	2022/11/12	83	60 - 140	84	60 - 130	<0.040	ug/g	NC	50
8337065	trans-1,3-Dichloropropene	2022/11/12	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8337065	Trichloroethylene	2022/11/12	87	60 - 140	88	60 - 130	<0.010	ug/g	NC	50
8337065	Trichlorofluoromethane (FREON 11)	2022/11/12	86	60 - 140	86	60 - 130	<0.040	ug/g	NC	50
8337065	Vinyl Chloride	2022/11/12	80	60 - 140	80	60 - 130	<0.019	ug/g	NC	50
8340708	Acid Extractable Antimony (Sb)	2022/11/12	93	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8340708	Acid Extractable Arsenic (As)	2022/11/12	93	75 - 125	100	80 - 120	<1.0	ug/g	NC	30
8340708	Acid Extractable Barium (Ba)	2022/11/12	92	75 - 125	96	80 - 120	<0.50	ug/g	1.1	30
8340708	Acid Extractable Beryllium (Be)	2022/11/12	92	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8340708	Acid Extractable Boron (B)	2022/11/12	90	75 - 125	98	80 - 120	<5.0	ug/g	NC	30
8340708	Acid Extractable Cadmium (Cd)	2022/11/12	91	75 - 125	101	80 - 120	<0.10	ug/g	NC	30
8340708	Acid Extractable Chromium (Cr)	2022/11/12	92	75 - 125	98	80 - 120	<1.0	ug/g	2.2	30
8340708	Acid Extractable Cobalt (Co)	2022/11/12	91	75 - 125	98	80 - 120	<0.10	ug/g	6.6	30
8340708	Acid Extractable Copper (Cu)	2022/11/12	89	75 - 125	97	80 - 120	<0.50	ug/g	3.8	30
8340708	Acid Extractable Lead (Pb)	2022/11/12	91	75 - 125	102	80 - 120	<1.0	ug/g	7.5	30
8340708	Acid Extractable Molybdenum (Mo)	2022/11/12	90	75 - 125	98	80 - 120	<0.50	ug/g	21	30
8340708	Acid Extractable Nickel (Ni)	2022/11/12	90	75 - 125	99	80 - 120	<0.50	ug/g	7.2	30
8340708	Acid Extractable Selenium (Se)	2022/11/12	92	75 - 125	104	80 - 120	<0.50	ug/g	NC	30
8340708	Acid Extractable Silver (Ag)	2022/11/12	91	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8340708	Acid Extractable Thallium (Tl)	2022/11/12	94	75 - 125	104	80 - 120	<0.050	ug/g	NC	30
8340708	Acid Extractable Uranium (U)	2022/11/12	94	75 - 125	104	80 - 120	<0.050	ug/g	80 (1)	30
8340708	Acid Extractable Vanadium (V)	2022/11/12	88	75 - 125	98	80 - 120	<5.0	ug/g	5.6	30
8340708	Acid Extractable Zinc (Zn)	2022/11/12	96	75 - 125	97	80 - 120	<5.0	ug/g	3.5	30
8346973	1-Methylnaphthalene	2022/11/16	104	50 - 130	114	50 - 130	<0.0050	ug/g	NC	40
8346973	2-Methylnaphthalene	2022/11/16	95	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8346973	Acenaphthene	2022/11/16	95	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8346973	Acenaphthylene	2022/11/16	92	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8346973	Anthracene	2022/11/16	101	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8346973	Benzo(a)anthracene	2022/11/16	95	50 - 130	102	50 - 130	<0.0050	ug/g	13	40
8346973	Benzo(a)pyrene	2022/11/16	87	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8346973	Benzo(b,j)fluoranthene	2022/11/16	90	50 - 130	98	50 - 130	<0.0050	ug/g	28	40
8346973	Benzo(g,h,i)perylene	2022/11/16	94	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8346973	Benzo(k)fluoranthene	2022/11/16	85	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8346973	Chrysene	2022/11/16	92	50 - 130	105	50 - 130	<0.0050	ug/g	19	40
8346973	Dibenzo(a,h)anthracene	2022/11/16	96	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8346973	Fluoranthene	2022/11/16	97	50 - 130	109	50 - 130	<0.0050	ug/g	NC	40
8346973	Fluorene	2022/11/16	93	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8346973	Indeno(1,2,3-cd)pyrene	2022/11/16	92	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
8346973	Naphthalene	2022/11/16	91	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8346973	Phenanthrene	2022/11/16	88	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8346973	Pyrene	2022/11/16	97	50 - 130	109	50 - 130	<0.0050	ug/g	37	40

N/A = Not Applicable

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

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



Bureau Veritas Job #: C2V6091
Report Date: 2022/11/17

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: NW

VALIDATION SIGNATURE PAGE

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

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Page 1 of 2

28-Oct-22 12:28
Gemarie Balatico
C2V6091

CHA

INVOICE TO: #17950 Cambium Environmental Inc
ACCOUNTS PAYABLE
194 Sophia Street PO Box 325
Peterborough ON K9H 1E5
(705) 742-7900 Fax: (705) 742-7907
accounting@camblum-inc.com; Evan.Black@camblum-inc.com

REPORT TO: Natalie Wright
Company Name: Natalie Wright
Attention: Natalie Wright
Address: 194 Sophia Street PO Box 325
Peterborough ON K9H 1E5
Tel: (705) 742-7907
Fax: (705) 742-7907
Email: accounting@camblum-inc.com; Evan.Black@camblum-inc.com

PROJECT INFORMATION: C21984
Quotation #: 14909-002
Project Name: AN4 ENV-1205
Site #: CH904335-01-01
Project Manager: Gemarie Balatico

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
Table 1 ☒ Res/Park ☐ Medium/Fine ☐ Ind/Comm ☐ Coarse ☐ Agri/Other ☒ For RSC
Table 2 ☐ Sanitary Sewer Bylaw ☐ Storm Sewer Bylaw
Table 3 ☐ MISA ☐ PWOO ☐ Reg 406 Table
Table 4 ☐ Other

Include Criteria on Certificate of Analysis (Y/N)? ☒

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	O Reg 153 VOCs by HS & F1-F4 (Soil)	O Reg 153 ICPMS Metals + Mercury (Soil)	SAR - ICP Metals, Conductivity, pH	Free (VMD) Cyanide	O Reg 153 Metals incl. hydrocarbons	O Reg 153 PHE FI-F4	O Reg 153 BTEX	# are used and not submitted	Time	Date: (YYMMDD)	RECEIVED BY: (Signature/Print)	Time	Time Sensitive	Laboratory Use Only Temperature (°C) on Receipt	Custody Seal Present	Yes	No
1 BH201-2.6-3.0	BH201-2.6-3.0	2022/10/26	09:20	SOIL		X				X												
2 BH201-3.4-3.7	BH201-3.4-3.7	2022/10/26	09:30	SOIL																		
3 BH201-4.0-4.6	BH201-4.0-4.6	2022/10/26	09:40	SOIL																		
4 BH202-0.3-1.5	BH202-0.3-1.5	2022/10/26	10:00	SOIL																		
5 BH202-2.6-3.0	BH202-2.6-3.0	2022/10/26	10:15	SOIL																		
6 BH202-3.0-3.4	BH202-3.0-3.4	2022/10/26	10:20	SOIL		X																
7 BH202-3.8-4.3	BH202-3.8-4.3	2022/10/26	10:30	SOIL																		
8 BH203-0.4-1.1	BH203-0.4-1.1	2022/10/26	10:45	SOIL																		
9 BH203-1.5-1.8	BH203-1.5-1.8	2022/10/26	10:55	SOIL																		
10 BH203-2.6-3.0	BH203-2.6-3.0	2022/10/26	11:00	SOIL																		

RELINQUISHED BY: (Signature/Print) Natalie Wright Date: (YYMMDD) 22/10/28

RECEIVED BY: (Signature/Print) Date: (YYMMDD) 20/10/28

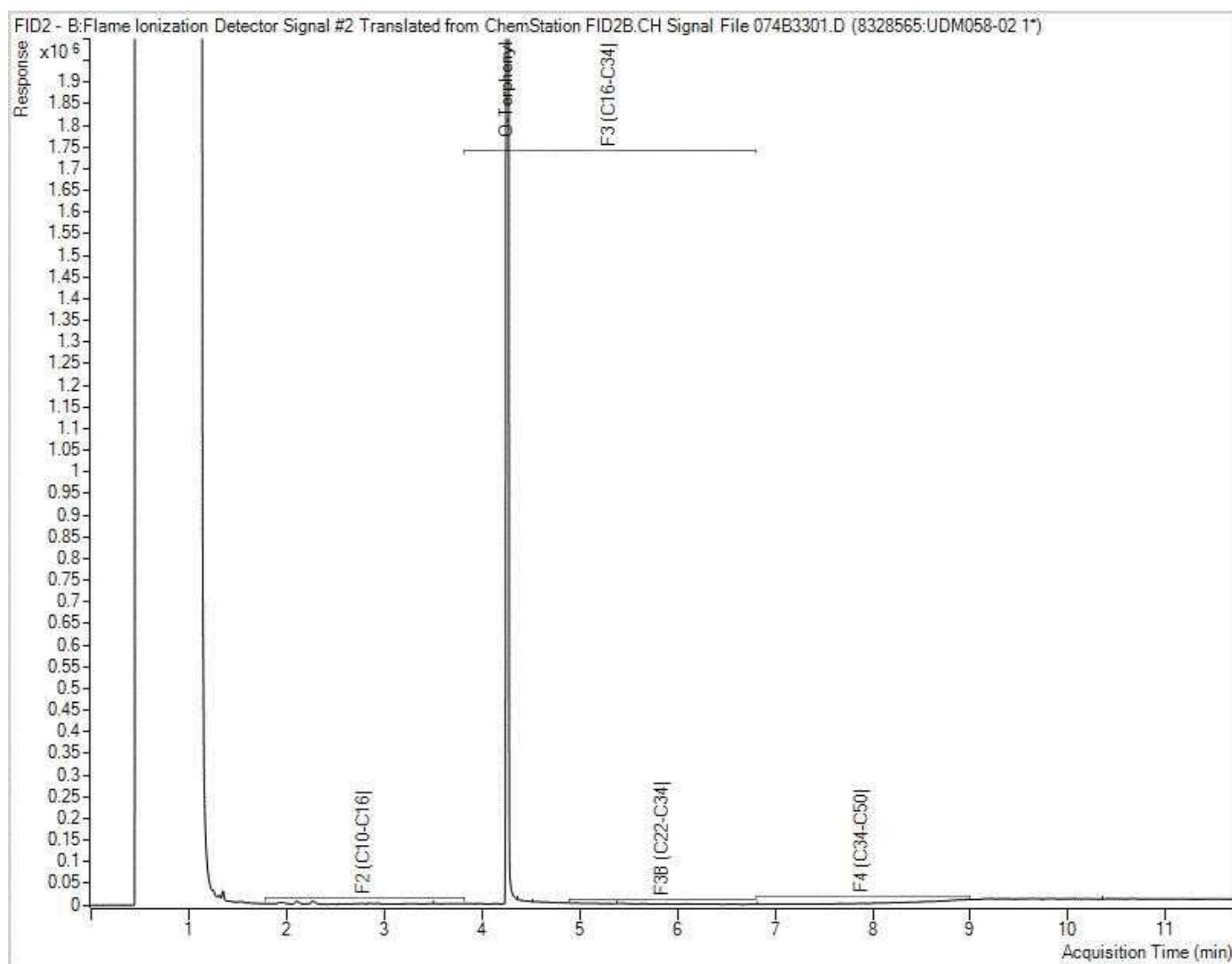
White: Bureau Veritas Yellow: Client

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCs.

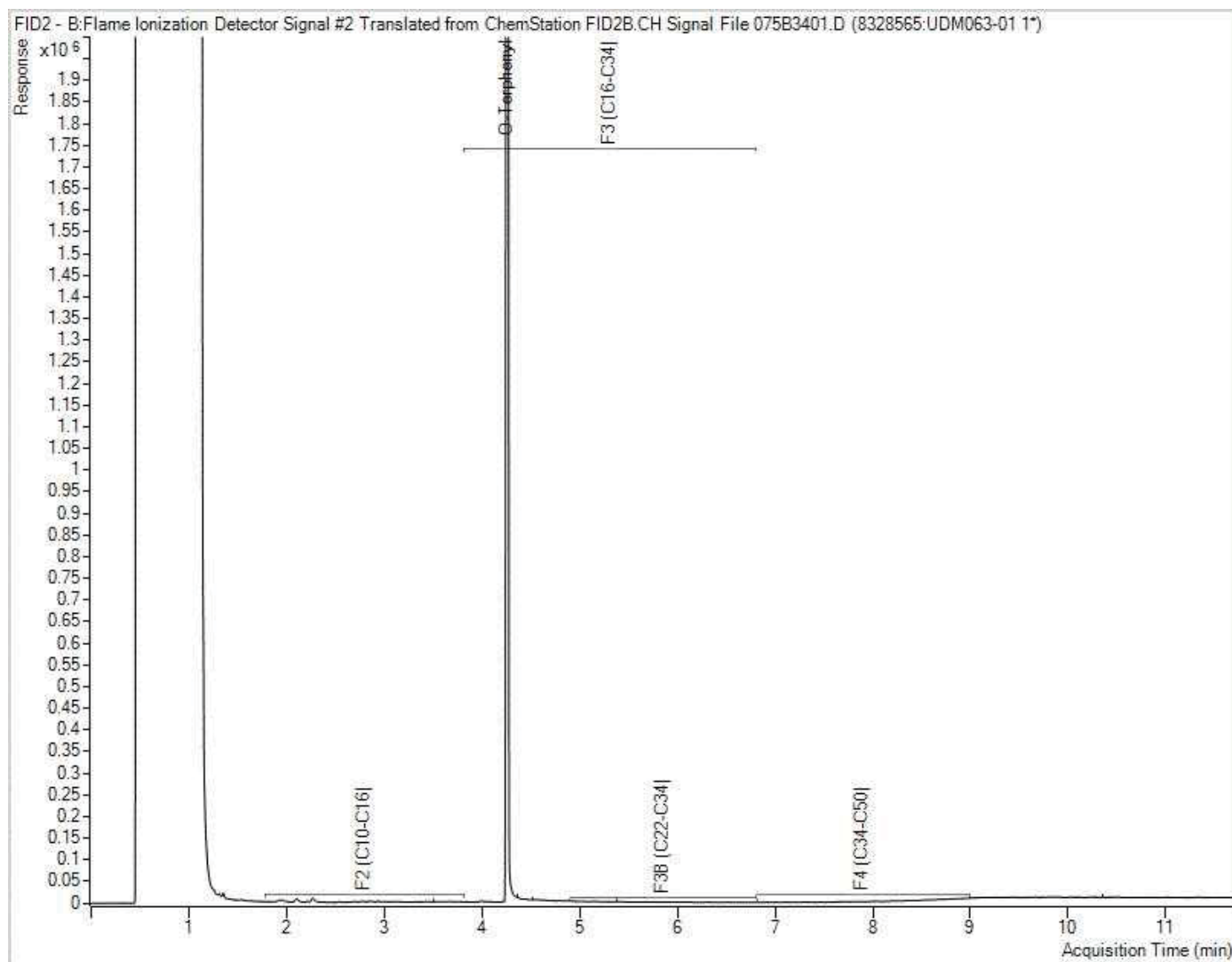
Bureau Veritas Canada (2019) Inc.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



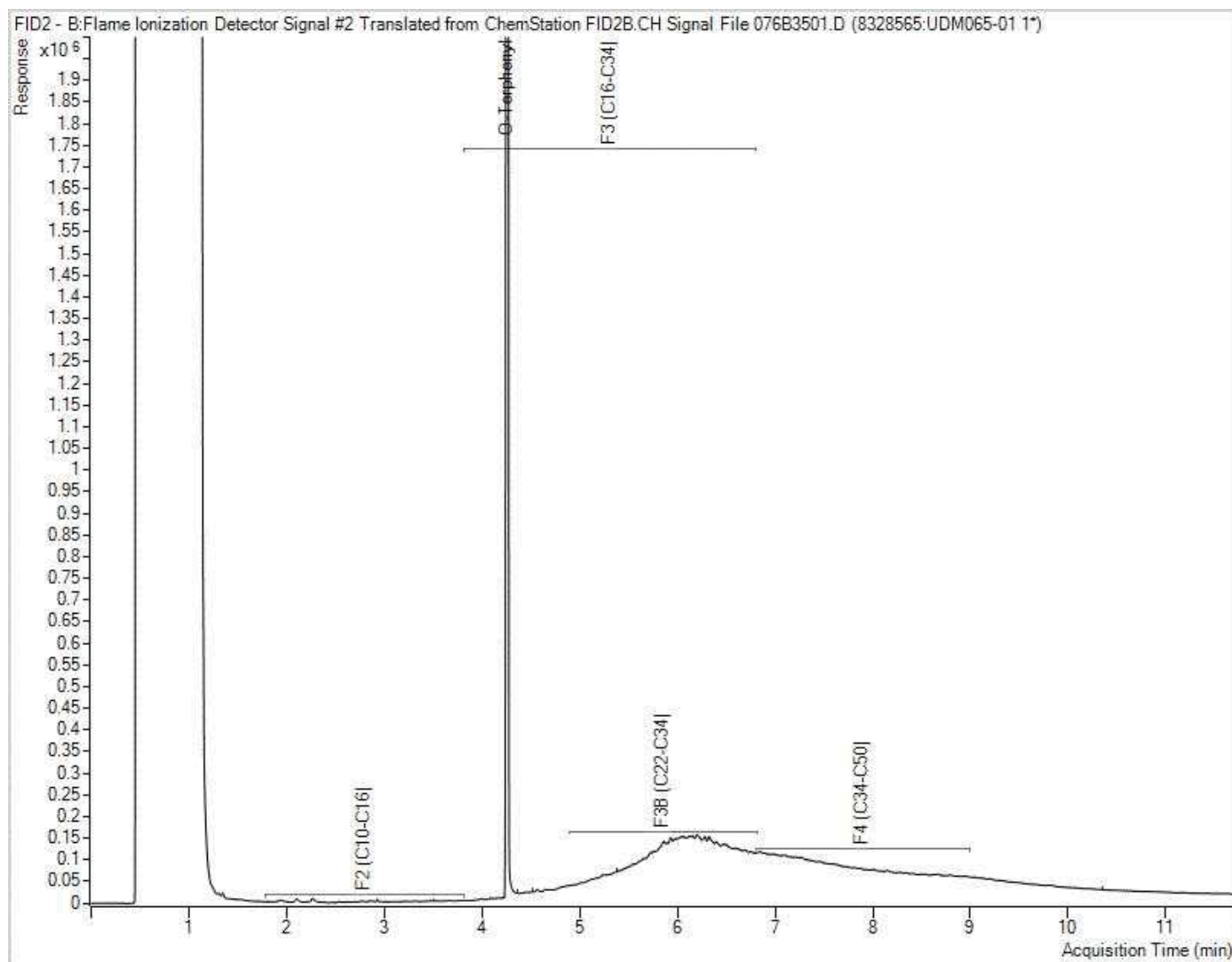
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



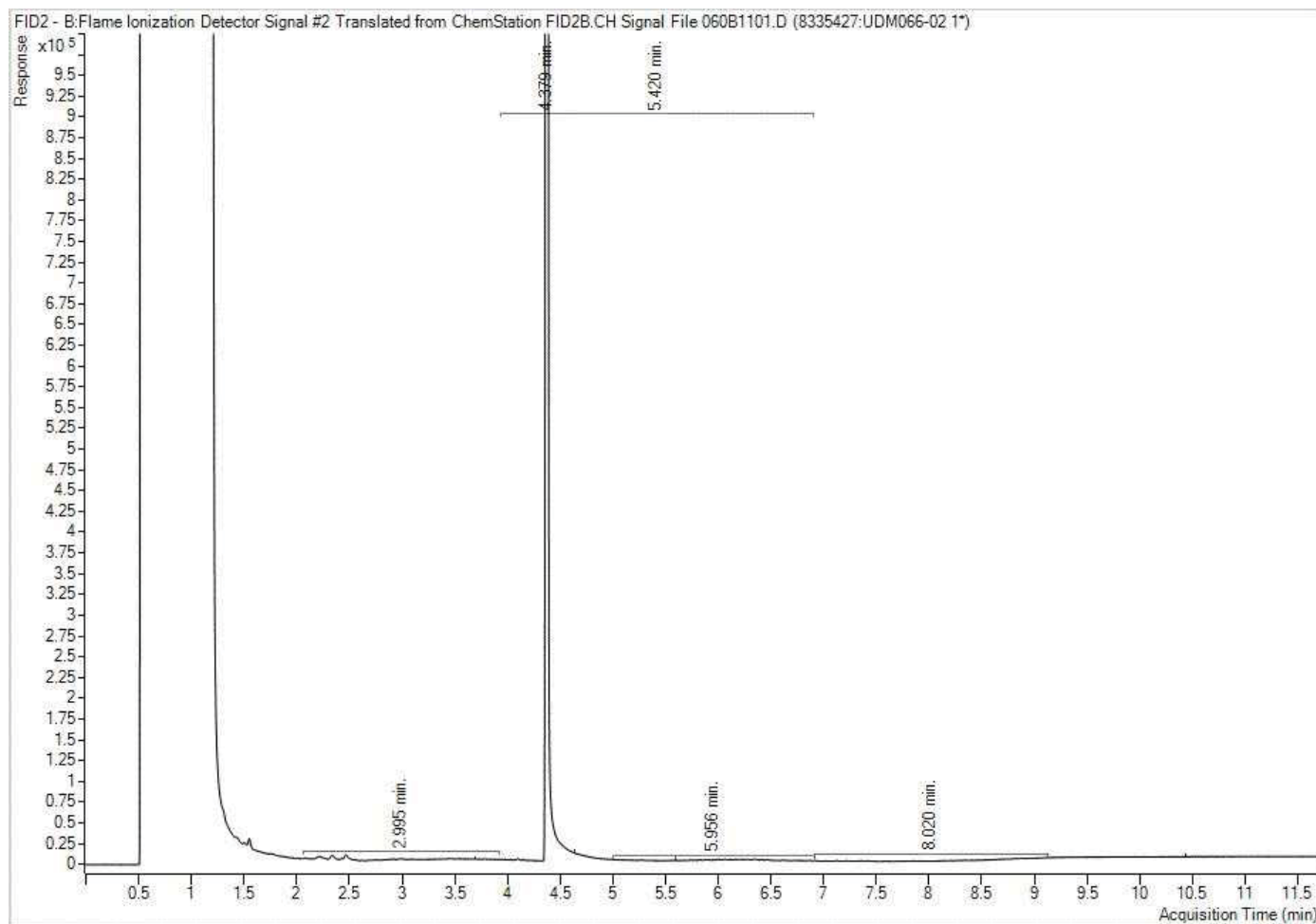
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



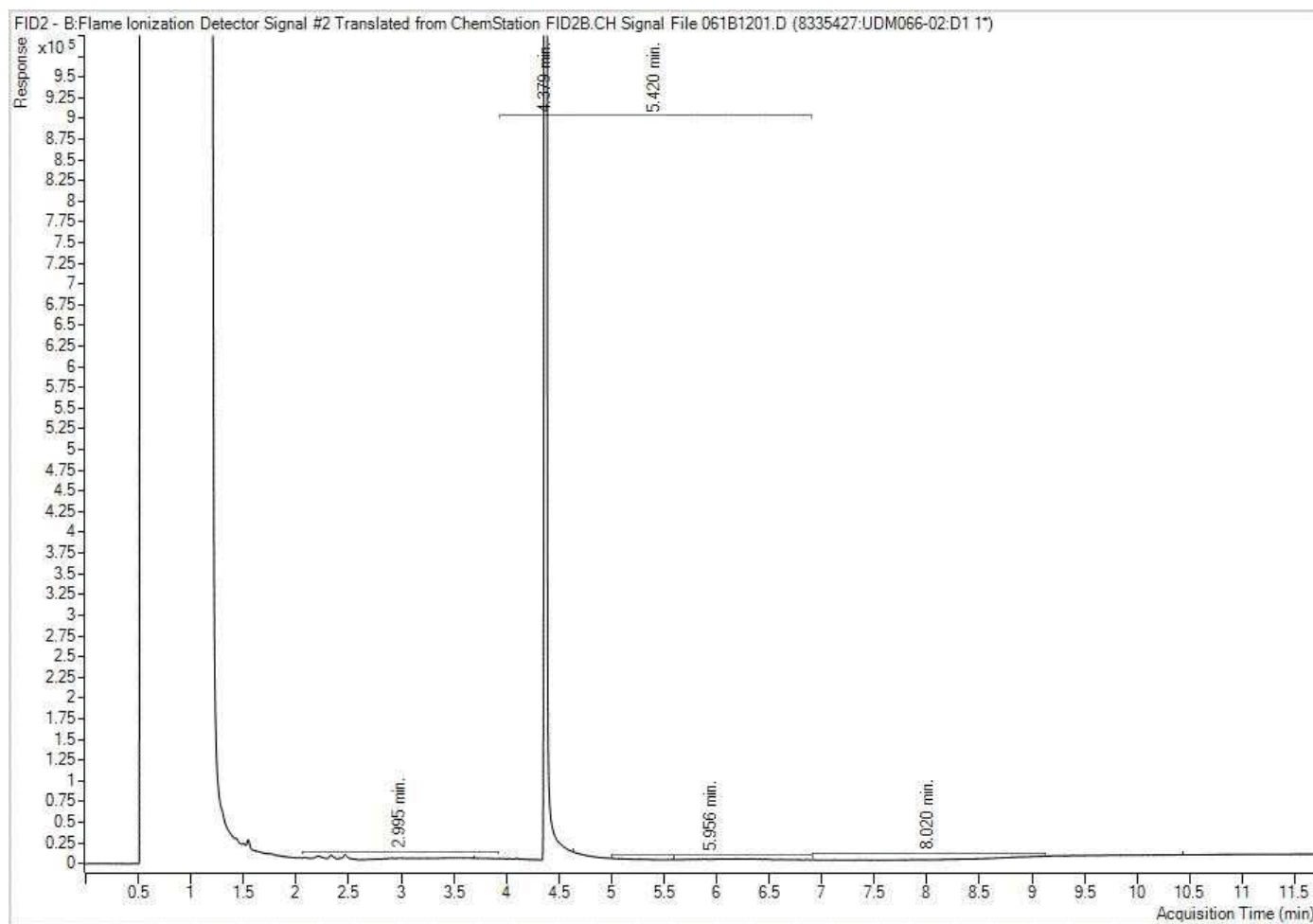
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



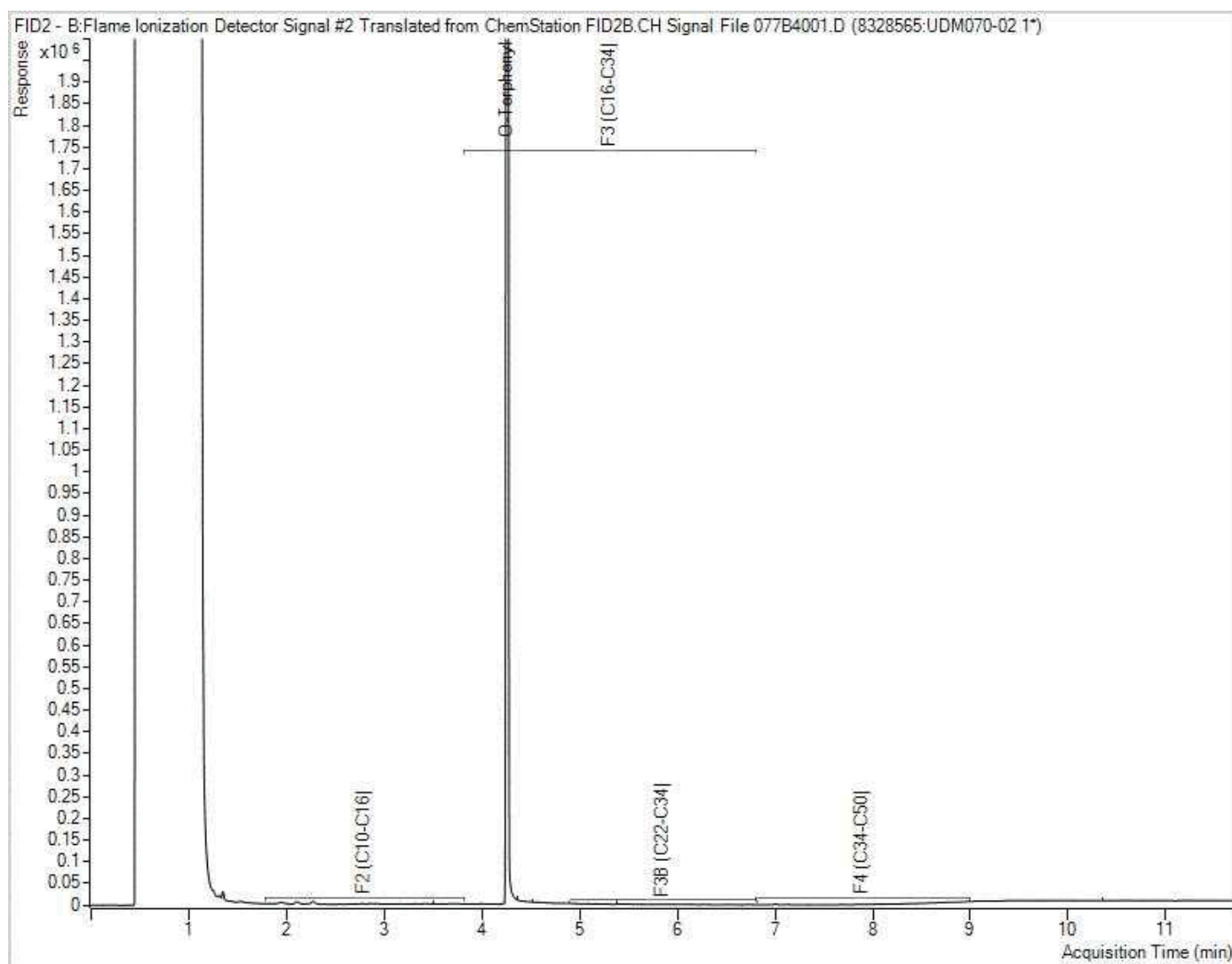
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



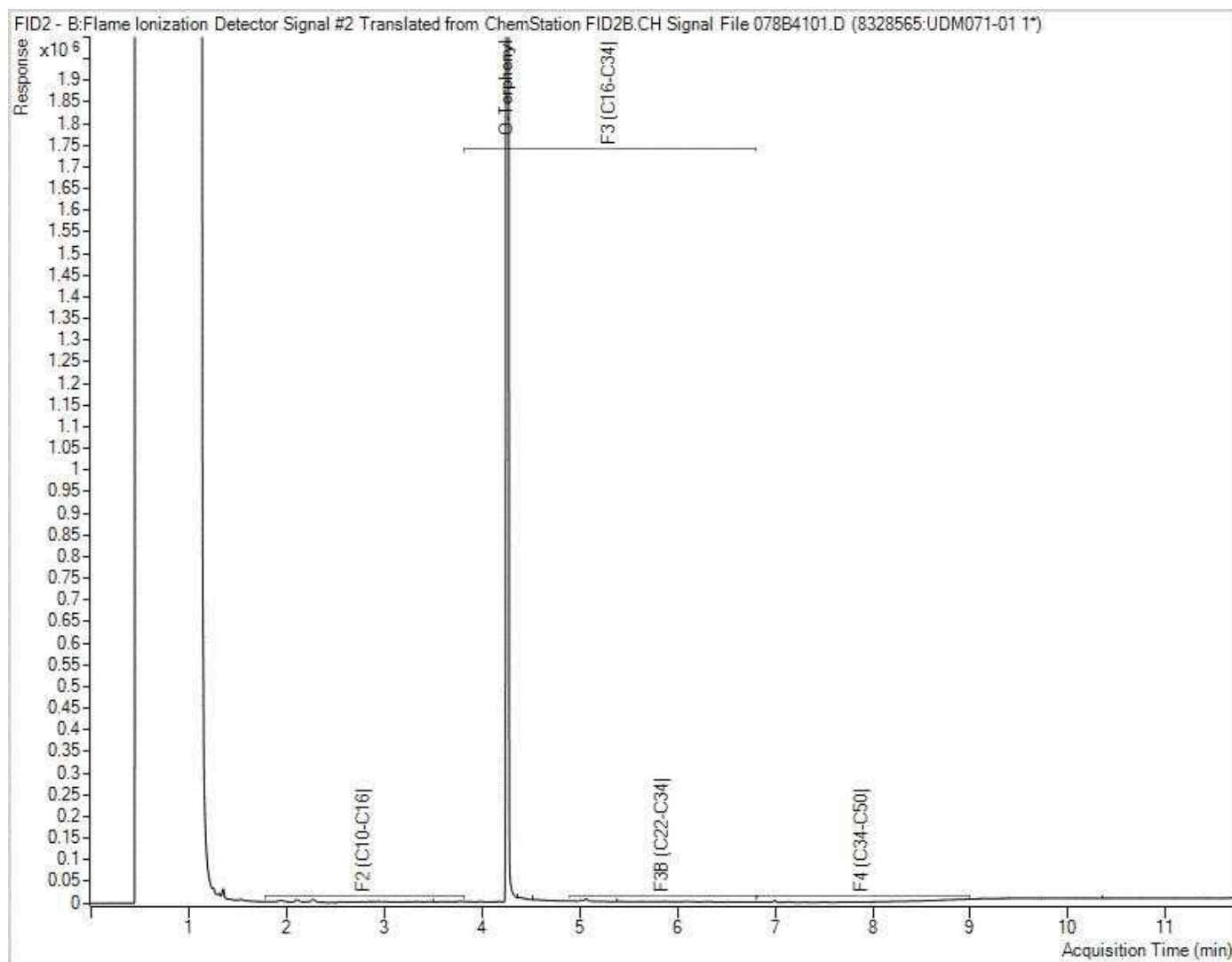
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



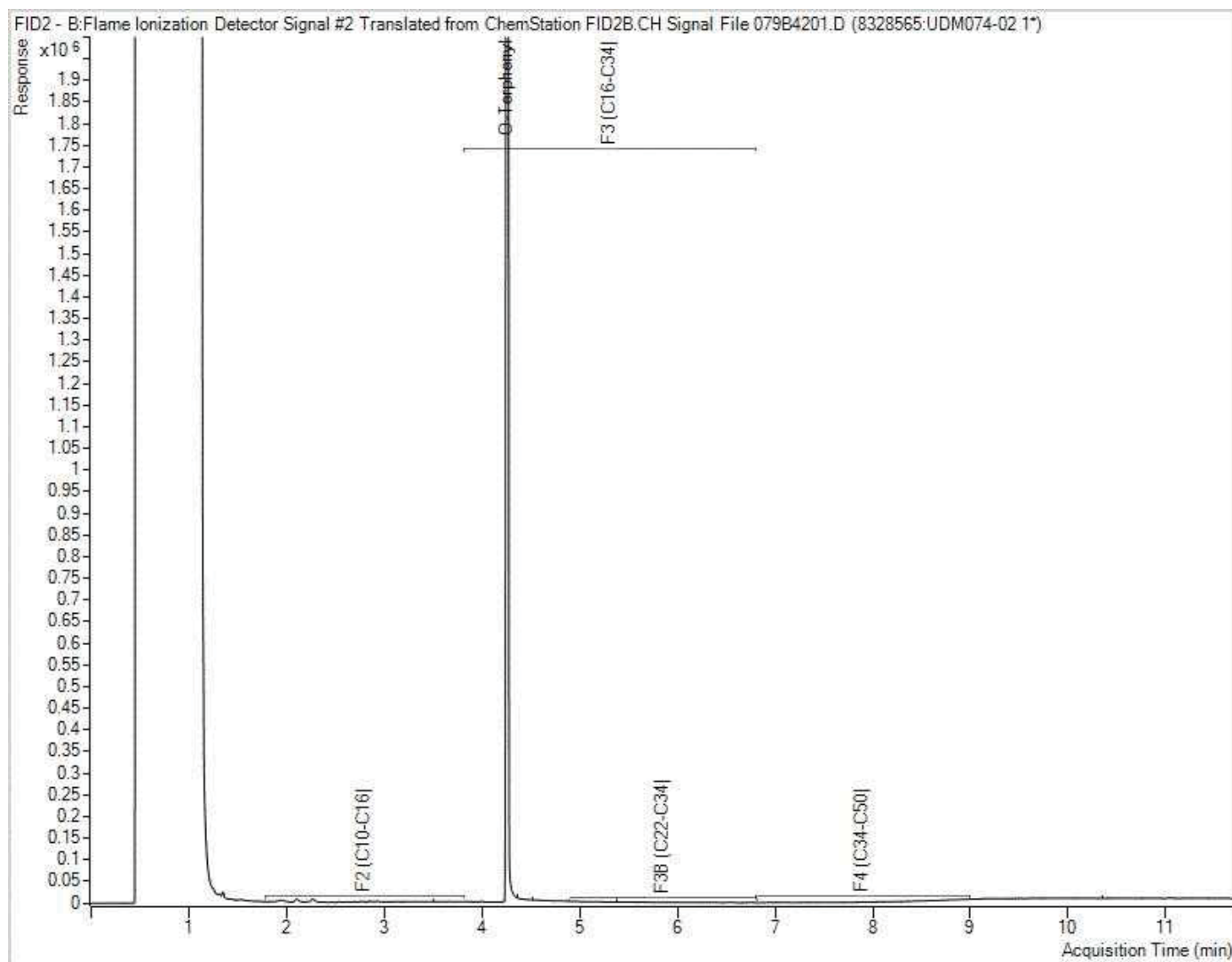
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



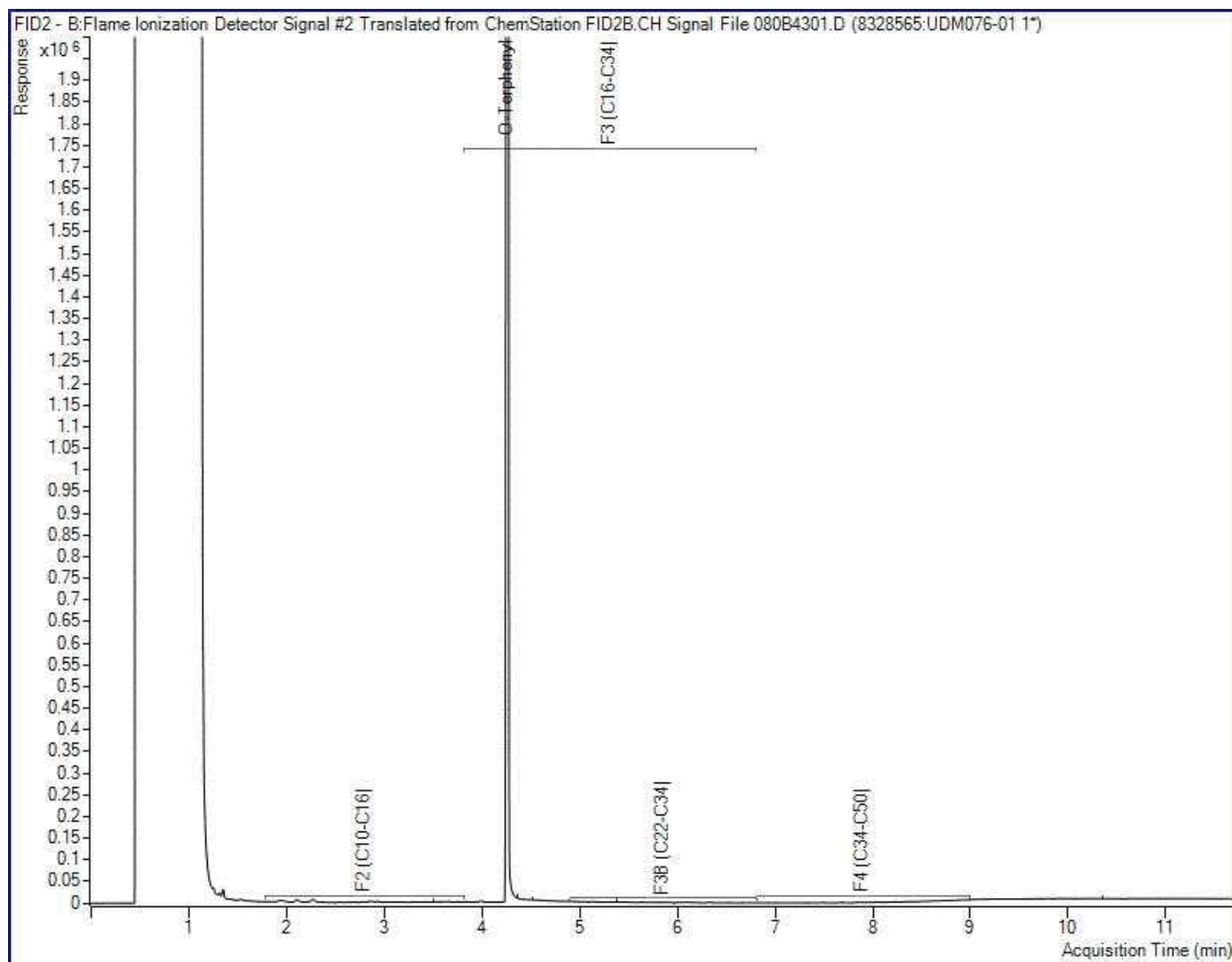
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



**BUREAU
VERITAS**

Bureau Veritas Job #: C2V6091

Report Date: 2022/11/17

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: NW

Exceedance Summary Table – Reg153/04 T1-Soil/Res Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH202_0.3-1.5	UDM061-01	Acid Extractable Antimony (Sb)	1.3	18	0.20	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Arsenic (As)	18	50	1.0	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Barium (Ba)	220	260	0.50	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Cadmium (Cd)	1.2	5.7	0.10	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Chromium (Cr)	70	340	1.0	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Cobalt (Co)	21	39	0.10	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Copper (Cu)	92	650	0.50	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Lead (Pb)	120	2600	1.0	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Molybdenum (Mo)	2	22	0.50	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Nickel (Ni)	82	180	0.50	ug/g
BH202_0.3-1.5	UDM061-01	Acid Extractable Zinc (Zn)	290	430	5.0	ug/g
BH203_0.4-1.1	UDM065-04	Acid Extractable Antimony (Sb)	1.3	12	0.20	ug/g
BH203_0.4-1.1	UDM065-01	F3 (C16-C34 Hydrocarbons)	240	330	50	ug/g
BH203_0.4-1.1	UDM065-01	F4 (C34-C50 Hydrocarbons)	120	250	50	ug/g
BH203_0.4-1.1	UDM065-04	Acid Extractable Lead (Pb)	120	270	1.0	ug/g
BH203_1.5-1.8	UDM066-01	Acid Extractable Antimony (Sb)	1.3	1.8	0.20	ug/g
BH205_0.3-0.8	UDM073-02	Anthracene	0.16	0.25	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Benzo(a)anthracene	0.36	0.58	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Benzo(a)pyrene	0.3	0.55	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Benzo(b/j)fluoranthene	0.47	0.66	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Dibenzo(a,h)anthracene	0.1	0.14	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Fluoranthene	0.56	1.0	0.0050	ug/g
BH205_0.3-0.8	UDM073-02	Indeno(1,2,3-cd)pyrene	0.23	0.43	0.0050	ug/g
BH205_0.3-0.8	UDM073-01	Acid Extractable Lead (Pb)	120	240	1.0	ug/g
BH205_0.3-0.8	UDM073-02	Phenanthrene	0.69	0.70	0.0050	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.



Your Project #: 14909-002
Your C.O.C. #: 907046-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/30
Report #: R7409747
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y1076

Received: 2022/11/21, 13:15

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Methylnaphthalene Sum	4	N/A	2022/11/29	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	3	N/A	2022/11/24		EPA 8260C m
Free (WAD) Cyanide	4	2022/11/24	2022/11/24	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Soil (1)	3	2022/11/25	2022/11/25	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	4	2022/11/24	2022/11/24	CAM SOP-00447	EPA 6020B m
Moisture	4	N/A	2022/11/23	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	4	2022/11/27	2022/11/28	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	4	2022/11/24	2022/11/24	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	3	N/A	2022/11/24	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

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

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the



Your Project #: 14909-002
Your C.O.C. #: 907046-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/30
Report #: R7409747
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y1076

Received: 2022/11/21, 13:15

reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Gemarie Balatico
Project Manager
30 Nov 2022 07:37:58

Please direct all questions regarding this Certificate of Analysis to:
Gemarie Balatico, Project Manager
Email: Gemarie.Balatico@bureauveritas.com
Phone# (905)817-5787

=====

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

BUREAU
VERITAS

Bureau Veritas Job #: C2Y1076

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UIZ802	UIZ803	UIZ804	UIZ805		
Sampling Date			2022/11/18 13:30	2022/11/18 13:50	2022/11/18 14:00	2022/11/18		
COC Number			907046-01-01	907046-01-01	907046-01-01	907046-01-01		
	UNITS	Criteria	BH101_0-0.30	BH101_3.20-3.65	BH101_3.65-4.11	QA/QC1	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	2.3	<0.20	<0.20	<0.20	0.20	8365193
Acid Extractable Arsenic (As)	ug/g	18	1.2	<1.0	<1.0	<1.0	1.0	8365193
Acid Extractable Barium (Ba)	ug/g	220	47	20	25	15	0.50	8365193
Acid Extractable Beryllium (Be)	ug/g	2.5	0.21	<0.20	<0.20	<0.20	0.20	8365193
Acid Extractable Boron (B)	ug/g	36	5.0	<5.0	<5.0	<5.0	5.0	8365193
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.41	<0.10	<0.10	0.18	0.10	8365193
Acid Extractable Chromium (Cr)	ug/g	70	15	9.5	8.8	8.4	1.0	8365193
Acid Extractable Cobalt (Co)	ug/g	21	7.4	2.0	2.3	1.8	0.10	8365193
Acid Extractable Copper (Cu)	ug/g	92	13	4.0	4.1	3.3	0.50	8365193
Acid Extractable Lead (Pb)	ug/g	120	43	11	1.5	3.3	1.0	8365193
Acid Extractable Molybdenum (Mo)	ug/g	2	1.0	0.69	<0.50	0.75	0.50	8365193
Acid Extractable Nickel (Ni)	ug/g	82	8.9	3.4	3.7	2.9	0.50	8365193
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8365193
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8365193
Acid Extractable Thallium (Tl)	ug/g	1	0.075	<0.050	<0.050	<0.050	0.050	8365193
Acid Extractable Uranium (U)	ug/g	2.5	0.29	0.29	0.30	0.25	0.050	8365193
Acid Extractable Vanadium (V)	ug/g	86	25	20	24	19	5.0	8365193
Acid Extractable Zinc (Zn)	ug/g	290	81	15	11	14	5.0	8365193
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	<0.050	<0.050	<0.050	0.050	8365193
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)								
Table 1: Full Depth Background Site Condition Standards								
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use								

BUREAU
VERITAS

Bureau Veritas Job #: C2Y1076

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UIZ802	UIZ803	UIZ804			UIZ805		
Sampling Date			2022/11/18 13:30	2022/11/18 13:50	2022/11/18 14:00			2022/11/18		
COC Number			907046-01-01	907046-01-01	907046-01-01			907046-01-01		
	UNITS	Criteria	BH101_0-0.30	BH101_3.20-3.65	BH101_3.65-4.11	RDL	QC Batch	QA/QC1	RDL	QC Batch
Inorganics										
Moisture	%	-						11	1.0	8363409
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	0.0071	8357676	<0.0071	0.0071	8357676
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Anthracene	ug/g	0.16	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Benzo(a)anthracene	ug/g	0.36	0.0090	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Benzo(a)pyrene	ug/g	0.3	0.0097	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Benzo(b/j)fluoranthene	ug/g	0.47	0.013	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Benzo(g,h,i)perylene	ug/g	0.68	0.0089	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Chrysene	ug/g	2.8	0.010	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Fluoranthene	ug/g	0.56	0.023	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.0077	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Phenanthrene	ug/g	0.69	0.014	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Pyrene	ug/g	1	0.019	<0.0050	<0.0050	0.0050	8370024	<0.0050	0.0050	8370024
Surrogate Recovery (%)										
D10-Anthracene	%	-	96	98	96		8370024	101		8370024
D14-Terphenyl (FS)	%	-	96	94	90		8370024	98		8370024
D8-Acenaphthylene	%	-	92	90	78		8370024	90		8370024
No Fill	No Exceedance									
Grey	Exceeds 1 criteria policy/level									
Black	Exceeds both criteria/levels									
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 1: Full Depth Background Site Condition Standards										
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use										



O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID			UIZ802	UIZ803	UIZ804		
Sampling Date			2022/11/18 13:30	2022/11/18 13:50	2022/11/18 14:00		
COC Number			907046-01-01	907046-01-01	907046-01-01		
	UNITS	Criteria	BH101_0-0.30	BH101_3.20-3.65	BH101_3.65-4.11	RDL	QC Batch
Inorganics							
Moisture	%	-	9.2	11	11	1.0	8363409
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	<0.050	<0.050	0.050	8358385
Volatile Organics							
Acetone (2-Propanone)	ug/g	0.5	<0.49	<0.49	<0.49	0.49	8361452
Benzene	ug/g	0.02	<0.0060	<0.0060	<0.0060	0.0060	8361452
Bromodichloromethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Bromoform	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Bromomethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Carbon Tetrachloride	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Chlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Chloroform	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Dibromochloromethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,2-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,3-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,4-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,1-Dichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,2-Dichloroethane	ug/g	0.05	<0.049	<0.049	<0.049	0.049	8361452
1,1-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,2-Dichloropropane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	<0.030	<0.030	0.030	8361452
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Ethylbenzene	ug/g	0.05	<0.010	<0.010	<0.010	0.010	8361452
Ethylene Dibromide	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Hexane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	<0.049	<0.049	0.049	8361452
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							



O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID			UIZ802	UIZ803	UIZ804		
Sampling Date			2022/11/18 13:30	2022/11/18 13:50	2022/11/18 14:00		
COC Number			907046-01-01	907046-01-01	907046-01-01		
	UNITS	Criteria	BH101_0-0.30	BH101_3.20-3.65	BH101_3.65-4.11	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	<0.40	<0.40	0.40	8361452
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	<0.40	<0.40	0.40	8361452
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Styrene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Tetrachloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	0.020	8361452
1,1,1-Trichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
1,1,2-Trichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8361452
Trichloroethylene	ug/g	0.05	<0.010	<0.010	<0.010	0.010	8361452
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	<0.040	<0.040	0.040	8361452
Vinyl Chloride	ug/g	0.02	<0.019	<0.019	<0.019	0.019	8361452
p+m-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	8361452
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	8361452
Total Xylenes	ug/g	0.05	<0.020	<0.020	<0.020	0.020	8361452
F1 (C6-C10)	ug/g	25	<10	<10	<10	10	8361452
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	10	8361452
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	10	8367108
F3 (C16-C34 Hydrocarbons)	ug/g	240	98	<50	<50	50	8367108
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	<50	50	8367108
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes		8367108
Surrogate Recovery (%)							
o-Terphenyl	%	-	91	91	91		8367108
4-Bromofluorobenzene	%	-	87	87	87		8361452
D10-o-Xylene	%	-	76	75	79		8361452
D4-1,2-Dichloroethane	%	-	113	109	112		8361452
D8-Toluene	%	-	94	94	95		8361452
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							



**BUREAU
VERITAS**

Bureau Veritas Job #: C2Y1076

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID			UIZ802		UIZ803		UIZ804	UIZ805		
Sampling Date			2022/11/18 13:30		2022/11/18 13:50		2022/11/18 14:00	2022/11/18		
COC Number			907046-01-01		907046-01-01		907046-01-01	907046-01-01		
	UNITS	Criteria	BH101_0-0.30	QC Batch	BH101_3.20-3.65	QC Batch	BH101_3.65-4.11	QA/QC1	RDL	QC Batch
Inorganics										
Available (CaCl2) pH	pH	-	8.08	8365032	8.15	8365043	8.00	8.01		8365032
WAD Cyanide (Free)	ug/g	0.051	<0.01	8364652	<0.01	8364652	<0.01	<0.01	0.01	8364652
No Fill	No Exceedance									
Grey	Exceeds 1 criteria policy/level									
Black	Exceeds both criteria/levels									
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 1: Full Depth Background Site Condition Standards										
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use										



Bureau Veritas Job #: C2Y1076
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: UIZ802
Sample ID: BH101_0-0.30
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8357676	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8358385	N/A	2022/11/24	Automated Statchk
Free (WAD) Cyanide	TECH	8364652	2022/11/24	2022/11/24	Prgya Panchal
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8367108	2022/11/25	2022/11/25	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8365193	2022/11/24	2022/11/24	Daniel Teclu
Moisture	BAL	8363409	N/A	2022/11/23	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8370024	2022/11/27	2022/11/28	Joe Paino
pH CaCl2 EXTRACT	AT	8365032	2022/11/24	2022/11/24	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8361452	N/A	2022/11/24	Rebecca McClean

Bureau Veritas ID: UIZ803
Sample ID: BH101_3.20-3.65
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8357676	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8358385	N/A	2022/11/24	Automated Statchk
Free (WAD) Cyanide	TECH	8364652	2022/11/24	2022/11/24	Prgya Panchal
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8367108	2022/11/25	2022/11/25	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8365193	2022/11/24	2022/11/24	Daniel Teclu
Moisture	BAL	8363409	N/A	2022/11/23	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8370024	2022/11/27	2022/11/28	Joe Paino
pH CaCl2 EXTRACT	AT	8365043	2022/11/24	2022/11/24	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8361452	N/A	2022/11/24	Rebecca McClean

Bureau Veritas ID: UIZ804
Sample ID: BH101_3.65-4.11
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8357676	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8358385	N/A	2022/11/24	Automated Statchk
Free (WAD) Cyanide	TECH	8364652	2022/11/24	2022/11/24	Prgya Panchal
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8367108	2022/11/25	2022/11/25	Jeevaraj Jeevaratnam
Acid Extractable Metals by ICPMS	ICP/MS	8365193	2022/11/24	2022/11/24	Daniel Teclu
Moisture	BAL	8363409	N/A	2022/11/23	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8370024	2022/11/27	2022/11/28	Joe Paino
pH CaCl2 EXTRACT	AT	8365032	2022/11/24	2022/11/24	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8361452	N/A	2022/11/24	Rebecca McClean



BUREAU
VERITAS

Bureau Veritas Job #: C2Y1076

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: UIZ805

Sample ID: QA/QC1

Matrix: Soil

Collected: 2022/11/18

Shipped:

Received: 2022/11/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8357676	N/A	2022/11/29	Automated Statchk
Free (WAD) Cyanide	TECH	8364652	2022/11/24	2022/11/24	Prgya Panchal
Acid Extractable Metals by ICPMS	ICP/MS	8365193	2022/11/24	2022/11/24	Daniel Teclu
Moisture	BAL	8363409	N/A	2022/11/23	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8370024	2022/11/27	2022/11/28	Joe Paino
pH CaCl2 EXTRACT	AT	8365032	2022/11/24	2022/11/24	Taslina Aktar



Bureau Veritas Job #: C2Y1076
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

GENERAL COMMENTS

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

Package 1	5.3°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8361452	4-Bromofluorobenzene	2022/11/23	102	60 - 140	101	60 - 140	88	%		
8361452	D10-o-Xylene	2022/11/23	104	60 - 130	80	60 - 130	79	%		
8361452	D4-1,2-Dichloroethane	2022/11/23	106	60 - 140	105	60 - 140	111	%		
8361452	D8-Toluene	2022/11/23	105	60 - 140	105	60 - 140	97	%		
8367108	o-Terphenyl	2022/11/25	84	60 - 130	79	60 - 130	90	%		
8370024	D10-Anthracene	2022/11/28	96	50 - 130	106	50 - 130	91	%		
8370024	D14-Terphenyl (FS)	2022/11/28	96	50 - 130	104	50 - 130	89	%		
8370024	D8-Acenaphthylene	2022/11/28	88	50 - 130	101	50 - 130	82	%		
8361452	1,1,1,2-Tetrachloroethane	2022/11/23	99	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8361452	1,1,1-Trichloroethane	2022/11/23	95	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	1,1,2,2-Tetrachloroethane	2022/11/23	99	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8361452	1,1,2-Trichloroethane	2022/11/23	106	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8361452	1,1-Dichloroethane	2022/11/23	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8361452	1,1-Dichloroethylene	2022/11/23	106	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8361452	1,2-Dichlorobenzene	2022/11/23	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	1,2-Dichloroethane	2022/11/23	95	60 - 140	95	60 - 130	<0.049	ug/g	NC	50
8361452	1,2-Dichloropropane	2022/11/23	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8361452	1,3-Dichlorobenzene	2022/11/23	99	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8361452	1,4-Dichlorobenzene	2022/11/23	105	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8361452	Acetone (2-Propanone)	2022/11/23	113	60 - 140	112	60 - 140	<0.49	ug/g	NC	50
8361452	Benzene	2022/11/23	93	60 - 140	93	60 - 130	<0.0060	ug/g	NC	50
8361452	Bromodichloromethane	2022/11/23	95	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8361452	Bromoform	2022/11/23	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	Bromomethane	2022/11/23	97	60 - 140	97	60 - 140	<0.040	ug/g	NC	50
8361452	Carbon Tetrachloride	2022/11/23	92	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8361452	Chlorobenzene	2022/11/23	95	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8361452	Chloroform	2022/11/23	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8361452	cis-1,2-Dichloroethylene	2022/11/23	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	cis-1,3-Dichloropropene	2022/11/23	86	60 - 140	87	60 - 130	<0.030	ug/g	NC	50
8361452	Dibromochloromethane	2022/11/23	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8361452	Dichlorodifluoromethane (FREON 12)	2022/11/23	121	60 - 140	121	60 - 140	<0.040	ug/g	NC	50



QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8361452	Ethylbenzene	2022/11/23	87	60 - 140	86	60 - 130	<0.010	ug/g	NC	50
8361452	Ethylene Dibromide	2022/11/23	93	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8361452	F1 (C6-C10) - BTEX	2022/11/23					<10	ug/g	NC	30
8361452	F1 (C6-C10)	2022/11/23	94	60 - 140	94	80 - 120	<10	ug/g	NC	30
8361452	Hexane	2022/11/23	107	60 - 140	107	60 - 130	<0.040	ug/g	NC	50
8361452	Methyl Ethyl Ketone (2-Butanone)	2022/11/23	114	60 - 140	113	60 - 140	<0.40	ug/g	NC	50
8361452	Methyl Isobutyl Ketone	2022/11/23	84	60 - 140	85	60 - 130	<0.40	ug/g	NC	50
8361452	Methyl t-butyl ether (MTBE)	2022/11/23	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8361452	Methylene Chloride(Dichloromethane)	2022/11/23	103	60 - 140	103	60 - 130	<0.049	ug/g	NC	50
8361452	o-Xylene	2022/11/23	88	60 - 140	88	60 - 130	<0.020	ug/g	NC	50
8361452	p+m-Xylene	2022/11/23	89	60 - 140	87	60 - 130	<0.020	ug/g	NC	50
8361452	Styrene	2022/11/23	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	Tetrachloroethylene	2022/11/23	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8361452	Toluene	2022/11/23	93	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
8361452	Total Xylenes	2022/11/23					<0.020	ug/g	NC	50
8361452	trans-1,2-Dichloroethylene	2022/11/23	98	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8361452	trans-1,3-Dichloropropene	2022/11/23	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8361452	Trichloroethylene	2022/11/23	96	60 - 140	96	60 - 130	<0.010	ug/g	NC	50
8361452	Trichlorofluoromethane (FREON 11)	2022/11/23	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8361452	Vinyl Chloride	2022/11/23	107	60 - 140	107	60 - 130	<0.019	ug/g	NC	50
8363409	Moisture	2022/11/23							10	20
8364652	WAD Cyanide (Free)	2022/11/24	97	75 - 125	98	80 - 120	<0.01	ug/g	NC	35
8365032	Available (CaCl2) pH	2022/11/24			100	97 - 103			0.86	N/A
8365043	Available (CaCl2) pH	2022/11/24			100	97 - 103			1.3	N/A
8365193	Acid Extractable Antimony (Sb)	2022/11/24	97	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8365193	Acid Extractable Arsenic (As)	2022/11/24	92	75 - 125	100	80 - 120	<1.0	ug/g	0.83	30
8365193	Acid Extractable Barium (Ba)	2022/11/24	95	75 - 125	100	80 - 120	<0.50	ug/g	2.9	30
8365193	Acid Extractable Beryllium (Be)	2022/11/24	99	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8365193	Acid Extractable Boron (B)	2022/11/24	100	75 - 125	104	80 - 120	<5.0	ug/g	1.3	30
8365193	Acid Extractable Cadmium (Cd)	2022/11/24	96	75 - 125	99	80 - 120	<0.10	ug/g	NC	30
8365193	Acid Extractable Chromium (Cr)	2022/11/24	94	75 - 125	100	80 - 120	<1.0	ug/g	3.1	30



QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8365193	Acid Extractable Cobalt (Co)	2022/11/24	97	75 - 125	99	80 - 120	<0.10	ug/g	0.58	30
8365193	Acid Extractable Copper (Cu)	2022/11/24	93	75 - 125	100	80 - 120	<0.50	ug/g	2.2	30
8365193	Acid Extractable Lead (Pb)	2022/11/24	91	75 - 125	98	80 - 120	<1.0	ug/g	5.8	30
8365193	Acid Extractable Mercury (Hg)	2022/11/24	91	75 - 125	99	80 - 120	<0.050	ug/g	NC	30
8365193	Acid Extractable Molybdenum (Mo)	2022/11/24	98	75 - 125	98	80 - 120	<0.50	ug/g	NC	30
8365193	Acid Extractable Nickel (Ni)	2022/11/24	97	75 - 125	99	80 - 120	<0.50	ug/g	6.6	30
8365193	Acid Extractable Selenium (Se)	2022/11/24	98	75 - 125	104	80 - 120	<0.50	ug/g	NC	30
8365193	Acid Extractable Silver (Ag)	2022/11/24	94	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
8365193	Acid Extractable Thallium (Tl)	2022/11/24	94	75 - 125	98	80 - 120	<0.050	ug/g	NC	30
8365193	Acid Extractable Uranium (U)	2022/11/24	94	75 - 125	98	80 - 120	<0.050	ug/g	4.8	30
8365193	Acid Extractable Vanadium (V)	2022/11/24	97	75 - 125	101	80 - 120	<5.0	ug/g	4.0	30
8365193	Acid Extractable Zinc (Zn)	2022/11/24	93	75 - 125	97	80 - 120	<5.0	ug/g	5.4	30
8367108	F2 (C10-C16 Hydrocarbons)	2022/11/25	85	60 - 130	81	80 - 120	<10	ug/g	NC	30
8367108	F3 (C16-C34 Hydrocarbons)	2022/11/25	90	60 - 130	85	80 - 120	<50	ug/g	NC	30
8367108	F4 (C34-C50 Hydrocarbons)	2022/11/25	93	60 - 130	87	80 - 120	<50	ug/g	NC	30
8370024	1-Methylnaphthalene	2022/11/28	103	50 - 130	101	50 - 130	<0.0050	ug/g	31	40
8370024	2-Methylnaphthalene	2022/11/28	97	50 - 130	96	50 - 130	<0.0050	ug/g	32	40
8370024	Acenaphthene	2022/11/28	95	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8370024	Acenaphthylene	2022/11/28	104	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8370024	Anthracene	2022/11/28	106	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8370024	Benzo(a)anthracene	2022/11/28	105	50 - 130	105	50 - 130	<0.0050	ug/g	21	40
8370024	Benzo(a)pyrene	2022/11/28	88	50 - 130	98	50 - 130	<0.0050	ug/g	35	40
8370024	Benzo(b,j)fluoranthene	2022/11/28	87	50 - 130	98	50 - 130	<0.0050	ug/g	34	40
8370024	Benzo(g,h,i)perylene	2022/11/28	88	50 - 130	97	50 - 130	<0.0050	ug/g	46 (1)	40
8370024	Benzo(k)fluoranthene	2022/11/28	96	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8370024	Chrysene	2022/11/28	101	50 - 130	105	50 - 130	<0.0050	ug/g	19	40
8370024	Dibenzo(a,h)anthracene	2022/11/28	88	50 - 130	91	50 - 130	<0.0050	ug/g	38	40
8370024	Fluoranthene	2022/11/28	105	50 - 130	103	50 - 130	<0.0050	ug/g	7.7	40
8370024	Fluorene	2022/11/28	103	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8370024	Indeno(1,2,3-cd)pyrene	2022/11/28	85	50 - 130	97	50 - 130	<0.0050	ug/g	47 (1)	40
8370024	Naphthalene	2022/11/28	99	50 - 130	99	50 - 130	<0.0050	ug/g	37	40



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8370024	Phenanthrene	2022/11/28	101	50 - 130	99	50 - 130	<0.0050	ug/g	34	40
8370024	Pyrene	2022/11/28	107	50 - 130	107	50 - 130	<0.0050	ug/g	10	40

N/A = Not Applicable

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

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BUREAU
VERITAS

Bureau Veritas Job #: C2Y1076
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

VALIDATION SIGNATURE PAGE

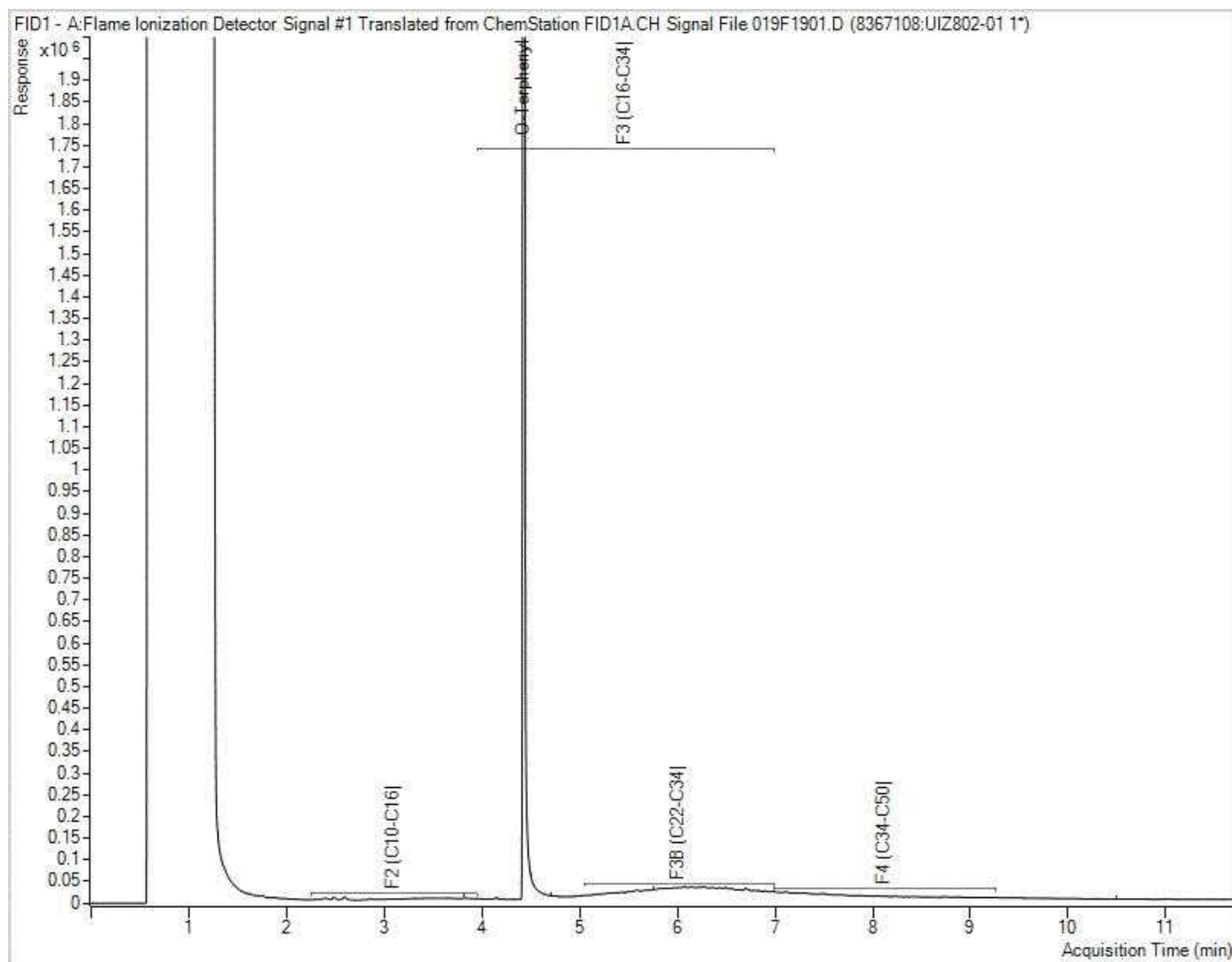
The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

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

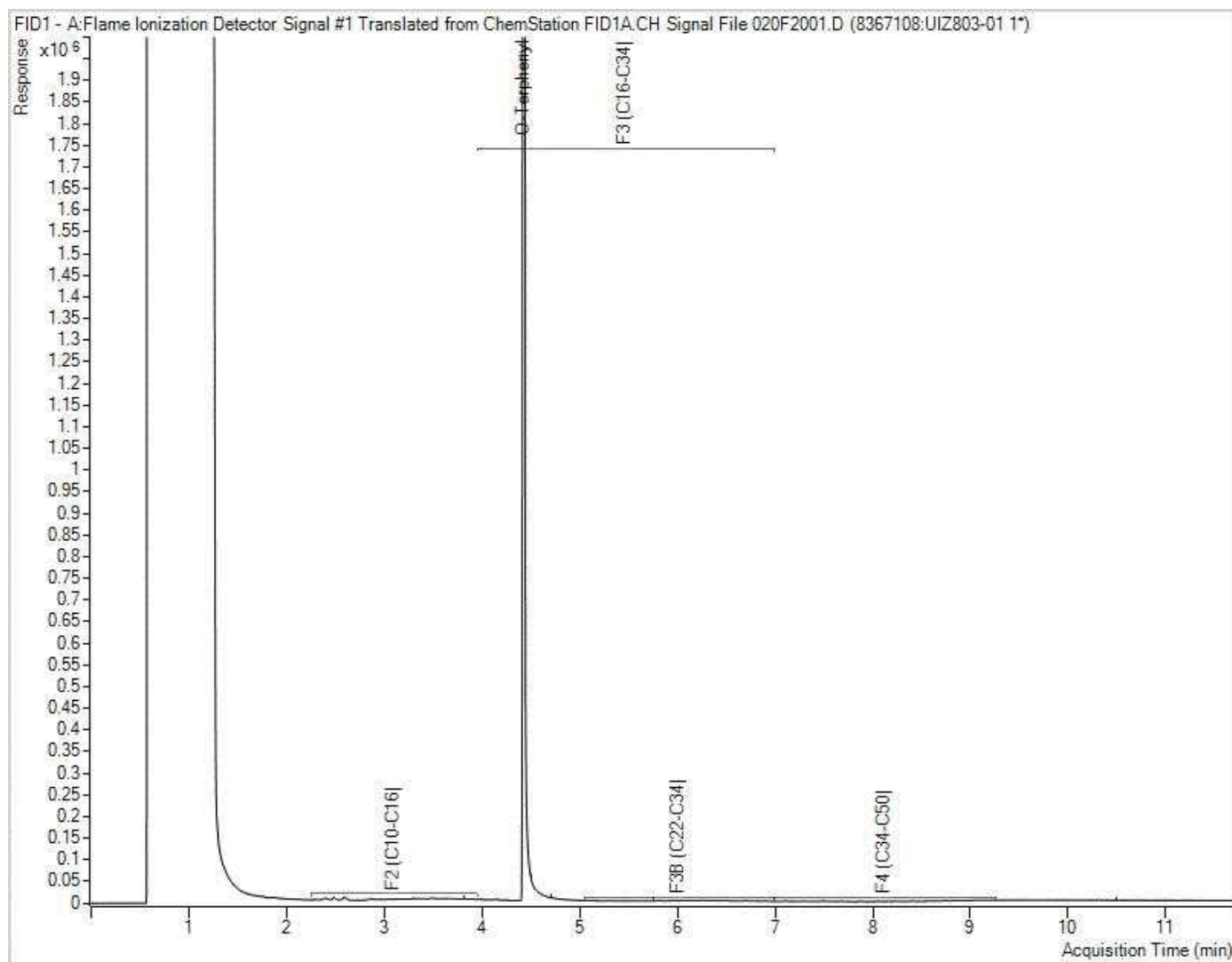
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



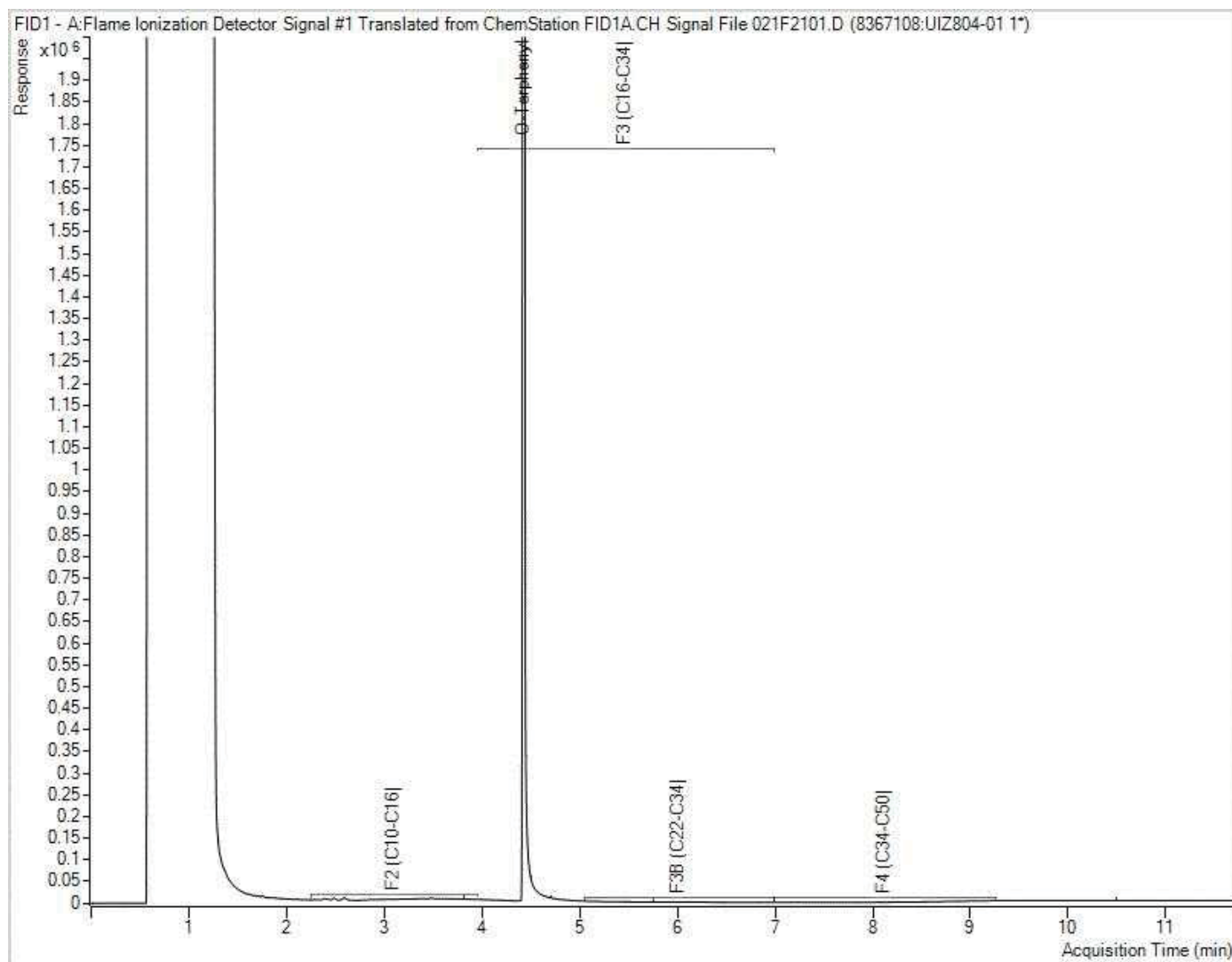
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



BUREAU
VERITAS

Bureau Veritas Job #: C2Y1076

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH101_0-0.30	UIZ802-04	Acid Extractable Antimony (Sb)	1.3	2.3	0.20	ug/g
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your Project #: 14909-002
Your C.O.C. #: 904336-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/30
Report #: R7410719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y7416

Received: 2022/11/25, 13:34

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Methylnaphthalene Sum	2	N/A	2022/11/30	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	3	N/A	2022/11/30		EPA 8260C m
Free (WAD) Cyanide	2	N/A	2022/11/28	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/11/29	2022/11/30	CAM SOP-00316	CCME PHC-CWS m
Mercury	1	2022/11/29	2022/11/29	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	2	N/A	2022/11/29	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	2	2022/11/29	2022/11/29	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/11/29	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/11/30	CAM SOP-00228	EPA 8260C m

Remarks:

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

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

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

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

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the



Your Project #: 14909-002
Your C.O.C. #: 904336-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/11/30
Report #: R7410719
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y7416

Received: 2022/11/25, 13:34

reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Gemarie Balatico, Project Manager
Email: Gemarie.Balatico@bureauveritas.com
Phone# (905)817-5787

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



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			UKK198	UKK198	UKK199		
Sampling Date			2022/11/22 12:30	2022/11/22 12:30	2022/11/22		
COC Number			904336-01-01	904336-01-01	904336-01-01		
	UNITS	Criteria	MW201	MW201 Lab-Dup	QA/QC1	RDL	QC Batch
Inorganics							
WAD Cyanide (Free)	ug/L	5	<1	<1	<1	1	8370925
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Lab-Dup = Laboratory Initiated Duplicate							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Ground Water - All Types of Property Uses							



ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			UKK198		
Sampling Date			2022/11/22 12:30		
COC Number			904336-01-01		
	UNITS	Criteria	MW201	RDL	QC Batch
Metals					
Mercury (Hg)	ug/L	0.1	<0.10	0.10	8372734
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)					
Table 1: Full Depth Background Site Condition Standards					
Ground Water - All Types of Property Uses					



BUREAU
VERITAS

Bureau Veritas Job #: C2Y7416

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID			UKK197	UKK198		
Sampling Date			2022/11/22 11:07	2022/11/22 12:30		
COC Number			904336-01-01	904336-01-01		
	UNITS	Criteria	MW202	MW201	RDL	QC Batch
Metals						
Dissolved Antimony (Sb)	ug/L	1.5	<0.50	<0.50	0.50	8372721
Dissolved Arsenic (As)	ug/L	13	<1.0	<1.0	1.0	8372721
Dissolved Barium (Ba)	ug/L	610	73	76	2.0	8372721
Dissolved Beryllium (Be)	ug/L	0.5	<0.40	<0.40	0.40	8372721
Dissolved Boron (B)	ug/L	1700	31	46	10	8372721
Dissolved Cadmium (Cd)	ug/L	0.5	<0.090	<0.090	0.090	8372721
Dissolved Chromium (Cr)	ug/L	11	<5.0	<5.0	5.0	8372721
Dissolved Cobalt (Co)	ug/L	3.8	<0.50	<0.50	0.50	8372721
Dissolved Copper (Cu)	ug/L	5	1.6	<0.90	0.90	8372721
Dissolved Lead (Pb)	ug/L	1.9	<0.50	<0.50	0.50	8372721
Dissolved Molybdenum (Mo)	ug/L	23	2.6	6.7	0.50	8372721
Dissolved Nickel (Ni)	ug/L	14	<1.0	<1.0	1.0	8372721
Dissolved Selenium (Se)	ug/L	5	<2.0	<2.0	2.0	8372721
Dissolved Silver (Ag)	ug/L	0.3	<0.090	<0.090	0.090	8372721
Dissolved Sodium (Na)	ug/L	490000	35000	49000	100	8372721
Dissolved Thallium (Tl)	ug/L	0.5	<0.050	<0.050	0.050	8372721
Dissolved Uranium (U)	ug/L	8.9	0.86	0.72	0.10	8372721
Dissolved Vanadium (V)	ug/L	3.9	0.94	1.1	0.50	8372721
Dissolved Zinc (Zn)	ug/L	160	<5.0	<5.0	5.0	8372721
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Ground Water - All Types of Property Uses						



BUREAU
VERITAS

Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

O.REG 153 PAHS (WATER)

Bureau Veritas ID			UKK197			UKK197			UKK198		
Sampling Date			2022/11/22 11:07			2022/11/22 11:07			2022/11/22 12:30		
COC Number			904336-01-01			904336-01-01			904336-01-01		
	UNITS	Criteria	MW202	RDL	QC Batch	MW202 Lab-Dup	RDL	QC Batch	MW201	RDL	QC Batch

Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/L	2	<0.071	0.071	8367395				<0.071	0.071	8367395
Polyaromatic Hydrocarbons											
Benzo(e)pyrene	ug/L	-	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Acenaphthene	ug/L	4.1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Acenaphthylene	ug/L	1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Anthracene	ug/L	0.1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Benzo(a)anthracene	ug/L	0.2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Benzo(a)pyrene	ug/L	0.01	<0.0090	0.0090	8373417	<0.0090	0.0090	8373417	<0.0090	0.0090	8373417
Benzo(b,j)fluoranthene	ug/L	0.1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Benzo(g,h,i)perylene	ug/L	0.2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Benzo(k)fluoranthene	ug/L	0.1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Chrysene	ug/L	0.1	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Dibenzo(a,h)anthracene	ug/L	0.2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Fluoranthene	ug/L	0.4	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Fluorene	ug/L	120	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Indeno(1,2,3-cd)pyrene	ug/L	0.2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
1-Methylnaphthalene	ug/L	2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
2-Methylnaphthalene	ug/L	2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Naphthalene	ug/L	7	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Phenanthrene	ug/L	0.1	<0.030	0.030	8373417	<0.030	0.030	8373417	<0.030	0.030	8373417
Pyrene	ug/L	0.2	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417
Perylene	ug/L	-	<0.050	0.050	8373417	<0.050	0.050	8373417	<0.050	0.050	8373417

Surrogate Recovery (%)											
D10-Anthracene	%	-	99		8373417	96		8373417	93		8373417
D14-Terphenyl (FS)	%	-	98		8373417	93		8373417	96		8373417
D8-Acenaphthylene	%	-	90		8373417	89		8373417	87		8373417

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels
RDL = Reportable Detection Limit	
QC Batch = Quality Control Batch	
Lab-Dup = Laboratory Initiated Duplicate	
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)	
Table 1: Full Depth Background Site Condition Standards	
Ground Water - All Types of Property Uses	



O.REG 153 VOCs BY HS & F1-F4 (WATER)

Bureau Veritas ID			UKK197			UKK197			UKK198		
Sampling Date			2022/11/22 11:07			2022/11/22 11:07			2022/11/22 12:30		
COC Number			904336-01-01			904336-01-01			904336-01-01		
	UNITS	Criteria	MW202	RDL	QC Batch	MW202 Lab-Dup	RDL	QC Batch	MW201	RDL	QC Batch

Calculated Parameters											
1,3-Dichloropropene (cis+trans)	ug/L	0.5	<0.50	0.50	8369237				<0.50	0.50	8369237
Volatile Organics											
Acetone (2-Propanone)	ug/L	2700	<10	10	8371027				<10	10	8371027
Benzene	ug/L	0.5	<0.17	0.17	8371027				<0.17	0.17	8371027
Bromodichloromethane	ug/L	2	<0.50	0.50	8371027				<0.50	0.50	8371027
Bromoform	ug/L	5.0	<1.0	1.0	8371027				<1.0	1.0	8371027
Bromomethane	ug/L	0.89	<0.50	0.50	8371027				<0.50	0.50	8371027
Carbon Tetrachloride	ug/L	0.2	<0.20	0.20	8371027				<0.20	0.20	8371027
Chlorobenzene	ug/L	0.5	<0.20	0.20	8371027				<0.20	0.20	8371027
Chloroform	ug/L	2	<0.20	0.20	8371027				<0.20	0.20	8371027
Dibromochloromethane	ug/L	2	<0.50	0.50	8371027				<0.50	0.50	8371027
1,2-Dichlorobenzene	ug/L	0.5	<0.50	0.50	8371027				<0.50	0.50	8371027
1,3-Dichlorobenzene	ug/L	0.5	<0.50	0.50	8371027				<0.50	0.50	8371027
1,4-Dichlorobenzene	ug/L	0.5	<0.50	0.50	8371027				<0.50	0.50	8371027
Dichlorodifluoromethane (FREON 12)	ug/L	590	<1.0	1.0	8371027				<1.0	1.0	8371027
1,1-Dichloroethane	ug/L	0.5	<0.20	0.20	8371027				<0.20	0.20	8371027
1,2-Dichloroethane	ug/L	0.5	<0.50	0.50	8371027				<0.50	0.50	8371027
1,1-Dichloroethylene	ug/L	0.5	<0.20	0.20	8371027				<0.20	0.20	8371027
cis-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8371027				<0.50	0.50	8371027
trans-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8371027				<0.50	0.50	8371027
1,2-Dichloropropane	ug/L	0.5	<0.20	0.20	8371027				<0.20	0.20	8371027
cis-1,3-Dichloropropene	ug/L	0.5	<0.30	0.30	8371027				<0.30	0.30	8371027
trans-1,3-Dichloropropene	ug/L	0.5	<0.40	0.40	8371027				<0.40	0.40	8371027
Ethylbenzene	ug/L	0.5	<0.20	0.20	8371027				<0.20	0.20	8371027
Ethylene Dibromide	ug/L	0.2	<0.20	0.20	8371027				<0.20	0.20	8371027
Hexane	ug/L	5	<1.0	1.0	8371027				<1.0	1.0	8371027
Methylene Chloride(Dichloromethane)	ug/L	5	<2.0	2.0	8371027				<2.0	2.0	8371027
Methyl Ethyl Ketone (2-Butanone)	ug/L	400	<10	10	8371027				<10	10	8371027

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 1: Full Depth Background Site Condition Standards Ground Water - All Types of Property Uses	



BUREAU
VERITAS

Bureau Veritas Job #: C2Y7416

Report Date: 2022/11/30

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: AB

O.REG 153 VOCs BY HS & F1-F4 (WATER)

Bureau Veritas ID				UKK197				UKK197				UKK198			
Sampling Date				2022/11/22 11:07				2022/11/22 11:07				2022/11/22 12:30			
COC Number				904336-01-01				904336-01-01				904336-01-01			
	UNITS	Criteria	MW202	RDL	QC Batch	MW202 Lab-Dup	RDL	QC Batch	MW201	RDL	QC Batch				
Methyl Isobutyl Ketone		ug/L	640	<5.0	5.0	8371027			<5.0	5.0	8371027				
Methyl t-butyl ether (MTBE)		ug/L	15	<0.50	0.50	8371027			<0.50	0.50	8371027				
Styrene		ug/L	0.5	<0.50	0.50	8371027			<0.50	0.50	8371027				
1,1,1,2-Tetrachloroethane		ug/L	1.1	<0.50	0.50	8371027			<0.50	0.50	8371027				
1,1,2,2-Tetrachloroethane		ug/L	0.5	<0.50	0.50	8371027			<0.50	0.50	8371027				
Tetrachloroethylene		ug/L	0.5	<0.20	0.20	8371027			<0.20	0.20	8371027				
Toluene		ug/L	0.8	<0.20	0.20	8371027			<0.20	0.20	8371027				
1,1,1-Trichloroethane		ug/L	0.5	<0.20	0.20	8371027			<0.20	0.20	8371027				
1,1,2-Trichloroethane		ug/L	0.5	<0.50	0.50	8371027			<0.50	0.50	8371027				
Trichloroethylene		ug/L	0.5	<0.20	0.20	8371027			<0.20	0.20	8371027				
Trichlorofluoromethane (FREON 11)		ug/L	150	<0.50	0.50	8371027			<0.50	0.50	8371027				
Vinyl Chloride		ug/L	0.5	<0.20	0.20	8371027			<0.20	0.20	8371027				
p+m-Xylene		ug/L	-	<0.20	0.20	8371027			<0.20	0.20	8371027				
o-Xylene		ug/L	-	<0.20	0.20	8371027			<0.20	0.20	8371027				
Total Xylenes		ug/L	72	<0.20	0.20	8371027			<0.20	0.20	8371027				
F1 (C6-C10)		ug/L	420	<25	25	8371027			<25	25	8371027				
F1 (C6-C10) - BTEX		ug/L	420	<25	25	8371027			<25	25	8371027				
F2-F4 Hydrocarbons															
F2 (C10-C16 Hydrocarbons)		ug/L	150	<100	100	8373418	<100	100	8373418	<100	100	8373418			
F3 (C16-C34 Hydrocarbons)		ug/L	500	<200	200	8373418	<200	200	8373418	<200	200	8373418			
F4 (C34-C50 Hydrocarbons)		ug/L	500	<200	200	8373418	<200	200	8373418	<200	200	8373418			
Reached Baseline at C50		ug/L	-	Yes		8373418	Yes		8373418	Yes		8373418			
Surrogate Recovery (%)															
o-Terphenyl		%	-	89		8373418	85		8373418	89		8373418			
4-Bromofluorobenzene		%	-	89		8371027				90		8371027			
D4-1,2-Dichloroethane		%	-	105		8371027				105		8371027			
D8-Toluene		%	-	95		8371027				95		8371027			
No Fill		No Exceedance													
Grey		Exceeds 1 criteria policy/level													
Black		Exceeds both criteria/levels													
RDL = Reportable Detection Limit															
QC Batch = Quality Control Batch															
Lab-Dup = Laboratory Initiated Duplicate															
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)															
Table 1: Full Depth Background Site Condition Standards															
Ground Water - All Types of Property Uses															



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID			UKK200		
Sampling Date			2022/11/22 12:30		
COC Number			904336-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	0.5	<0.50	0.50	8369569
Volatile Organics					
Acetone (2-Propanone)	ug/L	2700	<10	10	8370540
Benzene	ug/L	0.5	<0.20	0.20	8370540
Bromodichloromethane	ug/L	2	<0.50	0.50	8370540
Bromoform	ug/L	5.0	<1.0	1.0	8370540
Bromomethane	ug/L	0.89	<0.50	0.50	8370540
Carbon Tetrachloride	ug/L	0.2	<0.19	0.19	8370540
Chlorobenzene	ug/L	0.5	<0.20	0.20	8370540
Chloroform	ug/L	2	<0.20	0.20	8370540
Dibromochloromethane	ug/L	2	<0.50	0.50	8370540
1,2-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8370540
1,3-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8370540
1,4-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8370540
Dichlorodifluoromethane (FREON 12)	ug/L	590	<1.0	1.0	8370540
1,1-Dichloroethane	ug/L	0.5	<0.20	0.20	8370540
1,2-Dichloroethane	ug/L	0.5	<0.49	0.49	8370540
1,1-Dichloroethylene	ug/L	0.5	<0.20	0.20	8370540
cis-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8370540
trans-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8370540
1,2-Dichloropropane	ug/L	0.5	<0.20	0.20	8370540
cis-1,3-Dichloropropene	ug/L	0.5	<0.30	0.30	8370540
trans-1,3-Dichloropropene	ug/L	0.5	<0.40	0.40	8370540
Ethylbenzene	ug/L	0.5	<0.20	0.20	8370540
Ethylene Dibromide	ug/L	0.2	<0.19	0.19	8370540
Hexane	ug/L	5	<1.0	1.0	8370540
Methylene Chloride(Dichloromethane)	ug/L	5	<2.0	2.0	8370540
Methyl Ethyl Ketone (2-Butanone)	ug/L	400	<10	10	8370540
Methyl Isobutyl Ketone	ug/L	640	<5.0	5.0	8370540
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)					
Table 1: Full Depth Background Site Condition Standards					
Ground Water - All Types of Property Uses					



O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID			UKK200		
Sampling Date			2022/11/22 12:30		
COC Number			904336-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/L	15	<0.50	0.50	8370540
Styrene	ug/L	0.5	<0.40	0.40	8370540
1,1,1,2-Tetrachloroethane	ug/L	1.1	<0.50	0.50	8370540
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.40	0.40	8370540
Tetrachloroethylene	ug/L	0.5	<0.20	0.20	8370540
Toluene	ug/L	0.8	<0.20	0.20	8370540
1,1,1-Trichloroethane	ug/L	0.5	<0.20	0.20	8370540
1,1,2-Trichloroethane	ug/L	0.5	<0.40	0.40	8370540
Trichloroethylene	ug/L	0.5	<0.20	0.20	8370540
Trichlorofluoromethane (FREON 11)	ug/L	150	<0.50	0.50	8370540
Vinyl Chloride	ug/L	0.5	<0.20	0.20	8370540
p+m-Xylene	ug/L	-	<0.20	0.20	8370540
o-Xylene	ug/L	-	<0.20	0.20	8370540
Total Xylenes	ug/L	72	<0.20	0.20	8370540
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	90		8370540
D4-1,2-Dichloroethane	%	-	119		8370540
D8-Toluene	%	-	88		8370540
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)					
Table 1: Full Depth Background Site Condition Standards					
Ground Water - All Types of Property Uses					



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: UKK197
Sample ID: MW202
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8367395	N/A	2022/11/30	Automated Statchk
1,3-Dichloropropene Sum	CALC	8369237	N/A	2022/11/30	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8373418	2022/11/29	2022/11/30	Dennis Ngundu
Dissolved Metals by ICPMS	ICP/MS	8372721	N/A	2022/11/29	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8373417	2022/11/29	2022/11/29	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8371027	N/A	2022/11/29	Denis Reid

Bureau Veritas ID: UKK197 Dup
Sample ID: MW202
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8373418	2022/11/29	2022/11/30	Dennis Ngundu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8373417	2022/11/29	2022/11/29	Jonghan Yoon

Bureau Veritas ID: UKK198
Sample ID: MW201
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8367395	N/A	2022/11/30	Automated Statchk
1,3-Dichloropropene Sum	CALC	8369237	N/A	2022/11/30	Automated Statchk
Free (WAD) Cyanide	SKAL/CN	8370925	N/A	2022/11/28	Chloe Pollock
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8373418	2022/11/29	2022/11/30	Dennis Ngundu
Mercury	CV/AA	8372734	2022/11/29	2022/11/29	Japneet Gill
Dissolved Metals by ICPMS	ICP/MS	8372721	N/A	2022/11/29	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8373417	2022/11/29	2022/11/29	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8371027	N/A	2022/11/29	Denis Reid

Bureau Veritas ID: UKK198 Dup
Sample ID: MW201
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	8370925	N/A	2022/11/28	Chloe Pollock

Bureau Veritas ID: UKK199
Sample ID: QA/QC1
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	8370925	N/A	2022/11/28	Chloe Pollock



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: UKK200
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8369569	N/A	2022/11/30	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8370540	N/A	2022/11/30	Dina Wang



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

GENERAL COMMENTS

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

Package 1	6.7°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8370540	4-Bromofluorobenzene	2022/11/29	106	70 - 130	104	70 - 130	95	%		
8370540	D4-1,2-Dichloroethane	2022/11/29	106	70 - 130	102	70 - 130	113	%		
8370540	D8-Toluene	2022/11/29	106	70 - 130	108	70 - 130	90	%		
8371027	4-Bromofluorobenzene	2022/11/29	99	70 - 130	99	70 - 130	94	%		
8371027	D4-1,2-Dichloroethane	2022/11/29	104	70 - 130	105	70 - 130	104	%		
8371027	D8-Toluene	2022/11/29	100	70 - 130	99	70 - 130	94	%		
8373417	D10-Anthracene	2022/11/29	94	50 - 130	99	50 - 130	101	%		
8373417	D14-Terphenyl (FS)	2022/11/29	91	50 - 130	100	50 - 130	101	%		
8373417	D8-Acenaphthylene	2022/11/29	89	50 - 130	90	50 - 130	92	%		
8373418	o-Terphenyl	2022/11/30	88	60 - 130	91	60 - 130	91	%		
8370540	1,1,1,2-Tetrachloroethane	2022/11/29	96	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
8370540	1,1,1-Trichloroethane	2022/11/29	92	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8370540	1,1,2,2-Tetrachloroethane	2022/11/29	100	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
8370540	1,1,2-Trichloroethane	2022/11/29	101	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
8370540	1,1-Dichloroethane	2022/11/29	87	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8370540	1,1-Dichloroethylene	2022/11/29	87	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8370540	1,2-Dichlorobenzene	2022/11/29	94	70 - 130	102	70 - 130	<0.40	ug/L	NC	30
8370540	1,2-Dichloroethane	2022/11/29	98	70 - 130	97	70 - 130	<0.49	ug/L	NC	30
8370540	1,2-Dichloropropane	2022/11/29	92	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8370540	1,3-Dichlorobenzene	2022/11/29	90	70 - 130	101	70 - 130	<0.40	ug/L	NC	30
8370540	1,4-Dichlorobenzene	2022/11/29	107	70 - 130	118	70 - 130	<0.40	ug/L	NC	30
8370540	Acetone (2-Propanone)	2022/11/29	106	60 - 140	101	60 - 140	<10	ug/L	1.9	30
8370540	Benzene	2022/11/29	85	70 - 130	89	70 - 130	<0.20	ug/L	1.5	30
8370540	Bromodichloromethane	2022/11/29	97	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8370540	Bromoform	2022/11/29	107	70 - 130	106	70 - 130	<1.0	ug/L	NC	30
8370540	Bromomethane	2022/11/29	91	60 - 140	91	60 - 140	<0.50	ug/L	NC	30
8370540	Carbon Tetrachloride	2022/11/29	89	70 - 130	95	70 - 130	<0.19	ug/L	NC	30
8370540	Chlorobenzene	2022/11/29	93	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8370540	Chloroform	2022/11/29	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8370540	cis-1,2-Dichloroethylene	2022/11/29	96	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8370540	cis-1,3-Dichloropropene	2022/11/29	89	70 - 130	86	70 - 130	<0.30	ug/L	NC	30



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8370540	Dibromochloromethane	2022/11/29	99	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
8370540	Dichlorodifluoromethane (FREON 12)	2022/11/29	101	60 - 140	111	60 - 140	<1.0	ug/L	NC	30
8370540	Ethylbenzene	2022/11/29	87	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8370540	Ethylene Dibromide	2022/11/29	102	70 - 130	100	70 - 130	<0.19	ug/L	NC	30
8370540	Hexane	2022/11/29	92	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
8370540	Methyl Ethyl Ketone (2-Butanone)	2022/11/29	119	60 - 140	112	60 - 140	<10	ug/L	NC	30
8370540	Methyl Isobutyl Ketone	2022/11/29	123	70 - 130	116	70 - 130	<5.0	ug/L	NC	30
8370540	Methyl t-butyl ether (MTBE)	2022/11/29	91	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8370540	Methylene Chloride(Dichloromethane)	2022/11/29	98	70 - 130	99	70 - 130	<2.0	ug/L	NC	30
8370540	o-Xylene	2022/11/29	86	70 - 130	97	70 - 130	<0.20	ug/L	1.5	30
8370540	p+m-Xylene	2022/11/29	93	70 - 130	101	70 - 130	<0.20	ug/L	2.4	30
8370540	Styrene	2022/11/29	103	70 - 130	116	70 - 130	<0.40	ug/L	NC	30
8370540	Tetrachloroethylene	2022/11/29	85	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8370540	Toluene	2022/11/29	95	70 - 130	101	70 - 130	<0.20	ug/L	8.5	30
8370540	Total Xylenes	2022/11/29					<0.20	ug/L	1.8	30
8370540	trans-1,2-Dichloroethylene	2022/11/29	88	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8370540	trans-1,3-Dichloropropene	2022/11/29	89	70 - 130	82	70 - 130	<0.40	ug/L	NC	30
8370540	Trichloroethylene	2022/11/29	95	70 - 130	102	70 - 130	<0.20	ug/L	3.0	30
8370540	Trichlorofluoromethane (FREON 11)	2022/11/29	88	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8370540	Vinyl Chloride	2022/11/29	82	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8370925	WAD Cyanide (Free)	2022/11/28	102	80 - 120	108	80 - 120	<1	ug/L	NC	20
8371027	1,1,1,2-Tetrachloroethane	2022/11/29	96	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
8371027	1,1,1-Trichloroethane	2022/11/29	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8371027	1,1,2,2-Tetrachloroethane	2022/11/29	110	70 - 130	116	70 - 130	<0.50	ug/L	NC	30
8371027	1,1,2-Trichloroethane	2022/11/29	101	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
8371027	1,1-Dichloroethane	2022/11/29	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8371027	1,1-Dichloroethylene	2022/11/29	94	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8371027	1,2-Dichlorobenzene	2022/11/29	89	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
8371027	1,2-Dichloroethane	2022/11/29	94	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8371027	1,2-Dichloropropane	2022/11/29	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
8371027	1,3-Dichlorobenzene	2022/11/29	92	70 - 130	94	70 - 130	<0.50	ug/L	NC	30



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8371027	1,4-Dichlorobenzene	2022/11/29	104	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
8371027	Acetone (2-Propanone)	2022/11/29	104	60 - 140	105	60 - 140	<10	ug/L	NC	30
8371027	Benzene	2022/11/29	89	70 - 130	92	70 - 130	<0.17	ug/L	NC	30
8371027	Bromodichloromethane	2022/11/29	102	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
8371027	Bromoform	2022/11/29	105	70 - 130	111	70 - 130	<1.0	ug/L	NC	30
8371027	Bromomethane	2022/11/29	96	60 - 140	95	60 - 140	<0.50	ug/L	NC	30
8371027	Carbon Tetrachloride	2022/11/29	96	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8371027	Chlorobenzene	2022/11/29	92	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8371027	Chloroform	2022/11/29	97	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
8371027	cis-1,2-Dichloroethylene	2022/11/29	98	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
8371027	cis-1,3-Dichloropropene	2022/11/29	92	70 - 130	93	70 - 130	<0.30	ug/L	NC	30
8371027	Dibromochloromethane	2022/11/29	129	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
8371027	Dichlorodifluoromethane (FREON 12)	2022/11/29	92	60 - 140	96	60 - 140	<1.0	ug/L	NC	30
8371027	Ethylbenzene	2022/11/29	83	70 - 130	86	70 - 130	<0.20	ug/L	NC	30
8371027	Ethylene Dibromide	2022/11/29	94	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8371027	F1 (C6-C10) - BTEX	2022/11/29					<25	ug/L	NC	30
8371027	F1 (C6-C10)	2022/11/29	97	60 - 140	90	60 - 140	<25	ug/L	NC	30
8371027	Hexane	2022/11/29	96	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
8371027	Methyl Ethyl Ketone (2-Butanone)	2022/11/29	107	60 - 140	112	60 - 140	<10	ug/L	NC	30
8371027	Methyl Isobutyl Ketone	2022/11/29	99	70 - 130	109	70 - 130	<5.0	ug/L	NC	30
8371027	Methyl t-butyl ether (MTBE)	2022/11/29	81	70 - 130	85	70 - 130	<0.50	ug/L	NC	30
8371027	Methylene Chloride(Dichloromethane)	2022/11/29	101	70 - 130	103	70 - 130	<2.0	ug/L	NC	30
8371027	o-Xylene	2022/11/29	84	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
8371027	p+m-Xylene	2022/11/29	84	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
8371027	Styrene	2022/11/29	94	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8371027	Tetrachloroethylene	2022/11/29	87	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
8371027	Toluene	2022/11/29	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8371027	Total Xylenes	2022/11/29					<0.20	ug/L	NC	30
8371027	trans-1,2-Dichloroethylene	2022/11/29	96	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8371027	trans-1,3-Dichloropropene	2022/11/29	98	70 - 130	94	70 - 130	<0.40	ug/L	NC	30
8371027	Trichloroethylene	2022/11/29	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8371027	Trichlorofluoromethane (FREON 11)	2022/11/29	92	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8371027	Vinyl Chloride	2022/11/29	87	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8372721	Dissolved Antimony (Sb)	2022/11/29	102	80 - 120	99	80 - 120	<0.50	ug/L		
8372721	Dissolved Arsenic (As)	2022/11/29	102	80 - 120	100	80 - 120	<1.0	ug/L		
8372721	Dissolved Barium (Ba)	2022/11/29	102	80 - 120	99	80 - 120	<2.0	ug/L		
8372721	Dissolved Beryllium (Be)	2022/11/29	102	80 - 120	98	80 - 120	<0.40	ug/L		
8372721	Dissolved Boron (B)	2022/11/29	103	80 - 120	100	80 - 120	<10	ug/L		
8372721	Dissolved Cadmium (Cd)	2022/11/29	99	80 - 120	97	80 - 120	<0.090	ug/L		
8372721	Dissolved Chromium (Cr)	2022/11/29	98	80 - 120	96	80 - 120	<5.0	ug/L		
8372721	Dissolved Cobalt (Co)	2022/11/29	99	80 - 120	98	80 - 120	<0.50	ug/L		
8372721	Dissolved Copper (Cu)	2022/11/29	102	80 - 120	100	80 - 120	<0.90	ug/L	NC	20
8372721	Dissolved Lead (Pb)	2022/11/29	94	80 - 120	94	80 - 120	<0.50	ug/L		
8372721	Dissolved Molybdenum (Mo)	2022/11/29	105	80 - 120	101	80 - 120	<0.50	ug/L		
8372721	Dissolved Nickel (Ni)	2022/11/29	98	80 - 120	98	80 - 120	<1.0	ug/L		
8372721	Dissolved Selenium (Se)	2022/11/29	100	80 - 120	98	80 - 120	<2.0	ug/L		
8372721	Dissolved Silver (Ag)	2022/11/29	99	80 - 120	99	80 - 120	<0.090	ug/L		
8372721	Dissolved Sodium (Na)	2022/11/29	NC	80 - 120	101	80 - 120	<100	ug/L	1.8	20
8372721	Dissolved Thallium (Tl)	2022/11/29	95	80 - 120	95	80 - 120	<0.050	ug/L		
8372721	Dissolved Uranium (U)	2022/11/29	96	80 - 120	94	80 - 120	<0.10	ug/L		
8372721	Dissolved Vanadium (V)	2022/11/29	102	80 - 120	99	80 - 120	<0.50	ug/L		
8372721	Dissolved Zinc (Zn)	2022/11/29	91	80 - 120	91	80 - 120	<5.0	ug/L	3.2	20
8372734	Mercury (Hg)	2022/11/29	102	75 - 125	104	80 - 120	<0.10	ug/L	NC	20
8373417	1-Methylnaphthalene	2022/11/29	103	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
8373417	2-Methylnaphthalene	2022/11/29	96	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8373417	Acenaphthene	2022/11/29	101	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8373417	Acenaphthylene	2022/11/29	98	50 - 130	97	50 - 130	<0.050	ug/L	NC	30
8373417	Anthracene	2022/11/29	96	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8373417	Benzo(a)anthracene	2022/11/29	83	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
8373417	Benzo(a)pyrene	2022/11/29	79	50 - 130	86	50 - 130	<0.0090	ug/L	NC	30
8373417	Benzo(b,j)fluoranthene	2022/11/29	87	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8373417	Benzo(e)pyrene	2022/11/29	91	50 - 130	97	50 - 130	<0.050	ug/L	NC	30



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8373417	Benzo(g,h,i)perylene	2022/11/29	77	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8373417	Benzo(k)fluoranthene	2022/11/29	84	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8373417	Chrysene	2022/11/29	83	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8373417	Dibenzo(a,h)anthracene	2022/11/29	64	50 - 130	73	50 - 130	<0.050	ug/L	NC	30
8373417	Fluoranthene	2022/11/29	103	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
8373417	Fluorene	2022/11/29	99	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
8373417	Indeno(1,2,3-cd)pyrene	2022/11/29	73	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8373417	Naphthalene	2022/11/29	97	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8373417	Perylene	2022/11/29	90	50 - 130	97	50 - 130	<0.050	ug/L	NC	40
8373417	Phenanthrene	2022/11/29	100	50 - 130	99	50 - 130	<0.030	ug/L	NC	30
8373417	Pyrene	2022/11/29	101	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
8373418	F2 (C10-C16 Hydrocarbons)	2022/11/30	86	60 - 130	90	60 - 130	<100	ug/L	NC	30
8373418	F3 (C16-C34 Hydrocarbons)	2022/11/30	84	60 - 130	91	60 - 130	<200	ug/L	NC	30
8373418	F4 (C34-C50 Hydrocarbons)	2022/11/30	83	60 - 130	88	60 - 130	<200	ug/L	NC	30

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

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

VALIDATION SIGNATURE PAGE

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

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

CHAIN OF CUSTODY RECORD

Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free 800-563-6265 Fax: (905) 817-5777 www.bvna.com

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25-Nov-22 13:34

Genarlie Balatoc
C2Y7416

WP ENV-783
CH904338-01-01

PROJECT INFORMATION:

Quotation #: C21984

P.O. #: 14909-002

Project Name:

Site #: Sampled By:

REPORT TO:

Company Name: Natalie Wright

Attention: Address: natalie.wright@cambium-inc.com

Tel: Fax:

Email: natalie.wright@cambium-inc.com

INVOICE TO:

Company Name: #17950 Cambium Environmental Inc

Attention: ACCOUNTS PAYABLE

Address: 194 Sophia Street PO Box 325

Peterborough ON K9H 1E5

Tel: (705) 742-7900 Fax: (705) 742-7907

Email: accounting@cambium-inc.com, Evan.Black@cambium-inc.com

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Free (VdL) Cyanide

Mercury (VdL)

Reg 153 Disolved IC PMS Metals +

Reg 153 PAHs

Reg 153 VOCs by HS & F1-F4

(Metals (Hg/ Cr VI

Field Filtered (please circle):

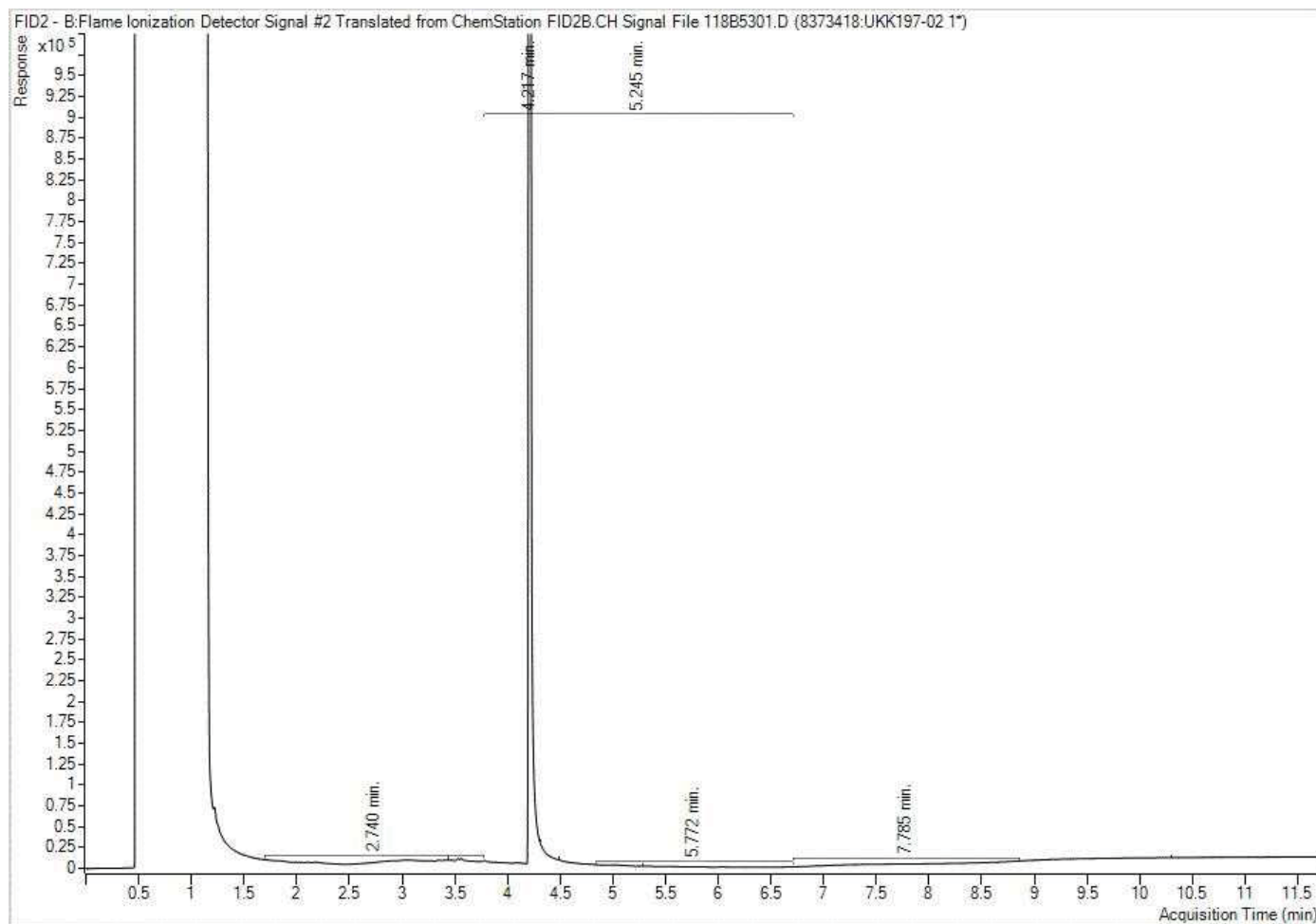
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)

Table 1 ☒ Res/Park ☐ CCME ☐ Medium/Fine ☐ Coarse ☐ Ind/Comm ☐ Agri/Other ☒ For RSC

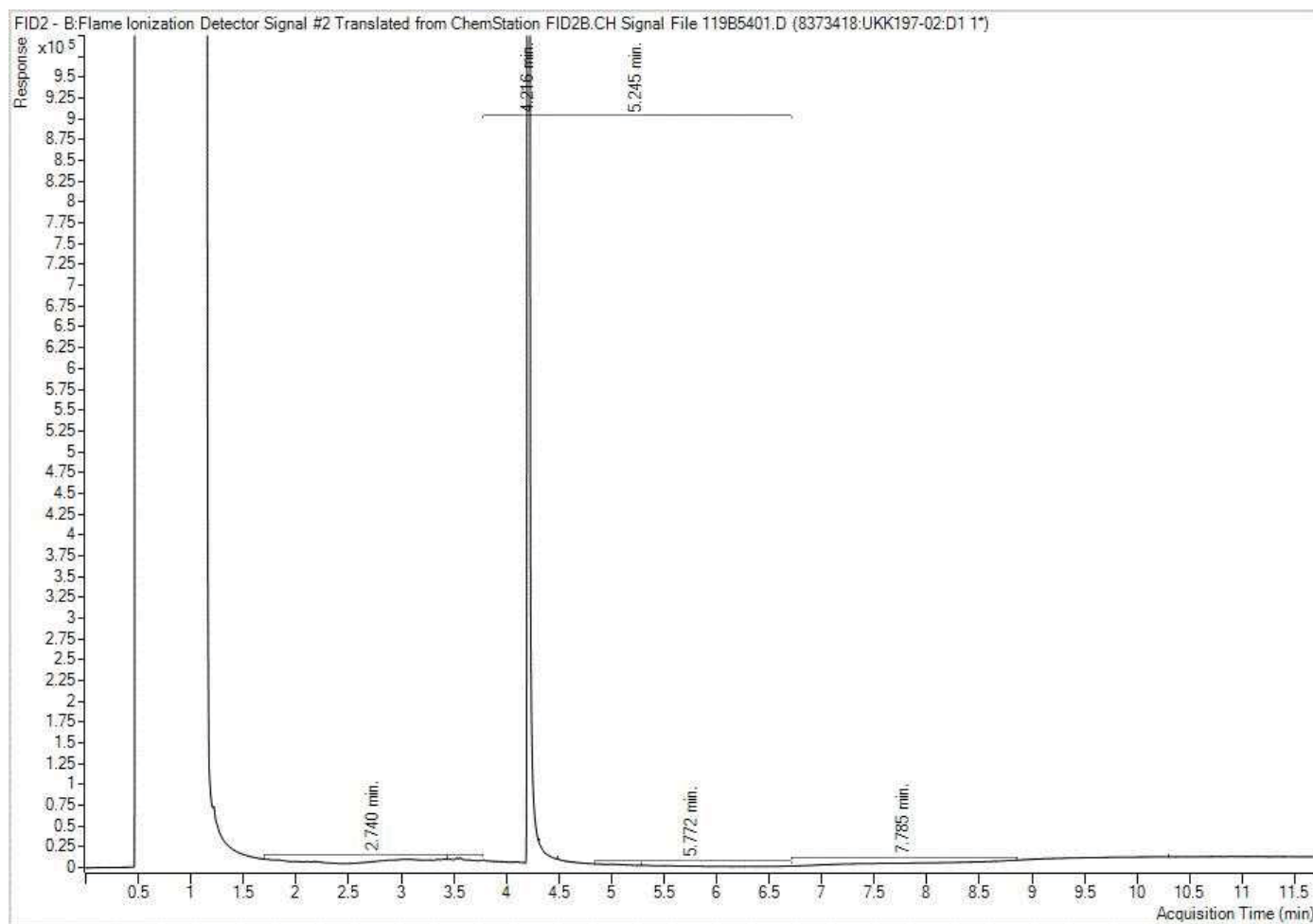
Table 2 ☐ Table 3 ☐ Table 4 ☐ Table 5 ☐ Table 6 ☐ Table 7 ☐ Table 8 ☐ Table 9 ☐ Table 10 ☐ Table 11 ☐ Table 12 ☐ Table 13 ☐ Table 14 ☐ Table 15 ☐ Table 16 ☐ Table 17 ☐ Table 18 ☐ Table 19 ☐ Table 20 ☐ Table 21 ☐ Table 22 ☐ Table 23 ☐ Table 24 ☐ Table 25 ☐ Table 26 ☐ Table 27 ☐ Table 28 ☐ Table 29 ☐ Table 30 ☐ Table 31 ☐ Table 32 ☐ Table 33 ☐ Table 34 ☐ Table 35 ☐ Table 36 ☐ Table 37 ☐ Table 38 ☐ Table 39 ☐ Table 40 ☐ Table 41 ☐ Table 42 ☐ Table 43 ☐ Table 44 ☐ Table 45 ☐ Table 46 ☐ Table 47 ☐ Table 48 ☐ Table 49 ☐ Table 50 ☐ Table 51 ☐ Table 52 ☐ Table 53 ☐ Table 54 ☐ Table 55 ☐ Table 56 ☐ Table 57 ☐ Table 58 ☐ Table 59 ☐ Table 60 ☐ Table 61 ☐ Table 62 ☐ Table 63 ☐ Table 64 ☐ Table 65 ☐ Table 66 ☐ Table 67 ☐ Table 68 ☐ Table 69 ☐ Table 70 ☐ Table 71 ☐ Table 72 ☐ Table 73 ☐ Table 74 ☐ Table 75 ☐ Table 76 ☐ Table 77 ☐ Table 78 ☐ Table 79 ☐ Table 80 ☐ Table 81 ☐ Table 82 ☐ Table 83 ☐ Table 84 ☐ Table 85 ☐ Table 86 ☐ Table 87 ☐ Table 88 ☐ Table 89 ☐ Table 90 ☐ Table 91 ☐ Table 92 ☐ Table 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Petroleum Hydrocarbons F2-F4 in Water Chromatogram



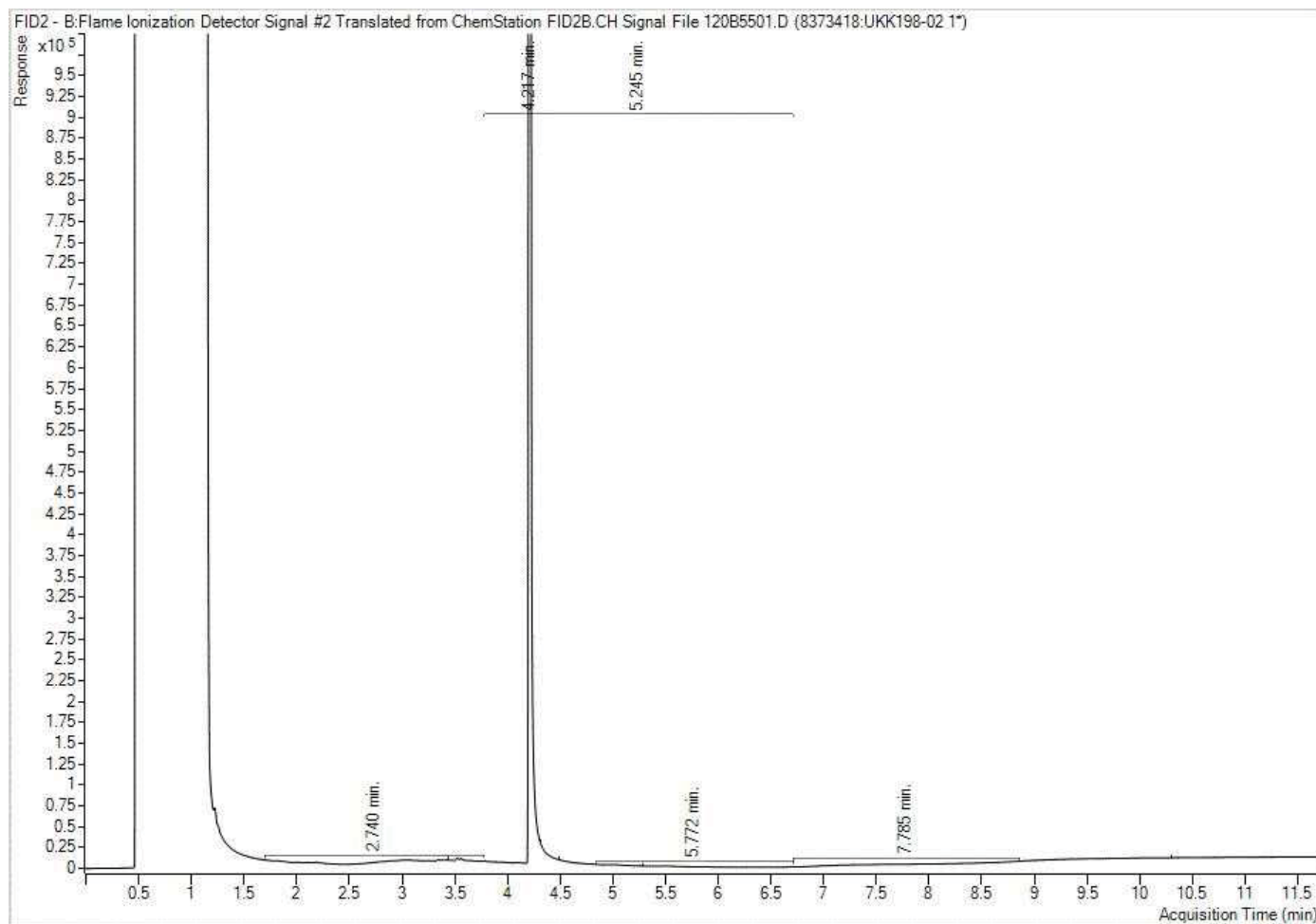
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



Bureau Veritas Job #: C2Y7416
Report Date: 2022/11/30

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: AB

Exceedance Summary Table – Reg153/04 T1-GW
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your Project #: 14909-002
Your C.O.C. #: 907945-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/12/20
Report #: R7437629
Version: 1 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

BUREAU VERITAS JOB #: C2AC683

Received: 2022/12/09, 15:53

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum	4	N/A	2022/12/16		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	3	2022/12/14	2022/12/14	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	3	N/A	2022/12/15	CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds and F1 PHCs	3	N/A	2022/12/16	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/12/15	CAM SOP-00228	EPA 8260C m

Remarks:

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

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

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

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

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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



Your Project #: 14909-002
Your C.O.C. #: 907945-01-01

Attention: Natalie Wright

Cambium Environmental Inc
194 Sophia Street
PO Box 325
Peterborough, ON
CANADA K9H 1E5

Report Date: 2022/12/20
Report #: R7437629
Version: 1 - Partial

CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

BUREAU VERITAS JOB #: C2AC683

Received: 2022/12/09, 15:53

Encryption Key

Gemarie Balatico
Project Manager
20 Dec 2022 08:46:46

Please direct all questions regarding this Certificate of Analysis to:

Gemarie Balatico, Project Manager

Email: Gemarie.Balatico@bureauveritas.com

Phone# (905)817-5787

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

BUREAU
VERITAS

Bureau Veritas Job #: C2AC683

Report Date: 2022/12/20

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: LW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			UNU506	UNU507	UNU508		
Sampling Date			2022/12/08	2022/12/08	2022/12/08		
COC Number			907945-01-01	907945-01-01	907945-01-01		
	UNITS	Criteria	BH204	EMW2	QA/QC#2	RDL	QC Batch
Metals							
Dissolved Antimony (Sb)	ug/L	1.5	<0.50	<0.50	<0.50	0.50	8398189
Dissolved Arsenic (As)	ug/L	13	<1.0	<1.0	<1.0	1.0	8398189
Dissolved Barium (Ba)	ug/L	610	82	130	81	2.0	8398189
Dissolved Beryllium (Be)	ug/L	0.5	<0.40	<0.40	<0.40	0.40	8398189
Dissolved Boron (B)	ug/L	1700	16	21	18	10	8398189
Dissolved Cadmium (Cd)	ug/L	0.5	<0.090	<0.090	<0.090	0.090	8398189
Dissolved Chromium (Cr)	ug/L	11	<5.0	<5.0	<5.0	5.0	8398189
Dissolved Cobalt (Co)	ug/L	3.8	<0.50	<0.50	<0.50	0.50	8398189
Dissolved Copper (Cu)	ug/L	5	<0.90	2.5	2.5	0.90	8398189
Dissolved Lead (Pb)	ug/L	1.9	<0.50	<0.50	<0.50	0.50	8398189
Dissolved Molybdenum (Mo)	ug/L	23	3.3	1.2	3.2	0.50	8398189
Dissolved Nickel (Ni)	ug/L	14	<1.0	<1.0	<1.0	1.0	8398189
Dissolved Selenium (Se)	ug/L	5	<2.0	<2.0	<2.0	2.0	8398189
Dissolved Silver (Ag)	ug/L	0.3	<0.090	<0.090	<0.090	0.090	8398189
Dissolved Sodium (Na)	ug/L	490000	54000	140000	52000	100	8398189
Dissolved Thallium (Tl)	ug/L	0.5	<0.050	<0.050	<0.050	0.050	8398189
Dissolved Uranium (U)	ug/L	8.9	1.1	0.55	1.1	0.10	8398189
Dissolved Vanadium (V)	ug/L	3.9	1.0	0.58	1.1	0.50	8398189
Dissolved Zinc (Zn)	ug/L	160	<5.0	11	<5.0	5.0	8398189
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Ground Water - All Types of Property Uses							

BUREAU
VERITAS

Bureau Veritas Job #: C2AC683

Report Date: 2022/12/20

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: LW

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			UNU506	UNU507	UNU508			UNU509		
Sampling Date			2022/12/08	2022/12/08	2022/12/08			2022/12/08		
COC Number			907945-01-01	907945-01-01	907945-01-01			907945-01-01		
	UNITS	Criteria	BH204	EMW2	QA/QC#2	RDL	QC Batch	TRIP BLANK	RDL	QC Batch

Calculated Parameters

1,3-Dichloropropene (cis+trans)	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8394364	<0.50	0.50	8394364
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Volatile Organics

Acetone (2-Propanone)	ug/L	2700	<10	<10	<10	10	8398593	<10	10	8399991
Benzene	ug/L	0.5	<0.17	<0.17	<0.17	0.17	8398593	<0.20	0.20	8399991
Bromodichloromethane	ug/L	2	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
Bromoform	ug/L	5.0	<1.0	<1.0	<1.0	1.0	8398593	<1.0	1.0	8399991
Bromomethane	ug/L	0.89	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
Carbon Tetrachloride	ug/L	0.2	<0.20	<0.20	<0.20	0.20	8398593	<0.19	0.19	8399991
Chlorobenzene	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Chloroform	ug/L	2	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Dibromochloromethane	ug/L	2	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
1,2-Dichlorobenzene	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991
1,3-Dichlorobenzene	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991
1,4-Dichlorobenzene	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991
Dichlorodifluoromethane (FREON 12)	ug/L	590	<1.0	<1.0	<1.0	1.0	8398593	<1.0	1.0	8399991
1,1-Dichloroethane	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
1,2-Dichloroethane	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.49	0.49	8399991
1,1-Dichloroethylene	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
cis-1,2-Dichloroethylene	ug/L	1.6	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
trans-1,2-Dichloroethylene	ug/L	1.6	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
1,2-Dichloropropane	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
cis-1,3-Dichloropropene	ug/L	0.5	<0.30	<0.30	<0.30	0.30	8398593	<0.30	0.30	8399991
trans-1,3-Dichloropropene	ug/L	0.5	<0.40	<0.40	<0.40	0.40	8398593	<0.40	0.40	8399991
Ethylbenzene	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Ethylene Dibromide	ug/L	0.2	<0.20	<0.20	<0.20	0.20	8398593	<0.19	0.19	8399991
Hexane	ug/L	5	<1.0	<1.0	<1.0	1.0	8398593	<1.0	1.0	8399991
Methylene Chloride(Dichloromethane)	ug/L	5	<2.0	<2.0	<2.0	2.0	8398593	<2.0	2.0	8399991
Methyl Ethyl Ketone (2-Butanone)	ug/L	400	<10	<10	<10	10	8398593	<10	10	8399991
Methyl Isobutyl Ketone	ug/L	640	<5.0	<5.0	<5.0	5.0	8398593	<5.0	5.0	8399991
Methyl t-butyl ether (MTBE)	ug/L	15	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
Styrene	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991
1,1,1,2-Tetrachloroethane	ug/L	1.1	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 1: Full Depth Background Site Condition Standards

Ground Water - All Types of Property Uses



BUREAU
VERITAS

Bureau Veritas Job #: C2AC683
Report Date: 2022/12/20

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: LW

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID			UNU506	UNU507	UNU508			UNU509		
Sampling Date			2022/12/08	2022/12/08	2022/12/08			2022/12/08		
COC Number			907945-01-01	907945-01-01	907945-01-01			907945-01-01		
	UNITS	Criteria	BH204	EMW2	QA/QC#2	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Toluene	ug/L	0.8	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
1,1,1-Trichloroethane	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
1,1,2-Trichloroethane	ug/L	0.5	<0.50	<0.50	<0.50	0.50	8398593	<0.40	0.40	8399991
Trichloroethylene	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Trichlorofluoromethane (FREON 11)	ug/L	150	<0.50	<0.50	<0.50	0.50	8398593	<0.50	0.50	8399991
Vinyl Chloride	ug/L	0.5	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
p+m-Xylene	ug/L	-	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
o-Xylene	ug/L	-	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
Total Xylenes	ug/L	72	<0.20	<0.20	<0.20	0.20	8398593	<0.20	0.20	8399991
F1 (C6-C10)	ug/L	420	<25	<25	<25	25	8398593			
F1 (C6-C10) - BTEX	ug/L	420	<25	<25	<25	25	8398593			
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	-	88	88	87		8398593			
D4-1,2-Dichloroethane	%	-	100	98	98		8398593			
D8-Toluene	%	-	92	94	93		8398593			
4-Bromofluorobenzene	%	-						98		8399991
D4-1,2-Dichloroethane	%	-						102		8399991
D8-Toluene	%	-						98		8399991
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)										
Table 1: Full Depth Background Site Condition Standards										
Ground Water - All Types of Property Uses										

Bureau Veritas - Partial/Rush Results

**PETROLEUM HYDROCARBONS (CCME)**

Bureau Veritas ID			UNU506	UNU507	UNU508		
Sampling Date			2022/12/08	2022/12/08	2022/12/08		
COC Number			907945-01-01	907945-01-01	907945-01-01		
	UNITS	Criteria	BH204	EMW2	QA/QC#2	RDL	QC Batch
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	150	<100	<100	<100	100	8402369
F3 (C16-C34 Hydrocarbons)	ug/L	500	<200	<200	<200	200	8402369
F4 (C34-C50 Hydrocarbons)	ug/L	500	<200	<200	<200	200	8402369
Reached Baseline at C50	ug/L	-	Yes	Yes	Yes		8402369
Surrogate Recovery (%)							
o-Terphenyl	%	-	98	98	98		8402369
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Ground Water - All Types of Property Uses							



BUREAU
VERITAS

Bureau Veritas Job #: C2AC683
Report Date: 2022/12/20

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: LW

GENERAL COMMENTS

Results relate only to the items tested.

Bureau Veritas - Partial/Rush Results



QUALITY ASSURANCE REPORT

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: LW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8398593	4-Bromofluorobenzene	2022/12/15	100	70 - 130	99	70 - 130	88	%		
8398593	D4-1,2-Dichloroethane	2022/12/15	97	70 - 130	97	70 - 130	98	%		
8398593	D8-Toluene	2022/12/15	101	70 - 130	103	70 - 130	93	%		
8399991	4-Bromofluorobenzene	2022/12/15	101	70 - 130	101	70 - 130	101	%		
8399991	D4-1,2-Dichloroethane	2022/12/15	105	70 - 130	96	70 - 130	96	%		
8399991	D8-Toluene	2022/12/15	99	70 - 130	102	70 - 130	100	%		
8402369	o-Terphenyl	2022/12/16	105	60 - 130	100	60 - 130	96	%		
8398189	Dissolved Antimony (Sb)	2022/12/15	107	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
8398189	Dissolved Arsenic (As)	2022/12/15	101	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
8398189	Dissolved Barium (Ba)	2022/12/15	102	80 - 120	99	80 - 120	<2.0	ug/L	0.072	20
8398189	Dissolved Beryllium (Be)	2022/12/15	92	80 - 120	93	80 - 120	<0.40	ug/L	NC	20
8398189	Dissolved Boron (B)	2022/12/15	95	80 - 120	96	80 - 120	<10	ug/L	2.6	20
8398189	Dissolved Cadmium (Cd)	2022/12/15	102	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
8398189	Dissolved Chromium (Cr)	2022/12/15	95	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
8398189	Dissolved Cobalt (Co)	2022/12/15	96	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
8398189	Dissolved Copper (Cu)	2022/12/15	99	80 - 120	98	80 - 120	<0.90	ug/L	NC	20
8398189	Dissolved Lead (Pb)	2022/12/15	94	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
8398189	Dissolved Molybdenum (Mo)	2022/12/15	100	80 - 120	97	80 - 120	<0.50	ug/L	0.79	20
8398189	Dissolved Nickel (Ni)	2022/12/15	95	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
8398189	Dissolved Selenium (Se)	2022/12/15	98	80 - 120	95	80 - 120	<2.0	ug/L	NC	20
8398189	Dissolved Silver (Ag)	2022/12/15	95	80 - 120	94	80 - 120	<0.090	ug/L	NC	20
8398189	Dissolved Sodium (Na)	2022/12/15	NC	80 - 120	99	80 - 120	<100	ug/L	0.25	20
8398189	Dissolved Thallium (Tl)	2022/12/15	101	80 - 120	100	80 - 120	<0.050	ug/L	NC	20
8398189	Dissolved Uranium (U)	2022/12/15	95	80 - 120	97	80 - 120	<0.10	ug/L	0.53	20
8398189	Dissolved Vanadium (V)	2022/12/15	94	80 - 120	93	80 - 120	<0.50	ug/L	13	20
8398189	Dissolved Zinc (Zn)	2022/12/15	99	80 - 120	100	80 - 120	<5.0	ug/L	NC	20
8398593	1,1,1,2-Tetrachloroethane	2022/12/15	100	70 - 130	103	70 - 130	<0.50	ug/L		
8398593	1,1,1-Trichloroethane	2022/12/15	93	70 - 130	95	70 - 130	<0.20	ug/L		
8398593	1,1,2,2-Tetrachloroethane	2022/12/15	108	70 - 130	111	70 - 130	<0.50	ug/L		
8398593	1,1,2-Trichloroethane	2022/12/15	96	70 - 130	98	70 - 130	<0.50	ug/L		
8398593	1,1-Dichloroethane	2022/12/15	92	70 - 130	94	70 - 130	<0.20	ug/L		



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8398593	1,1-Dichloroethylene	2022/12/15	90	70 - 130	92	70 - 130	<0.20	ug/L		
8398593	1,2-Dichlorobenzene	2022/12/15	89	70 - 130	89	70 - 130	<0.50	ug/L		
8398593	1,2-Dichloroethane	2022/12/15	88	70 - 130	89	70 - 130	<0.50	ug/L		
8398593	1,2-Dichloropropane	2022/12/15	95	70 - 130	97	70 - 130	<0.20	ug/L		
8398593	1,3-Dichlorobenzene	2022/12/15	88	70 - 130	87	70 - 130	<0.50	ug/L		
8398593	1,4-Dichlorobenzene	2022/12/15	99	70 - 130	98	70 - 130	<0.50	ug/L		
8398593	Acetone (2-Propanone)	2022/12/15	101	60 - 140	101	60 - 140	<10	ug/L		
8398593	Benzene	2022/12/16	90	70 - 130	92	70 - 130	<0.17	ug/L	0.59	30
8398593	Bromodichloromethane	2022/12/15	101	70 - 130	103	70 - 130	<0.50	ug/L		
8398593	Bromoform	2022/12/15	112	70 - 130	115	70 - 130	<1.0	ug/L		
8398593	Bromomethane	2022/12/15	93	60 - 140	95	60 - 140	<0.50	ug/L		
8398593	Carbon Tetrachloride	2022/12/15	98	70 - 130	101	70 - 130	<0.20	ug/L		
8398593	Chlorobenzene	2022/12/15	92	70 - 130	93	70 - 130	<0.20	ug/L		
8398593	Chloroform	2022/12/15	97	70 - 130	99	70 - 130	<0.20	ug/L		
8398593	cis-1,2-Dichloroethylene	2022/12/15	101	70 - 130	103	70 - 130	<0.50	ug/L		
8398593	cis-1,3-Dichloropropene	2022/12/15	78	70 - 130	75	70 - 130	<0.30	ug/L		
8398593	Dibromochloromethane	2022/12/15	105	70 - 130	108	70 - 130	<0.50	ug/L		
8398593	Dichlorodifluoromethane (FREON 12)	2022/12/15	92	60 - 140	98	60 - 140	<1.0	ug/L		
8398593	Ethylbenzene	2022/12/16	79	70 - 130	80	70 - 130	<0.20	ug/L	NC	30
8398593	Ethylene Dibromide	2022/12/15	97	70 - 130	98	70 - 130	<0.20	ug/L		
8398593	F1 (C6-C10) - BTEX	2022/12/16					<25	ug/L	1.3	30
8398593	F1 (C6-C10)	2022/12/16	96	60 - 140	96	60 - 140	<25	ug/L	1.2	30
8398593	Hexane	2022/12/15	93	70 - 130	95	70 - 130	<1.0	ug/L		
8398593	Methyl Ethyl Ketone (2-Butanone)	2022/12/15	104	60 - 140	104	60 - 140	<10	ug/L		
8398593	Methyl Isobutyl Ketone	2022/12/15	91	70 - 130	93	70 - 130	<5.0	ug/L		
8398593	Methyl t-butyl ether (MTBE)	2022/12/15	78	70 - 130	81	70 - 130	<0.50	ug/L		
8398593	Methylene Chloride(Dichloromethane)	2022/12/15	104	70 - 130	105	70 - 130	<2.0	ug/L		
8398593	o-Xylene	2022/12/16	81	70 - 130	82	70 - 130	<0.20	ug/L	NC	30
8398593	p+m-Xylene	2022/12/16	79	70 - 130	80	70 - 130	<0.20	ug/L	NC	30
8398593	Styrene	2022/12/15	90	70 - 130	93	70 - 130	<0.50	ug/L		
8398593	Tetrachloroethylene	2022/12/15	90	70 - 130	92	70 - 130	<0.20	ug/L		



BUREAU
VERITAS

Bureau Veritas Job #: C2AC683
Report Date: 2022/12/20

QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: LW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8398593	Toluene	2022/12/16	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8398593	Total Xylenes	2022/12/16					<0.20	ug/L	NC	30
8398593	trans-1,2-Dichloroethylene	2022/12/15	95	70 - 130	97	70 - 130	<0.50	ug/L		
8398593	trans-1,3-Dichloropropene	2022/12/15	80	70 - 130	77	70 - 130	<0.40	ug/L		
8398593	Trichloroethylene	2022/12/15	101	70 - 130	102	70 - 130	<0.20	ug/L		
8398593	Trichlorofluoromethane (FREON 11)	2022/12/15	93	70 - 130	96	70 - 130	<0.50	ug/L		
8398593	Vinyl Chloride	2022/12/15	85	70 - 130	89	70 - 130	<0.20	ug/L		
8399991	1,1,1,2-Tetrachloroethane	2022/12/15	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8399991	1,1,1-Trichloroethane	2022/12/15	93	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8399991	1,1,2,2-Tetrachloroethane	2022/12/15	100	70 - 130	91	70 - 130	<0.40	ug/L	NC	30
8399991	1,1,2-Trichloroethane	2022/12/15	100	70 - 130	94	70 - 130	<0.40	ug/L	NC	30
8399991	1,1-Dichloroethane	2022/12/15	90	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8399991	1,1-Dichloroethylene	2022/12/15	91	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8399991	1,2-Dichlorobenzene	2022/12/15	97	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
8399991	1,2-Dichloroethane	2022/12/15	98	70 - 130	91	70 - 130	<0.49	ug/L	NC	30
8399991	1,2-Dichloropropane	2022/12/15	91	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
8399991	1,3-Dichlorobenzene	2022/12/15	94	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
8399991	1,4-Dichlorobenzene	2022/12/15	110	70 - 130	112	70 - 130	<0.40	ug/L	NC	30
8399991	Acetone (2-Propanone)	2022/12/15	115	60 - 140	100	60 - 140	<10	ug/L	NC	30
8399991	Benzene	2022/12/15	87	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
8399991	Bromodichloromethane	2022/12/15	99	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
8399991	Bromoform	2022/12/15	105	70 - 130	95	70 - 130	<1.0	ug/L	NC	30
8399991	Bromomethane	2022/12/15	99	60 - 140	96	60 - 140	<0.50	ug/L	NC	30
8399991	Carbon Tetrachloride	2022/12/15	92	70 - 130	97	70 - 130	<0.19	ug/L	NC	30
8399991	Chlorobenzene	2022/12/15	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8399991	Chloroform	2022/12/15	96	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8399991	cis-1,2-Dichloroethylene	2022/12/15	94	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
8399991	cis-1,3-Dichloropropene	2022/12/15	105	70 - 130	99	70 - 130	<0.30	ug/L	NC	30
8399991	Dibromochloromethane	2022/12/15	99	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8399991	Dichlorodifluoromethane (FREON 12)	2022/12/15	98	60 - 140	101	60 - 140	<1.0	ug/L	NC	30
8399991	Ethylbenzene	2022/12/15	87	70 - 130	91	70 - 130	<0.20	ug/L	NC	30

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BUREAU
VERITAS

Bureau Veritas Job #: C2AC683
Report Date: 2022/12/20

QUALITY ASSURANCE REPORT(CONT'D)

Cambium Environmental Inc
Client Project #: 14909-002
Sampler Initials: LW

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8399991	Ethylene Dibromide	2022/12/15	100	70 - 130	92	70 - 130	<0.19	ug/L	NC	30
8399991	Hexane	2022/12/15	92	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
8399991	Methyl Ethyl Ketone (2-Butanone)	2022/12/15	104	60 - 140	90	60 - 140	<10	ug/L	NC	30
8399991	Methyl Isobutyl Ketone	2022/12/15	105	70 - 130	92	70 - 130	<5.0	ug/L	NC	30
8399991	Methyl t-butyl ether (MTBE)	2022/12/15	90	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
8399991	Methylene Chloride(Dichloromethane)	2022/12/15	99	70 - 130	94	70 - 130	<2.0	ug/L	NC	30
8399991	o-Xylene	2022/12/15	87	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
8399991	p+m-Xylene	2022/12/15	90	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8399991	Styrene	2022/12/15	100	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
8399991	Tetrachloroethylene	2022/12/15	87	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8399991	Toluene	2022/12/15	89	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8399991	Total Xylenes	2022/12/15					<0.20	ug/L	NC	30
8399991	trans-1,2-Dichloroethylene	2022/12/15	93	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8399991	trans-1,3-Dichloropropene	2022/12/15	104	70 - 130	109	70 - 130	<0.40	ug/L	NC	30
8399991	Trichloroethylene	2022/12/15	98	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
8399991	Trichlorofluoromethane (FREON 11)	2022/12/15	92	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8399991	Vinyl Chloride	2022/12/15	86	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
8402369	F2 (C10-C16 Hydrocarbons)	2022/12/14	118	60 - 130	106	60 - 130	<100	ug/L	NC	30
8402369	F3 (C16-C34 Hydrocarbons)	2022/12/14	120	60 - 130	107	60 - 130	<200	ug/L	NC	30
8402369	F4 (C34-C50 Hydrocarbons)	2022/12/14	118	60 - 130	106	60 - 130	<200	ug/L	NC	30

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

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BUREAU
VERITAS

Bureau Veritas Job #: C2AC683

Report Date: 2022/12/20

Cambium Environmental Inc

Client Project #: 14909-002

Sampler Initials: LW

VALIDATION SIGNATURE PAGE

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

Ewa Pranjic



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

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

CHAIN OF CUSTODY RECORD

Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free 800-593-6286 Fax: (905) 817-5777 www.bvna.com



INVOICE TO: Company Name: #17950 Cambium Environmental Inc Attention: ACCOUNTS PAYABLE Address: 194 Sophia Street PO Box 325 Peterborough ON K9H 1E5 Tel: (705) 742-7900 Fax: (705) 742-7907 Email: accounting@camblum-inc.com		REPORT TO: Company Name: Natalie Wright Attention: Address: Tel: Email: natalie.wright@camblum-inc.com		PROJECT INFORMATION: Quotation #: C21984 P.O. #: 14909-002 Project Name: Site #: Sampled By: Logan Wintermiller		Laboratory Use Only: Bottle Order #: Project Manager: Gemarie Balatico CQC #: Cif907945-01-01	
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MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)

Table 1 ☐ Res/Park Table 2 ☐ Ind/Comm Table 3 ☐ Agri/Other Table 4 ☐ For RSC Table 5 ☒ Table 1 RP1100	Other Regulations ☐ CCME ☐ Reg 558 ☐ MISA ☐ PWD0 ☐ Other
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Include Criteria on Certificate of Analysis (Y/N)? ☒ Y

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix
1 BH204	→	22/12/08		GW
2 EMW2	→	22/12/08		GW
3 QA/QC #2	→	22/12/08		GW
4 Trip Blank	→			GW
5				
6				
7				
8				
9				
10				

Field Filtered (please circle):

O Reg 153 Semivolatiles Package

Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Regular (Standard) TAT: ☒ (will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dissolved Solids are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: _____ Time Required: _____

Rush Confirmation Number: _____ (call lab for #)

of Bottles

Comments

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

White: Bureau Veritas Yellow: Client

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

Bureau Veritas Canada (2019) Inc.

09-Dec-22 15:53

Gemarie Balatico

C2AC683

PSG ENV-1126

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