



September 8, 2017

Mr. Michael Boucher
Phoenix Homes
18A Bentley Avenue
Ottawa, Ontario K2E 6T8

Via Email:
mboucher@phoenixhomes.ca

Re: OTT-00241432-A0 **Fill Quality Assessment**
Hillside Vista (Blocks 1-5), Ottawa, Ontario

Dear Mr. Boucher:

1.0 Introduction

Exp services Inc. (**exp**) was retained by Phoenix Homes to complete a Fill Quality Assessment at Hillside Vista Blocks 1-5 in the Orleans part of Ottawa, Ontario, herein referred to as the 'site'. **Exp** understands that this letter report will be used for due diligence purposes.

The Site spans a total of three (3) vacant lots which are located 30 m south of Eric Czapnik Way and 80 m west of Tenth Line Road and is referred to as blocks 1-5 of Hillside Vista Walk Up Condominiums. Topographically, the Site is relatively flat with a slight northward slope however this is difficult to ascertain at the time due to the significant amounts of fill located at the Site. The surrounding area has a slight downwards slope towards the north. The closest body of water is the Ottawa River, located approximately 1,100 meters north of the Site. The groundwater flow direction is inferred to be north towards the Ottawa River.

2.0 Background

Exp recently completed a Phase One ESA at the site and identified the following areas of potential environmental concern (APEC).

Table 1: Areas of Potential Environmental Concern

Area of Potential Environmental Concern (APEC)	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contribution to APEC at the Site (Yes/No)	Media Potentially Impacted (Groundwater, Soil and/or Sediment)	Contaminants of Concern
1. Fill piles	#30 – Importation of Fill Material of Unknown Quality	On-Site	Yes	Soil	Metals, petroleum hydrocarbons (PHC) and polycyclic aromatic hydrocarbons (PAH)

Consequently, **exp** recommended that the fill piles be assessed to determine the presence or absence of impacted soil.

7.0 Results

7.1 Subsurface Conditions

The general stratigraphy is described as fill overlying either silty clay or bedrock. A 0.6 m to 2.2 m thick layer of silty clay fill with gravel and sand and frequent cobbles was observed at the surface of the test pits. This fill was underlain by silty clay fill with a trace of sand and gravel. This material was placed on the site from the previous phases of development.

Native silty clay was found in TP-I at a depth of 4.7 m and silty clay was found in TP-B at a depth of 3.7 m. No visual or olfactory observations of petroleum impacts were noted in the fill or soil samples. Combustible vapours were not detected in the soil samples. No groundwater was encountered in the test pits.

7.2 Analytical Results

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the test pits. The selection of representative fill samples from each test pit were based on field visual or olfactory evidence of impacts and/or presence of potential water bearing zones. Summaries of the soil analytical results are found in Appendix C. Copies of the laboratory Certificates of Analysis for the tested soil samples are provided in Appendix D.

7.2.1 Petroleum Hydrocarbons (PHCs), F1 to F4 including BTEX

Four (4) soil samples were submitted for the chemical analysis of PHC and BTEX. As shown in Table 1 in Appendix C, the soil samples had concentrations of BTEX and/or PHC that were less than the 2011 MOECC Table 3 site condition standards (SCS). The measured concentrations were also less than the MOECC Table 1 background concentrations. This indicates that the fill has not been impacted by petroleum hydrocarbons.

7.2.2 Polycyclic Aromatic Hydrocarbons (PAH)

Four soil samples were submitted for chemical analysis of PAH. As shown in Table 2 in Appendix C, the fill samples had concentrations of PAH that were less than the 2011 MOECC Table 3 SCS. The measured concentrations were also less than the MOECC Table 1 background concentrations. This indicates that the fill has not been impacted by PAH.

7.2.3 Metals

Four soil samples were submitted for the chemical analysis of metals. As shown in Table 3 in Appendix C, the fill samples had concentrations of metals that were less than the 2011 MOECC Table 3 SCS, with the exception of the sample collected from TP-K. The zinc concentration (417 ug/g) exceeded the MOECC Table 3 SCS of 340 ug/g. The concentrations of barium and chromium in TP-I also exceeded the MOECC Table 1 background concentrations, therefore, any excess fill/soil at the site will require landfill disposal unless it can be shown during removal that the metals concentrations are less than the MOECC Table 1 background concentrations.

7.3 Discussion

Since the fill quality at the site has concentrations of metals that exceed the MOECC Table 1 background concentrations, it cannot be disposed of as inert fill. Any excess fill/soil at the site will require landfill disposal unless it can be shown during removal that the metals concentrations are less than the MOECC Table 1

and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.


Our undertaking at exp, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. It is intended that the outcome of this investigation assist in reducing the client's risk associated with environmental impairment. Our work should not be considered 'risk mitigation'. No other warranty or representation, either expressed or implied, is included or intended in this report.

This report was prepared for the exclusive use of Phoenix Homes and may not be reproduced in whole or in part, without the prior written consent of exp, or used or relied upon in whole or in part by other parties for any purposes whatsoever. Any use which a third party makes of this report, or any part thereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Exp accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.


We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

exp Services Inc.


Mark McCalla, P. Geo., O.P.
Senior Geoscientist
Environmental Division



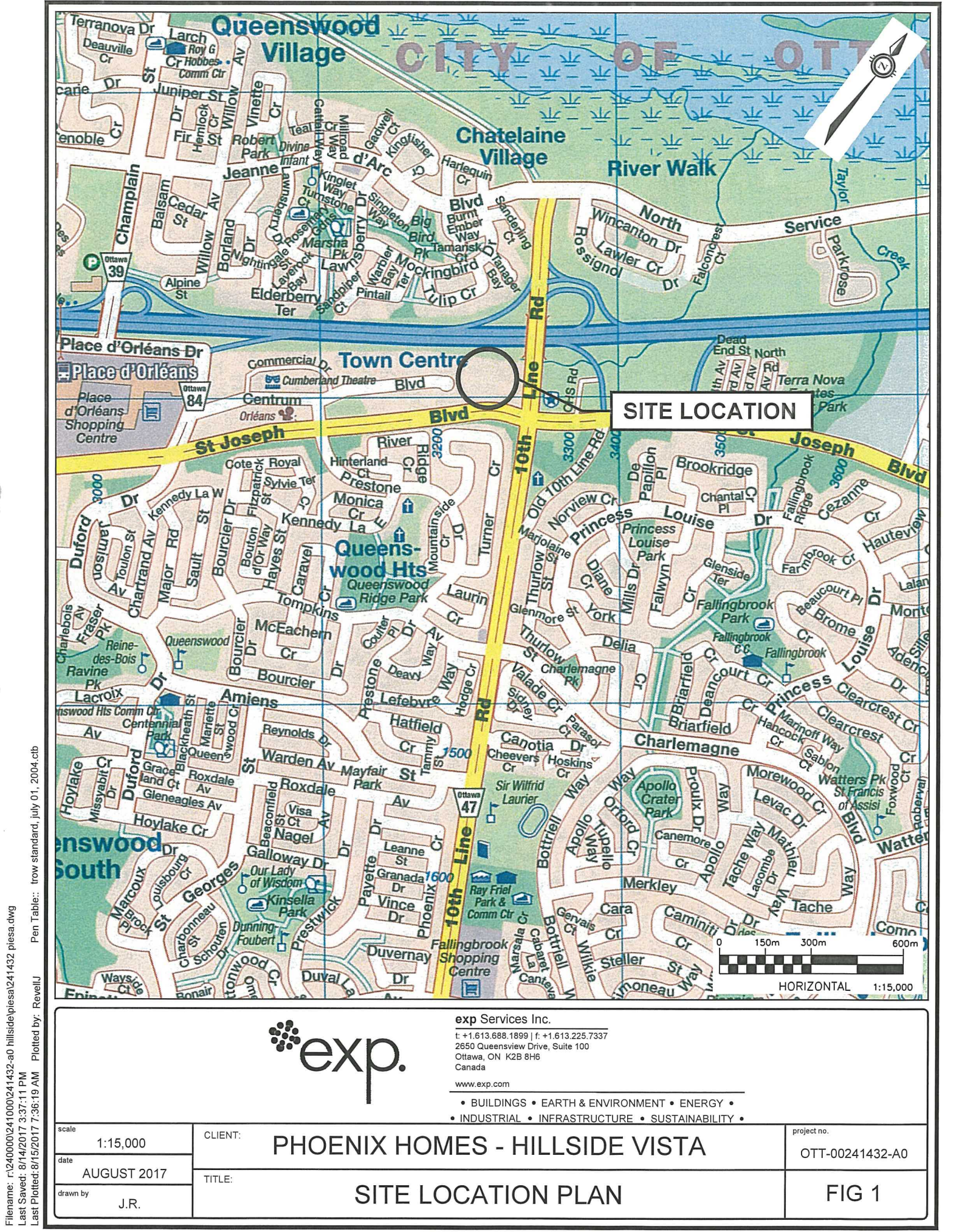

Robert Renaud, M. Sc., P. Geo.
Senior Geoscientist
Environmental Division

Enclosures: Attachment 1 - Figures
Attachment 2 - Test Pit Logs
Attachment 3 - Analytical Summary Tables
Attachment 4 - Laboratory Certificate of Analysis

exp Services Inc.

*Phoenix Homes
Fill Quality Assessment
Hillside Vista Blocks 1-5 Ottawa, Ontario
Project Number OTT-00241432-A0
September 8, 2017*

Attachment A: Figures

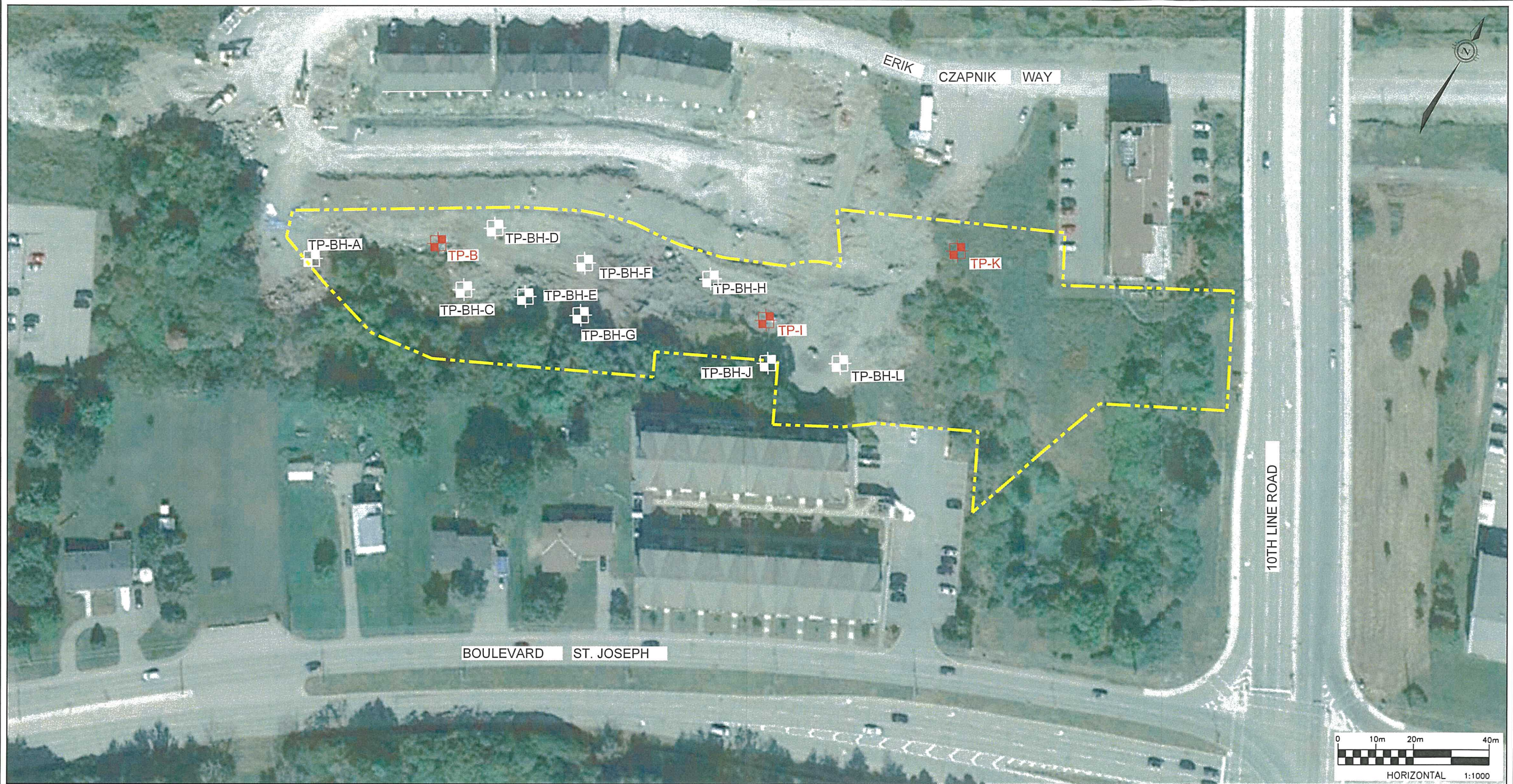


exp Services Inc.
t: +1.613.688.1899 | f: +1.613.225.7337
2650 Queensview Drive, Suite 100
Ottawa, ON K2B 8H6
Canada
www.exp.com
• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

scale 1:15,000	CLIENT: PHOENIX HOMES - HILLSIDE VISTA	project no. OTT-00241432-A0
date AUGUST 2017	TITLE: SITE LOCATION PLAN	FIG 1
drawn by J.R.		

File name: r:\240000\241000\241432-a0 hillsides\piesa\241432.piesa.dwg
Last Saved: 8/14/2017 3:37:11 PM
Last Plotted: 8/15/2017 7:36:19 AM
Pen Table: trw standard, July 01, 2004.ctb
Plotted by: RevellJ

Filename: r:\240000\241000\241432-a0 hillsides\plesa\241432 fig tp plan soil samples.dwg
Last Saved: 9/11/2017 9:12:27 AM
Last Plotted: 9/11/2017 9:13:45 AM
Pen Table: trw standard, July 01, 2004.ctb
Plotted by: NugentM



TP-BH-A

LEGEND

TEST PIT NUMBER
AND LOCATION



TP-B

TEST PIT NUMBER AND
LOCATION. FILL SAMPLE
SUBMITTED FOR
LABORATORY ANALYSIS



APPROXIMATE SITE
BOUNDARY



exp Services Inc.

t: +1.613.688.1899 | f: +1.613.225.7337
2650 Queensview Drive, Suite 100
Ottawa, ON K2B 8H6
Canada

www.exp.com

• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

scale
1:1000

date
SEPT. 2017

drawn by
M.N.

CLIENT: PHOENIX HOMES - HILLSIDE VISTA

TITLE: TEST PIT PLAN

project no.
OTT-00241432-A0

FIG 2

exp Services Inc.

*Phoenix Homes
Fill Quality Assessment
Hillside Vista Blocks 1-5 Ottawa, Ontario
Project Number OTT-00241432-A0
August 25, 2017*

Attachment B: Test Pit Logs

Log of Borehole TP-B



Project No: OTT-00241432-A0

Project: Geotechnical Investigation. Hillside Vista Walk-Up Condos

Location: St-Joseph Blvd and Tenth Line Rd., City of Ottawa, Ontario

Figure No. 4

Page. 1 of 1

Date Drilled: 8/17/17

Drill Type: Excavator

Datum: Geodetic

Logged by: M.L. Checked by: I.T.

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐

Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			SAMPLES	Natural Unit Wt. kN/m³
									250	500	750		
					Shear Strength				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
					20	40	60	80	20	40	60		
		FILL Silty clay mixed with sand and gravel, frequent cobbles and boulders, grey-brown, moist	67.45	0									
				1									
				2									
		FILL Silty clay, trace sand and gravel, grey, moist to wet	65.3	3									
				4									
		TOPSOIL Compressed	63.8										
		Test Pit Terminated at 4.0 m Depth Upon Refusal of Excavator Bucket	63.5										

- NOTES:
- Borehole data requires interpretation by exp. before use by others
 - Test Pit backfilled and compacted with excavator bucket upon completion
 - Field work supervised by an exp representative.
 - See Notes on Sample Descriptions
 - This Figure is to read with exp. Services Inc. report OTT-00241432-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	4.0

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole TP-K



Project No: OTT-00241432-A0

Project: Geotechnical Investigation. Hillside Vista Walk-Up Condos

Location: St-Joseph Blvd and Tenth Line Rd., City of Ottawa, Ontario

Figure No. 13

Page. 1 of 1

Date Drilled: 8/17/17

Drill Type: Excavator

Datum: Geodetic

Logged by: M.L. Checked by: I.T.

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐




Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			SAMPLES	Natural Unit Wt. kN/m³
					20	40	60	80	250	500	750		
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
					50	100	150	200	20	40	60		
		<u>FILL</u> Silty clay, some sand, trace gravel, metal debris, grey-brown, moist	62.7	0									
			61.9	1									
		<u>FILL</u> Silty clay, grey, moist to wet, firm											
			60.7		2								
		Test Pit Terminated at 2.0 m Depth											

NOTES:

1. Borehole data requires interpretation by exp. before use by others
2. Test Pit backfilled and compacted with excavator bucket upon completion
3. Field work supervised by an exp representative.
4. See Notes on Sample Descriptions
5. This Figure is to read with exp. Services Inc. report OTT-00241432-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
Completion	Dry	2.0

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

exp Services Inc.

*Phoenix Homes
Fill Quality Assessment
Hillside Vista Blocks 1-5 Ottawa, Ontario
Project Number OTT-00241432-A0
August 25, 2017*

Attachment C: Analytical Summary Tables

TABLE 1 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
 BTEX and PETROLEUM HYDROCARBONS
 Hillside Vista Blocks 1-5, Ottawa

Parameter	MOECC Table 1 ¹	MOECC Table 3 ²	TP-B S1	TP-I S1	TP-I S2	TP-K S1
Sample Date (d/m/y)	Background	Residential	18/08/17	18/08/17	18/08/17	18/08/17
Sample Depth (mbsg)			1.2 - 1.5	1.5 - 1.8	3.5 - 3.8	0.5 - 0.8
Benzene	0.02	0.21	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	0.05	2.0	<0.05	<0.05	<0.05	<0.05
Toluene	0.2	2.3	<0.05	<0.05	<0.05	<0.05
Total Xylenes	0.05	3.1	<0.05	<0.05	<0.05	<0.05
PHC F ₁ (C ₆ -C ₁₀)	25	55	<7	<7	<7	<7
PHC F ₂ (>C ₁₀ -C ₁₆)	10	98	<4	<4	<4	<4
PHC F ₃ (>C ₁₆ -C ₃₄)	240	300	<8	<8	<8	<8
PHC F ₄ (>C ₃₄ -C ₅₀)	120	2800	<6	<6	<6	<6

NOTES:

1 MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 1 background concentrations.

2 MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non potable residential standards.

Bold Concentration exceeds MOECC Table 1 background concentrations.

Shaded Concentration exceeds MOECC Table 3 residential soil quality standard.

N/A Not analyzed

TABLE 3 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
METALS
Hillside Vista Blocks 1-5, Ottawa

Parameter	MOECC Table 1 ¹	MOECC Table 3 ²	TP-B S1	TP-I S1	TP-I S2	TP-K S1
Sample Date (d/m/y)	Background	Residential	18/08/17	18/08/17	18/08/17	18/08/17
Sample Depth (mbsg)			1.2 - 1.5	1.5 - 1.8	3.5 - 3.8	0.5 - 0.8
Antimony	1.3	7.5	<1	<1	<1	<1
Arsenic	18	18	<1	<1	<1	<1
Barium	220	390	211	248	237	178
Beryllium	2.5	4	<1	<1	<1	<1
Boron	36	120	6.6	6.4	4.8	6.5
Cadmium	1.2	1.2	<0.5	<0.5	<0.5	0.8
Chromium	70	160	73.6	87.7	82.3	67.9
Cobalt	21	22	13.4	16.0	15.5	13.5
Copper	92	140	33.2	37.9	35.0	35.3
Lead	120	120	9.3	11.4	9.5	17.9
Molybdenum	2	6.9	<1	<1	<1	1.1
Nickel	62	100	36.8	43.7	41.5	52.5
Selenium	1.5	2.4	<1	<1	<1	<1
Silver	0.5	20	<0.5	<0.5	<0.5	<0.5
Thallium	1	1	<1	<1	<1	<1
Uranium	2.5	23	<1	<1	<1	<1
Vanadium	86	86	64.6	73.0	73.6	59.7
Zinc	290	340	70.0	78.0	76.2	417

NOTES:

- 1 MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 1 background concentrations.
- 2 MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non potable residential standards.
- Bold** Concentration exceeds MOECC Table 1 background concentrations.
- Shaded** Concentration exceeds MOECC Table 3 residential soil quality standard.
- N/A Not analyzed

exp Services Inc.

*Phoenix Homes
Fill Quality Assessment
Hillside Vista Blocks 1-5 Ottawa, Ontario
Project Number OTT-00241432-A0
August 25, 2017*

Attachment D: Laboratory Certificate of Analysis

Certificate of Analysis

exp Services Inc. (Ottawa)

100-2650 Queensview Dr.
Ottawa, ON K2B 8K2
Attn: Mark McCalla

Client PO:
Project: OTT00241432A
Custody: 110813

Report Date: 24-Aug-2017
Order Date: 18-Aug-2017

Order #: 1733457

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

Paracel ID	Client ID
1733457-01	TP-BHI-S1
1733457-02	TP-BHI-S2
1733457-03	TP-BHK-S1
1733457-04	TP-BHB-S1

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
 Client: exp Services Inc. (Ottawa)
 Client PO:

Report Date: 24-Aug-2017
 Order Date: 18-Aug-2017
 Project Description: OTT00241432A

Client ID:	TP-BHI-S1	TP-BHI-S2	TP-BHK-S1	TP-BHB-S1
Sample Date:	17-Aug-17	17-Aug-17	17-Aug-17	17-Aug-17
Sample ID:	1733457-01	1733457-02	1733457-03	1733457-04
MDL/Units	Soil	Soil	Soil	Soil

Physical Characteristics

% Solids	0.1 % by Wt.	82.5	73.9	66.7	83.1
----------	--------------	------	------	------	------

Metals

Antimony	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Arsenic	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Barium	1.0 ug/g dry	248	237	178	211
Beryllium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Boron	1.0 ug/g dry	6.4	4.8	6.5	6.6
Cadmium	0.5 ug/g dry	<0.5	<0.5	0.8	<0.5
Chromium	1.0 ug/g dry	87.7	82.3	67.9	73.6
Cobalt	1.0 ug/g dry	16.0	15.5	13.5	13.4
Copper	1.0 ug/g dry	37.9	35.0	35.3	33.2
Lead	1.0 ug/g dry	11.4	9.5	17.9	9.3
Molybdenum	1.0 ug/g dry	<1.0	<1.0	1.1	<1.0
Nickel	1.0 ug/g dry	43.7	41.5	52.5	36.8
Selenium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Silver	0.5 ug/g dry	<0.5	<0.5	<0.5	<0.5
Thallium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	<1.0	<1.0	<1.0
Vanadium	1.0 ug/g dry	73.0	73.6	59.7	64.6
Zinc	1.0 ug/g dry	78.0	76.2	417	70.0

Volatiles

Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene-d8	Surrogate	92.0%	95.0%	92.9%	93.8%

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	<8	<8	<8	<8
F4 PHCs (C34-C50)	6 ug/g dry	<6	<6	<6	<6

Semi-Volatiles

Acenaphthene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
Acenaphthylene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02

Certificate of Analysis
 Client: exp Services Inc. (Ottawa)
 Client PO:

Report Date: 24-Aug-2017
 Order Date: 18-Aug-2017
 Project Description: OTT00241432A

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						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	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	1.01		ug/g		76.1	50-140			
Surrogate: Terphenyl-d14	1.62		ug/g		122	50-140			
Volatiles									
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	2.28		ug/g		71.2	50-140			

Certificate of Analysis
Client: exp Services Inc. (Ottawa)
Client PO:

Report Date: 24-Aug-2017
Order Date: 18-Aug-2017
Project Description: OTT00241432A

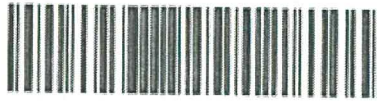
Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	208	7	ug/g		104	80-120			
F2 PHCs (C10-C16)	101	4	ug/g		112	80-120			
F3 PHCs (C16-C34)	192	8	ug/g		103	80-120			
F4 PHCs (C34-C50)	130	6	ug/g		105	80-120			
Metals									
Antimony	206		ug/L	11.6	77.6	70-130			
Arsenic	267		ug/L	ND	107	70-130			
Barium	756		ug/L	532	89.6	70-130			
Beryllium	241		ug/L	ND	96.5	70-130			
Boron	310		ug/L	72.9	94.9	70-130			
Cadmium	239		ug/L	3.50	94.1	70-130			
Chromium	373		ug/L	160	85.1	70-130			
Cobalt	280		ug/L	70.2	84.0	70-130			
Copper	379		ug/L	140	95.3	70-130			
Lead	357		ug/L	137	88.0	70-130			
Molybdenum	222		ug/L	3.14	87.4	70-130			
Nickel	361		ug/L	137	89.7	70-130			
Selenium	242		ug/L	ND	96.9	70-130			
Silver	223		ug/L	ND	89.2	70-130			
Thallium	183		ug/L	ND	73.2	70-130			
Uranium	258		ug/L	ND	103	70-130			
Vanadium	544		ug/L	312	92.7	70-130			
Zinc	610		ug/L	410	80.2	70-130			
Semi-Volatiles									
Acenaphthene	0.244	0.02	ug/g	ND	125	50-140			
Acenaphthylene	0.201	0.02	ug/g	ND	103	50-140			
Anthracene	0.179	0.02	ug/g	ND	91.5	50-140			
Benzo [a] anthracene	0.144	0.02	ug/g	ND	73.7	50-140			
Benzo [a] pyrene	0.159	0.02	ug/g	ND	81.2	50-140			
Benzo [b] fluoranthene	0.183	0.02	ug/g	ND	93.5	50-140			
Benzo [g,h,i] perylene	0.142	0.02	ug/g	ND	72.9	50-140			
Benzo [k] fluoranthene	0.147	0.02	ug/g	ND	75.5	50-140			
Chrysene	0.167	0.02	ug/g	ND	85.3	50-140			
Dibenzo [a,h] anthracene	0.116	0.02	ug/g	ND	59.3	50-140			
Fluoranthene	0.187	0.02	ug/g	ND	96.0	50-140			
Fluorene	0.198	0.02	ug/g	ND	102	50-140			
Indeno [1,2,3-cd] pyrene	0.124	0.02	ug/g	ND	63.4	50-140			
1-Methylnaphthalene	0.282	0.02	ug/g	0.079	104	50-140			
2-Methylnaphthalene	0.273	0.02	ug/g	0.052	113	50-140			
Naphthalene	0.276	0.01	ug/g	0.040	121	50-140			
Phenanthrene	0.190	0.02	ug/g	ND	97.1	50-140			
Pyrene	0.184	0.02	ug/g	ND	94.2	50-140			
Surrogate: 2-Fluorobiphenyl	1.32		ug/g		84.4	50-140			
Volatiles									
Benzene	3.60	0.02	ug/g		89.9	60-130			
Ethylbenzene	4.56	0.05	ug/g		114	60-130			
Toluene	3.93	0.05	ug/g		98.2	60-130			
m,p-Xylenes	8.63	0.05	ug/g		108	60-130			
o-Xylene	4.45	0.05	ug/g		111	60-130			

Paracel ID: 1733457



LABORATORIES LTD.

TRUST
RESPO
RELIA...t. Laurent Blvd.
ario K1G 4J8
3-1947
e: paracel@paracellabs.comChain of Custody
(Lab Use Only)

No 110813

Page 1 of 1

Turnaround Time:

☐ 1 Day ☐ 3 Day
☐ 2 Day ☒ Regular
 Date Required:

Client Name: exp	Project Reference: 011-00241432-A
Contact Name: Mark McCalla/Benjamin Clarke	Quote #
Address: 100-2650 Queensview Drive,	PO #
Telephone:	Email Address: Mark.McCalla@exp.com Daniel.Clarka@exp.com

Criteria: ☒ O. Reg. 153/04 (As Amended) Table 3 ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: ☐ Other:

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

Required Analyses

Parcel Order Number:		Matrix	Air Volume	# of Containers	Sample Taken		PHCs F1-F4-BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)						
Sample ID/Location Name					Date	Time													
1	B TP-BHI-S1	S			Aug 17, 17	1:30pm	X	X	X										
2	TP-BHI-S2	S			Aug 17, 17	1:30pm	X	X	X										
3	TP-BHK-S1	S			Aug 17, 17	3:30pm	X	X	X										
4	TP-BHB-S1	S			Aug 17, 17	4:30pm	X	X	X										
5																			
6																			
7																			
8																			
9																			
10	Samples submerged in water RS																		

Comments:

Method of Delivery:

Relinquished By (Sign): [Signature]	Received by Driver/Depot:	Received at Lab: LAB 35	Verified By: [Signature]
Relinquished By (Print): Maxime Leroux	Date/Time:	Date/Time: Aug 18, 2017	Date/Time: Aug 18, 2017
Date/Time: Aug 18, 2017 @ 8:35am	Temperature: 2.4 °C	Temperature: 2.4 °C	pH Verified <input checked="" type="checkbox"/> By: N/A 10:08