PATERSON GROUP

Phase II Environmental Site Assessment Update

1657-1673 Carling Avenue and 386 Tillbury Avenue
Ottawa, Ontario

Prepared for Inside Edge Properties

Report: PE6046-2
May 29, 2023

TABLE OF CONTENTS

List of Figures

List of Appendices

EXECUTIVE SUMMARY

Assessment

An updated Phase II ESA was conducted for the property addressed 1657-1673 Carling Avenue and 386 Tillbury Avenue in Ottawa, Ontario. The purpose of the Phase II ESA Update was to update the findings of the 2018 Phase II ESA prepared by Pinchin, in general accordance with O.Reg. 153/04. The 2018 Phase II ESA is considered to have addressed the APECs identified in the more recent 2023 Phase I ESA prepared by Paterson.

The 2018 subsurface investigation consisted of three (3) boreholes, all which were instrumented with groundwater monitoring wells. The general soil profile encountered during the field program consisted of asphalt underlain by silty sand fill material, underlain silty sand with trace clay and gravel, followed by bedrock.

Three (3) soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs) and petroleum hydrocarbons (PHCs, Fractions F_1-F_4). No VOC parameter concentrations, including benzene, toluene, ethylbenzene, and xylenes (BTEX), or PHCs (F_1-F_4) were identified in any of the soil samples analysed. As such, the soil results comply with MECP Table 7 Residential Standards.

Groundwater samples from monitoring wells MW1, MW2, and MW3 were collected during the April 17, 2018, sampling event. Groundwater samples were analyzed for VOCs and PHCs. Concentrations of VOCs, with the exception of benzene, and PHCs were not detected above the laboratory detection limits. Benzene was detected in the groundwater sample analyzed from MW1 but complied with the applicable standard. The groundwater results comply with the MECP Table 7 Standards.

During the current field program, groundwater samples were collected from MW2 and MW3 on May 16, 2023 (MW1 could not be located). No free product or petroleum hydrocarbon sheen was noted on the purge water during the groundwater sampling event.

Groundwater samples were analyzed for VOCs and PHCs. Concentrations of VOCs, including BTEX parameters, and PHCs were not detected above the laboratory detection limits. The groundwater results comply with the MECP Table 7 Standards.

Recommendations

It is our understanding that the Phase II ESA Property will be redeveloped with a 30-storey residential building with ground-floor commercial space. Due to the change in land use to a more sensitive land use (commercial to residential), a record of site condition (RSC) will be required as per O.Reg 154/03.

Based on the findings of the Phase II ESA, all analyzed soil and groundwater samples comply with the MECP Table 7 Standards for a residential land use. No further environmental investigation is recommended at this time.

Excess soil requiring off-site disposal during construction must be managed in accordance with Ontario Regulation 406/19 – On-site and Excess Soil Management.

Monitoring Wells

If the monitoring wells installed on the Phase II ESA Property are not going to be used in the future, or will be destroyed during site redevelopment, they should be abandoned according to Ontario Regulation 903. The wells will be registered with the MECP under this regulation.

1.0 INTRODUCTION

At the request of Inside Edge Properties, Paterson Group (Paterson) prepared a Phase II Environmental Site Assessment Update for the properties located at 1657 to 1673 Carling Avenue and 386 Tillbury Avenue (the Phase II ESA Property) in the City of Ottawa, Ontario. The purpose of this Phase II ESA was to update the findings of the 2018 Phase II ESA, prepared by others, which is considered to have addressed the areas of potential environmental concern (APECs) identified during the Phase I ESA conducted by Paterson in May 2023, given no new APECs were identified. The findings of the 2018 Phase II ESA are discussed in this report.

1.1 Site Description

Address:	1657-1673 Carling Avenue, and 386 Tillbury Avenue, Ottawa, Ontario
Location:	The site is located on the north side of Carling Avenue, approximately 80 m east of Cole Avenue, in the City of Ottawa, Ontario. Refer to Figure 1 - Key Plan in the Figures section following the text.
Legal Description:	Part of Lot 2 of Registered Plan 492 and Part of Block 4, Registered Plan 310595, in the City of Ottawa.
PINs:	04012-0100 and 04012-0098
Latitude and Longitude:	45°22’ 47.7" N, 74° 45' 56.99" W

Site Description:

Configuration:	Irregular
Area:	3,890 m^2 (approximately)
Zoning:	AM10 – Arterial Mainstreet Zone (Mixed use)

1.2 Property Ownership

Paterson was engaged to conduct this Phase II ESA by Mr. Jordan R. Bianconi from Inside Edge Properties. The head office is located at 464 Bank Street, Ottawa Ontario. Mr. Bianconi can be reached by telephone at (613) 482-8324.

1.3 Current and Proposed Future Uses

The Phase II ESA Property is currently occupied by a commercial portion (1657-1673 Carling Avenue) and a residential portion (386 Tillbury Avenue). It is our understanding that the Phase II ESA Property will be redeveloped for residential land use. Due to the change in land use to a more sensitive land use (commercial to residential), a record of site condition (RSC) will be required as per O.Reg 154/03.

1.4 Applicable Site Condition Standard

The site condition standards for the property were obtained from Table 7 of the document entitled "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", prepared by the Ontario Ministry of Environment, Conservation and Parks (MECP), April 2011. The MECP selected Table 7 Standards are based on the following considerations:

- ❒ Coarse-grained soil conditions
- ❒ Generic site conditions for shallow soils
- ❒ Non-potable groundwater conditions
- ❒ Residential land use

Section 35 of O.Reg. 153/04 does apply to the Phase II ESA Property in that the property does not rely upon potable groundwater.

Section 41 of O.Reg. 153/04 does not apply to the Phase II ESA Property, as the property is not within 30 m of an environmentally sensitive area.

Section 43.1 of O.Reg. 153/04 applies to the Phase II ESA Property because the property is a Shallow Soil property.

The intended use of the Phase II ESA Property is residential; therefore, the residential standards have been selected for the purpose of this Phase II ESA Update.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The Phase II ESA Property is situated a mixed-used area and is comprised of two parcels of land: 1657-1673 Carling Avenue (commercial land use) and 386 Tillbury Avenue (residential land use) in the City of Ottawa, Ontario. The commercial building, fronting Carling Avenue, occupies the southern portion of the site. The residential building occupies the parcel of land fronting onto Tillbury Avenue. The remainder of the Phase II ESA Property exists as a paved parking lot associated with the commercial building or landscaped vegetation around the dwelling.

Two (2) catch basins along the eastern side of the property were noted as well as four (4) drains along the southern property boundary, which drain into the municipal stormwater sewers. Waste and grease waste bins were noted on the northwest corner of the commercial part of the site.

The southern portion of the Phase II ESA Property is situated below the grade of Carling Avenue and the adjacent property to the west and is at the same grade as the abutting property to the east. The Phase II ESA Property gradually slopes down toward the north in the direction of the subject residential dwelling, where the property is slightly above the grade of Tillbury Avenue. The regional topography appears to slope down in a north/north-westerly direction toward the Ottawa River.

Site drainage on the commercial portion consists of sheet flow to on-site catch basins, while the residential property consists of infiltration on the landscaped areas and sheet flow to a catch basin located along Tillbury Avenue.

2.2 Past Investigations

Paterson completed a Phase I ESA in May 2023 for the Phase II ESA Property, which included a review of the following reports prepared by other consultants:

- ❑ “Phase II-Environmental Site Assessment, 1657-1673 Carling Avenue, Ottawa, Ontario,” prepared by Pinchin, dated May 4, 2018.
- ❑ “Phase I-Environmental Site Assessment, 1657-1673 Carling Avenue, Ottawa, Ontario,” prepared by Pinchin, dated November 11, 2021.
- ❑ “Phase I Environmental Site Assessment, 1657-1673 Carling Avenue, and 386 Tillbury Avenue, Ottawa Ontario,” prepared by Paterson, dated May 15, 2023.

Based on the findings of the Phase I ESA, four (4) potentially contaminating activities (PCAs) were determined to result in areas of potential environmental concern (APECs) on the Phase II ESA Property:

- APEC 1: Resulting from former storage of heavy equipment on the northern portion of the Phase II ESA Property (PCA Other).
- APEC 2: Resulting from the use of road salt across the Phase II ESA Property (PCA Other).
- APEC 3: Resulting from the former presence of a UST and historical groundwater impacts on the adjacent property (PCA 28/Other).
- APEC 4: Resulting from the former retail fuel outlet and automotive service garage on the adjacent property (PCA 28/52).

The rationale for identifying the above APECs is based on a review of fire insurance plans, aerial photographs, field observations, personal interviews, and review of previous reports. A Phase II ESA update was recommended in general accordance with O.Reg. 153/04, to support the filing of municipal applications and ultimately a Record of Site Condition.

3.0 SCOPE OF INVESTIGATION

3.1 Overview of Site Investigation

The initial subsurface investigation was conducted in April 2018 (by Pinchin) and in May 2023 (by Paterson). The field program consisted of drilling three (3) boreholes to address the APECs identified on the Phase II ESA Property. All of the boreholes (MW1 through MW3), which were supervised by Pinchin, were cored into the bedrock and completed with monitoring well installations. Boreholes were drilled to a maximum depth of 7.6 m below ground surface (mbgs).

The current investigation consisted of a groundwater sampling program as discussed further below.

3.2 Media Investigated

During the subsurface investigation, soil samples and groundwater samples were obtained and submitted for laboratory analysis. The rationale for sampling and analyzing this media is based on the Contaminants of Potential Concern (CPCs) identified in the Phase I ESA.

Contaminants of potential concern on the Phase II ESA Property include benzene, toluene, ethylbenzene, and xylenes (BTEX), petroleum hydrocarbons (PHCs, F_1-F_4), and volatile organic compounds (VOCs). These CPCs may be present in the soil and/or groundwater beneath the Phase II ESA Property.

3.3 Phase I Conceptual Site Model

Geological and Hydrogeological Setting

According to the Geological Survey of Canada website, the bedrock in the area of the Phase I Property is reported to consist of limestone interbedded with dolomite of the Gull River Formation. Overburden consists of plain till with a drift thickness ranging from 1 to 3 metres.

The 2018 subsurface investigation confirmed the reported geological setting. The groundwater beneath the Phase I Property at that time was determined to flow in a southeasterly direction, although due to recent construction in the immediate area, the groundwater flow beneath the Phase I Property is expected to have changed.

Existing Buildings and Structures

The portion of the Phase I Property addressed 1657-1673 Carling Avenue is occupied by a 2-storey commercial building, fronting onto Carling Avenue. The commercial building was constructed circa 1976 with a slab-on-grade foundation and is finished on the exterior with brick and metal siding as well as a flat tar-and-gravel style roof. The ground level is occupied by 2 restaurants, a wellness and health clinic, a hearing clinic, commercial office (employment agency) and a beauty salon, while the upper level is used as commercial office space.

The residential portion of the Phase I Property, addressed 386 Tillbury Avenue, is occupied by a vacant 2-storey single family dwelling with a half-grade basement level. The subject dwelling was constructed circa 2009 with a poured concrete foundation. The exterior of the dwelling is finished in brick and vinyl siding and a sloped shingle style roof. Both on-site buildings are heated by natural gas-fired equipment.

Subsurface Structures and Utilities

The Phase I Property is situated in a municipally serviced area. Underground utilities include stormwater, sanitary and municipal water services, and natural gas that enter and/or exit the Phase I Property along Carling Avenue and Tillbury Avenue.

Two (2) on-site stormwater catch basins are situated along the eastern side as well as four (4) drains along the southern side of the commercial portion of the Phase I Property. Two groundwater monitoring wells were observed on-site.

Areas of Natural Significance

No areas of natural significance were identified in the Phase I Study Area.

Water Bodies

No natural water bodies were identified in the Phase I Study Area.

Drinking Water Wells

There are no potable water wells on the Phase I Property. While historical well records were identified for several properties within the Phase I Study Area, these wells are no longer considered to be operation given the area is provided with municipal services.

Well records for 3 monitoring wells installed during the 2018 Pinchin investigation were identified. Based on site observations only 2 of the 3 wells remain present and viable.

Well records for monitoring wells were identified at several properties within the Phase I Study Area.

Neighbouring Land Use

Neighbouring land use in the Phase I Study Area consists of commercial land use along both the north and south sides of Carling Avenue to the east and west of the Phase I Property. Land use north of Carling Avenue is residential.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of the Phase I ESA report, six (6) PCAs and the resultant APECs are summarized in Table 1, along with their respective locations and contaminants of potential concern (COPCs).

Table 1: Potentially Contaminating Activities and Areas of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
APEC 1 Former storage of heavy equipment	Northern portion of Phase I Property	PCA - Other	On-site	BTEX VOCs PHCs	Soil and groundwater
APEC 2[1] Application of road salt for the safety of vehicular or pedestrian traffic under conditions of snow or ice	Northern half of the commercial portion of the Phase I Property	PCA - Other	On-site	EC SAR	Soil
APEC 3 Former off-site UST and historical groundwater impacts	Northern half of the commercial portion of the Phase I Property	PCA 28 – Gasoline and Associated Products Storage in Fixed Tanks PCA - Other	Off-site	BTEX VOCs PHCs	Groundwater
APEC 4 Former retail fuel outlet and automotive service garage	Southwestern portion of the Phase I Property	PCA 28 – Gasoline and associated products storage in fixed tanks PCA 52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems.	Off-site	BTEX VOC PHCs	Groundwater

[1] – In accordance with Section 49.1 of Ontario Regulation 153/04 standards are deemed to be met if an applicable site condition standard is exceeded at a property solely because the qualified person has determined that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. The exemption outlined in Section 49.1 is being relied upon with respect to the Phase I property.

As previously discussed in Section 7.1 of the Phase I ESA report and shown on Drawing PE5197-2-Surrouding Land Use Plan, the remaining off-site PCAs are not considered to represent APECs on the Phase I ESA Property.

Contaminants of Potential Concern

Based on the APECs identified on the Phase I Property, the following COPCs were identified with respect to the soil on the Phase I Property:

- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX);
- Volatile Organic Compounds (VOCs);
- Petroleum Hydrocarbons fractions 1 through 4 (PHCs F_1-F_4);
- Electrical Conductivity (EC); and,
- Sodium Adsorption Ratio (SAR).

The following CPCs were identified with respect to the groundwater beneath the Phase I Property:

- Benzene, Toluene, Ethylbenzene, Xylenes (BTEX);
- Volatile Organic Compounds (VOCs); and,
- Petroleum Hydrocarbons fractions 1 through 4 (PHCs F_1-F_4).

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there is an on- and off-site PCA that have resulted in APECs on the Phase I ESA Property.

A variety of independent sources were consulted as part of this assessment, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

3.4 Deviations from Sampling and Analysis Plan

A groundwater sample could not be collected from one monitoring well during the 2023 Phase II ESA investigation since the well could not be located. The Sampling and Analysis Plan is included in Appendix 1 of this report.

3.5 Impediments

No physical impediments were encountered during the Phase II ESA field program.

4.0 INVESTIGATION METHOD

4.1 Subsurface Investigation

The initial 2018 Phase II ESA field program consisted of drilling three (3) boreholes (MW1 through MW3) across the Phase II ESA Property. The boreholes were drilled to a maximum depth of 7.6 m below ground surface (bgs) to intercept groundwater.

The boreholes were advanced to 2.7 mbgs using a GeoMachine direct push drill rig operated by Strata Drilling Group (Strata), under the supervision of Pinchin personnel. Strata then used the GeoMachine's down-hole hammer bedrock equipment to advance the monitoring wells to the above-noted depth. The borehole locations are indicated on the attached Drawing PE6046-3 - Test Hole Location Plan.

4.2 Soil Sampling

A total of 8 soil samples were collected at continuous intervals using 3.8 centimetre (cm) inner diameter (ID) direct push soil samplers with dedicated single-use sample liners. The depths at which soil samples were obtained from the boreholes are shown on the borehole logs included with the Pinchin Phase II ESA report appended to this report.

The borehole profiles generally consist of a layer of asphalt overlying a layer of sand and gravel fill, followed by a layer of silty sand with trace clay and gravel then bedrock.

4.3 Field Screening Measurements

Soil vapour readings were collected from the samples recovered by Pinchin. The PID readings were found to be 0 ppm in the soil samples obtained.

These results do not indicate the potential for significant contamination from volatile contaminants. Vapour readings are noted on the borehole logs included in the 2018 Pinchin Phase II ESA report in Appendix 1.

4.4 Groundwater Monitoring Well Installation

Three (3) groundwater monitoring wells were installed on the Phase II ESA Property as part of the subsurface investigation. The monitoring wells consisted of 38 mm diameter, Schedule 40 threaded PVC risers and screens. Monitoring well construction details are listed below in Table 2 and are also presented on the borehole logs in the Pinchin Phase II ESA report provided in Appendix 1.

Borehole locations and elevations were surveyed geodetically by Paterson personnel. Please note that the ground surface elevation for MW1 is approximate because MW1 could not be located during the 2023 Phase II ESA field program.

TABLE 2. Monitoring Well Construction Details

Well ID	Ground Surface Elevation	Total Depth (m BGS)	Screened Interval (m BGS)	Sand Pack (m BGS)	Bentonite Seal (m BGS)	Casing Type
MW1	77.61	7.62	4.57-7.62	4.27-7.62	0.09-4.27	Flushmount
MW2	77.51	6.10	3.05-6.10	2.74-6.10	0.09-2.74	Flushmount
MW3	77.76	7.01	3.96-7.01	3.66-7.01	0.09-3.66	Flushmount

4.5 Groundwater Sampling

Groundwater sampling protocols were followed using the MECP document entitled “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario”, dated May 1996. Groundwater samples were obtained from each monitoring well, using dedicated sampling equipment. Standing water was purged from each well prior to sampling. Samples were stored in coolers to reduce analyte volatilization during transportation. Details of our standard operating procedure for groundwater sampling are provided in the Sampling and Analysis Plan in Appendix 1.

4.6 Analytical Testing

The following Tables 3 and 4 present the submitted soil and groundwater samples as well as analyzed parameters in each media.

TABLE 3: Soil Samples Submitted and Analyzed Parameters

Sample ID	Sample Depth / Stratigraphic Unit	Parameters Analyzed				Rationale
		PHCs (F_1-F_4)	VOCs	pH	Grain Size	
April 10, 2018						
MW-1, SS-1	0.06-0.76 m Fill				X	Determine grain size of the fill material.
MW-1, SS-2	0.76-1.52 m Silty Sand	X	X	X	X	Assess the soil quality at the property limits; determine grain size of the native silty sand.
MW-2, SS-2	0.76-1.52 m Silty Sand	X	X			Assess the soil quality at the property limits.
MW-3, SS-4	2.30-2.74 m Silty Sand	X	X	X		Assess the soil quality at the property limits.

TABLE 4: Groundwater Samples Submitted and Analyzed Parameters

Sample ID	Screened Interval	Parameters Analyzed		Rationale
		PHCs (F_1-F_4)	VOCs	
April 17, 2018				
MW-1	4.57-7.62	X	X	Assess groundwater quality at the property limits.
MW-2	3.05-6.10	X	X	
MW-3	3.96-7.01	X	X	
May 16, 2023				
MW2	3.05-6.10	X	X	Confirm groundwater quality in the previously installed monitoring wells.
MW3	3.96-7.01	X	X	

Maxxam Analytics Inc. (Maxxam), in Ottawa, Ontario, conducted the soil and groundwater analyses in 2018. Maxxam is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation (SCC/CALA).

Paracel Laboratories (Paracel) of Ottawa performed the laboratory analysis on the groundwater samples submitted for analytical testing in 2023. Paracel is a member of the SCC/CALA and is accredited and certified by SCC/CALA for specific tests registered with the association.

4.7 Residue Management

All soil cuttings, purge water and fluids from equipment cleaning were retained on-site.

4.8 Elevation Surveying

Boreholes were surveyed at geodetic elevations by Paterson personnel in May 2023. Note: an approximate elevation was surveyed for MW1, as it could not be located during the 2023 field program.

4.9 Quality Assurance and Quality Control Measures

A summary of quality assurance and quality control (QA/QC) measures, including sampling containers, preservation, labelling, handling, and custody, equipment cleaning procedures, and field quality control measurements is provided in the Sampling and Analysis Plan in Appendix 1.

5.0 REVIEW AND EVALUATION

5.1 Geology

Site soils beneath the pavement structure consist of silty sand with trace clay and gravel. Bedrock was encountered at depths ranging from approximately 1.5 to 2.7 m below grade.

Groundwater was generally encountered within bedrock at 2.0 to 2.5 mbgs.

Site geology details are provided in the borehole logs provided in the 2018 Phase II ESA report located in Appendix 1.

5.2 Groundwater Elevations, Flow Direction, and Hydraulic Gradient

Groundwater levels were measured during the groundwater sampling events on April 17, 2018, and May 16, 2023, using an electronic water level meter. Groundwater levels are summarized below in Table 5.

TABLE 5: Groundwater Level Measurements

Borehole Location	Ground Surface Elevation (m)	Water Level Depth (m below grade)	Water Level Elevation (m ASL)	Date of Measurement
MW1	77.61	2.10	75.51	April 17, 2018
MW2	77.51	1.95	75.56	April 17, 2018
		5.51	72.00	May 16, 2023
MW3	77.76	2.48	75.28	April 17, 2018
		5.45	72.31	May 16, 2023

Based on the groundwater elevations measured during the April 2018 sampling event, groundwater contour mapping was completed. Groundwater contours are shown on Drawing PE6046-3.

Based on the contour mapping, groundwater flow at the subject site is in a south-easterly direction. A horizontal hydraulic gradient of approximately 0.012 m/m was calculated.

5.3 Fine-Coarse Soil Texture

Grain-size analysis was completed for the Phase II ESA Property in 2018. Sieve analysis indicated that the fill material on-site is coarse-grained. The underlying silty sand is classified as fine-grained. As such, the more stringent coarse-grained soil standards have been applied.

5.4 Soil: Field Screening

Field screening of the soil samples collected during drilling resulted in vapour readings 0 ppm for each sample. The field screening results of each individual soil sample are provided on the boreholes included in the 2018 Phase II ESA report appended to this report.

5.5 Soil Quality

Three (3) soil samples were submitted for PHCs (F_1-F_4) and VOCs analyses. The results of the analytical testing are presented in the analytical summary table and laboratory certificate of analysis in the attached 2018 Phase II ESA report (Appendix 1).

No detectable BTEX or PHC (F_1-F_4) parameters were identified in any of the soil samples analyzed. Therefore, concentrations comply with the MECP Table 7 Residential Standards.

VOC parameters were not detected in any of the soil samples analyzed. Therefore, VOC concentrations comply with the selected MECP Table 7 Residential Standards.

The analytical results for BTEX, PHCs, and VOCs in soil are shown on Drawing PE6046-4 – Analytical Testing Plan.

5.6 Groundwater Quality

Groundwater samples from monitoring wells installed in MW1 through MW3 were submitted for laboratory analysis of PHC fractions (F_1-F_4) and VOC parameters. The groundwater samples were obtained from the screened intervals noted in Table 2. The results of the analytical testing conducted in 2018 are presented in the analytical table and laboratory analytical certificates included in the 2018 Phase II ESA in Appendix 1.

The analytical results of the 2023 sampling event are presented in Tables 6 and 7. The laboratory certificates of analysis are provided in Appendix 1.

TABLE 6: Analytical Test Results – Groundwater
PHCs

Parameter	MDL (µg/L)	Groundwater Samples (µg/L)		MECP Table 7 Standards (µg/L)
		May 16, 2023		
		MW2-GW	MW3-GW	
F1 PHCs (C6-C10)	25	nd	nd	420
F2 PHCs (C10-C16)	100	nd	nd	150
F3 PHCs (C16-C34)	100	nd	nd	500
F4 PHCs (C34-C50)	100	nd	nd	500

Notes:
- MDL – Method Detection Limit
- nd – not detected above the MDL
- ns – no applicable standard

TABLE 7: Analytical Test Results – Groundwater
VOCs

Parameter	MDL (µg/L)	Groundwater Samples (µg/L)		MECP Table 7 Standards (µg/L)
		May 16, 2023		
		MW2-GW	MW3-GW	
Acetone	5.0	nd	nd	100000
Benzene	0.5	nd	nd	0.5
Bromodichloromethane	0.5	nd	nd	67000
Bromoform	0.5	nd	nd	5
Bromomethane	0.5	nd	nd	0.89
Carbon Tetrachloride	0.2	nd	nd	0.2
Chlorobenzene	0.5	nd	nd	140
Chloroform	0.5	nd	nd	2
Dibromochloromethane	0.5	nd	nd	65000
Dichlorodifluoromethane	1.0	nd	nd	3500
1,2-Dichlorobenzene	0.5	nd	nd	150
1,3-Dichlorobenzene	0.5	nd	nd	7600
1,4-Dichlorobenzene	0.5	nd	nd	0.5
1,1-Dichloroethane	0.5	nd	nd	11
1,2-Dichloroethane	0.5	nd	nd	0.5
1,1-Dichloroethylene	0.5	nd	nd	0.5
cis-1,2-Dichloroethylene	0.5	nd	nd	1.6
trans-1,2-Dichloroethylene	0.5	nd	nd	1.6
1,2-Dichloropropane	0.5	nd	nd	0.58
cis-1,3-Dichloropropylene	0.5	nd	nd	ns
trans-1,3-Dichloropropylene	0.5	nd	nd	ns
1,3-Dichloropropene, total	0.5	nd	nd	0.5
Ethylbenzene	0.5	nd	nd	54
Ethylene dibromide (dibromoethane, 1,2-)	0.2	nd	nd	0.2
Hexane	1.0	nd	nd	5
Methyl Ethyl Ketone (2-Butanone)	5.0	nd	nd	21000
Methyl Isobutyl Ketone	5.0	nd	nd	5200
Methyl tert-butyl ether	2.0	nd	nd	15
Methylene Chloride	5.0	nd	nd	26
Styrene	0.5	nd	nd	43
1,1,1,2-Tetrachloroethane	0.5	nd	nd	1.1
1,1,2,2-Tetrachloroethane	0.5	nd	nd	0.5
Tetrachloroethylene	0.5	nd	nd	0.5
Toluene	0.5	nd	nd	320
1,1,1-Trichloroethane	0.5	nd	nd	23
1,1,2-Trichloroethane	0.5	nd	nd	0.5
Trichloroethylene	0.5	nd	nd	0.5
Trichlorofluoromethane	1.0	nd	nd	2000
Vinyl Chloride	0.5	nd	nd	0.5
m/p-Xylene	0.5	nd	nd	ns
o-Xylene	0.5	nd	nd	ns
Xylenes, total	0.5	nd	nd	72

Notes:
- MDL – Method Detection Limit
- nd – not detected above the MDL
- ns – no applicable standard

No detectable PHC concentrations were identified in the groundwater samples analyzed. No VOCs, including BTEX parameters, were detected in the groundwater samples analysed. The groundwater results comply with the MECP Table 7 Standards.

The analytical results for BTEX, PHCs, and VOCs in groundwater are shown on Drawing PE6046-4–Analytical Testing Plan.

5.7 Quality Assurance and Quality Control Results

All samples submitted as part of the Phase II ESA activities were handled in accordance with the Analytical Protocol with respect to preservation method, storage requirement, and container type.

As per Subsection 47(3) of O.Reg. 153/04, as amended, under the Environmental Protection Act, a Certificate of Analysis has been received for each sample submitted for analysis and all Certificates of Analysis are appended to this report.

Based on the analytical laboratory results, it is our opinion that the overall quality of the field data collected during this Phase II ESA is considered to be sufficient to meet the overall objectives of this assessment.

5.8 Phase II Conceptual Site Model

The following section has been prepared in accordance with the requirements of O.Reg. 153/04, as amended by the Environmental Protection Act. Conclusions and recommendations are discussed in a subsequent section.

Site Description

Potentially Contaminating Activity and Areas of Potential Environmental Concern

Based on the results of the Phase I ESA completed for the subject site, six (6) PCAs and the resultant APECs are summarized in Table 1 in Section 3.3, along with their respective locations and contaminants of potential concern (COPCs).

Contaminants of Potential Concern

As per Section 3.3, the COPCs in soil and/or groundwater include benzene, toluene, ethylbenzene, and xylenes (BTEX), petroleum hydrocarbons (PHCs, F_1-F_4), and volatile organic compounds (VOCs).

Subsurface Structures and Utilities

The Phase II ESA Property is situated in a municipally serviced area. Underground utilities include stormwater, sanitary, and municipal water services, as well as natural gas lines that enter and/or exit the Phase II ESA Property along Carling Avenue and Tillbury Avenue.

Two (2) on-site stormwater catch basins are situated along the eastern side as well as four (4) drains along the southern side of the commercial portion of the Phase II ESA Property. Two groundwater monitoring wells are also present on-site.

Based on the findings of the Phase II ESA, any former underground utilities are not expected to affect contaminant distribution and transport.

Physical Setting

Site Stratigraphy

The site stratigraphy, from ground surface to the deepest aquifer or aquitard investigated, is illustrated on borehole logs included in the 2018 Phase II ESA report, appended to this report. The stratigraphy consists of:

- A pavement structure, consisting of asphaltic concrete approximately 0.08 m thick, overlying engineered fill extending to a depth of approximately 0.76 mbgs. Groundwater was not encountered in this layer.
- Silty sand containing trace clay and gravel was encountered in all of the boreholes, extending to depths of approximately 1.52 to 2.74 mbgs. Groundwater was encountered in this layer in MW3.

- Bedrock was encountered in all of the boreholes at depths ranging from approximately 1.52 to 2.74 mbgs. Groundwater was encountered in this layer at MW1 and MW2.

Hydrogeological Characteristics

Groundwater at the Phase II ESA Property was encountered in the bedrock during the 2023 sampling event. During the 2018 groundwater monitoring event, groundwater flow was measured in a south-easterly direction, with a hydraulic gradient of 0.012 m/m. Groundwater contours are shown on Drawing PE6046-3 – Test Hole Location Plan.

Approximate Depth to Bedrock

Bedrock was encountered during the drilling program at depths ranging from approximately 1.5 to 2.7 mbgs.

Approximate Depth to Water Table

The depth to the water table at the subject site varies between approximately 2.0 to 5.5 mbgs.

Sections 41 and 43.1 of the Regulation

Section 41 of the Regulation does not apply to the Phase II ESA Property, in that the subject property is not within 30 m of an environmentally sensitive area. The Phase II ESA Property is not considered an environmentally sensitive area since the analyzed surface soil pH is between 5 and 9 and the analyzed subsurface pH is between 5 and 11 (see the 2018 Phase II ESA report, attached).

Section 43.1 of the Regulation applies to the Phase II ESA Property as bedrock is located less than 2 m below ground surface across more than 1/3 of the site. However, there are no natural water bodies in the Phase I Study Area.

Fill Placement

The fill material consisted of silty sand and was identified in all of the boreholes, extending to depths of 0.76 mbgs.

Existing Buildings and Structures

The portion of the Phase II ESA Property addressed 1657-1673 Carling Avenue is occupied by a 2-storey commercial building, fronting onto Carling Avenue. The commercial building was constructed circa 1976 with a slab-on-grade foundation and is finished on the exterior with brick and metal siding as well as a flat tar-and-gravel style roof. The ground level is occupied by 2 restaurants, a wellness and health clinic, a hearing clinic, commercial office (employment agency) and a beauty salon, while the upper level is used as commercial office space.

The residential portion of the Phase II ESA Property, addressed 386 Tillbury Avenue, is occupied by a vacant 2-storey single family dwelling with a half grade basement level. The subject dwelling was constructed circa 2009 with a poured concrete foundation. The exterior of the dwelling is finished in brick and vinyl siding and a sloped shingle style roof. Both on-site buildings are heated by natural gas-fired equipment.

Proposed Buildings and Other Structures

Our understanding is that the proposed site development for the Phase II ESA Property will include a 30-storey residential building with ground floor commercial space.

Environmental Condition

Areas Where Contaminants are Present

Based on the analytical results for soil and groundwater, there are no contaminants present on or beneath the Phase II ESA Property.

Types of Contaminants

Based on the analytical results for soil and groundwater, there are no contaminants on or beneath the Phase II ESA Property.

Contaminated Media

Based on the analytical results for soil and groundwater, there is no contaminated media on the Phase II ESA Property.

What Is Known About Areas Where Contaminants Are Present

Based on the findings of the Phase II ESA, soil and groundwater beneath the Phase II ESA Property comply with the MECP Table 7 Standards. There are no contaminants on the Phase II ESA Property.

Distribution and Migration of Contaminants

Based on the findings of the Phase II ESA, distribution and migration of contaminants is not considered to have occurred on the Phase II ESA Property.

Discharge of Contaminants

Based on the findings of the Phase II ESA, soil and groundwater concentrations comply with the selected MECP Table 7 Standards. Discharge of contaminants is not considered to have occurred on the Phase II ESA Property.

Climatic and Meteorological Conditions

In general, climatic and meteorological conditions have the potential to affect contaminant distribution. Two (2) ways by which climatic and meteorological conditions may affect contaminant distribution include the downward leaching of contaminants by means of the infiltration of precipitation, and the migration of contaminants via groundwater levels and/or flow, which may fluctuate seasonally.

Based on the analytical results contaminant distribution is not considered to have occurred on the Phase II ESA Property.

Potential for Vapour Intrusion

Based on the findings of the Phase II ESA, there is no potential for vapour intrusion on the Phase II ESA Property.

6.0 CONCLUSIONS

Assessment

An updated Phase II ESA was conducted for the property addressed 1657-1673 Carling Avenue and 386 Tillbury Avenue in Ottawa, Ontario. The purpose of the Phase II ESA Update was to update the findings of the 2018 Phase II ESA prepared by Pinchin, in general accordance with O.Reg. 153/04. The 2018 Phase II ESA is considered to have addressed the APECs identified in the more recent 2023 Phase I ESA prepared by Paterson.

The 2018 subsurface investigation consisted of three (3) boreholes, all which were instrumented with groundwater monitoring wells. The general soil profile encountered during the field program consisted of asphalt underlain by silty sand fill material, underlain silty sand with trace clay and gravel, followed by bedrock.

Three (3) soil samples were submitted for laboratory analysis of volatile organic compounds (VOCs) and petroleum hydrocarbons (PHCs, Fractions F_1-F_4). No VOC parameter concentrations, including benzene, toluene, ethylbenzene, and xylenes (BTEX), or PHCs (F_1-F_4) were identified in any of the soil samples analysed. As such, the soil results comply with MECP Table 7 Residential Standards.

Groundwater samples from monitoring wells MW1, MW2, and MW3 were collected during the April 17, 2018, sampling event. Groundwater samples were analyzed for VOCs and PHCs. Concentrations of VOCs, with the exception of benzene, and PHCs were not detected above the laboratory detection limits. Benzene was detected in the groundwater sample analyzed from MW1 but complied with the applicable standard. The groundwater results comply with the MECP Table 7 Standards.

During the current field program, groundwater samples were collected from MW2 and MW3 on May 16, 2023 (MW1 could not be located). No free product or petroleum hydrocarbon sheen was noted on the purge water during the groundwater sampling event.

Groundwater samples were analyzed for VOCs and PHCs. Concentrations of VOCs, including BTEX parameters, and PHCs were not detected above the laboratory detection limits. The groundwater results comply with the MECP Table 7 Standards.

Recommendations

It is our understanding that the Phase II ESA Property will be redeveloped with a 30-storey residential building with ground-floor commercial space. Due to the change in land use to a more sensitive land use (commercial to residential), a record of site condition (RSC) will be required as per O.Reg 154/03.

Based on the findings of the Phase II ESA, all analyzed soil and groundwater samples comply with the MECP Table 7 Standards for a residential land use. No further environmental investigation is recommended at this time.

Excess soil requiring off-site disposal during construction must be managed in accordance with Ontario Regulation 406/19 – On-site and Excess Soil Management.

Monitoring Wells

If the monitoring wells installed on the Phase II ESA Property are not going to be used in the future, or will be destroyed during site redevelopment, they should be abandoned according to Ontario Regulation 903. The wells will be registered with the MECP under this regulation.

7.0 STATEMENT OF LIMITATIONS

This Phase II Environmental Site Assessment report has been prepared under the supervision of a Qualified Person, in general accordance with O.Reg. 153/04 and CSA Z769-00 (reaffirmed 2022). The conclusions presented herein are based on information gathered from a limited sampling and testing program. The test results represent conditions at specific test locations at the time of the field program.

The client should be aware that any information pertaining to soils and all test hole logs are furnished as a matter of general information only and test hole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those of the test holes themselves.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Inside Edge Properties. Notification from Inside Edge Properties and Paterson Group will be required to release this report to any other party.

Paterson Group Inc.

Kelly Martinell, P.Eng.

Karyn Munch, P.Eng., QP$_{ESA}$

Report Distribution:

- Inside Edge Properties
- Paterson Group

FIGURES

Figure 1 - Key Plan

Drawing PE6046-3 – Test Hole Location

Drawing PE6046-4 – Analytical Testing Plan – Soil and Groundwater

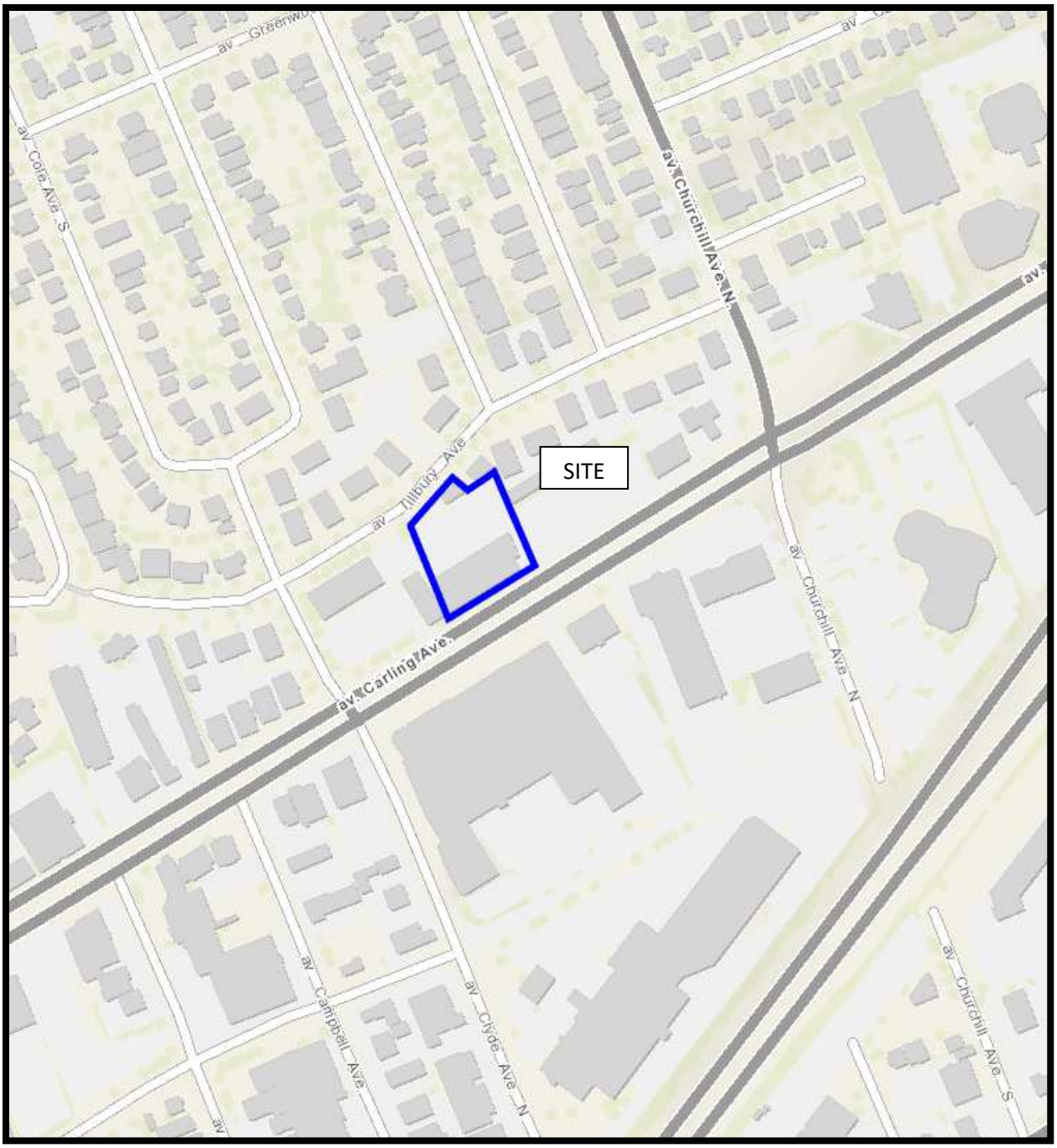


FIGURE 1

KEY PLAN

PATERSON GROUP

745 COLE AVENUE S.
RESIDENTIAL

407-391 TILLSBURY AVENUE
RESIDENTIAL

SIDEWALK

TILLBURY AVENUE

386 TILLSBURY AVENUE
2-STOREY DWELLING

390-358 TILLSBURY AVENUE
RESIDENTIAL

SIDEWALK

1679 CARLING AVENUE
COMMERCIAL RESTAURANTS

ASPHALTIC CONCRETE
PARKING LOT

WASTE
BINS

GREASE
BINS

HYDRO
OVERHANG
WIRES

OHW

OHW

CB-TBM

MW2
77.51
(72.00)
{75.56}

ASPHALTIC CONCRETE
PARKING LOT

OHW

75.5

75.5

75.45

75.45

75.4

75.35

(0.012m/m)

MW1
77.61
{75.51}

CB

1655 CARLING AVENUE
CONSTRUCTION SITE
(VACANT LOT)

1677A CARLING AVENUE
COMMERCIAL RETAIL

1657-1673 CARLING AVENUE
2-STOREY COMMERCIAL BUILDING

MW3
77.76
(72.31)
{75.28}

GM

GM

GM

DRAIN

DRAIN

DRAIN

DRAIN

FH

SIDEWALK

CARLING AVENUE

LEGEND:

- BOREHOLE WITH MONITORING WELL LOCATION BY OTHERS (PINCHIN, APRIL, 2018)
- 77.51 GROUND SURFACE ELEVATION (m)
- (72.1) GROUNDWATER SURFACE ELEVATION (m) (MAY, 2023)
- {72.01} GROUNDWATER SURFACE ELEVATION (m) (APRIL, 2018)
- 97.7 GROUNDWATER CONTOUR (m) (APRIL, 2018)
- (0.012m/m) APPROX. GROUNDWATER FLOW DIRECTION (HORIZONTAL HYDRAULIC GRADIENT)

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:500

0 5 10 15 20 25 30m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

INSIDE EDGE PROPERTIES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1657-1673 CARLING AVENUE & 386 TILLBURY AVENUE

OTTAWA, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:500	Date: 05/2023
Drawn by: RDG	Report No.: PE6046-2
Checked by: KAM	Dwg. No.: PE6046-3
Approved by: KM	Revision No.:

11x17

p:\autocad drawings\environmental\pe60xx\pe6046\pe6046-3 test hole location plan.dwg

745 COLE AVENUE S.
RESIDENTIAL

407-391 TILLSBURY AVENUE
RESIDENTIAL

SIDEWALK

TILLBURY AVENUE

386 TILLSBURY AVENUE
2-STOREY DWELLING

390-358 TILLSBURY AVENUE
RESIDENTIAL

SIDEWALK

MW-2, SS-2	0.9-1.5 m	10-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		
MW-2	3.05-6.1 m	17-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		
MW-2-GW	3.05-6.1 m	16-MAY-2023
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		

WASTE BINS

GREASE BINS

HYDRO OVERHANG WIRES

OHW

OHW

OHW

CB-TBM

MW2
77.51
(72.00)

1679 CARLING AVENUE
COMMERCIAL RESTAURANTS

ASPHALTIC CONCRETE
PARKING LOT

ASPHALTIC CONCRETE
PARKING LOT

MW-3, SS-4	2.3-2.7 m	10-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		
MW-3	3.96-7.01 m	17-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		
MW-3	3.96-7.01 m	16-MAY-2023
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		

MW-1, SS-2	0.9-1.5 m	10-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		
MW-1	4.57-7.62 m	17-APR-2018
BTEX, PHCs, VOCs comply with MECP Table 7 Standards.		

MW1
77.61

1677A CARLING AVENUE
COMMERCIAL RETAIL

1655 CARLING AVENUE
CONSTRUCTION SITE
(VACANT LOT)

CB

1657-1673 CARLING AVENUE
2-STOREY COMMERCIAL BUILDING

MW3
77.76
(75.28)

GM

GM

GM

DRAIN

DRAIN

DRAIN

DRAIN

FH

SIDEWALK

CARLING AVENUE

LEGEND:

- BOREHOLE WITH MONITORING WELL LOCATION BY OTHERS (PINCHIN, APRIL, 2018)
- 77.51 GROUND SURFACE ELEVATION (m)
- (72.00) GROUNDWATER SURFACE ELEVATION (m) (MAY, 2023)

GROUND SURFACE ELEVATIONS AT BOREHOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:500

0 5 10 15 20 25 30m

SOIL RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS

GROUNDWATER RESULT COMPLIES WITH THE MECP TABLE 7 STANDARDS

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

INSIDE EDGE PROPERTIES

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1657-1673 CARLING AVENUE & 386 TILLBURY AVENUE

OTTAWA, ONTARIO

Title:

ANALYTICAL TESTING PLAN (SOIL AND GROUNDWATER)

Scale: 1:500	Date: 05/2023
Drawn by: GK	Report No.: PE6046-2
Checked by: KAM	Dwg. No.: PE6046-4
Approved by: KM	Revision No.:

p:\autocad drawings\environmental\pe60\xd\pe6046\pe6046-3 test hole location plan.dwg

11x17

APPENDIX 1

SAMPLING AND ANALYSIS PLAN

PHASE II ENVIRONMENTAL SITE ASSESSMENT, PINCHIN (2018)

LABORATORY CERTIFICATES OF ANALYSIS

PATERSON GROUP

Sampling and Analysis Plan

Groundwater Sampling

1657-1673 Carling Ave & 386 Tillbury Ave, Ottawa, Ontario

Prepared for Inside Edge Properties

Report: PE6046-SAP
May 2023

TABLE OF CONTENTS

1.0 SAMPLING PROGRAM

Paterson Group Inc. (Paterson) was commissioned by Inside Edge Properties to conduct a Phase II Environmental Site Assessment (ESA) Update for the property addressed 1657-1673 Carling Avenue and 386 Tillbury Avenue in Ottawa, Ontario. Based on the Phase I ESA conducted by Paterson, a groundwater sampling program was developed to confirm the results of the previous Phase II ESA conducted by Pinchin in 2018 on the Phase II Property. Monitoring well locations are shown on the Test Hole Location Plan appended to the main report.

2.0 ANALYTICAL TESTING PROGRAM

The analytical testing program for groundwater at the subject site is based on the following general considerations:

- ❒ Groundwater monitoring wells should be installed in all boreholes with visual or olfactory evidence of soil contamination, in stratigraphic units where soil contamination was encountered, where those stratigraphic units are at or below the water table (i.e. a water sample can be obtained).
- ❒ Groundwater monitoring well screens should straddle the water table at sites where the contaminants of concern are suspected to be LNAPLs.
- ❒ At least one groundwater monitoring well should be installed in a stratigraphic unit below the suspected contamination, where said stratigraphic unit is water-bearing.
- ❒ Parameters analyzed should be consistent with the Contaminants of Concern identified in the Phase I ESA and with the contaminants identified in the soil samples.

3.0 STANDARD OPERATING PROCEDURES

3.1 Monitoring Well Sampling Procedure

Equipment

- ❒ Water level metre or interface probe on hydrocarbon/LNAPL sites
- ❒ Spray bottles containing water and methanol to clean water level tape or interface probe
- ❒ Peristaltic pump
- ❒ Polyethylene tubing for peristaltic pump
- ❒ Flexible tubing for peristaltic pump
- ❒ Latex or nitrile gloves (depending on suspected contaminant)

- ❒ Allen keys and/or 9/16" socket wrench to remove well caps
- ❒ Graduated bucket with volume measurements
- ❒ pH/Temperature/Conductivity combo pen
- ❒ Laboratory-supplied sample bottles

Sampling Procedure

- ❒ Locate well and use socket wrench or Allan key to open metal flush mount protector cap. Remove plastic well cap.
- ❒ Measure water level, with respect to existing ground surface, using water level meter or interface probe. If using interface probe on suspected NAPL site, measure the thickness of free product.
- ❒ Measure total depth of well.
- ❒ Clean water level tape or interface probe using methanol and water. Change gloves between wells.
- ❒ Calculate volume of standing water within well and record.
- ❒ Insert polyethylene tubing into well and attach to peristaltic pump. Turn on peristaltic pump and purge into graduated bucket. Purge at least three well volumes of water from the well. Measure and record field chemistry. Continue to purge, measuring field chemistry after every well volume purged, until appearance or field chemistry stabilizes.
- ❒ Note appearance of purge water, including colour, opacity (clear, cloudy, silty), sheen, presence of LNAPL, and odour. Note any other unusual features (particulate matter, effervescence (bubbling) of dissolved gas, etc.).
- ❒ Fill required sample bottles. If sampling for metals, attach 75-micron filter to discharge tube and filter metals sample. If sampling for VOCs, use low flow rate to ensure continuous stream of non-turbulent flow into sample bottles. Ensure no headspace is present in VOC vials.
- ❒ Replace well cap and flushmount casing cap.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The QA/QC program for this Phase II ESA is as follows:

- ❒ All groundwater sampling equipment is dedicated (polyethylene and flexible peristaltic tubing is replaced for each well).

- ❒ Where groundwater samples are to be analyzed for VOCs, one laboratory-provided trip blank will be submitted for analysis with every laboratory submission.

- ❒ Approximately one (1) field duplicate will be submitted for every ten (10) samples submitted for laboratory analysis. A minimum of one (1) field duplicate

per project will be submitted. Field duplicates will be submitted for soil and groundwater samples

- ❒ Where combo pens are used to measure field chemistry, they will be calibrated on an approximately monthly basis, according to frequency of use.

5.0 DATA QUALITY OBJECTIVES

The purpose of setting data quality objectives (DQOs) is to ensure that the level of uncertainty in data collected during the Phase II ESA is low enough that decision-making is not affected, and that the overall objectives of the investigation are met.

The quality of data is assessed by comparing field duplicates with original samples. If the relative percent difference (RPD) between the duplicate and the sample is within 20%, the data are considered to be of sufficient quality so as not to affect decision-making. The RPD is calculated as follows:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2)/2} \right| \times 100\%$$

Where x_1 is the concentration of a given parameter in an original sample and x_2 is the concentration of that same parameter in the field duplicate sample.

For the purpose of calculating the RPD, it is desirable to select field duplicates from samples for which parameters are present in concentrations above laboratory detection limits, i.e. samples which are expected to be contaminated. If parameters are below laboratory detection limits for selected samples or duplicates, the RPD may be calculated using a concentration equal to one half (0.5 x) the laboratory detection limit.

It is also important to consider data quality in the overall context of the project. For example, if the DQOs are not met for a given sample, yet the concentrations of contaminants in both the sample and the duplicate exceed the MOE site remediation standards by a large margin, the decision-making usefulness of the sample may not be considered to be impaired. The proximity of other samples which meet the DQOs must also be considered in developing the Phase II Conceptual Site Model; often there are enough data available to produce a reliable Phase II Conceptual Site Model even if DQOs are not met for certain individual samples.

These considerations are discussed in the body of the report.

6.0 PHYSICAL IMPEDIMENTS TO SAMPLING & ANALYSIS PLAN

Physical impediments to the Sampling and Analysis plan may include:

- ❒ The location of underground utilities
- ❒ Poor recovery of split-spoon soil samples
- ❒ Insufficient groundwater volume for groundwater samples
- ❒ Breakage of sampling containers following sampling or while in transit to the laboratory
- ❒ Elevated detection limits due to matrix interference (generally related to soil colour or presence of organic material)
- ❒ Elevated detection limits due to high concentrations of certain parameters, necessitating dilution of samples in laboratory
- ❒ Drill rig breakdowns
- ❒ Winter conditions
- ❒ Other site-specific impediments

Site-specific impediments to the Sampling and Analysis plan are discussed in the body of the Phase II ESA report.

Phase II Environmental Site Assessment

1657-1673 Carling Avenue
Ottawa, Ontario

Prepared for:

1716621 Ontario Limited
284 Clemow Avenue
Ottawa, ON K1S 2B8

Attn: Mr. Michael Lewis

May 4, 2018

Pinchin File: 220409.002

MEMBER OF
THE PINCHIN GROUP

Issued To:	**1716621 Ontario Limited**
Contact:	**Mr. Michael Lewis**
Issued On:	**May 4, 2018**
Pinchin File:	**220409.002**
Issuing Office:	**1 Hines Road, Suite 200, Kanata, ON K2K 3C7**
Primary Pinchin Contact:	**Scott Mather** **Director, Eastern Ontario**

Author:
Ryan LaRonde, C.E.T
Senior Project Technologist
613.592.3387 ext. 1818
rlaronde@pinchin.com

Reviewer:
Matthew Ryan, B.A., CET, EP
Operations Manager
613.592.3387 ext. 1810
mryan@pinchin.com

Reviewer:
Scott Mather, P.Eng., QP$_{ESA}$
Director, Eastern Ontario
613.592.3387 ext. 1802
smather@pinchin.com

EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed signed by Mr. Michael Lewis of 1716621 Ontario Limited (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 1657-1673 Carling Avenue, Ottawa, Ontario (hereafter referred to as the Site).

The Site is developed with a two-storey multi-tenant commercial building (Site Building).

The purpose of this Phase II ESA was to address potential issues of environmental concern identified during a Phase I ESA conducted by Pinchin in relation to the potential sale of the Site.

The results of the Phase I ESA completed by Pinchin identified the following potential issues of environmental concern:

- A retail fuel outlet (RFO) was evident on the adjacent property located west of the Site in the 1965 and 1976 aerial photographs. Based on the close proximity of this former RFO to the Site, it is Pinchin's opinion that this property could result in potential subsurface impacts at the Site; and
- An RFO has been located approximately 130 m northeast of the Site since at least 1958. Based on the duration of operations, Pinchin's knowledge of the area, and the results of previous subsurface environmental work completed at the Site, it is Pinchin's opinion that this property could result in potential subsurface impacts at the Site.

Based on the above-mentioned findings, Pinchin recommended that a Phase II ESA be conducted at the Site in order to assess for the presence of environmental impacts.

The Phase II ESA was completed at the Site by Pinchin between April 10 and 17, 2018, and consisted of the advancement of three boreholes, all of which were completed as groundwater monitoring wells.

Select "worst case" soil samples collected during the borehole drilling program were submitted for laboratory analysis of petroleum hydrocarbons (PHCs) in the F1 to F4 fraction ranges (F1-F4) and volatile organic compounds (VOCs). Groundwater samples collected from the newly installed were submitted for laboratory analysis of PHCs (F1-F4) and VOCs.

Based on Site-specific information, the soil and groundwater quality was assessed based on the Ontario Ministry of the Environment and Climate Change *Table 7 Standards* for industrial/commercial/community land use and coarse-textured soil.

Reported concentrations in the soil and groundwater samples submitted for analysis of PHCs (F1-F4) and VOCs satisfied the *Table 7 Standards.*

Based on the findings of this Phase II ESA, it is Pinchin's opinion that no further subsurface investigation is required for the Site in relation to the findings of the Phase I ESA.

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.

TABLE OF CONTENTS

APPENDICES

FIGURES

TABLES

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed signed by Mr. Michael Lewis of 1716621 Ontario Limited (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 1657-1673 Carling Avenue, Ottawa, Ontario (hereafter referred to as the Site). The Site location is shown on Figure 1 (all Figures are provided in Appendix I).

The Site is developed with a two-storey multi-tenant commercial building (Site Building).

The purpose of this Phase II ESA was to address potential issues of environmental concern identified during a Phase I ESA conducted by Pinchin in relation to the potential sale of the Site.

This Phase II ESA was completed in general accordance with the Canadian Standards Association document entitled "*Phase II Environmental Site Assessment, CSA Standard Z769-00 (R2013)*", dated 2000 and reaffirmed in 2013.

1.1 Background

Pinchin completed a Phase I ESA of the Site for the Client, the findings of which were provided in the report entitled "*Phase I Environmental Site Assessment, 1657-1673 Carling Avenue, Ottawa, Ontario*", dated March 22, 2018. The results of the Phase I ESA completed by Pinchin identified the following areas of potential environmental concern (APECs) that could give rise to potential subsurface impacts in connection with the Site:

- A retail fuel outlet (RFO) was evident on the adjacent property located west of the Site in the 1965 and 1976 aerial photographs. Based on the close proximity of this former RFO to the Site, it is Pinchin's opinion that this property could result in potential subsurface impacts at the Site; and
- An RFO has been located approximately 130 m northeast of the Site since at least 1958. Based on the duration of operations, Pinchin's knowledge of the area, and the results of previous subsurface environmental work completed at the Site, it is Pinchin's opinion that this property could result in potential subsurface impacts at the Site.

Based on the above-mentioned findings, it was Pinchin's recommendation that a Phase II ESA be conducted at the Site in order to assess the above-noted APECs for the presence of environmental impacts.

1.2 Scope of Work

The scope of work completed by Pinchin, as outlined in the Pinchin proposal entitled "*Proposal for Phase II Environmental Site Assessmen*t, *1657-1673 Carling Avenue, Ottawa, Ontario*" submitted to the Client on March 28, 2018, included the following:

- Advancement of three boreholes following the clearance of underground services, all of which were instrumented with a monitoring well;
- Submission of select "worst case" soil samples for laboratory analysis of petroleum hydrocarbons (PHCs) in the F1 to F4 fraction ranges (F1-F4) and volatile organic compounds (VOCs);
- Collection of groundwater samples from each of the newly installed monitoring wells, following well development and purging, for laboratory analysis of PHCs (F1-F4) and VOCs;
- Completion of an elevation survey and depth to groundwater measurements for the newly installed monitoring wells;
- Comparison of the soil and groundwater laboratory analytical results to the applicable regulatory criteria; and
- Preparation of a factual report detailing the findings of the Phase II ESA and recommendations.

2.0 METHODOLOGY

The investigation methodology was conducted in general accordance with the Ontario Ministry of the Environment and Climate Change (MOECC, formerly the Ontario Ministry of the Environment) document entitled *"Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario"* dated December 1996 (*MOECC Sampling Guideline*), the Association of Professional Geoscientists of Ontario document entitled *"Guidance for Environmental Site Assessments under Ontario Regulation 153/04 (as amended)"*, dated April 2011 (*APGO Guideline*) and Pinchin's standard operating procedures (SOPs).

2.1 Borehole Investigation

Pinchin retained Strata Drilling Group (Strata) to complete the borehole drilling program at the Site on April 10, 2018 following the clearance of underground services in the vicinity of the work area by public utility locators and a private utility locator retained by Pinchin. Strata is licensed by the MOECC in accordance with Ontario Regulation 903 (as amended) to undertake borehole drilling/well installation activities.

The boreholes were advanced to a maximum depth of 2.7 mbgs using a GeoMachine direct push drill rig. The monitoring wells were advanced into the bedrock stratigraphy encountered at the Site, to a maximum depth 7.6 mbgs using the GeoMachine's down-hole hammer bedrock equipment. Soil samples were collected 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 single-use liners and containerized in laboratory-supplied glass sampling jars.

Subsurface soil conditions were logged on-Site by Pinchin personnel at the time of drilling. Soil samples were examined for visual and olfactory evidence of impacts and a portion of each sample was analyzed in the field for VOC and petroleum-derived vapour concentrations in soil headspace using a photoionization detector (PID).

The locations of the boreholes are shown on Figure 2 and a description of the subsurface stratigraphy encountered during the drilling program is documented in the borehole logs included in Appendix II.

2.2 Monitoring Well Installation

Groundwater monitoring wells were installed in boreholes MW-1 through MW-3 to enable groundwater monitoring and sampling. The monitoring wells were constructed with 3.8 cm inner diameter (ID) flush-threaded Schedule 40 polyvinyl chloride (PVC) risers, followed by a length of 3.8 cm ID No. 10 slot PVC screen that intersected suspected static groundwater level.

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 10.1 cm ID Schedule 40 PVC outer casing, approximately 20.3 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 flush-mount cover was installed at the ground surface over each riser pipe and outer casing and cemented in place.

The locations of the monitoring wells are shown on Figure 2. The monitoring well construction details are shown on the borehole logs included in Appendix II and on Table 3 in Appendix III (all Tables are provided within Appendix III).

2.3 Groundwater Monitoring and Elevation Survey

The water levels within the monitoring wells were measured on April 17, 2018 using an interface probe. The presence/absence of non-aqueous phase liquid (NAPL) was also assessed during groundwater monitoring using the interface probe.

Pinchin completed a relative elevation survey of the newly installed groundwater monitoring wells on April 17, 2018, using a Topcon rotating laser level and laser sensor. A temporary benchmark was used to determine the relative elevation of the top of the monitoring well casings and the ground surface at each well location, and the ground surface elevation at each borehole location. The temporary benchmark used was the top of a catch basin located adjacent to MW-2, which was arbitrarily assigned the elevation of 100.00 metres. These elevation measurements represent a relative (not a geodetic) elevation. A summary of the elevation data is presented in Table 4.

2.4 Sampling and Laboratory Analysis

2.4.1 Soil

One most apparent "worst case" soil sample, based on preferred pathway migration, groundwater depths and contaminant characteristics, recovered from each borehole was submitted for laboratory analysis of PHCs (F1-F4) and VOCs.

In addition, representative soil samples were submitted for pH analysis and grain size distribution analysis to confirm the Site Condition Standards applicable to the Site as provided in the MOECC document entitled "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011 (*MOECC Standards*). A composite sample of the excess soil generated by the borehole drilling program was also submitted for analysis of leachate concentrations of inorganics, volatile organic compounds, polychlorinated biphenyls, and benzo(a)pyrene in accordance with the Toxicity Characteristic Leaching Procedure (TCLP) procedure as per Ontario Regulation 347 (as amended) and ignitability to characterize the soil cuttings for possible off-Site disposal purposes.

The borehole locations are shown on Figure 2. Table 2 provides a summary of the soil samples submitted for laboratory analysis.

2.4.2 Groundwater

On April 13, 2017, all newly installed groundwater monitoring wells MW-1 through MW-3 were developed by removing three to five well casing volumes, or were purged until dry, in accordance with Pinchin's SOPs.

On April 17, 2018, newly installed groundwater monitoring wells MW-1 through MW-3 were purged and sampled using Pinchin's SOPs. The groundwater samples collected from these monitoring wells were submitted for laboratory analysis of PHCs (F1-F4) and VOCs.

All monitoring well development activities were conducted using dedicated inertial pumps comprised of Waterra polyethylene tubing and foot valves. Following pre-sampling purging with dedicated inertial pumps, sampling for PHCs (F2-F4) was conducted using a peristaltic pump and dedicated polyethylene tubing. Sampling for PHCs (F1) and VOCs was then conducted using dedicated inertial pumps.

The monitoring well locations are shown on Figure 2. Table 2 provides a summary of the groundwater samples submitted for laboratory analysis.

2.4.3 Analytical Laboratory

Selected soil and groundwater samples were delivered to Maxxam Analytics Inc. (Maxxam) in Ottawa, Ontario for analysis. Maxxam is an independent laboratory accredited by the Standards Council of Canada and the Canadian Association for Laboratory Accreditation. Formal chain of custody records of the sample submissions were maintained between Pinchin and the staff at Maxxam.

2.5 QA/QC Protocols

Various quality assurance/quality control (QA/QC) protocols were followed during the Phase II ESA to ensure that representative samples were obtained and that representative analytical data were reported by the laboratory.

Field QA/QC protocols that were employed by Pinchin included the following:

- Soil samples were extracted from the interior of the sampling device (where possible), rather than from areas in contact with the sampler walls to minimize the potential for cross-contamination;
- Soil and groundwater samples were placed in laboratory-supplied glass sample jars;
- The monitoring wells were developed following installation and were purged to remove stagnant water prior to sample collection so that representative groundwater samples could be obtained. Dedicated purging and sampling equipment was used for monitoring well development, purging and sampling to minimize the potential for cross-contamination;
- Soil and groundwater samples were placed in coolers on ice immediately upon collection, with appropriate sample temperatures maintained prior to submission to the laboratory;
- Dedicated and disposable nitrile gloves were used for sample handling;
- Non-dedicated monitoring and sampling equipment was cleaned before initial use and between uses to minimize the potential for cross-contamination by washing with an Alconox™/potable water mixture followed by a deionized water rinse; and

- Sample collection and handling procedures were performed in general accordance with the *MOECC Sampling Guideline*, the *APGO Guideline* and Pinchin's SOPs for Phase II ESAs.

Maxxam's internal laboratory QA/QC consisted of the analysis of laboratory duplicate, method blank, matrix spike and spiked blank samples, an evaluation of relative percent difference calculations for laboratory duplicate samples, and an evaluation of surrogate recoveries.

2.6 Ontario Water Well Records

Ontario Regulation 903 (as amended) requires that all wells installed to depths greater than 3.0 mbgs have a water well record completed by a licensed well technician. The owner of the monitoring well must keep the water well record on file for a period of two years and the monitoring wells must be decommissioned as per Ontario Regulation 903 (as amended) if monitoring wells are no longer in use. Strata is a licensed well driller under Ontario Regulation 903 (as amended), and submitted a water well record to the MOECC and the Client to fulfill the requirements of Ontario Regulation 903 (as amended).

2.7 Site Condition Standards

The Site is a commercial property located within the City of Ottawa. It is Pinchin's understanding that potable water for the Site and surrounding area is supplied by the City of Ottawa, with the Ottawa River serving as the water source.

Ontario Regulation 153/04 (as amended) states that a site is classified as an "environmentally sensitive area" if the pH of the surface soil (less than 1.5 mbgs) is less than 5 or greater than 9, the pH of the subsurface soil (greater than 1.5 mbgs) is less than 5 or greater than 11, or if the site is an area of natural significance or is adjacent to or contains land within 30 metres of an area of natural significance. Two representative soil samples collected from the boreholes advanced at the Site were submitted for pH analysis. The pH values measured in the submitted soil samples were within the limits for non-sensitive sites. The Site 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 Site is not an environmentally sensitive area.

Two representative soil samples collected from the boreholes advanced at the Site were submitted for 75 micron single-sieve grain size analysis. Based on the results of this analysis, the soil at the Site is interpreted to be coarse-textured for the purpose of selecting the appropriate *MOECC Standards.*

The pH and grain size analytical results are summarized in Table 3.

The results of the borehole drilling program indicated that the overburden was less than two metres thick over more than one-third of the Site area, classifying the Site as a "shallow soil property" as per Ontario Regulation 153/04 (as amended).

Based on the above, the appropriate Site Condition Standards for the Site are:

- "Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition", provided in the *MOECC Standards* (*Table 7 Standards*) for:
  - Coarse-textured soils; and
  - Industrial/commercial/community property use.

As such, the analytical results have been compared to these *Table 7 Standards*.

3.0 RESULTS

3.1 Site Geology and Hydrogeology

Based on the soil samples recovered during the borehole drilling program, the soil stratigraphy at the drilling locations below the asphalt surface generally consists of fill material comprised of sand and gravel to a depth of approximately 0.9 mbgs.

Native subsurface material underlying the fill material was observed to generally consist of silty sand with trace clay and gravel throughout that extended to the maximum borehole completion depth of 2.7 mbgs. Moist to wet soil conditions were not observed in the overburden soil.

A detailed description of the subsurface stratigraphy encountered during borehole advancement is documented in the borehole logs located in Appendix II.

The water level information obtained during groundwater monitoring is presented in Table 4 and on the borehole logs in Appendix II. The depth to groundwater measured within the monitoring wells ranged from 1.95 mbgs at monitoring well MW-2 to 2.48 mbgs at monitoring well MW-3 on April 17, 2018.

The water table elevations calculated using the water level measurements made on April 17, 2018 show that groundwater flow at the Site is inferred to be towards the southeast; however, Pinchin notes that groundwater conditions may not have been at equilibrium at the time of the water level measurements.

3.2 Soil Headspace Vapour Concentrations

Vapour concentrations measured in the headspace of soil samples collected during the drilling investigation are presented on the borehole logs in Appendix II and were all zero parts per million by volume (ppmv).

3.3 Field Observations

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

3.4 Analytical

3.4.1 Soil

As indicated in Table 5, reported concentrations of PHCs (F1-F4) and VOCs in the soil samples submitted for analysis met the *Table 7 Standards.*

The laboratory Certificate of Analysis for the soil samples is provided in Appendix IV.

3.4.2 Groundwater

As indicated in Table 6, reported concentrations in the groundwater samples submitted for analysis of PHCs (F1-F4) and VOCs met the *Table 7 Standards*.

The laboratory Certificate of Analysis for the groundwater samples is provided in Appendix IV.

4.0 FINDINGS AND CONCLUSIONS

Based on the work completed, the following is a summary of the activities and findings of this Phase II ESA:

- Pinchin retained Strata to advance three boreholes at the Site on April 10, 2018. The boreholes were advanced to a maximum depth of 1.83 mbgs using a GeoMachine direct push drill rig. All of the boreholes were instrumented with monitoring wells to enable groundwater monitoring and sampling. It should be noted that the monitoring wells were advanced into the bedrock stratigraphy encountered at the Site, to a maximum depth 7.6 mbgs;
- The soil stratigraphy at the drilling locations generally consists of sand and gravel fill material to a depth of approximately 0.9 mbgs overlying native soil comprised of silty sand with trace clay and gravel throughout that extended to a depth of 2.7 mbgs. The overburden soil was not observed to be moist to wet;
- Groundwater levels at the Site measured on April 17, 2018 varied between 1.95 mbgs (MW-2) and 2.48 mbgs (MW-3). Inferred groundwater flow is expected to be southeast based on the water table elevations obtained from groundwater monitoring;
- Based on Site-specific information, the soil and groundwater quality was assessed based on the *Table 7 Standards* for industrial/commercial/community land use and coarse-textured soils;

- Three “worst case” soil samples based on the results of field screening were submitted for laboratory analysis of PHCs (F1-F4) and VOCs;
- Groundwater samples were collected from monitoring wells MW-1 through MW-3 installed by Pinchin on April 17, 2018 and were submitted for laboratory analysis of PHCs (F1-F4) and VOCs; and
- Reported concentrations in the soil and groundwater samples submitted for analysis of PHCs (F1-F4) and VOCs satisfied their respective *Table 7 Standards.*

Based on the findings of this Phase II ESA, it is Pinchin’s opinion that no further subsurface investigation is required for the Site in relation to the findings of the Phase I ESA.

5.0 TERMS AND LIMITATIONS

This Phase II ESA was performed for 1716621 Ontario Limited (Client) in order to investigate potential environmental impacts at 1657-1673 Carling Avenue, 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 II 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 II 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 II ESA was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site. The scope of work completed by Pinchin, as part of this Phase II ESA, is not sufficient (in and of itself) to meet the requirements for the submission of a Record of Site Condition (RSC) in accordance with Ontario Regulation 153/04 (as amended). If an RSC is an intended end product of work conducted at the Site, further consultation and/or work will be required.

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.

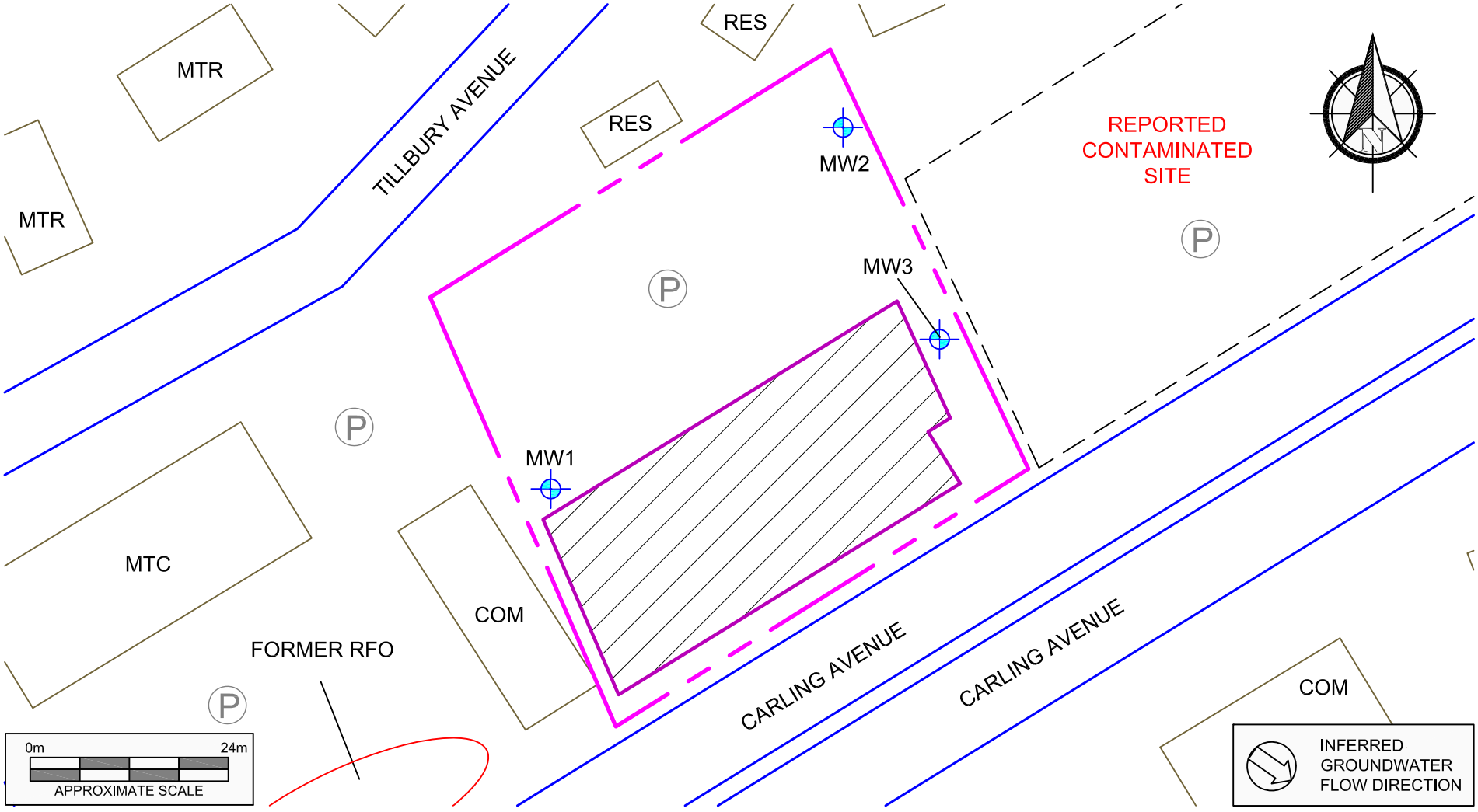
If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. 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.

APPENDIX I
Figures

PINCHIN

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT		
CLIENT NAME: 1716621 ONTARIO LIMITED		
PROJECT LOCATION: 1657-1673 CARLING AVENUE, OTTAWA, ONTARIO		
FIGURE NAME: KEY MAP		FIGURE NO.: 1
APPROXIMATE SCALE: AS SHOWN	PROJECT NO.: 220409.002	DATE: MAY 2018



PINCHIN

LEGEND

	SITE BOUNDARY
	SITE BUILDING
RES	RESIDENTIAL
MTR	MULTI-TENANT RESIDENTIAL
COM	COMMERCIAL
MTC	MULTI-TENANT COMMERCIAL
RFO	RETAIL FUEL OUTLET
P	PARKING
	MONITORING WELL

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT			
CLIENT NAME: 1716621 ONTARIO LIMITED			
PROJECT LOCATION: 1657-1673 CARLING AVENUE, OTTAWA, ONTARIO			
FIGURE NAME: GENERALIZED SITE AND MONITORING WELL LOCATION PLAN			FIGURE NO. 2
APPROXIMATE SCALE: AS SHOWN	PROJECT NO.: 220409.002	DATE: MAY 2018	

APPENDIX II

Borehole Logs

Log of Borehole: MW1

Project #: 220409.002 **Logged By:** RL

Project: Phase II Environmental Site Assessment

Client: 1916621 Ontario Ltd.

Location: 1657-1673 Carling Avenue, Ottawa, Ontario

Drill Date: April 10, 2018 **Project Manager:** RL

SUBSURFACE PROFILE

Depth (ft / m)	Symbol	Description	Measured Depth (m)
0 / 0		Ground Surface	0.00
		Asphalt	
		Sand and Gravel - Fill Brown, moist, no odour.	0.76
3 / 1		***Silty Sand*** Brown, with trace clay and gravel throughout, moist, no odour.	1.52
6 / 2		***Bedrock*** Refusal on Bedrock. Advanced with Air Rotary.	
25 / 7			7.62
26 / 8		End of Borehole	

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

Water level measured at 2.10mbgs

SAMPLE

Sampler #	Recovery (%)	Sample ID	Soil Vapour Concentration RKI/PID	Laboratory Analysis
1	40	SS1	0ppm	GRAIN SIZE
2	40	SS2	0ppm	GRAIN SIZE, pH, PHCs, VOCs,

Contractor: Strata Drilling Group

Drilling Method: Geo Machine

Well Casing Size: 3.8cm

Pinchin Ltd.

1 Hines Road, Suite 200

Kanata, ON K2K 3C7

Grade Elevation: 100.288

Top of Casing Elevation: 100.180

Log of Borehole: MW2

Project #: 220409.002 **Logged By:** RL

Project: Phase II Environmental Site Assessment

Client: 1916621 Ontario Ltd.

Location: 1657-1673 Carling Avenue, Ottawa, Ontario

Drill Date: April 10, 2018 **Project Manager:** RL

SUBSURFACE PROFILE

Depth (ft / m)	Symbol	Description	Measured Depth (m)
0 / 0		Ground Surface	0.00
		Asphalt	
		Sand and Gravel - Fill Brown, moist, no odour.	0.76
4 / 1		***Silty Sand*** Brown, with trace clay and gravel throughout, moist, no odour.	1.52
6 / 2		***Bedrock*** Refusal on Bedrock. Advanced with Air Rotary.	
20 / 6		End of Borehole	6.10

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

Water level measured at 1.95mbgs on April 10, 2018

SAMPLE

Sampler #	Recovery (%)	Sample ID	Soil Vapour Concentration RKI/PID	Laboratory Analysis
1	50	SS1	0ppm	
2	50	SS2	0ppm	PHCs, VOCs

Contractor: Strata Drilling Group

Drilling Method: Geo Machine

Well Casing Size: 3.8cm

Pinchin Ltd.

1 Hines Road, Suite 200

Kanata, ON K2K 3C7

Grade Elevation: 100.126

Top of Casing Elevation: 100.011

Log of Borehole: MW3

Project #: 220409.002 **Logged By:** RL

Project: Phase II Environmental Site Assessment

Client: 1916621 Ontario Ltd.

Location: 1657-1673 Carling Avenue, Ottawa, Ontario

Drill Date: April 10, 2018 **Project Manager:** RL

SUBSURFACE PROFILE

Depth (ft / m)	Symbol	Description	Measured Depth (m)
0 / 0		Ground Surface	0.00
0 / 0		***Asphalt***	
2 / 1		***Sand and Gravel - Fill*** Brown, moist, no odour.	0.76
3 / 1		***Silty Sand*** Brown, with trace clay and gravel throughout, moist, no odour.	
9 / 2			2.74
10 / 3		***Bedrock*** Refusal on Bedrock. Advanced with Air Rotary.	
23 / 7			7.01
		End of Borehole	

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

Water level measured at 2.48mbgs on April

SAMPLE

Sampler #	Recovery (%)	Sample ID	Soil Vapour Concentration RKI/PID	Laboratory Analysis
1	40	SS1	0ppm	
2	40	SS2	0ppm	
3	60	SS3	0ppm	
4	60	SS4	0ppm	PHCs, pH, VOCs

Contractor: Strata Drilling Group

Drilling Method: Geo Machine

Well Casing Size: 3.8cm

Pinchin Ltd.

1 Hines Road, Suite 200

Kanata, ON K2K 3C7

Grade Elevation: 100.363

Top of Casing Elevation: 100.293

APPENDIX III
Summary Tables

TABLE 1
SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
1716621 Ontario Limited
1657-1672 Carling Avenue, Ottawa, Ontario

Samples			Parameters								
			SOIL SAMPLES					GROUNDWATER SAMPLES			
Borehole / Monitoring Well ID	Sample ID	Sample Depth Range (mbgs)		PHCs (F1-F4)	VOCs	pH	Grain Size Analysis		PHCs (F1-F4)	VOCs	Rationale/Notes
MW-1	MW-1, SS-1	0.5-2.5					●				Assess soil and groundwater qualty at property limits/Confirm applicable MOECC standards.
	MW-1, SS-2	0.9-1.5		●	●	●					
	MW-1	6.1							●	●	
MW-2	MW-2, SS-2	0.9-1.5		●	●						
	MW-2	4.6							●	●	
MW-3	MW-3, SS-4	2.3-2.7		●	●	●					
	MW-3	5.5							●	●	

Notes:

PHCs (F1-F4)	Petroleum Hydrocarbons (Fraction 1 to Fraction 4)
VOCs	Volatile Organic Compounds
mbgs	Metres Below Ground Surface
MOECC	Ontario Ministry of the Environment and Climate Change

Pinchin File: 220409.002

TABLE 2
pH AND GRAIN SIZE ANALYSIS FOR SOIL
1716621 Ontario Limited
1657-1672 Carling Avenue, Ottawa, Ontario

Parameter	*Units*	*MOECC Site Condition Standard Selection Criteria*	*Sample Designation*		
			Sample Collection Date (dd/mm/yyyy)		
			Sample Depth (mbgs)		
			MW-1, SS-1	*MW-1, SS-2*	*MW-3, SS-4*
			25/10/2017	*25/10/2017*	*25/10/2017*
			0.2 - 1.2	*2.8 - 3.2*	*0.2 - 1.2*
			Surface	*Surface*	*Sub-Surface*
pH		Surface: 5 < pH < 9 Subsurface: 5 < pH < 11		7.7	7.9
Sieve #200 <0.075 mm	%	50%	36	NA	NA
Sieve #200 >0.075 mm	%	50%	64	NA	NA
		Grain Size Classification	COARSE	MEDIUM/FINE	NA

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

Pinchin File: 220409.002

TABLE 3
MONITORING WELL CONSTRUCTION DETAILS
1716621 Ontario Limited
1657-1672 Carling Avenue, 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	100.18	100.29	0.11	3.05
MW-2	100.01	100.13	0.12	3.05
MW-3	100.29	100.36	0.07	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: 220409.002

TABLE 4
GROUNDWATER ELEVATION DATA
1716621 Ontario Limited
1657-1672 Carling Avenue, 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	17/04/2018	ND	1.90	2.10	ND	98.28
MW-2	17/04/2018	ND	1.87	1.95	ND	98.14
MW-3	17/04/2018	ND	2.41	2.48	ND	97.88

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 AND VOLATILE ORGANIC COMPOUND ANALYSIS FOR SOIL
1716621 Ontario Limited
1657-1672 Carling Avenue, Ottawa, Ontario

Parameter	*MOECC Table 7 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		Sample Depth (mbgs)		
		MW-1, SS-2	*MW-2, SS-2*	*MW-3, SS-4*
		10/04/2018	*10/04/2018*	*10/04/2018*
		0.9-1.5	*0.9-1.5*	*2.3-2.7*
Petroleum Hydrocarbons F1 (C_6 - C_{10})	55	<10	<10	<10
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	230	<10	<10	<10
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	1700	<50	<50	<50
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	3300	<50	<50	<50
Acetone	16	<0.50	<0.50	<0.50
Benzene	0.32	<0.020	<0.020	<0.020
Bromodichloromethane	18	<0.050	<0.050	<0.050
Bromoform	0.61	<0.050	<0.050	<0.050
Bromomethane	0.05	<0.050	<0.050	<0.050
Carbon Tetrachloride	0.21	<0.050	<0.050	<0.050
Chlorobenzene	2.4	<0.050	<0.050	<0.050
Chloroform	0.47	<0.050	<0.050	<0.050
Dibromochloromethane	13	<0.050	<0.050	<0.050
1,2-Dichlorobenzene	6.8	<0.050	<0.050	<0.050
1,3-Dichlorobenzene	9.6	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	0.2	<0.050	<0.050	<0.050
1,1-Dichloroethane	17	<0.050	<0.050	<0.050
1,2-Dichloroethane	0.05	<0.050	<0.050	<0.050
1,1-Dichloroethylene	0.064	<0.050	<0.050	<0.050
Cis-1,2-Dichloroethylene	55	<0.050	<0.050	<0.050
Trans-1,2-Dichloroethylene	1.3	<0.050	<0.050	<0.050
1,2-Dichloropropane	0.16	<0.050	<0.050	<0.050
Ethylbenzene	9.5	<0.020	<0.020	<0.020
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	70	<0.50	<0.50	<0.50
Methylene Chloride	1.6	<0.050	<0.050	<0.050
Methyl Isobutyl Ketone	31	<0.50	<0.50	<0.50
Methyl-t-Butyl Ether	11	<0.050	<0.050	<0.050
Styrene	34	<0.050	<0.050	<0.050
1,1,1,2-Tetrachloroethane	0.087	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050
Toluene	68	<0.020	<0.020	<0.020
Tetrachloroethylene	4.5	<0.050	<0.050	<0.050
1,1,1-Trichloroethane	6.1	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	0.05	<0.050	<0.050	<0.050
Trichloroethylene	0.91	<0.050	<0.050	<0.050
Vinyl Chloride	0.032	<0.020	<0.020	<0.020
Total Xylenes	26	<0.020	<0.020	<0.020
Dichlorodifluoromethane	16	<0.050	<0.050	<0.050
Hexane(n)	46	<0.050	<0.050	<0.050
Trichlorofluoromethane	4	<0.050	<0.050	<0.050
1,3-Dichloropropene (cis + trans)	0.18	<0.050	<0.050	<0.050

Notes:

MOECC Table 7 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 7 Standards, Coarse-Textured Shallow 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

TABLE 6

PETROLEUM HYDROCARBON AND VOLATILE ORGANIC COMPOUND ANALYSIS FOR GROUNDWATER

1716621 Ontario Limited

1657-1672 Carling Avenue, Ottawa, Ontario

Parameter	*MOECC Table 3 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		MW01	*MW02*	*MW03*
		25/10/2017	*25/10/2017*	*25/10/2017*
Petroleum Hydrocarbons F1 (C_6 - C_{10})	420	<25	<25	<25
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	150	<100	<100	<100
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	500	<200	<200	<200
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	500	<200	<200	<200
Acetone	100000	<10	<10	<10
Benzene	0.5	0.31	<0.20	<0.20
Bromodichloromethane	67000	<0.50	<0.50	<0.50
Bromoform	5	<1.0	<1.0	<1.0
Bromomethane	0.89	<0.50	<0.50	<0.50
Carbon Tetrachloride	0.2	<0.20	<0.20	<0.20
Chlorobenzene	140	<0.20	<0.20	<0.20
Chloroform	2	<0.20	<0.20	<0.20
Dibromochloromethane	65000	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	150	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	7600	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	0.5	<0.50	<0.50	<0.50
1,1-Dichloroethane	11	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.5	<0.50	<0.50	<0.50
1,1-Dichloroethylene	0.5	<0.20	<0.20	<0.20
Cis-1,2-Dichloroethylene	1.6	<0.50	<0.50	<0.50
Trans-1,2-Dichloroethylene	1.6	<0.50	<0.50	<0.50
1,2-Dichloropropane	0.58	<0.20	<0.20	<0.20
Cis-1,3-Dichloropropylene	NV	<0.30	<0.30	<0.30
Trans-1,3-Dichloropropylene	NV	<0.40	<0.40	<0.40
Ethylbenzene	54	<0.20	<0.20	<0.20
Ethylene Dibromide	0.2	<0.20	<0.20	<0.20
Methyl Ethyl Ketone	21000	<10	<10	<10
Methylene Chloride	26	<2.0	<2.0	<2.0
Methyl Isobutyl Ketone	5200	<5.0	<5.0	<5.0
Methyl-t-Butyl Ether	15	<0.50	<0.50	<0.50
Styrene	43	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	1.1	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	0.5	<0.50	<0.50	<0.50
Toluene	320	<0.20	<0.20	<0.20
Tetrachloroethylene	0.5	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	23	<0.20	<0.20	<0.20
1,1,2-Trichloroethane	0.5	<0.50	<0.50	<0.50
Trichloroethylene	0.5	<0.20	<0.20	<0.20
Vinyl Chloride	0.5	<0.20	<0.20	<0.20
m-Xylene & p-Xylene	NV	<0.20	<0.20	<0.20
o-Xylene	NV	<0.20	<0.20	<0.20
Total Xylenes	72	<0.20	<0.20	<0.20
Dichlorodifluoromethane	3500	<1.0	<1.0	<1.0
Dioxane, 1,4-	190000	-	-	-
Hexane(n)	5	<1.0	<1.0	<1.0
Trichlorofluoromethane	2000	<0.50	<0.50	<0.50
1,3-Dichloropropene (cis + trans)	0.5	<0.50	<0.50	<0.50

Notes:

MOECC 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, Coarse-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: 220409.002

APPENDIX IV

Laboratory Certificates of Analysis

Maxxam
A Bureau Veritas Group Company

Your Project #: PHASE II ESA
Site#: 220409.002
Site Location: CARLING AVENUE

Attention: Ryan Laronde

Pinchin Ltd
Ottawa
1 Hines Road
Suite 200
Kanata, ON
K2K 3C7

Report Date: 2018/04/20
Report #: R5085636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B884738
Received: 2018/04/13, 14:55

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	3	N/A	2018/04/20	OTT SOP-00002	EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Soil (2)	3	2018/04/17	2018/04/18	OTT SOP-00001	CCME CWS
Moisture	3	N/A	2018/04/18	CAM SOP-00445	McKeague 2nd ed 1978
pH CaCl2 EXTRACT (1)	2	2018/04/18	2018/04/18	CAM SOP-00413	EPA 9045 D m
Sieve, 75um (1)	2	N/A	2018/04/18	CAM SOP-00467	Carter 2nd ed m
Volatile Organic Compounds and F1 PHCs	3	N/A	2018/04/20	OTT SOP-00002	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Your Project #: PHASE II ESA
Site#: 220409.002
Site Location: CARLING AVENUE

Attention: Ryan Laronde

Pinchin Ltd
Ottawa
1 Hines Road
Suite 200
Kanata, ON
K2K 3C7

Report Date: 2018/04/20
Report #: R5085636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B884738
Received: 2018/04/13, 14:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Jonathan Urben, Senior Project Manager
Email: jurben@maxxam.ca
Phone# (613) 274-0573
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GLR102	GLR103			GLR103		
Sampling Date			2018/04/10 12:30	2018/04/10 14:00			2018/04/10 14:00		
	UNITS	Criteria	MW-1, SS-2	MW-2, SS-2	RDL	QC Batch	MW-2, SS-2 Lab-Dup	RDL	QC Batch
Inorganics									
Moisture	%	-	14	11	0.2	5487640			
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	**0.18**	<0.050	<0.050	0.050	5485800			
Volatile Organics									
Acetone (2-Propanone)	ug/g	**16**	<0.50	<0.50	0.50	5492415			
Benzene	ug/g	**0.32**	<0.020	<0.020	0.020	5492415			
Bromodichloromethane	ug/g	**18**	<0.050	<0.050	0.050	5492415			
Bromoform	ug/g	**0.61**	<0.050	<0.050	0.050	5492415			
Bromomethane	ug/g	**0.05**	<0.050	<0.050	0.050	5492415			
Carbon Tetrachloride	ug/g	**0.21**	<0.050	<0.050	0.050	5492415			
Chlorobenzene	ug/g	**2.4**	<0.050	<0.050	0.050	5492415			
Chloroform	ug/g	**0.47**	<0.050	<0.050	0.050	5492415			
Dibromochloromethane	ug/g	**13**	<0.050	<0.050	0.050	5492415			
1,2-Dichlorobenzene	ug/g	**6.8**	<0.050	<0.050	0.050	5492415			
1,3-Dichlorobenzene	ug/g	**9.6**	<0.050	<0.050	0.050	5492415			
1,4-Dichlorobenzene	ug/g	**0.2**	<0.050	<0.050	0.050	5492415			
Dichlorodifluoromethane (FREON 12)	ug/g	**16**	<0.050	<0.050	0.050	5492415			
1,1-Dichloroethane	ug/g	**17**	<0.050	<0.050	0.050	5492415			
1,2-Dichloroethane	ug/g	**0.05**	<0.050	<0.050	0.050	5492415			
1,1-Dichloroethylene	ug/g	**0.064**	<0.050	<0.050	0.050	5492415			
cis-1,2-Dichloroethylene	ug/g	**55**	<0.050	<0.050	0.050	5492415			
trans-1,2-Dichloroethylene	ug/g	**1.3**	<0.050	<0.050	0.050	5492415			
1,2-Dichloropropane	ug/g	**0.16**	<0.050	<0.050	0.050	5492415			
cis-1,3-Dichloropropene	ug/g	**0.18**	<0.030	<0.030	0.030	5492415			
trans-1,3-Dichloropropene	ug/g	**0.18**	<0.040	<0.040	0.040	5492415			
Ethylbenzene	ug/g	**9.5**	<0.020	<0.020	0.020	5492415			
Ethylene Dibromide	ug/g	**0.05**	<0.050	<0.050	0.050	5492415			
Hexane	ug/g	**46**	<0.050	<0.050	0.050	5492415			
Methylene Chloride(Dichloromethane)	ug/g	**1.6**	<0.050	<0.050	0.050	5492415			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GLR102	GLR103			GLR103		
Sampling Date			2018/04/10 12:30	2018/04/10 14:00			2018/04/10 14:00		
	UNITS	Criteria	MW-1, SS-2	MW-2, SS-2	RDL	QC Batch	MW-2, SS-2 Lab-Dup	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	**70**	<0.50	<0.50	0.50	5492415			
Methyl Isobutyl Ketone	ug/g	**31**	<0.50	<0.50	0.50	5492415			
Methyl t-butyl ether (MTBE)	ug/g	**11**	<0.050	<0.050	0.050	5492415			
Styrene	ug/g	**34**	<0.050	<0.050	0.050	5492415			
1,1,1,2-Tetrachloroethane	ug/g	**0.087**	<0.050	<0.050	0.050	5492415			
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	<0.050	<0.050	0.050	5492415			
Tetrachloroethylene	ug/g	**4.5**	<0.050	<0.050	0.050	5492415			
Toluene	ug/g	**68**	<0.020	<0.020	0.020	5492415			
1,1,1-Trichloroethane	ug/g	**6.1**	<0.050	<0.050	0.050	5492415			
1,1,2-Trichloroethane	ug/g	**0.05**	<0.050	<0.050	0.050	5492415			
Trichloroethylene	ug/g	**0.91**	<0.050	<0.050	0.050	5492415			
Trichlorofluoromethane (FREON 11)	ug/g	**4**	<0.050	<0.050	0.050	5492415			
Vinyl Chloride	ug/g	**0.032**	<0.020	<0.020	0.020	5492415			
p+m-Xylene	ug/g	-	<0.020	<0.020	0.020	5492415			
o-Xylene	ug/g	-	<0.020	<0.020	0.020	5492415			
Total Xylenes	ug/g	**26**	<0.020	<0.020	0.020	5492415			
F1 (C6-C10)	ug/g	**55**	<10	<10	10	5492415			
F1 (C6-C10) - BTEX	ug/g	**55**	<10	<10	10	5492415			
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	**230**	<10	<10	10	5487639	<10	10	5487639
F3 (C16-C34 Hydrocarbons)	ug/g	**1700**	<50	<50	50	5487639	<50	50	5487639
F4 (C34-C50 Hydrocarbons)	ug/g	**3300**	<50	<50	50	5487639	<50	50	5487639
Reached Baseline at C50	ug/g	-	Yes	Yes		5487639	Yes		5487639
Surrogate Recovery (%)									
o-Terphenyl	%	-	112	102		5487639	101		5487639
4-Bromofluorobenzene	%	-	90	94		5492415			
D10-o-Xylene	%	-	95	118		5492415			
D4-1,2-Dichloroethane	%	-	100	98		5492415			
D8-Toluene	%	-	99	99		5492415			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GLR104			GLR104		
Sampling Date			2018/04/10 15:30			2018/04/10 15:30		
	UNITS	Criteria	MW-3, SS-4	RDL	QC Batch	MW-3, SS-4 Lab-Dup	RDL	QC Batch
Inorganics								
Moisture	%	-	13	0.2	5487640	16	0.2	5487640
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	**0.18**	<0.050	0.050	5485800			
Volatile Organics								
Acetone (2-Propanone)	ug/g	**16**	<0.50	0.50	5492415			
Benzene	ug/g	**0.32**	<0.020	0.020	5492415			
Bromodichloromethane	ug/g	**18**	<0.050	0.050	5492415			
Bromoform	ug/g	**0.61**	<0.050	0.050	5492415			
Bromomethane	ug/g	**0.05**	<0.050	0.050	5492415			
Carbon Tetrachloride	ug/g	**0.21**	<0.050	0.050	5492415			
Chlorobenzene	ug/g	**2.4**	<0.050	0.050	5492415			
Chloroform	ug/g	**0.47**	<0.050	0.050	5492415			
Dibromochloromethane	ug/g	**13**	<0.050	0.050	5492415			
1,2-Dichlorobenzene	ug/g	**6.8**	<0.050	0.050	5492415			
1,3-Dichlorobenzene	ug/g	**9.6**	<0.050	0.050	5492415			
1,4-Dichlorobenzene	ug/g	**0.2**	<0.050	0.050	5492415			
Dichlorodifluoromethane (FREON 12)	ug/g	**16**	<0.050	0.050	5492415			
1,1-Dichloroethane	ug/g	**17**	<0.050	0.050	5492415			
1,2-Dichloroethane	ug/g	**0.05**	<0.050	0.050	5492415			
1,1-Dichloroethylene	ug/g	**0.064**	<0.050	0.050	5492415			
cis-1,2-Dichloroethylene	ug/g	**55**	<0.050	0.050	5492415			
trans-1,2-Dichloroethylene	ug/g	**1.3**	<0.050	0.050	5492415			
1,2-Dichloropropane	ug/g	**0.16**	<0.050	0.050	5492415			
cis-1,3-Dichloropropene	ug/g	**0.18**	<0.030	0.030	5492415			
trans-1,3-Dichloropropene	ug/g	**0.18**	<0.040	0.040	5492415			
Ethylbenzene	ug/g	**9.5**	<0.020	0.020	5492415			
Ethylene Dibromide	ug/g	**0.05**	<0.050	0.050	5492415			
Hexane	ug/g	**46**	<0.050	0.050	5492415			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GLR104			GLR104		
Sampling Date			2018/04/10 15:30			2018/04/10 15:30		
	UNITS	Criteria	MW-3, SS-4	RDL	QC Batch	MW-3, SS-4 Lab-Dup	RDL	QC Batch
Methylene Chloride(Dichloromethane)	ug/g	**1.6**	<0.050	0.050	5492415			
Methyl Ethyl Ketone (2-Butanone)	ug/g	**70**	<0.50	0.50	5492415			
Methyl Isobutyl Ketone	ug/g	**31**	<0.50	0.50	5492415			
Methyl t-butyl ether (MTBE)	ug/g	**11**	<0.050	0.050	5492415			
Styrene	ug/g	**34**	<0.050	0.050	5492415			
1,1,1,2-Tetrachloroethane	ug/g	**0.087**	<0.050	0.050	5492415			
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	<0.050	0.050	5492415			
Tetrachloroethylene	ug/g	**4.5**	<0.050	0.050	5492415			
Toluene	ug/g	**68**	<0.020	0.020	5492415			
1,1,1-Trichloroethane	ug/g	**6.1**	<0.050	0.050	5492415			
1,1,2-Trichloroethane	ug/g	**0.05**	<0.050	0.050	5492415			
Trichloroethylene	ug/g	**0.91**	<0.050	0.050	5492415			
Trichlorofluoromethane (FREON 11)	ug/g	**4**	<0.050	0.050	5492415			
Vinyl Chloride	ug/g	**0.032**	<0.020	0.020	5492415			
p+m-Xylene	ug/g	-	<0.020	0.020	5492415			
o-Xylene	ug/g	-	<0.020	0.020	5492415			
Total Xylenes	ug/g	**26**	<0.020	0.020	5492415			
F1 (C6-C10)	ug/g	**55**	<10	10	5492415			
F1 (C6-C10) - BTEX	ug/g	**55**	<10	10	5492415			
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	**230**	<10	10	5487639			
F3 (C16-C34 Hydrocarbons)	ug/g	**1700**	<50	50	5487639			
F4 (C34-C50 Hydrocarbons)	ug/g	**3300**	<50	50	5487639			
Reached Baseline at C50	ug/g	-	Yes		5487639			
Surrogate Recovery (%)								
o-Terphenyl	%	-	114		5487639			
4-Bromofluorobenzene	%	-	93		5492415			
D10-o-Xylene	%	-	115		5492415			
D4-1,2-Dichloroethane	%	-	93		5492415			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GLR104			GLR104		
Sampling Date			2018/04/10 15:30			2018/04/10 15:30		
	UNITS	**Criteria**	**MW-3, SS-4**	**RDL**	**QC Batch**	**MW-3, SS-4 Lab-Dup**	**RDL**	**QC Batch**
D8-Toluene	%	-	102		5492415			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

RESULTS OF ANALYSES OF SOIL

Maxxam ID		GLR101		GLR102			GLR104	
Sampling Date		2018/04/10 10:00		2018/04/10 12:30			2018/04/10 15:30	
	UNITS	MW-1, SS-1	QC Batch	MW-1, SS-2	RDL	QC Batch	MW-3, SS-4	QC Batch
Inorganics								
Available (CaCl2) pH	pH			7.67		5489469	7.86	5489469
Miscellaneous Parameters								
Grain Size	%	COARSE	5487868	FINE	N/A	5487868		
Sieve - #200 (<0.075mm)	%	36	5487868	70	1	5487868		
Sieve - #200 (>0.075mm)	%	64	5487868	30	1	5487868		

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

TEST SUMMARY

Maxxam ID: GLR101 **Collected:** 2018/04/10
Sample ID: MW-1, SS-1 **Shipped:**
Matrix: Soil **Received:** 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sieve, 75um	SIEV	5487868	N/A	2018/04/18	Gargi Gireesh

Maxxam ID: GLR102 **Collected:** 2018/04/10
Sample ID: MW-1, SS-2 **Shipped:**
Matrix: Soil **Received:** 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5485800	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5487639	2018/04/17	2018/04/18	Fatemeh Habibagahi
Moisture	BAL	5487640	N/A	2018/04/18	Fatemeh Habibagahi
pH CaCl2 EXTRACT	AT	5489469	2018/04/18	2018/04/18	Neil Dassanayake
Sieve, 75um	SIEV	5487868	N/A	2018/04/18	Gargi Gireesh
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492415	N/A	2018/04/20	Liliana Gaburici

Maxxam ID: GLR103 **Collected:** 2018/04/10
Sample ID: MW-2, SS-2 **Shipped:**
Matrix: Soil **Received:** 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5485800	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5487639	2018/04/17	2018/04/18	Fatemeh Habibagahi
Moisture	BAL	5487640	N/A	2018/04/18	Fatemeh Habibagahi
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492415	N/A	2018/04/20	Liliana Gaburici

Maxxam ID: GLR103 Dup **Collected:** 2018/04/10
Sample ID: MW-2, SS-2 **Shipped:**
Matrix: Soil **Received:** 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5487639	2018/04/17	2018/04/18	Fatemeh Habibagahi

Maxxam ID: GLR104 **Collected:** 2018/04/10
Sample ID: MW-3, SS-4 **Shipped:**
Matrix: Soil **Received:** 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5485800	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5487639	2018/04/17	2018/04/18	Fatemeh Habibagahi
Moisture	BAL	5487640	N/A	2018/04/18	Fatemeh Habibagahi
pH CaCl2 EXTRACT	AT	5489469	2018/04/18	2018/04/18	Neil Dassanayake
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492415	N/A	2018/04/20	Liliana Gaburici

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

TEST SUMMARY

Maxxam ID: GLR104 Dup
Sample ID: MW-3, SS-4
Matrix: Soil

Collected: 2018/04/10
Shipped:
Received: 2018/04/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5487640	N/A	2018/04/18	Fatemeh Habibagahi

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

GENERAL COMMENTS

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

Package 1	2.7°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5487639	FHB	Matrix Spike [GLR102-01]	o-Terphenyl	2018/04/18		117	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/18		87	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2018/04/18		87	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2018/04/18		87	%	50 - 130
5487639	FHB	Spiked Blank	o-Terphenyl	2018/04/18		118	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/18		87	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2018/04/18		87	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2018/04/18		87	%	80 - 120
5487639	FHB	Method Blank	o-Terphenyl	2018/04/18		111	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/18	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2018/04/18	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2018/04/18	<50		ug/g	
5487639	FHB	RPD [GLR103-01]	F2 (C10-C16 Hydrocarbons)	2018/04/18	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2018/04/18	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2018/04/18	NC		%	50
5487640	FHB	RPD [GLR104-01]	Moisture	2018/04/18	16		%	50
5487868	MYG	QC Standard	Sieve - #200 (<0.075mm)	2018/04/18		57	%	53 - 58
			Sieve - #200 (>0.075mm)	2018/04/18		44	%	42 - 47
5487868	MYG	RPD	Sieve - #200 (<0.075mm)	2018/04/18	0.035		%	20
			Sieve - #200 (>0.075mm)	2018/04/18	0.21		%	20
5489469	NYS	Spiked Blank	Available (CaCl2) pH	2018/04/18		100	%	97 - 103
5489469	NYS	RPD	Available (CaCl2) pH	2018/04/18	1.2		%	N/A
5492415	LGA	Spiked Blank	4-Bromofluorobenzene	2018/04/19		101	%	60 - 140
			D10-o-Xylene	2018/04/19		126	%	60 - 130
			D4-1,2-Dichloroethane	2018/04/19		105	%	60 - 140
			D8-Toluene	2018/04/19		105	%	60 - 140
			Acetone (2-Propanone)	2018/04/19		101	%	60 - 140
			Benzene	2018/04/19		117	%	60 - 130
			Bromodichloromethane	2018/04/19		113	%	60 - 130
			Bromoform	2018/04/19		122	%	60 - 130
			Bromomethane	2018/04/19		103	%	60 - 140
			Carbon Tetrachloride	2018/04/19		111	%	60 - 130
			Chlorobenzene	2018/04/19		111	%	60 - 130
			Chloroform	2018/04/19		107	%	60 - 130
			Dibromochloromethane	2018/04/19		122	%	60 - 130
			1,2-Dichlorobenzene	2018/04/19		105	%	60 - 130
			1,3-Dichlorobenzene	2018/04/19		107	%	60 - 130
			1,4-Dichlorobenzene	2018/04/19		104	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2018/04/19		90	%	60 - 140
			1,1-Dichloroethane	2018/04/19		116	%	60 - 130
			1,2-Dichloroethane	2018/04/19		110	%	60 - 130
			1,1-Dichloroethylene	2018/04/19		113	%	60 - 130
			cis-1,2-Dichloroethylene	2018/04/19		106	%	60 - 130
			trans-1,2-Dichloroethylene	2018/04/19		100	%	60 - 130
			1,2-Dichloropropane	2018/04/19		101	%	60 - 130
			cis-1,3-Dichloropropene	2018/04/19		95	%	60 - 130
			trans-1,3-Dichloropropene	2018/04/19		94	%	60 - 130
			Ethylbenzene	2018/04/19		112	%	60 - 130
			Ethylene Dibromide	2018/04/19		111	%	60 - 130
			Hexane	2018/04/19		126	%	60 - 130
			Methylene Chloride(Dichloromethane)	2018/04/19		90	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2018/04/19		108	%	60 - 140

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Methyl Isobutyl Ketone	2018/04/19		106	%	60 - 130
			Methyl t-butyl ether (MTBE)	2018/04/19		113	%	60 - 130
			Styrene	2018/04/19		112	%	60 - 130
			1,1,1,2-Tetrachloroethane	2018/04/19		126	%	60 - 130
			1,1,2,2-Tetrachloroethane	2018/04/19		106	%	60 - 130
			Tetrachloroethylene	2018/04/19		108	%	60 - 130
			Toluene	2018/04/19		111	%	60 - 130
			1,1,1-Trichloroethane	2018/04/19		108	%	60 - 130
			1,1,2-Trichloroethane	2018/04/19		102	%	60 - 130
			Trichloroethylene	2018/04/19		110	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2018/04/19		118	%	60 - 130
			Vinyl Chloride	2018/04/19		129	%	60 - 130
			p+m-Xylene	2018/04/19		112	%	60 - 130
			o-Xylene	2018/04/19		114	%	60 - 130
			F1 (C6-C10)	2018/04/19		103	%	80 - 120
5492415	LGA	RPD	Acetone (2-Propanone)	2018/04/20	13		%	50
			Benzene	2018/04/20	5.7		%	50
			Bromodichloromethane	2018/04/20	2.2		%	50
			Bromoform	2018/04/20	3.6		%	50
			Bromomethane	2018/04/20	8.5		%	50
			Carbon Tetrachloride	2018/04/20	2.2		%	50
			Chlorobenzene	2018/04/20	5.4		%	50
			Chloroform	2018/04/20	18		%	50
			Dibromochloromethane	2018/04/20	16		%	50
			1,2-Dichlorobenzene	2018/04/20	5.7		%	50
			1,3-Dichlorobenzene	2018/04/20	4.2		%	50
			1,4-Dichlorobenzene	2018/04/20	4.6		%	50
			Dichlorodifluoromethane (FREON 12)	2018/04/20	6.4		%	50
			1,1-Dichloroethane	2018/04/20	6.6		%	50
			1,2-Dichloroethane	2018/04/20	11		%	50
			1,1-Dichloroethylene	2018/04/20	4.1		%	50
			cis-1,2-Dichloroethylene	2018/04/20	9.0		%	50
			trans-1,2-Dichloroethylene	2018/04/20	6.0		%	50
			1,2-Dichloropropane	2018/04/20	9.3		%	50
			cis-1,3-Dichloropropene	2018/04/20	8.1		%	50
			trans-1,3-Dichloropropene	2018/04/20	8.0		%	50
			Ethylbenzene	2018/04/20	6.4		%	50
			Ethylene Dibromide	2018/04/20	8.5		%	50
			Hexane	2018/04/20	3.1		%	50
			Methylene Chloride(Dichloromethane)	2018/04/20	10		%	50
			Methyl Ethyl Ketone (2-Butanone)	2018/04/20	0.92		%	50
			Methyl Isobutyl Ketone	2018/04/20	2.9		%	50
			Methyl t-butyl ether (MTBE)	2018/04/20	3.1		%	50
			Styrene	2018/04/20	4.8		%	50
			1,1,1,2-Tetrachloroethane	2018/04/20	10		%	50
			1,1,2,2-Tetrachloroethane	2018/04/20	17		%	50
			Tetrachloroethylene	2018/04/20	2.9		%	50
			Toluene	2018/04/20	3.8		%	50
			1,1,1-Trichloroethane	2018/04/20	5.6		%	50
			1,1,2-Trichloroethane	2018/04/20	9.0		%	50
			Trichloroethylene	2018/04/20	7.3		%	50
			Trichlorofluoromethane (FREON 11)	2018/04/20	5.6		%	50

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Vinyl Chloride	2018/04/20	0.16		%	50
			p+m-Xylene	2018/04/20	2.7		%	50
			o-Xylene	2018/04/20	5.4		%	50
			F1 (C6-C10)	2018/04/20	8.8		%	30
5492415	LGA	Method Blank	4-Bromofluorobenzene	2018/04/20		94	%	60 - 140
			D10-o-Xylene	2018/04/20		111	%	60 - 130
			D4-1,2-Dichloroethane	2018/04/20		103	%	60 - 140
			D8-Toluene	2018/04/20		96	%	60 - 140
			Acetone (2-Propanone)	2018/04/20	<0.50		ug/g	
			Benzene	2018/04/20	<0.020		ug/g	
			Bromodichloromethane	2018/04/20	<0.050		ug/g	
			Bromoform	2018/04/20	<0.050		ug/g	
			Bromomethane	2018/04/20	<0.050		ug/g	
			Carbon Tetrachloride	2018/04/20	<0.050		ug/g	
			Chlorobenzene	2018/04/20	<0.050		ug/g	
			Chloroform	2018/04/20	<0.050		ug/g	
			Dibromochloromethane	2018/04/20	<0.050		ug/g	
			1,2-Dichlorobenzene	2018/04/20	<0.050		ug/g	
			1,3-Dichlorobenzene	2018/04/20	<0.050		ug/g	
			1,4-Dichlorobenzene	2018/04/20	<0.050		ug/g	
			Dichlorodifluoromethane (FREON 12)	2018/04/20	<0.050		ug/g	
			1,1-Dichloroethane	2018/04/20	<0.050		ug/g	
			1,2-Dichloroethane	2018/04/20	<0.050		ug/g	
			1,1-Dichloroethylene	2018/04/20	<0.050		ug/g	
			cis-1,2-Dichloroethylene	2018/04/20	<0.050		ug/g	
			trans-1,2-Dichloroethylene	2018/04/20	<0.050		ug/g	
			1,2-Dichloropropane	2018/04/20	<0.050		ug/g	
			cis-1,3-Dichloropropene	2018/04/20	<0.030		ug/g	
			trans-1,3-Dichloropropene	2018/04/20	<0.040		ug/g	
			Ethylbenzene	2018/04/20	<0.020		ug/g	
			Ethylene Dibromide	2018/04/20	<0.050		ug/g	
			Hexane	2018/04/20	<0.050		ug/g	
			Methylene Chloride(Dichloromethane)	2018/04/20	<0.050		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2018/04/20	<0.50		ug/g	
			Methyl Isobutyl Ketone	2018/04/20	<0.50		ug/g	
			Methyl t-butyl ether (MTBE)	2018/04/20	<0.050		ug/g	
			Styrene	2018/04/20	<0.050		ug/g	
			1,1,1,2-Tetrachloroethane	2018/04/20	<0.050		ug/g	
			1,1,2,2-Tetrachloroethane	2018/04/20	<0.050		ug/g	
			Tetrachloroethylene	2018/04/20	<0.050		ug/g	
			Toluene	2018/04/20	<0.020		ug/g	
			1,1,1-Trichloroethane	2018/04/20	<0.050		ug/g	
			1,1,2-Trichloroethane	2018/04/20	<0.050		ug/g	
			Trichloroethylene	2018/04/20	<0.050		ug/g	
			Trichlorofluoromethane (FREON 11)	2018/04/20	<0.050		ug/g	
			Vinyl Chloride	2018/04/20	<0.020		ug/g	
			p+m-Xylene	2018/04/20	<0.020		ug/g	
			o-Xylene	2018/04/20	<0.020		ug/g	
			Total Xylenes	2018/04/20	<0.020		ug/g	
			F1 (C6-C10)	2018/04/20	<10		ug/g	

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F1 (C6-C10) - BTEX	2018/04/20	<10		ug/g	

N/A = Not Applicable

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

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

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

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

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

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B884738
Report Date: 2018/04/20

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere, Scientific Service Specialist

Steve Roberts, Ottawa Lab Manager

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/3

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Pinchin Ltd.	Company Name:		Quotation #:		[x] Regular TAT (5-7 days) Most analyses
Contact Name:	Matt Ryan & Ryan LaRonde	Contact Name:		P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	1 Hines Road, Suite 200, Kanata ON K2K 3C7	Address:		Project #:	Phase II ESA	Rush TAT (Surcharges will be applied)
				Site Location:	Carling Avenue	[ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone:	613-291-5656 Fax:	Phone:	Fax:	Site #:	220409.002	
Email:	mryan@pinchin.com & rlaronde@pinchin.com	Email:		Sampled By:	RML	Date Required:

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

Rush Confirmation #:

Regulation 153

[ ] Table 1 [ ] Res/Park [ ] Med/ Fine
[ ] Table 2 [x] Ind/Comm [x] Coarse
[ ] Table 3 [ ] Agri/ Other
[ ] Table _ 7
FOR RSC (PLEASE CIRCLE) no

Other Regulations

[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] MISA [ ] Storm Sewer Bylaw
[ ] PWQO Region
[ ] Other (Specify)
[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Yes

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	pH	Texture Size +- 75m	PAH					HOLD- DO NOT ANALYZE
1	MW-1, SS-1	10-Apr	10:00	s	1									x						
2	MW-1, SS-2	10-Apr	12:30	s	5		x	x	x				x	x						
3	MW-2, SS-2	10-Apr	2:00	s	3		x	x	x											
4	MW-3, SS-4	10-Apr	3:30	s	4		x	x	x				x							
5																				
6																				
7																				
8																				
9																				
10																				

RECEIVED IN OTTAWA

13-Apr-18 14:55
Jonathan Urben
B884738
KIY OTT 001

LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	
y	y	3, 3, 2

COOLING MEDIA PRESENT: (Y) / N

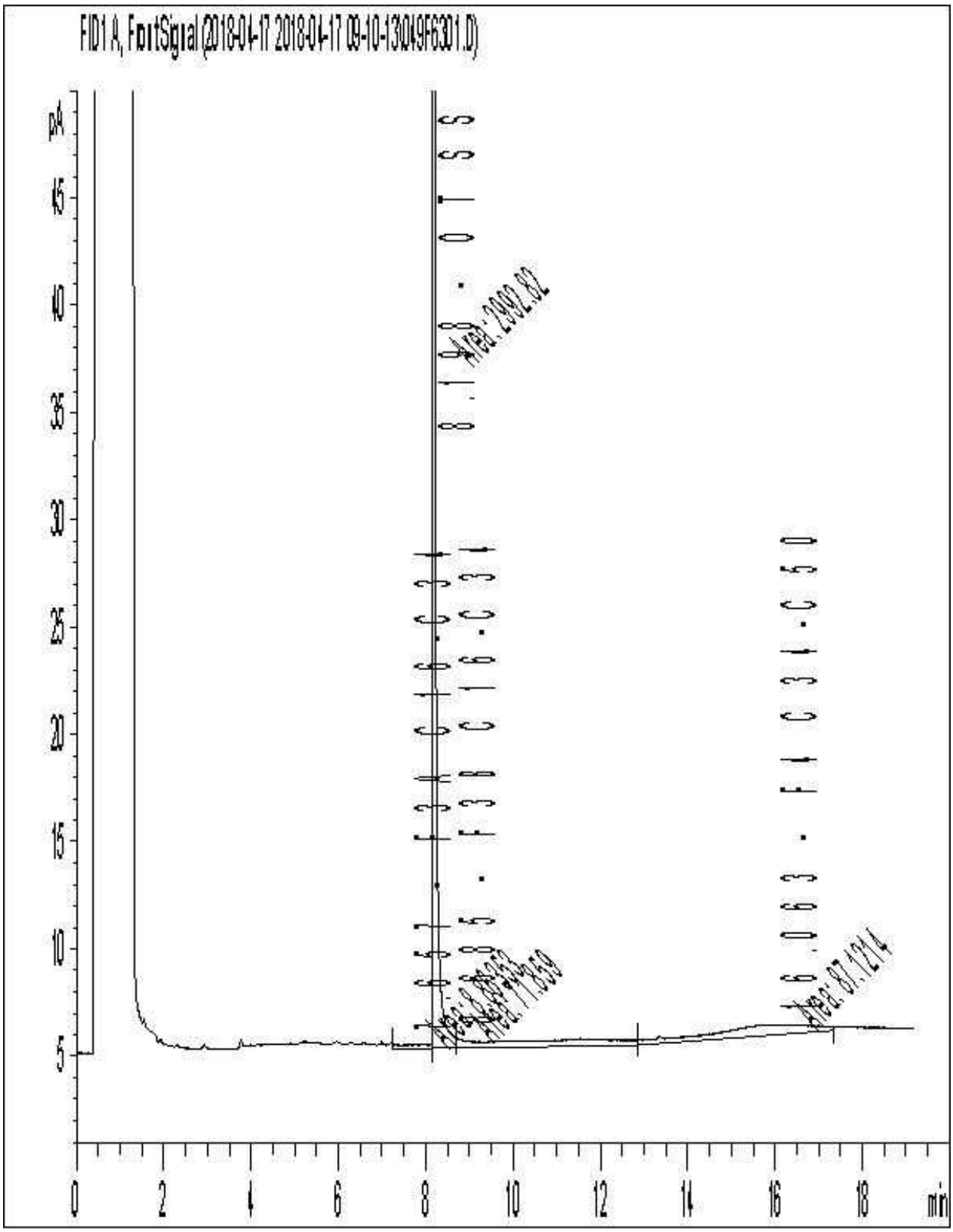
COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Ryan LaRonde	13-Apr-18	12:00	Kerri Jamyn MR	2018/04/13	14:55	

Maxxam Job #: B884738
Report Date: 2018/04/20
Maxxam Sample: GLR102

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-1, SS-2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

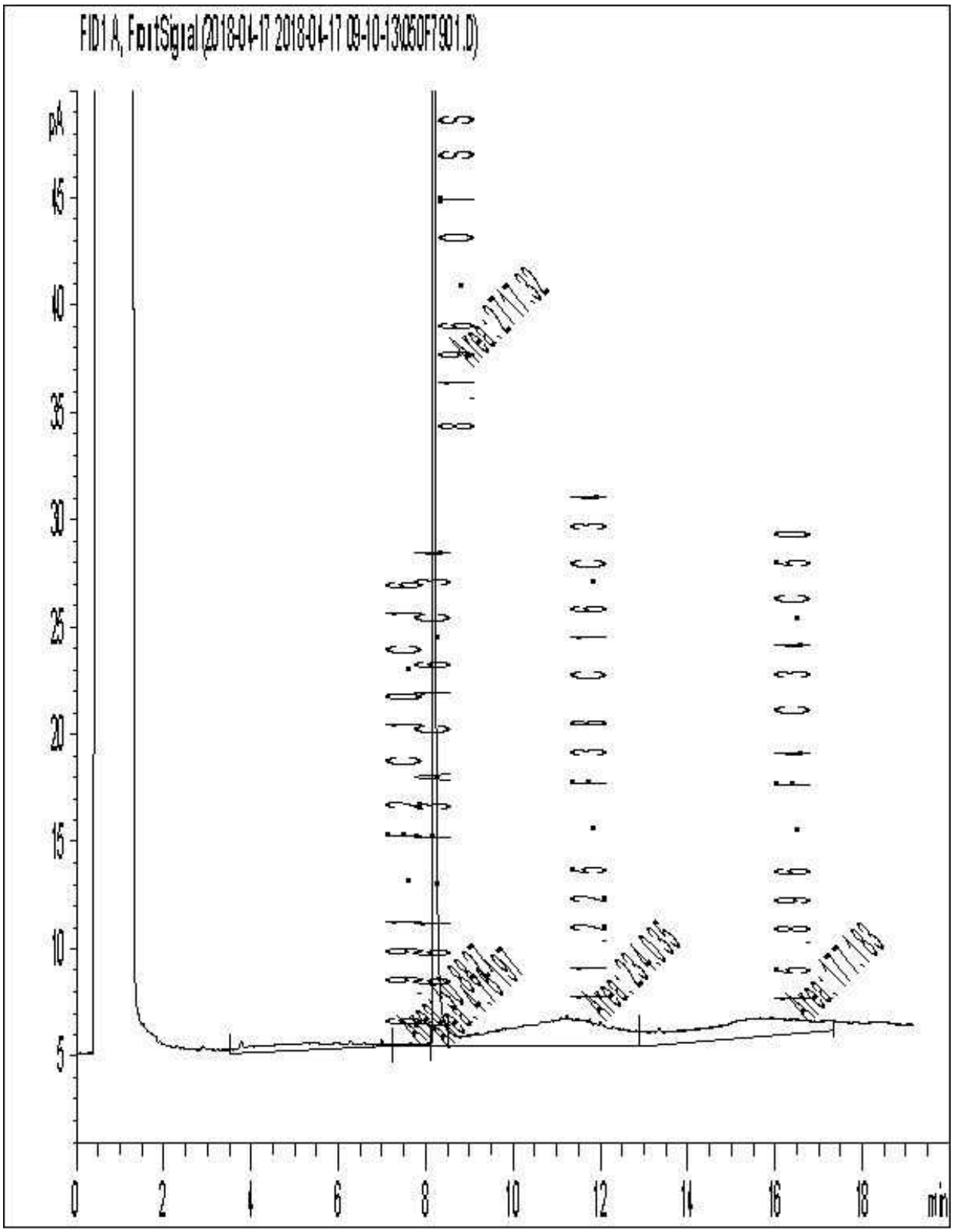


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B884738
Report Date: 2018/04/20
Maxxam Sample: GLR103

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-2, SS-2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

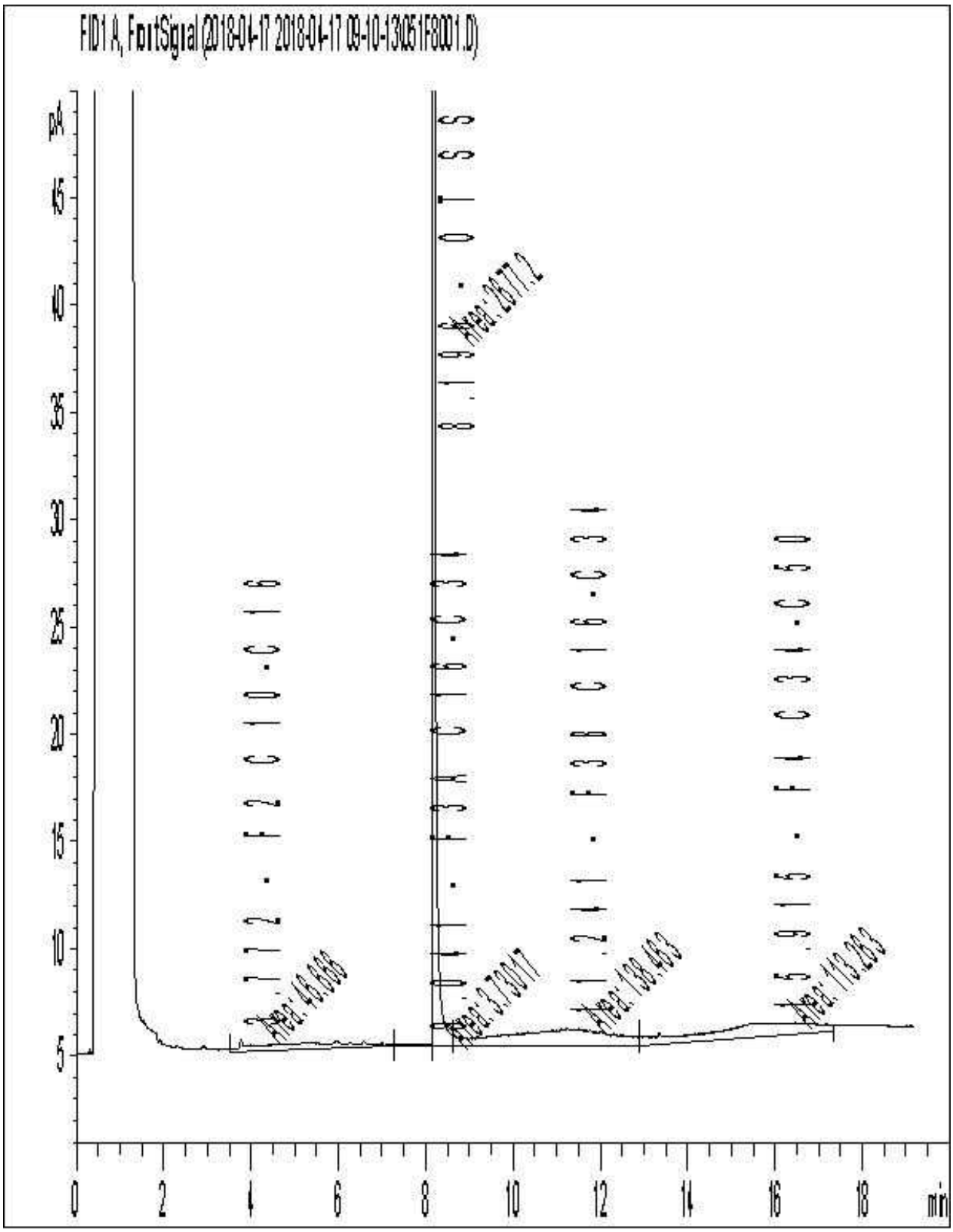


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B884738
Report Date: 2018/04/20
Maxxam Sample: GLR103 Lab-Dup

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-2, SS-2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

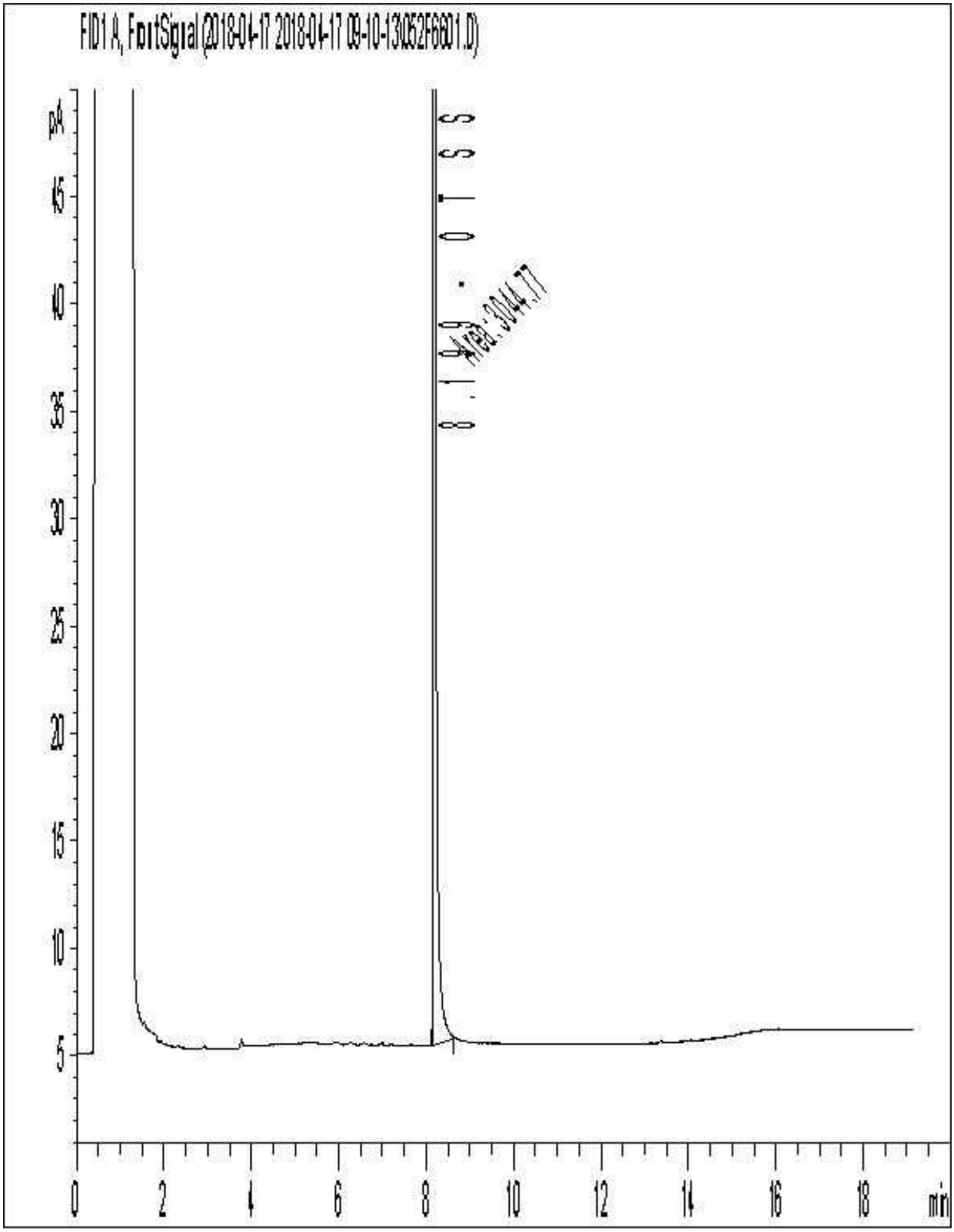


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B884738
Report Date: 2018/04/20
Maxxam Sample: GLR104

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-3, SS-4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Maxxam
A Bureau Veritas Group Company

Your Project #: PHASE II ESA
Site#: 220409.002
Site Location: CARLING AVENUE
Your C.O.C. #: n/a

Attention: Matthew Ryan

Pinchin Ltd
Ottawa
1 Hines Road
Suite 200
Kanata, ON
K2K 3C7

Report Date: 2018/04/25
Report #: R5091110
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B888596
Received: 2018/04/18, 15:00

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	3	N/A	2018/04/20	OTT SOP-00002	EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	3	2018/04/19	2018/04/20	OTT SOP-00001	CCME Hydrocarbons
Volatile Organic Compounds and F1 PHCs	3	N/A	2018/04/19	OTT SOP-00002	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

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

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

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

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Your Project #: PHASE II ESA
Site#: 220409.002
Site Location: CARLING AVENUE
Your C.O.C. #: n/a

Attention: Matthew Ryan

Pinchin Ltd
Ottawa
1 Hines Road
Suite 200
Kanata, ON
K2K 3C7

Report Date: 2018/04/25
Report #: R5091110
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B888596
Received: 2018/04/18, 15:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Jonathan Urben, Senior Project Manager
Email: jurben@maxxam.ca
Phone# (613) 274-0573

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GMK393			GMK393			GMK394		
Sampling Date			2018/04/17 12:30			2018/04/17 12:30			2018/04/17 13:30		
COC Number			n/a			n/a			n/a		
	UNITS	Criteria	MW-1	RDL	QC Batch	MW-1 Lab-Dup	RDL	QC Batch	MW-2	RDL	QC Batch
Calculated Parameters											
1,3-Dichloropropene (cis+trans)	ug/L	**0.5**	<0.50	0.50	5491802				<0.50	0.50	5491802
Volatile Organics											
Acetone (2-Propanone)	ug/L	**100000**	<10	10	5492416	<10	10	5492416	<10	10	5492416
Benzene	ug/L	**0.5**	0.31	0.20	5492416	0.32	0.20	5492416	<0.20	0.20	5492416
Bromodichloromethane	ug/L	**67000**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Bromoform	ug/L	**5**	<1.0	1.0	5492416	<1.0	1.0	5492416	<1.0	1.0	5492416
Bromomethane	ug/L	**0.89**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Carbon Tetrachloride	ug/L	**0.2**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Chlorobenzene	ug/L	**140**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Chloroform	ug/L	**2**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Dibromochloromethane	ug/L	**65000**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,2-Dichlorobenzene	ug/L	**150**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,3-Dichlorobenzene	ug/L	**7600**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,4-Dichlorobenzene	ug/L	**0.5**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Dichlorodifluoromethane (FREON 12)	ug/L	**3500**	<1.0	1.0	5492416	<1.0	1.0	5492416	<1.0	1.0	5492416
1,1-Dichloroethane	ug/L	**11**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
1,2-Dichloroethane	ug/L	**0.5**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,1-Dichloroethylene	ug/L	**0.5**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
cis-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
trans-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,2-Dichloropropane	ug/L	**0.58**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
cis-1,3-Dichloropropene	ug/L	**0.5**	<0.30	0.30	5492416	<0.30	0.30	5492416	<0.30	0.30	5492416
trans-1,3-Dichloropropene	ug/L	**0.5**	<0.40	0.40	5492416	<0.40	0.40	5492416	<0.40	0.40	5492416
Ethylbenzene	ug/L	**54**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Ethylene Dibromide	ug/L	**0.2**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Hexane	ug/L	**5**	<1.0	1.0	5492416	<1.0	1.0	5492416	<1.0	1.0	5492416
Methylene Chloride(Dichloromethane)	ug/L	**26**	<2.0	2.0	5492416	<2.0	2.0	5492416	<2.0	2.0	5492416
Methyl Ethyl Ketone (2-Butanone)	ug/L	**21000**	<10	10	5492416	<10	10	5492416	<10	10	5492416
Methyl Isobutyl Ketone	ug/L	**5200**	<5.0	5.0	5492416	<5.0	5.0	5492416	<5.0	5.0	5492416
Methyl t-butyl ether (MTBE)	ug/L	**15**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Non-Potable Ground Water - All Types of Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GMK393			GMK393			GMK394		
Sampling Date			2018/04/17 12:30			2018/04/17 12:30			2018/04/17 13:30		
COC Number			n/a			n/a			n/a		
	UNITS	Criteria	MW-1	RDL	QC Batch	MW-1 Lab-Dup	RDL	QC Batch	MW-2	RDL	QC Batch
Styrene	ug/L	**43**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,1,1,2-Tetrachloroethane	ug/L	**1.1**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
1,1,2,2-Tetrachloroethane	ug/L	**0.5**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Tetrachloroethylene	ug/L	**0.5**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Toluene	ug/L	**320**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
1,1,1-Trichloroethane	ug/L	**23**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
1,1,2-Trichloroethane	ug/L	**0.5**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Trichloroethylene	ug/L	**0.5**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Trichlorofluoromethane (FREON 11)	ug/L	**2000**	<0.50	0.50	5492416	<0.50	0.50	5492416	<0.50	0.50	5492416
Vinyl Chloride	ug/L	**0.5**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
p+m-Xylene	ug/L	-	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
o-Xylene	ug/L	-	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
Total Xylenes	ug/L	**72**	<0.20	0.20	5492416	<0.20	0.20	5492416	<0.20	0.20	5492416
F1 (C6-C10)	ug/L	**420**	<25	25	5492416	<25	25	5492416	<25	25	5492416
F1 (C6-C10) - BTEX	ug/L	**420**	<25	25	5492416	<25	25	5492416	<25	25	5492416
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/L	**150**	<100	100	5492212	<100	100	5492212	<100	100	5492212
F3 (C16-C34 Hydrocarbons)	ug/L	**500**	<200	200	5492212	<200	200	5492212	<200	200	5492212
F4 (C34-C50 Hydrocarbons)	ug/L	**500**	<200	200	5492212	<200	200	5492212	<200	200	5492212
Reached Baseline at C50	ug/L	-	Yes		5492212	Yes		5492212	Yes		5492212
Surrogate Recovery (%)											
o-Terphenyl	%	-	106		5492212	107		5492212	109		5492212
4-Bromofluorobenzene	%	-	92		5492416	93		5492416	94		5492416
D4-1,2-Dichloroethane	%	-	97		5492416	97		5492416	95		5492416
D8-Toluene	%	-	101		5492416	101		5492416	103		5492416

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Non-Potable Ground Water - All Types of Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GMK395		
Sampling Date			2018/04/17 15:30		
COC Number			n/a		
	UNITS	Criteria	MW-3	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	**0.5**	<0.50	0.50	5491802
Volatile Organics					
Acetone (2-Propanone)	ug/L	**100000**	<10	10	5492416
Benzene	ug/L	**0.5**	<0.20	0.20	5492416
Bromodichloromethane	ug/L	**67000**	<0.50	0.50	5492416
Bromoform	ug/L	**5**	<1.0	1.0	5492416
Bromomethane	ug/L	**0.89**	<0.50	0.50	5492416
Carbon Tetrachloride	ug/L	**0.2**	<0.20	0.20	5492416
Chlorobenzene	ug/L	**140**	<0.20	0.20	5492416
Chloroform	ug/L	**2**	<0.20	0.20	5492416
Dibromochloromethane	ug/L	**65000**	<0.50	0.50	5492416
1,2-Dichlorobenzene	ug/L	**150**	<0.50	0.50	5492416
1,3-Dichlorobenzene	ug/L	**7600**	<0.50	0.50	5492416
1,4-Dichlorobenzene	ug/L	**0.5**	<0.50	0.50	5492416
Dichlorodifluoromethane (FREON 12)	ug/L	**3500**	<1.0	1.0	5492416
1,1-Dichloroethane	ug/L	**11**	<0.20	0.20	5492416
1,2-Dichloroethane	ug/L	**0.5**	<0.50	0.50	5492416
1,1-Dichloroethylene	ug/L	**0.5**	<0.20	0.20	5492416
cis-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	5492416
trans-1,2-Dichloroethylene	ug/L	**1.6**	<0.50	0.50	5492416
1,2-Dichloropropane	ug/L	**0.58**	<0.20	0.20	5492416
cis-1,3-Dichloropropene	ug/L	**0.5**	<0.30	0.30	5492416
trans-1,3-Dichloropropene	ug/L	**0.5**	<0.40	0.40	5492416
Ethylbenzene	ug/L	**54**	<0.20	0.20	5492416
Ethylene Dibromide	ug/L	**0.2**	<0.20	0.20	5492416
Hexane	ug/L	**5**	<1.0	1.0	5492416
Methylene Chloride(Dichloromethane)	ug/L	**26**	<2.0	2.0	5492416
Methyl Ethyl Ketone (2-Butanone)	ug/L	**21000**	<10	10	5492416
Methyl Isobutyl Ketone	ug/L	**5200**	<5.0	5.0	5492416

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Non-Potable Ground Water - All Types of Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

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

Maxxam ID			GMK395		
Sampling Date			2018/04/17 15:30		
COC Number			n/a		
	UNITS	Criteria	MW-3	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/L	**15**	<0.50	0.50	5492416
Styrene	ug/L	**43**	<0.50	0.50	5492416
1,1,1,2-Tetrachloroethane	ug/L	**1.1**	<0.50	0.50	5492416
1,1,2,2-Tetrachloroethane	ug/L	**0.5**	<0.50	0.50	5492416
Tetrachloroethylene	ug/L	**0.5**	<0.20	0.20	5492416
Toluene	ug/L	**320**	<0.20	0.20	5492416
1,1,1-Trichloroethane	ug/L	**23**	<0.20	0.20	5492416
1,1,2-Trichloroethane	ug/L	**0.5**	<0.50	0.50	5492416
Trichloroethylene	ug/L	**0.5**	<0.20	0.20	5492416
Trichlorofluoromethane (FREON 11)	ug/L	**2000**	<0.50	0.50	5492416
Vinyl Chloride	ug/L	**0.5**	<0.20	0.20	5492416
p+m-Xylene	ug/L	-	<0.20	0.20	5492416
o-Xylene	ug/L	-	<0.20	0.20	5492416
Total Xylenes	ug/L	**72**	<0.20	0.20	5492416
F1 (C6-C10)	ug/L	**420**	<25	25	5492416
F1 (C6-C10) - BTEX	ug/L	**420**	<25	25	5492416
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	**150**	<100	100	5492212
F3 (C16-C34 Hydrocarbons)	ug/L	**500**	<200	200	5492212
F4 (C34-C50 Hydrocarbons)	ug/L	**500**	<200	200	5492212
Reached Baseline at C50	ug/L	-	Yes		5492212
Surrogate Recovery (%)					
o-Terphenyl	%	-	107		5492212
4-Bromofluorobenzene	%	-	88		5492416
D4-1,2-Dichloroethane	%	-	93		5492416
D8-Toluene	%	-	98		5492416

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition
Non-Potable Ground Water - All Types of Property Use - Coarse Textured Soil

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

TEST SUMMARY

Maxxam ID: GMK393 **Collected:** 2018/04/17
Sample ID: MW-1 **Shipped:**
Matrix: Water **Received:** 2018/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5491802	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5492212	2018/04/19	2018/04/20	Fatemeh Habibagahi
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492416	N/A	2018/04/19	Liliana Gaburici

Maxxam ID: GMK393 Dup **Collected:** 2018/04/17
Sample ID: MW-1 **Shipped:**
Matrix: Water **Received:** 2018/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5492212	2018/04/19	2018/04/20	Fatemeh Habibagahi
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492416	N/A	2018/04/19	Liliana Gaburici

Maxxam ID: GMK394 **Collected:** 2018/04/17
Sample ID: MW-2 **Shipped:**
Matrix: Water **Received:** 2018/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5491802	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5492212	2018/04/19	2018/04/20	Fatemeh Habibagahi
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492416	N/A	2018/04/19	Liliana Gaburici

Maxxam ID: GMK395 **Collected:** 2018/04/17
Sample ID: MW-3 **Shipped:**
Matrix: Water **Received:** 2018/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5491802	N/A	2018/04/20	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5492212	2018/04/19	2018/04/20	Fatemeh Habibagahi
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5492416	N/A	2018/04/19	Liliana Gaburici

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

GENERAL COMMENTS

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

Package 1	2.7°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5492212	FHB	Matrix Spike	o-Terphenyl	2018/04/20		112	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/20		86	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2018/04/20		86	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2018/04/20		86	%	50 - 130
5492212	FHB	Spiked Blank	o-Terphenyl	2018/04/20		115	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/20		94	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2018/04/20		94	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2018/04/20		94	%	80 - 120
5492212	FHB	Method Blank	o-Terphenyl	2018/04/20		111	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2018/04/20	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2018/04/20	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2018/04/20	<200		ug/L	
5492212	FHB	RPD [GMK393-02]	F2 (C10-C16 Hydrocarbons)	2018/04/20	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2018/04/20	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2018/04/20	NC		%	50
5492416	LGA	Matrix Spike [GMK394-01]	4-Bromofluorobenzene	2018/04/19		97	%	70 - 130
			D4-1,2-Dichloroethane	2018/04/19		85	%	70 - 130
			D8-Toluene	2018/04/19		105	%	70 - 130
			Acetone (2-Propanone)	2018/04/19		92	%	60 - 140
			Benzene	2018/04/19		107	%	70 - 130
			Bromodichloromethane	2018/04/19		100	%	70 - 130
			Bromoform	2018/04/19		112	%	70 - 130
			Bromomethane	2018/04/19		96	%	60 - 140
			Carbon Tetrachloride	2018/04/19		114	%	70 - 130
			Chlorobenzene	2018/04/19		104	%	70 - 130
			Chloroform	2018/04/19		104	%	70 - 130
			Dibromochloromethane	2018/04/19		111	%	70 - 130
			1,2-Dichlorobenzene	2018/04/19		101	%	70 - 130
			1,3-Dichlorobenzene	2018/04/19		107	%	70 - 130
			1,4-Dichlorobenzene	2018/04/19		103	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2018/04/19		89	%	60 - 140
			1,1-Dichloroethane	2018/04/19		107	%	70 - 130
			1,2-Dichloroethane	2018/04/19		98	%	70 - 130
			1,1-Dichloroethylene	2018/04/19		118	%	70 - 130
			cis-1,2-Dichloroethylene	2018/04/19		97	%	70 - 130
			trans-1,2-Dichloroethylene	2018/04/19		94	%	70 - 130
			1,2-Dichloropropane	2018/04/19		92	%	70 - 130
			cis-1,3-Dichloropropene	2018/04/19		88	%	70 - 130
			trans-1,3-Dichloropropene	2018/04/19		88	%	70 - 130
			Ethylbenzene	2018/04/19		108	%	70 - 130
			Ethylene Dibromide	2018/04/19		100	%	70 - 130
			Hexane	2018/04/19		121	%	70 - 130
			Methylene Chloride(Dichloromethane)	2018/04/19		82	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2018/04/19		92	%	60 - 140
			Methyl Isobutyl Ketone	2018/04/19		87	%	70 - 130
			Methyl t-butyl ether (MTBE)	2018/04/19		100	%	70 - 130
			Styrene	2018/04/19		107	%	70 - 130
			1,1,1,2-Tetrachloroethane	2018/04/19		118	%	70 - 130
			1,1,2,2-Tetrachloroethane	2018/04/19		94	%	70 - 130
			Tetrachloroethylene	2018/04/19		108	%	70 - 130
			Toluene	2018/04/19		106	%	70 - 130

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,1,1-Trichloroethane	2018/04/19		101	%	70 - 130
			1,1,2-Trichloroethane	2018/04/19		94	%	70 - 130
			Trichloroethylene	2018/04/19		101	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2018/04/19		111	%	70 - 130
			Vinyl Chloride	2018/04/19		120	%	70 - 130
			p+m-Xylene	2018/04/19		108	%	70 - 130
			o-Xylene	2018/04/19		111	%	70 - 130
			F1 (C6-C10)	2018/04/19		115	%	60 - 140
5492416	LGA	Spiked Blank	4-Bromofluorobenzene	2018/04/19		98	%	70 - 130
			D4-1,2-Dichloroethane	2018/04/19		91	%	70 - 130
			D8-Toluene	2018/04/19		105	%	70 - 130
			Acetone (2-Propanone)	2018/04/19		103	%	60 - 140
			Benzene	2018/04/19		117	%	70 - 130
			Bromodichloromethane	2018/04/19		114	%	70 - 130
			Bromoform	2018/04/19		127	%	70 - 130
			Bromomethane	2018/04/19		106	%	60 - 140
			Carbon Tetrachloride	2018/04/19		110	%	70 - 130
			Chlorobenzene	2018/04/19		115	%	70 - 130
			Chloroform	2018/04/19		111	%	70 - 130
			Dibromochloromethane	2018/04/19		126	%	70 - 130
			1,2-Dichlorobenzene	2018/04/19		110	%	70 - 130
			1,3-Dichlorobenzene	2018/04/19		112	%	70 - 130
			1,4-Dichlorobenzene	2018/04/19		109	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2018/04/19		93	%	60 - 140
			1,1-Dichloroethane	2018/04/19		117	%	70 - 130
			1,2-Dichloroethane	2018/04/19		112	%	70 - 130
			1,1-Dichloroethylene	2018/04/19		108	%	70 - 130
			cis-1,2-Dichloroethylene	2018/04/19		109	%	70 - 130
			trans-1,2-Dichloroethylene	2018/04/19		103	%	70 - 130
			1,2-Dichloropropane	2018/04/19		104	%	70 - 130
			cis-1,3-Dichloropropene	2018/04/19		99	%	70 - 130
			trans-1,3-Dichloropropene	2018/04/19		98	%	70 - 130
			Ethylbenzene	2018/04/19		119	%	70 - 130
			Ethylene Dibromide	2018/04/19		114	%	70 - 130
			Hexane	2018/04/19		119	%	70 - 130
			Methylene Chloride(Dichloromethane)	2018/04/19		92	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2018/04/19		110	%	60 - 140
			Methyl Isobutyl Ketone	2018/04/19		106	%	70 - 130
			Methyl t-butyl ether (MTBE)	2018/04/19		114	%	70 - 130
			Styrene	2018/04/19		116	%	70 - 130
			1,1,1,2-Tetrachloroethane	2018/04/19		127	%	70 - 130
			1,1,2,2-Tetrachloroethane	2018/04/19		109	%	70 - 130
			Tetrachloroethylene	2018/04/19		118	%	70 - 130
			Toluene	2018/04/19		116	%	70 - 130
			1,1,1-Trichloroethane	2018/04/19		108	%	70 - 130
			1,1,2-Trichloroethane	2018/04/19		106	%	70 - 130
			Trichloroethylene	2018/04/19		112	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2018/04/19		119	%	70 - 130
			Vinyl Chloride	2018/04/19		121	%	70 - 130
			p+m-Xylene	2018/04/19		118	%	70 - 130
			o-Xylene	2018/04/19		120	%	70 - 130
			F1 (C6-C10)	2018/04/19		136	%	60 - 140

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5492416	LGA	Method Blank	4-Bromofluorobenzene	2018/04/19		94	%	70 - 130
			D4-1,2-Dichloroethane	2018/04/19		105	%	70 - 130
			D8-Toluene	2018/04/19		97	%	70 - 130
			Acetone (2-Propanone)	2018/04/19	<10		ug/L	
			Benzene	2018/04/19	<0.20		ug/L	
			Bromodichloromethane	2018/04/19	<0.50		ug/L	
			Bromoform	2018/04/19	<1.0		ug/L	
			Bromomethane	2018/04/19	<0.50		ug/L	
			Carbon Tetrachloride	2018/04/19	<0.20		ug/L	
			Chlorobenzene	2018/04/19	<0.20		ug/L	
			Chloroform	2018/04/19	<0.20		ug/L	
			Dibromochloromethane	2018/04/19	<0.50		ug/L	
			1,2-Dichlorobenzene	2018/04/19	<0.50		ug/L	
			1,3-Dichlorobenzene	2018/04/19	<0.50		ug/L	
			1,4-Dichlorobenzene	2018/04/19	<0.50		ug/L	
			Dichlorodifluoromethane (FREON 12)	2018/04/19	<1.0		ug/L	
			1,1-Dichloroethane	2018/04/19	<0.20		ug/L	
			1,2-Dichloroethane	2018/04/19	<0.50		ug/L	
			1,1-Dichloroethylene	2018/04/19	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2018/04/19	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2018/04/19	<0.50		ug/L	
			1,2-Dichloropropane	2018/04/19	<0.20		ug/L	
			cis-1,3-Dichloropropene	2018/04/19	<0.30		ug/L	
			trans-1,3-Dichloropropene	2018/04/19	<0.40		ug/L	
			Ethylbenzene	2018/04/19	<0.20		ug/L	
			Ethylene Dibromide	2018/04/19	<0.20		ug/L	
			Hexane	2018/04/19	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2018/04/19	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2018/04/19	<10		ug/L	
			Methyl Isobutyl Ketone	2018/04/19	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2018/04/19	<0.50		ug/L	
			Styrene	2018/04/19	<0.50		ug/L	
			1,1,1,2-Tetrachloroethane	2018/04/19	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2018/04/19	<0.50		ug/L	
			Tetrachloroethylene	2018/04/19	<0.20		ug/L	
			Toluene	2018/04/19	<0.20		ug/L	
			1,1,1-Trichloroethane	2018/04/19	<0.20		ug/L	
			1,1,2-Trichloroethane	2018/04/19	<0.50		ug/L	
			Trichloroethylene	2018/04/19	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2018/04/19	<0.50		ug/L	
			Vinyl Chloride	2018/04/19	<0.20		ug/L	
			p+m-Xylene	2018/04/19	<0.20		ug/L	
			o-Xylene	2018/04/19	<0.20		ug/L	
			Total Xylenes	2018/04/19	<0.20		ug/L	
			F1 (C6-C10)	2018/04/19	<25		ug/L	
			F1 (C6-C10) - BTEX	2018/04/19	<25		ug/L	
5492416	LGA	RPD [GMK393-01]	Acetone (2-Propanone)	2018/04/19	NC		%	30
			Benzene	2018/04/19	2.2		%	30
			Bromodichloromethane	2018/04/19	NC		%	30
			Bromoform	2018/04/19	NC		%	30
			Bromomethane	2018/04/19	NC		%	30
			Carbon Tetrachloride	2018/04/19	NC		%	30

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chlorobenzene	2018/04/19	NC		%	30
			Chloroform	2018/04/19	NC		%	30
			Dibromochloromethane	2018/04/19	NC		%	30
			1,2-Dichlorobenzene	2018/04/19	NC		%	30
			1,3-Dichlorobenzene	2018/04/19	NC		%	30
			1,4-Dichlorobenzene	2018/04/19	NC		%	30
			Dichlorodifluoromethane (FREON 12)	2018/04/19	NC		%	30
			1,1-Dichloroethane	2018/04/19	NC		%	30
			1,2-Dichloroethane	2018/04/19	NC		%	30
			1,1-Dichloroethylene	2018/04/19	NC		%	30
			cis-1,2-Dichloroethylene	2018/04/19	NC		%	30
			trans-1,2-Dichloroethylene	2018/04/19	NC		%	30
			1,2-Dichloropropane	2018/04/19	NC		%	30
			cis-1,3-Dichloropropene	2018/04/19	NC		%	30
			trans-1,3-Dichloropropene	2018/04/19	NC		%	30
			Ethylbenzene	2018/04/19	NC		%	30
			Ethylene Dibromide	2018/04/19	NC		%	30
			Hexane	2018/04/19	NC		%	30
			Methylene Chloride(Dichloromethane)	2018/04/19	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2018/04/19	NC		%	30
			Methyl Isobutyl Ketone	2018/04/19	NC		%	30
			Methyl t-butyl ether (MTBE)	2018/04/19	NC		%	30
			Styrene	2018/04/19	NC		%	30
			1,1,1,2-Tetrachloroethane	2018/04/19	NC		%	30
			1,1,2,2-Tetrachloroethane	2018/04/19	NC		%	30
			Tetrachloroethylene	2018/04/19	NC		%	30
			Toluene	2018/04/19	NC		%	30
			1,1,1-Trichloroethane	2018/04/19	NC		%	30
			1,1,2-Trichloroethane	2018/04/19	NC		%	30
			Trichloroethylene	2018/04/19	NC		%	30
			Trichlorofluoromethane (FREON 11)	2018/04/19	NC		%	30
			Vinyl Chloride	2018/04/19	NC		%	30
			p+m-Xylene	2018/04/19	NC		%	30
			o-Xylene	2018/04/19	NC		%	30
			Total Xylenes	2018/04/19	NC		%	30
			F1 (C6-C10)	2018/04/19	NC		%	30
			F1 (C6-C10) - BTEX	2018/04/19	NC		%	30

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

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

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

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

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

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B888596
Report Date: 2018/04/25

Pinchin Ltd
Client Project #: PHASE II ESA
Site Location: CARLING AVENUE
Sampler Initials: RML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Steve Roberts, Ottawa Lab Manager

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/3

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Pinchin Ltd.	Company Name:		Quotation #:		[x] Regular TAT (5-7 days) Most analyses
Contact Name:	Matt Ryan & Ryan LaRonde	Contact Name:		P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	1 Hines Road, Suite 200, Kanata ON K2K 3C7	Address:		Project #:	Phase II ESA	Rush TAT (Surcharges will be applied)
				Site Location:	Carling Avenue	[ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone:	613-291-5656 Fax:	Phone:	Fax:	Site #:	220409.002	
Email:	mryan@pinchin.com & rlaronde@pinchin.com	Email:		Sampled By:	RML	Date Required:

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

Rush Confirmation #:

Regulation 153

[ ] Table 1 [ ] Res/Park [ ] Med/ Fine
[ ] Table 2 [x] Ind/Comm [x] Coarse
[ ] Table 3 [ ] Agri/ Other
[x] Table 7
FOR RSC (PLEASE CIRCLE) no

Other Regulations

[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] MISA [ ] Storm Sewer Bylaw
[ ] PWQO Region
[ ] Other (Specify)
[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Yes

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

LABORATORY USE ONLY

CUSTODY SEAL Y / N

COOLER TEMPERATURES

Present	Intact	
J	J	3.3.2

COOLING MEDIA PRESENT: Y / N

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	pH	Texture Size +- 75m	PAH	HOLD- DO NOT ANALYZE	COMMENTS
1	MW-1	17-Apr	12:30	gw	4		x	x	x								
2	MW-2	17-Apr	1:30	gw	4		x	x	x								
3	MW-3	17-Apr	3:30	gw	4		x	x	x								
4																	
5																	
6																	
7																	
8																	
9																	Onice
10																	

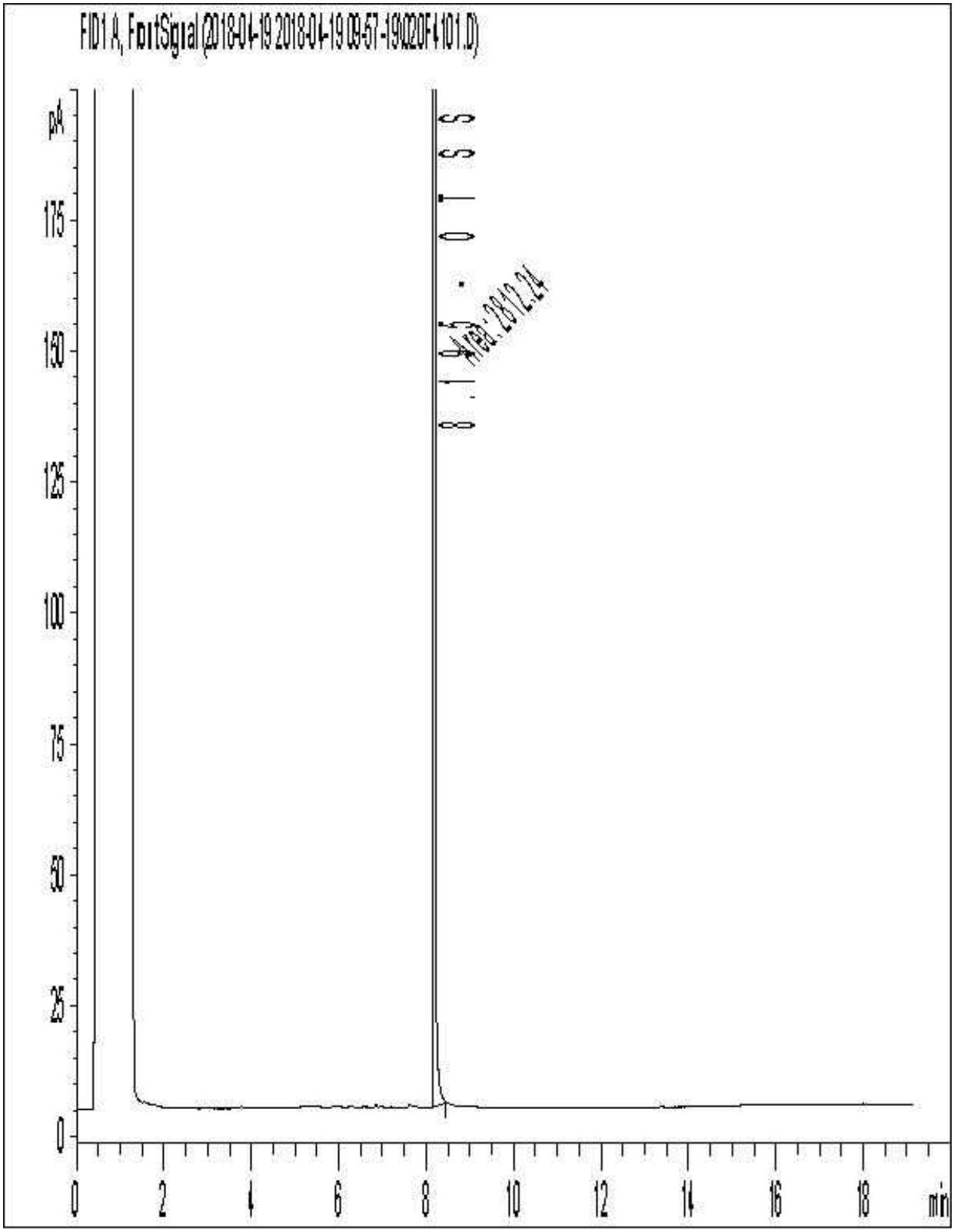
RECEIVED IN OTTAWA
18-Apr-18 15:00
Jonathan Urben
B888596
MVA OTT-001

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Ryan LaRonde	18-Apr	11:00	Mariana Vascan/Vascan	2018/04/18	15:00	

Maxxam Job #: B888596
Report Date: 2018/04/25
Maxxam Sample: GMK393

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

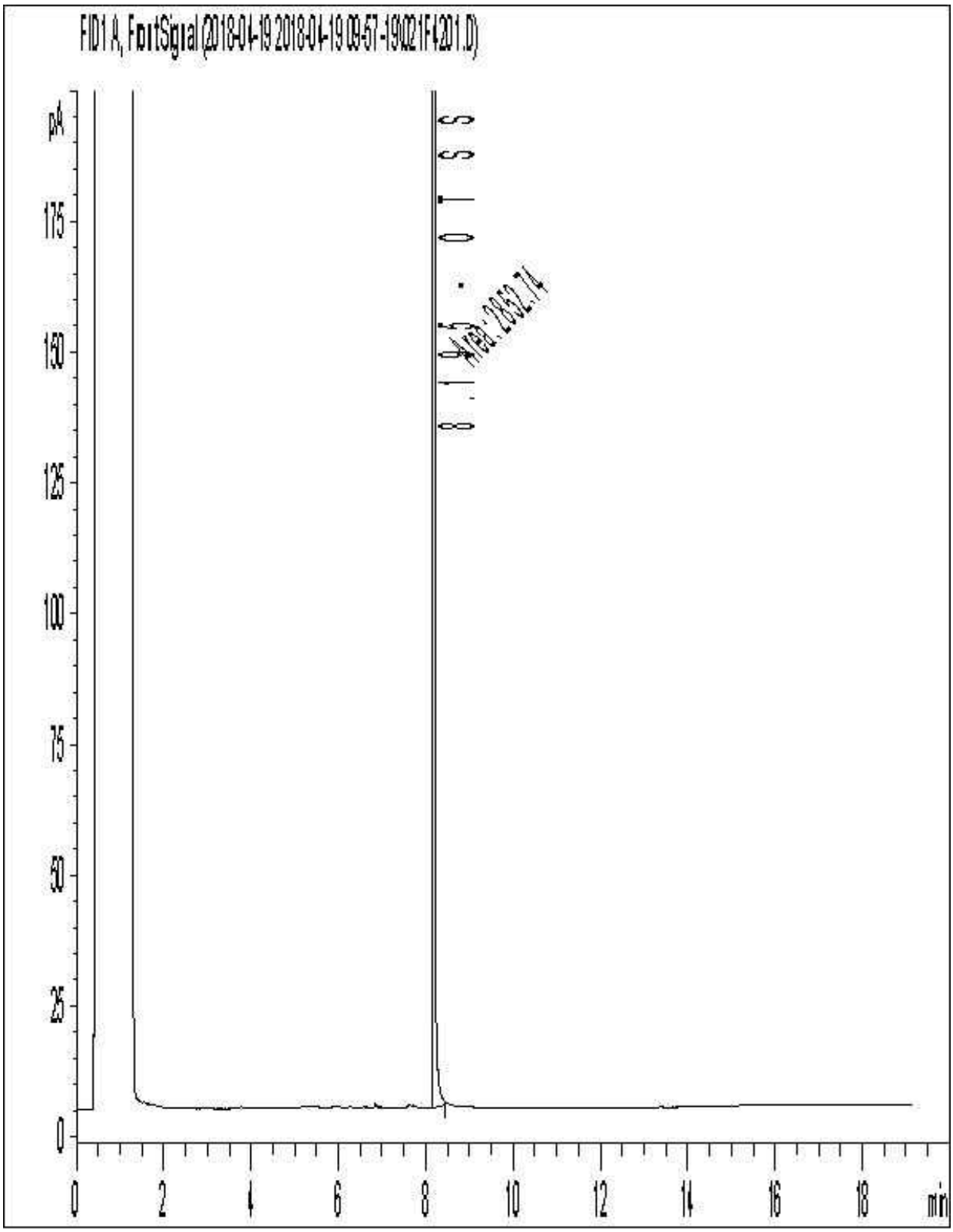


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B888596
Report Date: 2018/04/25
Maxxam Sample: GMK393 Lab-Dup

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

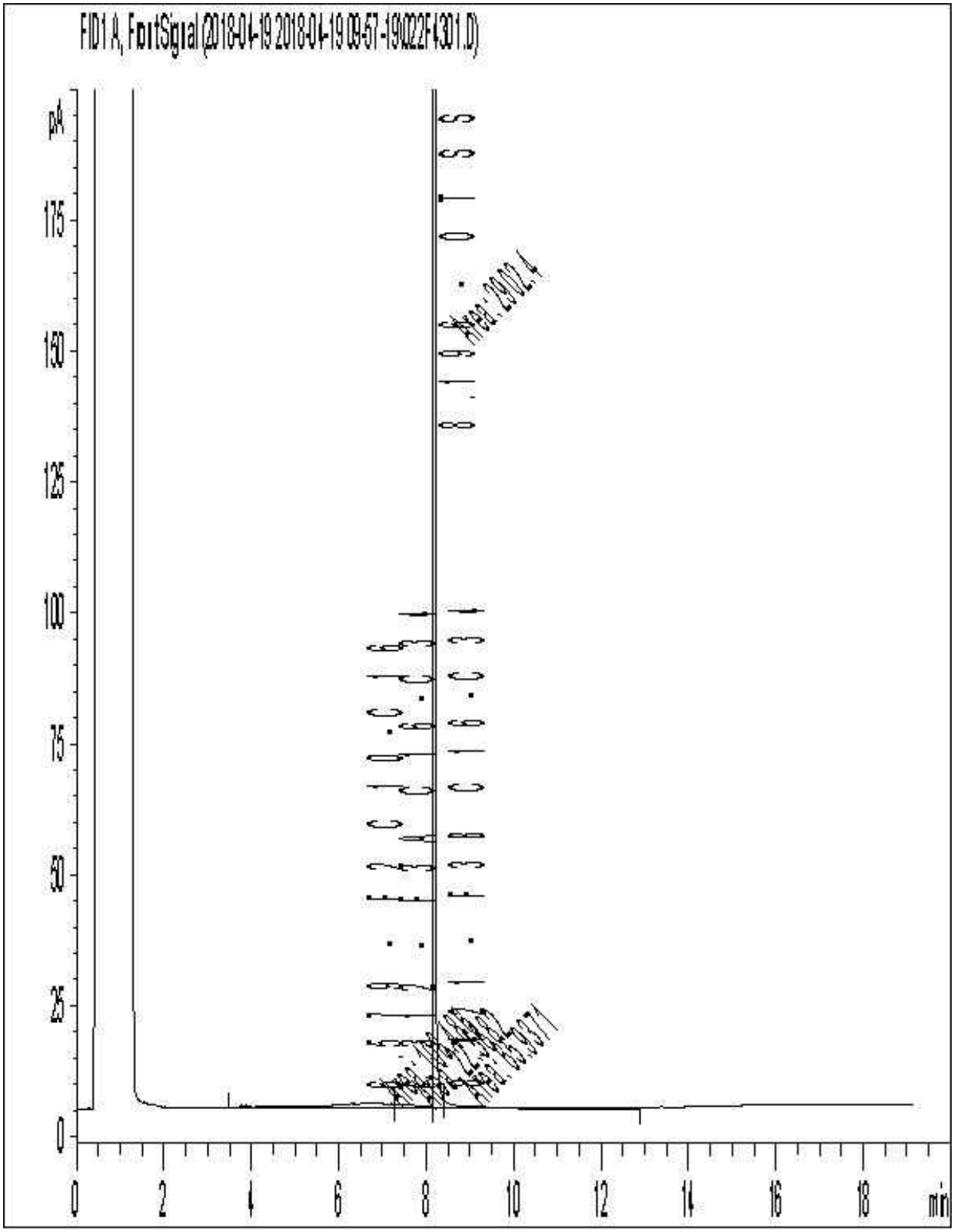


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B888596
Report Date: 2018/04/25
Maxxam Sample: GMK394

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

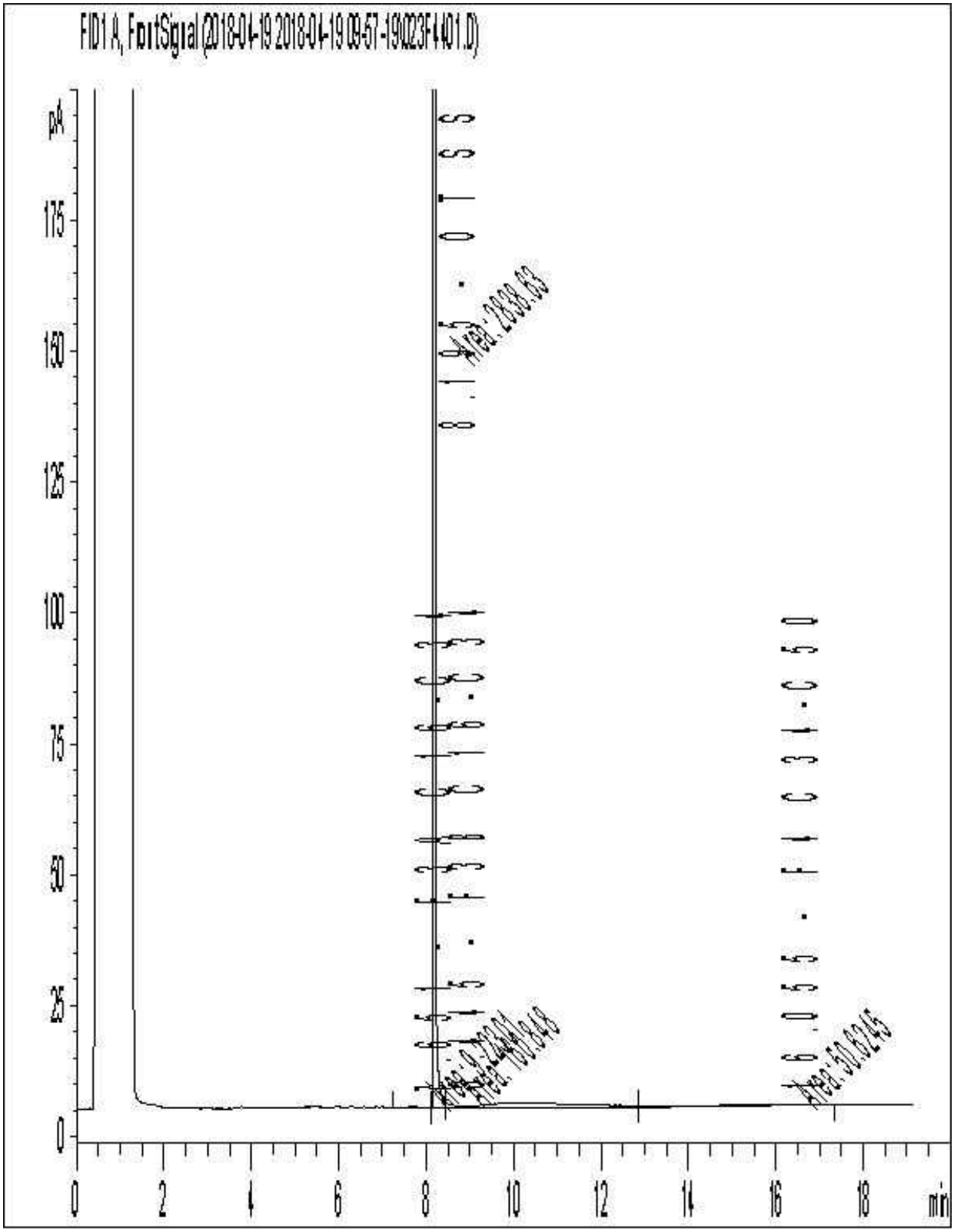


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Maxxam Job #: B888596
Report Date: 2018/04/25
Maxxam Sample: GMK395

Pinchin Ltd
Client Project #: PHASE II ESA
Project name: CARLING AVENUE
Client ID: MW-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



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

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

Paterson Group Consulting Engineers

9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Karyn Munch

Client PO: 57503
Project: PE6046
Custody: 140686

Report Date: 23-May-2023
Order Date: 16-May-2023

Order #: 2320171

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

Paracel ID	Client ID
2320171-01	MW2-GW
2320171-02	MW3-GW

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 57503

Report Date: 23-May-2023

Order Date: 16-May-2023

Project Description: PE6046

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	18-May-23	19-May-23
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	19-May-23	23-May-23
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	18-May-23	19-May-23

Certificate of Analysis

Report Date: 23-May-2023

Client: Paterson Group Consulting Engineers

Order Date: 16-May-2023

Client PO: 57503

Project Description: PE6046

	Client ID:	MW2-GW	MW3-GW	-	-
	Sample Date:	16-May-23 00:00	16-May-23 00:00	-	-
	Sample ID:	2320171-01	2320171-02	-	-
	MDL/Units	Ground Water	Ground Water	-	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	-	-
Benzene	0.5 ug/L	<0.5	<0.5	-	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-
Bromoform	0.5 ug/L	<0.5	<0.5	-	-
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Ethylene dibromide (dibromoethane, 1,2-)	0.2 ug/L	<0.2	<0.2	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	-
Styrene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-

Certificate of Analysis

Report Date: 23-May-2023

Client: Paterson Group Consulting Engineers

Order Date: 16-May-2023

Client PO: 57503

Project Description: PE6046

	Client ID:	MW2-GW	MW3-GW	-	-
	Sample Date:	16-May-23 00:00	16-May-23 00:00	-	-
	Sample ID:	2320171-01	2320171-02	-	-
	MDL/Units	Ground Water	Ground Water	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-
4-Bromofluorobenzene	Surrogate	109%	107%	-	-
Dibromofluoromethane	Surrogate	113%	114%	-	-
Toluene-d8	Surrogate	109%	111%	-	-
Hydrocarbons					
F1 PHCs (C6-C10)	25 ug/L	<25	<25	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	-	-

Certificate of Analysis

Report Date: 23-May-2023

Client: Paterson Group Consulting Engineers

Order Date: 16-May-2023

Client PO: 57503

Project Description: PE6046

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						
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
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	*90.2*		*ug/L*		*113*	*50-140*			
Surrogate: Dibromofluoromethane	*85.2*		*ug/L*		*106*	*50-140*			
Surrogate: Toluene-d8	*90.2*		*ug/L*		*113*	*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	
Volatiles									
Acetone	ND	5.0	ug/L	ND			NC	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	4.01	0.5	ug/L	3.04			27.5	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	9.92	0.5	ug/L	7.58			26.7	30	
Dibromochloromethane	1.60	0.5	ug/L	1.20			28.6	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	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*88.3*		*ug/L*		*110*	*50-140*			
Surrogate: Dibromofluoromethane	*90.1*		*ug/L*		*113*	*50-140*			
Surrogate: Toluene-d8	*89.3*		*ug/L*		*112*	*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)	2180	25	ug/L	ND	109	68-117			
F2 PHCs (C10-C16)	1160	100	ug/L	ND	72.5	60-140			
F3 PHCs (C16-C34)	3540	100	ug/L	ND	90.3	60-140			
F4 PHCs (C34-C50)	2120	100	ug/L	ND	85.4	60-140			
Volatiles									
Acetone	57.2	5.0	ug/L	ND	57.2	50-140			
Benzene	32.9	0.5	ug/L	ND	82.4	60-130			
Bromodichloromethane	42.8	0.5	ug/L	ND	107	60-130			
Bromoform	36.2	0.5	ug/L	ND	90.4	60-130			
Bromomethane	32.9	0.5	ug/L	ND	82.2	50-140			
Carbon Tetrachloride	32.5	0.2	ug/L	ND	81.4	60-130			
Chlorobenzene	32.8	0.5	ug/L	ND	82.0	60-130			
Chloroform	35.2	0.5	ug/L	ND	87.9	60-130			
Dibromochloromethane	31.1	0.5	ug/L	ND	77.8	60-130			
Dichlorodifluoromethane	35.6	1.0	ug/L	ND	89.1	50-140			
1,2-Dichlorobenzene	33.5	0.5	ug/L	ND	83.8	60-130			
1,3-Dichlorobenzene	48.2	0.5	ug/L	ND	121	60-130			
1,4-Dichlorobenzene	29.7	0.5	ug/L	ND	74.4	60-130			
1,1-Dichloroethane	33.1	0.5	ug/L	ND	82.8	60-130			
1,2-Dichloroethane	45.8	0.5	ug/L	ND	115	60-130			
1,1-Dichloroethylene	34.4	0.5	ug/L	ND	85.9	60-130			
cis-1,2-Dichloroethylene	36.2	0.5	ug/L	ND	90.4	60-130			
trans-1,2-Dichloroethylene	35.1	0.5	ug/L	ND	87.8	60-130			
1,2-Dichloropropane	33.8	0.5	ug/L	ND	84.4	60-130			
cis-1,3-Dichloropropylene	38.2	0.5	ug/L	ND	95.6	60-130			
trans-1,3-Dichloropropylene	41.8	0.5	ug/L	ND	104	60-130			
Ethylbenzene	42.1	0.5	ug/L	ND	105	60-130			
Ethylene dibromide (dibromoethane, 1,2-	32.3	0.2	ug/L	ND	80.7	60-130			
Hexane	42.1	1.0	ug/L	ND	105	60-130			
Methyl Ethyl Ketone (2-Butanone)	63.9	5.0	ug/L	ND	63.9	50-140			
Methyl Isobutyl Ketone	63.9	5.0	ug/L	ND	63.9	50-140			
Methyl tert-butyl ether	71.8	2.0	ug/L	ND	71.8	50-140			
Methylene Chloride	34.7	5.0	ug/L	ND	86.8	60-130			
Styrene	31.7	0.5	ug/L	ND	79.2	60-130			
1,1,1,2-Tetrachloroethane	36.4	0.5	ug/L	ND	91.1	60-130			
1,1,2,2-Tetrachloroethane	46.3	0.5	ug/L	ND	116	60-130			
Tetrachloroethylene	35.2	0.5	ug/L	ND	88.0	60-130			
Toluene	30.5	0.5	ug/L	ND	76.3	60-130			
1,1,1-Trichloroethane	32.0	0.5	ug/L	ND	80.1	60-130			
1,1,2-Trichloroethane	34.2	0.5	ug/L	ND	85.6	60-130			
Trichloroethylene	31.8	0.5	ug/L	ND	79.5	60-130			
Trichlorofluoromethane	35.1	1.0	ug/L	ND	87.8	60-130			
Vinyl chloride	33.3	0.5	ug/L	ND	83.3	50-140			
m,p-Xylenes	61.2	0.5	ug/L	ND	76.6	60-130			
o-Xylene	33.9	0.5	ug/L	ND	84.8	60-130			
Surrogate: 4-Bromofluorobenzene	*75.9*		*ug/L*		*94.9*	*50-140*			
Surrogate: Dibromofluoromethane	*82.9*		*ug/L*		*104*	*50-140*			
Surrogate: Toluene-d8	*76.9*		*ug/L*		*96.1*	*50-140*			

Qualifier Notes:

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 LABORATORIES LTD.

Paracel ID: 2320171

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2320171	№ 140686

Page 1 of 1

Client Name: Paterson Group	Project Ref: PE6046
Contact Name: Karyn Munch	Quote #:
Address: 9 Auriga Dr.	PO #: 57503
Telephone: 613-226-7381	E-mail: kmunch@patersongroup.ca, jandrechek@ " " "

Turnaround Time: ☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular

Date Required:

☒ REG 153/04 ☐ REG 406/19

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

☐ Table 1 ☐ Res/Park ☐ Med/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agri/Other ☒ Table 7

For RSC: ☐ Yes ☒ No

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	MW2-GW	GW	/	3	16-MAY-2023	/	X	X										
2	MW3-GW	GW	/	3	16-MAY-2023	/	X	X										
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: Sandra Dancsis	Verified By: Sandra Dancsis
Relinquished By (Print): Jesse Andrechek	Date/Time:	Date/Time: May 16 4:54	Date/Time: ~~May 16~~, May 17, 8:54
Date/Time: 16-MAY-2023 2pm	Temperature: °C	Temperature: 11.5 °C	pH Verified: ☐ By:

Chain of Custody (Env) xls

Revision 4.0