FINAL

Phase Two Environmental Site Assessment

125 Colonnade Road,
Ottawa, Ontario

Prepared for:

Access Property Development Inc.
100 Canadian Road
Toronto ON, M1R 4Z5

March 31, 2022

Pinchin File: 300895.001

Issued To:	**Access Property Development Inc.**
Issued On:	**March 31, 2022**
Pinchin File:	**300895.001**
Issuing Office:	**Kanata, ON**

Author: Matthew Ryan, B.A., CET., EP
Operations Manager
613.614.7221
mryan@pinchin.com

Reviewer: Scott Mather, P.Eng., QP$_{ESA}$
Director, Eastern Ontario
613.851.4098
smather@pinchin.com

TABLE OF CONTENTS

APPENDICES

FIGURES

TABLES

1.0 EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Access Property Development Inc. (Client), to complete a Phase Two Environmental Site Assessment (Phase Two ESA) of the property located at 125 Colonnade Road, in Ottawa, Ontario (hereafter referred to as the Site or Phase Two Property).

The Phase Two Property is situated at the municipal address of 125 Colonnade Road, Ottawa, Ontario which is currently owned by the Client. The Phase One Property is located on the southwest corner of the intersection of Colonnade Road and Prince of Wales Drive. The Phase One Property is a multi-tenant commercial warehouse distribution and storage building (Site Building A), with a mezzanine, that occupies the central portion of the Phase One Property and the garage utilized as storage for the Client (Site Building B) is located along the south portion of the Phase One Property.

The Phase Two ESA was conducted at the request of the Client in support of the Client's application for Site Plan Approval (SPA) with the City of Ottawa for the above-noted property (Site).

This Phase Two ESA was conducted in accordance with the Province of Ontario's *Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act*, which was last amended by Ontario Regulation 274/20 on July 1, 2020 (O. Reg. 153/04) at the request of the Client for SPA with the City of Ottawa. Pinchin's understanding that the Client does not intend to file a Record of Site Condition (RSC) with the Ontario Ministry of Environment, Conservation and Parks (MECP).

The objectives of this Phase Two ESA were to assess the soil and groundwater quality in relation to the five areas of potential environmental concern (APEC) and related potentially contaminating activity (PCA) and contaminants of potential concern (COPCs) identified in a Phase One ESA completed by Pinchin in accordance with O. Reg. 153/04.

The Phase Two ESA was completed by Pinchin between March 7, 2022, and March 12, 2022, and included the advancement of six boreholes at the Phase Two Property, two of which were completed as groundwater monitoring wells to facilitate the sampling of groundwater. The boreholes were advanced to depths ranging from approximately 0.61 to 6.01 metres below ground surface (mbgs). Select soil samples collected from each of the borehole locations were submitted for laboratory analysis of petroleum hydrocarbons (PHCs) fractions F1- F4 (F1-F4), volatile organic carbons (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals and/or polychlorinated biphenyls (PCBs). Groundwater samples were collected from the newly installed monitoring wells and submitted for laboratory analysis of VOCs, PHC (F1-F4), PAHs and metals.

Based on Site-specific information, the applicable regulatory standards for the Phase Two Property were determined to be the *"Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition",* provided in the MECP document entitled, *"Soil, Ground Water and Sediment Standards*

for Use Under Part XV.1 of the Environmental Protection Act" dated April 15, 2011 *(Table 3 Standards)* for medium/fine-textured soils and Industrial/commercial/community property use.

The laboratory results for the submitted soil samples indicated that all reported concentrations for the parameters analyzed met the corresponding *Table 3 Standards* with the exception of:

- The concentrations of benzo(a)pyrene (1.02 micrograms per gram (µg/g) vs. the *Table 3 Standard* of 0.3 µg/g), benzo(b)fluoranthene (1.03 µg/g vs. the *Table 3 Standard* of 0.96 µg/g) and dibenzo(a,h)anthracene (0.16 µg/g vs. the *Table 3 Standard* of 0.1 µg/g) reported for soil sample BH-5 SS-1, collected at borehole BH-5 from a depth of 0.0 to 0.61 mbgs, exceeded the *Table 3 Standards*.
- The concentrations of vanadium reported for soil sample MW-1 SS-7 (105 µg/g vs. the *Table 3 Standard* of 86 µg/g) and its field duplicate (DUP-MW2) (98.4 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-1 from a depth of 4.57-5.33 mbgs, exceeded the *Table 3 Standards*.
- The concentrations of vanadium reported for soil sample MW-2 SS-6 (98.4 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-2 from a depth of 3.81-4.57 mbgs, exceeded the *Table 3 Standards*.

The laboratory results for all groundwater samples submitted during the Phase Two ESA indicated that all reported concentrations for the parameters analyzed met the corresponding *Table 3 Standards*.

It should be noted, the Phase One Property and area is known to have elevated concentrations vanadium. It is the opinion of the QP_{ESA} supervising the Phase One ESA that vanadium parameters in soil may be present at concentrations exceeding the applicable Site Condition Standards (i.e., *Table 3 Standards*) as a result of naturally occurring concentrations within the soils.

Based on the results of the Phase Two ESA completed by Pinchin, it is Pinchin's recommendation that the soil impacts identified at the Site could be remediated upon redevelopment of the Site at a later date.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

2.0 INTRODUCTION

A Phase Two ESA is defined as an "assessment of property conducted in accordance with the regulations by or under the supervision of a QP to determine the location and concentration of one or more contaminants in the land or water on, in or under the property". Under O. Reg. 153/04, the purpose of a Phase Two ESA is as follows:

- To determine the location and concentration of contaminants in the land or water on, in or under the Phase Two Property; and
- To determine if applicable Site Condition Standards for contaminants on, in or under the Phase Two Property were met as of the certification date by developing an understanding of the geological and hydrogeological conditions at the Phase Two Property and conducting one or more rounds of field sampling for all contaminants associated with any APEC identified in the Phase Two ESA sampling and analysis plan (SAP) and for any such contaminants identified during subsequent Phase Two ESA activities and analyses of environmental conditions at the Phase Two Property.

The Phase Two ESA was conducted at the request of the Client in support of the Client's application for Site Plan Approval (SPA) with the City of Ottawa for the above-noted property (Site). The Phase Two ESA was conducted in accordance with O. Reg. 153/04 even though the Client does not intend to submit an RSC to MECP given that there is no regulatory requirement to file one.

The overall objectives of this Phase Two ESA were to assess the soil and groundwater quality in relation to APECs and related COPCs identified in a Phase One ESA completed by Pinchin, the findings of which were summarized in the report entitled "*DRAFT Phase One Environmental Site Assessment 125 Colonnade Road Ottawa, Ontario"*, completed by Pinchin for the Client and dated December 16, 2021. The property assessed by the Pinchin Phase One ESA is referred to herein as the Phase One Property. The Phase Two ESA was conducted on the whole Phase One Property, at specific APECs identified during the Phase One ESA, and the Phase One Property and Phase Two Property have the same boundaries.

2.1 Site Description

This Phase Two ESA was completed for the property located at the municipal address of 125 Colonnade Road, Ottawa, Ontario. A Key Map showing the Phase Two Property location is provided on Figure 1 and a detailed plan of the Phase Two Property and surrounding lands is provided on Figure 2 (all Figures are provided within Section 9.0).

The Phase One Property is a multi-tenant commercial warehouse distribution and storage building (Site Building A), with a mezzanine, that occupies the central portion of the Phase One Property and the

garage utilized as storage for the Client (Site Building B) is located along the south portion of the Phase One Property.

A summary of the pertinent details of the Phase Two Property is provided in the following table:

Detail	Source / Reference	Information
Legal Description	2021 Paterson Group (Paterson) Phase I ESA Report	Part of Lots 28 and 29, Concessions A and B, in the City of Ottawa, Ontario
Municipal Address	Client	125 Colonnade Road, Ottawa, ON K2E 7L9
Parcel Identification Number (PIN)	N/A (legal land survey currently being prepared by Client)	N/A
Current Owner	Client	Access Property Development Inc.
Current Occupants	Site Representative	Good Food (Bay 1 to 10) Record Xpress Inc. (Bay 11 to 14)
Client	Authorization to Proceed Form for Pinchin Proposal	Access Property Development Inc.
Client Contact Information	Authorization to Proceed Form for Pinchin Proposal	Stephen Spooner c/o Access Property Development Inc. 100 Canadian Road Toronto, ON M1R 4Z5
Site Area	Google Earth™	32,200 m^2 (3.22 acres)
Current Zoning	https://maps.ottawa.ca/geoottawa/, Section 199-200 City of Ottawa Zoning By-law	IG5 – General Industrial Zone
Centroid UTM Co-ordinates	Google Earth™	445,043 Easting
		5,021,576 Northing
		Zone 18T

2.2 Property Ownership

The entirety of the Phase Two Property is currently owned by Access Property Development Inc., located at 100 Canadian Road, Toronto, ON M1R 4Z5. Contact information for the Phase Two Property owner is provided in the preceding section.

Pinchin was retained by Mr. Hind Barnieh to conduct the Phase Two ESA of the Phase Two Property. Contact information for Mr. Hind Barnieh is provided in the preceding section.

2.3 Current and Proposed Future Uses

The Phase Two Property is presently utilized for commercial land use. The proposed future use of the Site is to remain commercial, as such does not require that an RSC be filed as per Section 168.3.1 of the Province of Ontario's *Environmental Protection Act*.

2.4 Applicable Site Condition Standards

The Phase Two Property is currently a commercial property located within the City of Ottawa and the proposed future land use is to remain commercial. It is Pinchin's understanding that drinking water for the Phase Two Property and surrounding properties within 250 metres of the Phase Two Property is supplied by the City of Ottawa, and there are no known drinking water supply wells within 250 metres of the Phase Two Property. Source water is obtained by the City of Ottawa from the Ottawa River.

Bedrock was not encountered at any of the boreholes completed at the Phase Two Property during the Phase Two ESA, which were advanced to a maximum depth of approximately 6.01 mbgs and, as such, the Phase Two Property is not a shallow soil property as defined in Section 43.1 of O. Reg. 153/04.

The Phase Two Property does not contain a water body, nor is it located within 30 metres of a water body and the use of standards for properties situated within 30 metres of a water body is not required.

Section 41 of O. Reg. 153/04 states that a property is classified as an "environmentally sensitive area" if the pH of the surface soil (less than or equal to 1.5 mbgs) is less than 5 or greater than 9, if the pH of the subsurface soil (greater than 1.5 mbgs) is less than 5 or greater than 11, or if the property is an area of natural significance or is adjacent to or contains land within 30 metres of an area of natural significance. A total of two representative soil samples collected from the boreholes advanced at the Phase Two Property were submitted for pH analysis. The pH analytical results are summarized in Table 2. The pH values measured in the submitted soil samples were within the limits for non-sensitive sites. The Phase Two Property is also not an area of natural significance, and it is not adjacent to, nor does it contain land within 30 metres of, an area of natural significance. As such, the Phase Two Property is not an environmentally sensitive area.

As discussed further in Section 6.4, based on the results of grain size analysis completed on representative soil samples collected during the Phase Two ESA and the observed stratigraphy at the borehole locations at the Phase Two Property, it is the QP's opinion that over two-thirds of the overburden at the Phase Two Property is medium/fine-textured as defined by O. Reg. 153/04. Therefore, the soil at the Phase Two Property has been considered medium/fine textured for the purpose of establishing the applicable MECP Site Condition Standards.

Based on the above, the appropriate Site Condition Standards for the Phase Two Property are the Table 3 Standards for:

- Medium/Fine soil; and
- Industrial/commercial/community property use.

As such, all analytical results have been compared to these *Table 3 Standards*.

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

The elevation of the Phase One Property, based on information obtained from the Ontario Base Map series, is approximately 82 m above mean sea level (mamsl). The general topography in the local and surrounding areas is generally flat with a slight grade downward in elevation to the east. The Phase One Property is at a similar elevation to the adjacent/surrounding properties to the north, the surrounding properties to the east are approximately 1.0 m lower in elevation than the Phase One Property and properties to the south and west and 1.0 m higher in elevation than the Phase One Property. No bedrock outcrops were observed on-Site or in the surrounding area. No bedrock outcrops were observed on-Site or in the surrounding area. Based on data from the Well Records Database, the overburden thickness on the adjacent property to the east of the Site (i.e., depth to bedrock) is over 32 mbgs.

There are no drainage features (e.g., open ditches or swales) present on-Site. Surface water (e.g., storm runoff) is inferred to run overland and drain into the on-Site municipal storm sewer catch basins.

There are no open water bodies or areas of natural significance located on-Site or within the area assessed by the Pinchin Phase One ESA (the Phase One Study Area). A plan showing the Phase One Study Area is presented on Figure 2. The nearest surface water body is the Rideau River, located approximately 150 m east of the Phase One Property at an elevation of approximately 72 mamsl.

A review of the municipal plan for the City of Ottawa indicated that the Phase Two Study Area is not located in whole or in part within a well head protection area or other designation identified by the City of Ottawa for the protection of groundwater.

The records review indicated that the Phase One Property and all other properties within the Phase One Study Area are not serviced by a municipal drinking water system.

3.2 Past Investigations

3.2.1 Summary of Previous environmental Investigations by Others.

The following previous environmental reports for the Phase One Property provided by the Client were reviewed by Pinchin:

- Report entitled "*Phase I Environmental Site Assessment, 125 Colonnade Road South, Ottawa, Ontario*" prepared for the Client by Paterson, and dated January 11, 2021 (2021 Paterson Phase I ESA Report); and
- Report entitled "*Phase II Environmental Site Assessment, 125 Colonnade Road South, Ottawa, Ontario*" prepared for the Properties Group by Paterson, and dated January 19, 2021 (2021 Paterson Phase II ESA Report).

A summary of the salient information identified in the above-referenced reports prepared by others is provided below.

3.2.1.1 2021 Paterson Phase I ESA Report

The 2021 Paterson Phase I ESA Summary presented the findings of a Phase I ESA completed by Paterson Group in general accordance with the CSA document entitled "*Phase II Environmental Site Assessment*" (CSA Document Z768-01), dated November 2001 (reaffirmed 2006), including a review of readily available historical records and reasonably ascertainable regulatory information, a Site reconnaissance, interviews, an evaluation of information and reporting. Based on Pinchin's review of the 2021 Paterson Phase I ESA Report, the following salient information was noted:

- At the time of the Site reconnaissance, the Phase One Property was developed with a single-storey, multi-tenant commercial, warehouse distribution and storage building (Site Building A), with a mezzanine, and a garage located to the south of the Phase One Property (Site Building B);
- The Phase One Property was originally developed in early 1980s;
- In 1980s, Site Building A was occupied by Provincial Fruit Co. until the 1990s, and Domtar Inc. and E.B. Eddy Forest Products used the Site until 2006 as a sheeting plant to cut and package paper which included using various halogenated solvents;
- Subsequent tenants included a dry storage warehouse for a trucking and distributer company;
- The surrounding areas were historically developed with residential and commercial land uses;
- The following potential environmental concerns were noted by Paterson:

- The presence of a railway spur line from a previously used railway line, that was identified south and southeast on the Site; and
- A large drain located in the southern garage, Site Building B, that was expected to have been for snow melt and cleaning of vehicles from the previously existing trucking company (Rosedale Trucking). The drain was considered to pose a risk to the Site, although the risk was noted as relatively low.

Paterson recommended a Phase II ESA at the Phase One Property in order to identify impacts due to the environmental concerns outlined above.

3.2.1.2 Paterson Phase II ESA Report

The Paterson Phase II ESA was completed to assess the impact of the spur line from the south and southeast portion on the Site and potential impact of tenants in Site Building A and Site Building B that included the past on-site use of various petroleum products and halogenated solvents identified at the Site.

Paterson drilled nine boreholes to depths ranging from 5.2 metres below ground surface (mbgs) to 5.9 mbgs, with all nine of the boreholes completed as groundwater monitoring wells (see Figure 2 for the locations of the boreholes and groundwater monitoring wells, nine groundwater monitoring wells were listed in the 2021 Paterson Phase II ESA report, however, during the Site Reconnaissance only five monitoring wells were identified). Soil stratigraphy at the Paterson borehole locations generally consisted of brown silty sand with some gravel underlain by brown/grey silty clay. Groundwater depths ranged from approximately 1.58 mbgs to 3.47 mbgs.

Soil samples were submitted for the laboratory analyses of benzene, toluene, ethylbenzene and xylene (BTEX), petroleum hydrocarbons (PHCs) fractions F1- F4 (F1-F4), volatile organic carbons (VOCs), polycyclic aromatic hydrocarbons (PAHs) and/or metals. The results of the laboratory analyses were compared with the *Table 3 Standards* and satisfied the *Table 3 Standards*.

Groundwater samples were submitted for the laboratory analyses PHCs (F1-F4) and VOCs. The results of the laboratory analyses were compared with the *Table 3 Standards* and the following exceedance of the *Table 3 Standards* was identified;

- Tetrachloroethylene: Groundwater sample BH2-20-GW1 collected from groundwater monitoring well BH2 (6.6 micrograms per litre (µg/L) vs. the *Table 3 Standards* of 1.6 µg/L).

Paterson notes that the tetrachloroethylene exceedance in the groundwater sample collected at groundwater monitoring well BH2 was likely limited to the immediate area and was only slightly elevated

when compared to the *Table 3 Standards* and was not considered to pose a risk to the intended operation of the Site.

4.0 SCOPE OF INVESTIGATION

4.1 Overview of Site Investigation

The scope of work for this Phase Two ESA was prepared to address the APECs identified at the Phase Two Property and consisted of the following:

- Prepared a health and safety plan and arranged for the completion of underground utility locates prior to the commencement of drilling activities.
- Retained Strata Drilling Group Inc. (Strata) to advance boreholes using a Geoprobe GM100™ drill rig. Strata is licensed by the MECP in accordance with Ontario Regulation 903 (as amended) (O. Reg. 903) to undertake borehole drilling/well installation activities. Strata advanced six boreholes at the Phase Two Property to investigate the potential for soil contaminants associated with the APECs identified in the Phase One ESA.
- Collected soil samples at regular intervals within each borehole.
- Field screened soil samples for visual/olfactory evidence of impacts as well as for petroleum-derived vapours in soil headspace using a combustible gas indicator (CGI) calibrated to hexane and VOC-derived vapours in soil headspace using a photoionization detector (PID).
- Submitted a minimum of one “worst case” soil sample from each borehole for chemical analysis of:
  - VOCs;
  - PHCs (F1-F4);
  - PAHs;
  - Metals; and/or
  - PCBs
- Developed each of the newly installed monitoring wells prior to the collection of groundwater samples.
- Submitted one representative groundwater sample from each of the newly installed monitoring wells and for the chemical analysis of the following parameters:
  - VOCs;
  - PHCs (F1-F4);

- PAHs; and
- Metals and/or
- PCBs

- Submitted one duplicate soil sample and one duplicate groundwater sample for chemical analysis of select parameters for quality assurance/quality control (QA/QC) purposes.
- Submitted one trip blank for the groundwater sampling program for the chemical analysis of VOCs for QA/QC purposes.
- Submitted one representative soil sample for laboratory analysis of grain size and two representative soil samples for laboratory analysis of pH in order to confirm the appropriate MECP Site Condition Standards.
- Conducted groundwater monitoring at each of the newly installed groundwater monitoring wells by measuring depth to groundwater from both top of casing and ground surface reference points and assessing the presence/absence of non-aqueous phase liquid (NAPL), including light NAPL (LNAPL) and dense NAPL (DNAPL), using an oil/water interface probe.
- Compared the soil and groundwater analytical results to the applicable criteria stipulated in the *Table 3 Standards*.
- Prepared a report (this report) documenting the findings of the Phase Two ESA which meets the reporting requirements listed in *Schedule E* and *Table 1 – Mandatory Requirements for Phase Two Environmental Site Assessment Reports* of O. Reg. 153/04.

4.2 Media Investigated

The scope of work for this Phase Two ESA was prepared to address the APEC and corresponding media at the Phase Two Property as identified through completion of the Phase One ESA.

The media of concern for the Phase Two ESA were soil and groundwater. Pinchin included the assessment of groundwater as part of the Phase Two ESA to investigate groundwater quality in relation to the following off-Site APECS:

- APEC-1 (Transformer Substation located on the Phase One Property);
- APEC-2 (Historical halogenated solvents utilized on site by paper manufacturing company within Site Building A);
- APEC-3 (Historical transportation and distributer operations within Site Building B);
- APEC-4 (Railway spur); and

- APEC-5 (Pharmaceutical Company and Pulp and Paper Manufacture).

Pinchin did not conduct sediment sampling as part of this Phase Two ESA as there are no surface water bodies and, therefore no sources of sediment, present on-Site.

For assessing the soil at the Phase Two Property for the presence of COPC, a total of six boreholes were advanced at the Phase Two Property for the purpose of collecting soil samples. Select “worst case” samples collected from each of the boreholes, were submitted for laboratory analysis of the COPC.

For assessing the groundwater at the Phase Two Property for the presence of COPC, groundwater monitoring wells were installed in two of the boreholes completed at the Phase Two Property to permit the collection of groundwater samples. Groundwater samples were collected from the newly installed monitoring wells and were submitted to the analytical laboratory for analysis of the COPC.

4.3 Phase One Conceptual Site Model

A conceptual site model (CSM) has been created to provide a summary of the findings of the Phase One ESA. The Phase One CSM is summarized in Figures 1 through 4 which illustrate the following features within the Phase One Study Area, where present:

- Existing buildings and structures;
- Water bodies located in whole or in part within the Phase One Study Area;
- Areas of natural significance located in whole or in part within the Phase One Study Area;
- Drinking water wells located at the Phase One Property;
- Land use of adjacent properties;
- Roads within the Phase One Study Area;
- PCAs within the Phase One Study Area, including the locations of tanks; and
- APECs at the Phase One Property.

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

- The Phase One Property is a rectangular-shaped parcel of land approximately 3.22 acres (1.30 hectares) in size located on the east side of Colonnade Road South, at the southwest corner of the intersection of Colonnade Road and Prince of Wales Drive in the City of Ottawa. The Phase One Property is improved with a commercial warehouse and distribution building (Site Building A) that occupies the central portion of the Phase One Property and the garage utilized as storage for the Client (Site Building B) is located along the south portion of the Phase One Property. The Phase One Property has been used for commercial/light industrial purposes since initial development in the early 1980s

- Water bodies located within the Phase One Study Area consist of the Rideau River located 150 m east of the Phase One Property.
- No areas of natural significance were identified within the Phase One Study Area;
- No drinking water wells were located on the Phase One Property;
- Colonnade Road followed by multi-tenant commercial buildings and vacant properties are located to the north of the Phase One Property. Prince of Wales Drive followed by residential dwellings, Rideau River and vacant properties are located to the east of the Phase One Property. Colonnade Road South followed by commercial, light industrial and institutional properties are located to the west of the Phase One Property. A railway line followed by light industrial and residential properties are located to the south of the Phase One Property. Historical records indicate that a private RFO operated at the property to the south from approximately 1979 and presently operates as a private RFO only;
- A total of 14 PCAs were identified within the Phase One Study Area, consisting of five PCAs at the Phase One Property and nine PCAs within the Phase One Study Area, outside of the Phase One Property. As shown on Figure 4 the off-Site PCAs are a current private RFO located approximately 100 m south of the Phase One Property (30 Rideau Heights), as well as former tenants for metal fabrication, plastics manufacturing, and textile manufacturing and processing approximately 185 m transgradient, 105 m transgradient and 25 m transgradient of the Phase One Property, respectively. Given that these PCAs are located at downgradient and transgradient properties that are at least 100 m from the Phase One Property, as well as the nature of operations, these off-Site PCAs are not considered to result in APECs at the Phase One Property. All other PCAs identified within the Phase One Study Area represent APECs at the Phase One Property. Figure 5 provides a detailed summary of the APECs and associated PCAs and COPCs;
- A number of underground utilities were observed at the Phase One Property, including natural gas, telephone and electrical lines, and municipal water, storm and sanitary sewer lines. The natural gas, telephone, electrical, water and sanitary sewer services enter the Site Buildings via underground lines running into the Site Building by the adjacent roadways. Stormwater is captured via a catch basin in the parking lot and directed via underground piping to a main storm sewer line under adjacent roadways;
- Plans were not available to confirm the depths of these utilities, but they are estimated to be located approximately 2 to 3 mbgs. The known depth to groundwater at the Phase One Property is approximately 1.58 to 3.47 mbgs. As such, it is possible that the utility

corridors may act as preferential pathways for contaminant distribution and transport in the event that shallow subsurface contaminants exist at the Phase One Property;

- The Phase One Property and the surrounding properties located within the Phase One Study Area located within alluvial deposits consisting of stratified gravel, sand, silt and clay. Bedrock is expected to consist of sandstone and dolostone of the Beekmantown Group. The topography is considered to be mainly flat to rolling low local relief with dry surface water drainage conditions. During previous on-Site environmental investigations, the soil stratigraphy at the borehole locations generally consisted of brown silty sand with some gravel underlain by brown/grey silty clay; and
- The Phase One Property is relatively flat with a slight grade downward in elevation to the east. The Phase One Property is at a similar elevation to the adjacent/surrounding properties to the north, the surrounding properties to the east are approximately 1.0 m lower in elevation than the Phase One Property and properties to the south and west are approximately 1.0 m higher in elevation than the Phase One Property. Regional groundwater flow is inferred to be to the east towards the Rideau River.

4.4 Impediments

Pinchin had full access to the Phase Two Property throughout the completion of the Phase Two ESA.

5.0 INVESTIGATION METHOD

5.1 General

The Phase Two ESA field work was conducted in accordance with Pinchin's standard operating procedures (SOPs) as provided in the SAP, which have been developed in accordance with the procedures and protocols provided in the MECP document entitled "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*", dated December 1996, in the Association of Professional Geoscientists of Ontario document entitled *"Guidance for Environmental Site Assessments under Ontario Regulation 153/04 (as amended)"*, dated April 2011, and in O. Reg. 153/04.

In addition, Pinchin's SOP for groundwater sampling using low flow purging and sampling procedures follows the United States Environmental Protection Agency Region I document entitled *"Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells"* dated January 19, 2010 (Low Flow Sampling Protocol).

No deviations from Pinchin's SOPs occurred during the Phase Two ESA.

5.2 Drilling and Excavating

Pinchin retained Strata to advance a total of six boreholes at the Phase Two Property on March 7, 2022, to investigate the potential presence of COPC associated with the APEC identified in the Phase One ESA. The boreholes were drilled to a maximum depth of 6.1 mbgs using a Geoprobe GM100™ drill rig.

The locations of the boreholes are provided on Figure 4. A description of the subsurface stratigraphy encountered during the drilling program is documented in the borehole logs included in Appendix A.

Measures taken to minimize the potential for cross-contamination during the borehole drilling program included:

- The use of dedicated, disposable polyvinyl chloride (PVC) soil sample liners for soil sample collection during direct-push drilling;
- The extraction of soil samples from the interior of the sampling device (where possible), rather than from areas in contact with the sampler walls;
- The cleaning of all non-dedicated drilling and soil sampling equipment (i.e., spatulas used for sample collection) before initial use and between sample and borehole locations; and
- The use of dedicated and disposable nitrile gloves for all soil sample handling.

Soil samples were collected at continuous intervals during direct-push drilling at a general frequency of one soil sample for every 0.76 metres drilled.

No excavating activities (e.g., test pitting) were completed as part of the Phase Two ESA.

5.3 Soil Sampling

Soil samples were collected in the boreholes at continuous intervals using 3.8 centimetre (cm) inner diameter (ID) direct push soil samplers with dedicated single-use sample liners.

Discrete soil samples were collected from the dedicated sample liners by Pinchin personnel using a stainless-steel spatula. Dedicated and disposable nitrile gloves were worn during the collection of each soil sample. A portion of each sample was placed in a resealable plastic bag for field screening and a portion was containerized in laboratory-supplied glass sampling jars. Following sample collection, the sample jars were placed into dedicated coolers with ice for storage pending transport to Paracel Laboratories (Paracel) in Ottawa, Ontario. Formal chain of custody records was maintained between Pinchin and the staff at Paracel.

Subsurface soil conditions were logged on-Site by Pinchin personnel at the time of borehole drilling. Based on the soil samples recovered during the borehole drilling program, the soil stratigraphy at the drilling locations generally consists of material comprised of sand and gravel with trace silt and organics

to a maximum depth of approximately 6.01 mbgs. Bedrock was not encountered during the borehole drilling activities.

No odours or staining were observed in the soil samples collected during the borehole drilling program.

A detailed description of the subsurface stratigraphy encountered during the borehole drilling program is documented in the borehole logs included in Appendix A.

5.4 Field Screening Measurements

Soil samples were collected at each of the sampling intervals during the drilling activities and analyzed in the field for VOC-derived and petroleum-derived vapour concentrations in soil headspace with an RKI Eagle 2™ equipped with a PID and a CGI operated in methane elimination mode. The soil samples collected for field-screening purposes were placed in resealable plastic bags. The plastic bags were stored in a warm environment for a minimum of five minutes and agitated in order to release organic vapours within the soil pore space prior to analysis with the PID and CGI.

Based on a review of the operator's manual, the RKI Eagle 2™ PID has an accuracy/precision of up to 0.1 parts per million (ppm). The PID was calibrated prior to field use by the equipment supplier Maxim Environmental and Safety (Maxim) according to Maxim's standard operating procedures. The gas standard was stored in a gas cylinder and delivered to the PID via a regulator valve. An in-field re-calibration of the PID was conducted (using the gas standard in accordance with the operator's manual instructions) if the calibration check indicated that the PID's calibration had drifted by more than +/- 10%.

Based on a review of the operator's manual, the RKI Eagle 2™ has an accuracy/precision of up to +/- 25 ppm, or +/- 5% of the reading (whichever is greater). The CGI was calibrated prior to field use by Maxim according to Maxim's standard operating procedures. In addition, the CGI calibration was tested at the beginning of each day of drilling activities (beginning on the second day of drilling) against a Maxim-provided hexane gas standard with a concentration of 1,650 ppm. The gas standard was stored in a gas cylinder and delivered to the CGI via a regulator valve. An in-field re-calibration of the CGI was conducted (using the gas standard in accordance with the operator's manual instructions) if the calibration check indicated that the CGI's calibration had drifted by more than +/- 10%.

In general, the soil samples with the highest measured vapour concentrations (i.e., "worst case") from a given borehole were submitted for laboratory analysis. Sample depth and visual and olfactory observations of potential contaminants were also used in conjunction with the vapour concentrations in making the final selection of "worst case" soil samples for laboratory analysis.

5.5 Groundwater Monitoring Well Installation

Following soil sampling, Strata installed a groundwater monitoring well in boreholes MW-1 and MW-2 under the full-time monitoring of a Pinchin field representative.

The monitoring wells were constructed with 5.1 cm inner diameter (ID) flush-threaded Schedule 40 polyvinyl chloride (PVC) risers, followed by a length of 5.1 cm ID No. 10 slot PVC screen. Each well screen was sealed at the bottom using a threaded cap and each riser was sealed at the top with a lockable J-plug cap. Silica sand was placed around and above the screened interval to form a filter pack around the well screen. A layer of bentonite was placed above the silica sand and was extended to just below the ground surface. A 10 cm ID Schedule 40 PVC outer casing, approximately 20 cm in length, was installed in each well around the top of the riser and into the top of the bentonite seal. A bentonite seal was then placed between the riser and outer casing. A protective stickup casing was installed at the ground surface over each riser pipe and outer casing and cemented in place.

The monitoring wells were installed in accordance with O. Reg. 903. The monitoring well construction details are provided in Table 3 and on the borehole logs in Appendix A. Upon completion of the monitoring well installation, Strata completed and filed a Water Well Record with the MECP for the well cluster.

The monitoring wells were developed on March 9, 2022, in accordance with Pinchin's SOP for well development by removing a minimum of three to a maximum of seven standing water column volumes using dedicated inertial pumps comprised of Waterra polyethylene tubing and foot valves. The well development activities were completed a minimum of 24 hours prior to the groundwater sampling activities.

Measures taken to minimize the potential for cross-contamination during well installation and well development included the following:

- The use of dedicated and disposable nitrile gloves for handling well materials during well installation and during well development; and
- The use of dedicated inertial pumps for each well.

5.6 Groundwater Field Measurements of Water Quality Parameters

Measurements of the water quality parameters oxidation-reduction potential, dissolved oxygen, temperature, specific conductance, pH and turbidity were not collected during the Phase Two ESA as inertial pumps were used.

All monitoring well development, purging and sampling activities were conducted using dedicated inertial pumps comprised of Waterra polyethylene tubing to draw groundwater to the surface.

5.7 Groundwater Sampling

The monitoring well installed by Pinchin as part of the Phase Two ESA was sampled a minimum of 24 hours after the completion of well development activities (see Section 5.5).

On March 9, 2022, the newly installed groundwater monitoring wells MW-1 and MW-2 were developed by purging until dryness was achieve three times, in accordance with Pinchin's SOPs.

On March 10, 2022, the newly installed groundwater monitoring wells MW-1 and MW-2 were purged prior to sampling by removing three to five well casing volumes, or were purged until dry, in accordance with Pinchin's SOPs. Upon groundwater recovery, groundwater samples were collected from these monitoring wells and submitted for laboratory analysis of VOCs, PHC (F1-F4), PAHs, metals and/or PCBs.

All monitoring well development, purging and sampling activities were conducted using dedicated inertial pumps comprised of Waterra polyethylene tubing and foot valves to draw groundwater to the surface.

Following sample collection, the sample bottles were placed into dedicated coolers with ice for storage pending transport to Paracel Labs. Formal chain of custody records was maintained between Pinchin and the staff at Paracel Labs.

5.8 Sediment Sampling

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

5.9 Analytical Testing

All collected soil and groundwater samples were delivered to Paracel Labs for analysis. Paracel Labs is an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. Formal chain of custody records of the sample submissions was maintained between Pinchin and the staff at Paracel Labs. Paracel Labs conducted the laboratory analysis in accordance with the MECP document entitled *"Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act"* dated March 9, 2004, and revised on July 1, 2011 (*Analytical Protocol)*.

5.10 Residue Management Procedures

Given that the laboratory results for the submitted soil samples indicated that all reported concentrations for the parameters analyzed met the corresponding *Table 3 Standards*, and no evidence of NAPL, odours or sheens was observed during sampling and monitoring activities, the excess soil was deposited on the ground surface at the Phase Two Property or removed off-Site by Strata. Excess groundwater was deposited into a 205-L drum located on the central portion of the Site.

5.11 Site Elevation

Based on general hydrogeological principles and Pinchin's familiarity with subsurface conditions at and near the Phase One Property and the surrounding properties within the Phase One Study Area, the unconfined groundwater beneath the Phase Two Property is expected to flow in an easterly direction. The nearest surface water body is the Rideau River, located approximately 150 m east of the Phase One Property at an elevation of approximately 72 mamsl.

5.12 Quality Assurance and Quality Control Measures

The QA/QC protocols that were followed during borehole drilling and soil and groundwater sampling so that representative samples were obtained are described in the following subsections.

5.12.1 Sample Containers, Preservation, Labelling, Handling and Custody of Samples

Soil and groundwater samples were containerized within laboratory-prepared sample containers in accordance with the *Analytical Protocol*.

The following soil sample containers and preservatives were used:

- VOCs and PHCs F1: 40 millilitre (mL) glass vials with septum-lids, pre-charged with methanol preservative.
- PHCs F2-F4, PAHs, PCBs, metals, inorganics, pH and grain size: 120 or 250 mL unpreserved clear glass wide-mouth jars with a Teflon™–lined lid.

The following groundwater sample containers and preservatives were used:

- VOCs and PHCs F1: 40 mL clear glass vials with septum-lids, pre-charged with sodium bisulphate preservative.
- PHCs F2-F4: 250 mL amber glass bottles with Teflon™–lined lids, pre-charged with sodium bisulphate preservative.
- PAHs: 250 mL unpreserved amber glass bottles with Teflon™–lined lids.
- Metals (excluding hexavalent chromium and mercury): 125 mL acid-rinsed HDPE bottles, pre-charged with nitric acid preservative.

Groundwater samples submitted for metals analyses were field filtered using dedicated 0.45-micron filters.

A Trip blank water sample for VOC parameter analysis was provided by Paracel Labs in 40 mL clear glass vials filled with VOC-free water.

Each soil, groundwater and QA/QC sample was labelled with a unique sample identifier along with the company name, sampling date, Pinchin project number and analysis required.

Each sample was placed in a cooler on ice immediately upon collection and prior to submission to Paracel Labs for analysis. Formal chain of custody records of the sample submissions was maintained between Pinchin and the staff at Paracel Labs.

5.12.2 Equipment Cleaning Procedures

Dedicated, single-use PVC sample liners were used for each soil sample collected, which precluded the need for drilling equipment cleaning during soil sample collection. Equipment utilized in soil sample collection and handling (i.e., spatulas used to remove soil from the sample liners) was cleaned with a solution of Alconox™ detergent and potable water followed by a distilled water rinse prior to initial use and between samples.

During groundwater monitoring activities, the oil/water interface probe used to measure water levels were cleaned with a solution of Alconox™ detergent and potable water followed by a distilled water rinse prior to initial use and between well locations.

5.12.3 Field Quality Control Measures

One field duplicate soil sample were collected by Pinchin during the Phase Two ESA for analysis COPC. The frequency of field duplicate soil sample analysis complied with the requirement that one field duplicate soil sample is analyzed for every ten regular soil samples submitted for analysis of the COPC. The soil sample field duplicate pairings and corresponding analytical schedules are summarized as follows:

- Soil sample MW-2 SS-6 and its corresponding field duplicate “DUP-MW2” was submitted for laboratory analysis of VOCs, PHC(F1-F4), PAHs and metals.

One field duplicate groundwater sample was collected by Pinchin during the Phase Two ESA for analysis of VOCs. The groundwater sample field duplicate pairing and corresponding analytical schedules are summarized as follows:

- Groundwater sample MW-1 and its corresponding field duplicate “GWDUP-MW1” was submitted for laboratory analysis of VOCs, PHC(F1-F4), PAHs and metals.

One laboratory-prepared trip blank was analyzed for VOC parameters to comply with the requirement that one trip blank is analyzed for each submission of groundwater samples for VOC parameter analysis.

The calibrations of the RKI Eagle 2™ CGI used for field screening and the Horiba Water Quality Meter used for water quality parameter measurements were checked by the equipment supplier (Maxim) prior to use in the field by Pinchin.

Maxim completed the calibration checks in accordance with the equipment manufacturers’ specifications and/or Maxim’s SOPs.

5.12.4 QA/QC Sampling Program Deviations

There were no deviations from the QA/QC sampling program outlined in the SAP.

6.0 REVIEW AND EVALUATION

6.1 Geology

Based on the stratigraphic information obtained from the soil samples recovered during the drilling activities completed as part of the Phase Two ESA, the asphalt and/or gravel surface at the Phase Two Property is underlain by materials generally comprised of gravel, brown sand, and silt to a depth of 4.57 mbgs followed by grey clay to a maximum depth of 6.01 mbgs. The water table is located at a depth of approximately 3.07 to 3.17 mbgs and this uppermost water bearing unit represents an unconfined aquifer. The depth to bedrock at the boreholes completed at the Site based on the MECP well Records is greater than 32 mbgs.

6.2 Groundwater Elevations and Flow Direction

The wells screen in the monitoring well installed by Pinchin was of a consistent length (i.e., 3.05 metres). The monitoring wells were installed at a depth interval intended to investigate groundwater quality in the shallow groundwater zone within the unconfined aquifer. Given that VOCs, PHC (F1-F4), PAHs and metals were the COPCs for groundwater at the Phase Two Property, the monitoring wells were installed at the Phase Two Property such that the well screen intersected the water table.

The measured depths to groundwater and the results of NAPL monitoring for the monitoring event is summarized in Table 4.

Based on general hydrogeological principles and Pinchin's familiarity with subsurface conditions at and near the Phase One Property and the surrounding properties within the Phase One Study Area, the unconfined groundwater beneath the Phase One Property is expected to flow in an easterly direction. The nearest surface water body is the Rideau River, located approximately 150 m east of the Phase One Property at an elevation of approximately 72 mamsl.

6.3 Medium/Fine Soil Texture

One soil sample was collected from the boreholes advanced at the Phase Two Property was submitted for 75 micron single-sieve grain size analysis. The soil samples selected for analysis were considered to be representative of the Site.

Based on these grain size analysis results and the observed stratigraphy at the borehole locations at the Phase Two Property, it is the QP's opinion that over two-thirds of the overburden at the Phase Two Property is medium/fine-textured as defined by O. Reg. 153/04. Therefore, the soil at the Phase Two Property was interpreted to be medium/fine-textured for the purpose of determining the MECP Site Condition Standards applicable to the Phase Two Property.

6.4 Soil Field Screening

Soil vapour headspace concentrations measured in the soil samples collected as part of this Phase Two ESA are presented in the borehole logs. Soil vapour headspace values measured with the CGI in methane elimination mode. Soil vapour headspace values measured with the PID did not range above 0.1 ppm_v in soil sample MW-2 SS-1 collected in borehole MW-2.

One most apparent worst case soil sample, based on vapour concentrations as well as visual and/or olfactory considerations, preferred pathway migration, groundwater depths and contaminant characteristics, recovered from each borehole was submitted for laboratory analysis of VOCs, PHC (F1-F4), PAHs, metals and/or PCBS.

6.5 Soil Quality

A total of six boreholes were advanced at the Phase Two Property at the locations shown on Figure 4 in order to assess for the presence of subsurface impacts resulting from the APECs identified in the Pinchin Phase One ESA. Select soil samples were collected from boreholes MW-1, MW-2. BH-3, BH-4, BH-5 and BH-6 submitted for laboratory analysis of the COPC. The soil sample locations, depths and laboratory analyses are summarized in Table 1 and in the borehole logs.

The soil sample analytical results were compared to the *Table 3 Standards* and the following subsections provide a discussion of the findings.

6.5.1 VOCs

The soil sample analytical results for VOCs, along with the corresponding *Table 3 Standards*, are presented in Table 6. As indicated in Table 6, all reported concentrations of VOCs in the soil samples submitted for analysis were below the *Table 3 Standards*.

6.5.2 PHCs F1-F4 and PCBs

The soil sample analytical results for PHCs F1-F4 and PCBs along with the corresponding *Table 3 Standards*, are presented in Table 5. As indicated in Table 5, all reported concentrations of PHCs F1- F4 in the soil samples submitted for analysis were below the *Table 3 Standards*.

6.5.3 PAHs

The soil sample analytical results for PAHs, along with the corresponding *Table 3 Standards*, are presented in Table 7. As indicated in Table 7, all reported concentrations of PAHs in the soil samples submitted for analysis were below the *Table 3 Standards*, except for the following:

- The concentrations of benzo(a)pyrene (1.02 µg/g vs. the *Table 3 Standard* of 0.3 µg/g) and benzo(b)fluoranthene (1.03 µg/g vs. the *Table 3 Standard* of 0.96 µg/g) and dibenzo(a,h)anthracene (0.16 µg/g vs. the *Table 3 Standard* of 0.1 µg/g) reported for soil sample BH-5 SS-1, collected at borehole BH-5 from a depth of 0.0 to 0.61 mbgs, exceeded the *Table 3 Standards*.

6.5.4 Metals and Inorganics

The soil sample analytical results for metals and inorganics parameters, along with the corresponding *Table 3 Standards*, are presented in Table 3. As indicated in Table 3, all reported concentrations of metals and inorganics in the soil samples submitted for analysis were below the *Table 3 Standards*, except for the following:

- The concentrations of vanadium reported for soil sample MW-1 SS-7 (105 µg/g vs. the *Table 3 Standard* of 86 µg/g) and its field duplicate (DUP-MW2) (98.4 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-1 from a depth of 4.57-5.33 mbgs, exceeded the *Table 3 Standards*.
- The concentrations of vanadium reported for soil sample MW-2 SS-6 (97.3 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-2 from a depth of 3.81-4.57 mbgs, exceeded the *Table 3 Standards*.

6.5.5 General Comments on Soil Quality

The soil sample results show no evidence of chemical or biological transformations of chemical parameters in the subsurface.

Given that groundwater sampling at the Phase Two Property has not identified any impacts related to VOCs, PHCs (F1-F4), PAHs, and metals parameters, there is no evidence that the soil at the Phase Two Property is acting as a contaminant source for the groundwater.

The soil sample analytical results show no evidence of NAPL in the subsurface at the Site. All reported soil sample concentrations either meet the *Table 3 Standards* or are above the *Table 3 Standards* but well below their corresponding free-product thresholds, where applicable. In addition, no evidence of NAPL was observed during borehole drilling.

6.6 Groundwater Quality

Groundwater samples were collected from monitoring well MW-1 and MW-2 and submitted for analysis of the COPC to assess for the presence of subsurface impacts within the APECs identified in the Pinchin Phase One ESA. The locations of the monitoring wells are shown on Figure 4.

The groundwater sample analytical results were compared to the *Table 3 Standards* and the following subsections provide a discussion of the findings.

6.6.1 VOCs

The groundwater analytical results for VOCs, along with the corresponding *Table 3 Standards*, are presented in Table 10. As indicated in Table 10, all reported concentrations of VOCs in the groundwater samples submitted for analysis met the *Table 3 Standards.*

6.6.2 PHCs F1-F4 and PCBs

The groundwater analytical results for PHCs F1-F4, along with the corresponding *Table 3 Standards*, are presented in Table 9. As indicated in Table 9, all reported concentrations of PHCs F1-F4 in the groundwater samples submitted for analysis met the *Table 3 Standards.*

6.6.3 PAHs

The groundwater analytical results for PAHs, along with the corresponding *Table 3 Standards*, are presented in Table 11. As indicated in Table 11, all reported concentrations of PAHs in the groundwater samples submitted for analysis met the *Table 3 Standards*.

6.6.4 Metals

The groundwater analytical results for metals parameters, along with the corresponding *Table 3 Standards*, are presented in Table 12. As indicated in Table 12, all reported concentrations of metals and inorganics parameters in the groundwater samples submitted for analysis met the *Table 3 Standards*.

6.6.5 General Comments on Groundwater Quality

The groundwater sample results show no evidence of chemical or biological transformations of chemical parameters in the subsurface.

As discussed in Section 6.5, soil sampling at the Phase Two Property did not identify any impacts related to VOCs, PHCs F1-F4, PAHs, and metals parameters. As such, there is no evidence that the soil at the Phase Two Property is acting as a contaminant source for the groundwater.

During groundwater monitoring activities, no NAPL thicknesses were measured in any of the on-Site monitoring wells.

6.7 Sediment Quality

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

6.8 Quality Assurance and Quality Control Results

QA/QC comprises technical activities that are used to measure or assess the effect of errors or variability in sampling and analysis. It may also include specification of acceptance criteria for the data and corrective actions to be taken when they are exceeded. QA/QC also includes checks performed to evaluate laboratory analytical quality, checks designed to assess the combined influence of field sampling and laboratory analysis and checks to specifically evaluate the potential for cross contamination during sampling and sample handling.

The QA/QC samples collected and submitted for analysis by Pinchin during the Phase Two ESA consisted of the following:

- Field duplicate soil and groundwater samples to assess the suitability of field sampling methods and laboratory performance.
- A trip blank water sample to assess whether ambient conditions during transport of groundwater sample containers from the analytical laboratory to the Phase Two Property and back to the analytical laboratory may have biased the groundwater sample results with respect to volatile constituents.

In addition to the above, laboratory quality control activities and sample checks employed by Paracel included:

- Method blanks - where a clean sample is processed simultaneously with and under the same conditions (i.e., using the same reagents and solvents) as the samples being analyzed. These are used to confirm whether the instrument, reagents and solvents used are contaminant free.
- Laboratory duplicates - where two samples obtained from the sample container are analyzed. These are used to evaluate laboratory precision.
- Surrogate spike samples - where a known mass of compound not found in nature (e.g., deuterated compounds such as toluene-d8) but that has similar characteristics to the analyzed compounds is added to a sample at a known concentration. These are used to assess the recovery efficiency.
- Matrix spike samples - where a known mass of target analyte is added to a matrix sample with known concentrations. These are used to evaluate the influence of the matrix on a method's recovery efficiency.
- Use of standard or certified reference materials - a reference material where the content or concentration has been established to a very high level of certainty (usually by a national regulatory agency). These are used to assess accuracy.

The results of the field QA/QC samples are discussed in the following subsections.

6.8.1 Soil Duplicate Results

During borehole soil sampling activities, a single soil duplicate sample pair was submitted for laboratory analysis. The field duplicate sample was collected by vertically splitting the soil cores into two halves, with one half collected as the regular sample and the other half collected as the field duplicate sample. The sample pairings and corresponding laboratory analyses are as follows:

- Soil sample MW-2 SS-6 and its corresponding field duplicate "DUP-MW2" were submitted for laboratory analysis of VOCs, PHC (F1-F4), PAHS and metals.

The quality of the analytical results was evaluated by calculating relative percent differences (RPDs) for the parameters analyzed for the original and field duplicate samples. The RPD for each parameter was calculated using the following equation:

$$\text{RPD} = \frac{(\text{Original Concentration} - \text{Duplicate Concentration}) \text{ X } 100}{(\text{Original Concentration} + \text{Duplicate Concentration})/2}$$

An RPD was not calculated unless the parameter concentration in both the original and duplicate sample had detectable concentrations above the corresponding practical quantitation limit for the parameter, which is equal to five times the lowest laboratory reportable detection limit (RDL).

The calculated RPDs for the original and field duplicate soil samples have been compared to performance standards provided in the *Analytical Protocol.* Pinchin notes that although these performance standards only strictly apply to laboratory duplicate samples, they have been considered suitable for comparison to the field duplicate soil sample results as well.

Each of the calculated RPDs met the corresponding performance standards.

Based on Pinchin's review of the calculated RPD values for the submitted soil sample duplicate pairings, the level of observed variance in the reported analytical results is considered acceptable for the purpose of meeting the data quality objectives of this Phase Two ESA.

6.8.2 Groundwater Sample Duplicate Results

During groundwater sampling activities, one groundwater duplicate sample pair, consisting of groundwater sample "MW-1" and its corresponding field duplicate "GWDUP-MW1", was submitted for laboratory analysis of VOCs, PHC (F1-F4), PAHS and metals.

The calculated RPDs for the original and field duplicate groundwater samples have been compared to performance standards provided in the *Analytical Protocol.* Pinchin notes that although these performance standards only strictly apply to laboratory duplicate samples, they have been considered suitable for comparison to the field duplicate groundwater sample results as well.

Each of the calculated RPDs met the corresponding performance standard.

Based on Pinchin's review of the calculated RPD values for the submitted groundwater sample duplicate pairing, the level of observed variance in the reported analytical results is considered acceptable for the purpose of meeting the data quality objectives of this Phase Two ESA.

6.8.3 Groundwater Trip Blank Results

A trip blank sample, consisting of VOC-free water contained within a set of VOC sample vials, was prepared by Paracel and accompanied the VOC groundwater sample containers during transportation to the Phase Two Property and was stored in the cooler with the VOC groundwater samples in the field and during transportation back to Paracel. The trip blank sample was submitted to Paracel for chemical analysis for VOCs during the groundwater sampling activities completed as part of this Phase Two ESA.

As indicated in Table 6, the concentrations of the VOC parameters analyzed in the trip blank sample were below the laboratory RDLs. These findings indicate that ambient conditions during the transportation of

the sample containers to and from the Phase Two Property, and during groundwater sampling, did not positively bias the VOCs parameter analytical results for the groundwater samples.

6.8.4 Deviations from Analytical Protocol

There were no deviations from the holding times, preservation methods, storage requirements and container types specified in the *Analytical Protocol* during the completion of the Phase Two ESA.

6.8.5 QA/QC Sample Summary

The overall evaluation of the QA/QC sample results indicates no issues with respect to field collection methods and laboratory performance, and no apparent bias due to ambient conditions at the Phase Two Property and during transportation of the sample containers/samples to and from the analytical laboratory.

As such, it is the QP's opinion that the soil and groundwater analytical data obtained during the Phase Two ESA are representative of actual Site conditions and are appropriate for meeting the objective of assessing whether the soil and groundwater at the Phase Two Property meets the applicable MECP Site Condition Standards.

6.9 Phase Two Conceptual Site Model

This Phase Two ESA was completed for the property located at the municipal address of 125 Colonnade, Ottawa, Ontario. A Key Map showing the Phase Two Property location is provided on Figure 1 and a detailed plan of the Phase Two Property and surrounding lands is provided on Figure 2.

A Phase One CSM was created during the Pinchin Phase One ESA in order to provide a detailed visualization of the APECs which could occur on, in, under, or affecting the Phase Two Property. The Phase One CSM is summarized in Figures 1 through 4, which illustrate the following features within the Phase One Study Area, where present:

- Existing buildings and structures.
- Water bodies located in whole or in part within the Phase One Study Area.
- Areas of natural significance located in whole or in part within the Phase One Study Area.
- Drinking water wells located at the Phase One Property.
- Land use of adjacent properties.
- Roads within the Phase One Study Area.
- PCAs within the Phase One Study Area, including the locations of tanks.
- APECs at the Phase One Property.

The following subsections expand on the Phase One CSM with the information collected during the completion of the Phase Two ESA.

6.9.1 Potentially Contaminating Activities

The following PCAs were observed on the Phase One Property during the Site reconnaissance:

- A transformer substation located on the east exterior of Site Building A;
- Former pulp and paper manufacturing and processing operations on Site;
- Past use at Site Building A was Rosedale Transport and Merit Provincial Fruit Co., which consisted of transportation and warehousing services and general automotive service repair, respectively;
- Railway spur line located along the south portion of the Phase One Property; and
- Pad-mounted transformer located to the northwest boundary of the Phase One Property and four pole-mounted transformers located to the east boundary of the Phase One Property

6.9.2 Areas of Potential Environmental Concern

One APEC and related potentially contaminating activities (PCAs) and contaminants of potential concern (COPC) were identified in a Phase One ESA completed by Pinchin in accordance with O. Reg.

The following summarizes the APEC identified during the Phase One ESA, as well as the respective PCA, COPC and the media which could potentially be impacted:

- PCA #1 (Item 18: Electricity Generation, Transformation and Power Stations) – Transformer substation is located east of Site Building A. Oil staining was observed on the concrete slab for the transformer substation located east of Site Building A. The concrete in the area of oil staining was observed to have minor cracking and the oil staining is considered to represent a PCA for the Phase One Property and is considered an APEC.
- PCA #2 (Item 45 – Pulp, Paper and Paperboard Manufacturing and Processing) - Domtar Inc. and E.B. Eddy Forest Products was registered as a paper product manufacturing and company at the Phase One Property in the early 1990s. Based on a review of previous environmental investigation reports, groundwater at one existing groundwater monitoring well at the Phase One Property has reported concentrations of tetrachloroethylene that exceed the *Table 3 Standards*. This groundwater monitoring well is located adjacent to the north elevation of Site Building A. It is the opinion of the QP_{ESA} supervising the Phase

One ESA that the tetrachloroethylene exceedances in the groundwater at the Phase One Property represents a PCA resulting in an APEC at the Phase One Property. As such, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the paper manufacturing facility on this property, as well as the related waste generation on-Site, and the previous tetrachloroethylene exceedance high and this PCA does result in an APEC at the Phase One Property;

- PCA #3 (Item 52 – Storage, Maintenance, Fueling and Repair of Equipment, Vehicles and Material used to Maintain Transportation Systems) - Past use at Site Building A was Rosedale Transport and Merit Provincial Fruit Co., which consisted of transportation and warehousing services and general automotive service repair, respectively. Site Building B is a single storey building and currently being used for storage by the Client. Rosedale Trucking and Merit Provincial Fruit Co. may have utilized Site Building B for truck repair servicing activities. In addition, a floor drain was located in the central portion of Site Building B and is inferred to be original to Site Building B. As such, the former repair servicing activities are a PCA resulting in an APEC for the Phase One Property;
- PCA #4 (Item 46 – Rail Yards, Tracks and Spurs) - During the Site reconnaissance, Pinchin observed one railway spur line located along the south elevation of the Phase One Property, is a PCA and represents an environmental concern for the Phase One Property that is considered an APEC for the Phase One Property; and
- PCA #5 (Item 18- Electricity Generation, Transformation and Power Stations) - two pole-mounted transformers located to the east boundary of the Phase One Property and one transformer substation located adjacent east of Site Building A) within the Phase One Property and are on-Site PCAs.

- A total of 14 PCAs were documented to have occurred within the Phase One Study Area outside of the Phase One Property. Of these off-Site PCAs, one (PCA #8) was identified that is considered to result in an APEC at the Phase One Property given the proximity to the Phase One Property, the upgradient location relative to the inferred groundwater flow direction in the Phase One Study Area and/or the nature of operations and potential contaminants related to this operation. The remaining eight off-Site PCAs are not considered to result in APECs at the Phase One Property given the distance from the PCAs to the Phase One Property, their downgradient or transgradient locations relative to

the inferred groundwater flow direction in the Phase One Study Area and/or the nature of operations and potential contaminants related to these operations. The following are PCA's as defined by O. Reg. 153/04, that were documented by Pinchin to have occurred at the Phase One Study Area:

- PCA #6 (Item 46- Rail Yards, Tracks and Spurs) - A railway line was observed to be oriented in an east to west direction from at least 1956 to 2021 as seen in the aerial photographs approximately 20 m south of the Site. Creosote or chromated copper arsenate used to treat railway ties has the potential to impact soils in the vicinity of the railway lines; however, these impacts are typically minor, localized, and near the surface. Based on the above-noted information, it is Pinchin's opinion that this railway line is likely to result in an environmental concern for the Phase One Property and is considered a PCA.
- PCA #7 (Item 18: Electricity Generation, Transformation and Power Stations) – A transformer substation located to the southwest the Phase One Property is considered a PCA. No staining observed on the concrete pad or the ground surface in the vicinity transformer substation. Based on this information, Pinchin concludes that the likelihood of potential impacts to the Phase One Property due to the transformer substation does not result in an APEC at the Phase One Property.
- PCA #8 (Item 42- Pharmaceutical Manufacturing and Processing and Item 45- Pulp and Paper and Paperboard Manufacturing and Processing) – 112 Colonnade Road South was listed under the Canadian Pulp and Paper database for an inactive pulp and paper company and current tenants Fisher Scientific are listed as a pharmaceutical manufacturing company and the property is located 10 m upgradient from the Phase One Property. Both companies have been registered with the MECP as a generator (Generator #ON5978377 and #ON0081000) of various wastes from 1998 to 2013. Based on a review of Pinchin's in-house MECP Waste Generator database, approximately 858 kg of these above-mentioned wastes were generated between 1986 to 2013 as a result of operations. Based on the annual quantities of hazardous wastes generated, as well as the distance between the Site, it is Pinchin's opinion that the historical generation of hazardous wastes at this property, former operations, and current operations to be a PCA, and could result in potential subsurface impacts at the Site and is considered an APEC;

- PCA #9 (Item 28 - Gasoline and Associated Products Storge in Fixed Tanks) -30 Rideau Heights was listed under the Delisted Fuel Tanks and Fuel Storage Tank - Historic databases for four gasoline and/or diesel tanks, a private fuel service facility and a fuel service propane tank. The property at 30 Rideau Heights is distant from the Phase One Property (i.e., greater than 100 m) and is inferred to be hydraulically transgradient of the Phase One Property. As such, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the delisted fuel service facility, fuel storage tanks and propane tanks on this property is low and this PCA does not result in an APEC at the Phase One Property;
- PCA #10 (Item 19 - Electronic and Computer Equipment Manufacturing) - Dipix Systems Ltd. was registered as an electronic and computer equipment manufacturer for food production equipment located at 120 Colonnade Road South. The property is located 20 m west of the Phase One Property and is situated hydraulically upgradient of the Phase One Property relative to the inferred groundwater flow direction. Based on a review of Pinchin's in-house MECP Waste Generator database, no wastes were generated at this location. Due to the nature of operations at the property, no waste generation and distance between this property and the Phase One Property, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the manufacturing operations to be low and not an environmental concern for the Phase One Property; however, Pinchin considers this to be a PCA;
- PCA #11 (Item 19 - Electronic and Computer Equipment Manufacturing) - A.L. Window and Door Centre was registered as a glass products supplier, plastics products supplier and millwork; and Multilek Systems Inc., McElhanney Group and Photographic Services Inc. were registered as an electronic computer's supplier, industrial machinery, and equipment and photo processing located at 107 Colonnade Road. Multilek Systems Inc., McElhanney Group Ltd. and IMC Photographic Services Inc., located at 107 Colonnade Road South, had been registered with the MECP as a generator (Generator #ON0384000 and #ON0545200) of halogenated solvents and photo processing wastes from 1986 to 1998. Based on a review of Pinchin's in-house MECP Waste Generator database, approximately 44,162 kg of these above-mentioned wastes were generated between 1987 to 1992 as a result of operations. This property is located 20 m north of the Phase One Property, 40 m to former operations, and is

situated hydraulically transgradient of the Phase One Property relative to the inferred groundwater flow direction. Based on a review of Pinchin's in-house MECP Waste Generator database, the nature of operations at the property, distance between this property and the Phase One Property, and the inferred groundwater flow direction, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the manufacturing operations to be low and not an environmental concern for the Phase One Property; however, Pinchin considers this to be a PCA;

- PCA #12 (Item 43 – Plastics (Including Fiberglass) Manufacturing and Processing) - Pylon Electronic Inc. was registered for electronic components, semiconductor, and other electronic component manufacturing, located at 147 Colonnade Road South. The property had been registered with the MECP as a generator (Generator #ON1079600 and #ON3570019) of halogenated solvents and photo processing wastes from 1988 to 2021. Based on a review of Pinchin's in-house MECP Waste Generator database, approximately 2,304 kg of these above-mentioned wastes were generated between 1991 to 2007 as a result of plastic and synthetic resin operations. The property is located 105 m northwest of the Phase One Property. Based on the distance between this property and the Phase One Property, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the electrical manufacturing operations and the limited annual quantities of hazardous wastes to be low and not an environmental concern for the Phase One Property; however, Pinchin considers this to be a PCA;
- PCA #13 (Item 34- Metal Fabrication) - Foral Metal products Limited was registered as a manufacturer for fabricated metal products and York Air Conditioning, located at 155 Colonnade Road South, a metal manufacture for commercial refrigeration equipment, had been registered with the MECP as a generator (Generator #ON2007600 and #ON0384703) of waste crankcase oils and lubricants and aromatic solvents and residues from 1992 to 2000. Based on a review of Pinchin's in-house MECP Waste Generator database, approximately 7,997 kg of these above-mentioned wastes were generated between 1991 to 1995 as a result of the commercial refrigeration operations. This property is located approximately 183 m southwest of the Site and is situated hydraulically up/transgradient of the Site relative to the inferred groundwater flow direction. Based on the limited annual quantities of hazardous wastes generated, as well

as the distance between the Site, it is Pinchin's opinion that the historical generation of hazardous wastes at this property and nature of operations is a PCA; however, is unlikely to result in potential subsurface impacts at the Site.

- PCA #14 (Item 54- Textile Manufacturing and Processing) - The Sam Group Ltd. was registered as a clothing distributer, sign manufacturer and other textile product mill, located at 111 Colonnade Road. The property is located 25 m north of the Phase One Property and is situated hydraulically transgradient of the Phase One Property relative to the inferred groundwater flow direction. Based on the distance between this property and the Phase One Property, as well as the inferred groundwater flow direction, Pinchin considers that the likelihood of potential impacts to the Phase One Property due to the manufacturing operations to be low and not an environmental concern for the Phase One Property; however, Pinchin considers this to be a PCA;

6.9.3 Subsurface Structures and Utilities

Underground utilities which are known or inferred to be present at the Phase Two Property include natural gas, telephone and electrical lines, and municipal water, storm and sanitary sewer services located throughout the Phase Two Property.

The natural gas, telephone, electrical, water and sanitary sewer services enter the Site Building via underground lines running into the Site Buildings by the adjacent roadways. Stormwater is captured via a catch basin in the parking lot and directed via underground piping to a main storm sewer line under adjacent roadways.

6.9.4 Physical Setting

Based on the work completed as part of this Phase Two ESA, the following subsections provide a summary of the physical setting of the Phase Two Property.

Stratigraphy

The soil stratigraphy at the drilling locations generally consists of gravel, brown sand, and silt to a depth of 4.57 mbgs followed by grey clay to a maximum depth of 6.01 mbgs underlain by limestone/shale. The water table is located at a depth of approximately 3.07 to 3.17 mbgs and this uppermost water bearing unit represents an unconfined aquifer. The borehole locations are shown on Figure 4.

Hydrogeological Characteristics

Based on general hydrogeological principles and Pinchin's familiarity with subsurface conditions at and near the Phase One Property and the surrounding properties within the Phase One Study Area, the unconfined groundwater beneath the Phase One Property is expected to flow in an easterly direction. The

nearest surface water body is the Rideau River, located approximately 150 m east of the Phase One Property at an elevation of approximately 72 mamsl.

Depth to Bedrock

Bedrock was not encountered at any of the borehole locations up to the maximum depth drilled of approximately 6.01 mbgs.

Depth to Water Table

The water table at the Phase Two Property is located primarily within the shallow silty sand unit that has been interpreted to be an unconfined aquifer. The depth to the water table across the Phase Two Property ranges from approximately 3.07 to 3.17 mbgs.

Applicability of Section 35 of O. Reg 153/04 – Non-Potable Site Condition Standards

Site Condition Standards for non-potable groundwater use have been applied to the Phase Two Property given that the following conditions specified in Section 35 of O. Reg. 153/04 have been met:

- The Phase Two Property and all properties within 250 metres of the Phase Two Property are supplied by a municipal drinking water system.
- The Phase Two Property is not located within a well head protection area or other designation identified by the City of Ottawa for the protection of groundwater.
- There are no wells located at the Phase Two Property or within the Phase One Study Area that are used or intended for use as a water source for human consumption or agriculture.

Applicability of Section 41 of O. Reg 153/04 – Environmentally Sensitive Area

Section 41 of O. Reg. 153/04 states that a property is classified as an “environmentally sensitive area” if the property is within an area of natural significance, the property includes or is adjacent to an area of natural significance or part of such an area, the property includes land that is within 30 m of an area of natural significance or part of such an area, the soil at the property has a pH value for surface soil less than 5 or greater than 9 or the soil at the property has a pH value for subsurface soil less than 5 or greater than 11.

The Phase Two Property is not located in or adjacent to, nor does it contain land within 30 m of, an area of natural significance. Furthermore, the pH values measured in the submitted soil samples were within the limits for non-sensitive sites. As such, the Phase Two Property is not an environmentally sensitive area as defined by Section 41 of O. Reg. 153/04.

Applicability of Section 43.1 of O. Reg 153/04 – Shallow Soil Property and Proximity to a Water Body

Section 43.1 of O. Reg. 153/04 states that a property is classified as a “shallow soil property” if one-third or more of the area consists of soil less than 2 m in depth.

Bedrock was not encountered at any of the borehole locations up to the maximum depth drilled of approximately 6.01 mbgs.

As per Section 43.1 of O. Reg. 153/04, the proximity of the Phase Two Property to a water body must be considered when selecting the appropriate Site Condition Standards.

The Phase Two Property does not include all or part of a water body, it is not adjacent to a water body, and it does not include land within 30 m of a water body. As such, Site Condition Standards for use within 30 m of a water body were not applied.

Soil Imported to Phase Two Property

No soil was imported to the Phase Two Property during completion of the Phase Two ESA.

Proposed Buildings and Other Structures

Pinchin understands that the future use of the Phase Two Property will be remain commercial, however additional commercial buildings are proposed.

6.9.5 Applicable Site Condition Standards

Based on the grain size analysis of representative soil samples collected during the Phase Two ESA and the observed stratigraphy at the borehole locations, Pinchin concluded that over two-thirds of the overburden at the Phase Two Property is medium/fine-textured as defined by O. Reg. 153/04 and Site Condition Standards for medium/fine-textured soil were applied.

Based on the information obtained from the Phase One and Two ESAs, the appropriate Site Condition Standards for the Phase Two Property are:

- “Table 3: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition”, provided in the Ontario Ministry of the Environment, Conservation and Parks (MECP) document entitled, “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act” dated April 15, 2011 (*Table 3 Standards*) for:
    - Medium/Fine soils; and
    - Industrial/commercial/community property use.

6.9.6 Contaminants Exceeding Applicable Site Condition Standards in Soil

All soil samples collected during the Phase Two ESA met the applicable *Table 3 Standards* for the parameters analyzed.

6.9.7 Contaminants Exceeding Applicable Site Condition Standards in Groundwater

All groundwater samples collected during the Phase Two ESA met the applicable Table 9 Standards for the parameters analyzed.

6.9.8 Meteorological and Climatic Conditions

The groundwater table was observed to fluctuate slightly in elevation (i.e., a maximum difference of 1 centimetres) over two rounds of groundwater monitoring completed on March 9, 2022, and March 10, 2022. The minor temporal groundwater table fluctuations are expected to have had a minimal effect on contaminant distribution throughout the Phase Two Property. As such, it is the QP's opinion that meteorological, or climatic conditions have not influenced the distribution or migration of the contaminants at the Phase Two Property.

6.9.9 Soil Vapour Intrusion

No volatile parameters were identified at concentrations exceeding the *Table 3 Standards*. As such, soil vapour intrusion into buildings at the Phase Two Property is not considered a concern.

6.9.10 Applicability of Section 49.1 Exemptions

It is the opinion of the QP_{ESA} supervising the Phase One ESA that vanadium parameters in soil may be present at concentrations exceeding the applicable Site Condition Standards (i.e., Table 3) as a result of naturally occurring concentrations within the soils.

7.0 CONCLUSIONS

Pinchin completed a Phase Two ESA at the Phase Two Property in accordance with the requirements stipulated in O. Reg. 153/04 for the purpose of an SPA with the City of Ottawa. The SPA is required by the Client in relation to the potential future development of the Phase Two Property with additional commercial buildings.

The Phase Two ESA completed by Pinchin included the advancement of six boreholes at the Phase Two Property, with two being completed as groundwater monitoring wells.

Based on Site-specific information, the applicable regulatory standards for the Phase Two Property were determined to be the *Table 3 Standards* for industrial commercial land use and medium/fine-textured soils. Soil and groundwater samples were collected from each of the borehole locations and submitted for laboratory analysis of VOCs, PHCs (F1-F4), PAHs, metals and/or PCBs.

The laboratory results for the soil samples submitted during the Phase Two ESA indicated that all reported concentrations for the parameters analyzed met the corresponding *Table 3 Standards*, with the exception of the following:

- The concentrations of benzo(a)pyrene (1.02 µg/g vs. the *Table 3 Standard* of 0.3 µg/g) and benzo(b)fluoranthene (1.03 µg/g vs. the *Table 3 Standard* of 0.96 µg/g) and dibenzo(a,h)anthracene (0.16 µg/g vs. the *Table 3 Standard* of 0.1 µg/g) reported for soil sample BH-5 SS-1, collected at borehole BH-5 from a depth of 0.0 to 0.61 mbgs, exceeded the *Table 3 Standards*.
- The concentrations of vanadium reported for soil sample MW-1 SS-7 (105 µg/g vs. the *Table 3 Standard* of 86 µg/g) and its field duplicate (DUP-MW2) (98.4 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-1 from a depth of 4.57-5.33 mbgs, exceeded the *Table 3 Standards*.
- The concentrations of vanadium reported for soil sample MW-2 SS-6 (98.4 µg/g vs. the *Table 3 Standard* of 86 µg/g), collected at borehole MW-2 from a depth of 3.81-4.57 mbgs, exceeded the *Table 3 Standards*.
- The laboratory results for all groundwater samples submitted during the Phase Two ESA indicated that all reported concentrations for the parameters analyzed met the corresponding *Table 3 Standards*.

It should be noted, the Phase One Property and area is known to have elevated concentrations vanadium. It is the opinion of the QP_{ESA} supervising the Phase One ESA that vanadium parameters in soil may be present at concentrations exceeding the applicable Site Condition Standards (i.e., Table 3) as a result of naturally occurring concentrations within the soils.

Based on the results of the Phase Two ESA completed by Pinchin, it is Pinchin's recommendation that the soil impacts identified at the Site could be remediated upon redevelopment of the Site at a later date.

7.1 Signatures

This Phase Two ESA was undertaken under the supervision of Scott Mather, P.Eng., QP_{ESA} in accordance with the requirements of O. Reg. 153/04 to support the filing of an SPA for the Phase Two Property.

7.2 Terms and Limitations

This Phase Two ESA was performed for Access Property Development Inc. (Client) in order to investigate potential environmental impacts at 125 Colonnade in Ottawa, Ontario (Site). The term recognized environmental condition means the presence or likely presence of any hazardous substance on a

property under conditions that indicate an existing release, past release, or a material threat of a release of a hazardous substance into structures on the property or into the ground, groundwater, or surface water of the property. This Phase Two ESA does not quantify the extent of the current and/or recognized environmental condition or the cost of any remediation.

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from sample locations. Samples have been analyzed for a limited number of contaminants that are expected to be present at the Site, and the absence of information relating to a specific contaminant does not indicate that it is not present.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this Phase Two ESA to the standards established by Pinchin is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions on the Site and recognizes reasonable limits on time and cost.

This Phase Two ESA was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site.

This report was prepared for the exclusive use of the Client, subject to the terms, conditions and limitations contained within the duly authorized proposal for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. Furthermore, this report should not be construed as legal advice. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law.

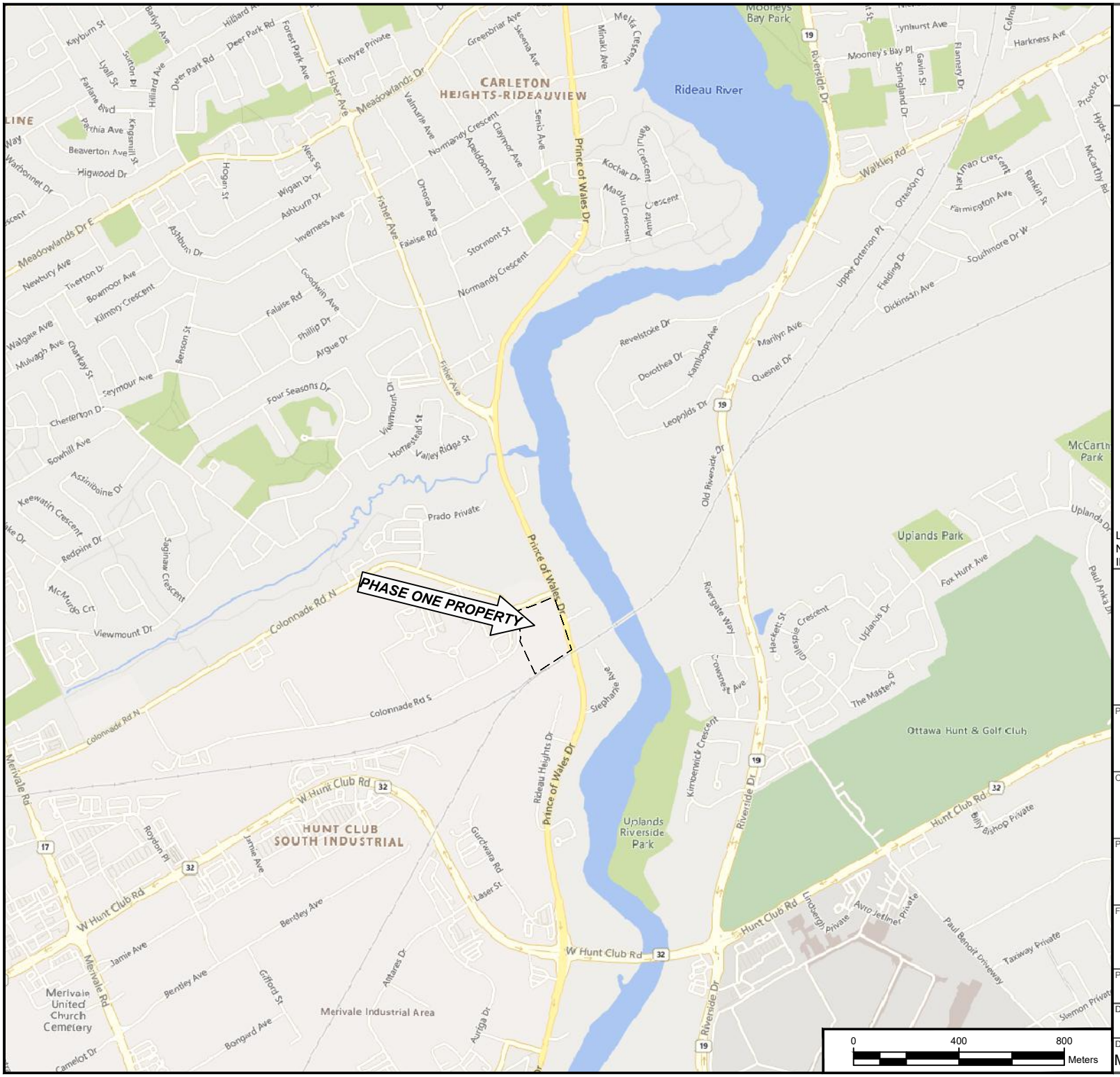
Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

8.0 REFERENCES

The following documents provided information used in this report:

- Association of Professional Geoscientists of Ontario. Guidance for Environmental Site Assessments under Ontario Regulation 153/04 (as amended). April 2011.
- Ontario Ministry of the Environment. Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario. December 1996.
- Ontario Ministry of the Environment. Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. March 9, 2004, amended July 1, 2011.
- Ontario Ministry of the Environment. Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. April 15, 2011.
- Report entitled “Phase I Environmental Site Assessment, 125 Colonnade Road South, Ottawa, Ontario” prepared for the Client by Paterson, and dated January 11, 2021 (2021 Paterson Phase I ESA Report); and
- Report entitled “Phase II Environmental Site Assessment, 125 Colonnade Road South, Ottawa, Ontario” prepared for the Properties Group by Paterson, and dated January 19, 2021 (2021 Paterson Phase II ESA Report).
- Province of Ontario. Environmental Protection Act, R.S.O 1990, Chapter E.19.
- Province of Ontario. R.R.O. 1990, Regulation 347, General – Waste Management, as amended by Ontario Regulation 234/11.
- Province of Ontario. Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act. Last amended by Ontario Regulation 274/20 on July 1, 2020.
- U.S. Environmental Protection Agency - Region 1. Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. Revised January 19, 2010.

9.0 FIGURES AND TABLES



LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

PINCHIN

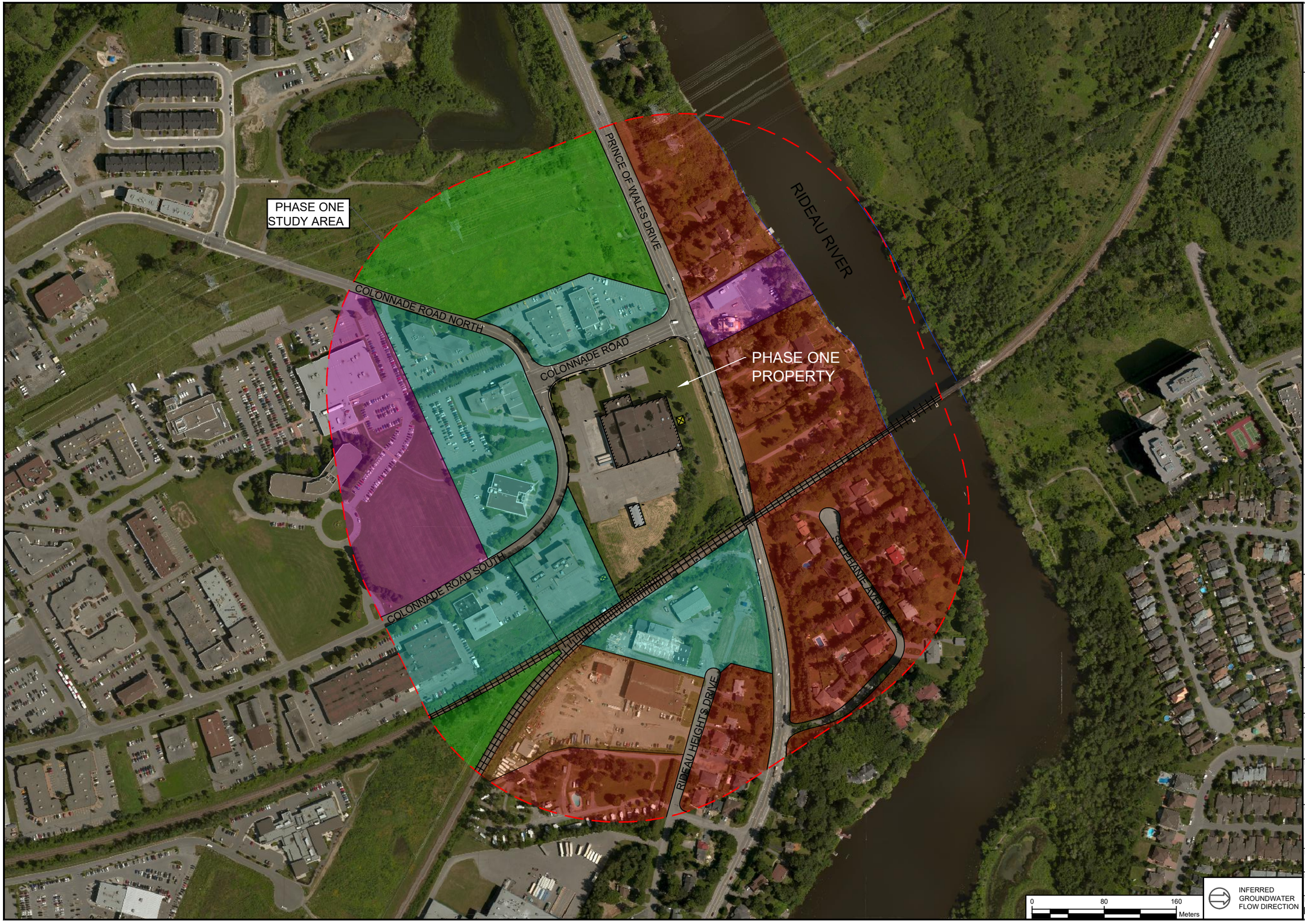
PROJECT NAME:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME:
ACCESS PROPERTY DEVELOPMENT INC.

PROJECT LOCATION:
125 COLONNADE ROAD, OTTAWA, ONTARIO

FIGURE NAME:
KEY MAP

PROJECT NUMBER:	SCALE:
300895.001	AS SHOWN
DRAWN BY:	REVIEWED BY:
DM	MK
DATE:	FIGURE NUMBER:
MARCH 2022	1



LEGEND

- PHASE ONE PROPERTY BOUNDARY
- PHASE ONE STUDY AREA
- SITE BUILDING
- RESIDENTIAL
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- VACANT

LEGEND IS COLOUR DEPENDENT.
NON-COLOUR COPIES MAY ALTER
INTERPRETATION.

PINCHIN

PROJECT NAME:
PHASE TWO
ENVIRONMENTAL SITE
ASSESSMENT

CLIENT NAME:
ACCESS PROPERTY
DEVELOPMENT INC.

PROJECT LOCATION:
125 COLONNADE ROAD,
OTTAWA, ONTARIO

FIGURE NAME:
PHASE ONE STUDY AREA

PROJECT NUMBER:	SCALE:
300895.001	AS SHOWN
DRAWN BY:	REVIEWED BY:
DM	MK
DATE:	FIGURE NUMBER:
MARCH 2022	2

INFERRED GROUNDWATER FLOW DIRECTION

LEGEND

- PHASE ONE PROPERTY BOUNDARY
- PHASE ONE STUDY AREA
- SITE BUILDING
- PCA — POTENTIALLY CONTAMINATING ACTIVITY
- # — PCA OFF-SITE
- # — PCA ON-SITE

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

PINCHIN

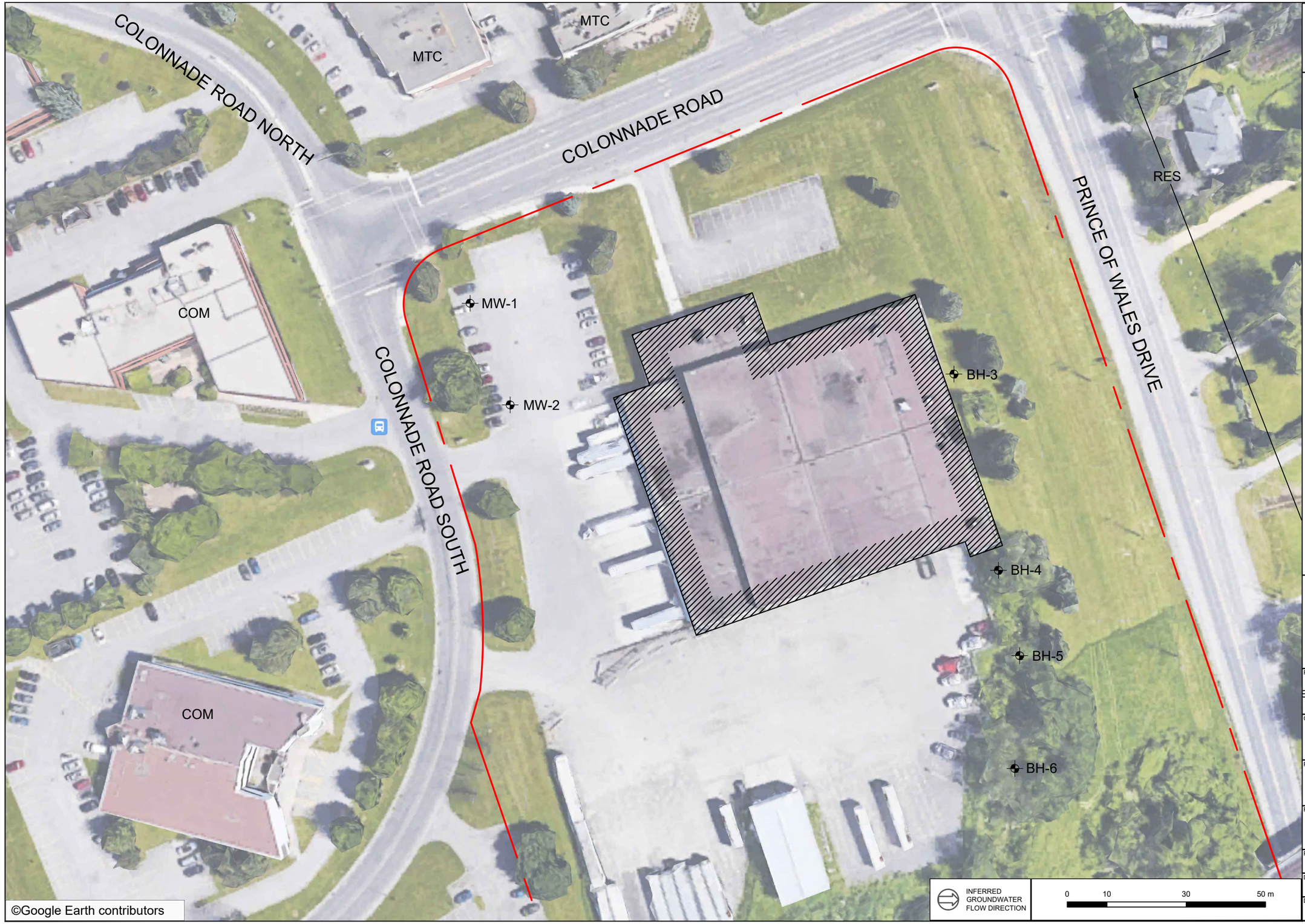
PROJECT NAME:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME:
ACCESS PROPERTY DEVELOPMENT INC.

PROJECT LOCATION:
125 COLONNADE ROAD, OTTAWA, ONTARIO

FIGURE NAME:
POTENTIALLY CONTAMINATING ACTIVITIES

PROJECT NUMBER:	SCALE:
300895	AS SHOWN
DRAWN BY:	REVIEWED BY:
DM	MK
DATE:	FIGURE NUMBER:
MARCH 2022	3



N

LEGEND

- SITE BUILDING
- SITE BOUNDARY
- BOREHOLE / MONITORING WELL
- RES RESIDENTIAL
- COM COMMERCIAL
- MTC MULTI-TENANT COMMERCIAL

INFERRED GROUNDWATER FLOW DIRECTION

0 10 30 50 m

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

PINCHIN

PROJECT NAME:
PHASE TWO ENVIRONMENTAL SITE ASESSMENT

CLIENT NAME:
ACCESS PROPERTY DEVELOPMENT INC.

PROJECT LOCATION:
125 COLONNADE ROAD, OTTAWA, ONTARIO

FIGURE NAME:
BOREHOLE/MONITORING WELL LOCATION PLAN

PROJECT NUMBER:	SCALE:
300895.001	NTS
DRAWN BY: SC	REVIEWED BY: MR
DATE: MARCH 2022	FIGURE NUMBER: 4

TABLE 1
SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Samples			Parameters												
			SOIL SAMPLES								GROUNDWATER SAMPLES				
Borehole / Monitoring Well ID	Sample ID	Sample Depth Range (mbgs)	PHC (F1-F4)	VOCs	PAHs	Metals	PCBs	pH	Grain Size Analysis		PHCs (F1-F4)	VOCs	PAHs	Metals	Rationale/Notes
MW-1	MW1	-									●	●	●	●	Assess soil and groundwater quality in relation to APEC 5.
	GWDUP-MW1	-									●	●	●	●	
	MW-1 SS-2	0.76-1.52						●							Assess soil quality in relation to APEC 5/Confirm applicable MECP standards.
	MW-1 SS-7	4.57-5.33	●	●	●	●		●	●						
MW-2	MW-2	-									●	●	●	●	Assess soil and groundwater quality in relation to APEC 5.
	MW-2 SS-6	3.81-4.57	●	●	●	●									
	DUP	3.81-4.57	●	●	●	●									
BH-3	BH-3 SS-1	0-0.75	●	●	●		●								Assess soil quality in relation to APEC 1, 2 and 3.
	DUP-BH3	0-0.75	●	●	●		●								
BH-4	BH-4 SS-1	0-0.75	●	●	●										Assess soil quality in relation to APEC 4.
BH-5	BH-5 SS-1	0-0.61	●	●	●	●									
BH-6	BH-6 SS-1	0-0.61	●	●	●										
Trip Blank	Trip Blank	1										●			

Notes:

PHCs (F1-F4)	Petroleum Hydrocarbons (Fraction 1 to Fraction 4)
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
PCBs	Polychlorinated Biphenyls
VOCs	Volatile Organic Compounds
FOC	Fraction of Organic Carbon
PAHs	Polycyclic Aromatic Hydrocarbons
TCLP	Toxicity Characteristic Leaching Procedure
mbgs	Metres Below Ground Surface
MECP	Ontario Ministry of the Environment, Conservation and Parks

Pinchin File: 300895.001

TABLE 2
pH AND GRAIN SIZE ANALYSIS FOR SOIL
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*Units*	*MECP Site Condition Standard Selection Criteria*	*Sample Designation*	
			Sample Collection Date (dd/mm/yyyy)	
			Sample Depth (mbgs)	
			MW-1 SS-2	*MW-1 SS-7*
			7/3/2022	7/3/2022
			0.76-1.52	*4.57-5.33*
			Surface	*Sub-Surface*
pH		Surface: 5 < pH < 9 Subsurface: 5 < pH < 11	7.42	7.22
Sieve #200 <0.075 mm	%	50%	87.4	-
Sieve #200 >0.075 mm	%	50%	12.6	-
		Grain Size Classification	Medium/Fine	-

Notes:

BOLD	Environmentally Sensitive Area (Based Upon pH of Surface Soil)
BOLD	Environmentally Sensitive Area (Based Upon pH of Sub-Surface Soil)
NA	Not Analysed
mbgs	Metres Below Ground Surface

TABLE 3
MONITORING WELL CONSTRUCTION DETAILS
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Well Number	*Surveyed TOC Elevation (mREL)*	*Surveyed Ground Elevation (mREL)*	*Calculated Difference Between Ground and TOC (m)*	*Length of Screen (m)*
MW-1	-	-	-	3.05
MW-2	-	-	-	3.05

Notes:

mREL	Indicates Groundwater Elevation (metres) Relative to Site Benchmark with Assumed Elevation of 100.00 Metres
TOC	Indicates Top of Casing
NM	Not Measured
m	Metres

Pinchin File: 300895.001

TABLE 4
GROUNDWATER ELEVATION DATA
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Well Number	*Date (dd/mm/yyyy)*	*NAPL Level Measurement from TOC (m)*	*Water Level Measurement from TOC (m)*	*Water Level Measurement from Ground (mbgs)*	*Product Thickness (m)*	*Calculated Water Level Elevation (mREL)*
MW-1	10/3/2022	ND	3.07	3.17	ND	-
MW-2	10/3/2022	ND	2.96	3.07	ND	-

Notes:

mREL	Indicates Groundwater Elevation (metres) Relative To Site Benchmark with Assumed Elevation of 100.00 Metres
NAPL	Non-Aqueous Phase Liquid
ND	Not Detected
TOC	Indicates Top of Casing
m	Metres
mbgs	Metres Below Ground Surface

TABLE 5
PETROLEUM HYDROCARBON, BTEX and PCB ANALYSIS FOR SOIL
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*						
		Sample Collection Date (dd/mm/yyyy)						
		Sample Depth (mbgs)						
		MW-1 SS-7	*MW-2 SS-6*	*DUP-MW2*	*BH-3 SS-1*	*BH-4 SS-1*	*BH-5 SS-1*	*BH-6 SS-1*
		03/07/2022	*03/07/2022*	*03/07/2022*	*03/07/2022*	*03/07/2022*	*03/07/2022*	*03/07/2022*
		4.57-5.33	*3.81-4.57*	*3.81-4.57*	*0-0.75*	*0-0.75*	*0-0.61*	*0-0.61*
Benzene	0.4	-	-	-	-	-	-	-
Toluene	78	-	-	-	-	-	-	-
Ethylbenzene	19	-	-	-	-	-	-	-
Xylenes (Total)	30	-	-	-	-	-	-	-
Petroleum Hydrocarbons F1 (C_6 - C_{10})	65	<7	<7	<7	<7	<7	<7	<7
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	250	<4	<4	<4	<4	<4	<4	<4
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	2500	<8	<8	<8	<8	124	248	22
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	6600	<6	<6	<6	<6	112	168	70
PCBs	1.1	-	-	-	<0.05	<0.05	-	-

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.

BOLD — Exceeds Site Condition Standard
BOLD — Reportable Detection Limit Exceeds Site Condition Standard
Units — All Units in µg/g
mbgs — Metres Below Ground Surface
BTEX — Benzene, Toluene, Ethylbenzene and Xylenes

TABLE 6
VOLATILE ORGANIC COMPOUND ANALYSIS FOR SOIL
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*						
		Sample Collection Date (dd/mm/yyyy)						
		Sample Depth (mbgs)						
		MW-1 SS-7	*MW-2 SS-6*	*DUP-MW2*	*BH-3 SS-1*	*BH-4 SS-1*	*BH-5 SS-1*	*BH-6 SS-1*
		7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022
		4.57-5.33	*3.81-4.57*	*3.81-4.57*	*0-0.75*	*0-0.75*	*0-0.61*	*0-0.61*
Acetone	28	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	1.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	8.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	0.84	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethylene	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	37	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	9.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichloropropane	0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Total)	0.21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	19	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexane	88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl Isobutyl Ketone	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl t-Butyl Ether (MTBE)	3.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.61	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylenes (Total)	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.

BOLD — Exceeds Site Condition Standard

BOLD — Reportable Detection Limit Exceeds Site Condition Standard

Units — All Units in µg/g

mbgs — Metres Below Ground Surface

Pinchin File: 300895.001

TABLE 7
POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS FOR SOIL
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*						
		Sample Collection Date (dd/mm/yyyy)						
		Sample Depth (mbgs)						
		MW-1 SS-7	*MW-2 SS-6*	*DUP-MW2*	*BH-3 SS-1*	*BH-4 SS-1*	*BH-5 SS-1*	*BH-6 SS-1*
		7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022	7/3/2022
		4.57-5.33	*3.81-4.57*	*3.81-4.57*	*0-0.75*	*0-0.75*	*0-0.61*	*0-0.61*
Acenaphthene	96	<0.02	<0.02	<0.02	<0.02	0.12	0.14	<0.02
Acenaphthylene	0.17	0.02	<0.02	<0.02	<0.02	0.12	0.05	<0.02
Anthracene	0.74	<0.02	<0.02	<0.02	<0.02	0.42	0.22	0.03
Benzo(a)anthracene	0.96	0.03	<0.02	<0.02	<0.02	0.31	0.36	<0.02
Benzo(a)pyrene	0.3	0.04	<0.02	<0.02	<0.02	0.18	**1.02**	<0.02
Benzo(b)fluoranthene	0.96	0.03	<0.02	<0.02	<0.02	0.23	**1.03**	0.05
Benzo(ghi)perylene	9.6	0.03	<0.02	<0.02	<0.02	0.11	0.81	0.05
Benzo(k)fluoranthene	0.96	0.02	<0.02	<0.02	<0.02	0.1	0.41	<0.02
Chrysene	9.6	0.04	<0.02	<0.02	<0.02	0.33	0.5	<0.02
Dibenzo(a,h)anthracene	0.1	<0.02	<0.02	<0.02	<0.02	0.02	**0.16**	<0.02
Fluoranthene	9.6	0.05	<0.02	<0.02	<0.02	1.5	0.9	0.03
Fluorene	69	<0.02	<0.02	<0.02	<0.02	0.13	0.11	<0.02
Indeno(1,2,3-cd)pyrene	0.95	0.03	<0.02	<0.02	<0.02	0.08	0.66	0.03
Methylnaphthalene 2-(1-)	85	<0.04	<0.04	<0.04	<0.04	0.07	0.14	<0.04
Naphthalene	28	<0.01	<0.01	<0.01	<0.01	0.01	0.29	0.04
Phenanthrene	16	<0.02	<0.02	<0.02	<0.02	1.94	0.63	0.03
Pyrene	96	0.05	<0.02	<0.02	<0.02	1.1	0.98	0.03

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.

BOLD	Exceeds Site Condition Standard
BOLD	Reportable Detection Limit Exceeds Site Condition Standard
Units	All Units in µg/g
mbgs	Metres Below Ground Surface

Pinchin File: 300895.001

TABLE 8
METALS ANALYSIS FOR SOIL
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*			
		Sample Collection Date (dd/mm/yyyy)			
		Sample Depth (mbgs)			
		MW-1 SS-7	*DUP-MW2*	*MW-2 SS-6*	*BH-5 SS-1*
		7/3/2022	7/3/2022	7/3/2022	7/3/2022
		4.57-5.33	*3.81-4.57*	*3.81-4.57*	*0-0.61*
Antimony	50	<1	<1	<1	<1
Arsenic	18	4.6	3	3.2	6.3
Barium	670	287	293	265	86.8
Beryllium	10	0.9	0.8	0.8	<0.5
Boron (Total)	120	5.8	5.3	5.2	10.6
Boron (Hot Water Soluble)	2	-	-	-	-
Cadmium	1.9	<0.5	<0.5	<0.5	<0.5
Chromium (Total)	160	133	122	127	32.4
Chromium (Hexavalent)	10	-	-	-	-
Cobalt	100	24.8	22.7	22.3	10.3
Copper	300	51.7	46.9	47.9	36.2
Lead	120	8	7.8	7.3	21.3
Mercury	20	-	-	-	-
Molybdenum	40	1.5	<1	<1	4.9
Nickel	340	73.9	67	67.5	24.4
Selenium	5.5	<1	<1	<1	<1
Silver	50	<0.3	<0.3	<0.3	1.6
Sodium	NA	-	-	-	-
Thallium	3.3	<1	<1	<1	<1
Uranium	33	2.7	<1	<1	<1
Vanadium	86	**105**	**98.4**	**97.3**	25.3
Zinc	340	124	117	114	65.9

Notes:

MECP Table 3 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.
BOLD	Exceeds Site Condition Standard
BOLD	Reportable Detection Limit Exceeds Site Condition Standard
Units	All Units in µg/g
mbgs	Metres Below Ground Surface
NA	Not Applicable

Pinchin File: 300895.001

TABLE 9
PETROLEUM HYDROCARBON AND BTEX ANALYSIS FOR GROUNDWATER
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*			
		Sample Collection Date (dd/mm/yyyy)			
		MW-1	*GWDUP-MW1*	*MW-2*	*Trip Blank*
		10/3/2022	*10/3/2022*	*10/3/2022*	*10/3/2022*
Benzene	430	<0.5	<0.5	<0.5	<0.5
Toluene	18000	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	2300	<0.5	<0.5	<0.5	<0.5
Xylenes (Total)	4200	<0.5	<0.5	<0.5	<0.5
Petroleum Hydrocarbons F1 (C_6 - C_{10})	750	<25	<25	<25	-
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	150	<100	<100	<100	-
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	500	<100	<100	<100	-
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	500	<100	<100	<100	-
PCBs	15	-	-	-	-

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for All Types of Property Use.

BOLD — Exceeds Site Condition Standard

BOLD — Reportable Detection Limit Exceeds Site Condition Standard

Units — All Units in µg/L

BTEX — Benzene, Toluene, Ethylbenzene and Xylenes

TABLE 10

VOLATILE ORGANIC COMPOUND ANALYSIS FOR GROUNDWATER

Access Property Development Inc.

125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*			
		Sample Collection Date (dd/mm/yyyy)			
		MW-1	*GWDUP-MW1*	*MW-2*	*Trip Blank*
		10/3/2022	*10/3/2022*	*10/3/2022*	*10/3/2022*
Acetone	130000	<5	<5	<5	<5
Benzene	430	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	85000	<0.5	<0.5	<0.5	<0.5
Bromoform	770	<0.5	<0.5	<0.5	<0.5
Bromomethane	56	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	8.4	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	630	<0.5	<0.5	<0.5	<0.5
Chloroform	22	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	82000	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	9600	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	9600	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	67	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	4400	<1	<1	<1	<1
1,1-Dichloroethane	3100	<1	<1	<1	<1
1,2-Dichloroethane	12	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	17	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	17	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	17	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	140	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene (Total)	45	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	2300	<0.5	<0.5	<0.5	<0.5
Ethylene Dibromide	0.83	<0.2	<0.2	<0.2	<0.2
Hexane	520	<0.1	<0.1	<0.1	<0.1
Methyl Ethyl Ketone	1500000	<5	<5	<5	<5
Methyl Isobutyl Ketone	580000	<5	<5	<5	<5
Methyl t-Butyl Ether (MTBE)	1400	<2	<2	<2	<2
Methylene Chloride	5500	<5	<5	<5	<5
Styrene	9100	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	28	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	15	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	17	<0.5	<0.5	<0.5	<0.5
Toluene	18000	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	6700	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	30	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	17	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	2500	<1	<1	<1	<1
Vinyl Chloride	1.7	<0.5	<0.5	<0.5	<0.5
Xylenes (Total)	4200	<0.5	<0.5	<0.5	<0.5

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for All Types of Property Use.

BOLD — Exceeds Site Condition Standard

BOLD — Reportable Detection Limit Exceeds Site Condition Standard

Units — All Units in µg/L

Pinchin File: 300895.001

TABLE 11
POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS FOR GROUNDWATER
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*			
		Sample Collection Date (dd/mm/yyyy)			
		MW-1	*GWDUP-MW1*	*MW-2*	*Trip Blank*
		10/3/2022	*10/3/2022*	*10/3/2022*	*10/3/2022*
Acenaphthene	1700	<0.05	<0.05	<0.05	-
Acenaphthylene	1.8	<0.05	<0.05	<0.05	-
Anthracene	2.4	<0.01	<0.01	<0.01	-
Benzo(a)anthracene	4.7	<0.01	<0.01	<0.01	-
Benzo(a)pyrene	0.81	<0.01	<0.01	<0.01	-
Benzo(b)fluoranthene	0.75	<0.05	<0.05	<0.05	-
Benzo(ghi)perylene	0.2	<0.05	<0.05	<0.05	-
Benzo(k)fluoranthene	0.4	<0.05	<0.05	<0.05	-
Chrysene	1	<0.05	<0.05	<0.05	-
Dibenzo(a,h)anthracene	0.52	<0.05	<0.05	<0.05	-
Fluoranthene	130	<0.01	<0.01	<0.01	-
Fluorene	400	<0.05	<0.05	<0.05	-
Indeno(1,2,3-cd)pyrene	0.2	<0.05	<0.05	<0.05	-
Methylnaphthalene 2-(1-)	1800	<0.01	<0.01	<0.01	-
Naphthalene	6400	<0.05	<0.05	<0.05	-
Phenanthrene	580	<0.05	<0.05	<0.05	-
Pyrene	68	<0.01	<0.01	<0.01	-

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for All Types of Property Use.

BOLD — Exceeds Site Condition Standard

BOLD — Reportable Detection Limit Exceeds Site Condition Standard

Units — All Units in µg/L

Pinchin File: 300895.001

TABLE 12
METALS ANALYSIS FOR GROUNDWATER
Access Property Development Inc.
125 Colonnade Road, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*			
		Sample Collection Date (dd/mm/yyyy)			
		MW-1	*GWDUP-MW1*	*MW-2*	*Trip Blank*
		10/3/2022	*10/3/2022*	*10/3/2022*	*10/3/2022*
Antimony	20000	<0.5	<0.5	<0.5	-
Arsenic	1900	1	1	1	-
Barium	29000	106	108	86	-
Beryllium	67	<0.5	<0.5	<0.5	-
Boron	45000	<10	<10	11	-
Cadmium	2.7	<0.1	<0.1	<0.1	-
Chromium (Total)	810	<1	<1	3	-
Chromium (VI)	140	-	-	-	-
Cobalt	66	0.8	0.8	1.9	-
Copper	87	<0.5	0.9	5.9	-
Lead	25	<0.1	<0.1	0.9	-
Mercury	2.8	-	-	-	-
Molybdenum	9200	2.6	2.6	5.1	-
Nickel	490	3	3	4	-
Selenium	63	<1	<1	<1	-
Silver	1.5	<0.1	<0.1	<0.1	-
Sodium	2300000	60800	57400	42500	-
Thallium	510	<0.1	<0.1	<0.1	-
Uranium	420	1.6	1.5	2	-
Vanadium	250	0.8	0.8	4.6	-
Zinc	1100	<5	<5	8	-

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Medium/Fine-Textured Soils, Non-Potable Groundwater Condition, for All Types of Property Use.

BOLD — Exceeds Site Condition Standard

BOLD — Reportable Detection Limit Exceeds Site Condition Standard

Units — All Units in µg/L

Pinchin File: 300895.001

10.0 APPENDICES

APPENDIX A

Borehole Logs

Log of Borehole: MW-1

Project #: 300895.001 **Logged By:** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 7. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
0–2 / 0		***Sand and Gravel Fill*** Damp, brown material, no odor or staining	0.00 -0.76		80	1	0/0	
2–5 / 0–1		***Silty Clay (traces of gravel)*** Damp, brown material, no odor or staining	0.76 -1.52			2	0/0	PH
5–7 / 1–2		***Silty Clay (traces of sand)*** Damp, brown material, with, no odor or staining	1.52 -2.29		100	3	0/0	
7–10 / 2–3		Moist, brown material, no odor or staining	2.29 -3.05			4	0/0	
10–13 / 3–4			3.05 -3.81		100	5	0/0	
13–15 / 4			3.81 -4.57			6	0/0	
15–17 / 5		***Clay*** Wet, grey material, no odor or staining	4.57 -5.33		100	7	0/0	PHCs, VOCs, PAHs, Metals, Grain Size, PH
17–20 / 5–6			5.33 -6.10			8	0/0	
20 / 6		End of Borehole	6.10					

Monitoring Well Details: Riser, Bentonite, Screen, Silica Sand

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

Log of Borehole: MW-2

Project #: 300895.001 **Logged By:** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 7. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
0–2 / 0–0.76		***Sand and Gravel Fill*** Damp, greyish-brown material, no odor or staining	0.00 / -0.76		5	1	0/0	
2–5 / 0.76–1.52		***Silty Clay (traces of gravel)*** Damp, brown material, no odor or staining	0.76 / -1.52			2	0/0	
5–7 / 1.52–2.29			1.52 / -2.29		5	3	0/0	
7–10 / 2.29–3.05			2.29 / -3.05			4	0/0	
10–12 / 3.05–3.81		***Silty Clay*** Damp, brown material, no odor or staining	3.05 / -3.81		5	5	0/0	
12–15 / 3.81–4.57		Wet, brown material, no odor or staining	3.81 / -4.57			6	0/0	PHCs, VOCs, PAHs, Metals, Grain Size, PH
15–17 / 4.57–5.33		***Clay*** Wet, Grey material, no odor or staining	4.57 / -5.33		5	7	0/0	
17–20 / 5.33–6.10			5.33 / -6.10			8	0/0	
20 / 6.10		End of Borehole NO REFUSAL	6.10					

Monitoring Well Details: Riser, Bentonite, Screen, Silica Sand

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

Log of Borehole: BH-3

Project #: 300895.001 ***Logged By:*** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 7. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
		Silty Clay (trace organics) Damp, brown material, no odor or staining	0.00		35	1	0/0	PHCs, VOCs, PAHs, PCB'S
			-0.76					
			0.76			2	0/0	
			-1.52					
5		End of Borehole NO REFUSAL	1.52					
1 / 2 / 3 / 4 / 6 / 7								

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

Log of Borehole: BH-4

Project #: 300895.001 ***Logged By:*** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 8. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
		Sand and Gravel (trace organics) Damp, brown material, no odor or staining	0.00		30	1	0/0	PHCs, VOCs, PAHs
1								
2			-0.61					
		End of Borehole NO REFUSAL	0.61					
3 / 1								
4								
5								

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

Log of Borehole: BH-5

Project #: 300895.001 ***Logged By:*** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 8. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
		Sand and Gravel (trace organics) Damp, Brown material, no odor or staining	0.00		85	1	0/0	PHCs, VOCs, PAHs, Metals
2			-0.61					
		End of Borehole NO REFUSAL	0.61					
1 / 3								
4								
5								

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

Log of Borehole: BH-6

Project #: 300895.001 ***Logged By:*** MK

Project: Phase Two - Environmental Site Assessment

Client: Access Property Development Inc.

Location: 125 Colonnade Rd, Nepean, Ontario

Drill Date: MAR. 8. 2022

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
		Sand and Gravel (trace organics) Damp, brown material, no odor or staining	0.00		35	1	0/0	PHCs, VOCs, PAHs
1								
2			-0.61					
		End of Borehole NO REFUSAL	0.61					
3								
1								
4								
5								

Contractor: Strata Drilling Group

Drilling Method: Direct Push

Well Casing Size: 2 in.

Note:
* Soil vapour concentrations measured using a RKI Eagle 2 equipped with a combustible gas indicator (CGI) and a photoionization detector (PID).

Grade Elevation: -

Top of Casing Elevation: -

Sheet: 1 of 1

APPENDIX B

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.

TRUSTED.
RESPONSIVE.
RELIABLE.

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

Certificate of Analysis

Pinchin Ltd. (Ottawa)

1 Hines Road, Suite 200
Kanata, ON K2K 3C7
Attn: Michael Kosiw

Client PO:
Project: 300895.001
Custody: 134167

Report Date: 11-Mar-2022
Order Date: 9-Mar-2022

Order #: 2211334

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

Paracel ID	Client ID
2211334-01	MW-1 SS-2
2211334-02	MW-1 SS-7
2211334-03	MW-2 SS-6
2211334-04	DUP-MW2
2211334-05	BH-3 SS-1
2211334-06	DUP-BH3
2211334-07	BH-4 SS-1
2211334-08	BH-5 SS-1
2211334-09	BH-6 SS-1

Approved By:

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PCBs, total	SW846 8082A - GC-ECD	10-Mar-22	11-Mar-22
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	10-Mar-22	11-Mar-22
PHC F1	CWS Tier 1 - P&T GC-FID	10-Mar-22	10-Mar-22
PHC F4G (gravimetric)	CWS Tier 1 - Extraction Gravimetric	10-Mar-22	11-Mar-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	10-Mar-22	11-Mar-22
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	11-Mar-22	11-Mar-22
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	10-Mar-22	11-Mar-22
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	10-Mar-22	10-Mar-22
Solids, %	Gravimetric, calculation	10-Mar-22	10-Mar-22
Texture - Coarse Med/Fine	Based on ASTM D2487	10-Mar-22	11-Mar-22

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1 SS-2	MW-1 SS-7	MW-2 SS-6	DUP-MW2
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00
	Sample ID:	2211334-01	2211334-02	2211334-03	2211334-04
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	-	54.9	58.2	57.4
>75 um	0.1 %	-	12.6	-	-
<75 um	0.1 %	-	87.4	-	-
Texture	0.1 %	-	Med/Fine	-	-
General Inorganics					
pH	0.05 pH Units	7.31	7.42	7.22	-
Metals					
Antimony	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	-	4.6	3.2	3.0
Barium	1.0 ug/g dry	-	287	265	293
Beryllium	0.5 ug/g dry	-	0.9	0.8	0.8
Boron	5.0 ug/g dry	-	5.8	5.2	5.3
Cadmium	0.5 ug/g dry	-	<0.5	<0.5	<0.5
Chromium	5.0 ug/g dry	-	133	127	122
Cobalt	1.0 ug/g dry	-	24.8	22.3	22.7
Copper	5.0 ug/g dry	-	51.7	47.9	46.9
Lead	1.0 ug/g dry	-	8.0	7.3	7.8
Molybdenum	1.0 ug/g dry	-	1.5	<1.0	<1.0
Nickel	5.0 ug/g dry	-	73.9	67.5	67.0
Selenium	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Silver	0.3 ug/g dry	-	<0.3	<0.3	<0.3
Thallium	1.0 ug/g dry	-	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	-	2.7	<1.0	<1.0
Vanadium	10.0 ug/g dry	-	105	97.3	98.4
Zinc	20.0 ug/g dry	-	124	114	117
Volatiles					
Acetone	0.50 ug/g dry	-	<0.50	<0.50	<0.50
Benzene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Bromoform	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Bromomethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Chloroform	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1 SS-2	MW-1 SS-7	MW-2 SS-6	DUP-MW2
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00
	Sample ID:	2211334-01	2211334-02	2211334-03	2211334-04
	MDL/Units	Soil	Soil	Soil	Soil
Dichlorodifluoromethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Hexane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	-	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	-	<0.50	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Styrene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	-	<0.02	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	-	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	-	<0.05	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	-	<0.05	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	-	134%	127%	135%
Dibromofluoromethane	Surrogate	-	108%	100%	109%
Toluene-d8	Surrogate	-	139%	131%	107%

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1 SS-2	MW-1 SS-7	MW-2 SS-6	DUP-MW2
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00	07-Mar-22 09:00
	Sample ID:	2211334-01	2211334-02	2211334-03	2211334-04
	MDL/Units	Soil	Soil	Soil	Soil
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	-	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	-	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	-	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	-	<6	<6	<6
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Acenaphthylene	0.02 ug/g dry	-	0.02	<0.02	<0.02
Anthracene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Benzo [a] anthracene	0.02 ug/g dry	-	0.03	<0.02	<0.02
Benzo [a] pyrene	0.02 ug/g dry	-	0.04	<0.02	<0.02
Benzo [b] fluoranthene	0.02 ug/g dry	-	0.03	<0.02	<0.02
Benzo [g,h,i] perylene	0.02 ug/g dry	-	0.03	<0.02	<0.02
Benzo [k] fluoranthene	0.02 ug/g dry	-	0.02	<0.02	<0.02
Chrysene	0.02 ug/g dry	-	0.04	<0.02	<0.02
Dibenzo [a,h] anthracene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Fluoranthene	0.02 ug/g dry	-	0.05	<0.02	<0.02
Fluorene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	-	0.03	<0.02	<0.02
1-Methylnaphthalene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
2-Methylnaphthalene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Methylnaphthalene (1&2)	0.04 ug/g dry	-	<0.04	<0.04	<0.04
Naphthalene	0.01 ug/g dry	-	<0.01	<0.01	<0.01
Phenanthrene	0.02 ug/g dry	-	<0.02	<0.02	<0.02
Pyrene	0.02 ug/g dry	-	0.05	<0.02	<0.02
2-Fluorobiphenyl	Surrogate	-	93.0%	92.2%	102%
Terphenyl-d14	Surrogate	-	105%	137%	123%

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	BH-3 SS-1	DUP-BH3	BH-4 SS-1	BH-5 SS-1
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	08-Mar-22 09:00	08-Mar-22 09:00
	Sample ID:	2211334-05	2211334-06	2211334-07	2211334-08
	MDL/Units	Soil	Soil	Soil	Soil
Physical Characteristics					
% Solids	0.1 % by Wt.	80.4	80.3	91.8	87.1
Metals					
Antimony	1.0 ug/g dry	-	-	-	<1.0
Arsenic	1.0 ug/g dry	-	-	-	6.3
Barium	1.0 ug/g dry	-	-	-	86.8
Beryllium	0.5 ug/g dry	-	-	-	<0.5
Boron	5.0 ug/g dry	-	-	-	10.6
Cadmium	0.5 ug/g dry	-	-	-	<0.5
Chromium	5.0 ug/g dry	-	-	-	32.4
Cobalt	1.0 ug/g dry	-	-	-	10.3
Copper	5.0 ug/g dry	-	-	-	36.2
Lead	1.0 ug/g dry	-	-	-	21.3
Molybdenum	1.0 ug/g dry	-	-	-	4.9
Nickel	5.0 ug/g dry	-	-	-	24.4
Selenium	1.0 ug/g dry	-	-	-	<1.0
Silver	0.3 ug/g dry	-	-	-	1.6
Thallium	1.0 ug/g dry	-	-	-	<1.0
Uranium	1.0 ug/g dry	-	-	-	<1.0
Vanadium	10.0 ug/g dry	-	-	-	25.3
Zinc	20.0 ug/g dry	-	-	-	65.9
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Benzene	0.02 ug/g dry	<0.02	-	<0.02	<0.02
Bromodichloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromoform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Bromomethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Chloroform	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dibromochloromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	BH-3 SS-1	DUP-BH3	BH-4 SS-1	BH-5 SS-1
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	08-Mar-22 09:00	08-Mar-22 09:00
	Sample ID:	2211334-05	2211334-06	2211334-07	2211334-08
	MDL/Units	Soil	Soil	Soil	Soil
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylbenzene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Hexane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	<0.50	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Methylene Chloride	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Styrene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Tetrachloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichloroethylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Vinyl chloride	0.02 ug/g dry	<0.02	-	<0.02	<0.02
m,p-Xylenes	0.05 ug/g dry	<0.05	-	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	-	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	-	<0.05	<0.05
4-Bromofluorobenzene	Surrogate	117%	-	110%	115%
Dibromofluoromethane	Surrogate	92.6%	-	86.0%	90.6%
Toluene-d8	Surrogate	121%	-	113%	119%
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	-	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	-	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	<8	-	124	248

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	BH-3 SS-1	DUP-BH3	BH-4 SS-1	BH-5 SS-1
	Sample Date:	07-Mar-22 09:00	07-Mar-22 09:00	08-Mar-22 09:00	08-Mar-22 09:00
	Sample ID:	2211334-05	2211334-06	2211334-07	2211334-08
	MDL/Units	Soil	Soil	Soil	Soil
F4 PHCs (C34-C50)	6 ug/g dry	<6	-	112 [1]	168 [1]
F4G PHCs (gravimetric)	50 ug/g dry	-	-	87	218
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	<0.02	-	0.12	0.14
Acenaphthylene	0.02 ug/g dry	<0.02	-	0.12	0.05
Anthracene	0.02 ug/g dry	<0.02	-	0.42	0.22
Benzo [a] anthracene	0.02 ug/g dry	<0.02	-	0.31	0.36
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	0.18	1.02
Benzo [b] fluoranthene	0.02 ug/g dry	<0.02	-	0.23	1.03
Benzo [g,h,i] perylene	0.02 ug/g dry	<0.02	-	0.11	0.81
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	0.10	0.41
Chrysene	0.02 ug/g dry	<0.02	-	0.33	0.50
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	0.02	0.16
Fluoranthene	0.02 ug/g dry	<0.02	-	1.50	0.90
Fluorene	0.02 ug/g dry	<0.02	-	0.13	0.11
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	<0.02	-	0.08	0.66
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	0.03	0.05
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	0.04	0.10
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	0.07	0.14
Naphthalene	0.01 ug/g dry	<0.01	-	0.01	0.29
Phenanthrene	0.02 ug/g dry	<0.02	-	1.94	0.63
Pyrene	0.02 ug/g dry	<0.02	-	1.10	0.98
2-Fluorobiphenyl	Surrogate	95.8%	-	105%	108%
Terphenyl-d14	Surrogate	127%	-	127%	111%
PCBs					
PCBs, total	0.05 ug/g dry	<0.05	<0.05	-	-
Decachlorobiphenyl	Surrogate	98.3%	102%	-	-

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	BH-6 SS-1	-	-	-
	Sample Date:	08-Mar-22 09:00	-	-	-
	Sample ID:	2211334-09	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	90.1	-	-	-
Volatiles					
Acetone	0.50 ug/g dry	<0.50	-	-	-
Benzene	0.02 ug/g dry	<0.02	-	-	-
Bromodichloromethane	0.05 ug/g dry	<0.05	-	-	-
Bromoform	0.05 ug/g dry	<0.05	-	-	-
Bromomethane	0.05 ug/g dry	<0.05	-	-	-
Carbon Tetrachloride	0.05 ug/g dry	<0.05	-	-	-
Chlorobenzene	0.05 ug/g dry	<0.05	-	-	-
Chloroform	0.05 ug/g dry	<0.05	-	-	-
Dibromochloromethane	0.05 ug/g dry	<0.05	-	-	-
Dichlorodifluoromethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,4-Dichlorobenzene	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	<0.05	-	-	-
1,2-Dichloropropane	0.05 ug/g dry	<0.05	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	<0.05	-	-	-
1,3-Dichloropropene, total	0.05 ug/g dry	<0.05	-	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	-	-	-
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	<0.05	-	-	-
Hexane	0.05 ug/g dry	<0.05	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	<0.50	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g dry	<0.50	-	-	-
Methyl tert-butyl ether	0.05 ug/g dry	<0.05	-	-	-
Methylene Chloride	0.05 ug/g dry	<0.05	-	-	-
Styrene	0.05 ug/g dry	<0.05	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g dry	<0.05	-	-	-
Tetrachloroethylene	0.05 ug/g dry	<0.05	-	-	-

	Client ID:	BH-6 SS-1	-	-	-
	Sample Date:	08-Mar-22 09:00	-	-	-
	Sample ID:	2211334-09	-	-	-
	MDL/Units	Soil	-	-	-
Toluene	0.05 ug/g dry	<0.05	-	-	-
1,1,1-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
1,1,2-Trichloroethane	0.05 ug/g dry	<0.05	-	-	-
Trichloroethylene	0.05 ug/g dry	<0.05	-	-	-
Trichlorofluoromethane	0.05 ug/g dry	<0.05	-	-	-
Vinyl chloride	0.02 ug/g dry	<0.02	-	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	-	-	-
o-Xylene	0.05 ug/g dry	<0.05	-	-	-
Xylenes, total	0.05 ug/g dry	<0.05	-	-	-
4-Bromofluorobenzene	Surrogate	110%	-	-	-
Dibromofluoromethane	Surrogate	90.5%	-	-	-
Toluene-d8	Surrogate	116%	-	-	-
Hydrocarbons					
F1 PHCs (C6-C10)	7 ug/g dry	<7	-	-	-
F2 PHCs (C10-C16)	4 ug/g dry	<4	-	-	-
F3 PHCs (C16-C34)	8 ug/g dry	22	-	-	-
F4 PHCs (C34-C50)	6 ug/g dry	70	-	-	-
Semi-Volatiles					
Acenaphthene	0.02 ug/g dry	<0.02	-	-	-
Acenaphthylene	0.02 ug/g dry	<0.02	-	-	-
Anthracene	0.02 ug/g dry	0.03	-	-	-
Benzo [a] anthracene	0.02 ug/g dry	<0.02	-	-	-
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	-	-
Benzo [b] fluoranthene	0.02 ug/g dry	0.05	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g dry	0.05	-	-	-
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	-	-
Chrysene	0.02 ug/g dry	<0.02	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	-	-
Fluoranthene	0.02 ug/g dry	0.03	-	-	-
Fluorene	0.02 ug/g dry	<0.02	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	0.03	-	-	-
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	-	-
Naphthalene	0.01 ug/g dry	0.04	-	-	-

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 11-Mar-2022

Order Date: 9-Mar-2022

Project Description: 300895.001

	Client ID:	BH-6 SS-1	-	-	-
	Sample Date:	08-Mar-22 09:00	-	-	-
	Sample ID:	2211334-09	-	-	-
	MDL/Units	Soil	-	-	-
Phenanthrene	0.02 ug/g dry	0.03	-	-	-
Pyrene	0.02 ug/g dry	0.03	-	-	-
2-Fluorobiphenyl	Surrogate	105%	-	-	-
Terphenyl-d14	Surrogate	128%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
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						
F4G PHCs (gravimetric)	ND	50	ug/g						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	0.5	ug/g						
Boron	ND	5.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	5.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	5.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	5.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.3	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	10.0	ug/g						
Zinc	ND	20.0	ug/g						
PCBs									
PCBs, total	ND	0.05	ug/g						
Surrogate: Decachlorobiphenyl	*0.105*		*ug/g*		*105*	*60-140*			
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*1.17*		*ug/g*		*87.4*	*50-140*			
Surrogate: Terphenyl-d14	*1.33*		*ug/g*		*99.4*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						

Certificate of Analysis

Report Date: 11-Mar-2022

Client: Pinchin Ltd. (Ottawa)

Order Date: 9-Mar-2022

Client PO:

Project Description: 300895.001

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*8.23*		*ug/g*		*103*	*50-140*			
Surrogate: Dibromofluoromethane	*6.53*		*ug/g*		*81.6*	*50-140*			
Surrogate: Toluene-d8	*8.53*		*ug/g*		*107*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
pH	7.27	0.05	pH Units	7.31			0.5	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									
Antimony	3.4	1.0	ug/g	3.2			4.2	30	
Arsenic	54.4	1.0	ug/g	52.3			4.0	30	
Barium	573	1.0	ug/g	521			9.4	30	
Beryllium	3.1	0.5	ug/g	3.0			5.9	30	
Boron	67.6	5.0	ug/g	61.1			10.2	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	40.8	5.0	ug/g	37.4			8.7	30	
Cobalt	13.7	1.0	ug/g	12.6			8.3	30	
Copper	40.9	5.0	ug/g	36.0			12.8	30	
Lead	22.7	1.0	ug/g	21.1			7.4	30	
Molybdenum	3.2	1.0	ug/g	2.8			12.3	30	
Nickel	35.9	5.0	ug/g	33.3			7.4	30	
Selenium	2.6	1.0	ug/g	2.3			11.7	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	1.4	1.0	ug/g	1.2			9.3	30	
Uranium	2.7	1.0	ug/g	2.5			8.7	30	
Vanadium	69.3	10.0	ug/g	63.3			9.1	30	
Zinc	74.0	20.0	ug/g	69.4			6.4	30	
PCBs									
PCBs, total	ND	0.05	ug/g	ND			NC	40	
Surrogate: Decachlorobiphenyl	*0.131*		*ug/g*		*105*	*60-140*			
Physical Characteristics									
% Solids	76.0	0.1	% by Wt.	77.5			2.0	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	0.024			NC	40	
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	0.033			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g	0.039			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	0.025			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	0.029			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	0.024			NC	40	
Chrysene	ND	0.02	ug/g	0.045			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	0.048			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	0.026			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	0.047			NC	40	
Surrogate: 2-Fluorobiphenyl	*1.92*		*ug/g*		*79.1*	*50-140*			
Surrogate: Terphenyl-d14	*2.89*		*ug/g*		*119*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*8.34*		*ug/g*		*102*	*50-140*			
Surrogate: Dibromofluoromethane	*6.71*		*ug/g*		*82.4*	*50-140*			
Surrogate: Toluene-d8	*8.68*		*ug/g*		*107*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	178	7	ug/g	ND	89.1	80-120			
F2 PHCs (C10-C16)	164	4	ug/g	ND	112	60-140			
F3 PHCs (C16-C34)	450	8	ug/g	ND	126	60-140			
F4 PHCs (C34-C50)	311	6	ug/g	ND	138	60-140			
F4G PHCs (gravimetric)	830	50	ug/g	ND	83.0	80-120			
Metals									
Antimony	46.9	1.0	ug/g	1.3	91.2	70-130			
Arsenic	75.5	1.0	ug/g	20.9	109	70-130			
Barium	51.6	1.0	ug/g	ND	103	70-130			
Beryllium	51.6	0.5	ug/g	1.2	101	70-130			
Boron	75.9	5.0	ug/g	24.4	103	70-130			
Cadmium	48.8	0.5	ug/g	ND	97.3	70-130			
Chromium	70.6	5.0	ug/g	15.0	111	70-130			
Cobalt	58.0	1.0	ug/g	5.0	106	70-130			
Copper	67.6	5.0	ug/g	14.4	106	70-130			
Lead	57.6	1.0	ug/g	8.4	98.3	70-130			
Molybdenum	52.6	1.0	ug/g	1.1	103	70-130			
Nickel	67.1	5.0	ug/g	13.3	107	70-130			
Selenium	48.6	1.0	ug/g	ND	95.5	70-130			
Silver	55.6	0.3	ug/g	ND	111	70-130			
Thallium	50.0	1.0	ug/g	ND	98.9	70-130			
Uranium	52.3	1.0	ug/g	1.0	103	70-130			
Vanadium	83.6	10.0	ug/g	25.3	117	70-130			
Zinc	80.3	20.0	ug/g	27.8	105	70-130			
PCBs									
PCBs, total	0.466	0.05	ug/g	ND	93.7	60-140			
Surrogate: Decachlorobiphenyl	*0.132*		*ug/g*		*106*	*60-140*			
Semi-Volatiles									
Acenaphthene	0.277	0.02	ug/g	ND	91.5	50-140			
Acenaphthylene	0.203	0.02	ug/g	0.024	59.1	50-140			
Anthracene	0.207	0.02	ug/g	ND	68.2	50-140			
Benzo [a] anthracene	0.189	0.02	ug/g	0.033	51.5	50-140			
Benzo [a] pyrene	0.202	0.02	ug/g	0.039	53.6	50-140			
Benzo [b] fluoranthene	0.218	0.02	ug/g	0.025	63.6	50-140			
Benzo [g,h,i] perylene	0.197	0.02	ug/g	0.029	55.3	50-140			
Benzo [k] fluoranthene	0.176	0.02	ug/g	0.024	50.1	50-140			
Chrysene	0.245	0.02	ug/g	0.045	66.1	50-140			
Dibenzo [a,h] anthracene	0.192	0.02	ug/g	ND	63.4	50-140			
Fluoranthene	0.206	0.02	ug/g	0.048	51.9	50-140			
Fluorene	0.264	0.02	ug/g	ND	87.2	50-140			
Indeno [1,2,3-cd] pyrene	0.189	0.02	ug/g	0.026	53.6	50-140			
1-Methylnaphthalene	0.329	0.02	ug/g	ND	108	50-140			
2-Methylnaphthalene	0.344	0.02	ug/g	ND	113	50-140			
Naphthalene	0.312	0.01	ug/g	ND	103	50-140			
Phenanthrene	0.240	0.02	ug/g	ND	79.0	50-140			
Pyrene	0.209	0.02	ug/g	0.047	53.4	50-140			
Surrogate: 2-Fluorobiphenyl	*2.17*		*ug/g*		*89.4*	*50-140*			
Surrogate: Terphenyl-d14	*2.96*		*ug/g*		*122*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Volatiles									
Acetone	7.10	0.50	ug/g	ND	71.0	50-140			
Benzene	3.28	0.02	ug/g	ND	81.9	60-130			
Bromodichloromethane	3.33	0.05	ug/g	ND	83.2	60-130			
Bromoform	3.15	0.05	ug/g	ND	78.8	60-130			
Bromomethane	3.70	0.05	ug/g	ND	92.4	50-140			
Carbon Tetrachloride	2.77	0.05	ug/g	ND	69.4	60-130			
Chlorobenzene	3.57	0.05	ug/g	ND	89.3	60-130			
Chloroform	3.05	0.05	ug/g	ND	76.2	60-130			
Dibromochloromethane	2.98	0.05	ug/g	ND	74.5	60-130			
Dichlorodifluoromethane	3.70	0.05	ug/g	ND	92.4	50-140			
1,2-Dichlorobenzene	3.34	0.05	ug/g	ND	83.4	60-130			
1,3-Dichlorobenzene	3.31	0.05	ug/g	ND	82.8	60-130			
1,4-Dichlorobenzene	3.48	0.05	ug/g	ND	87.0	60-130			
1,1-Dichloroethane	3.00	0.05	ug/g	ND	75.1	60-130			
1,2-Dichloroethane	3.14	0.05	ug/g	ND	78.5	60-130			
1,1-Dichloroethylene	3.06	0.05	ug/g	ND	76.4	60-130			
cis-1,2-Dichloroethylene	2.92	0.05	ug/g	ND	73.0	60-130			
trans-1,2-Dichloroethylene	3.06	0.05	ug/g	ND	76.6	60-130			
1,2-Dichloropropane	3.07	0.05	ug/g	ND	76.8	60-130			
cis-1,3-Dichloropropylene	2.76	0.05	ug/g	ND	68.9	60-130			
trans-1,3-Dichloropropylene	3.10	0.05	ug/g	ND	77.6	60-130			
Ethylbenzene	3.58	0.05	ug/g	ND	89.5	60-130			
Ethylene dibromide (dibromoethane, 1,2	3.12	0.05	ug/g	ND	78.0	60-130			
Hexane	4.14	0.05	ug/g	ND	104	60-130			
Methyl Ethyl Ketone (2-Butanone)	9.53	0.50	ug/g	ND	95.3	50-140			
Methyl Isobutyl Ketone	8.13	0.50	ug/g	ND	81.3	50-140			
Methyl tert-butyl ether	10.4	0.05	ug/g	ND	104	50-140			
Methylene Chloride	3.16	0.05	ug/g	ND	79.1	60-130			
Styrene	2.90	0.05	ug/g	ND	72.5	60-130			
1,1,1,2-Tetrachloroethane	3.31	0.05	ug/g	ND	82.8	60-130			
1,1,2,2-Tetrachloroethane	2.73	0.05	ug/g	ND	68.2	60-130			
Tetrachloroethylene	3.78	0.05	ug/g	ND	94.5	60-130			
Toluene	3.72	0.05	ug/g	ND	93.0	60-130			
1,1,1-Trichloroethane	2.87	0.05	ug/g	ND	71.7	60-130			
1,1,2-Trichloroethane	2.83	0.05	ug/g	ND	70.7	60-130			
Trichloroethylene	3.03	0.05	ug/g	ND	75.7	60-130			
Trichlorofluoromethane	3.32	0.05	ug/g	ND	83.1	50-140			
Vinyl chloride	3.53	0.02	ug/g	ND	88.1	50-140			
m,p-Xylenes	7.00	0.05	ug/g	ND	87.5	60-130			
o-Xylene	3.45	0.05	ug/g	ND	86.3	60-130			
Surrogate: 4-Bromofluorobenzene	*8.30*		*ug/g*		*104*	*50-140*			
Surrogate: Dibromofluoromethane	*7.53*		*ug/g*		*94.1*	*50-140*			
Surrogate: Toluene-d8	*8.15*		*ug/g*		*102*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

1 : GC-FID signal did not return to baseline by C50

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 when the units are denoted with 'dry'.
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.

PARACEL LABORATORIES LTD.

Paracel ID: 2211334

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2211334	№ 134167

Client Name: Pinchin Ltd.	Project Ref: 300895.001	Page 1 of 1
Contact Name: M. Kosiw, M. Ryan	Quote #:	Turnaround Time
Address: 1 Hines Rd, Kanata, ON	PO #:	☐ 1 day ☐ 3 day
	Email: on file	☒ 2 day ☐ Regular
Telephone:		Date Required: March 11, 2022

☐ REG 153/04 ☐ REG 406/19

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

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

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

Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	pH	Texture	PCBs		
1	MW-1 SS-2	S		1										X				
2	MW-1 SS-7			2			X	X	X	X				X	X			
3	MW-2 SS-6			2			X	X	X	X				X				
4	Dup-MW2			2			X	X	X	X								
5	BH-3 SS-1			2			X	X	X							X		
6	Dup-BH3			1												X		
7	BH-4 SS-1			2			X	X	X									
8	BH-5 SS-1			2			X	X	X	X								
9	BH-6 SS-1			2			X	X	X									
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign): [signature]	Received By Driver/Depot: [signature]	Received at Lab: Sunnapoorn Dhmai	Verified By: [signature]
Relinquished By (Print): Mike Kosiw	Date/Time: 09/03/22 1:04	Date/Time: March 9, 2022 04.50	Date/Time: March 9 2022 5:23
Date/Time: March 9, 10:30AM	Temperature: °C	Temperature: 7.6 °C	pH Verified: ☐ By:

PARACEL LABORATORIES LTD.

TRUSTED.
RESPONSIVE.
RELIABLE.

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

Certificate of Analysis

Pinchin Ltd. (Ottawa)

1 Hines Road, Suite 200
Kanata, ON K2K 3C7
Attn: Matthew Ryan

Client PO:
Project: 300895.001
Custody: 134168

Report Date: 14-Mar-2022
Order Date: 11-Mar-2022

Order #: 2211518

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

Paracel ID	Client ID
2211518-01	MW-1
2211518-02	MW-2
2211518-03	GWDup-MW1
2211518-04	Trip Blank

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 14-Mar-2022

Order Date: 11-Mar-2022

Project Description: 300895.001

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 200.8 - ICP-MS	11-Mar-22	11-Mar-22
PHC F1	CWS Tier 1 - P&T GC-FID	11-Mar-22	11-Mar-22
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	11-Mar-22	11-Mar-22
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	11-Mar-22	12-Mar-22
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	11-Mar-22	11-Mar-22

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 14-Mar-2022

Order Date: 11-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1	MW-2	GWDup-MW1	Trip Blank
	Sample Date:	10-Mar-22 09:00	10-Mar-22 09:00	10-Mar-22 09:00	09-Mar-22 09:00
	Sample ID:	2211518-01	2211518-02	2211518-03	2211518-04
	MDL/Units	Water	Water	Water	Water
Metals					
Antimony	0.5 ug/L	<0.5	<0.5	<0.5	-
Arsenic	1 ug/L	1	1	1	-
Barium	1 ug/L	106	86	108	-
Beryllium	0.5 ug/L	<0.5	<0.5	<0.5	-
Boron	10 ug/L	<10	11	<10	-
Cadmium	0.1 ug/L	<0.1	<0.1	<0.1	-
Chromium	1 ug/L	<1	3	<1	-
Cobalt	0.5 ug/L	0.8	1.9	0.8	-
Copper	0.5 ug/L	<0.5	5.9	0.9	-
Lead	0.1 ug/L	<0.1	0.9	<0.1	-
Molybdenum	0.5 ug/L	2.6	5.1	2.6	-
Nickel	1 ug/L	3	4	3	-
Selenium	1 ug/L	<1	<1	<1	-
Silver	0.1 ug/L	<0.1	<0.1	<0.1	-
Sodium	200 ug/L	60800	42500	57400	-
Thallium	0.1 ug/L	<0.1	<0.1	<0.1	-
Uranium	0.1 ug/L	1.6	2.0	1.5	-
Vanadium	0.5 ug/L	0.8	4.6	0.8	-
Zinc	5 ug/L	<5	8	<5	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5

Certificate of Analysis

Client: **Pinchin Ltd. (Ottawa)**

Client PO:

Report Date: 14-Mar-2022

Order Date: 11-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1	MW-2	GWDup-MW1	Trip Blank
	Sample Date:	10-Mar-22 09:00	10-Mar-22 09:00	10-Mar-22 09:00	09-Mar-22 09:00
	Sample ID:	2211518-01	2211518-02	2211518-03	2211518-04
	MDL/Units	Water	Water	Water	Water
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
4-Bromofluorobenzene	Surrogate	95.6%	98.4%	98.8%	102%
Dibromofluoromethane	Surrogate	97.4%	96.7%	96.3%	97.9%
Toluene-d8	Surrogate	110%	111%	110%	109%
Hydrocarbons					
F1 PHCs (C6-C10)	25 ug/L	<25	<25	<25	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	-
Semi-Volatiles					

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 14-Mar-2022

Order Date: 11-Mar-2022

Project Description: 300895.001

	Client ID:	MW-1	MW-2	GWDup-MW1	Trip Blank
	Sample Date:	10-Mar-22 09:00	10-Mar-22 09:00	10-Mar-22 09:00	09-Mar-22 09:00
	Sample ID:	2211518-01	2211518-02	2211518-03	2211518-04
	MDL/Units	Water	Water	Water	Water
Acenaphthene	0.05 ug/L	<0.05	<0.05	<0.05	-
Acenaphthylene	0.05 ug/L	<0.05	<0.05	<0.05	-
Anthracene	0.01 ug/L	<0.01	<0.01	<0.01	-
Benzo [a] anthracene	0.01 ug/L	<0.01	<0.01	<0.01	-
Benzo [a] pyrene	0.01 ug/L	<0.01	<0.01	<0.01	-
Benzo [b] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	-
Benzo [g,h,i] perylene	0.05 ug/L	<0.05	<0.05	<0.05	-
Benzo [k] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	-
Chrysene	0.05 ug/L	<0.05	<0.05	<0.05	-
Dibenzo [a,h] anthracene	0.05 ug/L	<0.05	<0.05	<0.05	-
Fluoranthene	0.01 ug/L	<0.01	<0.01	<0.01	-
Fluorene	0.05 ug/L	<0.05	<0.05	<0.05	-
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.05	<0.05	<0.05	-
1-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	-
2-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	-
Methylnaphthalene (1&2)	0.10 ug/L	<0.10	<0.10	<0.10	-
Naphthalene	0.05 ug/L	<0.05	<0.05	<0.05	-
Phenanthrene	0.05 ug/L	<0.05	<0.05	<0.05	-
Pyrene	0.01 ug/L	<0.01	<0.01	<0.01	-
2-Fluorobiphenyl	Surrogate	87.2%	85.7%	86.0%	-
Terphenyl-d14	Surrogate	119%	114%	114%	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L						
F2 PHCs (C10-C16)	ND	100	ug/L						
F3 PHCs (C16-C34)	ND	100	ug/L						
F4 PHCs (C34-C50)	ND	100	ug/L						
Metals									
Antimony	ND	0.5	ug/L						
Arsenic	ND	1	ug/L						
Barium	ND	1	ug/L						
Beryllium	ND	0.5	ug/L						
Boron	ND	10	ug/L						
Cadmium	ND	0.1	ug/L						
Chromium	ND	1	ug/L						
Cobalt	ND	0.5	ug/L						
Copper	ND	0.5	ug/L						
Lead	ND	0.1	ug/L						
Molybdenum	ND	0.5	ug/L						
Nickel	ND	1	ug/L						
Selenium	ND	1	ug/L						
Silver	ND	0.1	ug/L						
Sodium	ND	200	ug/L						
Thallium	ND	0.1	ug/L						
Uranium	ND	0.1	ug/L						
Vanadium	ND	0.5	ug/L						
Zinc	ND	5	ug/L						
Semi-Volatiles									
Acenaphthene	ND	0.05	ug/L						
Acenaphthylene	ND	0.05	ug/L						
Anthracene	ND	0.01	ug/L						
Benzo [a] anthracene	ND	0.01	ug/L						
Benzo [a] pyrene	ND	0.01	ug/L						
Benzo [b] fluoranthene	ND	0.05	ug/L						
Benzo [g,h,i] perylene	ND	0.05	ug/L						
Benzo [k] fluoranthene	ND	0.05	ug/L						
Chrysene	ND	0.05	ug/L						
Dibenzo [a,h] anthracene	ND	0.05	ug/L						
Fluoranthene	ND	0.01	ug/L						
Fluorene	ND	0.05	ug/L						
Indeno [1,2,3-cd] pyrene	ND	0.05	ug/L						
1-Methylnaphthalene	ND	0.05	ug/L						
2-Methylnaphthalene	ND	0.05	ug/L						
Methylnaphthalene (1&2)	ND	0.10	ug/L						
Naphthalene	ND	0.05	ug/L						
Phenanthrene	ND	0.05	ug/L						
Pyrene	ND	0.01	ug/L						
Surrogate: 2-Fluorobiphenyl	*19.3*		*ug/L*		*96.4*	*50-140*			
Surrogate: Terphenyl-d14	*24.1*		*ug/L*		*120*	*50-140*			
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane, 1,2	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*88.4*		*ug/L*		*110*	*50-140*			
Surrogate: Dibromofluoromethane	*78.2*		*ug/L*		*97.8*	*50-140*			
Surrogate: Toluene-d8	*92.3*		*ug/L*		*115*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND			NC	30	
Metals									
Antimony	0.85	0.5	ug/L	ND			NC	20	
Arsenic	1.3	1	ug/L	1.3			0.9	20	
Barium	107	1	ug/L	106			0.6	20	
Beryllium	ND	0.5	ug/L	ND			NC	20	
Boron	ND	10	ug/L	ND			NC	20	
Cadmium	ND	0.1	ug/L	ND			NC	20	
Chromium	ND	1	ug/L	ND			NC	20	
Cobalt	0.78	0.5	ug/L	0.79			1.5	20	
Copper	ND	0.5	ug/L	ND			NC	20	
Lead	ND	0.1	ug/L	ND			NC	20	
Molybdenum	2.62	0.5	ug/L	2.64			0.7	20	
Nickel	2.7	1	ug/L	2.7			0.5	20	
Selenium	ND	1	ug/L	ND			NC	20	
Silver	ND	0.1	ug/L	ND			NC	20	
Sodium	56100	200	ug/L	60800			8.0	20	
Thallium	ND	0.1	ug/L	ND			NC	20	
Uranium	1.7	0.1	ug/L	1.6			6.5	20	
Vanadium	0.73	0.5	ug/L	0.76			4.8	20	
Zinc	ND	5	ug/L	ND			NC	20	
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*77.0*		*ug/L*		*96.3*	*50-140*			
Surrogate: Dibromofluoromethane	*77.3*		*ug/L*		*96.6*	*50-140*			
Surrogate: Toluene-d8	*87.5*		*ug/L*		*109*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	1930	25	ug/L	ND	96.5	68-117			
F2 PHCs (C10-C16)	1280	100	ug/L	ND	80.3	60-140			
F3 PHCs (C16-C34)	3700	100	ug/L	ND	94.4	60-140			
F4 PHCs (C34-C50)	3300	100	ug/L	ND	133	60-140			
Metals									
Antimony	38.9	0.5	ug/L	ND	77.6	80-120			QM-07
Arsenic	53.6	1	ug/L	1.3	105	80-120			
Barium	45.0	1	ug/L	ND	89.9	80-120			
Beryllium	43.1	0.5	ug/L	ND	86.2	80-120			
Boron	46	10	ug/L	ND	92.6	80-120			
Cadmium	41.5	0.1	ug/L	ND	83.0	80-120			
Chromium	57.0	1	ug/L	ND	114	80-120			
Cobalt	51.6	0.5	ug/L	0.79	102	80-120			
Copper	47.2	0.5	ug/L	ND	93.7	80-120			
Lead	41.5	0.1	ug/L	ND	83.0	80-120			
Molybdenum	48.3	0.5	ug/L	2.64	91.3	80-120			
Nickel	50.8	1	ug/L	2.7	96.1	80-120			
Selenium	46.7	1	ug/L	ND	93.3	80-120			
Silver	42.5	0.1	ug/L	ND	84.9	80-120			
Thallium	44.7	0.1	ug/L	ND	89.4	80-120			
Uranium	51.6	0.1	ug/L	1.6	100	80-120			
Vanadium	58.7	0.5	ug/L	0.76	116	80-120			
Zinc	43	5	ug/L	ND	82.8	80-120			
Semi-Volatiles									
Acenaphthene	4.45	0.05	ug/L	ND	89.0	50-140			
Acenaphthylene	3.76	0.05	ug/L	ND	75.1	50-140			
Anthracene	3.81	0.01	ug/L	ND	76.1	50-140			
Benzo [a] anthracene	3.54	0.01	ug/L	ND	70.8	50-140			
Benzo [a] pyrene	4.16	0.01	ug/L	ND	83.2	50-140			
Benzo [b] fluoranthene	4.52	0.05	ug/L	ND	90.5	50-140			
Benzo [g,h,i] perylene	3.58	0.05	ug/L	ND	71.7	50-140			
Benzo [k] fluoranthene	4.71	0.05	ug/L	ND	94.1	50-140			
Chrysene	4.36	0.05	ug/L	ND	87.1	50-140			
Dibenzo [a,h] anthracene	3.93	0.05	ug/L	ND	78.5	50-140			
Fluoranthene	3.68	0.01	ug/L	ND	73.6	50-140			
Fluorene	4.19	0.05	ug/L	ND	83.8	50-140			
Indeno [1,2,3-cd] pyrene	3.40	0.05	ug/L	ND	67.9	50-140			
1-Methylnaphthalene	5.50	0.05	ug/L	ND	110	50-140			
2-Methylnaphthalene	5.89	0.05	ug/L	ND	118	50-140			
Naphthalene	5.09	0.05	ug/L	ND	102	50-140			
Phenanthrene	3.99	0.05	ug/L	ND	79.9	50-140			
Pyrene	3.85	0.01	ug/L	ND	77.0	50-140			
Surrogate: 2-Fluorobiphenyl	*19.1*		*ug/L*		*95.4*	*50-140*			
Surrogate: Terphenyl-d14	*24.9*		*ug/L*		*124*	*50-140*			
Volatiles									
Acetone	114	5.0	ug/L	ND	114	50-140			
Benzene	39.9	0.5	ug/L	ND	99.8	60-130			
Bromodichloromethane	34.9	0.5	ug/L	ND	87.2	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Bromoform	39.2	0.5	ug/L	ND	98.0	60-130			
Bromomethane	45.5	0.5	ug/L	ND	114	50-140			
Carbon Tetrachloride	35.1	0.2	ug/L	ND	87.8	60-130			
Chlorobenzene	38.9	0.5	ug/L	ND	97.2	60-130			
Chloroform	33.9	0.5	ug/L	ND	84.8	60-130			
Dibromochloromethane	32.7	0.5	ug/L	ND	81.6	60-130			
Dichlorodifluoromethane	41.7	1.0	ug/L	ND	104	50-140			
1,2-Dichlorobenzene	29.0	0.5	ug/L	ND	72.6	60-130			
1,3-Dichlorobenzene	29.3	0.5	ug/L	ND	73.3	60-130			
1,4-Dichlorobenzene	35.1	0.5	ug/L	ND	87.8	60-130			
1,1-Dichloroethane	34.1	0.5	ug/L	ND	85.3	60-130			
1,2-Dichloroethane	32.2	0.5	ug/L	ND	80.5	60-130			
1,1-Dichloroethylene	40.4	0.5	ug/L	ND	101	60-130			
cis-1,2-Dichloroethylene	39.0	0.5	ug/L	ND	97.6	60-130			
trans-1,2-Dichloroethylene	34.2	0.5	ug/L	ND	85.6	60-130			
1,2-Dichloropropane	34.6	0.5	ug/L	ND	86.5	60-130			
cis-1,3-Dichloropropylene	40.4	0.5	ug/L	ND	101	60-130			
trans-1,3-Dichloropropylene	30.8	0.5	ug/L	ND	76.9	60-130			
Ethylbenzene	38.2	0.5	ug/L	ND	95.4	60-130			
Ethylene dibromide (dibromoethane, 1,2-	40.6	0.2	ug/L	ND	101	60-130			
Hexane	41.5	1.0	ug/L	ND	104	60-130			
Methyl Ethyl Ketone (2-Butanone)	96.0	5.0	ug/L	ND	96.0	50-140			
Methyl Isobutyl Ketone	118	5.0	ug/L	ND	118	50-140			
Methyl tert-butyl ether	113	2.0	ug/L	ND	113	50-140			
Methylene Chloride	39.8	5.0	ug/L	ND	99.4	60-130			
Styrene	35.1	0.5	ug/L	ND	87.8	60-130			
1,1,1,2-Tetrachloroethane	33.7	0.5	ug/L	ND	84.4	60-130			
1,1,2,2-Tetrachloroethane	42.7	0.5	ug/L	ND	107	60-130			
Tetrachloroethylene	40.4	0.5	ug/L	ND	101	60-130			
Toluene	39.1	0.5	ug/L	ND	97.8	60-130			
1,1,1-Trichloroethane	35.7	0.5	ug/L	ND	89.3	60-130			
1,1,2-Trichloroethane	31.7	0.5	ug/L	ND	79.2	60-130			
Trichloroethylene	35.2	0.5	ug/L	ND	88.0	60-130			
Trichlorofluoromethane	37.6	1.0	ug/L	ND	93.9	60-130			
Vinyl chloride	38.2	0.5	ug/L	ND	95.5	50-140			
m,p-Xylenes	82.8	0.5	ug/L	ND	103	60-130			
o-Xylene	39.8	0.5	ug/L	ND	99.6	60-130			
Surrogate: 4-Bromofluorobenzene	*56.4*		*ug/L*		*70.6*	*50-140*			
Surrogate: Dibromofluoromethane	*75.4*		*ug/L*		*94.3*	*50-140*			
Surrogate: Toluene-d8	*77.7*		*ug/L*		*97.1*	*50-140*			

Qualifier Notes:

QC Qualifiers :

QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

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

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

Paracel ID: 2211518

PARAC LABORATORIES

...rent Blvd.
K1G 4J8
...17
...cellabs.com
www.paracelllabs.com

Paracel Order Number (Lab Use Only): 221178

Chain Of Custody (Lab Use Only) № 134168

Page 1 of 1

Client Name: Pinchin Ltd.
Contact Name: M. Kosiw, M. Ryan
Address: 1 Miles Rd, Kanata, ON
Telephone:
Project Ref: 300895.001
Quote #:
PO #:
E-mail: see file

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

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

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

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

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)						
1	MW-1	GW		5	Mar 10 2022	AM	X	X	X	X									
2	MW-2			5			X	X	X	X									
3	GW Dup-MW1			5			X	X	X	X									
4	Trip Blank			1				X											
5					Mar 09, 2022														
6																			
7																			
8																			
9																			
10																			

Comments: Metals field Filtered

Method of Delivery: Swift

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: Shreepavan Bhimani	Verified By:
Relinquished By (Print): Mike Kosiw	Date/Time:	Date/Time: MAR 11, 2022 09.20	Date/Time: March 11 2022 10:0
Date/Time:	Temperature: °C	Temperature: 11.1 °C	pH Verified: ☐ By: