Phase II Environmental Site Assessment

269-281 Bell Street South
Ottawa, Ontario

Prepared for:

Syndao Inc.
32 Harry Douglas Drive
Ottawa, ON K2S 1Z2

March 31, 2021

Pinchin File: 290154.001

Issued To:	**Syndao Inc.**
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EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed, Limitation of Liability and Terms of Engagement signed by Syndao Inc. (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 269-281 Bell Street South in Ottawa, Ontario (hereafter referred to as the Site).

The Site is developed with seven two-storey residential dwellings (Site Buildings A-G).

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

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

- The Ontario Spills database indicated that on November 26, 1989, 750 L of furnace oil was released onto the exterior ground surface at Site Building C, due to a leak from an aboveground storage tank. Based on the above-noted information, it is Pinchin's opinion that this historical spill has the potential to result in subsurface impacts at the Site.

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

The Phase II ESA was completed at the Site by Pinchin on March 19. 2021, and consisted of the advancement of three boreholes.

Select "worst case" soil samples collected during the borehole drilling program were submitted for laboratory analysis of petroleum hydrocarbons (PHCs) in the F1 to F4 fraction ranges (F1-F4), volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (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 7 Standards* for residential/parkland/institutional 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 7 Standards.*

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

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

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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed, Limitation of Liability and Terms of Engagement signed by Syndao Inc. (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 269-281 Bell Street South in Ottawa, Ontario (hereafter referred to as the Site). The Site location is shown on Figure 1 (all Figures are provided in Appendix I).

The Site is developed with seven two-storey residential dwellings (Site Buildings A-G).

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

This Phase II ESA was completed in general accordance with the Canadian Standards Association document entitled "*Phase II Environmental Site Assessment, CSA Standard Z769-00 (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, 269-281 Bell Street South, Ottawa, Ontario*", dated March 29, 2021. The results of the Phase I ESA completed by Pinchin identified the following area of potential environmental concern that could give rise to potential subsurface impacts in connection with the Site:

- The Ontario Spills database indicated that on November 26, 1989, 750 L of furnace oil was released onto the exterior ground surface at Site Building C, due to a leak from an aboveground storage tank. Based on the above-noted information, it is Pinchin's opinion that this historical spill has the potential to result in subsurface impacts at 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 assess the above-noted for the presence of environmental impacts.

1.2 Scope of Work

The scope of work completed by Pinchin, as outlined in the Pinchin proposal entitled "*Proposal for Phase I and II Environmental Site Assessments, 269-281 Bell Street South, Ottawa, Ontario*" submitted to the Client on March 12, 2021, included the following:

- Advancement of three boreholes following the clearance of underground services, one of which was to be instrumented with a monitoring well;

- Submission of select “worst case” soil samples for laboratory analysis of petroleum hydrocarbons (PHCs) in the F1 to F4 fraction ranges (F1-F4), volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs);
- Collection of groundwater samples from newly installed monitoring wells, 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 the installation of a groundwater monitoring well and groundwater sampling of the newly installed monitoring well. However, there was insufficient groundwater present in the overburden soils to accommodate the installation and sampling of a monitoring well at the time of the Phase II ESA.

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 March 19, 2021 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 1.8 metres below ground surface (mbgs) using a Geoprobe 6620 DT 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 VOC and petroleum-derived vapour concentrations in soil headspace using a photoionization detector (PID) and a hydrocarbon surveyor operated in methane elimination mode (RKI Eagle).

The locations of the boreholes are shown on Figure 3 and a description of the subsurface stratigraphy encountered during the drilling program is documented in the borehole logs included in Appendix II.

2.2 Sampling and Laboratory Analysis

2.2.1 Soil

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

In addition, representative soil samples were submitted for pH analysis and grain size distribution analysis to confirm the Site Condition Standards applicable to the Site as provided in the 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 3. Table 1 provides a summary of the soil samples submitted for laboratory analysis.

2.2.2 Analytical Laboratory

Selected soil samples were delivered Paracel Analytics Ltd (Paracel) in Ottawa, Ontario for analysis. Paracel 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 Paracel.

2.3 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 samples were placed in laboratory-supplied glass sample jars;
- Soil 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.

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

2.4 Site Condition Standards

The Site is a residential 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 coarse-textured for the purpose of selecting the appropriate *MECP Standards.*

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

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

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

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

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

3.0 RESULTS

3.1 Site Geology and Hydrogeology

Based on the soil samples recovered during the borehole drilling program, the soil stratigraphy at the drilling locations below the grass surface generally consists of topsoil to a depth of approximately 0.2 mbgs.

Native subsurface material underlying the grass and topsoil material was observed to generally consist of sand with trace gravel and silt that extended to the maximum borehole completion depth of 1.8 mbgs where competent limestone bedrock was encountered. It should be noted that BH-1 consisted of sand fill material, most likely associated with non-native backfill material and/or a remedial excavation in this area. Although the project scope included installing at least one monitoring well, moist to wet soil conditions were not observed to the maximum drill depth of 1.8 mbgs and no evidence of targeted impacts was observed during the drilling program. Given the absence of soil impacts, the relative impermeability of the bedrock stratigraphy, and the average depth to groundwater in the Site area reported to be approximately 4 mbgs, not installing a monitoring well as part of the investigation is not considered to represent a data gap in this assessment.

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

The Ottawa River is located approximately 1.6 kilometre (km) northwest of the Site. Groundwater flow at the Site is inferred to be towards the northwest based on the location of the Ottawa River.

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 did not range above zero parts per million by volume within any of the boreholes, using the CGI and the PID.

3.3 Field Observations

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

3.4 Analytical

3.4.1 Soil

As indicated in Tables 3 through 5, reported concentrations of PHCs (F1-F4), VOCs and PAHs in the soil samples submitted for analysis met the *Table 7 Standards.*

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

4.0 FINDINGS AND CONCLUSIONS

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

- Pinchin retained Strata to advance three boreholes at the Site on March 19, 2021. The boreholes were advanced to a maximum depth of 1.8 mbgs using a Geoprobe 6620 DT direct push drill rig;
- The soil stratigraphy at the drilling locations generally consists of grass and topsoil material to a depth of approximately 0.2 mbgs overlying native soil comprised of sandy with trace gravel and silt that extended to the maximum borehole completion depth of 1.8 mbgs. It should be noted that BH-1 consisted of sand fill material, most likely associated with non-native backfill material and/or a remedial excavation in this area. Moist to wet soil conditions were not observed during the drilling program;
- Based on Site-specific information, the soil and groundwater quality was assessed based on the *Table 7 Standards* for residential/parkland/institutional land use and coarse-textured soils;
- Three “worst case” soil samples based on the results of field screening were submitted for laboratory analysis of PHCs (F1-F4), VOCs and PAHs; and
- Reported concentrations in the soil samples submitted for analysis of PHCs (F1-F4), VOCs and PAHs satisfied their respective *Table 7 Standards.*

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

5.0 TERMS AND LIMITATIONS

This Phase II ESA was performed for Syndao Inc. (Client) in order to investigate potential environmental impacts at 269-281 Bell Street South in Ottawa, Ontario (Site). This Phase II ESA does not quantify the extent of the current and/or potential environmental impacts 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 environmental impacts 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 environmental impacts on the Site and recognizes reasonable limits on time and cost.

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

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

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

Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership

of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

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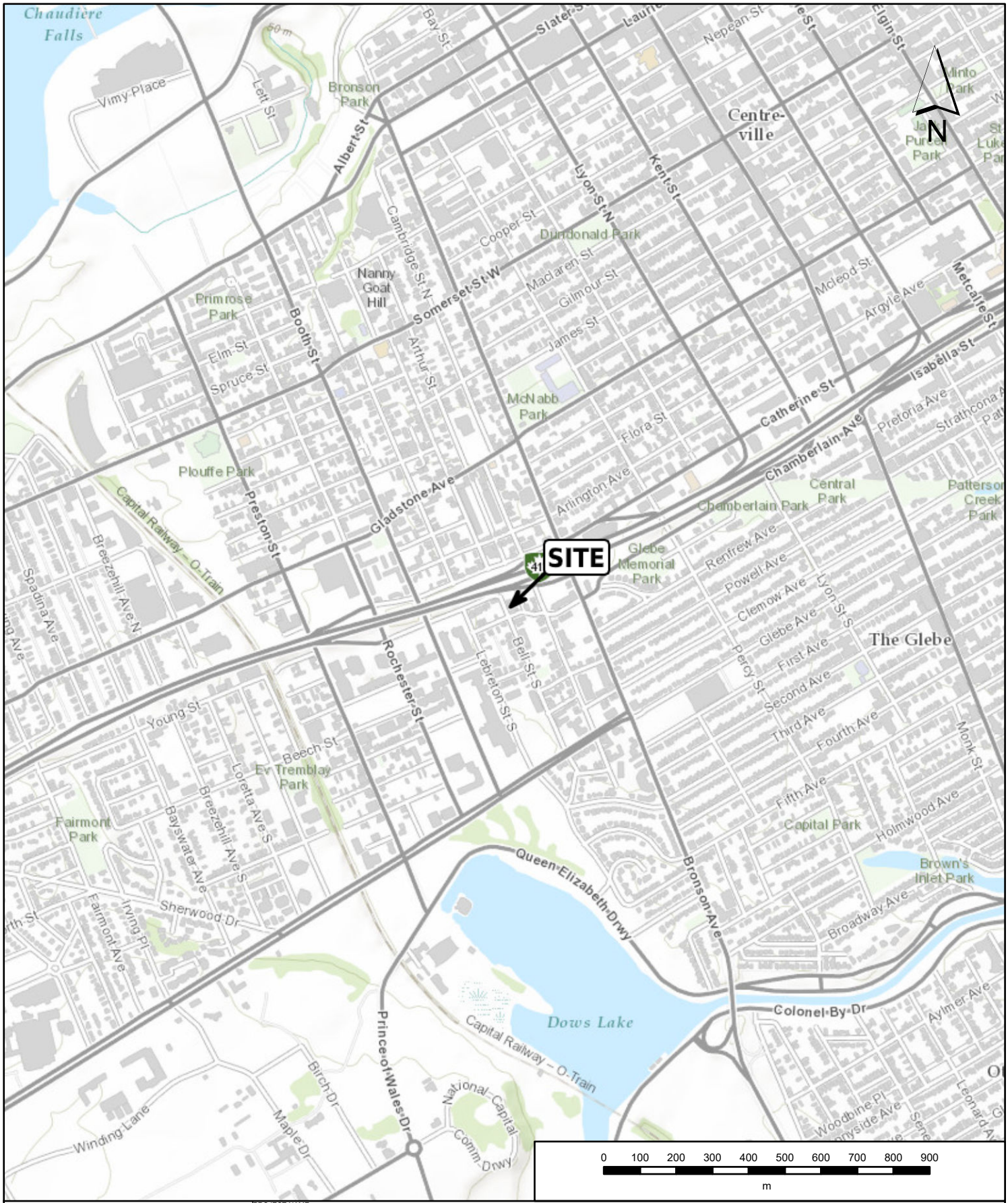
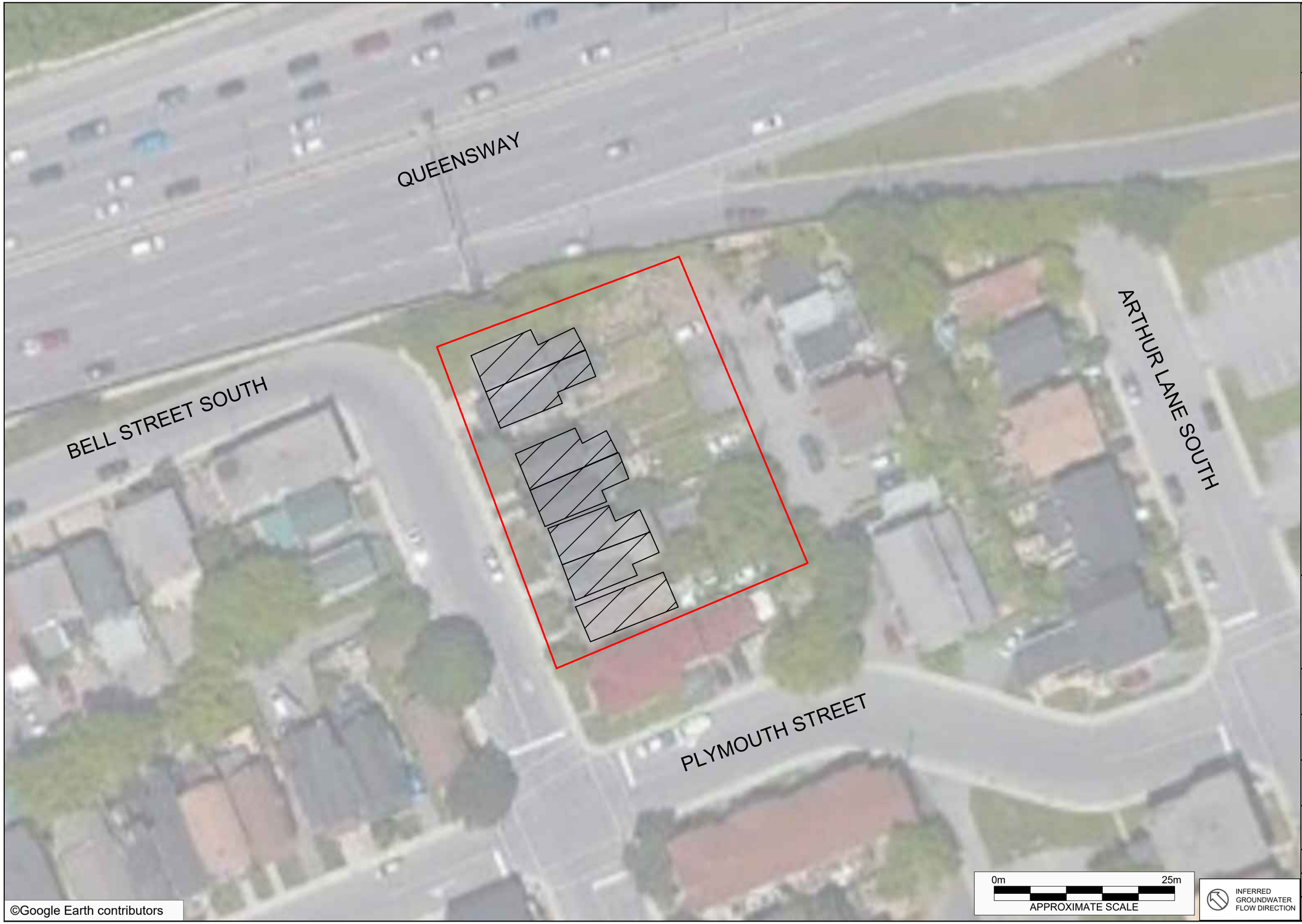
Template: Master Report for Phase II ESA - Stage 2 PSI, EDR, January 13, 2021

APPENDIX I
Figures



PINCHIN

PROJECT NAME:	PHASE II ENVIRONMENTAL SITE ASSESSMENT				
CLIENT NAME:	SYNDAO INC.				
PROJECT LOCATION:	269-281 BELL STREET SOUTH, OTTAWA, ONTARIO				
FIGURE NAME:	KEY MAP				FIGURE NUMBER: 1
PROJECT NUMBER: 290154.001	SCALE: 1:20,000	DRAWN BY: JY	REVIEWED BY: MK	DATE: MARCH 2021	



N

LEGEND

SITE BOUNDARY

SITE BUILDING

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

0m 25m

APPROXIMATE SCALE

INFERRED GROUNDWATER FLOW DIRECTION

PINCHIN

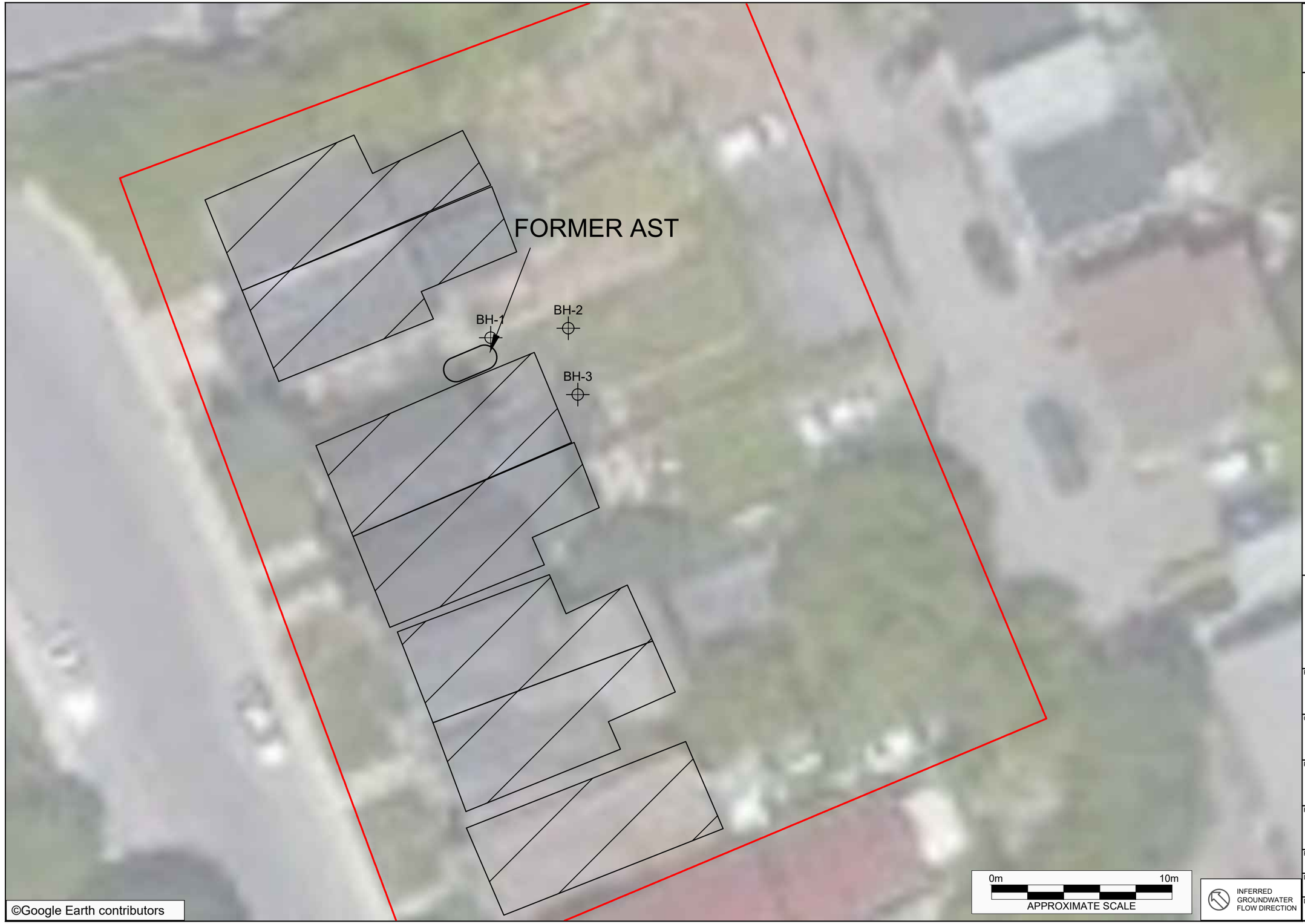
PROJECT NAME:
PHASE II ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME:
SYNDAO INC.

PROJECT LOCATION:
269-281 BELL STREET SOUTH, OTTAWA, ONTARIO

FIGURE NAME:
SITE PLAN

PROJECT NUMBER:	SCALE:
290154.001	AS SHOWN
DRAWN BY:	REVIEWED BY:
JY	MK
DATE:	FIGURE NUMBER:
MARCH 2021	2



N

LEGEND

SITE BOUNDARY

SITE BUILDING

BOREHOLE

AST ABOVEGROUND STORAGE TANK

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

PINCHIN

PROJECT NAME:
PHASE II ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME:
SYNDAO INC.

PROJECT LOCATION:
269-281 BELL STREET SOUTH, OTTAWA, ONTARIO

FIGURE NAME:
BOREHOLE LOCATION PLAN

PROJECT NUMBER:	SCALE:
290154.001	AS SHOWN
DRAWN BY:	REVIEWED BY:
JY	MK
DATE:	FIGURE NUMBER:
MARCH 2021	3

APPENDIX II
Borehole Logs

Log of Borehole: BH-1

Project #: 290154.001 **Logged By:** MK

Project: Phase II Environmental Site Assessment

Client: SYNDAO Inc.

Location: 269-281 Bell Street South, Ottawa, Ontario

Drill Date: March 19, 2021

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	No Monitoring Well Installed				
		Grass	0.15		50	SS1	0/0.0	
1		***Sand Fill*** Some organics, brown, damp, no staining, no odour						
2						SS2	0/0.0	pH
3 / 1					75			
4						SS3	0/1.0	PHCs, VOCs, PAHs
5								
6			1.83					
		Refusal on Inferred Bedrock						
7 / 2		End of Borehole						
8								
9								
10 / 3								
11								
12								
13 / 4								
14								
15								
16								

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

Contractor: Strata

Grade Elevation: NM

Drilling Method: Direct Push

Top of Casing Elevation: NM

Well Casing Size: NA

Sheet: 1 of 1

Log of Borehole: BH-2

Project #: 290154.001 **Logged By:** MK

Project: Phase II Environmental Site Assessment

Client: SYNDAO Inc.

Location: 269-281 Bell Street South, Ottawa, Ontario

Drill Date: March 19, 2021

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	No Monitoring Well Installed				
		Grass	0.15					
1		***Sand*** Trace gravel, some organics, brown, damp, no staining, no odour			50	SS1	0/0.0	
3 / 1			0.91					
		Some silt			75	SS2	0/0.0	PHCs, VOCs, PAHs, Grain Size
5			1.52					
		Refusal on Inferred Bedrock						
6 / 2		End of Borehole						
7								
8								
9								
10 / 3								
11								
12								
13 / 4								
14								
15		Soil vapour concentrations measured using a RKI Eagle 2 equipped with a photoionization detector (PID) and a combustible gas indicator (CGI).						
16								

Contractor: Strata

Grade Elevation: NM

Drilling Method: Direct Push

Top of Casing Elevation: NM

Well Casing Size: NA

Sheet: 1 of 1

Log of Borehole: BH-3

Project #: 290154.001 **Logged By:** MK

Project: Phase II Environmental Site Assessment

Client: SYNDAO Inc.

Location: 269-281 Bell Street South, Ottawa, Ontario

Drill Date: March 19, 2021

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	No Monitoring Well Installed				
		Grass	0.15		100	SS1	0/0.0	
1		***Sand*** Trace gravel, some organics, brown, damp, no staining, no odour						
2			0.76			SS2	0/0.0	
3 / 1		Some silt, moist			80			
4						SS3	0/0.0	PHCs, VOCs, PAHs, pH
5			1.68					
6 / 2		***Refusal on Inferred Bedrock***						
7		End of Borehole						
8								
9								
10 / 3								
11								
12								
13 / 4								
14								
15		Soil vapour concentrations measured using a RKI Eagle 2 equipped with a photoionization detector (PID) and a combustible gas indicator (CGI).						
16								

Contractor: Strata

Grade Elevation: NM

Drilling Method: Direct Push

Top of Casing Elevation: NM

Well Casing Size: NA

Sheet: 1 of 1

APPENDIX III
Summary Tables

TABLE 1
SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
Syndao Inc.
269-281 Bell Street South, Ottawa, Ontario

Samples			Parameters					
Borehole / Monitoring Well ID	Sample ID	Sample Depth Range (mbgs)	SOIL SAMPLES	PHCs (F1-F4) & VOC	PAHs	pH	Grain Size Analysis	Rationale/Notes
BH-1	BH-1, SS-2	0.5-1.2				●		Assess soil quality in relation to a historical spill in the vicinity of a former on-Site underground storage tank/Confirm applicable MECP standards.
	EXMW-2	1.2-1.8		●	●			
BH-2	MW-3,SS-3	0.8-1.5		●	●		●	
BH-3	MW-3	1.2-1.7		●	●	●		

Notes:

PHCs (F1-F4)	Petroleum Hydrocarbons (Fraction 1 to Fraction 4)
VOCs	Volatile Organic Compounds
PAHs	Polycyclic Aromatic Hydrocarbons
mbgs	Metres Below Ground Surface
MECP	Ontario Ministry of the Environment, Conservation and Parks

Pinchin File: 290154.001

TABLE 2
pH AND GRAIN SIZE ANALYSIS FOR SOIL
Syndao Inc.
269-281 Bell Street South, Ottawa, Ontario

Parameter	*Units*	*MECP Site Condition Standard Selection Criteria*	*Sample Designation*		
			Sample Collection Date (dd/mm/yyyy)		
			Sample Depth (mbgs)		
			BH-1, SS-2	*BH-2, SS-2*	*BH-3, SS-3*
			19/3/2021	*19/3/2021*	*19/3/2021*
			0.5-1.2	*0.8-1.5*	*1.2-1.7*
pH		Surface: 5 < pH < 9	7.5		7.6
		Subsurface: 5 < pH < 11			
Sieve #200 <0.075 mm	%	50%		41.4	
Sieve #200 >0.075 mm	%	50%		58.6	
		Grain Size Classification		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
PETROLEUM HYDROCARBON AND BTEX ANALYSIS FOR SOIL
Syndao Inc.
269-281 Bell Street South, Ottawa, Ontario

Parameter	*MECP Table 7 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		Sample Depth (mbgs)		
		BH-1, SS-3	*BH-2, SS-2*	*BH-3, SS-3*
		19/3/2021	*19/3/2021*	*19/3/2021*
		1.2-1.8	*0.8-1.5*	*1.2-1.7*
Benzene	0.21	<0.02	<0.02	<0.02
Toluene	2.3	<0.05	<0.05	<0.05
Ethylbenzene	2	<0.05	<0.05	<0.05
Xylenes (Total)	3.1	<0.05	<0.05	<0.05
Petroleum Hydrocarbons F1 (C_6 - C_{10})	55	<7	<7	<7
Petroleum Hydrocarbons F2 (>C_{10} - C_{16})	98	<4	<4	<4
Petroleum Hydrocarbons F3 (>C_{16} - C_{34})	300	<8	<8	<8
Petroleum Hydrocarbons F4 (>C_{34} - C_{50})	2800	<6	<6	<6

Notes:

MECP Table 7 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 7 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Residential/Parkland/Institutional 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: 290154.001

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYSIS FOR SOIL
Syndao Inc.
269-281 Bell Street South, Ottawa, Ontario

Parameter	*MECP Table 7 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		Sample Depth (mbgs)		
		BH-1, SS-3	*BH-2, SS-2*	*BH-3, SS-3*
		19/3/2021	*19/3/2021*	*19/3/2021*
		1.2-1.8	*0.8-1.5*	*1.2-1.7*
Acetone	16	<0.5	<0.5	<0.5
Benzene	0.21	<0.02	<0.02	<0.02
Bromodichloromethane	13	<0.05	<0.05	<0.05
Bromoform	0.27	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.4	<0.05	<0.05	<0.05
Chloroform	0.05	<0.05	<0.05	<0.05
Dibromochloromethane	9.4	<0.05	<0.05	<0.05
Dichlorodifluoromethane	16	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	3.4	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	4.8	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	0.083	<0.05	<0.05	<0.05
1,1-Dichloroethane	3.5	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05	<0.05	<0.05	<0.05
1,1-Dichloroethylene	0.05	<0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	3.4	<0.05	<0.05	<0.05
trans-1,2-Dichloroethylene	0.084	<0.05	<0.05	<0.05
1,2-Dichloropropane	0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene, total	0.05	<0.05	<0.05	<0.05
Ethylbenzene	2	<0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	0.05	<0.05	<0.05	<0.05
Hexane	2.8	<0.05	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	16	<0.5	<0.5	<0.5
Methyl Isobutyl Ketone	1.7	<0.5	<0.5	<0.5
Methyl tert-butyl ether	0.75	<0.05	<0.05	<0.05
Methylene Chloride	0.1	<0.05	<0.05	<0.05
Styrene	0.7	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	0.058	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	0.28	<0.05	<0.05	<0.05
Toluene	2.3	<0.05	<0.05	<0.05
1,1,1-Trichloroethane	0.38	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.061	<0.05	<0.05	<0.05
Trichlorofluoromethane	4	<0.05	<0.05	<0.05
Vinyl Chloride	0.02	<0.02	<0.02	<0.02
Xylenes, total	3.1	<0.05	<0.05	<0.05

Notes:

MECP Table 7 Standards*	Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 7 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Residential/Parkland/Institutional 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: 290154.001

TABLE 5
POLYCYCLIC AROMATIC HYDROCARBON ANALYSIS FOR SOIL
Syndao Inc.
269-281 Bell Street South, Ottawa, Ontario

Parameter	*MECP Table 7 Standards**	*Sample Designation*		
		Sample Collection Date (dd/mm/yyyy)		
		Sample Depth (mbgs)		
		BH-1, SS-3	*BH-2, SS-2*	*BH-3, SS-3*
		19/3/2021	*19/3/2021*	*19/3/2021*
		1.2-1.8	*0.8-1.5*	*1.2-1.7*
Acenaphthene	7.9	<0.02	<0.02	<0.02
Acenaphthylene	0.15	<0.02	<0.02	<0.02
Anthracene	0.67	<0.02	<0.02	<0.02
Benzo[a]anthracene	0.5	<0.02	<0.02	<0.02
Benzo[a]pyrene	0.3	<0.02	<0.02	<0.02
Benzo[b]fluoranthene	0.78	<0.02	<0.02	<0.02
Benzo[g,h,i]perylene	6.6	<0.02	<0.02	<0.02
Benzo[k]fluoranthene	0.78	<0.02	<0.02	<0.02
Chrysene	7	<0.02	<0.02	<0.02
Dibenzo[a,h]anthracene	0.1	<0.02	<0.02	<0.02
Fluoranthene	0.69	<0.02	0.04	<0.02
Fluorene	62	<0.02	<0.02	<0.02
Indeno[1,2,3-cd]pyrene	0.38	<0.02	<0.02	<0.02
1-Methylnaphthalene	0.99	<0.02	<0.02	<0.02
2-Methylnaphthalene	0.99	<0.02	<0.02	<0.02
Methylnaphthalene (1&2)	0.99	<0.04	<0.04	<0.04
Naphthalene	0.6	<0.01	<0.01	<0.01
Phenanthrene	6.2	<0.02	0.03	<0.02
Pyrene	78	<0.02	0.04	<0.02

Notes:

MECP Table 7 Standards* — Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011, Table 7 Standards, Coarse-Textured Soils, Non-Potable Groundwater Condition, for Residential/Parkland/Institutional 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: 290154.001

APPENDIX IV

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.

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

Certificate of Analysis

Pinchin Ltd. (Ottawa)

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

Client PO:
Project: 290154.001
Custody: 126726

Report Date: 24-Mar-2021
Order Date: 19-Mar-2021

Order #: 2112627

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

Paracel ID	Client ID	Paracel ID	Client ID
2112627-01	BH-1 SS-2		
2112627-02	BH-SS-3		
2112627-03	BH-2 SS-2		
2112627-04	BH-3 SS-3		

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 24-Mar-2021

Order Date: 19-Mar-2021

Project Description: 290154.001

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	23-Mar-21	23-Mar-21
PHC F1	CWS Tier 1 - P&T GC-FID	22-Mar-21	23-Mar-21
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	22-Mar-21	24-Mar-21
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	19-Mar-21	24-Mar-21
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	22-Mar-21	23-Mar-21
Solids, %	Gravimetric, calculation	22-Mar-21	22-Mar-21
Texture - Coarse Med/Fine	Based on ASTM D2487	22-Mar-21	23-Mar-21

Certificate of Analysis
Client: Pinchin Ltd. (Ottawa)
Client PO:

Report Date: 24-Mar-2021
Order Date: 19-Mar-2021
Project Description: 290154.001

Summary of Exceedances

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

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

Regulatory Comparison:

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

Criteria:

Client ID	Analyte	MDL / Units	Result	Reg 153/04 (2011)-Table 7 Residential

Certificate of Analysis

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

Client PO:

Report Date: 24-Mar-2021

Order Date: 19-Mar-2021

Project Description: 290154.001

	Client ID:	BH-1 SS-2	BH-SS-3	BH-2 SS-2	BH-3 SS-3	Criteria:	
	Sample Date:	19-Mar-2021	19-Mar-2021	19-Mar-2021	19-Mar-2021		
	Sample ID:	2112627-01	2112627-02	2112627-03	2112627-04	Reg 153/04 (2011)-Table 7 Residential	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	-	90.7	80.7	85.5		
>75 um	0.1 %	-	-	58.6	-		
<75 um	0.1 %	-	-	41.4	-		
Texture	0.1 %	-	-	Coarse	-		
General Inorganics							
pH	0.05 pH Units	7.53	-	-	7.64	(5 - 9) 5 - 9	pH units
Volatiles							
Acetone	0.50 ug/g	-	<0.50	<0.50	<0.50	(28) 16	ug/g
Benzene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.17) 0.21	ug/g
Bromodichloromethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(13) 13	ug/g
Bromoform	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.26) 0.27	ug/g
Bromomethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g
Carbon Tetrachloride	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.12) 0.05	ug/g
Chlorobenzene	0.05 ug/g	-	<0.05	<0.05	<0.05	(2.7) 2.4	ug/g
Chloroform	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.18) 0.05	ug/g
Dibromochloromethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(9.4) 9.4	ug/g
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(25) 16	ug/g
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	<0.05	(4.3) 3.4	ug/g
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	<0.05	(6) 4.8	ug/g
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.097) 0.083	ug/g
1,1-Dichloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(11) 3.5	ug/g
1,2-Dichloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g

Certificate of Analysis
Client: Pinchin Ltd. (Ottawa)
Client PO:

Report Date: 24-Mar-2021
Order Date: 19-Mar-2021
Project Description: 290154.001

	Client ID:	BH-1 SS-2	BH-SS-3	BH-2 SS-2	BH-3 SS-3	Criteria:	
	Sample Date:	19-Mar-2021	19-Mar-2021	19-Mar-2021	19-Mar-2021		
	Sample ID:	2112627-01	2112627-02	2112627-03	2112627-04	Reg 153/04 (2011)-Table 7 Residential	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	<0.05	(30) 3.4	ug/g
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.75) 0.084	ug/g
1,2-Dichloropropane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.085) 0.05	ug/g
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	<0.05	<0.05		
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	<0.05	<0.05		
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.083) 0.05	ug/g
Ethylbenzene	0.05 ug/g	-	<0.05	<0.05	<0.05	(15) 2	ug/g
Ethylene dibromide (dibromoethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g
Hexane	0.05 ug/g	-	<0.05	<0.05	<0.05	(34) 2.8	ug/g
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	<0.50	<0.50	<0.50	(44) 16	ug/g
Methyl Isobutyl Ketone	0.50 ug/g	-	<0.50	<0.50	<0.50	(4.3) 1.7	ug/g
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	<0.05	<0.05	(1.4) 0.75	ug/g
Methylene Chloride	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.96) 0.1	ug/g
Styrene	0.05 ug/g	-	<0.05	<0.05	<0.05	(2.2) 0.7	ug/g
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.058	ug/g
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g
Tetrachloroethylene	0.05 ug/g	-	<0.05	<0.05	<0.05	(2.3) 0.28	ug/g
Toluene	0.05 ug/g	-	<0.05	<0.05	<0.05	(6) 2.3	ug/g
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(3.4) 0.38	ug/g
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.05) 0.05	ug/g
Trichloroethylene	0.05 ug/g	-	<0.05	<0.05	<0.05	(0.52) 0.061	ug/g
Trichlorofluoromethane	0.05 ug/g	-	<0.05	<0.05	<0.05	(5.8) 4	ug/g
Vinyl chloride	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.022) 0.02	ug/g

Certificate of Analysis
Client: Pinchin Ltd. (Ottawa)
Client PO:

Report Date: 24-Mar-2021
Order Date: 19-Mar-2021
Project Description: 290154.001

	Client ID:	BH-1 SS-2	BH-SS-3	BH-2 SS-2	BH-3 SS-3	Criteria:	
	Sample Date:	19-Mar-2021	19-Mar-2021	19-Mar-2021	19-Mar-2021		
	Sample ID:	2112627-01	2112627-02	2112627-03	2112627-04	Reg 153/04 (2011)-Table 7 Residential	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
m,p-Xylenes	0.05 ug/g	-	<0.05	<0.05	<0.05		
o-Xylene	0.05 ug/g	-	<0.05	<0.05	<0.05		
Xylenes, total	0.05 ug/g	-	<0.05	<0.05	<0.05	(25) 3.1	ug/g
4-Bromofluorobenzene	Surrogate	-	110%	110%	112%		
Dibromofluoromethane	Surrogate	-	114%	113%	108%		
Toluene-d8	Surrogate	-	89.1%	93.5%	101%		
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	-	<7	<7	<7	(65) 55	ug/g
F2 PHCs (C10-C16)	4 ug/g	-	<4	<4	<4	(150) 98	ug/g
F3 PHCs (C16-C34)	8 ug/g	-	<8	<8	<8	(1,300) 300	ug/g
F4 PHCs (C34-C50)	6 ug/g	-	<6	<6	<6	(5,600) 2,800	ug/g
Semi-Volatiles							
Acenaphthene	0.02 ug/g	-	<0.02	<0.02	<0.02	(58) 7.9	ug/g
Acenaphthylene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.17) 0.15	ug/g
Anthracene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.74) 0.67	ug/g
Benzo [a] anthracene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.63) 0.5	ug/g
Benzo [a] pyrene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.3) 0.3	ug/g
Benzo [b] fluoranthene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.78) 0.78	ug/g
Benzo [g,h,i] perylene	0.02 ug/g	-	<0.02	<0.02	<0.02	(7.8) 6.6	ug/g
Benzo [k] fluoranthene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.78) 0.78	ug/g
Chrysene	0.02 ug/g	-	<0.02	<0.02	<0.02	(7.8) 7	ug/g
Dibenzo [a,h] anthracene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.1) 0.1	ug/g
Fluoranthene	0.02 ug/g	-	<0.02	0.04	<0.02	(0.69) 0.69	ug/g
Fluorene	0.02 ug/g	-	<0.02	<0.02	<0.02	(69) 62	ug/g

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 24-Mar-2021

Order Date: 19-Mar-2021

Project Description: 290154.001

	Client ID:	BH-1 SS-2	BH-SS-3	BH-2 SS-2	BH-3 SS-3	**Criteria:**	
	Sample Date:	19-Mar-2021	19-Mar-2021	19-Mar-2021	19-Mar-2021		
	Sample ID:	2112627-01	2112627-02	2112627-03	2112627-04	**Reg 153/04 (2011)-Table 7 Residential**	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Indeno [1,2,3-cd] pyrene	0.02 ug/g	-	<0.02	<0.02	<0.02	(0.48) 0.38	ug/g
1-Methylnaphthalene	0.02 ug/g	-	<0.02	<0.02	<0.02	(3.4) 0.99	ug/g
2-Methylnaphthalene	0.02 ug/g	-	<0.02	<0.02	<0.02	(3.4) 0.99	ug/g
Methylnaphthalene (1&2)	0.04 ug/g	-	<0.04	<0.04	<0.04	(3.4) 0.99	ug/g
Naphthalene	0.01 ug/g	-	<0.01	<0.01	<0.01	(0.75) 0.6	ug/g
Phenanthrene	0.02 ug/g	-	<0.02	0.03	<0.02	(7.8) 6.2	ug/g
Pyrene	0.02 ug/g	-	<0.02	0.04	<0.02	(78) 78	ug/g
2-Fluorobiphenyl	Surrogate	-	75.5%	61.1%	68.1%		
Terphenyl-d14	Surrogate	-	94.7%	58.9%	67.9%		

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	*0.896*		*ug/g*		*67.2*	*50-140*			
Surrogate: Terphenyl-d14	*0.931*		*ug/g*		*69.8*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2-	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	*3.71*		*ug/g*		*116*	*50-140*			
Surrogate: Dibromofluoromethane	*2.99*		*ug/g*		*93.5*	*50-140*			
Surrogate: Toluene-d8	*3.65*		*ug/g*		*114*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
pH	7.52	0.05	pH Units	7.53			0.1	2.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	143	8	ug/g	163			13.5	30	
F4 PHCs (C34-C50)	19	6	ug/g	22			11.7	30	
Physical Characteristics									
% Solids	74.9	0.1	% by Wt.	71.6			4.5	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	ND			NC	40	
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Chrysene	ND	0.02	ug/g	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	ND			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	*1.10*		ug/g		*67.6*	*50-140*			
Surrogate: Terphenyl-d14	*1.45*		ug/g		*88.8*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*4.12*		ug/g		*115*	*50-140*			
Surrogate: Dibromofluoromethane	*3.45*		ug/g		*96.3*	*50-140*			
Surrogate: Toluene-d8	*4.23*		ug/g		*118*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	162	7	ug/g	ND	81.1	80-120			
F2 PHCs (C10-C16)	79	4	ug/g	ND	92.6	60-140			
F3 PHCs (C16-C34)	449	8	ug/g	163	137	60-140			
F4 PHCs (C34-C50)	187	6	ug/g	22	126	60-140			
Semi-Volatiles									
Acenaphthene	0.174	0.02	ug/g	ND	85.4	50-140			
Acenaphthylene	0.158	0.02	ug/g	ND	77.7	50-140			
Anthracene	0.164	0.02	ug/g	ND	80.3	50-140			
Benzo [a] anthracene	0.132	0.02	ug/g	ND	64.8	50-140			
Benzo [a] pyrene	0.143	0.02	ug/g	ND	70.1	50-140			
Benzo [b] fluoranthene	0.177	0.02	ug/g	ND	86.8	50-140			
Benzo [g,h,i] perylene	0.149	0.02	ug/g	ND	73.0	50-140			
Benzo [k] fluoranthene	0.163	0.02	ug/g	ND	79.8	50-140			
Chrysene	0.167	0.02	ug/g	ND	82.2	50-140			
Dibenzo [a,h] anthracene	0.144	0.02	ug/g	ND	70.9	50-140			
Fluoranthene	0.150	0.02	ug/g	ND	73.6	50-140			
Fluorene	0.160	0.02	ug/g	ND	78.6	50-140			
Indeno [1,2,3-cd] pyrene	0.145	0.02	ug/g	ND	71.0	50-140			
1-Methylnaphthalene	0.173	0.02	ug/g	ND	85.1	50-140			
2-Methylnaphthalene	0.195	0.02	ug/g	ND	95.5	50-140			
Naphthalene	0.200	0.01	ug/g	ND	98.2	50-140			
Phenanthrene	0.168	0.02	ug/g	ND	82.3	50-140			
Pyrene	0.155	0.02	ug/g	ND	76.0	50-140			
Surrogate: 2-Fluorobiphenyl	*1.13*		*ug/g*		*69.3*	*50-140*			
Surrogate: Terphenyl-d14	*1.41*		*ug/g*		*86.8*	*50-140*			
Volatiles									
Acetone	11.0	0.50	ug/g	ND	110	50-140			
Benzene	4.00	0.02	ug/g	ND	100	60-130			
Bromodichloromethane	3.87	0.05	ug/g	ND	96.6	60-130			
Bromoform	3.68	0.05	ug/g	ND	92.1	60-130			
Bromomethane	3.41	0.05	ug/g	ND	85.1	50-140			
Carbon Tetrachloride	3.40	0.05	ug/g	ND	85.1	60-130			
Chlorobenzene	3.82	0.05	ug/g	ND	95.5	60-130			

Certificate of Analysis
Client: Pinchin Ltd. (Ottawa)
Client PO:

Report Date: 24-Mar-2021
Order Date: 19-Mar-2021
Project Description: 290154.001

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chloroform	3.87	0.05	ug/g	ND	96.7	60-130			
Dibromochloromethane	3.46	0.05	ug/g	ND	86.5	60-130			
Dichlorodifluoromethane	3.50	0.05	ug/g	ND	87.5	50-140			
1,2-Dichlorobenzene	3.65	0.05	ug/g	ND	91.2	60-130			
1,3-Dichlorobenzene	3.63	0.05	ug/g	ND	90.8	60-130			
1,4-Dichlorobenzene	3.69	0.05	ug/g	ND	92.4	60-130			
1,1-Dichloroethane	3.82	0.05	ug/g	ND	95.4	60-130			
1,2-Dichloroethane	3.61	0.05	ug/g	ND	90.2	60-130			
1,1-Dichloroethylene	3.47	0.05	ug/g	ND	86.8	60-130			
cis-1,2-Dichloroethylene	4.05	0.05	ug/g	ND	101	60-130			
trans-1,2-Dichloroethylene	3.65	0.05	ug/g	ND	91.3	60-130			
1,2-Dichloropropane	4.06	0.05	ug/g	ND	101	60-130			
cis-1,3-Dichloropropylene	3.81	0.05	ug/g	ND	95.3	60-130			
trans-1,3-Dichloropropylene	3.68	0.05	ug/g	ND	92.1	60-130			
Ethylbenzene	3.68	0.05	ug/g	ND	92.0	60-130			
Ethylene dibromide (dibromoethane, 1,2-	3.90	0.05	ug/g	ND	97.5	60-130			
Hexane	4.44	0.05	ug/g	ND	111	60-130			
Methyl Ethyl Ketone (2-Butanone)	11.9	0.50	ug/g	ND	119	50-140			
Methyl Isobutyl Ketone	10.5	0.50	ug/g	ND	105	50-140			
Methyl tert-butyl ether	10.6	0.05	ug/g	ND	106	50-140			
Methylene Chloride	3.55	0.05	ug/g	ND	88.7	60-130			
Styrene	3.54	0.05	ug/g	ND	88.5	60-130			
1,1,1,2-Tetrachloroethane	3.78	0.05	ug/g	ND	94.5	60-130			
1,1,2,2-Tetrachloroethane	3.93	0.05	ug/g	ND	98.2	60-130			
Tetrachloroethylene	3.73	0.05	ug/g	ND	93.2	60-130			
Toluene	3.70	0.05	ug/g	ND	92.6	60-130			
1,1,1-Trichloroethane	3.65	0.05	ug/g	ND	91.1	60-130			
1,1,2-Trichloroethane	4.14	0.05	ug/g	ND	104	60-130			
Trichloroethylene	3.89	0.05	ug/g	ND	97.3	60-130			
Trichlorofluoromethane	3.38	0.05	ug/g	ND	84.4	50-140			
Vinyl chloride	3.85	0.02	ug/g	ND	96.4	50-140			
m,p-Xylenes	7.18	0.05	ug/g	ND	89.8	60-130			
o-Xylene	3.62	0.05	ug/g	ND	90.6	60-130			
Surrogate: 4-Bromofluorobenzene	*3.05*		*ug/g*		*95.3*	*50-140*			
Surrogate: Dibromofluoromethane	*3.30*		*ug/g*		*103*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Toluene-d8	*3.05*		*ug/g*		*95.3*	*50-140*			

PARACEL LABORATORIES LTD.

Order #: 2112627

Certificate of Analysis

Client: Pinchin Ltd. (Ottawa)

Client PO:

Report Date: 24-Mar-2021

Order Date: 19-Mar-2021

Project Description: 290154.001

Qualifier Notes:

Login Qualifiers :

Container and COC sample IDs don't match - CoC reads BH, containers read BH-1.

Applies to samples: BH-SS-3

Sample Qualifiers :

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.
NC: Not Calculated

Soil/Solid results are reported on a dry weight basis unless otherwise indicated
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

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

PARACEL LABORATORIES LTD.

Paracel ID: 2112627

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2112627	№ 126726

Client Name: Pinchin Ltd.	Project Ref: 290154.001
Contact Name: M. Kosli, M. Ryan	Quote #:
Address: 1 Hines Rd, Kanata	PO #:
Telephone:	E-mail: mkosli / mryan @pinchin.com

Page 1 of 1

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

Date Required:

Regulation 153/04: ☐ Table 1 ☒ Res/Park ☐ Med/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☒ Table 7

For RSC: ☐ Yes ☒ No

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

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

Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Date	Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	pH	Texture 75um			
1	BH-1 SS-2	S		1	March 19 2021									X				
2	BH-SS-3			2			X	X	X									
3	BH-2 SS-2			2			X	X	X						X			
4	BH-3 SS-3			2			X	X	X					X				
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Drop Box

Relinquished By (Sign): [signature]	Received By Driver/Depot: [signature]	Received at Lab: Sumeeporn Dohmai	Verified By: [signature]
Relinquished By (Print): Mike Kosli	Date/Time: Mar 19/21 1136	Date/Time: Mar 19, 2021 04.48	Date/Time: March 19, 2021 17:14
Date/Time: March 19, 2021	Temperature: 8.2 °C	Temperature: 5.1 °C	pH Verified: ☐ By: