Phase Two Environmental Site Assessment - 5868 County Road 65, Port Hope, Ontario

October 21, 2022

Prepared for:
Hillstreet Developments Ltd.

Cambium Reference: 15091-003

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1.0 Executive Summary

Hillstreet Developments Ltd. ("Client") retained Cambium Inc. (Cambium) to complete a Phase Two Environmental Site Assessment (ESA) at 5868 County Road 65, Port Hope, Ontario ('Site' or 'Phase Two Property'). The Phase Two ESA will be used to support a re-zoning application for the Site and was completed to meet the requirements of Ontario Regulation (O.Reg.) 153/04.

The roughly 30.9 ha Site is located east of the intersection between County Road 65 and Mastwood Road. Based on the historical and regulatory review, it is Cambium's understanding that the Site was initially developed prior to 1928 with orchards on the east and southeast portions. The residential dwelling on the east portion was developed in approximately 1932 and remains present to this day.

The Phase One ESA identified one On-Site and one Off-Site potentially contaminating activity (PCA) which contributed to areas of potential environmental concern (APEC) on-site:

PCA 1 – On-site: Former orchards on the east, southeast and central portions of the Site from at least 1928 until 1988; PCA #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

PCA 3 – Adjacent to the north of the Site: Inferred towing operation and/or automotive repair/servicing garage at 5992 County Road 65, with several spill reports at this property (adjacent north of the Site); PCA #27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles.

A Phase Two ESA work program was developed to investigate contaminants of potential concern, including hydride-forming metals, cyanide, organochlorinated (OC) pesticides, petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), as identified in the Phase One ESA.

The Phase Two ESA included the advancement of seven environmental boreholes. Soil samples collected from each sampling location were submitted for laboratory analysis of the contaminants of potential concern (COPCs).

Concentrations of all COPCs met the applicable generic ful-depth potable site condition standards for the planned property use, in all soil samples. On-site soil pH was within the acceptable ranges for surface (≤1.5 mbgs) and sub-surface (>1.5 mbgs) soil. Based on the results of the Phase Two ESA investigation, Cambium concluded that soil at the Site meets the Table 2 SCS.

Concentrations were also compared to the MECP potable groundwater standard for Sites within 30 m of a water body based on the presence of the creek in the northern part of the property. It is understood that this creek will be infilled and replaced with stormwater management ponds in the final design, but as this has yet to be confirmed in final Table 8 criteria was also compared against. Concentrations in soil generally met the Table 8 SCS in the analysed soil samples, with the exception of Dichlorodiphenyldichloroethylene (DDE) which was noted at a concentration of 0.06 ug/g in BH105, marginally above the Table 8 SCS of 0.05 ug/g. It is noted that DDE was generally non-detect or met the Table 8 SCS in all other locations tested, and on average the Site would meet the standard. Based on the marginal exceedance, if Table 8 was required to be applied to the Site, the DDE contaminated soil would be limited and could be remediated during the Site development process after which confirmation samples would be collected to confirm the impacts were removed.

2.0 Introduction

Hillstreet Developments ltd. retained Cambium to complete a Phase Two ESA at 5868 County Road 65, Port Hope, Ontario. The Phase Two ESA will be used to support a re-zoning application for the Site and was completed to meet the requirements of Ontario Regulation (O.Reg.) 153/04.

2.1 Site Description

The Site is located east of the intersection between County Road 65 and Mastwood Road. The municipal address is 5868 County Road 65, Port Hope, Ontario. Site information and property owner information are summarized below.

The Phase Two Property location is shown on Figure 1. A Site plan of the Phase Two Property is shown in Figure 2.

Site Identification Information

Municipal Address	5868 County Road 65, Port Hope, Ontario
Historical Land Use	Agricultural, Residential
Current Land Use	Agricultural, Residential
Future Land Use	Residential
PIN	51057-0110 (LT)
Universal Transverse Mercator Coordinates*	Zone 17T 705624 m E, 4875884 m N
Legal Description	Part Lot 27, Concession 5, Hope Part 1, 39R8831, Port Hope
Site Area	≈30.9 ha (76.0 acres)

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

2.2 Property Ownership

Property Owner	Contact Information
Hillstreet Developments Ltd. 2015 Altona Road Pickering, ON L1V 2P9	Larry Macdonell Managing Director Phone: (647) 535-7783 Email: Lmacdonell@rogers.com

2.3 Current and Proposed Future Uses

The Site is currently developed with a residential dwelling and associated barn, located on the east-central portion. The remaining Site area is used as agricultural land or vacant forested land. It is Cambium's understanding that the Client intends to subdivide the Site into 64 individual lots for a subdivision of single-family homes.

2.4 Applicable Site Condition Standards

The *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MOE, 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 Site will be a residential property within the Municipality of Port Hope.
- The Site and surrounding properties rely on individual domestic supply groundwater wells. A dug domestic supply well is located northwest of the residential dwelling.
- No Areas of Natural Significance, as defined in Section 1 of O.Reg. 153/04, is identified in whole or in part on the Phase One Property. The Osaca – Ganaraska River and Osaca – Wetland were identified approximately 40 m northwest of the Site within the phase one study area.
- Laboratory results identified soil pH for surface and subsurface soil were within the acceptable ranges of 5 to 9 and 5 to 11, respectively.

- Three bird species at risk were identified as being potentially present within the 1 km^2 natural heritage information centre grid cell that contains the Site. However, based on the imprecise information from the natural heritage information centre (NHIC) grid, and that the proposed subdivision plan, as presented in Appendix A, will not include potential habitats for these species, the Site will not be considered to be area of natural significance as per Section 41 of O.Reg. 153/04.
- The average overburden thickness was greater than 2 m based on observations made during the geotechnical subsurface investigation; as such, Section 43.1(a) of O.Reg. 153/04 does not apply.
- A small east-west running stream was noted within the northern portion of the Site, however it is understood that based on current subdivision plans this stream will be filled in as part of the development and replaced with man made stormwater management ponds, which do not meet the definition of a water body as defined in O.Reg. 153/04. Based on this, Section 43.1(b) of O.Reg. 153/04 will not apply.
- Field observations of the native soil indicated that the soil texture at the Site is coarse. Grain size analysis was not completed.

Based on the review of site characteristics of the proposed subdivision, the Table 2 Standards – Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Residential/Parkland/Institutional/ Industrial/Commercial/Community Property Use, coarse soil is appropriate for the proposed Site use. It is noted that the existing potential species at risk habitat and stream in the northern portion of the Site will need to be approved for redevelopment by the township, and that an Environmental Impact Statement (EIS) will likely be required for this. As an EIS has not yet been completed, the MECP Table 8 - Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, coarse soil have also been compared against in the event the habitats or stream may not be developed as currently planned.

2.5 General Objectives

The general objectives of the Phase Two ESA were to determine the location and concentration of contaminants in the soil 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 conditions at the Phase Two Property and conducting field investigations for the identified COPCs. The Phase Two ESA included a soil investigation.

3.0 Background Information

3.1 Physical Setting

The surface elevation at the Site is similar to the surrounding adjacent properties. The topography decreases locally to the northeast where a small seasonal creek is travelling east to west along the northern portion of the Site.

The Site is within the drumlin physiographic region (Chapman & Putnam, 1984). In the general area, the overburden consists of clay, silt, sand, gravel and potentially organic remains (OGS, 2010). The soils overlie limestone of the Lindsay/Simcoe Group formation (OGS, 2007).

A creek runs in an east-west direction and intersects the north portion of the Site. It is understood that based on the subdivision plan provided in Appendix A, that this creek will be infilled and replaced with stormwater management ponds as part of Site redevelopment. Another creek running in an east-west direction is located adjacent to the south of the Site, however it was confirmed to be dry in October 2022 and is therefore understood to not be a permanent waterbody, and therefore does not meet the definition of a water body as defined in O.Reg. 153/04.

A search for areas of natural & scientific interest (ANSI) was completed by ERIS. No Areas of Natural Significance, as defined in Section 1 of O.Reg. 153/04, were identified in whole or in part within the phase one study area.

Cambium completed a search through the Ministry of Natural Resources and Forestry's Make a Map: Natural Heritage Areas web site (MNR, 2022b) for endangered or threatened species information to determine if an area of natural significance, as defined in Section 1 of O.Reg. 153/04, is located in whole or in part within the phase one study area. The MNRF records identified the potential presence on the Site and/or surrounding properties of species at risk habitat for the endangered or threatened species listed below within the 1 km^2 grid space which includes this Site. The three bird species identified as threatened or endangered were identified as being potentially present within the 1 km^2 NHIC grid cell that contains the Site. However, based on the imprecise information from the NHIC grid, and that the proposed

subdivision plan will not include potential habitats for these species, the Site is not considered to be an area of natural significance or environmentally sensitive as per Section 41 of O.Reg. 153/04.

therefore, an area of natural significance was considered present.

- Osaca – Ganaraska River and Osaca – Wetland (Evaluated Wetlands) located as close as 40 m northeast of the Site)
- Unevaluated wetlands located west and southwest of the Site
- Eastern Meadowlark (threatened)
- Wood Thrush (threatened)
- Red-headed Woodpecker (endangered)

The three bird species above are identified as being potentially present within the 1 km^2 NHIC grid cell that contains the Site. However, based on the proposed subdivision plan included in Appendix A, the final development will not include potential habitats for these species. Therefore the Site will not considered to be an area of natural significance or environmentally sensitive as per Section 41 of O.Reg. 153/04.

A search of the Ministry Water Well Information System by ERIS identified one record for an on-site water well and six water well records within the phase one study area ranging from about 45 m to 245 m from the Site. The wells were identified as domestic supply wells.

Stratigraphy in the on-site well was brown clay underlain by brown medium sand, and blue clay to approximately 8.66 m bgs. Bedrock was not encountered. Stratigraphy in the off-site wells within 100 m of the Site was generally brown/grey sand with gravel and clay to about 19 mbgs.

3.2 Past Investigations

Phase One ESA (Cambium Inc., 2022)

Cambium completed a Phase One ESA for the Site in September 2022. The Phase One ESA was undertaken to identify potential and actual environmental concerns associated with current

and historical activities at the Site and surrounding properties, to support a re-zoning application for the Site.

The Phase One identified on-site environmental concern with the historical activities associated with an orchard, throughout the eastern, southeastern and central portions of the Site. The on-site PCA contributed to an APEC, related to former orchards on the east, southeast and central portions of the Site from at least 1928 until 1988; #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

The Phase One ESA identified an off-site PCA which contributed to an APEC, which was related to towing operations and /or automotive repair/servicing garage at 5992 County Road 65 and recurring reported spills at this property which is adjacent north of the Site.

Based on the observations and information obtained during the Phase One ESA, Cambium concluded that a Phase Two ESA was required.

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 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 samples.

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.

4.2 Media Investigated

The Phase Two ESA was conducted in conjunction with a geotechnical investigation, and investigated the soil at the Site. Soil quality at the Site was investigated through drilling and soil sampling.

4.3 Phase One Conceptual Site Model

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

4.3.1 Site Description

The Site is located west of the intersection between County Road 65 and Mastwood Road in Port Hope, Ontario. The legal description of the Site is Part Lot 27, Concession 5, Hope Part 1, 39R8831, Port Hope. The Property Identification Number (PIN) is 51057-0110 (LT). The Universal Transverse Mercator (UTM) coordinates for the centroid for the Site are Zone 17 T, 705624 m east and 4875884 m north.

The roughly 30.9 ha Site is bound by residential dwellings (and a potential commercial operation at 5992 County Road 65) and County Road 65 to the north; County Road 65 and residential dwellings/agricultural land to the east; a parking/exterior storage area, vacant forested land and agricultural land to the south; and vacant forested land to the west.

Property use surrounding the Site is as follows.

North – Residential (Potential towing and/or automotive repair/servicing garage at 5992 County Road 65)

South – Vacant/Agricultural/Exterior Storage

East – County Road 65/Mastwood Road/Residential/Agricultural

West – Vacant

A potential towing and/or automotive repair/servicing garage is located at the rear of 5992 County Road 65 (adjacent to the Site). Based on the nature of operations and close proximity to the Site, this PCA represents an APEC for the Site

4.3.2 Existing Buildings and Structures

The Site is developed with a residential dwelling located on the east-northeast portion of the Site, which was reportedly constructed in approximately 1932. In addition, an associated barn and two associated sheds are located in the vicinity of the residential dwelling.

4.3.3 Water Bodies and Areas of Natural Significance

Based on a review of the Ministry of Natural Resources and Forestry's Make a Map: Natural Heritage Areas web site, an the Osaca – Ganaraska River and Osaca Wetland is considered an ANSIs and was identified approximately 50 m northwest of the Site within the phase one study area.

The MNRF records identified the potential presence on the Site and/or surrounding properties of species at risk habitat for the endangered or threatened species listed below within the 1 km^2 grid space which includes this Site. Three bird species identified as threatened or endangered were identified as being potentially present within the 1 km^2 NHIC grid cell that contains the Site. However, based on the imprecise information from the NHIC grid, and that the proposed subdivision plan will not include potential habitats for these species, the Site is not considered to be an area of natural significance as per Section 41 of O.Reg. 153/04.

4.3.4 Drinking Water Wells

A dug domestic supply well is located northwest of the residential dwelling and is the potable water source for the residential dwelling.

A search of the Ministry Water Well Information System by ERIS identified one record for an on-site water well (detailed above) and six water well records within the phase one study area ranging from about 45 m to 245 m from the Site. The wells were identified as domestic supply wells.

4.3.5 Potentially Contaminating Activities

Cambium reviewed information available for the Phase One Study Area to identify environmental issues normally assessed in a Phase One ESA. Two PCAs were identified within the Phase One Study Area, consisting of one on-site and one off-site PCAs. Refer to Table 2 for further description of the PCAs, and Figure 2 for PCA locations.

The Phase One ESA identified one PCA on-site:

PCA 1 – On-site: Former orchards on the east, southeast and central portions of the Site from at least 1928 until 1988; #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

This on-site PCA contributes to an APEC.

The Phase One ESA identified two off-site PCAs that represent APECs for the Site:

PCA 2 – Off-site: Inferred towing operation and/or automotive repair/servicing garage at 5992 County Road 65, and recurring reported spills at this property (adjacent north of the Site); #27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles.

The following PCAs do not contribute to APECs:

Three additional PCAs (one on-site and two off-site) were identified; however, based on the observations made during the site visit, lack of reported spills, and/or distance from the Site, these PCAs were not considered likely to contribute to APECs for the Site.

4.3.6 Areas of Potential Environmental Concern

As required by O.Reg. 153/04, one on-site PCAs result in an APEC. Based on a review of the potential to result in contamination at the Site, one off-site PCA contributed to an APEC. The APECs are summarized below.

APEC 1 – East, northeast and central portions of the Site, associated with PCA 1, #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications. COPCs include OCs, Metals, As, Sb, Se.

APEC 2 – North portion of the Site, associated with PCA 3, #27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles. COPCs include OCs, Metals, As, Sb, Se.

Refer to Table 3 for APEC details and Figure 3 for the APEC locations.

4.3.7 Contaminants of Potential Concern

COPCs were identified for each PCA contributing to an APEC. The COPCs specific to APEC 1 include: hydride forming metals, cyanide, and organochlorine (OC) pesticides. COPCs associated with APEC 2 include: petroleum hydrocarbons (PHCs) and benzene, toluene, ethylbenzene and xylenes (BTEX), as identified in the Phase One ESA.

4.3.8 Contaminant Distribution and Transport

Underground utilities were identified on, in, or under the Site (natural gas and telecommunications). 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

Review of a topographic survey indicated that the Site is generally flat. The Ministry of Natural Resources and Forestry's Make a Topographic Map web site (MNR, 2022b) was consulted for the phase one study area. Review of the web site indicated that the Site and surrounding area gradually slopes down to the northeast. A creek running in an east-west direction intersects the north portion of the Site, whereby the surface elevation is about 161 m; and Ganaraska River is located approximately 550 m north of the Site.

The Site is within a drumlins region (Chapman & Putnam, 1984). In the general area, the overburden reportedly consists of modern or older alluvial deposits consisting of clay, silt, sand, gravel and potentially organic remains (OGS, 2010). The soils overlie limestone of the Lindsay/Simcoe Group formation (OGS, 2007). A review of a Ministry water well record (MECP, 2022) for the Site indicated that the stratigraphy consists of brown clay underlain by brown medium sand, and blue clay to approximately 8.66 m below ground surface (m bgs). Bedrock was not encountered.

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.

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 the former on-site orchard. Soil samples were analyzed COPCs identified in the Phase One ESA for each APEC.

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 8 SCS. Residential property use and coarse soil texture were selected to identify analyzed parameters present on the Site at concentrations exceeding the SCS.

5.2 Soil: Drilling

The drilling investigation was completed in combination with a geotechnical drilling program also being completed by Cambium, on September 22 and 23, 2022. Canadian Environmental Drilling (CED) advanced eleven boreholes into overburden to a maximum depth of 6.7 mbgs. Seven of the eleven holes were utilized for the environmental investigation, with environmental sampling between 0 and 1.5 m bgs based on the low mobility of the COPCs. Borehole locations are shown on Figure 3.

5.3 Soil: Sampling

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

Soil samples were logged for soil type, moisture content, presence of odour, and signs of impacts such as staining, consistent with standard geotechnical and environmental soil descriptions and nomenclature. The samples were divided on-site, a portion was placed in dedicated sample jars for submission to the laboratory. 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.

5.5 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 AAppendix A. The following samples were submitted for analysis.

Borehole ID	Depth (m)	COPC analyzed
BH103	0.0-0.6	OC Pesticides, hydride-forming metals, and cyanide
BH104	0.75-1.35	OC Pesticides, hydride-forming metals, and cyanide
BH105	0.0-0.6	OC Pesticides, hydride-forming metals, and cyanide
BH106	0.75-1.35	OC Pesticides, hydride-forming metals, and cyanide
BH108	0.0-0.6	OC Pesticides, hydride-forming metals, and cyanide
BH109	0.75-1.35	OC Pesticides, hydride-forming metals, and cyanide
BH201	0.0-06	PHCs and BTEX

5.6 Residue Management Procedures

Soil cuttings from the drilling program, were placed back into the holes and the boreholes were back filled.

5.7 Elevation Surveying

Ground surface elevations were surveyed at each borehole. Elevations were determined relative to the top of a brown Bell box across the road from Site.

5.8 Quality Assurance and Quality Control Measures

As part of the QA/QC program, blind duplicate soil 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 6.4 for the results of the QA/QC program.

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

6.0 Review and Evaluation

6.1 Geology

The physiography and geology of the Site has been discussed previously in Section 3.1 and a detailed description of the subsurface soils can be found on the borehole logs provided in the geotechnical investigation report[1]. These logs present detailed descriptions of the soils and their associated characteristics to the maximum depth of investigation. Borehole and locations are shown on Figure 4.

The stratigraphy consisted of organic silt (topsoil), native sand, silty sand, and silty clay. Bedrock was no encountered during the subsurface investigation.

6.2 Coarse Soil Texture

Soil samples were not submitted for grain size analysis. Grain size analysis was determined in the field using field methods.

6.3 Soil Quality

A general discussion of the submission and analysis of soil samples obtained during the subsurface investigation was presented Section 0.

Samples were submitted for analysis of either: hydride-forming metals, cyanide, and OC pesticides (APEC 1), or PHCs, BTEX, and metals (APEC 2), as identified from previous investigations. Soil analysis results are presented in Table 1. Laboratory Certificates of Analysis are included in Appendix A. The soil sampling locations are shown on Figure 4.

[1] Geotechnical Investigation – Proposed Residential Subdivision – 5868 County Road 65, Port Hope, Ontario, October 21, 2022.

6.3.1 BTEX/PHCs

One soil sample was submitted for analysis of BTEX/PHCs. Concentrations were less than both the Table 2 and Table 8 SCS in the analyzed soil samples as shown on Figure 4.

6.3.2 Hydride-Forming Metals, OC Pesticides and pH

Five soil samples were submitted for analysis of hydride-forming metals, cyanide, OC pesticides, and pH.

Concentrations met the Table 2 SCS in all analyzed soil samples, as shown on Figure 4.

Concentrations generally met the Table 8 SCS in the analysed soil samples, with the exception of Dichlorodiphenyldichloroethylene (DDE) which was noted at a concentration of 0.06 ug/g in BH105, marginally above the Table 8 SCS of 0.05 ug/g. It is noted that DDE was generally non-detect or met the Table 8 SCS in all other locations tested, and on average the Site would meet the standard. Based on the marginal exceedance, if Table 8 was required to be applied to the Site, the DDE exceedance would be isolated and simple to remediate during the Site development process.

Two samples were analyzed for pH. On-site soil pH was within the acceptable ranges for surface (≤1.5 mbgs) and sub-surface (>1.5 mbgs) soil. As such, the Site is not environmentally sensitive as per Section 41 of O.Reg. 153/04.

6.4 Quality Assurance and Quality Control

Duplicate soil samples were collected for each parameter group, BH201 and QAQC1 and BH106 and QAQC2. 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 a data quality objectives (DQOs) of 50% for soil. 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. Overall, the duplicate samples match very closely with the parent samples. Accordingly, the soil analysis results were considered acceptable and indicated that the analytical data were suitable for use in evaluating soil and groundwater quality at the Site.

Certificates of Analysis received for each submitted sample are included in Appendix AAppendix A. 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.

6.5 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.

6.5.1 Site Description and Ownership

The Site is located west of the intersection between County Road 65 and Mastwood Road in Port Hope, Ontario. The municipal address is 5868 County Road 65. The Universal Transverse Mercator (UTM) coordinates for the centroid for the Site are Zone 17 T, 705624 m east and

4875884 m north. The closest water body is a creek running in an east-west direction that intersects with the north portion of the Site.

Property use surrounding the Site is as follows.

North – Residential (Potential towing and/or automotive repair/servicing garage at 5992 County Road 65)

South – Vacant/Agricultural/Exterior Storage

East – County Road 65/Mastwood Road/Residential/Agricultural

West – Vacant

The Site is currently residential. The Site includes PIN 51057-0110 (LT). The proposed future land use is residential subdivision.

6.5.2 Potentially Contaminating Activities

Two PCAs were identified within the Phase One Study Area, consisting of one on-site and one off-site PCAs. Refer to Table 2 for further description of the PCAs, and Figure 2 for PCA locations.

The following PCAs contribute to APECs:

PCA 1 – On-site – Former orchards on the east, southeast and central portions of the Site from at least 1928 until 1988; #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

PCA 2 – Off-site: Inferred towing operation and/or automotive repair/servicing garage at 5992 County Road 65, and recurring reported spills at this property (adjacent north of the Site); #27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles.

6.5.3 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, one one-site and off-site PCAs contributed to

APECs. All other PCAs did not contribute to an APEC at the Site. The APECs are summarized below. Refer to Table 3 for further descriptions of the APECs, and Figure 3 for APEC locations.

APEC 1 – East, northeast and central portions of the Site, associated with PCA 1, #40 Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications. COPCs include OCs, Metals, As, Sb, Se.

APEC 2 – North portion of the Site, associated with PCA 3, #27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles. COPCs include OCs, Metals, As, Sb, Se.

Boreholes, BH103, BH104, BH105, BH106, BH108, BH109 and BH201, were completed to assess the APECs.

- BH103, BH104, BH105, BH106, BH108 and BH109 investigated APEC 1
- BH201 investigated APEC 2

Refer to Figure 3 for borehole locations.

6.5.4 Subsurface Structures and Utilities

Underground utilities were identified on, in, or under the Site (natural gas and telecommunications). 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.

6.5.5 Stratigraphy

The stratigraphy consisted of organic silt (topsoil) (surface to 0.2 mbgs) sand (approximately 0.2 to 3 mbgs), silty clay (approximately 3 to 3.6 mbgs), although this layer was not found at all locations and silty sand (approximately 3.6 to 6.7 mbgs). Bedrock was not encountered during drilling.

No excess soil was finally placed at the property.

6.5.6 Hydrogeological Characteristics and Groundwater Elevations

The closest water body is a seasonal creek along the northern portion of Site that travels east to west. Ganaraska River is located approximately 550 m north of Site. A seasonal stream is also located adjacent to the southern property boundary but was confirmed to be dry based on Site observations in October 2022.

6.5.7 Applicable Site Condition Standards

The *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MOE, 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 Site will be a residential property within the Municipality of Port Hope.
- The Site and surrounding properties rely on individual domestic supply groundwater wells. A dug domestic supply well is located northwest of the residential dwelling.
- No Areas of Natural Significance, as defined in Section 1 of O.Reg. 153/04, is identified in whole or in part on the Phase One Property. The Osaca – Ganaraska River and Osaca – Wetland were identified approximately 40 m northwest of the Site within the phase one study area.
- Laboratory results identified soil pH for surface and subsurface soil were within the acceptable ranges of 5 to 9 and 5 to 11, respectively.
- Three bird species at risk were identified as being potentially present within the 1 km^2 natural heritage information centre grid cell that contains the Site. However, based on the imprecise information from the natural heritage information centre (NHIC) grid, and that the proposed subdivision plan, as presented in Appendix A, will not include potential habitats for these species, the Site will not be considered to be area of natural significance as per Section 41 of O.Reg. 153/04.

- The average overburden thickness was greater than 2 m based on observations made during the geotechnical subsurface investigation; as such, Section 43.1(a) of O.Reg. 153/04 does not apply.
- A small east-west running stream was noted within the northern portion of the Site, however it is understood that based on current subdivision plans this stream will be filled in as part of the development and replaced with man made stormwater management ponds, which do not meet the definition of a water body as defined in O.Reg. 153/04. Based on this, Section 43.1(b) of O.Reg. 153/04 will not apply.
- Field observations of the native soil indicated that the soil texture at the Site is coarse. Grain size analysis was not completed.

Based on the review of site characteristics of the proposed subdivision, the *Table 2 Standards – Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Residential/Parkland/Institutional/ Industrial/Commercial/Community Property Use, coarse soil* is appropriate for the proposed Site use. It is noted that the existing potential species at risk habitat and stream in the northern portion of the Site will need to be approved for redevelopment by the township, and that an Environmental Impact Statement (EIS) will likely be required for this. As an EIS has not yet been completed, the MECP *Table 8 - Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition*, *coarse soil* have also been compared against in the event the habitats or stream may not be developed as currently planned. .

6.5.8 Contaminant Identification and Distribution

Concentrations of all COPCs were found to meet the Table 2 SCS in the analyzed soil samples. The concentrations were also found to generally meet the Table 8 SCS, with the exception of a single marginal (0.01 ug/g) exceedance of DDE in BH105, which if Table 8 standard was applied to the Site, could be easily remediated based on its low concentration and isolation.

The results of the laboratory analysis are show in Table 1 following this report as well as in Figure 4.

6.5.9 Contaminant Migration and Transport

Concentrations of all COPCs were less than the Table 2 SCS in the analyzed soil samples. Contaminant migration is not applicable.

A single exceedance of Table 8 SCS was noted in BH105, based on its distance from the nearest waterbody being >200 m, it is considered unlikely that the Table 8 SCS would apply.

6.5.10 Exposure Pathways and Receptors

Concentrations of all COPCs were less than the Table 2 SCS in the analyzed soil samples. Exposure pathways and receptors are not applicable.

A single exceedance of Table 8 SCS was noted in soil at BH105. Exposure pathways could include direct contact by construction workers during Site development, and/or through ingestion. Based on its distance from the nearest waterbody being >200 m, it is considered unlikely that the Table 8 SCS would apply.

6.5.11 Location of Buildings and Structures

The Site is currently developed with a residential dwelling and associated barn, located on the east-central portion. The remaining portions of the Site consist of agricultural land or vacant forested land. It is Cambium's understanding that the Client intends to divide the Site into 64 individual lots for single-family homes.

6.5.12 Areas of Contamination on the Property

Concentrations of all COPCs were less than the Table 2 residential SCS in the analyzed soil and groundwater samples. There were no areas of contamination identified on the Site for the proposed Site use.

A single exceedance Table 8 SCS for OC pesticide (DDE) was noted in BH105. Based on the low concentration (0.06 ug/g versus the SCS of 0.05 ug/g), and the low general mobility of OC

pesticides in the subsurface, it is inferred that any contaminant impacts would be limited to the shallow soil in the immediate area of BH105.

7.0 Conclusions

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

7.1 Environmental Conditions

A Phase Two ESA work program was developed to investigate COPCs (hydride-forming metals, cyanide, OC pesticides, PHCs, and/or BTEX), identified in the Phase One ESA in soil. The Phase Two ESA included seven boreholes, none of which were completed as groundwater monitoring wells.

Concentrations of all COPCs were less than the Table 2 SCS in all soil samples. On-site soil pH was within the acceptable ranges for surface (≤1.5 mbgs) and sub-surface (>1.5 mbgs) soil. Based on the results of the Phase Two ESA investigation, Cambium concluded that soil at the Site meets the Table 2 SCS.

Concentrations generally met the Table 8 SCS in the analysed soil samples, with the exception of Dichlorodiphenyldichloroethylene (DDE) which was noted at a concentration of 0.06 ug/g in BH105, marginally above the Table 8 SCS of 0.05 ug/g. It is noted that DDE was generally non-detect or met the Table 8 SCS in all other locations tested, and on average the Site would meet the standard. Based on the marginal exceedance, if Table 8 was required to be applied to the Site, the DDE contaminated soil would be limited and could be remediated during the Site development process after which confirmation samples would be collected to confirm the impacts were removed.

7.2 Signatures

This Phase Two ESA was completed under the supervision of Mr. Alex Wood, P.Eng. (QP), as per O.Reg. 153/04, as amended. Information presented in this report is true and accurate to the best of the assessors' knowledge.

Respectfully submitted,

Cambium Inc.

Arlie Flynn, B.Sc. Technician	Alex Wood, P.Eng., QP$_{ESA}$ Project Manager

P:\15000 to 15999\15091-003 Hillstreet Development - Phase Two ESA - 5868 County Rd 65, Port Hope\Deliverables\REPORT - PH II\Draft\2022-10-21 RPT - PH II - 5868 County Road 65, Port Hope.docx

8.0 References

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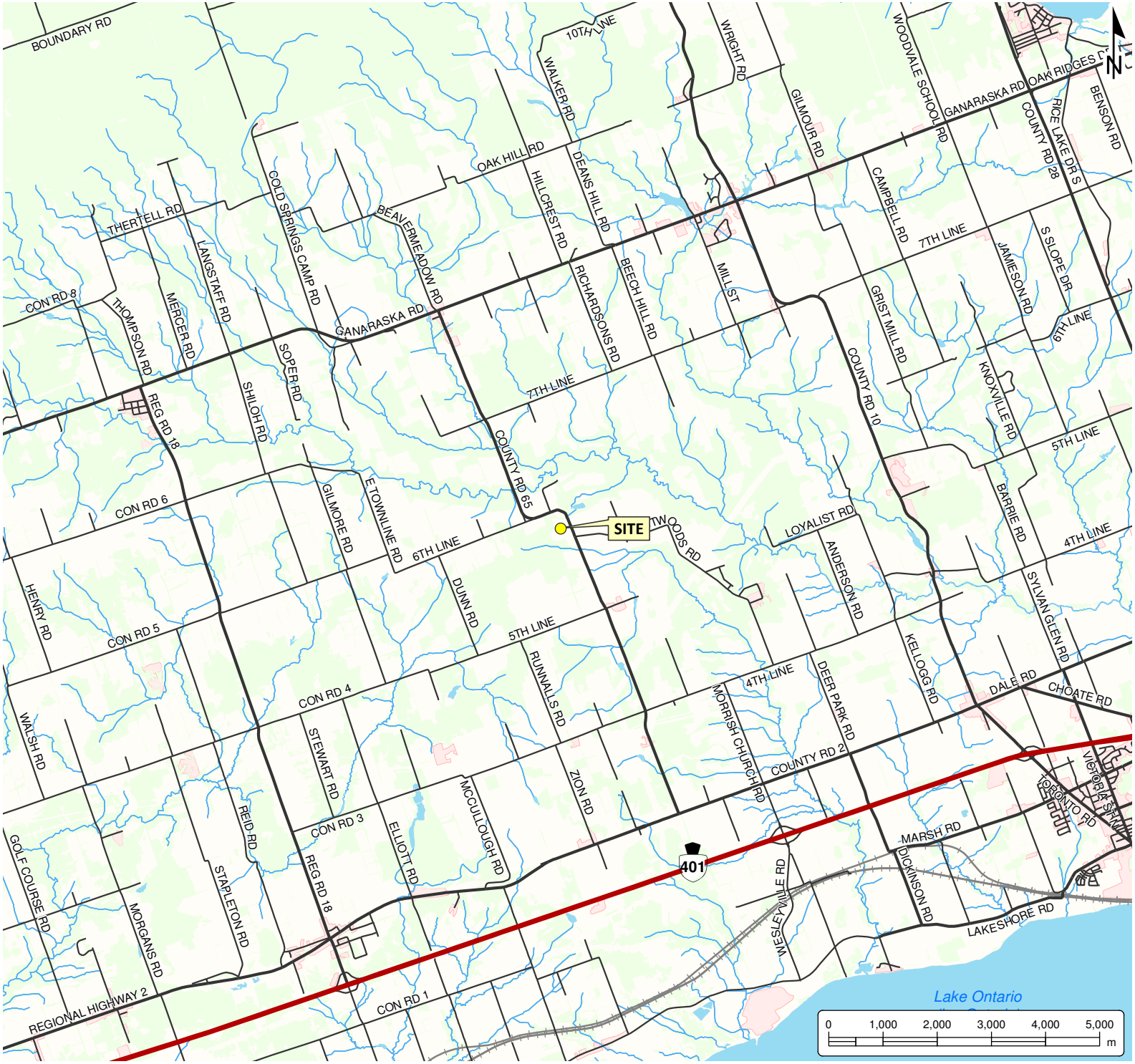
Appended Figures



PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HILLSTREET DEVELOPMENTS
5868 County Road 65,
Port Hope, Ontario

LEGEND

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

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

CAMBIUM
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Peterborough, Ontario, K9H 1E5
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SITE LOCATION MAP

Project No.: 15091-003		Date: October 2022	Rev.:
Scale: 1:100,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: AW	Figure: 1	

O:\GIS\MXDs\15000-15099\15091-003 Hillstreet Development - Phase Two ESA - 5868 County Rd 65, Port Hope\2022-10-13 FIG 1 Site Location Map.mxd

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HILLSTREET DEVELOPMENTS
5868 County Road 65,
Port Hope, Ontario

LEGEND

- 250m Study Area
- Site (approximate)

Potentially Contaminating Activities:

- Does Not Contribute to APECs
- Contributes to APECs

Notes:
- Imagery was obtained from the County of Northumberland online GIS database.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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CONCEPTUAL SITE MODEL STUDY AREA

Project No.: 15091-003		Date: October 2022 Rev.:	
Scale: 1:6,500		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: AW	Figure:	2

O:\GIS\MXDs\15000-15099\15091-003 Hillstreet Development - Phase Two ESA - 5868 County Rd 65, Port Hope\2022-10-18 FIG 2- Conceptual Site Model Study Area.mxd

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HILLSTREET DEVELOPMENTS
5868 County Road 65,
Port Hope, Ontario

LEGEND

- Borehole
- Site(approximate)

Areas of Potential Environmental Concern

- APEC 1
- APEC 2

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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CONCEPTUAL SITE PLAN AND BOREHOLE LOCATIONS

Project No.: 15091-003		Date: October 2022 Rev.:	
Scale: 1:4,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: AW	Figure:	3

O:\GIS\MXDs\15000-15099\15091-003 Hillstreet Development - Phase Two ESA - 5868 County Rd 65, Port Hope\2022-10-13 FIG 3 Conceptual Site Plan and borehole locations.mxd

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HILLSTREET DEVELOPMENTS
5868 County Road 65,
Port Hope, Ontario

LEGEND

- Borehole
- Sample Meets Table 2 and Table 8 SCS
- Sampled Exceeds both Table 2 and Table 8
- Sample Exceeds Table 8 SCS
- Site (approximate)

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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SOIL RESULTS

Project No.: 15091-003		Date: October 2022 Rev.:	
Scale: 1:4,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBB	Checked by: AW	Figure:	4

O:\GIS\MXDs\15000-15099\15091-003 Hillstreet Development - Phase Two ESA - 5868 County Rd 65, Port Hope\2022-10-18 FIG 4 Soil Results.mxd

Appended Tables

Table 1 - Soil Quality

Sample Location	Units	MDL	Table 2 RPI	Table 8 RPIICC	BH103	BH104	BH105	BH106		BH108	BH109	BH201	
Sample ID					BH103_0.0-0.6	BH104_0.75-1.35	BH105_0.0-0.6	BH106_0.75-1.35	QAQC2	BH108_0.0-0.6	BH109_0.75-1.35	BH201_0.0-0.6	QAQC1
Sample Date (dd-mmm-yy)					22-Sep-22	22-Sep-22	22-Sep-22	22-Sep-22	22-Sep-22	23-Sep-22	23-Sep-22	23-Sep-22	23-Sep-22
Sample Depth (mbgs)					0.0-0.6	0.75-1.35	0.0-0.6	0.75-1.35	-	0.0-0.6	0.75-1.35	0.0-0.6	-
Metals													
Arsenic	µg/g	1	18	18	2	1	8	1	1	2	1		-
Cyanide	µg/g	0.03	0.051	0.051	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		-
pH	N/A	0.05	NV	NV	6.96	-	-	-	-	-	7.77	-	-
BTEX													
Benzene	µg/g	0.02	0.21	0.02	-	-	-	-	-	-	-	<0.02	<0.02
Ethylbenzene	µg/g	0.05	1.1	0.05	-	-	-	-	-	-	-	<0.05	<0.05
Toluene	µg/g	0.05	2.3	0.2	-	-	-	-	-	-	-	<0.05	<0.05
m/p-Xylene	µg/g	0.05	NV	NV	-	-	-	-	-	-	-	<0.05	<0.05
o-Xylene	µg/g	0.05	NV	NV	-	-	-	-	-	-	-	<0.05	<0.05
Xylenes (total)	µg/g	0.05	3.1	0.05	-	-	-	-	-	-	-	<0.05	<0.05
Petroleum Hydrocarbons													
F1 (C6-C10)	µg/g	7	55	25	-	-	-	-	-	-	-	<7	<7
F2 (C10-C16)	µg/g	4	98	10	-	-	-	-	-	-	-	<4	<4
F3 (C16-C34)	µg/g	8	300	240	-	-	-	-	-	-	-	<8	<8
F4 (C34-C50)	µg/g	6	2800	120	-	-	-	-	-	-	-	<6	<6
Pesticides, OC													
Aldrin	µg/g	0.01	0.05	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
gamma-BHC (Lindane)	µg/g	0.01	0.056	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
alpha-Chlordane	µg/g	0.01	NV	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
gamma-Chlordane	µg/g	0.01	NV	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Chlordane	µg/g	0.01	0.05	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
o,p-DDD	µg/g	0.01	NV	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
p,p-DDD	µg/g	0.02	NV	NV	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
DDD	µg/g	0.02	3.3	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
o,p-DDE	µg/g	0.01	NV	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
p,p-DDE	µg/g	0.01	NV	NV	0.03	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	-	-
DDE	µg/g	0.01	0.26	0.05	0.03	<0.01	**0.06**	<0.01	<0.01	<0.01	<0.01	-	-
o,p-DDT	µg/g	0.01	NV	NV	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	-	-
p,p-DDT	µg/g	0.01	NV	NV	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	-	-
DDT	µg/g	0.01	1.4	1.4	<0.01	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	-	-
Dieldrin	µg/g	0.02	0.05	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
Endrin	µg/g	0.02	0.04	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
Endosulfan I	µg/g	0.01	NV	NV	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Endosulfan II	µg/g	0.02	NV	NV	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-
Heptachlor	µg/g	0.01	0.15	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Heptachlor Epoxide	µg/g	0.01	0.05	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Hexachlorobenzene	µg/g	0.01	0.52	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Hexachlorobutadiene	µg/g	0.01	0.012	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Hexachloroethane	µg/g	0.01	0.089	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-
Methoxychlor	µg/g	0.01	0.13	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-

Notes:
Table 2 Standards - Full Depth Generic Potable Site Condition Standards - Residential/Parkland/Institutional Property Use, Coarse
Bold and shaded grey - value exceeds both Table 2 RPI and Table 8 RPIICC, coarse
Table 8 Standards - Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Ground Water Condition - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, Coarse
Bold and shaded blue - value exceeds Table 8 RPIICC
Bold and underline - MDL exceeds standard
N/A - not applicable
NC - The duplicate RPD was not calculated. One or both samples < 5x RDL.
NV - no value
"-" not analyzed

Table 2: Potential Contaminating Activities

Potentially Contaminating Activity (PCA)		Location of PCA	PCA Description	APEC?	Contaminants of Potential Environmental Concern	Media Potentially Impacted (Groundwater or Soil)
1	Former orchards on the east, southeast and central portions of the Site from at least 1928 until 1988	On-site: East, southeast and central portions of the Site	Item 40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	YES	OCs, Metals, As, Sb, Se.	Soil
2	Former heating oil AST in the basement level of the residential dwelling	On-site: North portion of the basement level of the on-site residential dwelling	Item 28 - Gasoline and Associated Products Storage in Fixed Tanks	NO	PHCs, BTEX, PAHs	Soil
3	Inferred automotive towing and/or automotive repair/servicing operations at 5992 County Road 65, and recurring reported spills at this property	Off-site: Adjacent north property	Item 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	YES	PHCs, BTEX	Soil
4	Former railway line running in an east-west direction south of the Site from at least 1928 until 1974	Off-site: Approximately 10 m south	Item 46 - Rail Yards, Tracks and Spurs	NO	PAHs, PHCs, BTEX, Metals, Cr(IV), Hg, B-HWS, pH, CN-, EC, SAR	Soil
5	Pole-mounted oil-cooled transformer located east of the Site	Off-site: Adjacent east of the Site (on boulevard).	Item 55 - Transformer Manufacturing, Processing and Use	NO	PHCs, PAHs and PCBs	Groundwater

Notes:

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

Table 3: Areas of Potential Environmental Concern

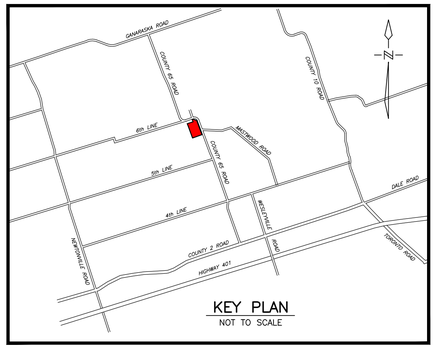
Area of Potential Environmental Concern (APEC)[1]	Location of APEC on the Phase One Property	Potentially Contaminating Activity[2]		Location of PCA (on-site or off-site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil, and/or sediment)
Former on-site orchards	East, southeast and central portions of the Site	1	Item 40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-site	OCs, Metals, As, Sb, Se	Soil
Inferred automotive towing and/or repair/servicing operations at 5992 County Road 65, and recurring reported spills at this property	North portion of the Site	3	Item 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Off-site	PHCs (F1-F4) and BTEX	Soil

Notes:

1. Area of Potential Environmental Concern means the area on, in, or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment.
2. Potentially Contaminating Activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area.
3. 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.

Appendix A

Laboratory Certificates of Analysis



LAND USE SCHEDULE

PROPOSED USE	LOT/BLK #	# OF LOTS/BLKS	# OF UNITS	AREA (ha)
LOW DENSITY RESIDENTIAL				
SINGLE DETACHED	LOTS 1 – 59	59	59	16.012
NON RESIDENTIAL				
OPEN SPACE	BLOCKS 60 & 61	2	2	6.379
ROADS	20.0m ROW			2.223
TOTALS		61	59	24.623

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 OF THE PLANNING ACT

E NORTH –RURAL RESIDENTIAL
SOUTH –RURAL RESIDENTIAL
EAST –AGRICULTURAL
WEST –AGRICULTURAL
H –PIPED MUNICIPAL WATER
I –TILL
K –NO MUNICIPAL SERVICES AVAILABLE

No.	REVISION	DATE	BY	APPROVED

REVISIONS

OWNER'S AUTHORIZATION

I/WE LAND OWNER

BEING THE REGISTERED OWNER OF THE SUBJECT LANDS HEREBY AUTHORIZE

D.G.BIDDLE AND ASSOC. LTD.

TO PREPARE AND SUBMIT A DRAFT PLAN OF SUBDIVISION FOR APPROVAL

SIGNED _____
TITLE

DATE _____

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARY OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN

ONTARIO LAND SURVEYOR
ONTARIO LAND SURVEYORS

SIGNED _____
O.L.S

DATE _____

D.G.Biddle & Associates Limited
consulting engineers and planners
96 KING STREET EAST • OSHAWA,ON L1H 1B6
PHONE (905)576-8500 • FAX (905)576-9730
info@dgbiddle.com

PRELIMINARY

DRAFT PLAN

PART OF LOT 27, CONCESSION 5
FORMERLY IN THE TOWNSHIP OF HOPE
NOW IN THE
MUNICIPALITY OF PORT HOPE
COUNTY OF NORTHUMBERLAND

SCALE:	1:1000
DRAWN BY:	B.B.
DESIGN BY:	M.F.
CHECKED BY:	M.F.
PLOT DATE:	26/08/2022

122049

DP-1

Y:\JOB FILES\122000\122049 5868 COUNTY RD 65\122049 DRAWINGS\122049 ENGINEERING DRAWINGS\122049-2D-LOT PLAN - 1.DWG

Appendix B
Soil Lab Report

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Certificate of Analysis

Cambium Inc. (Kingston)
625 Fortune Crescent Unit 1
Kingston, ON K7P0L5
Attn: Alex Wood

Client PO: 5868 County Rd 65, Phase Two ESA
Project: 15091-003
Custody:

Report Date: 4-Oct-2022
Order Date: 23-Sep-2022

Order #: 2239579

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

Paracel ID	Client ID
2239579-01	BH201_0-0.6
2239579-02	QA/QC1
2239579-03	BH103_0-0.6
2239579-04	BH104_0.75-1.35
2239579-05	BH105_0-0.6
2239579-06	BH106_0.75-1.35
2239579-07	BH108_0-0.6
2239579-08	BH109_0.75-1.35
2239579-09	QA/QC2

Approved By:

Dale Robertson, BSc
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	27-Sep-22	27-Sep-22
Cyanide, free	MOE E3015 - Auto Colour, water extraction	28-Sep-22	28-Sep-22
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	28-Sep-22	28-Sep-22
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	27-Sep-22	27-Sep-22
PHC F1	CWS Tier 1 - P&T GC-FID	27-Sep-22	27-Sep-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	26-Sep-22	29-Sep-22
REG 153: Pesticides, OC	EPA 8081B - GC-ECD	26-Sep-22	29-Sep-22
Solids, %	CWS Tier 1 - Gravimetric	28-Sep-22	28-Sep-22

Summary of Criteria Exceedances

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

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

Regulatory Comparison:

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

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T2 Res/Park, coarse	-

Certificate of Analysis

Report Date: 04-Oct-2022

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

Order Date: 23-Sep-2022

Client PO: **5868 County Rd 65, Phase Two ESA**

Project Description: 15091-003

	Client ID:	BH201_0-0.6	QA/QC1	BH103_0-0.6	BH104_0.75-1.35	Criteria:	
	Sample Date:	23-Sep-22 11:00	23-Sep-22 09:00	22-Sep-22 09:30	22-Sep-22 10:30	Reg 153/04 -T2 Res/Park, coarse	-
	Sample ID:	2239579-01	2239579-02	2239579-03	2239579-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	91.9	95.8	94.2	98.0	-	-
General Inorganics							
Cyanide, free	0.03 ug/g	-	-	<0.03	<0.03	0.051 ug/g	-
pH	0.05 pH Units	-	-	6.96	-	5.00 - 9.00 pH Units	-
Metals							
Arsenic	1 ug/g	-	-	2	1	18 ug/g	-
Volatiles							
Benzene	0.02 ug/g	<0.02	<0.02	-	-	0.21 ug/g	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	-	-	1.1 ug/g	-
Toluene	0.05 ug/g	<0.05	<0.05	-	-	2.3 ug/g	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	-	-	3.1 ug/g	-
Toluene-d8	Surrogate	103%	102%	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	-	-	55 ug/g	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	-	-	98 ug/g	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	-	-	300 ug/g	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	-	-	2800 ug/g	-
Pesticides, OC							
Aldrin	0.01 ug/g	-	-	<0.01	<0.01	0.05 ug/g	-
gamma-BHC (Lindane)	0.01 ug/g	-	-	<0.01	<0.01	0.056 ug/g	-
alpha-Chlordane	0.01 ug/g	-	-	<0.01	<0.01	-	-
gamma-Chlordane	0.01 ug/g	-	-	<0.01	<0.01	-	-
Chlordane	0.01 ug/g	-	-	<0.01	<0.01	0.05 ug/g	-

	Client ID:	BH201_0-0.6	QA/QC1	BH103_0-0.6	BH104_0.75-1.35	Criteria:	
	Sample Date:	23-Sep-22 11:00	23-Sep-22 09:00	22-Sep-22 09:30	22-Sep-22 10:30	Reg 153/04 -T2 Res/Park, coarse	-
	Sample ID:	2239579-01	2239579-02	2239579-03	2239579-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Pesticides, OC							
o,p'-DDD	0.01 ug/g	-	-	<0.01	<0.01	-	-
p,p'-DDD	0.02 ug/g	-	-	<0.02	<0.02	-	-
DDD	0.02 ug/g	-	-	<0.02	<0.02	3.3 ug/g	-
o,p'-DDE	0.01 ug/g	-	-	<0.01	<0.01	-	-
p,p'-DDE	0.01 ug/g	-	-	0.03	<0.01	-	-
DDE	0.01 ug/g	-	-	0.03	<0.01	0.26 ug/g	-
o,p'-DDT	0.01 ug/g	-	-	<0.01	<0.01	-	-
p,p'-DDT	0.01 ug/g	-	-	<0.01	<0.01	-	-
DDT	0.01 ug/g	-	-	<0.01	<0.01	1.4 ug/g	-
Dieldrin	0.02 ug/g	-	-	<0.02	<0.02	0.05 ug/g	-
Endrin	0.02 ug/g	-	-	<0.02	<0.02	0.04 ug/g	-
Endosulfan I	0.01 ug/g	-	-	<0.01	<0.01	-	-
Endosulfan II	0.02 ug/g	-	-	<0.02	<0.02	-	-
Heptachlor	0.01 ug/g	-	-	<0.01	<0.01	0.15 ug/g	-
Heptachlor epoxide	0.01 ug/g	-	-	<0.01	<0.01	0.05 ug/g	-
Hexachlorobenzene	0.01 ug/g	-	-	<0.01	<0.01	0.52 ug/g	-
Hexachlorobutadiene	0.01 ug/g	-	-	<0.01	<0.01	0.012 ug/g	-
Hexachloroethane	0.01 ug/g	-	-	<0.01	<0.01	0.089 ug/g	-
Methoxychlor	0.01 ug/g	-	-	<0.01	<0.01	0.13 ug/g	-
Decachlorobiphenyl	Surrogate	-	-	84.9%	91.9%	-	-

Certificate of Analysis

Report Date: 04-Oct-2022

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

Order Date: 23-Sep-2022

Client PO: **5868 County Rd 65, Phase Two ESA**

Project Description: 15091-003

	Client ID:	BH105_0-0.6	BH106_0.75-1.35	BH108_0-0.6	BH109_0.75-1.35	Criteria:	
	Sample Date:	22-Sep-22 11:30	22-Sep-22 12:30	22-Sep-22 14:30	23-Sep-22 15:30	Reg 153/04 -T2 Res/Park, coarse	-
	Sample ID:	2239579-05	2239579-06	2239579-07	2239579-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	96.1	98.0	95.9	96.3	-	-
General Inorganics							
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	0.051 ug/g	-
pH	0.05 pH Units	-	-	-	7.77	5.00 - 9.00 pH Units	-
Metals							
Arsenic	1 ug/g	8	1	2	1	18 ug/g	-
Pesticides, OC							
Aldrin	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.05 ug/g	-
gamma-BHC (Lindane)	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.056 ug/g	-
alpha-Chlordane	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
gamma-Chlordane	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
Chlordane	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.05 ug/g	-
o,p'-DDD	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
p,p'-DDD	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
DDD	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	3.3 ug/g	-
o,p'-DDE	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
p,p'-DDE	0.01 ug/g	0.05	<0.01	<0.01	<0.01	-	-
DDE	0.01 ug/g	0.06	<0.01	<0.01	<0.01	0.26 ug/g	-
o,p'-DDT	0.01 ug/g	0.02	<0.01	<0.01	<0.01	-	-
p,p'-DDT	0.01 ug/g	0.02	<0.01	<0.01	<0.01	-	-
DDT	0.01 ug/g	0.05	<0.01	<0.01	<0.01	1.4 ug/g	-
Dieldrin	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.05 ug/g	-
Endrin	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.04 ug/g	-
Endosulfan I	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
Endosulfan II	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-

	Client ID:	BH105_0-0.6	BH106_0.75-1.35	BH108_0-0.6	BH109_0.75-1.35	Criteria:	
	Sample Date:	22-Sep-22 11:30	22-Sep-22 12:30	22-Sep-22 14:30	23-Sep-22 15:30	Reg 153/04 -T2 Res/Park, coarse	-
	Sample ID:	2239579-05	2239579-06	2239579-07	2239579-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Pesticides, OC							
Heptachlor	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.15 ug/g	-
Heptachlor epoxide	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.05 ug/g	-
Hexachlorobenzene	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.52 ug/g	-
Hexachlorobutadiene	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.012 ug/g	-
Hexachloroethane	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.089 ug/g	-
Methoxychlor	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.13 ug/g	-
Decachlorobiphenyl	Surrogate	130%	114%	86.2%	90.8%	-	-

	Client ID:	QA/QC2				**Criteria:**	
	Sample Date:	22-Sep-22 09:00				**Reg 153/04 -T2 Res/Park, coarse**	-
	Sample ID:	2239579-09					
	Matrix:	Soil					
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	98.6	-	-	-	-	-
General Inorganics							
Cyanide, free	0.03 ug/g	<0.03	-	-	-	0.051 ug/g	-
Metals							
Arsenic	1 ug/g	1	-	-	-	18 ug/g	-
Pesticides, OC							
Aldrin	0.01 ug/g	<0.01	-	-	-	0.05 ug/g	-
gamma-BHC (Lindane)	0.01 ug/g	<0.01	-	-	-	0.056 ug/g	-
alpha-Chlordane	0.01 ug/g	<0.01	-	-	-	-	-
gamma-Chlordane	0.01 ug/g	<0.01	-	-	-	-	-
Chlordane	0.01 ug/g	<0.01	-	-	-	0.05 ug/g	-
o,p'-DDD	0.01 ug/g	<0.01	-	-	-	-	-
p,p'-DDD	0.02 ug/g	<0.02	-	-	-	-	-
DDD	0.02 ug/g	<0.02	-	-	-	3.3 ug/g	-
o,p'-DDE	0.01 ug/g	<0.01	-	-	-	-	-
p,p'-DDE	0.01 ug/g	<0.01	-	-	-	-	-
DDE	0.01 ug/g	<0.01	-	-	-	0.26 ug/g	-
o,p'-DDT	0.01 ug/g	<0.01	-	-	-	-	-
p,p'-DDT	0.01 ug/g	<0.01	-	-	-	-	-
DDT	0.01 ug/g	<0.01	-	-	-	1.4 ug/g	-
Dieldrin	0.02 ug/g	<0.02	-	-	-	0.05 ug/g	-
Endrin	0.02 ug/g	<0.02	-	-	-	0.04 ug/g	-
Endosulfan I	0.01 ug/g	<0.01	-	-	-	-	-
Endosulfan II	0.02 ug/g	<0.02	-	-	-	-	-
Heptachlor	0.01 ug/g	<0.01	-	-	-	0.15 ug/g	-

	Client ID:	QA/QC2				Criteria:	
	Sample Date:	22-Sep-22 09:00				Reg 153/04 -T2 Res/Park, coarse	-
	Sample ID:	2239579-09					
	Matrix:	Soil					
	MDL/Units						
Pesticides, OC							
Heptachlor epoxide	0.01 ug/g	<0.01	-	-	-	0.05 ug/g	-
Hexachlorobenzene	0.01 ug/g	<0.01	-	-	-	0.52 ug/g	-
Hexachlorobutadiene	0.01 ug/g	<0.01	-	-	-	0.012 ug/g	-
Hexachloroethane	0.01 ug/g	<0.01	-	-	-	0.089 ug/g	-
Methoxychlor	0.01 ug/g	<0.01	-	-	-	0.13 ug/g	-
Decachlorobiphenyl	Surrogate	85.6%	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Cyanide, free	ND	0.03	ug/g					
Hydrocarbons								
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
Metals								
Arsenic	ND	1	ug/g					
Pesticides, OC								
Aldrin	ND	0.01	ug/g					
gamma-BHC (Lindane)	ND	0.01	ug/g					
alpha-Chlordane	ND	0.01	ug/g					
gamma-Chlordane	ND	0.01	ug/g					
Chlordane	ND	0.01	ug/g					
o,p'-DDD	ND	0.01	ug/g					
p,p'-DDD	ND	0.02	ug/g					
DDD	ND	0.02	ug/g					
o,p'-DDE	ND	0.01	ug/g					
p,p'-DDE	ND	0.01	ug/g					
DDE	ND	0.01	ug/g					
o,p'-DDT	ND	0.01	ug/g					
p,p'-DDT	ND	0.01	ug/g					
DDT	ND	0.01	ug/g					
Dieldrin	ND	0.02	ug/g					
Endrin	ND	0.02	ug/g					
Endosulfan I	ND	0.01	ug/g					
Endosulfan II	ND	0.02	ug/g					
Heptachlor	ND	0.01	ug/g					
Heptachlor epoxide	ND	0.01	ug/g					
Hexachlorobenzene	ND	0.01	ug/g					
Hexachlorobutadiene	ND	0.01	ug/g					
Hexachloroethane	ND	0.01	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Methoxychlor	ND	0.01	ug/g					
Surrogate: Decachlorobiphenyl	*0.0400*		*ug/g*	*80.0*	*50-140*			
Volatiles								
Benzene	ND	0.02	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
Surrogate: Toluene-d8	*8.07*		*ug/g*	*101*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	7.23	0.05	pH Units	7.31			1.1	2.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
Metals									
Arsenic	2.1	1	ug/g	2.0			NC	30	
Pesticides, OC									
Aldrin	ND	0.01	ug/g	ND			NC	40	
gamma-BHC (Lindane)	ND	0.01	ug/g	ND			NC	40	
alpha-Chlordane	ND	0.01	ug/g	ND			NC	40	
gamma-Chlordane	ND	0.01	ug/g	ND			NC	40	
o,p'-DDD	ND	0.01	ug/g	ND			NC	40	
p,p'-DDD	ND	0.02	ug/g	ND			NC	40	
o,p'-DDE	ND	0.01	ug/g	ND			NC	40	
p,p'-DDE	0.03	0.01	ug/g	0.03			2.4	40	
o,p'-DDT	ND	0.01	ug/g	ND			NC	40	
p,p'-DDT	ND	0.01	ug/g	ND			NC	40	
Dieldrin	ND	0.02	ug/g	ND			NC	40	
Endrin	ND	0.02	ug/g	ND			NC	40	
Endosulfan I	ND	0.01	ug/g	ND			NC	40	
Endosulfan II	ND	0.02	ug/g	ND			NC	40	
Heptachlor	ND	0.01	ug/g	ND			NC	40	
Heptachlor epoxide	ND	0.01	ug/g	ND			NC	40	
Hexachlorobenzene	ND	0.01	ug/g	ND			NC	40	
Hexachlorobutadiene	ND	0.01	ug/g	ND			NC	40	
Hexachloroethane	ND	0.01	ug/g	ND			NC	40	
Methoxychlor	ND	0.01	ug/g	ND			NC	40	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Decachlorobiphenyl	*0.0372*		*ug/g*		*70.0*	*50-140*			
Physical Characteristics									
% Solids	89.2	0.1	% by Wt.	85.6			4.1	25	
Volatiles									
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: Toluene-d8	*9.68*		*ug/g*		*106*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.254	0.03	ug/g	ND	71.9	50-150			
Hydrocarbons									
F1 PHCs (C6-C10)	162	7	ug/g	ND	80.9	80-120			
F2 PHCs (C10-C16)	78	4	ug/g	ND	86.6	60-140			
F3 PHCs (C16-C34)	185	8	ug/g	ND	83.7	60-140			
F4 PHCs (C34-C50)	143	6	ug/g	ND	102	60-140			
Metals									
Arsenic	42.6	1	ug/g	1.2	82.8	70-130			
Pesticides, OC									
Aldrin	0.21	0.01	ug/g	ND	99.9	50-140			
gamma-BHC (Lindane)	0.19	0.01	ug/g	ND	89.3	50-140			
alpha-Chlordane	0.19	0.01	ug/g	ND	89.0	50-140			
gamma-Chlordane	0.19	0.01	ug/g	ND	87.2	50-140			
o,p'-DDD	0.19	0.01	ug/g	ND	90.5	50-140			
p,p'-DDD	0.18	0.02	ug/g	ND	87.0	50-140			
o,p'-DDE	0.19	0.01	ug/g	ND	88.3	50-140			
p,p'-DDE	0.20	0.01	ug/g	0.03	80.6	50-140			
o,p'-DDT	0.19	0.01	ug/g	ND	89.3	50-140			
p,p'-DDT	0.15	0.01	ug/g	ND	72.6	50-140			
Dieldrin	0.19	0.02	ug/g	ND	87.8	50-140			
Endosulfan I	0.20	0.01	ug/g	ND	93.5	50-140			
Endosulfan II	0.17	0.02	ug/g	ND	81.8	50-140			
Heptachlor	0.19	0.01	ug/g	ND	90.5	50-140			
Heptachlor epoxide	0.20	0.01	ug/g	ND	92.4	50-140			
Hexachlorobenzene	0.20	0.01	ug/g	ND	96.0	50-140			
Hexachlorobutadiene	0.19	0.01	ug/g	ND	90.3	50-140			
Hexachloroethane	0.22	0.01	ug/g	ND	104	50-140			
Methoxychlor	0.13	0.01	ug/g	ND	61.1	50-140			
Surrogate: Decachlorobiphenyl	*0.0463*		*ug/g*		*87.2*	*50-140*			
Volatiles									

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	4.03	0.02	ug/g	ND	101	60-130			
Ethylbenzene	3.94	0.05	ug/g	ND	98.4	60-130			
Toluene	4.13	0.05	ug/g	ND	103	60-130			
m,p-Xylenes	7.67	0.05	ug/g	ND	95.8	60-130			
o-Xylene	3.85	0.05	ug/g	ND	96.2	60-130			
Surrogate: Toluene-d8	*7.72*		*ug/g*		*96.5*	*50-140*			

Qualifier Notes:

QC Qualifiers:

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unlesss otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.

- F1 range corrected for BTEX.

- F2 to F3 ranges corrected for appropriate PAHs where available.

- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.

- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

- When reported, data for F4G has been processed using a silica gel cleanup.

PARA LABORATORIES

Paracel ID: 2239579

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Ottawa, Ontario K1G 4J8
1-800-749-1947
paracel@paracellabs.com
www.paracellabs.com

Paracel Order Number (Lab Use Only): 223979

Chain Of Custody (Lab Use Only)

Client Name: Cambium Inc.	Project Ref: 5868 County Rd 65, Phase Two ESA	Page 1 of 1
Contact Name: Alex Wood	Quote #: standing offer	**Turnaround Time**
Address: 625 Fortune Crescent #1, Kingston, ON K7P 0L5	PO #: 15091-003	☐ 1 day ☐ 3 day
	E-mail: alex.wood@cambium-inc.com & christine.wilson@cambium-inc	☐ 2 day ☒ Regular
Telephone: 6138762047		Date Required:

☒ REG 153/04 ☐ REG 406/19	Other Regulation
☐ Table 1 ☒ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO
☒ Table 2 ☐ Ind/Comm ☒ Coarse	☐ CCME ☐ MISA
☐ Table 3 ☐ Agri/Other	☐ SU - Sani ☐ SU - Storm
☐ Table ___	Mun:
For RSC: ☐ Yes ☒ No	☐ Other:

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

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	Required Analysis: VOCs	Arsenic (Hydride)	Cyanide	Pesticide, OC	Texture	pH	PHCs + BTEX					
1	BH201_0-0.6	S		2	Sept 22, 2022	11:00AM							✔					
2	QA/QC1	S		2	Sept 22, 2022								✔					
3	BH103_0-0.6	S		1	Sept 22, 2022	9:30 AM		✔	✔	✔		✔						
4	BH104_0.75-1.35	S		1	Sept 22, 2022	10:30 AM		✔	✔	✔								
5	BH105_0-0.6	S		1	Sept 22, 2022	11:30 AM		✔	✔	✔								
6	BH106_0.75-1.35	S		1	Sept 22, 2022	12:30 PM		✔	✔	✔								
7	BH108_0-0.6	S		1	Sept 22, 2022	2:30 PM		✔	✔	✔								
8	BH109_0.75-1.35	S		1	Sept 22, 2022	3:30PM		✔	✔	✔		✔						
9	QA/QC2	S		1	Sept 22, 2022			✔	✔	✔								
10																		

Comments:

Method of Delivery: drop-box

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: Catherine McGuire	Verified By:
Relinquished By (Print): Forbes Tinney	Date/Time: Sept 23 15:30	Date/Time: Sept 24/22 11:30	Date/Time: 09/26/2022
Date/Time: 2022-09-23, 3:30 pm	Temperature: 9.5 °C	Temperature: 8.9 °C	pH Verified: ☐ By: