Phase II Environmental Site Assessment

1498 Stittsville Main Street and 8 Manchester Street
Ottawa, Ontario

Prepared for:

Mr. Fred Gramling
6366 Flewellyn Road
Ottawa, ON K2S 1B6

AND

Dunrobin Distilleries Ltd.
530 Berry Side Road
Dunrobin, ON K0A 1T0

Attn: Mr. Mark Watson

August 7, 2019

Pinchin File: 245376.001

Issued To:	**Mr. Fred Gramling and Dunrobin Distilleries Ltd.**
Contact:	**Mr. Mark Watson**
Issued On:	**August 7, 2019**
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Issuing Office:	**Kanata, ON**
Primary Pinchin Contact:	**Matthew Ryan, B.A., CET., EP** **Operations Manager**

Author: Michael Kosiw, B.Sc. Hons, EP, CESA$_{II}$
Project Manager
613.592.3387 ext. 1816
mkosiw@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, Limit of Liability and Terms of Engagement signed by Mr. Mark Watson of Dunrobin Distilleries Ltd. and Mr. Fred Gramling (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 1498 Stittsville Main Street and 8 Manchester Street in Ottawa, Ontario (hereafter referred to as the Site).

The Site is developed with a two-storey commercial building (Site Building) and associated parking area located at 1498 Stittsville Main Street, and a gravel parking lot located at 8 Manchester Street.

The purpose of this Phase II ESA was to address potential issues of environmental concern in relation to the potential acquisition and financing of the Site by Dunrobin Distilleries Ltd.

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

- A Phase II ESA completed by Paterson Group Inc. (Paterson) at the Site in 2012 identified a concentration of tetrachloroethylene in groundwater (4.0 ug/L) near the northeast Site boundary that exceeds the currently-applicable Ministry of the Environment, Conservation and Parks (MECP) Site-specific standards. Paterson indicated that the source of the tetrachloroethylene exceedance was unknown, but was likely to have derived from an off-Site source. Based on the regulatory review completed as part of Pinchin's Phase I ESA, the source may have been a former off-Site dry cleaner (i.e., White Robe Cleaners) located at 1524 Stittsville Main Street (i.e., 100 metres southeast of the Site and situated hydraulically upgradient of the Site in relation to the inferred groundwater flow direction) from approximately 1987 until 2001. However, based on the fact that the source remains unknown, and groundwater was not investigated throughout other portions of the Site as part of the Phase II ESA completed by Paterson, it was Pinchin's opinion that there is a potential for groundwater impacted with volatile organic compounds to be present on other portions of the Site.

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

The Phase II ESA was completed at the Site by Pinchin between July 25, 2019 and July 26, 2019 and consisted of the advancement of one borehole, which was completed as a groundwater monitoring well. In addition, Pinchin sampled an existing groundwater monitoring well (MW-1) at the Site.

Select “worst case” soil samples collected during the borehole drilling program were submitted for laboratory analysis of petroleum hydrocarbons (PHCs) (F1-F4), volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). Groundwater samples collected from the newly installed monitoring well and previously installed monitoring well were submitted for laboratory analysis of PHCs (F1-F4), VOCs and PAHs.

Based on Site-specific information, the soil and groundwater quality was assessed based on the Ontario Ministry of the Environment, Conservation and Parks *Table 3 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), VOCs and PAHs satisfied the *Table 3 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 at this time 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, Limit of Liability and Terms of Engagement signed by Mr. Mark Watson of Dunrobin Distilleries Ltd. and Mr. Fred Gramling (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 1498 Stittsville Main Street and 8 Manchester Street in Ottawa, Ontario (hereafter referred to as the Site).

The Site is developed with a two-storey commercial building (Site Building) and associated parking area located at 1498 Stittsville Main Street, and a gravel parking lot located at 8 Manchester Street.

The purpose of this Phase II ESA was to address potential issues of environmental concern in relation to the potential acquisition and financing of the Site by Dunrobin Distilleries Ltd.

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 (R2018)*", dated 2000 and reaffirmed in 2018.

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, 1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario*", dated July 31, 2019. The results of the Phase I ESA completed by Pinchin identified the following area of potential environmental concern (APEC) that could give rise to potential subsurface impacts in connection with the Site:

- A Phase II ESA completed by Paterson Group Inc. (Paterson) at the Site in 2012 identified a concentration of tetrachloroethylene in groundwater (4.0 ug/L) near the northeast Site boundary that exceeds the currently-applicable Ministry of the Environment, Conservation and Parks (MECP) Site-specific standards. Paterson indicated that the source of the tetrachloroethylene exceedance was unknown, but was likely to have derived from an off-Site source. Based on the regulatory review completed as part of Pinchin's Phase I ESA, the source may have been a former off-Site dry cleaner (i.e., White Robe Cleaners) located at 1524 Stittsville Main Street (i.e., 100 metres southeast of the Site and situated hydraulically upgradient of the Site in relation to the inferred groundwater flow direction) from approximately 1987 until 2001. However, based on the fact that the source remains unknown, and groundwater was not investigated throughout other portions of the Site as part of the Phase II ESA completed by Paterson, it was Pinchin's opinion that there is a potential for groundwater impacted with volatile organic compounds to be present on other portions of the Site.

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

1.2 Scope of Work

The scope of work completed by Pinchin, as outlined in the Pinchin workplan entitled "*Proposal for Phase I and II Environmental Site Assessment, 1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario"* submitted to the Client on July 9, 2019, included the following:

- Advancement of two boreholes following the clearance of underground services, both of which were to instrumented with a groundwater 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), volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs);
- Collection of groundwater samples from each of the newly installed monitoring wells, and existing groundwater monitoring well, following well development and purging, for laboratory analysis of PHCs (F1-F4), VOCs and PAHs;
- 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.

The scope of work described in the Pinchin proposal included two boreholes at the Site. However, due to the presence of numerous underground services in the work area along the east elevation of the Site Building, only one of the proposed boreholes could be completed.

2.0 METHODOLOGY

The investigation methodology was conducted in general accordance with the Ontario Ministry of the Environment, Conservation and Parks (MECP) document entitled *"Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario"* dated December 1996 (*MECP 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 July 25, 2019, 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 MECP in accordance with Ontario Regulation 903 (as amended) to undertake borehole drilling/well installation activities.

The boreholes were advanced to a maximum depth of 6.1 mbgs using a Geoprobe 7822DT direct push drill rig. 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 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

A groundwater monitoring well was installed in borehole MW-2 to enable groundwater monitoring and sampling. The monitoring well was 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 the water table.

The 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 5.1 cm ID Schedule 40 PVC outer casing, approximately 15 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 the 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.

2.3 Groundwater Monitoring Data

The water levels within the monitoring wells (MW-1 and MW-2) were measured on July 25, 2019 and July 26, 2019 using an interface probe**.** The presence/absence of non-aqueous phase liquid (NAPL) was also assessed during groundwater monitoring using the interface probe. The water level information obtained during groundwater monitoring is presented in Table 3 and on the borehole logs in Appendix II.

2.4 Sampling and Laboratory Analysis

2.4.1 Soil

One most apparent "worst case" soil sample, based on vapour concentrations as well as visual and/or olfactory considerations recovered from each borehole was submitted for laboratory analysis of PHCs (F1-F4), VOCs and PAHs.

In addition, a representative soil sample was submitted for pH analysis and grain size distribution analysis to confirm the Site Condition Standards applicable to the Site as provided in the MECP document entitled "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011 (*MECP Standards*).

The borehole locations are shown on Figure 2. Table 1 provides a summary of the soil samples submitted for laboratory analysis.

2.4.2 Groundwater

On July 25, 2019 newly installed groundwater monitoring well MW-2 and existing monitoring well MW-1 were developed by removing three to five well casing volumes, or were purged until dry, in accordance with Pinchin's SOPs.

On July 26, 2019 the newly installed groundwater monitoring well and existing monitoring well 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), VOCs and PAHs.

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) and PAHs was conducted using a peristaltic pump and dedicated polyethylene tubing. Sampling for VOCs, and PHCs (F1) was then conducted using dedicated inertial pumps.

The monitoring well locations are shown on Figure 2. Table 1 provides a summary of the groundwater samples submitted for laboratory analysis.

2.4.3 Analytical Laboratory

Selected soil and groundwater samples were delivered to Bureau Veritas Laboratories (BVL) in Ottawa, Ontario for analysis. BVL 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 BVL.

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 *MECP Sampling Guideline*, the *APGO Guideline* and Pinchin's SOPs for Phase II ESAs.

BVL'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 (RPD) 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 MECP 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.

One representative soil sample 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 medium/fine-textured for the purpose of selecting the appropriate *MECP Standards.*

The pH and grain size analytical results are summarized in Table 2.

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

- "Table 3: Full Depth Generic Site Condition Standards for Use in a Non-Potable Ground Water Condition", provided in the *MECP Standards* (*Table 3 Standards*) for:
  - Coarse-textured soils; and
  - Industrial/commercial/community property use.

As such, the analytical results have been compared to these *Table 3 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 location below the concrete surface generally consists of sandy silt to a maximum depth of 1.5 mbgs underlain by sand to a maximum borehole depth of 6.1 mbgs at MW-2. Moist to wet soil conditions were observed at 4.7 mbgs.

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 3 and on the borehole logs in Appendix II. The depth to groundwater measured within the newly installed monitoring well and existing monitoring well ranged from 4.68 mbgs at MW-2 to 5.03 mbgs at MW-1 on July 29, 2019.

Poole Creek is located approximately 425 m northwest of the Site. Poole Creek flows north and discharges into the Carp River, located approximately 4.1 kilometres north of the Site. Groundwater flow at the Site is inferred to be towards the northwest based on nearest body of water.

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 0.0 parts per million by volume.

3.3 Field Observations

No odours or staining were observed in the soil samples collected during the borehole drilling program, and no odours or evidence of NAPL were observed during groundwater monitoring and sampling.

3.4 Analytical

3.4.1 Soil

As indicated in Tables 4 through 6, reported concentrations of PHCs (F1-F4), VOCs and PAHs in the soil samples submitted for analysis met the *Table 3 Standards*.

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

3.4.2 Groundwater

As indicated in Tables 7 through 9, reported concentrations in the groundwater samples submitted for analysis of PHCs (F1-F4), VOCs and PAHs in the groundwater samples submitted for analysis met the *Table 3 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 one borehole at the Site on July 25, 2019. The borehole was advanced to a maximum depth of 6.1 mbgs using a Geoprobe 7822 DT direct push drill rig. The borehole was instrumented with a monitoring well to enable groundwater monitoring and sampling. In addition, Pinchin sampled an existing groundwater monitoring well (MW-1) at the Site;
- The soil stratigraphy at the drilling location below the concrete surface generally consists of sandy silt to a maximum depth of 1.5 mbgs underlain by sand to a maximum borehole depth of 6.1 mbgs at MW-2. Moist to wet soil conditions were observed at 4.7 mbgs.
- Groundwater levels at the Site were measured on July 25, 2019 and July 26, 2019, and were 4.68 mbgs at MW-2 to 5.03 mbgs at MW-1 on July 26, 2019. Inferred groundwater flow is expected to be northwest based on the proximity of Poole Creek and the Carp River;
- Based on Site-specific information, the soil and groundwater quality was assessed based on the *Table 3 Standards* for industrial/commercial/community land use and coarse-textured soils;
- One “worst case” soil sample based on the results of field screening was submitted for laboratory analysis of PHCs (F1-F4), VOCs and PAHs;
- Groundwater samples were collected from the newly installed monitoring well (MW-2) installed by Pinchin on July 26, 2019, as well as existing monitoring well (MW-1), and were submitted for laboratory analysis of PHCs (F1-F4), VOCs and PAHs; and
- Reported concentrations in the soil and groundwater samples submitted for analysis of PHCs (F1-F4), VOCs and PAHs satisfied the *Table 3 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 at this time in relation to the findings of the Phase I ESA.

5.0 TERMS AND LIMITATIONS

This Phase II ESA was performed for Mr. Fred Gramling and Dunrobin Distilleries Ltd. (Client) in order to investigate potential environmental impacts at 1498 Stittsville Main Street and 8 Manchester Street in Ottawa, Ontario (Site). The term recognized environmental condition means the presence or likely presence of any hazardous substance on a property under conditions that indicate an existing release, past release, or a material threat of a release of a hazardous substance into structures on the property or into the ground, groundwater, or surface water of the property. This Phase 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 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.

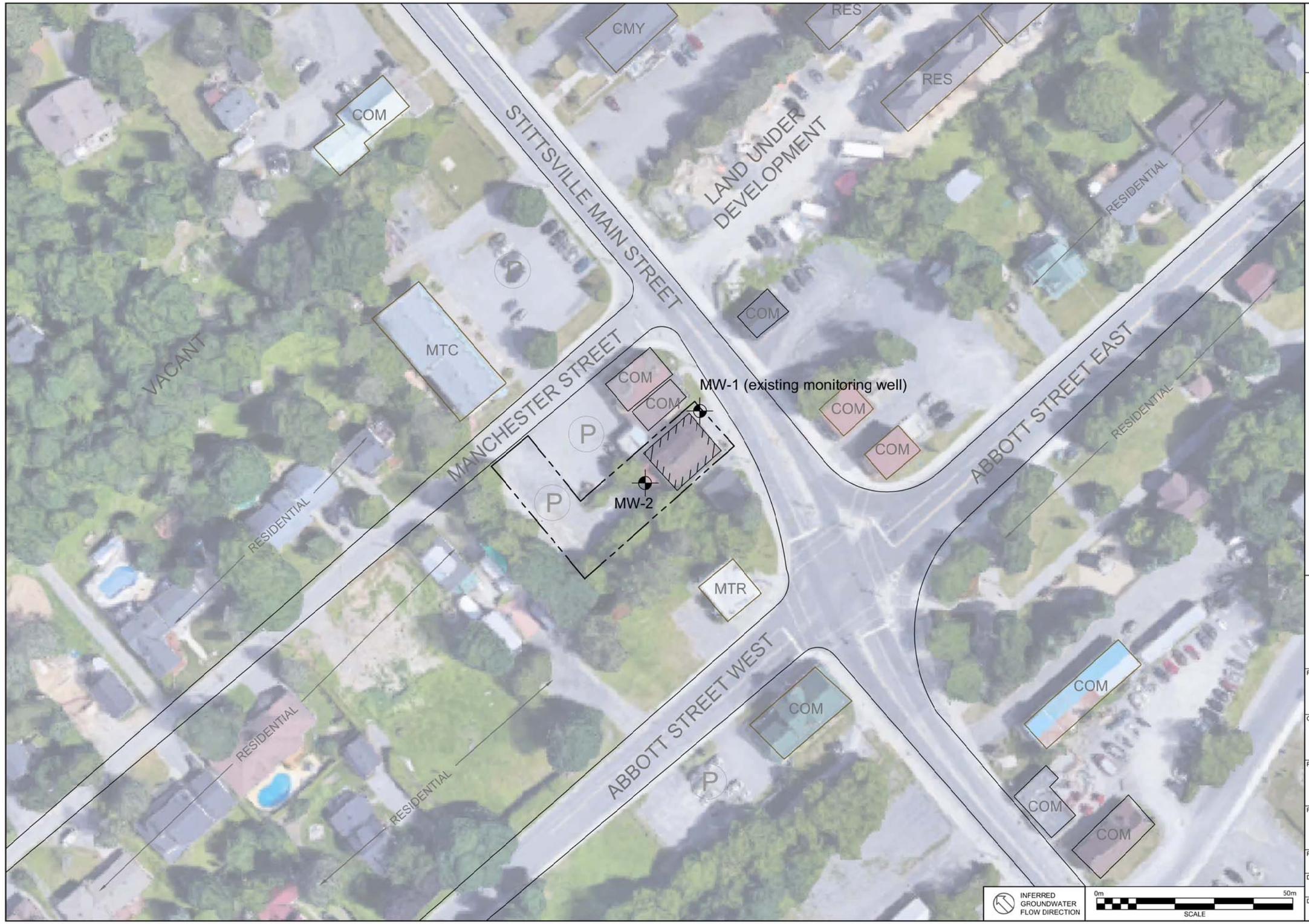
If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. 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:	DUNROBIN DISTILLERIES LTD. AND MR. FRED GRAMLING				
PROJECT LOCATION:	1498 STITTSVILLE MAIN STREET AND 8 MANCHESTER STREET, OTTAWA, ONTARIO				
FIGURE NAME:	KEY MAP				FIGURE NUMBER: 1
PROJECT NUMBER: 245376.001	SCALE: 1:18,000	DRAWN BY: P.J.Y.	REVIEWED BY: K.F.	DATE: AUGUST 2019	



LEGEND

- SITE BOUNDARY
- SITE BUILDING
- EXISTING BUILDING
- RES RESIDENTIAL
- COM COMMERCIAL
- MTC MULTI-TENANT COMMERCIAL
- CMY COMMUNITY
- MTR MULTI-TENANT RESIDENTIAL
- ROADS
- P PARKING
- GROUNDWATER MONITORING WELL

PINCHIN

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT	
CLIENT NAME: DUNROBIN DISTILLERIES LTD. AND Mr. FRED GRAMLING	
PROJECT LOCATION: 1498 STITTSVILLE MAIN STREET AND 8 MANCHESTER STREET, OTTAWA, ONTARIO	
FIGURE NAME: MONITORING WELL LOCATION PLAN	
PROJECT NUMBER: 245376.001	SCALE: AS SHOWN
DRAWN BY: P.J.Y.	REVIEWED BY: K.F.
DATE: AUGUST 2019	FIGURE NUMBER: 2

APPENDIX II
Borehole Logs

Log of Borehole: MW-2

Project #: 245376.001 **Logged By:** MK

Project: Phase II Environmental Site Assessment

Client: Mr. Fred Gramling and Dunrobin Distilleries Ltd.

Location: 1498 Stittsville Main Street and 8 Manchester Street, Ottawa,

Drill Date: July 25, 2019

SUBSURFACE PROFILE					SAMPLE			
Depth (ft / m)	Symbol	Description	Measured Depth (m)	Monitoring Well Details	Recovery (%)	Sample ID	Soil Vapour Concentration* (ppm) CGI/PID	Laboratory Analysis
0 / 0		Ground Surface	0.00					
0 / 0		***Concrete***			70	SS1	0/0	
1 /		***Sand and Silt*** Brown, some organics, damp						
3 / 1						SS2	0/0	pH
4 /			1.52					
5 /		***Sand*** Brown, damp			55	SS3	0/0	
6 / 2						SS4	0/0	
8 /					70	SS5	0/0	
9 /						SS6	0/0	
10 / 3		Some silt at 3.05 mbgs						
12 /					65	SS7	0/0	PHCs, VOCs, PAHs, pH, Grain Size
13 / 4		Turning wet at 4.27 mbgs						
15 /						SS8	0/0	
16 / 5		Very wet at 4.57 mbgs						
18 /								
19 /								
20 / 6			6.10					
21 /		End of Borehole (No Refusal)		Groundwater measured at 4.68 mbgs on July 26, 2019				
23 / 7								
25 /								

Riser, Bentonite, Silca Sand, Screen

Contractor: Strata Drilling Group Inc.

Drilling Method: Direct Push

Well Casing Size: 3.8 cm

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

Grade Elevation: NM

Top of Casing Elevation: NM

Sheet: 1 of 1

APPENDIX III
Summary Tables

TABLE 1
SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Samples		Parameters											
		SOIL SAMPLES						GROUNDWATER SAMPLES					
Borehole / Monitoring Well ID	Sample ID		PHCs (F1-F4) & BTEX	VOCs	PAHs	pH	Grain Size Analysis		PHCs (F1-F4)	PHCs (F1-F4) & BTEX	VOCs	PAHs	Rationale/Notes
MW-1	MW-1								●	●	●	●	Assess groundwater quality in relation to former MECP exceedance for tetrachloroethylene along the east portion of the Site.
MW-2	SS-2					●							Assess soil and groundwater quality in relation to former MECP exceedance for tetrachloroethylene along the east portion of the Site/confirm applicable MECP Standards.
	SS-7		●	●	●	●	●						
	MW-2								●	●	●	●	

Notes:

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

TABLE 2
pH AND GRAIN SIZE ANALYSIS FOR SOIL
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*Units*	*MECP Site Condition Standard Selection Criteria*	*Sample Designation*	
			Sample Collection Date (dd/mm/yyyy)	
			Sample Depth (mbgs)	
			MW-2 SS-2	*MW-2 SS-7*
			25/07/2019	*25/07/2019*
			0.8 - 1.5	*4.6 - 5.3*
pH		Surface: 5 < pH < 9 Subsurface: 5 < pH < 11	7.75	8.11
Sieve #200 <0.075 mm	%	50%	NA	7
Sieve #200 >0.075 mm	%	50%	NA	93
		Grain Size Classification	NA	COARSE

Notes:

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

TABLE 3
GROUNDWATER MONITORING ATA
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, 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	26/07/2019	ND	4.98	5.03	ND	NM
MW-2	26/07/2019	ND	4.56	4.68	ND	NM

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 4
PETROLEUM HYDROCARBON ANALYSIS FOR SOIL
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*	
		Sample Collection Date (dd/mm/yyyy)	
		Sample Depth (mbgs)	
		MW-2 SS-7	
		25/07/2019	
		4.6 - 5.3	
Petroleum Hydrocarbons F1 (C_6 - C_{10})	55	<10	
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	230	<10	
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	1700	<50	
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	3300	<50	

Notes:

MECP Table 3 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.
BOLD	Exceeds Site Condition Standard
BOLD	Reportable Detection Limit Exceeds Site Condition Standard
Units	All Units in µg/g
mbgs	Metres Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes

Pinchin File: 245376.001

TABLE 5

VOLATILE ORGANIC COMPOUND ANALYSIS FOR SOIL

Mr. Fred Gramling and Dunrobin Distilleries Ltd.

1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		Sample Depth (mbgs)		
		MW-2 SS-7		
		25/07/2019		
		4.6 - 5.3		
Acetone	16	<0.50		
Benzene	0.32	<0.020		
Bromodichloromethane	18	<0.050		
Bromoform	0.61	<0.050		
Bromomethane	0.05	<0.050		
Carbon Tetrachloride	0.21	<0.050		
Chlorobenzene	2.4	<0.050		
Chloroform	0.47	<0.050		
Dibromochloromethane	13	<0.050		
1,2-Dichlorobenzene	6.8	<0.050		
1,3-Dichlorobenzene	9.6	<0.050		
1,4-Dichlorobenzene	0.2	<0.050		
1,1-Dichloroethane	17	<0.050		
1,2-Dichloroethane	0.05	<0.050		
1,1-Dichloroethylene	0.064	<0.050		
Cis-1,2-Dichloroethylene	55	<0.050		
Trans-1,2-Dichloroethylene	1.3	<0.050		
1,2-Dichloropropane	0.16	<0.050		
Cis-1,3-Dichloropropylene	NV	<0.030		
Trans-1,3-Dichloropropylene	NV	<0.040		
Ethylbenzene	9.5	<0.020		
Ethylene Dibromide	0.05	<0.050		
Methyl Ethyl Ketone	70	<0.50		
Methylene Chloride	1.6	<0.050		
Methyl Isobutyl Ketone	31	<0.50		
Methyl-t-Butyl Ether	11	<0.050		
Styrene	34	<0.050		
1,1,1,2-Tetrachloroethane	0.087	<0.050		
1,1,2,2-Tetrachloroethane	0.05	<0.050		
Toluene	68	<0.020		
Tetrachloroethylene	4.5	<0.050		
1,1,1-Trichloroethane	6.1	<0.050		
1,1,2-Trichloroethane	0.05	<0.050		
Trichloroethylene	0.91	<0.050		
Vinyl Chloride	0.032	<0.020		
m-Xylene & p-Xylene	NV	<0.020		
o-Xylene	NV	<0.020		
Total Xylenes	26	<0.020		
Dichlorodifluoromethane	16	<0.050		
Dioxane, 1,4-	1.8	-		
Hexane(n)	46	<0.050		
Trichlorofluoromethane	4	<0.050		
1,3-Dichloropropene (cis + trans)	0.18	<0.050		

Notes:

MECP Table 3 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.
BOLD	Exceeds Site Condition Standard
BOLD	Reportable Detection Limit Exceeds Site Condition Standard
Units	All Units in µg/g
mbgs	Metres Below Ground Surface

Pinchin File: 245376.001

TABLE 6
POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS FOR SOIL
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*	
		Sample Collection Date (dd/mm/yyyy)	
		Sample Depth (mbgs)	
		MW-2 SS-7	
		25/07/2019	
		4.6 - 5.3	
Acenaphthene	96	<0.0050	
Acenaphthylene	0.15	<0.0050	
Anthracene	0.67	<0.0050	
Benzo(a)anthracene	0.96	<0.0050	
Benzo(a)pyrene	0.3	<0.0050	
Benzo(b)fluoranthene	0.96	<0.0050	
Benzo(ghi)perylene	9.6	<0.0050	
Benzo(k)fluoranthene	0.96	<0.0050	
Chrysene	9.6	<0.0050	
Dibenzo(a,h)anthracene	0.1	<0.0050	
Fluoranthene	9.6	<0.0050	
Fluorene	62	<0.0050	
Indeno(1,2,3-cd)pyrene	0.76	<0.0050	
Methylnaphthalene 2-(1-)	76	<0.0071	
Naphthalene	9.6	<0.0050	
Phenanthrene	12	<0.0050	
Pyrene	96	<0.0050	

Notes:

MECP Table 3 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use.
BOLD	Exceeds Site Condition Standard
BOLD	Reportable Detection Limit Exceeds Site Condition Standard
Units	All Units in µg/g
mbgs	Metres Below Ground Surface

Pinchin File: 245376.001

TABLE 7
PETROLEUM HYDROCARBON ANALYSIS FOR GROUNDWATER
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*	
		Sample Collection Date (dd/mm/yyyy)	
		MW-1	*MW-2*
		26/07/2019	*26/07/2019*
Petroleum Hydrocarbons F1 (C_6 - C_{10})	750	<25	<25
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	150	<100	<100
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	500	<200	<200
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	500	<200	<200

Notes:

MECP Table 3 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, 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
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes

TABLE 8

VOLATILE ORGANIC COMPOUND ANALYSIS FOR GROUNDWATER

Mr. Fred Gramling and Dunrobin Distilleries Ltd.

1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*	
		Sample Collection Date (dd/mm/yyyy)	
		MW-1	*MW-2*
		26/07/2019	*26/07/2019*
Acetone	130000	<10	<10
Benzene	44	<0.20	<0.20
Bromodichloromethane	85000	<0.50	<0.50
Bromoform	380	<1.0	<1.0
Bromomethane	5.6	<0.50	<0.50
Carbon Tetrachloride	0.79	<0.20	<0.20
Chlorobenzene	630	<0.20	<0.20
Chloroform	2.4	<0.20	1.8
Dibromochloromethane	82000	<0.50	<0.50
1,2-Dichlorobenzene	4600	<0.50	<0.50
1,3-Dichlorobenzene	9600	<0.50	<0.50
1,4-Dichlorobenzene	8	<0.50	<0.50
1,1-Dichloroethane	320	<0.20	<0.20
1,2-Dichloroethane	1.6	<0.50	<0.50
1,1-Dichloroethylene	1.6	<0.20	<0.20
Cis-1,2-Dichloroethylene	1.6	<0.50	<0.50
Trans-1,2-Dichloroethylene	1.6	<0.50	<0.50
1,2-Dichloropropane	16	<0.20	<0.20
Cis-1,3-Dichloropropylene	NV	<0.30	<0.30
Trans-1,3-Dichloropropylene	NV	<0.40	<0.40
Ethylbenzene	2300	<0.20	<0.20
Ethylene Dibromide	0.25	<0.20	<0.20
Methyl Ethyl Ketone	470000	<10	<10
Methylene Chloride	610	<2.0	<2.0
Methyl Isobutyl Ketone	140000	<5.0	<5.0
Methyl-t-Butyl Ether	190	<0.50	<0.50
Styrene	1300	<0.50	<0.50
1,1,1,2-Tetrachloroethane	3.3	<0.50	<0.50
1,1,2,2-Tetrachloroethane	3.2	<0.50	<0.50
Toluene	18000	<0.20	0.23
Tetrachloroethylene	1.6	<0.20	<0.20
1,1,1-Trichloroethane	640	<0.20	<0.20
1,1,2-Trichloroethane	4.7	<0.50	<0.50
Trichloroethylene	1.6	<0.20	<0.20
Vinyl Chloride	0.5	<0.20	<0.20
m-Xylene & p-Xylene	NV	<0.20	<0.20
o-Xylene	NV	<0.20	<0.20
Total Xylenes	4200	<0.20	<0.20
Dichlorodifluoromethane	4400	<1.0	<1.0
Dioxane, 1,4-	1900000	-	-
Hexane(n)	51	<1.0	<1.0
Trichlorofluoromethane	2500	<0.50	<0.50
1,3-Dichloropropene (cis + trans)	5.2	<0.50	<0.50

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, 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: 245376.001

TABLE 9
POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS FOR GROUNDWATER
Mr. Fred Gramling and Dunrobin Distilleries Ltd.
1498 Stittsville Main Street and 8 Manchester Street, Ottawa, Ontario

Parameter	*MECP Table 3 Standards**	*Sample Designation*	
		Sample Collection Date (dd/mm/yyyy)	
		MW-1	*MW-2*
		26/07/2019	*26/07/2019*
Acenaphthene	600	<0.050	<0.050
Acenaphthylene	1.8	<0.050	<0.050
Anthracene	2.4	<0.050	<0.050
Benzo(a)anthracene	4.7	<0.050	<0.050
Benzo(a)pyrene	0.81	<0.010	<0.010
Benzo(b)fluoranthene	0.75	<0.050	<0.050
Benzo(ghi)perylene	0.2	<0.050	<0.050
Benzo(k)fluoranthene	0.4	<0.050	<0.050
Chrysene	1	<0.050	<0.050
Dibenzo(a,h)anthracene	0.52	<0.050	<0.050
Fluoranthene	130	<0.050	<0.050
Fluorene	400	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.050	<0.050
Methylnaphthalene 2-(1-)	1800	<0.071	0.13
Naphthalene	1400	<0.050	0.074
Phenanthrene	580	<0.030	<0.030
Pyrene	68	<0.050	<0.050

Notes:

MECP Table 3 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 3 Standards, 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: 245376.001

APPENDIX IV

Laboratory Certificates of Analysis

Your Project #: 245376-001
Site Location: STITTSVILLE
Your C.O.C. #: 729720-02-01

Attention: Matt, Ryan, Mike

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

Report Date: 2019/07/31
Report #: R5820891
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9K5782
Received: 2019/07/25, 15:55

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum (1)	1	N/A	2019/07/31	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum (1)	1	N/A	2019/07/31		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Soil (1, 2)	1	2019/07/29	2019/07/31	CAM SOP-00316	CCME CWS m
Moisture (1)	1	N/A	2019/07/27	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	1	2019/07/30	2019/07/31	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT (1)	2	2019/07/30	2019/07/30	CAM SOP-00413	EPA 9045 D m
Sieve, 75um (1)	1	N/A	2019/07/29	CAM SOP-00467	Carter 2nd ed m
Volatile Organic Compounds and F1 PHCs (1)	1	N/A	2019/07/30	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied 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) This test was performed by Bureau Veritas Laboratories Mississauga

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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

Your Project #: 245376-001
Site Location: STITTSVILLE
Your C.O.C. #: 729720-02-01

Attention: Matt, Ryan, Mike

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

Report Date: 2019/07/31
Report #: R5820891
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9K5782
Received: 2019/07/25, 15:55

Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573
==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: B9K5782
Report Date: 2019/07/31

Pinchin Ltd
Client Project #: 245376-001
Site Location: STITTSVILLE
Sampler Initials: MK

O.REG 153 PAHS (SOIL)

BV Labs ID		KJB751		
Sampling Date		2019/07/25		
COC Number		729720-02-01		
	UNITS	MW-2 SS-7	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	6247922
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	6254116
Acenaphthylene	ug/g	<0.0050	0.0050	6254116
Anthracene	ug/g	<0.0050	0.0050	6254116
Benzo(a)anthracene	ug/g	<0.0050	0.0050	6254116
Benzo(a)pyrene	ug/g	<0.0050	0.0050	6254116
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	6254116
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	6254116
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	6254116
Chrysene	ug/g	<0.0050	0.0050	6254116
Dibenz(a,h)anthracene	ug/g	<0.0050	0.0050	6254116
Fluoranthene	ug/g	<0.0050	0.0050	6254116
Fluorene	ug/g	<0.0050	0.0050	6254116
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	6254116
1-Methylnaphthalene	ug/g	<0.0050	0.0050	6254116
2-Methylnaphthalene	ug/g	<0.0050	0.0050	6254116
Naphthalene	ug/g	<0.0050	0.0050	6254116
Phenanthrene	ug/g	<0.0050	0.0050	6254116
Pyrene	ug/g	<0.0050	0.0050	6254116
Surrogate Recovery (%)				
D10-Anthracene	%	92		6254116
D14-Terphenyl (FS)	%	100		6254116
D8-Acenaphthylene	%	81		6254116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

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

BV Labs ID		KJB751		
Sampling Date		2019/07/25		
COC Number		729720-02-01		
	UNITS	MW-2 SS-7	RDL	QC Batch
Inorganics				
Moisture	%	16	1.0	6251464
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	6247923
Volatile Organics				
Acetone (2-Propanone)	ug/g	<0.50	0.50	6254025
Benzene	ug/g	<0.020	0.020	6254025
Bromodichloromethane	ug/g	<0.050	0.050	6254025
Bromoform	ug/g	<0.050	0.050	6254025
Bromomethane	ug/g	<0.050	0.050	6254025
Carbon Tetrachloride	ug/g	<0.050	0.050	6254025
Chlorobenzene	ug/g	<0.050	0.050	6254025
Chloroform	ug/g	<0.050	0.050	6254025
Dibromochloromethane	ug/g	<0.050	0.050	6254025
1,2-Dichlorobenzene	ug/g	<0.050	0.050	6254025
1,3-Dichlorobenzene	ug/g	<0.050	0.050	6254025
1,4-Dichlorobenzene	ug/g	<0.050	0.050	6254025
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	0.050	6254025
1,1-Dichloroethane	ug/g	<0.050	0.050	6254025
1,2-Dichloroethane	ug/g	<0.050	0.050	6254025
1,1-Dichloroethylene	ug/g	<0.050	0.050	6254025
cis-1,2-Dichloroethylene	ug/g	<0.050	0.050	6254025
trans-1,2-Dichloroethylene	ug/g	<0.050	0.050	6254025
1,2-Dichloropropane	ug/g	<0.050	0.050	6254025
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	6254025
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	6254025
Ethylbenzene	ug/g	<0.020	0.020	6254025
Ethylene Dibromide	ug/g	<0.050	0.050	6254025
Hexane	ug/g	<0.050	0.050	6254025
Methylene Chloride(Dichloromethane)	ug/g	<0.050	0.050	6254025
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	0.50	6254025
Methyl Isobutyl Ketone	ug/g	<0.50	0.50	6254025
Methyl t-butyl ether (MTBE)	ug/g	<0.050	0.050	6254025
Styrene	ug/g	<0.050	0.050	6254025
1,1,1,2-Tetrachloroethane	ug/g	<0.050	0.050	6254025

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

BV Labs ID		KJB751		
Sampling Date		2019/07/25		
COC Number		729720-02-01		
	UNITS	MW-2 SS-7	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.050	0.050	6254025
Tetrachloroethylene	ug/g	<0.050	0.050	6254025
Toluene	ug/g	<0.020	0.020	6254025
1,1,1-Trichloroethane	ug/g	<0.050	0.050	6254025
1,1,2-Trichloroethane	ug/g	<0.050	0.050	6254025
Trichloroethylene	ug/g	<0.050	0.050	6254025
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	0.050	6254025
Vinyl Chloride	ug/g	<0.020	0.020	6254025
p+m-Xylene	ug/g	<0.020	0.020	6254025
o-Xylene	ug/g	<0.020	0.020	6254025
Total Xylenes	ug/g	<0.020	0.020	6254025
F1 (C6-C10)	ug/g	<10	10	6254025
F1 (C6-C10) - BTEX	ug/g	<10	10	6254025
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	6254106
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	6254106
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	6254106
Reached Baseline at C50	ug/g	Yes		6254106
Surrogate Recovery (%)				
o-Terphenyl	%	97		6254106
4-Bromofluorobenzene	%	92		6254025
D10-o-Xylene	%	102		6254025
D4-1,2-Dichloroethane	%	93		6254025
D8-Toluene	%	98		6254025

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: B9K5782
Report Date: 2019/07/31

Pinchin Ltd
Client Project #: 245376-001
Site Location: STITTSVILLE
Sampler Initials: MK

RESULTS OF ANALYSES OF SOIL

BV Labs ID		KJB750		KJB751			KJB751	
Sampling Date		2019/07/25		2019/07/25			2019/07/25	
COC Number		729720-02-01		729720-02-01			729720-02-01	
	UNITS	MW-2 SS-2	QC Batch	MW-2 SS-7	RDL	QC Batch	MW-2 SS-7 Lab-Dup	QC Batch
Inorganics								
Available (CaCl2) pH	pH	7.75	6254076	8.11		6254076	8.06	6254076
Miscellaneous Parameters								
Grain Size	%			COARSE	N/A	6252165		
Sieve - #200 (<0.075mm)	%			7	1	6252165		
Sieve - #200 (>0.075mm)	%			93	1	6252165		

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9K5782
Report Date: 2019/07/31

Pinchin Ltd
Client Project #: 245376-001
Site Location: STITTSVILLE
Sampler Initials: MK

TEST SUMMARY

BV Labs ID: KJB750
Sample ID: MW-2 SS-2
Matrix: Soil

Collected: 2019/07/25
Shipped:
Received: 2019/07/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6254076	2019/07/30	2019/07/30	Kazzandra Adeva

BV Labs ID: KJB751
Sample ID: MW-2 SS-7
Matrix: Soil

Collected: 2019/07/25
Shipped:
Received: 2019/07/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6247922	N/A	2019/07/31	Automated Statchk
1,3-Dichloropropene Sum	CALC	6247923	N/A	2019/07/31	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6254106	2019/07/29	2019/07/31	Prabhjot Gulati
Moisture	BAL	6251464	N/A	2019/07/27	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6254116	2019/07/30	2019/07/31	Mitesh Raj
pH CaCl2 EXTRACT	AT	6254076	2019/07/30	2019/07/30	Kazzandra Adeva
Sieve, 75um	SIEV	6252165	N/A	2019/07/29	Min Yang
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6254025	N/A	2019/07/30	Blair Gannon

BV Labs ID: KJB751 Dup
Sample ID: MW-2 SS-7
Matrix: Soil

Collected: 2019/07/25
Shipped:
Received: 2019/07/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6254076	2019/07/30	2019/07/30	Kazzandra Adeva

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

GENERAL COMMENTS

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

Package 1	13.7°C

Results relate only to the items tested.

BV Labs Job #: B9K5782
Report Date: 2019/07/31

Pinchin Ltd
Client Project #: 245376-001
Site Location: STITTSVILLE
Sampler Initials: MK

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6251464	JMP	RPD	Moisture	2019/07/27	2.3		%	20
6252165	GYA	QC Standard	Sieve - #200 (<0.075mm)	2019/07/30		56	%	53 - 58
			Sieve - #200 (>0.075mm)	2019/07/30		44	%	42 - 47
6252165	GYA	RPD	Sieve - #200 (<0.075mm)	2019/07/29	0.24		%	20
			Sieve - #200 (>0.075mm)	2019/07/29	0.40		%	20
6254025	BG1	Matrix Spike	4-Bromofluorobenzene	2019/07/30		97	%	60 - 140
			D10-o-Xylene	2019/07/30		108	%	60 - 130
			D4-1,2-Dichloroethane	2019/07/30		92	%	60 - 140
			D8-Toluene	2019/07/30		104	%	60 - 140
			Acetone (2-Propanone)	2019/07/30		96	%	60 - 140
			Benzene	2019/07/30		92	%	60 - 140
			Bromodichloromethane	2019/07/30		86	%	60 - 140
			Bromoform	2019/07/30		90	%	60 - 140
			Bromomethane	2019/07/30		118	%	60 - 140
			Carbon Tetrachloride	2019/07/30		81	%	60 - 140
			Chlorobenzene	2019/07/30		86	%	60 - 140
			Chloroform	2019/07/30		81	%	60 - 140
			Dibromochloromethane	2019/07/30		93	%	60 - 140
			1,2-Dichlorobenzene	2019/07/30		89	%	60 - 140
			1,3-Dichlorobenzene	2019/07/30		91	%	60 - 140
			1,4-Dichlorobenzene	2019/07/30		98	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2019/07/30		85	%	60 - 140
			1,1-Dichloroethane	2019/07/30		90	%	60 - 140
			1,2-Dichloroethane	2019/07/30		85	%	60 - 140
			1,1-Dichloroethylene	2019/07/30		92	%	60 - 140
			cis-1,2-Dichloroethylene	2019/07/30		86	%	60 - 140
			trans-1,2-Dichloroethylene	2019/07/30		91	%	60 - 140
			1,2-Dichloropropane	2019/07/30		89	%	60 - 140
			cis-1,3-Dichloropropene	2019/07/30		79	%	60 - 140
			trans-1,3-Dichloropropene	2019/07/30		82	%	60 - 140
			Ethylbenzene	2019/07/30		88	%	60 - 140
			Ethylene Dibromide	2019/07/30		94	%	60 - 140
			Hexane	2019/07/30		100	%	60 - 140
			Methylene Chloride(Dichloromethane)	2019/07/30		95	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30		106	%	60 - 140
			Methyl Isobutyl Ketone	2019/07/30		98	%	60 - 140
			Methyl t-butyl ether (MTBE)	2019/07/30		83	%	60 - 140
			Styrene	2019/07/30		98	%	60 - 140
			1,1,1,2-Tetrachloroethane	2019/07/30		95	%	60 - 140
			1,1,2,2-Tetrachloroethane	2019/07/30		96	%	60 - 140
			Tetrachloroethylene	2019/07/30		84	%	60 - 140
			Toluene	2019/07/30		86	%	60 - 140
			1,1,1-Trichloroethane	2019/07/30		84	%	60 - 140
			1,1,2-Trichloroethane	2019/07/30		87	%	60 - 140
			Trichloroethylene	2019/07/30		90	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2019/07/30		92	%	60 - 140
			Vinyl Chloride	2019/07/30		112	%	60 - 140
			p+m-Xylene	2019/07/30		96	%	60 - 140
			o-Xylene	2019/07/30		93	%	60 - 140
			F1 (C6-C10)	2019/07/30		102	%	60 - 140
6254025	BG1	Spiked Blank	4-Bromofluorobenzene	2019/07/30		102	%	60 - 140
			D10-o-Xylene	2019/07/30		101	%	60 - 130
			D4-1,2-Dichloroethane	2019/07/30		92	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			D8-Toluene	2019/07/30		102	%	60 - 140
			Acetone (2-Propanone)	2019/07/30		93	%	60 - 140
			Benzene	2019/07/30		88	%	60 - 130
			Bromodichloromethane	2019/07/30		82	%	60 - 130
			Bromoform	2019/07/30		91	%	60 - 130
			Bromomethane	2019/07/30		110	%	60 - 140
			Carbon Tetrachloride	2019/07/30		75	%	60 - 130
			Chlorobenzene	2019/07/30		82	%	60 - 130
			Chloroform	2019/07/30		74	%	60 - 130
			Dibromochloromethane	2019/07/30		88	%	60 - 130
			1,2-Dichlorobenzene	2019/07/30		84	%	60 - 130
			1,3-Dichlorobenzene	2019/07/30		85	%	60 - 130
			1,4-Dichlorobenzene	2019/07/30		91	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2019/07/30		74	%	60 - 140
			1,1-Dichloroethane	2019/07/30		86	%	60 - 130
			1,2-Dichloroethane	2019/07/30		82	%	60 - 130
			1,1-Dichloroethylene	2019/07/30		85	%	60 - 130
			cis-1,2-Dichloroethylene	2019/07/30		81	%	60 - 130
			trans-1,2-Dichloroethylene	2019/07/30		84	%	60 - 130
			1,2-Dichloropropane	2019/07/30		85	%	60 - 130
			cis-1,3-Dichloropropene	2019/07/30		80	%	60 - 130
			trans-1,3-Dichloropropene	2019/07/30		81	%	60 - 130
			Ethylbenzene	2019/07/30		83	%	60 - 130
			Ethylene Dibromide	2019/07/30		91	%	60 - 130
			Hexane	2019/07/30		93	%	60 - 130
			Methylene Chloride(Dichloromethane)	2019/07/30		90	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30		104	%	60 - 140
			Methyl Isobutyl Ketone	2019/07/30		96	%	60 - 130
			Methyl t-butyl ether (MTBE)	2019/07/30		80	%	60 - 130
			Styrene	2019/07/30		93	%	60 - 130
			1,1,1,2-Tetrachloroethane	2019/07/30		91	%	60 - 130
			1,1,2,2-Tetrachloroethane	2019/07/30		97	%	60 - 130
			Tetrachloroethylene	2019/07/30		74	%	60 - 130
			Toluene	2019/07/30		80	%	60 - 130
			1,1,1-Trichloroethane	2019/07/30		77	%	60 - 130
			1,1,2-Trichloroethane	2019/07/30		75	%	60 - 130
			Trichloroethylene	2019/07/30		84	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2019/07/30		84	%	60 - 130
			Vinyl Chloride	2019/07/30		100	%	60 - 130
			p+m-Xylene	2019/07/30		89	%	60 - 130
			o-Xylene	2019/07/30		88	%	60 - 130
			F1 (C6-C10)	2019/07/30		92	%	80 - 120
6254025	BG1	Method Blank	4-Bromofluorobenzene	2019/07/30		96	%	60 - 140
			D10-o-Xylene	2019/07/30		90	%	60 - 130
			D4-1,2-Dichloroethane	2019/07/30		91	%	60 - 140
			D8-Toluene	2019/07/30		96	%	60 - 140
			Acetone (2-Propanone)	2019/07/30	<0.50		ug/g	
			Benzene	2019/07/30	<0.020		ug/g	
			Bromodichloromethane	2019/07/30	<0.050		ug/g	
			Bromoform	2019/07/30	<0.050		ug/g	
			Bromomethane	2019/07/30	<0.050		ug/g	
			Carbon Tetrachloride	2019/07/30	<0.050		ug/g	
			Chlorobenzene	2019/07/30	<0.050		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chloroform	2019/07/30	<0.050		ug/g	
			Dibromochloromethane	2019/07/30	<0.050		ug/g	
			1,2-Dichlorobenzene	2019/07/30	<0.050		ug/g	
			1,3-Dichlorobenzene	2019/07/30	<0.050		ug/g	
			1,4-Dichlorobenzene	2019/07/30	<0.050		ug/g	
			Dichlorodifluoromethane (FREON 12)	2019/07/30	<0.050		ug/g	
			1,1-Dichloroethane	2019/07/30	<0.050		ug/g	
			1,2-Dichloroethane	2019/07/30	<0.050		ug/g	
			1,1-Dichloroethylene	2019/07/30	<0.050		ug/g	
			cis-1,2-Dichloroethylene	2019/07/30	<0.050		ug/g	
			trans-1,2-Dichloroethylene	2019/07/30	<0.050		ug/g	
			1,2-Dichloropropane	2019/07/30	<0.050		ug/g	
			cis-1,3-Dichloropropene	2019/07/30	<0.030		ug/g	
			trans-1,3-Dichloropropene	2019/07/30	<0.040		ug/g	
			Ethylbenzene	2019/07/30	<0.020		ug/g	
			Ethylene Dibromide	2019/07/30	<0.050		ug/g	
			Hexane	2019/07/30	<0.050		ug/g	
			Methylene Chloride(Dichloromethane)	2019/07/30	<0.050		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30	<0.50		ug/g	
			Methyl Isobutyl Ketone	2019/07/30	<0.50		ug/g	
			Methyl t-butyl ether (MTBE)	2019/07/30	<0.050		ug/g	
			Styrene	2019/07/30	<0.050		ug/g	
			1,1,1,2-Tetrachloroethane	2019/07/30	<0.050		ug/g	
			1,1,2,2-Tetrachloroethane	2019/07/30	<0.050		ug/g	
			Tetrachloroethylene	2019/07/30	<0.050		ug/g	
			Toluene	2019/07/30	<0.020		ug/g	
			1,1,1-Trichloroethane	2019/07/30	<0.050		ug/g	
			1,1,2-Trichloroethane	2019/07/30	<0.050		ug/g	
			Trichloroethylene	2019/07/30	<0.050		ug/g	
			Trichlorofluoromethane (FREON 11)	2019/07/30	<0.050		ug/g	
			Vinyl Chloride	2019/07/30	<0.020		ug/g	
			p+m-Xylene	2019/07/30	<0.020		ug/g	
			o-Xylene	2019/07/30	<0.020		ug/g	
			Total Xylenes	2019/07/30	<0.020		ug/g	
			F1 (C6-C10)	2019/07/30	<10		ug/g	
			F1 (C6-C10) - BTEX	2019/07/30	<10		ug/g	
6254025	BG1	RPD	Acetone (2-Propanone)	2019/07/30	NC		%	50
			Benzene	2019/07/30	NC		%	50
			Bromodichloromethane	2019/07/30	NC		%	50
			Bromoform	2019/07/30	NC		%	50
			Bromomethane	2019/07/30	NC		%	50
			Carbon Tetrachloride	2019/07/30	NC		%	50
			Chlorobenzene	2019/07/30	NC		%	50
			Chloroform	2019/07/30	NC		%	50
			Dibromochloromethane	2019/07/30	NC		%	50
			1,2-Dichlorobenzene	2019/07/30	NC		%	50
			1,3-Dichlorobenzene	2019/07/30	NC		%	50
			1,4-Dichlorobenzene	2019/07/30	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2019/07/30	NC		%	50
			1,1-Dichloroethane	2019/07/30	NC		%	50
			1,2-Dichloroethane	2019/07/30	NC		%	50
			1,1-Dichloroethylene	2019/07/30	NC		%	50
			cis-1,2-Dichloroethylene	2019/07/30	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			trans-1,2-Dichloroethylene	2019/07/30	NC		%	50
			1,2-Dichloropropane	2019/07/30	NC		%	50
			cis-1,3-Dichloropropene	2019/07/30	NC		%	50
			trans-1,3-Dichloropropene	2019/07/30	NC		%	50
			Ethylbenzene	2019/07/30	NC		%	50
			Ethylene Dibromide	2019/07/30	NC		%	50
			Hexane	2019/07/30	NC		%	50
			Methylene Chloride(Dichloromethane)	2019/07/30	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30	NC		%	50
			Methyl Isobutyl Ketone	2019/07/30	NC		%	50
			Methyl t-butyl ether (MTBE)	2019/07/30	NC		%	50
			Styrene	2019/07/30	NC		%	50
			1,1,1,2-Tetrachloroethane	2019/07/30	NC		%	50
			1,1,2,2-Tetrachloroethane	2019/07/30	NC		%	50
			Tetrachloroethylene	2019/07/30	NC		%	50
			Toluene	2019/07/30	NC		%	50
			1,1,1-Trichloroethane	2019/07/30	NC		%	50
			1,1,2-Trichloroethane	2019/07/30	NC		%	50
			Trichloroethylene	2019/07/30	NC		%	50
			Trichlorofluoromethane (FREON 11)	2019/07/30	NC		%	50
			Vinyl Chloride	2019/07/30	NC		%	50
			p+m-Xylene	2019/07/30	NC		%	50
			o-Xylene	2019/07/30	NC		%	50
			Total Xylenes	2019/07/30	NC		%	50
			F1 (C6-C10)	2019/07/30	NC		%	30
			F1 (C6-C10) - BTEX	2019/07/30	NC		%	30
6254076	KAD	Spiked Blank	Available (CaCl2) pH	2019/07/30		100	%	97 - 103
6254076	KAD	RPD [KJB751-01]	Available (CaCl2) pH	2019/07/30	0.72		%	N/A
6254106	GUL	Matrix Spike	o-Terphenyl	2019/07/30		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/07/30		92	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2019/07/30		83	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2019/07/30		NC	%	50 - 130
6254106	GUL	Spiked Blank	o-Terphenyl	2019/07/30		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/07/30		91	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2019/07/30		87	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2019/07/30		96	%	80 - 120
6254106	GUL	Method Blank	o-Terphenyl	2019/07/30		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/07/30	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2019/07/30	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2019/07/30	<50		ug/g	
6254106	GUL	RPD	F2 (C10-C16 Hydrocarbons)	2019/07/31	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2019/07/31	0.93		%	30
			F4 (C34-C50 Hydrocarbons)	2019/07/31	2.7		%	30
6254116	RAJ	Matrix Spike	D10-Anthracene	2019/07/30		105	%	50 - 130
			D14-Terphenyl (FS)	2019/07/30		102	%	50 - 130
			D8-Acenaphthylene	2019/07/30		92	%	50 - 130
			Acenaphthene	2019/07/30		93	%	50 - 130
			Acenaphthylene	2019/07/30		102	%	50 - 130
			Anthracene	2019/07/30		89	%	50 - 130
			Benzo(a)anthracene	2019/07/30		76	%	50 - 130
			Benzo(a)pyrene	2019/07/30		67	%	50 - 130
			Benzo(b/j)fluoranthene	2019/07/30		89	%	50 - 130
			Benzo(g,h,i)perylene	2019/07/30		73	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzo(k)fluoranthene	2019/07/30		73	%	50 - 130
			Chrysene	2019/07/30		70	%	50 - 130
			Dibenz(a,h)anthracene	2019/07/30		93	%	50 - 130
			Fluoranthene	2019/07/30		NC	%	50 - 130
			Fluorene	2019/07/30		105	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2019/07/30		68	%	50 - 130
			1-Methylnaphthalene	2019/07/30		125	%	50 - 130
			2-Methylnaphthalene	2019/07/30		92	%	50 - 130
			Naphthalene	2019/07/30		94	%	50 - 130
			Phenanthrene	2019/07/30		NC	%	50 - 130
			Pyrene	2019/07/30		NC	%	50 - 130
6254116	RAJ	Spiked Blank	D10-Anthracene	2019/07/30		101	%	50 - 130
			D14-Terphenyl (FS)	2019/07/30		102	%	50 - 130
			D8-Acenaphthylene	2019/07/30		88	%	50 - 130
			Acenaphthene	2019/07/30		95	%	50 - 130
			Acenaphthylene	2019/07/30		94	%	50 - 130
			Anthracene	2019/07/30		97	%	50 - 130
			Benzo(a)anthracene	2019/07/30		101	%	50 - 130
			Benzo(a)pyrene	2019/07/30		96	%	50 - 130
			Benzo(b/j)fluoranthene	2019/07/30		103	%	50 - 130
			Benzo(g,h,i)perylene	2019/07/30		100	%	50 - 130
			Benzo(k)fluoranthene	2019/07/30		95	%	50 - 130
			Chrysene	2019/07/30		96	%	50 - 130
			Dibenz(a,h)anthracene	2019/07/30		93	%	50 - 130
			Fluoranthene	2019/07/30		99	%	50 - 130
			Fluorene	2019/07/30		94	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2019/07/30		110	%	50 - 130
			1-Methylnaphthalene	2019/07/30		108	%	50 - 130
			2-Methylnaphthalene	2019/07/30		89	%	50 - 130
			Naphthalene	2019/07/30		97	%	50 - 130
			Phenanthrene	2019/07/30		98	%	50 - 130
			Pyrene	2019/07/30		103	%	50 - 130
6254116	RAJ	Method Blank	D10-Anthracene	2019/07/30		103	%	50 - 130
			D14-Terphenyl (FS)	2019/07/30		105	%	50 - 130
			D8-Acenaphthylene	2019/07/30		85	%	50 - 130
			Acenaphthene	2019/07/30	<0.0050		ug/g	
			Acenaphthylene	2019/07/30	<0.0050		ug/g	
			Anthracene	2019/07/30	<0.0050		ug/g	
			Benzo(a)anthracene	2019/07/30	<0.0050		ug/g	
			Benzo(a)pyrene	2019/07/30	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2019/07/30	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2019/07/30	<0.0050		ug/g	
			Benzo(k)fluoranthene	2019/07/30	<0.0050		ug/g	
			Chrysene	2019/07/30	<0.0050		ug/g	
			Dibenz(a,h)anthracene	2019/07/30	<0.0050		ug/g	
			Fluoranthene	2019/07/30	<0.0050		ug/g	
			Fluorene	2019/07/30	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2019/07/30	<0.0050		ug/g	
			1-Methylnaphthalene	2019/07/30	<0.0050		ug/g	
			2-Methylnaphthalene	2019/07/30	<0.0050		ug/g	
			Naphthalene	2019/07/30	<0.0050		ug/g	
			Phenanthrene	2019/07/30	<0.0050		ug/g	
			Pyrene	2019/07/30	<0.0050		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6254116	RAJ	RPD	Acenaphthene	2019/07/30	NC		%	40
			Acenaphthylene	2019/07/30	NC		%	40
			Anthracene	2019/07/30	18		%	40
			Benzo(a)anthracene	2019/07/30	22		%	40
			Benzo(a)pyrene	2019/07/30	13		%	40
			Benzo(b/j)fluoranthene	2019/07/30	9.9		%	40
			Benzo(g,h,i)perylene	2019/07/30	6.2		%	40
			Benzo(k)fluoranthene	2019/07/30	6.5		%	40
			Chrysene	2019/07/30	18		%	40
			Dibenz(a,h)anthracene	2019/07/30	12		%	40
			Fluoranthene	2019/07/30	22		%	40
			Fluorene	2019/07/30	NC		%	40
			Indeno(1,2,3-cd)pyrene	2019/07/30	8.1		%	40
			1-Methylnaphthalene	2019/07/30	NC		%	40
			2-Methylnaphthalene	2019/07/30	NC		%	40
			Naphthalene	2019/07/30	NC		%	40
			Phenanthrene	2019/07/30	42 (1)		%	40
			Pyrene	2019/07/30	24		%	40

N/A = Not Applicable

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

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

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

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

(1) Duplicate results exceeded RPD acceptance criteria. The variability in the results for this analyte may be more pronounced.

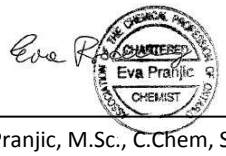
Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9K5782
Report Date: 2019/07/31

Pinchin Ltd
Client Project #: 245376-001
Site Location: STITTSVILLE
Sampler Initials: MK

VALIDATION SIGNATURE PAGE

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



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

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

INVOICE TO:
Company Name: #982 Pinchin Ltd
Attention: Accounts Payable
Address: 1 Hines Road Suite 200, Kanata ON K2K 3C7
Tel: (613) 592-3387 Fax: (613) 592-5897
Email: ap@pinchin.com

REPORT TO:
Company Name:
Attention: Matt, Ryan, Mike
Address:
Tel: Fax:
Email: mkosiw@Pinchin.com, rlaronde@pinchin.com; mryan@

PROJECT INFORMATION:
Quotation #: A70927
P.O. #: 245376.001
Project: Stittsville
Project Name:
Site #:
Sampled By:

Laboratory Use Only:
BV Labs Job #:
Bottle Order #: 729720
COC #: C#729720-02-01
Project Manager: Alisha Williamson

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

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Other

Special Instructions:

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

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons (Soil)	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PAHs (Soil)	pH CaCl2 EXTRACT	Sieve, 75um	# of Bottles	Comments
1		MW-2 552	July 25 2019	AM	Soil					X		1	Bottle
2		MW-2 557					X	X	X	X	X	2	
3													
4													
5													
6													
7													
8													
9													
10													

RECEIVED IN OTTAWA
25-Jul-19 15:55
Alisha Williamson
B9K5782
IC2 OTT-001

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Mike Kosiw	July 25 2019	1:30	Ivan Campbell	2019/07/25	15:45	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	14, 13, 14	Present	✓	
		Intact	✓	

UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#982 Pinchin Ltd	Company Name:		Quotation #:	A70927
Attention:	Accounts Payable	Attention:	Matt, Ryan, Mike	P.O. #:	
Address:	1 Hines Road Suite 200 Kanata ON K2K 3C7	Address:		Project:	245376.001 Stittsville
Tel:	(613) 592-3387 Fax: (613) 592-5897	Tel:	Fax:	Project Name:	
Email:	ap@pinchin.com	Email:	mkosiw@Pinchin.com, rlaronde@pinchin.com; mryan@	Site #:	
				Sampled By:	

Laboratory Use Only:

BV Labs Job #:	Bottle Order #:
	729720
COC #:	Project Manager:
C#729720-02-01	Alisha Williamson

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

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☒ Ind/Comm ☒ Coarse ☒ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☐ PWQO ☐ Other ___	

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

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons (Soil)	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PAHs (Soil)	pH CaCl2 EXTRACT	Sieve_75um	# of Bottles	Comments
1		mw-2 552	July 25, 2019	AM	Soil					X		1	BH RE
2		mw-2 55-1		L	L		X	X	X	X	X	2	
3													
4													
5													
6													
7													
8													
9													
10													

RECEIVED WA

25-Jul-19 15:55
Alisha Williamson
B9K5782
IC2 OTT-001

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Mike Kosiw	July 25 2019	1:30	Ivan Campbell Bruce Williams	2019/07/25 2019/07/26	15:55 08:00	4,6,4

Laboratory Use Only			
Time Sensitive	Temperature (°C) on Recei.	Custody Seal	Yes / No
	14, 13, 17	Present Intact	✓

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

White: BV Labs Yellow: Client

UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

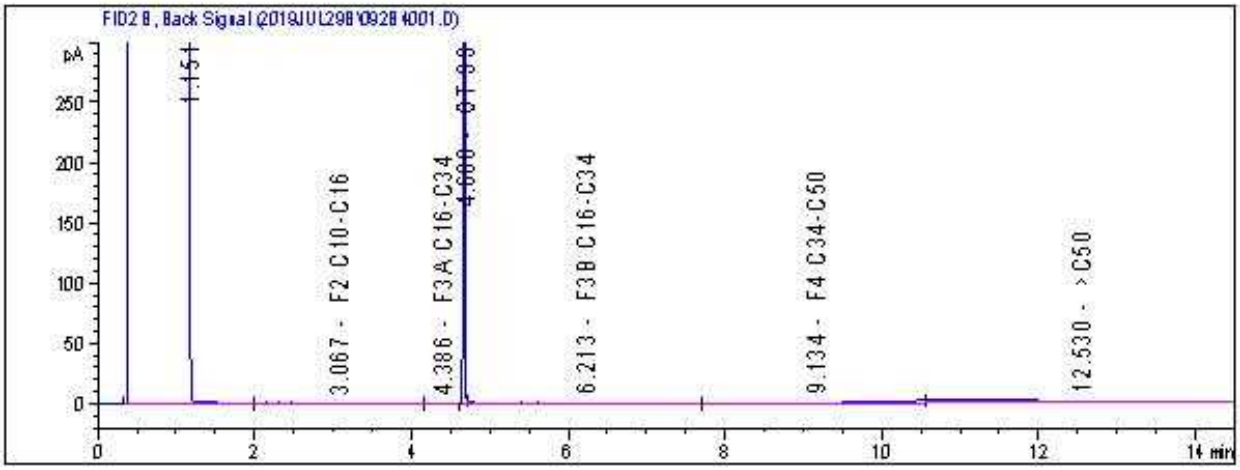
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

Bureau Veritas Canada (2019) Inc.

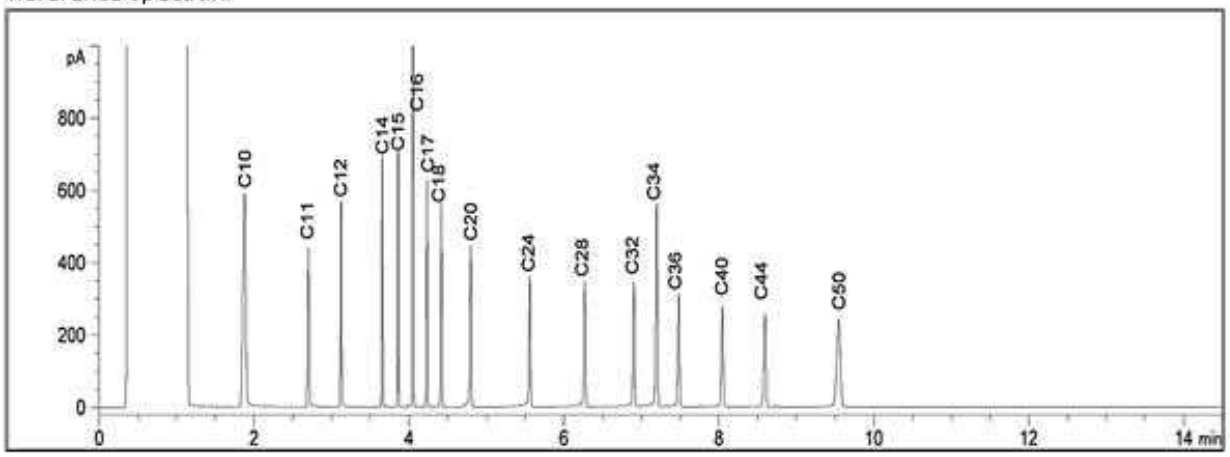
BV Labs Job #: B9K5782
Report Date: 2019/07/31
BV Labs Sample: KJB751

Pinchin Ltd
Client Project #: 245376-001
Project name: STITTSVILLE
Client ID: MW-2 SS-7

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: **C6 - C12**	Diesel: **C10 - C24**	Jet Fuels: **C6 - C16**
Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

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

Your Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Your C.O.C. #: 729720-03-01

Attention: Matt, Ryan, Mike

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

Report Date: 2019/08/02
Report #: R5824761
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9K6875
Received: 2019/07/26, 13:25

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum (1)	2	N/A	2019/08/02	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum (1)	2	N/A	2019/07/31		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	2	2019/07/31	2019/08/01	CAM SOP-00316	CCME PHC-CWS m
PAH Compounds in Water by GC/MS (SIM) (1)	2	2019/07/31	2019/08/01	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs (1)	2	N/A	2019/07/30	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied 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) This test was performed by Bureau Veritas Laboratories Mississauga
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Your C.O.C. #: 729720-03-01

Attention: Matt, Ryan, Mike

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

Report Date: 2019/08/02
Report #: R5824761
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9K6875
Received: 2019/07/26, 13:25

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573
==========
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BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

O.REG 153 PAHS (WATER)

BV Labs ID		KJH192	KJH193		
Sampling Date		2019/07/26	2019/07/26		
COC Number		729720-03-01	729720-03-01		
	UNITS	MW-1	MW-2	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.13	0.071	6249412
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	<0.050	0.050	6257507
Acenaphthylene	ug/L	<0.050	<0.050	0.050	6257507
Anthracene	ug/L	<0.050	<0.050	0.050	6257507
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	6257507
Benzo(a)pyrene	ug/L	<0.010	<0.010	0.010	6257507
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	6257507
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	6257507
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	6257507
Chrysene	ug/L	<0.050	<0.050	0.050	6257507
Dibenz(a,h)anthracene	ug/L	<0.050	<0.050	0.050	6257507
Fluoranthene	ug/L	<0.050	<0.050	0.050	6257507
Fluorene	ug/L	<0.050	<0.050	0.050	6257507
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	6257507
1-Methylnaphthalene	ug/L	<0.050	0.063	0.050	6257507
2-Methylnaphthalene	ug/L	<0.050	0.068	0.050	6257507
Naphthalene	ug/L	<0.050	0.074	0.050	6257507
Phenanthrene	ug/L	<0.030	<0.030	0.030	6257507
Pyrene	ug/L	<0.050	<0.050	0.050	6257507
Surrogate Recovery (%)					
D10-Anthracene	%	112	99		6257507
D14-Terphenyl (FS)	%	82	73		6257507
D8-Acenaphthylene	%	96	95		6257507

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

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

BV Labs ID		KJH192	KJH193		
Sampling Date		2019/07/26	2019/07/26		
COC Number		729720-03-01	729720-03-01		
	UNITS	MW-1	MW-2	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	6248989
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	6252838
Benzene	ug/L	<0.20	<0.20	0.20	6252838
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	6252838
Bromoform	ug/L	<1.0	<1.0	1.0	6252838
Bromomethane	ug/L	<0.50	<0.50	0.50	6252838
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	6252838
Chlorobenzene	ug/L	<0.20	<0.20	0.20	6252838
Chloroform	ug/L	<0.20	1.8	0.20	6252838
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	6252838
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	6252838
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	6252838
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	6252838
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	6252838
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	6252838
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	6252838
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	6252838
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	6252838
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	6252838
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	6252838
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	6252838
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	6252838
Ethylbenzene	ug/L	<0.20	<0.20	0.20	6252838
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	6252838
Hexane	ug/L	<1.0	<1.0	1.0	6252838
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	6252838
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	6252838
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	6252838
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	6252838
Styrene	ug/L	<0.50	<0.50	0.50	6252838
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	6252838
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	6252838
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	6252838

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

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

BV Labs ID		KJH192	KJH193		
Sampling Date		2019/07/26	2019/07/26		
COC Number		729720-03-01	729720-03-01		
	UNITS	MW-1	MW-2	RDL	QC Batch
Toluene	ug/L	<0.20	0.23	0.20	6252838
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	6252838
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	6252838
Trichloroethylene	ug/L	<0.20	<0.20	0.20	6252838
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	6252838
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	6252838
p+m-Xylene	ug/L	<0.20	<0.20	0.20	6252838
o-Xylene	ug/L	<0.20	<0.20	0.20	6252838
Total Xylenes	ug/L	<0.20	<0.20	0.20	6252838
F1 (C6-C10)	ug/L	<25	<25	25	6252838
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	6252838
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	6257509
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	6257509
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	6257509
Reached Baseline at C50	ug/L	Yes	Yes		6257509
Surrogate Recovery (%)					
o-Terphenyl	%	106	104		6257509
4-Bromofluorobenzene	%	98	98		6252838
D4-1,2-Dichloroethane	%	100	102		6252838
D8-Toluene	%	97	97		6252838

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

TEST SUMMARY

BV Labs ID: KJH192
Sample ID: MW-1
Matrix: Water

Collected: 2019/07/26
Shipped:
Received: 2019/07/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6249412	N/A	2019/08/02	Automated Statchk
1,3-Dichloropropene Sum	CALC	6248989	N/A	2019/07/31	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6257509	2019/07/31	2019/08/01	Prabhjot Gulati
PAH Compounds in Water by GC/MS (SIM)	GC/MS	6257507	2019/07/31	2019/08/01	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6252838	N/A	2019/07/30	Karen Hughes

BV Labs ID: KJH193
Sample ID: MW-2
Matrix: Water

Collected: 2019/07/26
Shipped:
Received: 2019/07/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6249412	N/A	2019/08/02	Automated Statchk
1,3-Dichloropropene Sum	CALC	6248989	N/A	2019/07/31	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6257509	2019/07/31	2019/08/01	Prabhjot Gulati
PAH Compounds in Water by GC/MS (SIM)	GC/MS	6257507	2019/07/31	2019/08/01	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6252838	N/A	2019/07/30	Karen Hughes

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BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

GENERAL COMMENTS

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

Package 1	6.7°C

Results relate only to the items tested.

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BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6252838	KH2	Matrix Spike	4-Bromofluorobenzene	2019/07/30		100	%	70 - 130
			D4-1,2-Dichloroethane	2019/07/30		108	%	70 - 130
			D8-Toluene	2019/07/30		96	%	70 - 130
			Acetone (2-Propanone)	2019/07/30		144 (1)	%	60 - 140
			Benzene	2019/07/30		97	%	70 - 130
			Bromodichloromethane	2019/07/30		93	%	70 - 130
			Bromoform	2019/07/30		99	%	70 - 130
			Bromomethane	2019/07/30		131	%	60 - 140
			Carbon Tetrachloride	2019/07/30		88	%	70 - 130
			Chlorobenzene	2019/07/30		90	%	70 - 130
			Chloroform	2019/07/30		93	%	70 - 130
			Dibromochloromethane	2019/07/30		102	%	70 - 130
			1,2-Dichlorobenzene	2019/07/30		91	%	70 - 130
			1,3-Dichlorobenzene	2019/07/30		89	%	70 - 130
			1,4-Dichlorobenzene	2019/07/30		93	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2019/07/30		84	%	60 - 140
			1,1-Dichloroethane	2019/07/30		95	%	70 - 130
			1,2-Dichloroethane	2019/07/30		106	%	70 - 130
			1,1-Dichloroethylene	2019/07/30		99	%	70 - 130
			cis-1,2-Dichloroethylene	2019/07/30		90	%	70 - 130
			trans-1,2-Dichloroethylene	2019/07/30		95	%	70 - 130
			1,2-Dichloropropane	2019/07/30		92	%	70 - 130
			cis-1,3-Dichloropropene	2019/07/30		95	%	70 - 130
			trans-1,3-Dichloropropene	2019/07/30		103	%	70 - 130
			Ethylbenzene	2019/07/30		84	%	70 - 130
			Ethylene Dibromide	2019/07/30		104	%	70 - 130
			Hexane	2019/07/30		96	%	70 - 130
			Methylene Chloride(Dichloromethane)	2019/07/30		95	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30		125	%	60 - 140
			Methyl Isobutyl Ketone	2019/07/30		105	%	70 - 130
			Methyl t-butyl ether (MTBE)	2019/07/30		84	%	70 - 130
			Styrene	2019/07/30		88	%	70 - 130
			1,1,1,2-Tetrachloroethane	2019/07/30		98	%	70 - 130
			1,1,2,2-Tetrachloroethane	2019/07/30		107	%	70 - 130
			Tetrachloroethylene	2019/07/30		89	%	70 - 130
			Toluene	2019/07/30		96	%	70 - 130
			1,1,1-Trichloroethane	2019/07/30		89	%	70 - 130
			1,1,2-Trichloroethane	2019/07/30		102	%	70 - 130
			Trichloroethylene	2019/07/30		97	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2019/07/30		106	%	70 - 130
			Vinyl Chloride	2019/07/30		70	%	70 - 130
			p+m-Xylene	2019/07/30		88	%	70 - 130
			o-Xylene	2019/07/30		85	%	70 - 130
			F1 (C6-C10)	2019/07/30		92	%	60 - 140
6252838	KH2	Spiked Blank	4-Bromofluorobenzene	2019/07/30		99	%	70 - 130
			D4-1,2-Dichloroethane	2019/07/30		100	%	70 - 130
			D8-Toluene	2019/07/30		100	%	70 - 130
			Acetone (2-Propanone)	2019/07/30		106	%	60 - 140
			Benzene	2019/07/30		95	%	70 - 130
			Bromodichloromethane	2019/07/30		91	%	70 - 130
			Bromoform	2019/07/30		94	%	70 - 130
			Bromomethane	2019/07/30		137	%	60 - 140
			Carbon Tetrachloride	2019/07/30		90	%	70 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chlorobenzene	2019/07/30		90	%	70 - 130
			Chloroform	2019/07/30		92	%	70 - 130
			Dibromochloromethane	2019/07/30		97	%	70 - 130
			1,2-Dichlorobenzene	2019/07/30		90	%	70 - 130
			1,3-Dichlorobenzene	2019/07/30		91	%	70 - 130
			1,4-Dichlorobenzene	2019/07/30		95	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2019/07/30		90	%	60 - 140
			1,1-Dichloroethane	2019/07/30		94	%	70 - 130
			1,2-Dichloroethane	2019/07/30		100	%	70 - 130
			1,1-Dichloroethylene	2019/07/30		100	%	70 - 130
			cis-1,2-Dichloroethylene	2019/07/30		88	%	70 - 130
			trans-1,2-Dichloroethylene	2019/07/30		95	%	70 - 130
			1,2-Dichloropropane	2019/07/30		89	%	70 - 130
			cis-1,3-Dichloropropene	2019/07/30		89	%	70 - 130
			trans-1,3-Dichloropropene	2019/07/30		92	%	70 - 130
			Ethylbenzene	2019/07/30		86	%	70 - 130
			Ethylene Dibromide	2019/07/30		97	%	70 - 130
			Hexane	2019/07/30		99	%	70 - 130
			Methylene Chloride(Dichloromethane)	2019/07/30		92	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30		101	%	60 - 140
			Methyl Isobutyl Ketone	2019/07/30		94	%	70 - 130
			Methyl t-butyl ether (MTBE)	2019/07/30		82	%	70 - 130
			Styrene	2019/07/30		89	%	70 - 130
			1,1,1,2-Tetrachloroethane	2019/07/30		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2019/07/30		99	%	70 - 130
			Tetrachloroethylene	2019/07/30		92	%	70 - 130
			Toluene	2019/07/30		97	%	70 - 130
			1,1,1-Trichloroethane	2019/07/30		92	%	70 - 130
			1,1,2-Trichloroethane	2019/07/30		97	%	70 - 130
			Trichloroethylene	2019/07/30		98	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2019/07/30		110	%	70 - 130
			Vinyl Chloride	2019/07/30		104	%	70 - 130
			p+m-Xylene	2019/07/30		91	%	70 - 130
			o-Xylene	2019/07/30		87	%	70 - 130
			F1 (C6-C10)	2019/07/30		98	%	60 - 140
6252838	KH2	Method Blank	4-Bromofluorobenzene	2019/07/30		98	%	70 - 130
			D4-1,2-Dichloroethane	2019/07/30		100	%	70 - 130
			D8-Toluene	2019/07/30		99	%	70 - 130
			Acetone (2-Propanone)	2019/07/30	<10		ug/L	
			Benzene	2019/07/30	<0.20		ug/L	
			Bromodichloromethane	2019/07/30	<0.50		ug/L	
			Bromoform	2019/07/30	<1.0		ug/L	
			Bromomethane	2019/07/30	<0.50		ug/L	
			Carbon Tetrachloride	2019/07/30	<0.20		ug/L	
			Chlorobenzene	2019/07/30	<0.20		ug/L	
			Chloroform	2019/07/30	<0.20		ug/L	
			Dibromochloromethane	2019/07/30	<0.50		ug/L	
			1,2-Dichlorobenzene	2019/07/30	<0.50		ug/L	
			1,3-Dichlorobenzene	2019/07/30	<0.50		ug/L	
			1,4-Dichlorobenzene	2019/07/30	<0.50		ug/L	
			Dichlorodifluoromethane (FREON 12)	2019/07/30	<1.0		ug/L	
			1,1-Dichloroethane	2019/07/30	<0.20		ug/L	
			1,2-Dichloroethane	2019/07/30	<0.50		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,1-Dichloroethylene	2019/07/30	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2019/07/30	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2019/07/30	<0.50		ug/L	
			1,2-Dichloropropane	2019/07/30	<0.20		ug/L	
			cis-1,3-Dichloropropene	2019/07/30	<0.30		ug/L	
			trans-1,3-Dichloropropene	2019/07/30	<0.40		ug/L	
			Ethylbenzene	2019/07/30	<0.20		ug/L	
			Ethylene Dibromide	2019/07/30	<0.20		ug/L	
			Hexane	2019/07/30	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2019/07/30	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2019/07/30	<10		ug/L	
			Methyl Isobutyl Ketone	2019/07/30	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2019/07/30	<0.50		ug/L	
			Styrene	2019/07/30	<0.50		ug/L	
			1,1,1,2-Tetrachloroethane	2019/07/30	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2019/07/30	<0.50		ug/L	
			Tetrachloroethylene	2019/07/30	<0.20		ug/L	
			Toluene	2019/07/30	<0.20		ug/L	
			1,1,1-Trichloroethane	2019/07/30	<0.20		ug/L	
			1,1,2-Trichloroethane	2019/07/30	<0.50		ug/L	
			Trichloroethylene	2019/07/30	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2019/07/30	<0.50		ug/L	
			Vinyl Chloride	2019/07/30	<0.20		ug/L	
			p+m-Xylene	2019/07/30	<0.20		ug/L	
			o-Xylene	2019/07/30	<0.20		ug/L	
			Total Xylenes	2019/07/30	<0.20		ug/L	
			F1 (C6-C10)	2019/07/30	<25		ug/L	
			F1 (C6-C10) - BTEX	2019/07/30	<25		ug/L	
6252838	KH2	RPD	Acetone (2-Propanone)	2019/07/30	13		%	30
			Benzene	2019/07/30	4.0		%	30
			Bromodichloromethane	2019/07/30	NC		%	30
			Bromoform	2019/07/30	NC		%	30
			Bromomethane	2019/07/30	NC		%	30
			Carbon Tetrachloride	2019/07/30	NC		%	30
			Chlorobenzene	2019/07/30	NC		%	30
			Dibromochloromethane	2019/07/30	NC		%	30
			1,2-Dichlorobenzene	2019/07/30	NC		%	30
			1,3-Dichlorobenzene	2019/07/30	NC		%	30
			1,4-Dichlorobenzene	2019/07/30	NC		%	30
			1,1-Dichloroethane	2019/07/30	NC		%	30
			1,2-Dichloroethane	2019/07/30	NC		%	30
			1,1-Dichloroethylene	2019/07/30	NC		%	30
			cis-1,2-Dichloroethylene	2019/07/30	NC		%	30
			trans-1,2-Dichloroethylene	2019/07/30	NC		%	30
			1,2-Dichloropropane	2019/07/30	NC		%	30
			cis-1,3-Dichloropropene	2019/07/30	NC		%	30
			trans-1,3-Dichloropropene	2019/07/30	NC		%	30
			Ethylbenzene	2019/07/30	2.0		%	30
			Ethylene Dibromide	2019/07/30	NC		%	30
			Methylene Chloride(Dichloromethane)	2019/07/30	NC		%	30
			Styrene	2019/07/30	NC		%	30
			1,1,2,2-Tetrachloroethane	2019/07/30	NC		%	30
			Tetrachloroethylene	2019/07/30	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Toluene	2019/07/30	NC		%	30
			1,1,1-Trichloroethane	2019/07/30	NC		%	30
			1,1,2-Trichloroethane	2019/07/30	NC		%	30
			Trichlorofluoromethane (FREON 11)	2019/07/30	NC		%	30
			Vinyl Chloride	2019/07/30	NC		%	30
			Total Xylenes	2019/07/30	1.9		%	30
			F1 (C6-C10)	2019/07/30	30		%	30
			F1 (C6-C10) - BTEX	2019/07/30	NC		%	30
6257507	RAJ	Matrix Spike	D10-Anthracene	2019/07/31		90	%	50 - 130
			D14-Terphenyl (FS)	2019/07/31		74	%	50 - 130
			D8-Acenaphthylene	2019/07/31		88	%	50 - 130
			Acenaphthene	2019/07/31		105	%	50 - 130
			Acenaphthylene	2019/07/31		102	%	50 - 130
			Anthracene	2019/07/31		102	%	50 - 130
			Benzo(a)anthracene	2019/07/31		105	%	50 - 130
			Benzo(a)pyrene	2019/07/31		107	%	50 - 130
			Benzo(b/j)fluoranthene	2019/07/31		112	%	50 - 130
			Benzo(g,h,i)perylene	2019/07/31		108	%	50 - 130
			Benzo(k)fluoranthene	2019/07/31		116	%	50 - 130
			Chrysene	2019/07/31		106	%	50 - 130
			Dibenz(a,h)anthracene	2019/07/31		97	%	50 - 130
			Fluoranthene	2019/07/31		95	%	50 - 130
			Fluorene	2019/07/31		99	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2019/07/31		108	%	50 - 130
			1-Methylnaphthalene	2019/07/31		120	%	50 - 130
			2-Methylnaphthalene	2019/07/31		102	%	50 - 130
			Naphthalene	2019/07/31		92	%	50 - 130
			Phenanthrene	2019/07/31		106	%	50 - 130
			Pyrene	2019/07/31		105	%	50 - 130
6257507	RAJ	Spiked Blank	D10-Anthracene	2019/07/31		103	%	50 - 130
			D14-Terphenyl (FS)	2019/07/31		90	%	50 - 130
			D8-Acenaphthylene	2019/07/31		98	%	50 - 130
			Acenaphthene	2019/07/31		110	%	50 - 130
			Acenaphthylene	2019/07/31		100	%	50 - 130
			Anthracene	2019/07/31		101	%	50 - 130
			Benzo(a)anthracene	2019/07/31		101	%	50 - 130
			Benzo(a)pyrene	2019/07/31		111	%	50 - 130
			Benzo(b/j)fluoranthene	2019/07/31		123	%	50 - 130
			Benzo(g,h,i)perylene	2019/07/31		120	%	50 - 130
			Benzo(k)fluoranthene	2019/07/31		128	%	50 - 130
			Chrysene	2019/07/31		109	%	50 - 130
			Dibenz(a,h)anthracene	2019/07/31		110	%	50 - 130
			Fluoranthene	2019/07/31		97	%	50 - 130
			Fluorene	2019/07/31		102	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2019/07/31		117	%	50 - 130
			1-Methylnaphthalene	2019/07/31		124	%	50 - 130
			2-Methylnaphthalene	2019/07/31		107	%	50 - 130
			Naphthalene	2019/07/31		99	%	50 - 130
			Phenanthrene	2019/07/31		110	%	50 - 130
			Pyrene	2019/07/31		110	%	50 - 130
6257507	RAJ	Method Blank	D10-Anthracene	2019/07/31		103	%	50 - 130
			D14-Terphenyl (FS)	2019/07/31		83	%	50 - 130
			D8-Acenaphthylene	2019/07/31		85	%	50 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acenaphthene	2019/07/31	<0.050		ug/L	
			Acenaphthylene	2019/07/31	<0.050		ug/L	
			Anthracene	2019/07/31	<0.050		ug/L	
			Benzo(a)anthracene	2019/07/31	<0.050		ug/L	
			Benzo(a)pyrene	2019/07/31	<0.010		ug/L	
			Benzo(b/j)fluoranthene	2019/07/31	<0.050		ug/L	
			Benzo(g,h,i)perylene	2019/07/31	<0.050		ug/L	
			Benzo(k)fluoranthene	2019/07/31	<0.050		ug/L	
			Chrysene	2019/07/31	<0.050		ug/L	
			Dibenz(a,h)anthracene	2019/07/31	<0.050		ug/L	
			Fluoranthene	2019/07/31	<0.050		ug/L	
			Fluorene	2019/07/31	<0.050		ug/L	
			Indeno(1,2,3-cd)pyrene	2019/07/31	<0.050		ug/L	
			1-Methylnaphthalene	2019/07/31	<0.050		ug/L	
			2-Methylnaphthalene	2019/07/31	<0.050		ug/L	
			Naphthalene	2019/07/31	<0.050		ug/L	
			Phenanthrene	2019/07/31	<0.030		ug/L	
			Pyrene	2019/07/31	<0.050		ug/L	
6257507	RAJ	RPD	Acenaphthene	2019/07/31	NC		%	30
			Acenaphthylene	2019/07/31	NC		%	30
			Anthracene	2019/07/31	NC		%	30
			Benzo(a)anthracene	2019/07/31	NC		%	30
			Benzo(a)pyrene	2019/07/31	NC		%	30
			Benzo(b/j)fluoranthene	2019/07/31	NC		%	30
			Benzo(g,h,i)perylene	2019/07/31	NC		%	30
			Benzo(k)fluoranthene	2019/07/31	NC		%	30
			Chrysene	2019/07/31	NC		%	30
			Dibenz(a,h)anthracene	2019/07/31	NC		%	30
			Fluoranthene	2019/07/31	NC		%	30
			Fluorene	2019/07/31	NC		%	30
			Indeno(1,2,3-cd)pyrene	2019/07/31	NC		%	30
			1-Methylnaphthalene	2019/07/31	1.5		%	30
			2-Methylnaphthalene	2019/07/31	4.0		%	30
			Naphthalene	2019/07/31	0.69		%	30
			Phenanthrene	2019/07/31	NC		%	30
			Pyrene	2019/07/31	NC		%	30
6257509	GUL	Matrix Spike	o-Terphenyl	2019/08/01		108	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/08/01		114	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2019/08/01		108	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2019/08/01		113	%	50 - 130
6257509	GUL	Spiked Blank	o-Terphenyl	2019/08/01		90	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/08/01		91	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2019/08/01		99	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2019/08/01		95	%	60 - 130
6257509	GUL	Method Blank	o-Terphenyl	2019/08/01		105	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2019/08/01	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2019/08/01	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2019/08/01	<200		ug/L	
6257509	GUL	RPD	F2 (C10-C16 Hydrocarbons)	2019/08/01	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2019/08/01	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F4 (C34-C50 Hydrocarbons)	2019/08/01	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).

(1) The recovery for acetone was above the upper control limit for the matrix spike. The recovery was in control for the Spiked Blank. Responses for ketone compounds are highly matrix dependent. The high recovery represents a potential high bias for this compound for the spiked sample that may not necessarily apply to other samples reported.

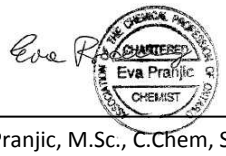
Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9K6875
Report Date: 2019/08/02

Pinchin Ltd
Client Project #: 245376
Site Location: STITTSVILLE MAIN STREET
Sampler Initials: DL

VALIDATION SIGNATURE PAGE

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



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

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#982 Pinchin Ltd	Company Name:		Quotation #:	A70927	BV Labs Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Matt, Ryan, Mike	P.O. #:			729720
Address:	1 Hines Road Suite 200 Kanata ON K2K 3C7	Address:		Project:	245376	COC #:	Project Manager:
Tel:	(613) 592-3387 Fax: (613) 592-5897	Tel:	Fax:	Project Name:		C#729720-03-01	Alisha Williamson
Email:	ap@pinchin.com	Email:	mkosiw@Pinchin.com, rlaronde@pinchin.com; mryan@	Site #:	Stittsville Main Street		
				Sampled By:	DL		

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

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☒ Ind/Comm ☐ Coarse
- ☒ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO
- ☐ Other ___

Special Instructions

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons (Soil)	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PAHs (Soil)	pH CaCl2 EXTRACT	Sieve, 75um	VOCs	PHCs	PAHs	# of Bottles	Comments
1	MW-1		7/26/2019	PM	GW							X	X	X	5	on ice
2	MW-2		"	PM	"							"	"	"	5	
3																
4																
5																
6																
7																
8																
9																
10																

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

26-Jul-19 13:25
Alisha Williamson
B9K6875
KIV OTT 001

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Dave Labelle	19/07/26	1525	Ian Campbell	2019/07/26	13:25		Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
								26.7	Present	☐	
									Intact	☐	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#982 Pinchin Ltd	Company Name:		Quotation #:	A70927	BV Labs Job #:	Bottle Order #: 729720
Attention:	Accounts Payable	Attention:	Matt, Ryan, Mike	P.O. #:			
Address:	1 Hines Road Suite 200 Kanata ON K2K 3C7	Address:		Project:	245376	COC #: C#729720-03-01	Project Manager: Alisha Williamson
Tel:	(613) 592-3387 Fax: (613) 592-5897	Tel:	Fax:	Project Name:			
Email:	ap@pinchin.com	Email:	mkosiw@Pinchin.com, rlaronde@pinchin.com; mryan@	Site #:	Stittsville Main Street		
				Sampled By:	DL		

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

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☐ Table 2 ☒ Ind/Comm ☐ Coarse	☐ Reg 558. ☐ Storm Sewer Bylaw	
☒ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality	
☐ Table	☐ PWQO	
	☐ Other	

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons (Soil)	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PAHs (Soil)	pH CaCl2 EXTRACT	Sieve, 75um	VOCs	PHCs	PAHs	# of Bottles	Comments
1	MW-1		7/26/2019	PM	GW							X	X	X	5	on ice
2	MW-2		〃	PM	〃							〃	〃	〃	5	RECEIVED IN OTTAWA
3																
4																
5																
6																
7																
8																
9																
10																

26-Jul-19 13:25
Alisha Williamson
B9K6875
YTT 001

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Dave Labelle	19/07/26	1525	Ian Campbell	2019/07/26	13:25	
				2019/08/28	0900	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	7.6, 7	Present	☐	
		Intact	☐	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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17/17/17°C
meet ice

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

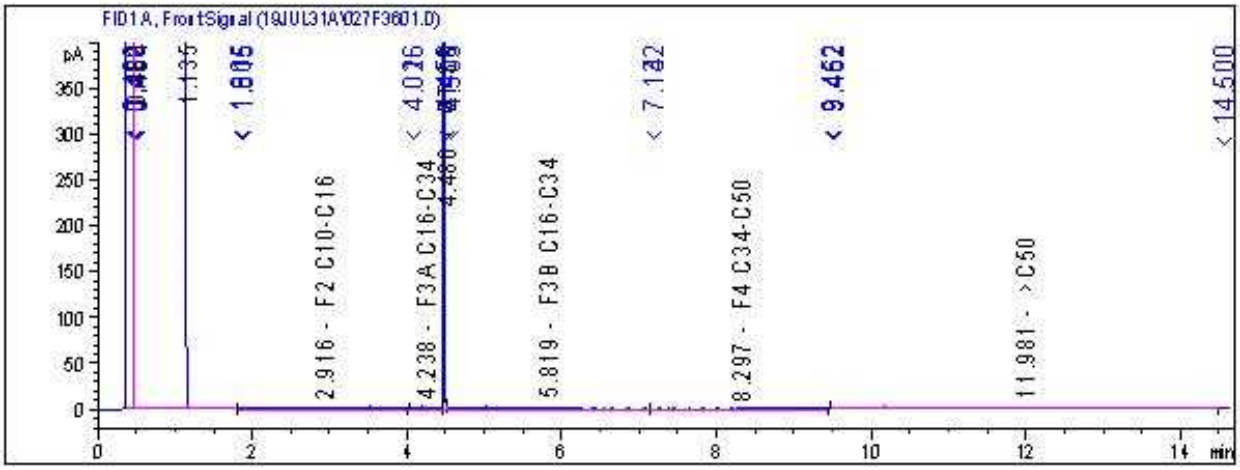
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

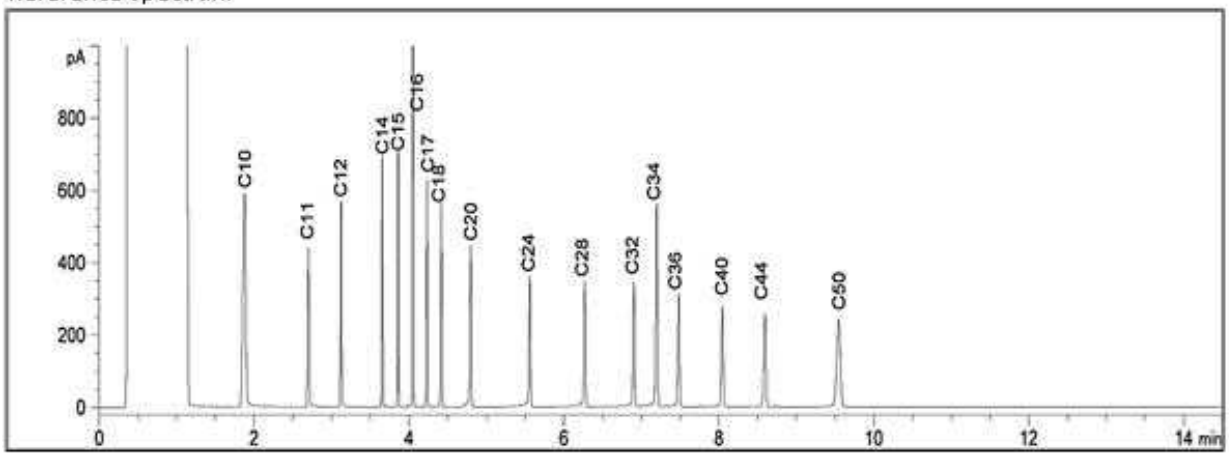
BV Labs Job #: B9K6875
Report Date: 2019/08/02
BV Labs Sample: KJH192

Pinchin Ltd
Client Project #: 245376
Project name: STITTSVILLE MAIN STREET
Client ID: MW-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

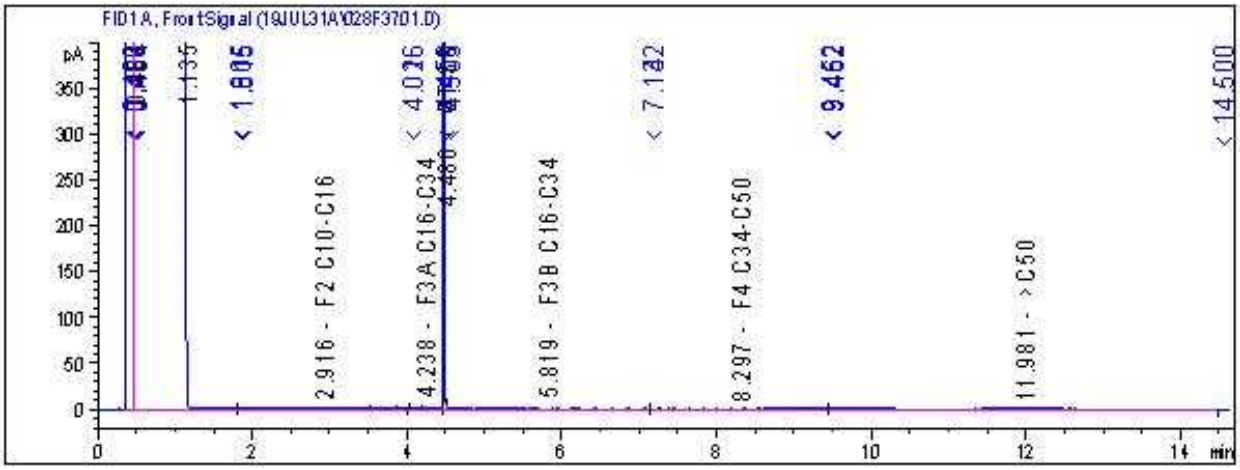
Gasoline: **C6 - C12**	Diesel: **C10 - C24**	Jet Fuels: **C6 - C16**
Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

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

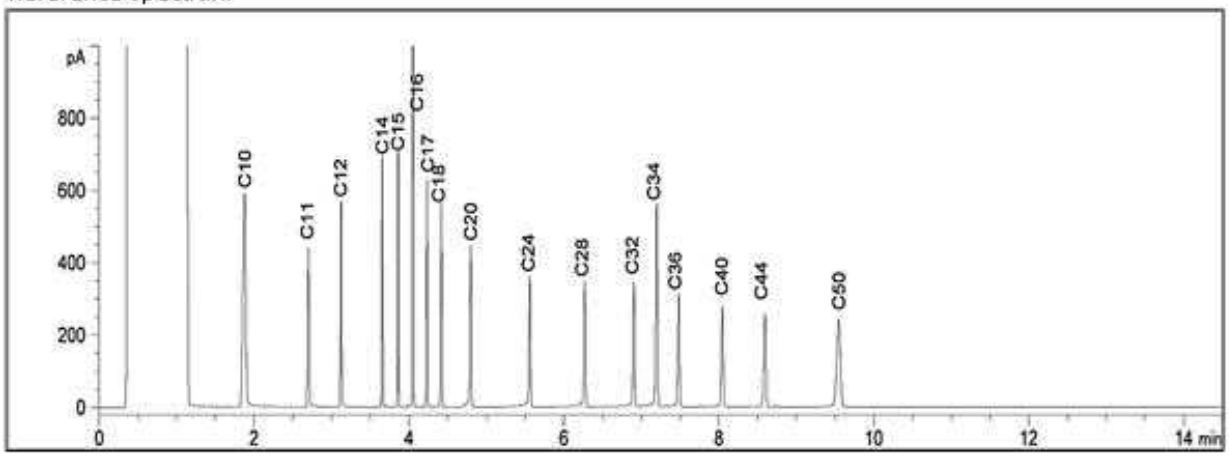
BV Labs Job #: B9K6875
Report Date: 2019/08/02
BV Labs Sample: KJH193

Pinchin Ltd
Client Project #: 245376
Project name: STITTSVILLE MAIN STREET
Client ID: MW-2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Reference Spectrum



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Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

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