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November 19, 2019
File: PE4378-LET.02

Hadwen Properties Limited
c/o The Properties Group
236 Metcalfe Street
Ottawa, Ontario
K2P 1R3

Attention: **Mr. Brian Lahey**

Subject: **Phase II - Environmental Site Assessment Update**
1987 Robertson Road
Ottawa, Ontario

Dear Sir,

Further to your request and authorization, Paterson Group (Paterson) carried out a Phase II - Environmental Site Assessment (ESA) Update at the aforementioned site. The results of the Phase II - ESA are summarized in the following report.

1.0 Background Information

The Phase II ESA Property is designated as the southern part of the property, addressed 1987 Robertson Road, in the City of Ottawa, Ontario. The subject site is occupied by a large storage/warehouse style building, a gravelled laneway around the exterior of the building and is grass covered in the remaining area. The Phase II ESA Property is presented in Drawing PE4378-2 – Test Hole Location Plan, appended to this report.

Paterson completed a Phase I and Phase II Environmental Site Assessment (ESA) for the subject site in March 2012. The Phase I report indicated that while no specific concerns were identified, the general use of the land was considered to warrant the completion of a limited Phase II – ESA. The results of the Phase II ESA did identify some limited impacted soil in the northwest corner of the site from the former railway spur line, outside current site boundaries.

A further Phase II ESA was completed in August 2018 in which eight (8) boreholes were drilled, with two (2) of the boreholes (BH5 and BH6) equipped with groundwater monitoring wells. All of the detected PHC, BTEX and metal parameter results complied with the MECP Table 3 Standards for Soils. All of the detected PHC and VOC parameter results complied with the MECP Table 3 Standards for groundwater.

Since 2018, the portion of the subject land outlined in blue on Drawing PE4378-2 has been utilized by a construction equipment rental company. To confirm that this use of the site has not had a significant impact on the land, Paterson were requested to carry out a site visit and resample any wells in the occupied portion of the site.

No significant concerns were observed during our site visit which was completed on October 21, 2019. Outside of the original lease limits, only a small area consisting of a former building slab in the north-eastern portion of the site was being utilised by the tenant. Details regarding the water sampling are provided below.

2.0 Groundwater Sampling

As part of the Phase II ESA Update, a site visit was conducted on October 21, 2019, in order to sample groundwater from the existing monitoring wells within the tenant occupied land. Samples were collected from MW1, MW3 and BH5. The well in BH6 had been destroyed in the intervening time and, as such, no groundwater samples could be collected from this well.

The groundwater levels in the monitoring wells were found to be 2.93 m (MW1) and 4.10 m (MW3), 4.0 m (BH5) below the existing ground surface. Groundwater flow direction has previously been assessed as being to the northwest. It should be noted that groundwater levels are expected to fluctuate throughout the year with seasonal variations. No unusual visual or olfactory observations were noted regarding the groundwater obtained.

3.0 Analytical Test Results

Groundwater Standards

The groundwater standards for the subject site were obtained from Table 3 of the document entitled “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*”, dated April 15, 2011. The MECP Standards are based on the following considerations:

- ❑ Coarse-grained soil conditions.
- ❑ Full-depth generic site conditions
- ❑ Non-potable groundwater situation.
- ❑ Commercial land use.

Paracel Laboratories (Paracel) of Ottawa, performed the laboratory analysis of the samples submitted for analytical testing. Paracel is a member of the Standards Council of Canada/Canadian Association for Environmental Analytical Laboratories

(SCC/CAEAL). Paracel is accredited and certified by SCC/CAEAL for specific tests registered with the association.

Groundwater

Groundwater samples were submitted for PHCs and volatile organic compounds (VOCs) analyses. The results of the analytical testing and the selected MECP Standards are presented in Tables 1 and 2. A copy of the laboratory certificate of analysis is attached to this report.

Table 1. Analytical Results - Groundwater PHCs (Fractions 1 to 4)

Parameter	MDL (µg/L)	Groundwater Samples (µg/L)						Table 3 Standards Commercial Property Use
		July 26, 2018			Oct 21, 2019			
		MW3-GW	BH5-GW1	BH6-GW1	MW1-GW1	MW3-GW2	BH5-GW2	
F_1 PHCs (C_6-C_{10})	25	nd	nd	nd	nd	nd	nd	750
F_2 PHCs (C_{10}-C_{16})	100	nd	nd	nd	nd	nd	nd	150
F_3 PHCs (C_{16}-C_{34})	100	nd	nd	nd	nd	nd	nd	500
F_4 PHCs (C_{34}-C_{50})	100	nd	nd	nd	nd	nd	nd	500

* Notes: MDL - Method Detection Limit
nd - Not Detected (<MDL)

No detectable PHC concentrations were identified in the groundwater samples analyzed. The groundwater results comply with the MECP Table 3 Standards.

Table 2. Analytical Results - Groundwater Volatile Organic Compounds (VOCs)

Parameter	MDL (µg/L)	Groundwater Samples (µg/L)						Table 3 Standards Commercial Property Use
		July 26, 2018			Oct 21, 2019			
		MW3-GW	BH5-GW1	BH6-GW1	MW1-GW1	MW3-GW2	BH5-GW2	
Acetone	5	nd	nd	nd	nd	nd	nd	130,000
Benzene	0.5	nd	nd	nd	nd	nd	nd	44
Bromodichloromethane	0.5	nd	nd	nd	nd	nd	nd	85,000
Bromoform	0.5	nd	nd	nd	nd	nd	nd	380
Bromomethane	0.5	nd	nd	nd	nd	nd	nd	5.6
Carbon Tetrachloride	0.2	nd	nd	nd	nd	nd	nd	0.79
Chlorobenzene	0.5	nd	nd	nd	nd	nd	nd	630
Chloroform	0.5	nd	nd	nd	nd	nd	nd	2.4
Dibromochloromethane	0.5	nd	nd	nd	nd	nd	nd	82,000
Dichlorodifluoromethane	1	nd	nd	nd	nd	nd	nd	4,400
m - Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	9,600
o - Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	4,600

Table 2. Analytical Results - Groundwater Volatile Organic Compounds (VOCs)

Parameter	MDL (µg/L)	Groundwater Samples (µg/L)						Table 3 Standards Commercial Property Use
		July 26, 2018			Oct 21, 2019			
		MW3-GW	BH5-GW1	BH6-GW1	MW1-GW1	MW3-GW2	BH5-GW2	
p - Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	8
1,1-Dichloroethane	0.5	nd	nd	nd	nd	nd	nd	320
1,2-Dichloroethane	0.5	nd	nd	nd	nd	nd	nd	1.6
1,1-Dichloroethylene	0.5	nd	nd	nd	nd	nd	nd	1.6
c-1,2-Dichloroethylene	0.5	nd	nd	nd	nd	nd	nd	1.6
t-1,2-Dichloroethylene	0.5	nd	nd	nd	nd	nd	nd	1.6
1,2-Dichloropropane	0.5	nd	nd	nd	nd	nd	nd	16
Hexane	1	nd	nd	nd	nd	nd	nd	51
c-1,3-Dichloropropene	0.5	nd	nd	nd	nd	nd	nd	5.2
t-1,3-Dichloropropene	0.5	nd	nd	nd	nd	nd	nd	5.2
Ethylene dibromide	0.2	nd	nd	nd	nd	nd	nd	0.25
Ethylbenzene	0.5	nd	nd	nd	nd	nd	nd	2,300
Methyl Ethyl Ketone	5	nd	nd	nd	nd	nd	nd	470,000
Methyl Isobutyl Ketone	5	nd	nd	nd	nd	nd	nd	140,000
Methyl tert-Butyl Ether	2	nd	nd	nd	nd	nd	nd	190
Methylene Chloride	5	nd	nd	nd	nd	nd	nd	610
Styrene	0.5	nd	nd	nd	nd	nd	nd	1,300
1,1,1,2-tetrachloroethane	0.5	nd	nd	nd	nd	nd	nd	3.4
1,1,2,2-tetrachloroethane	0.5	nd	nd	nd	nd	nd	nd	3.2
Tetrachloroethylene	0.5	nd	nd	nd	nd	nd	nd	1.6
Toluene	0.5	nd	nd	nd	nd	nd	nd	18,000
1,1,1-Trichloroethane	0.5	nd	nd	nd	nd	nd	nd	640
1,1,2-Trichloroethane	0.5	nd	nd	nd	nd	nd	nd	4.7
Trichloroethylene	0.5	nd	nd	nd	nd	nd	nd	1.6
Trichlorofluoromethane	1	nd	nd	nd	nd	nd	nd	2,500
Vinyl Chloride	0.5	nd	nd	nd	nd	nd	nd	0.5
Total Xylenes	0.5	nd	nd	nd	nd	nd	nd	4,200

Notes: MDL – Method Detection Limit
nd - Not Detected (< MDL)

No detectable VOC concentrations were identified in the groundwater samples analyzed. The groundwater results comply with the MECP Table 3 Standards.

4.0 Assessment and Recommendations

Assessment

A groundwater sampling program was completed to determine the current condition of the Phase II Property following the occupation of the land by a construction equipment rental company for approximately the last year.

It was noted during the site visit that the new tenants are using the concrete slab to the north of the original lease area for the storage of equipment. No specific environmental concerns were identified during our site visit.

Groundwater

Groundwater samples were collected on October 21, 2019, from monitoring wells MW1, MW3 and BH5. The well in BH6, which is also located in the leased area, was damaged and could not be sampled. No sheen or unusual odours were noted in the groundwater samples recovered from the above-noted monitoring wells.

The three (3) groundwater samples were submitted for PHC and VOC analysis. No detectable PHC or VOC concentrations were identified in the groundwater samples analyzed. The groundwater results comply with the MECP Table 3 standards.

Based on our findings, the subject site does not appear to have been impacted by on-site activities.

Recommendations

It is recommended that the wells are maintained for future groundwater monitoring purposes. More care should be taken by the tenant to protect the existing wells from damage, such as installing barricades around them.

5.0 Statement of Limitations

This Phase II - Environmental Site Assessment Update report has been prepared in general accordance with the agreed scope-of-work and the requirements of CSA Z768-01. Should any conditions be encountered at the subject site and/or historical information that differs from our findings, we request that we are notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Hadwen Properties Limited. Permission and notification from the above-noted party and this firm will be required to release this report to any other party.

We trust that this report satisfies your requirements.

Paterson Group Inc.

Philip Price, B.Sc.

Mark S. D'Arcy, P.Eng.

Report Distribution

- ❑ Hadwen Properties Limited
- ❑ Paterson Group

Attachments

- ❑ Laboratory Certificates for Analysis
- ❑ Drawing No. PE4378-2 – Test Hole Location Plan

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Certificate of Analysis

Paterson Group Consulting Engineers

154 Colonnade Road South
Nepean, ON K2E 7J5
Attn: Mark D'Arcy

Client PO: 27628
Project: PE4378
Custody: 123200

Report Date: 28-Oct-2019
Order Date: 22-Oct-2019

Order #: 1943316

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

Paracel ID	Client ID
1943316-01	MW1-GW1
1943316-02	MW3-GW2
1943316-03	BH5-GW2

Approved By:

Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis
Client: Paterson Group Consulting Engineers
Client PO: 27628

Report Date: 28-Oct-2019
Order Date: 22-Oct-2019
Project Description: PE4378

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	25-Oct-19	26-Oct-19
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	22-Oct-19	24-Oct-19
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	25-Oct-19	26-Oct-19

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 27628

Report Date: 28-Oct-2019

Order Date: 22-Oct-2019

Project Description: PE4378

	Client ID:	MW1-GW1	MW3-GW2	BH5-GW2	-
	Sample Date:	21-Oct-19 12:00	21-Oct-19 12:00	21-Oct-19 12:00	-
	Sample ID:	1943316-01	1943316-02	1943316-03	-
	MDL/Units	Water	Water	Water	-
Volatiles					
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	-
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	-
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	-
Ethylene dibromide (dibromoethan	0.2 ug/L	<0.2	<0.2	<0.2	-
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	-
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-

Certificate of Analysis

Client: Paterson Group Consulting Engineers

Client PO: 27628

Report Date: 28-Oct-2019

Order Date: 22-Oct-2019

Project Description: PE4378

	Client ID:	MW1-GW1	MW3-GW2	BH5-GW2	-
	Sample Date:	21-Oct-19 12:00	21-Oct-19 12:00	21-Oct-19 12:00	-
	Sample ID:	1943316-01	1943316-02	1943316-03	-
	MDL/Units	Water	Water	Water	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	-
4-Bromofluorobenzene	Surrogate	106%	108%	106%	-
Dibromofluoromethane	Surrogate	109%	62.9%	109%	-
Toluene-d8	Surrogate	97.0%	99.6%	97.1%	-
Hydrocarbons					
F1 PHCs (C6-C10)	25 ug/L	<25	<25	<25	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L						
F2 PHCs (C10-C16)	ND	100	ug/L						
F3 PHCs (C16-C34)	ND	100	ug/L						
F4 PHCs (C34-C50)	ND	100	ug/L						
Volatiles									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	*82.8*		*ug/L*		*104*	*50-140*			
Surrogate: Dibromofluoromethane	*80.7*		*ug/L*		*101*	*50-140*			
Surrogate: Toluene-d8	*79.8*		*ug/L*		*99.8*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND				30	
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Ethylene dibromide (dibromoethane	ND	0.2	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
Surrogate: 4-Bromofluorobenzene	*84.7*		*ug/L*		*106*	*50-140*			
Surrogate: Dibromofluoromethane	*79.5*		*ug/L*		*99.4*	*50-140*			
Surrogate: Toluene-d8	*79.7*		*ug/L*		*99.6*	*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)	1950	25	ug/L		97.3	68-117			
F2 PHCs (C10-C16)	1120	100	ug/L		70.0	60-140			
F3 PHCs (C16-C34)	2860	100	ug/L		73.0	60-140			
F4 PHCs (C34-C50)	2700	100	ug/L		109	60-140			
Volatiles									
Acetone	67.3	5.0	ug/L		67.3	50-140			
Benzene	49.8	0.5	ug/L		125	60-130			
Bromodichloromethane	37.3	0.5	ug/L		93.2	60-130			
Bromoform	40.7	0.5	ug/L		102	60-130			
Bromomethane	33.7	0.5	ug/L		84.2	50-140			
Carbon Tetrachloride	34.0	0.2	ug/L		84.9	60-130			
Chlorobenzene	35.8	0.5	ug/L		89.5	60-130			
Chloroform	35.5	0.5	ug/L		88.7	60-130			
Dibromochloromethane	38.4	0.5	ug/L		96.0	60-130			
Dichlorodifluoromethane	32.6	1.0	ug/L		81.5	50-140			
1,2-Dichlorobenzene	40.2	0.5	ug/L		101	60-130			
1,3-Dichlorobenzene	41.1	0.5	ug/L		103	60-130			
1,4-Dichlorobenzene	38.8	0.5	ug/L		97.0	60-130			
1,1-Dichloroethane	36.0	0.5	ug/L		89.9	60-130			
1,2-Dichloroethane	29.1	0.5	ug/L		72.8	60-130			
1,1-Dichloroethylene	41.2	0.5	ug/L		103	60-130			
cis-1,2-Dichloroethylene	43.3	0.5	ug/L		108	60-130			
trans-1,2-Dichloroethylene	43.3	0.5	ug/L		108	60-130			
1,2-Dichloropropane	38.9	0.5	ug/L		97.3	60-130			
cis-1,3-Dichloropropylene	37.0	0.5	ug/L		92.4	60-130			
trans-1,3-Dichloropropylene	32.5	0.5	ug/L		81.2	60-130			
Ethylbenzene	32.2	0.5	ug/L		80.6	60-130			
Ethylene dibromide (dibromoethane	43.4	0.2	ug/L		108	60-130			
Hexane	31.7	1.0	ug/L		79.2	60-130			
Methyl Ethyl Ketone (2-Butanone)	75.1	5.0	ug/L		75.1	50-140			
Methyl Isobutyl Ketone	92.2	5.0	ug/L		92.2	50-140			
Methyl tert-butyl ether	84.2	2.0	ug/L		84.2	50-140			
Methylene Chloride	34.6	5.0	ug/L		86.4	60-130			
Styrene	44.2	0.5	ug/L		110	60-130			
1,1,1,2-Tetrachloroethane	37.1	0.5	ug/L		92.7	60-130			
1,1,2,2-Tetrachloroethane	29.3	0.5	ug/L		73.2	60-130			
Tetrachloroethylene	38.3	0.5	ug/L		95.8	60-130			
Toluene	34.7	0.5	ug/L		86.6	60-130			
1,1,1-Trichloroethane	33.0	0.5	ug/L		82.4	60-130			
1,1,2-Trichloroethane	41.7	0.5	ug/L		104	60-130			
Trichloroethylene	49.1	0.5	ug/L		123	60-130			
Trichlorofluoromethane	30.5	1.0	ug/L		76.2	60-130			
Vinyl chloride	32.2	0.5	ug/L		80.6	50-140			
m,p-Xylenes	70.1	0.5	ug/L		87.6	60-130			
o-Xylene	34.8	0.5	ug/L		87.0	60-130			
Surrogate: 4-Bromofluorobenzene	*89.7*		*ug/L*		*112*	*50-140*			

Qualifier Notes:

None

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.

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.

TR
RE
RE

Paracel ID: 1943316

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wa, Ontario K1G 4J8
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racel@paracellabs.com

Chain of Custody
(Lab Use Only)
№ 123200

Page 1 of 1

Client Name: Paterson	Project Reference: PE4378
Contact Name: Mark D'Arcy	Quote #
Address: 154 Colonnade Rd	PO # 27628
Telephone: 613 226 7381	Email Address: MDarcy@Patersongroup.ca

Turnaround Time:
☐ 1 Day ☐ 3 Day
☐ 2 Day ☑ Regular
Date Required:

Criteria: ☑ O. Reg. 153/04 (As Amended) Table __ ☐ 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

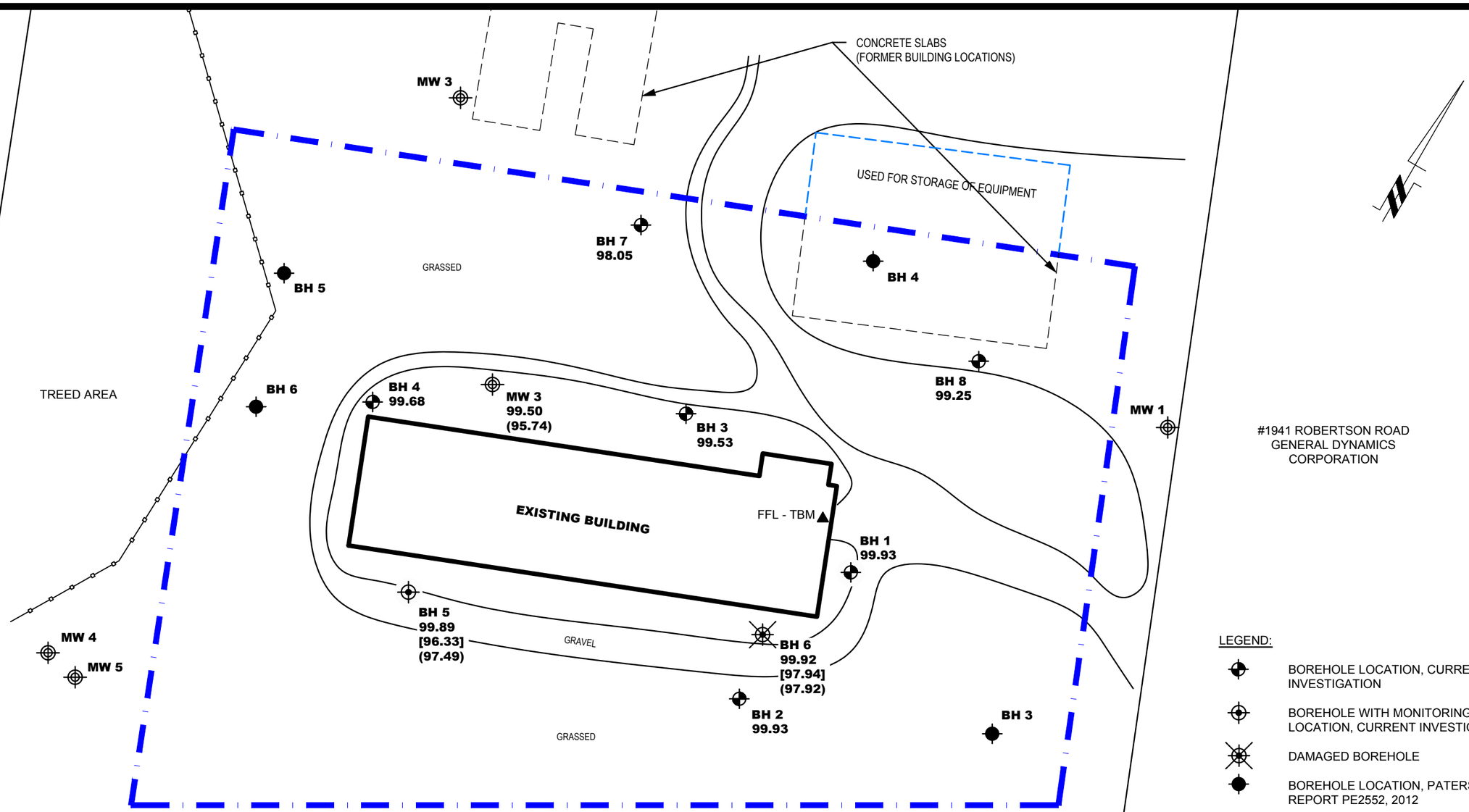
Paracel Order Number: 1943316

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)							
1	MW1-GW1	W		3	21 Oct	PM	✓	✓												
2	MW3-GW2	W		3	↓	↓	✓	✓												
3	BH5-GW2	W		3	↓	↓	✓	✓												
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Comments:

Method of Delivery: Swift

Relinquished By (Sign):	Received by Driver/Depot:	Received at Lab:	Verified By:
Relinquished By (Print): PHILIP PRICE	Date/Time:	Date/Time: 10-22-19 15:05	Date/Time: 10/22/19 17:39
Date/Time: 21 Oct 2019	Temperature: °C	Temperature: 9.8 °C	pH Verified [ ] By: NA



LEGEND:

- BOREHOLE LOCATION, CURRENT INVESTIGATION
- BOREHOLE WITH MONITORING WELL LOCATION, CURRENT INVESTIGATION
- DAMAGED BOREHOLE
- BOREHOLE LOCATION, PATERSON GROUP REPORT PE2552, 2012
- MONITORING WELL LOCATION BY OTHERS
- 99.92 GROUND SURFACE ELEVATION (m)
- [97.94] BEDROCK SURFACE ELEVATION (m)
- (97.92) GROUNDWATER SURFACE ELEVATION (m)

TBM - FINISHED FLOOR LEVEL. ASSUMED ELEVATION = 100.00m.

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
1	REVISED AS PER SITE VISIT	07/11/2019	PP

HADWEN PROPERTIES LTD.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT
1987 ROBERTSON ROAD
OTTAWA, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:1000	Date: 11/2019
Drawn by: MPG	Report No.: PE4378-LET.02
Checked by: MW	Dwg. No.: PE4378-2
Approved by: MSD	Revision No.: 1

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