PATERSON GROUP
Consulting Engineers
9 Auriga Drive
Ottawa, Ontario
K2E 7T9
Tel: (613) 226-7381

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Materials Testing
Building Science
Rural Development Design
Temporary Shoring Design
Retaining Wall Design
Noise and Vibration Studies

patersongroup.ca

October 16, 2024
File: PE5996-LET.02

Whelan Truck Repair Inc.
c/o Pri-Tec Construction Ltd.
112 John Cavanaugh Dr,
Carp, Ontario
K0A 1L0

Attention: **Mr. Alden Rattew**

Subject: **Soil Remediation Summary**
Whelan Truck Repair Inc.
158 Cardevco Road
Ottawa, Ontario

Dear Sir,

Further to your request and authorization, Paterson Group (Paterson) monitored a soil remediation excavation at the above-noted site. The remediation was initiated due to the identification of Polycyclic Aromatic Hydrocarbon (PAH) impacted fill material identified during a Phase II Environmental Site Assessment (ESA), dated November 16, 2023, conducted by Paterson.

Background

Paterson was commissioned to delineate the extent of PAH impacted fill material identified in BH4-23 during the 2023 Phase II ESA and to monitor the subsequent remediation excavation. Refer to the attached Drawing PE5996-6 Remediation Plan for the location of BH4-23 and the subsequent remediation area.

The following remediation summary should be read in conjunction with the previously completed Phase II ESA by Paterson.

Delineation

Paterson monitored the excavation of 4 test pits by backhoe on August 12, 2024, to a depth of 1.5m. One (1) test pit (TP1-24) was located in the immediate vicinity of BH4-23 and a sample was obtained for Toxicity Characteristic Leaching Procedure (TCLP) analysis on the impacted material prior to disposal at Waste Management of Ottawa.

The 3 remaining test pits were excavated 3m to the northwest, southeast, and northeast of BH4-23 (TP2-24 to TP4-24 respectively) for the purpose of delineating the extent of the impacted fill material. It should be noted a test pit could not be completed to the southwest of BH4-23 due to the presence of the building. A total of 10 samples were obtained from TP2-23 to TP4-24.

All soil samples collected were subjected to a preliminary screening procedure, which included visual screening for colour and evidence of deleterious materials, as well as soil vapour screening with a PID. No odours or staining were noted.

Analytical Test Results

Three (3) samples from TP2-24 to TP4-24 taken at a depth of 1.3m to 1.4m were submitted to Paracel Labs for analytical testing of PAH parameters.

The PAH parameters in the sample from TP4-24 were non-detect and therefore in compliance with the selected MECP Table 7 standards. Concentrations of various PAH parameters were identified in the samples from TP2-24 and TP3-24, however, all were in compliance with the selected MECP Table 7 standards.

Based on the analytical test results, it was concluded that the PAH impacted fill material was not present beyond 3m from BH4-23.

The sample from TP1-24 was submitted to Paracel Labs for TCLP analysis. All parameters were in compliance with MECP Schedule 4 for the disposal of contaminated soil in landfills.

Remediation

Paterson monitored the remediation excavation on September 30, 2024. Ken White Construction served as the excavation contractor and coordinated the licensed hauling contractors to dispose of the impacted material at Waste Management of Ottawa.

An area extending 3m out from BH4-23 in all directions was excavated to a depth of 1.3m, except to the southwest where the excavation was extended as close to the building foundation as safely possible (approximately 0.5m). The total area of the excavation was approximately 30m^2.

Based on the provided weigh scale tickets, a total of approximately 126 mts of impacted material was removed from the subject site.

Conclusion

Paterson monitored the excavation of 4 test pits on August 12, 2024, for the purposes of delineating impacted material identified in BH4-23 as part of a prior Phase II ESA dated November 16, 2023, and for TCLP analysis required for the disposal of impacted material by Waste Management of Ottawa.

Based on the analytical test results, it was concluded that PAH impacted fill material was not present beyond 3m from BH4-23.

Paterson monitored a remediation excavation on September 30, 2024, extending 3m out from BH4-23 in all directions to a depth of 1.3m, except to the southwest where the excavation was extended to approximately 0.5m away from the building foundation.

The total area of the remediation excavation was approximately 30m^2 and an approximate volume of 126 mts of impacted material was removed from site and hauled to Waste Management of Ottawa. Based on our observation and the analytical testing program, it is our opinion that the remediation was effective in removing the previously identified PAH impacted fill. No further work is recommended.

Statement of Limitations

Should any conditions at the site be encountered which differ from those at the test locations, we request that we be notified immediately in order to permit reassessment of our recommendations/conclusions.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Whelan Truck Repairs Inc., or their agents, without review by this firm for the applicability of our recommendations to the altered use of the report, is prohibited.

Regards,

Paterson Group Inc.

GPat

Grant Paterson, Technologist

Mark D'Arcy, P.Eng. QP$_{esa}$

Attachments

- Waste Transfer Tickets
- Laboratory Results Compared to MECP Table 7 Commercial
- Laboratory Results Compared to MECP Schedule 4
- Certificates of Analysis
- Drawing No. PE5996-6- Remediation Plan

Ottawa Transfer Station
2301 Carp rd
Carp, ON, K0A1L0

Reprint
Ticket# 232688

Ph: (613) 831-3563

Customer Name KEN WHITE CONSTRUCTION 107162
Ticket Date 10/01/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 158 CARDEVCO

Carrier KEN WHITE
Vehicle# 18
Container
Driver
Check#
Billing# 0000363
Grid

Volume

	Time	Scale	Operator	Inbound		
In	10/01/2024 08:58:47	Scale 1	mmurph14		Gross	39600 kg
Out	10/01/2024 08:58:47		mmurph14		Tare	14580 kg
					Net	25020 kg
					Tons	25.02 t

Comments

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Special Misc RDW-Metric	100	25.02	t				

Total HST
Total Ticket

I/WE CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS SOLID NON HAZARDOUS WASTE MATERIALS OR PRECLEARED SPECIAL WASTE AS EACH OF THESE IS DEFINED BELOW:
"Solid Non-Hazardous Waste" means commercial solid waste (including trash, refuse, and garbage) and construction and demolition waste that has the characteristics of Solid Non-Hazardous Waste normally produced by apartments, stores, offices, other commercial buildings and schools, provided that under no circumstances shall Solid Non-Hazardous Waste include water or other material (a) which is in whole or part, asbestos, liquid, radioactive, polychlorinated biphenyl, reactive, ignitable, flammable, corrosive, pathological, or otherwise defined as hazardous or dangerous by federal, provincial or local laws or regulations, (b) requires special handling, or (c) which may present an occupational health hazard to employees, representatives or agents of Waste Management of Canada Corporation; and "Precleared Special Waste" means waste or other materials which is Asbestos or otherwise requires special handling, but only if its composition has been completely disclosed in writing to, and accepted in advance in writing by, Waste Management of Canada Corporation.

Driver`s Signature

Ottawa Transfer Station
2301 Carp rd
Carp, ON, K0A1L0

Reprint
Ticket# 232696

Ph: (613) 831-3563

Customer Name KEN WHITE CONSTRUCTION 107162
Ticket Date 10/01/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 158 CARDEVCO

Carrier KEN WHITE
Vehicle# 18
Container
Driver
Check#
Billing# 0000363
Grid

Volume

	Time	Scale	Operator	Inbound		
In	10/01/2024 09:30:07	Scale 1	mmurph14		Gross	39350 kg
Out	10/01/2024 09:30:07		mmurph14		Tare	14580 kg
					Net	24770 kg
					Tons	24.77 t

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Misc RDW-Metric	100	24.77	t				

Total HST
Total Ticket

I/WE CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS SOLID NON HAZARDOUS WASTE MATERIALS OR PRECLEARED SPECIAL WASTE AS EACH OF THESE IS DEFINED BELOW:
"Solid Non-Hazardous Waste" means commercial solid waste (including trash, refuse, and garbage) and construction and demolition waste that has the characteristics of Solid Non-Hazardous Waste normally produced by apartments, stores, offices, other commercial buildings and schools, provided that under no circumstances shall Solid Non-Hazardous Waste include water or other material (a) which is in whole or part, asbestos, liquid, radioactive, polychlorinated biphenyl, reactive, ignitable, flammable, corrosive, pathological, or otherwise defined as hazardous or dangerous by federal, provincial or local laws or regulations, (b) requires special handling, or (c) which may present an occupational health hazard to employees, representatives or agents of Waste Management of Canada Corporation; and "Precleared Special Waste" means waste or other materials which is Asbestos or otherwise requires special handling, but only if its composition has been completely disclosed in writing to, and accepted in advance in writing by, Waste Management of Canada Corporation.

Driver`s Signature

Ottawa Transfer Station
2301 Carp rd
Carp, ON, K0A1L0

Reprint
Ticket# 232707

Ph: (613) 831-3563

Customer Name KEN WHITE CONSTRUCTION 107162
Ticket Date 10/01/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 158 CARDEVCO

Carrier KEN WHITE
Vehicle# 18
Container
Driver
Check#
Billing# 0000363
Grid

Volume

	Time	Scale	Operator	Inbound		
In	10/01/2024 09:59:17	Scale 1	mmurph14		Gross	41290 kg
Out	10/01/2024 09:59:17		mmurph14		Tare	14580 kg
					Net	26710 kg
					Tons	26.71 t

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Misc RDW-Metric	100	26.71	t				

Total HST
Total Ticket

I/WE CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS SOLID NON HAZARDOUS WASTE MATERIALS OR PRECLEARED SPECIAL WASTE AS EACH OF THESE IS DEFINED BELOW:
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Driver`s Signature

Ottawa Transfer Station
2301 Carp rd
Carp, ON, K0A1L0

Reprint
Ticket# 232677

Ph: (613) 831-3563

Customer Name KEN WHITE CONSTRUCTION 107162
Ticket Date 10/01/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 158 CARDEVCO

Carrier KEN WHITE
Vehicle# 18
Container
Driver
Check#
Billing# 0000363
Grid

Volume

	Time	Scale	Operator	Inbound		
In	10/01/2024 08:23:21	Scale 1	mmurph14		Gross	39510 kg
Out	10/01/2024 08:42:02	Scale 1	mmurph14		Tare	14580 kg
					Net	24930 kg
					Tons	24.93 t

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Misc RDW-Metric	100	24.93	t				

Total HST
Total Ticket

I/WE CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS SOLID NON HAZARDOUS WASTE MATERIALS OR PRECLEARED SPECIAL WASTE AS EACH OF THESE IS DEFINED BELOW:
"Solid Non-Hazardous Waste" means commercial solid waste (including trash, refuse, and garbage) and construction and demolition waste that has the characteristics of Solid Non-Hazardous Waste normally produced by apartments, stores, offices, other commercial buildings and schools, provided that under no circumstances shall Solid Non-Hazardous Waste include water or other material (a) which is in whole or part, asbestos, liquid, radioactive, polychlorinated biphenyl, reactive, ignitable, flammable, corrosive, pathological, or otherwise defined as hazardous or dangerous by federal, provincial or local laws or regulations, (b) requires special handling, or (c) which may present an occupational health hazard to employees, representatives or agents of Waste Management of Canada Corporation; and "Precleared Special Waste" means waste or other materials which is Asbestos or otherwise requires special handling, but only if its composition has been completely disclosed in writing to, and accepted in advance in writing by, Waste Management of Canada Corporation.

Driver`s Signature

Ottawa Transfer Station
2301 Carp rd
Carp, ON, K0A1L0

Reprint
Ticket# 232726

Ph: (613) 831-3563

Customer Name KEN WHITE CONSTRUCTION 107162
Ticket Date 10/01/2024
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 158 CARDEVCO

Carrier KEN WHITE
Vehicle# 18
Container
Driver
Check#
Billing# 0000363
Grid

Volume

	Time	Scale	Operator	Inbound		
In	10/01/2024 10:36:59	Scale 1	mmurph14		Gross	39250 kg
Out	10/01/2024 10:36:59		mmurph14		Tare	14580 kg
					Net	24670 kg
					Tons	24.67 t

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Misc RDW-Metric	100	24.67	t				

Total HST
Total Ticket

I/WE CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS SOLID NON HAZARDOUS WASTE MATERIALS OR PRECLEARED SPECIAL WASTE AS EACH OF THESE IS DEFINED BELOW:
"Solid Non-Hazardous Waste" means commercial solid waste (including trash, refuse, and garbage) and construction and demolition waste that has the characteristics of Solid Non-Hazardous Waste normally produced by apartments, stores, offices, other commercial buildings and schools, provided that under no circumstances shall Solid Non-Hazardous Waste include water or other material (a) which is in whole or part, asbestos, liquid, radioactive, polychlorinated biphenyl, reactive, ignitable, flammable, corrosive, pathological, or otherwise defined as hazardous or dangerous by federal, provincial or local laws or regulations, (b) requires special handling, or (c) which may present an occupational health hazard to employees, representatives or agents of Waste Management of Canada Corporation; and "Precleared Special Waste" means waste or other materials which is Asbestos or otherwise requires special handling, but only if its composition has been completely disclosed in writing to, and accepted in advance in writing by, Waste Management of Canada Corporation.

Driver`s Signature

TABLE 1		**CLIENT: Paterson Group Consulting Engineers (Ottawa)**				
PARACEL LABORATORIES LTD.		**ATTENTION: Mark D'Arcy**				
WORKORDER: 2433150		**PROJECT: PE5996**				
REPORT DATE: 08/20/2024		**REFERENCE: #24-017 Standing Offer 2024**				
Parameter	**Units**	**MDL**	**Regulation**	**Sample**		
				TP2-24-G3 2433150-01	**TP3-24-G3 2433150-02**	**TP4-24-G3 2433150-03**
Sample Date (m/d/y)			**Reg 153/04 -T7 Ind/Com, coarse**	**08/12/2024 09:00 AM**	**08/12/2024 09:00 AM**	**08/12/2024 09:00 AM**
Physical Characteristics						
% Solids	% by Wt.	0.1		89.2	90.3	93.4
Semi-Volatiles						
Acenaphthene	ug/g dry	0.02	96 ug/g dry	ND (0.02)	0.02	ND (0.02)
Acenaphthylene	ug/g dry	0.02	0.15 ug/g dry	ND (0.02)	0.09	ND (0.02)
Anthracene	ug/g dry	0.02	0.67 ug/g dry	ND (0.02)	0.14	ND (0.02)
Benzo[a]anthracene	ug/g dry	0.02	0.96 ug/g dry	ND (0.02)	0.21	ND (0.02)
Benzo[a]pyrene	ug/g dry	0.02	0.3 ug/g dry	ND (0.02)	0.18	ND (0.02)
Benzo[b]fluoranthene	ug/g dry	0.02	0.96 ug/g dry	ND (0.02)	0.17	ND (0.02)
Benzo[g,h,i]perylene	ug/g dry	0.02	9.6 ug/g dry	ND (0.02)	0.12	ND (0.02)
Benzo[k]fluoranthene	ug/g dry	0.02	0.96 ug/g dry	ND (0.02)	0.09	ND (0.02)
Chrysene	ug/g dry	0.02	9.6 ug/g dry	ND (0.02)	0.20	ND (0.02)
Dibenzo[a,h]anthracene	ug/g dry	0.02	0.1 ug/g dry	ND (0.02)	0.03	ND (0.02)
Fluoranthene	ug/g dry	0.02	9.6 ug/g dry	0.04	0.60	ND (0.02)
Fluorene	ug/g dry	0.02	62 ug/g dry	ND (0.02)	0.04	ND (0.02)
Indeno [1,2,3-cd] pyrene	ug/g dry	0.02	0.76 ug/g dry	ND (0.02)	0.10	ND (0.02)
1-Methylnaphthalene	ug/g dry	0.02	76 ug/g dry	ND (0.02)	ND (0.02)	ND (0.02)
2-Methylnaphthalene	ug/g dry	0.02	76 ug/g dry	ND (0.02)	ND (0.02)	ND (0.02)
Methylnaphthalene (1&2)	ug/g dry	0.04	76 ug/g dry	ND (0.04)	ND (0.04)	ND (0.04)
Naphthalene	ug/g dry	0.01	9.6 ug/g dry	ND (0.01)	ND (0.01)	ND (0.01)
Phenanthrene	ug/g dry	0.02	12 ug/g dry	0.03	0.40	ND (0.02)
Pyrene	ug/g dry	0.02	96 ug/g dry	0.03	0.49	ND (0.02)

TABLE 1		**CLIENT: Paterson Group Consulting Engineers (Ottawa)**		
PARACEL LABORATORIES LTD.		**ATTENTION: Mark D'Arcy**		
WORKORDER: 2433154		**PROJECT: PE5996**		
REPORT DATE: 08/19/2024		**REFERENCE: #24-017 Standing Offer 2024**		
Parameter	**Units**	**MDL**	**Regulation**	**Sample**
				TCLP 2433154-01
Sample Date (m/d/y)			**Reg 558 Schedule 4**	**08/12/2024 09:00 AM**
Physical Characteristics				
Flashpoint	°C			>70
% Solids	% by Wt.	0.1		89.0
EPA 1311 - TCLP Leachate Inorganics				
Fluoride	mg/L	0.05	150 mg/L	0.17
Nitrate as N	mg/L	1	1000 mg/L	ND (1)
Nitrite as N	mg/L	1	1000 mg/L	ND (1)
Nitrate + Nitrite as N	mg/L	2	1000 mg/L	ND (2)
Cyanide, free	mg/L	0.02	20 mg/L	ND (0.02)
EPA 1311 - TCLP Leachate Metals				
Arsenic	mg/L	0.05	2.5 mg/L	ND (0.05)
Barium	mg/L	0.05	100 mg/L	0.56
Boron	mg/L	0.10	500 mg/L	ND (0.10)
Cadmium	mg/L	0.01	0.5 mg/L	ND (0.01)
Chromium	mg/L	0.05	5 mg/L	ND (0.05)
Lead	mg/L	0.05	5 mg/L	ND (0.05)
Mercury	mg/L	0.005	0.1 mg/L	ND (0.005)
Selenium	mg/L	0.05	1 mg/L	ND (0.05)
Silver	mg/L	0.05	5 mg/L	ND (0.05)
Uranium	mg/L	0.05	10 mg/L	ND (0.05)
EPA 1311 - TCLP Leachate Volatiles				
Benzene	mg/L	0.005	0.5 mg/L	ND (0.005)
Carbon Tetrachloride	mg/L	0.005	0.5 mg/L	ND (0.005)
Chlorobenzene	mg/L	0.004	8 mg/L	ND (0.004)
Chloroform	mg/L	0.006	10 mg/L	ND (0.006)
1,2-Dichlorobenzene	mg/L	0.004	20 mg/L	ND (0.004)
1,4-Dichlorobenzene	mg/L	0.004	0.5 mg/L	ND (0.004)
1,2-Dichloroethane	mg/L	0.005	0.5 mg/L	ND (0.005)
1,1-Dichloroethylene	mg/L	0.006	1.4 mg/L	ND (0.006)
Methyl Ethyl Ketone (2-Butanone)	mg/L	0.30	200 mg/L	ND (0.30)
Methylene Chloride	mg/L	0.04	5 mg/L	ND (0.04)
Tetrachloroethylene	mg/L	0.005	3 mg/L	ND (0.005)
Trichloroethylene	mg/L	0.004	5 mg/L	ND (0.004)
Vinyl Chloride	mg/L	0.005	0.2 mg/L	ND (0.005)
EPA 1311 - TCLP Leachate Organics				
Benzo[a]pyrene	mg/L	0.0001	0.001 mg/L	ND (0.0001)
General Inorganics				
pH	pH Units	0.05		7.05
Volatiles				
Benzene	ug/g dry	0.02		ND (0.02)
Ethylbenzene	ug/g dry	0.05		ND (0.05)
Toluene	ug/g dry	0.05		ND (0.05)
m/p-Xylene	ug/g dry	0.05		ND (0.05)
o-Xylene	ug/g dry	0.05		ND (0.05)
Xylenes, total	ug/g dry	0.05		ND (0.05)
Hydrocarbons				
F1 PHCs (C6-C10)	ug/g dry	7		ND (7)
F2 PHCs (C10-C16)	ug/g dry	4		ND (4)
F3 PHCs (C16-C34)	ug/g dry	8		ND (8)
F4 PHCs (C34-C50)	ug/g dry	6		ND (6)

300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

PARACEL LABORATORIES LTD. | TRUSTED. RESPONSIVE. RELIABLE.

Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mark D'Arcy

Report Date: 20-Aug-2024
Order Date: 12-Aug-2024

Client PO: 60983
Project: PE5996
Custody:

Order #: 2433150

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

Paracel ID	Client ID
2433150-01	TP2-24-G3
2433150-02	TP3-24-G3
2433150-03	TP4-24-G3

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	17-Aug-24	19-Aug-24
Solids, %	CWS Tier 1 - Gravimetric	15-Aug-24	16-Aug-24

PARACEL LABORATORIES LTD.

Order #: 2433150

Certificate of Analysis

Report Date: 20-Aug-2024

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Aug-2024

Client PO: 60983

Project Description: PE5996

	Client ID:	TP2-24-G3	TP3-24-G3	TP4-24-G3	-		
	Sample Date:	12-Aug-24 09:00	12-Aug-24 09:00	12-Aug-24 09:00	-	-	-
	Sample ID:	2433150-01	2433150-02	2433150-03	-		
	Matrix:	Soil	Soil	Soil	-		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	89.2	90.3	93.4	-	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	0.02	<0.02	-	-	-
Acenaphthylene	0.02 ug/g	<0.02	0.09	<0.02	-	-	-
Anthracene	0.02 ug/g	<0.02	0.14	<0.02	-	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	0.21	<0.02	-	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	0.18	<0.02	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	0.17	<0.02	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	0.12	<0.02	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	0.09	<0.02	-	-	-
Chrysene	0.02 ug/g	<0.02	0.20	<0.02	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	0.03	<0.02	-	-	-
Fluoranthene	0.02 ug/g	0.04	0.60	<0.02	-	-	-
Fluorene	0.02 ug/g	<0.02	0.04	<0.02	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	0.10	<0.02	-	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	<0.04	<0.04	-	-	-
Naphthalene	0.01 ug/g	<0.01	<0.01	<0.01	-	-	-
Phenanthrene	0.02 ug/g	0.03	0.40	<0.02	-	-	-
Pyrene	0.02 ug/g	0.03	0.49	<0.02	-	-	-
2-Fluorobiphenyl	Surrogate	68.1%	62.9%	60.5%	-	-	-
Terphenyl-d14	Surrogate	96.8%	94.4%	85.4%	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*0.772*		*%*	*57.9*	*50-140*			
Surrogate: Terphenyl-d14	*1.09*		*%*	*81.4*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Physical Characteristics									
% Solids	93.5	0.1	% by Wt.	93.4			0.1	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	*1.09*		*%*		*70.2*	*50-140*			
Surrogate: Terphenyl-d14	*1.73*		*%*		*111*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Semi-Volatiles									
Acenaphthene	0.138	0.02	ug/g	ND	70.9	50-140			
Acenaphthylene	0.146	0.02	ug/g	ND	75.0	50-140			
Anthracene	0.133	0.02	ug/g	ND	68.2	50-140			
Benzo [a] anthracene	0.116	0.02	ug/g	ND	59.4	50-140			
Benzo [a] pyrene	0.117	0.02	ug/g	ND	59.9	50-140			
Benzo [b] fluoranthene	0.105	0.02	ug/g	ND	54.1	50-140			
Benzo [g,h,i] perylene	0.109	0.02	ug/g	ND	56.1	50-140			
Benzo [k] fluoranthene	0.108	0.02	ug/g	ND	55.4	50-140			
Chrysene	0.122	0.02	ug/g	ND	62.4	50-140			
Dibenzo [a,h] anthracene	0.104	0.02	ug/g	ND	53.2	50-140			
Fluoranthene	0.144	0.02	ug/g	ND	74.0	50-140			
Fluorene	0.128	0.02	ug/g	ND	65.7	50-140			
Indeno [1,2,3-cd] pyrene	0.098	0.02	ug/g	ND	50.4	50-140			
1-Methylnaphthalene	0.141	0.02	ug/g	ND	72.5	50-140			
2-Methylnaphthalene	0.146	0.02	ug/g	ND	74.9	50-140			
Naphthalene	0.144	0.01	ug/g	ND	74.0	50-140			
Phenanthrene	0.145	0.02	ug/g	ND	74.6	50-140			
Pyrene	0.149	0.02	ug/g	ND	76.2	50-140			
Surrogate: 2-Fluorobiphenyl	*1.04*		*%*		*66.4*	*50-140*			
Surrogate: Terphenyl-d14	*1.28*		*%*		*82.2*	*50-140*			

Qualifier Notes:

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unlesss otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

PARACEL LABORATORIES LTD.

Paracel ID: 2433150

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2433150	

Client Name: Paterson group	Project Ref: PE 5996	Page __ of __
Contact Name: Mark D'Arcy	Quote #:	Turnaround Time
Address: 9 Auriga dr	PO #: 60983	☐ 1 day ☐ 3 day
	E-mail: Mdarcy@patersongroup.ca gpaterson@patersongroup.ca	☐ 2 day ☑ Regular
Telephone: 613-226-7381		Date Required:

☐ REG 153/04 ☑ REG 406/19

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
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	Sample Taken Date	Sample Taken Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)					
1	TP2-24-G3	S		1	August 12 2024				✓									
2	~~[illegible]~~ TP3-24-G3	S		1	August 12 2024				✓									
3	~~[illegible]~~ TP4-24-G3	S		1	August 12 2024				✓									
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments: 2nd dash may be absent on jars

Method of Delivery: Paracel Courier

Relinquished By (Sign): GPat	Received at Depot:	Received at Lab: SS	Verified By: SO
Relinquished By (Print): Grant Paterson	Date/Time:	Date/Time: 12 Aug 24 1644	Date/Time: Aug 12, 2024 4:47 pm
Date/Time: Aug 12 2024	Temperature: °C	Temperature: 14.2	pH Verified: ☐ By:

300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

PARACEL LABORATORIES LTD. | TRUSTED. RESPONSIVE. RELIABLE.

Certificate of Analysis

Paterson Group Consulting Engineers (Ottawa)
9 Auriga Drive
Ottawa, ON K2E 7T9
Attn: Mark D'Arcy

Report Date: 19-Aug-2024
Order Date: 12-Aug-2024

Client PO: 60983
Project: PE5996
Custody:

Order #: 2433154

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

Paracel ID	Client ID
2433154-01	TCLP

Approved By:

Mark Foto, M.Sc.
Lab Supervisor

Client: **Paterson Group Consulting Engineers (Ottawa)**

Client PO: 60983

Project Description: PE5996

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	14-Aug-24	14-Aug-24
Flashpoint	ASTM D93 - Pensky-Martens Closed Cup	14-Aug-24	14-Aug-24
Metals, ICP-MS	TCLP EPA 6020 - Digestion - ICP-MS	16-Aug-24	16-Aug-24
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	16-Aug-24	16-Aug-24
PHC F1	CWS Tier 1 - P&T GC-FID	14-Aug-24	14-Aug-24
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	16-Aug-24	17-Aug-24
REG 558 - Cyanide	TCLP MOE E3015- Auto Colour	16-Aug-24	16-Aug-24
REG 558 - Fluoride	TCLP EPA 340.2 - ISE	16-Aug-24	16-Aug-24
REG 558 - Mercury by CVAA	TCLP EPA 7470A, CVAA	16-Aug-24	16-Aug-24
REG 558 - NO3/NO2	TCLP EPA 300.1 - IC	16-Aug-24	16-Aug-24
REG 558 - PAHs	TCLP EPA 625 - GC-MS	16-Aug-24	16-Aug-24
REG 558 - VOCs	TCLP ZHE EPA 624 - P&T GC-MS	19-Aug-24	19-Aug-24
Solids, %	CWS Tier 1 - Gravimetric	15-Aug-24	16-Aug-24

PARACEL LABORATORIES LTD.

Order #: 2433154

Certificate of Analysis

Report Date: 19-Aug-2024

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Aug-2024

Client PO: 60983

Project Description: PE5996

	Client ID:	TCLP	-	-	-		
	Sample Date:	12-Aug-24 09:00	-	-	-	-	-
	Sample ID:	2433154-01	-	-	-		
	Matrix:	Soil	-	-	-		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	89.0	-	-	-	-	-
Flashpoint	°C	>70	-	-	-	-	-
EPA 1311 - TCLP Leachate Inorganics							
Fluoride	0.05 mg/L	0.17	-	-	-	-	-
Nitrate as N	1 mg/L	<1	-	-	-	-	-
Nitrite as N	1 mg/L	<1	-	-	-	-	-
Nitrate + Nitrite as N	2 mg/L	<2	-	-	-	-	-
Cyanide, free	0.02 mg/L	<0.02	-	-	-	-	-
EPA 1311 - TCLP Leachate Metals							
Arsenic	0.05 mg/L	<0.05	-	-	-	-	-
Barium	0.05 mg/L	0.56	-	-	-	-	-
Boron	0.10 mg/L	<0.10	-	-	-	-	-
Cadmium	0.01 mg/L	<0.01	-	-	-	-	-
Chromium	0.05 mg/L	<0.05	-	-	-	-	-
Lead	0.05 mg/L	<0.05	-	-	-	-	-
Mercury	0.005 mg/L	<0.005	-	-	-	-	-
Selenium	0.05 mg/L	<0.05	-	-	-	-	-
Silver	0.05 mg/L	<0.05	-	-	-	-	-
Uranium	0.05 mg/L	<0.05	-	-	-	-	-
EPA 1311 - TCLP Leachate Volatiles							
Benzene	0.005 mg/L	<0.005	-	-	-	-	-
Carbon Tetrachloride	0.005 mg/L	<0.005	-	-	-	-	-
Chlorobenzene	0.004 mg/L	<0.004	-	-	-	-	-
Chloroform	0.006 mg/L	<0.006	-	-	-	-	-
1,2-Dichlorobenzene	0.004 mg/L	<0.004	-	-	-	-	-

PARACEL LABORATORIES LTD.

Order #: 2433154

Certificate of Analysis

Report Date: 19-Aug-2024

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Aug-2024

Client PO: 60983

Project Description: PE5996

	Client ID:	TCLP	-	-	-		
	Sample Date:	12-Aug-24 09:00	-	-	-	-	-
	Sample ID:	2433154-01	-	-	-		
	Matrix:	Soil	-	-	-		
	MDL/Units						
EPA 1311 - TCLP Leachate Volatiles							
1,4-Dichlorobenzene	0.004 mg/L	<0.004	-	-	-	-	-
1,2-Dichloroethane	0.005 mg/L	<0.005	-	-	-	-	-
1,1-Dichloroethylene	0.006 mg/L	<0.006	-	-	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.30 mg/L	<0.30	-	-	-	-	-
Methylene Chloride	0.04 mg/L	<0.04	-	-	-	-	-
Tetrachloroethylene	0.005 mg/L	<0.005	-	-	-	-	-
Trichloroethylene	0.004 mg/L	<0.004	-	-	-	-	-
Vinyl chloride	0.005 mg/L	<0.005	-	-	-	-	-
Dibromofluoromethane	Surrogate	102%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	104%	-	-	-	-	-
Toluene-d8	Surrogate	104%	-	-	-	-	-
EPA 1311 - TCLP Leachate Organics							
Benzo [a] pyrene	0.0001 mg/L	<0.0001	-	-	-	-	-
Terphenyl-d14	Surrogate	92.3%	-	-	-	-	-
General Inorganics							
pH	0.05 pH Units	7.05	-	-	-	-	-
Volatiles							
Benzene	0.02 ug/g	<0.02	-	-	-	-	-
Ethylbenzene	0.05 ug/g	<0.05	-	-	-	-	-
Toluene	0.05 ug/g	<0.05	-	-	-	-	-
m,p-Xylenes	0.05 ug/g	<0.05	-	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	-	-	-	-
Toluene-d8	Surrogate	111%	-	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	-	-	-	-	-

Certificate of Analysis

Report Date: 19-Aug-2024

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 12-Aug-2024

Client PO: 60983

Project Description: PE5996

	Client ID:	TCLP	-	-	-		
	Sample Date:	12-Aug-24 09:00	-	-	-	-	-
	Sample ID:	2433154-01	-	-	-		
	Matrix:	Soil	-	-	-		
	MDL/Units						
Hydrocarbons							
F2 PHCs (C10-C16)	4 ug/g	<4	-	-	-	-	-
F3 PHCs (C16-C34)	8 ug/g	<8	-	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Inorganics								
Fluoride	ND	0.05	mg/L					
Nitrate as N	ND	1	mg/L					
Nitrite as N	ND	1	mg/L					
Nitrate + Nitrite as N	ND	2	mg/L					
Cyanide, free	ND	0.02	mg/L					
EPA 1311 - TCLP Leachate Metals								
Arsenic	ND	0.05	mg/L					
Barium	ND	0.05	mg/L					
Boron	ND	0.10	mg/L					
Cadmium	ND	0.01	mg/L					
Chromium	ND	0.05	mg/L					
Lead	ND	0.05	mg/L					
Mercury	ND	0.005	mg/L					
Selenium	ND	0.05	mg/L					
Silver	ND	0.05	mg/L					
Uranium	ND	0.05	mg/L					
EPA 1311 - TCLP Leachate Organics								
Benzo [a] pyrene	ND	0.0001	mg/L					
Surrogate: Terphenyl-d14	*0.19*		*%*	*95.1*	*37-156*			
EPA 1311 - TCLP Leachate Volatiles								
Benzene	ND	0.005	mg/L					
Carbon Tetrachloride	ND	0.005	mg/L					
Chlorobenzene	ND	0.004	mg/L					
Chloroform	ND	0.006	mg/L					
1,2-Dichlorobenzene	ND	0.004	mg/L					
1,4-Dichlorobenzene	ND	0.004	mg/L					
1,2-Dichloroethane	ND	0.005	mg/L					
1,1-Dichloroethylene	ND	0.006	mg/L					
Methyl Ethyl Ketone (2-Butanone)	ND	0.30	mg/L					
Methylene Chloride	ND	0.04	mg/L					
Tetrachloroethylene	ND	0.005	mg/L					
Trichloroethylene	ND	0.004	mg/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Vinyl chloride	ND	0.005	mg/L					
Surrogate: 4-Bromofluorobenzene	*0.0836*		*%*	*104*	*83-134*			
Surrogate: Dibromofluoromethane	*0.0820*		*%*	*102*	*78-124*			
Surrogate: Toluene-d8	*0.0841*		*%*	*105*	*76-118*			
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					
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	*7.92*		*%*	*99.0*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Inorganics									
Fluoride	0.13	0.05	mg/L	0.13			0.4	20	
Nitrate as N	ND	1	mg/L	ND			NC	20	
Nitrite as N	ND	1	mg/L	ND			NC	20	
Cyanide, free	ND	0.02	mg/L	ND			NC	20	
EPA 1311 - TCLP Leachate Metals									
Arsenic	ND	0.05	mg/L	ND			NC	29	
Barium	0.907	0.05	mg/L	0.773			15.9	34	
Boron	ND	0.10	mg/L	ND			NC	33	
Cadmium	ND	0.01	mg/L	ND			NC	33	
Chromium	ND	0.05	mg/L	ND			NC	32	
Lead	ND	0.05	mg/L	ND			NC	32	
Mercury	ND	0.005	mg/L	ND			NC	30	
Selenium	ND	0.05	mg/L	ND			NC	28	
Silver	ND	0.05	mg/L	ND			NC	28	
Uranium	ND	0.05	mg/L	ND			NC	27	
EPA 1311 - TCLP Leachate Volatiles									
Benzene	ND	0.005	mg/L	ND			NC	25	
Carbon Tetrachloride	ND	0.005	mg/L	ND			NC	25	
Chlorobenzene	ND	0.004	mg/L	ND			NC	25	
Chloroform	ND	0.006	mg/L	ND			NC	25	
1,2-Dichlorobenzene	ND	0.004	mg/L	ND			NC	25	
1,4-Dichlorobenzene	ND	0.004	mg/L	ND			NC	25	
1,2-Dichloroethane	ND	0.005	mg/L	ND			NC	25	
1,1-Dichloroethylene	ND	0.006	mg/L	ND			NC	25	
Methyl Ethyl Ketone (2-Butanone)	ND	0.30	mg/L	ND			NC	25	
Methylene Chloride	ND	0.04	mg/L	ND			NC	25	
Tetrachloroethylene	ND	0.005	mg/L	ND			NC	25	
Trichloroethylene	ND	0.004	mg/L	ND			NC	25	
Vinyl chloride	ND	0.005	mg/L	ND			NC	25	
Surrogate: 4-Bromofluorobenzene	*0.0853*		*%*		*107*	*83-134*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*0.0799*		*%*		*99.9*	*78-124*			
Surrogate: Toluene-d8	*0.0845*		*%*		*106*	*76-118*			
General Inorganics									
pH	6.40	0.05	pH Units	6.36			0.6	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)	36	8	ug/g	35			4.0	30	
F4 PHCs (C34-C50)	90	6	ug/g	84			6.7	30	
Physical Characteristics									
% Solids	93.5	0.1	% by Wt.	93.4			0.1	25	
Volatiles									
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	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: Toluene-d8	*11.9*		*%*		*115*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
EPA 1311 - TCLP Leachate Inorganics									
Fluoride	0.62	0.05	mg/L	0.13	97.7	70-130			
Nitrate as N	9	1	mg/L	ND	91.8	81-112			
Nitrite as N	9	1	mg/L	ND	90.5	76-107			
Cyanide, free	0.038	0.02	mg/L	ND	76.7	52-148			
EPA 1311 - TCLP Leachate Metals									
Arsenic	50.6	0.05	mg/L	0.114	101	83-119			
Barium	147	0.05	mg/L	77.3	140	80-120			QM-07
Boron	50.2	0.10	mg/L	2.45	95.6	71-128			
Cadmium	52.7	0.01	mg/L	0.010	105	78-119			
Chromium	61.3	0.05	mg/L	0.178	122	80-124			
Lead	52.4	0.05	mg/L	0.063	105	77-126			
Mercury	0.0291	0.005	mg/L	ND	97.0	70-130			
Selenium	44.9	0.05	mg/L	0.332	89.2	75-125			
Silver	54.0	0.05	mg/L	ND	108	70-128			
Uranium	48.6	0.05	mg/L	0.138	97.0	70-131			
EPA 1311 - TCLP Leachate Organics									
Benzo [a] pyrene	0.0366	0.0001	mg/L	ND	73.1	39-123			
Surrogate: Terphenyl-d14	*0.20*		*%*		*98.0*	*37-156*			
EPA 1311 - TCLP Leachate Volatiles									
Benzene	0.044	0.005	mg/L	ND	111	55-141			
Carbon Tetrachloride	0.040	0.005	mg/L	ND	100	49-149			
Chlorobenzene	0.045	0.004	mg/L	ND	113	64-137			
Chloroform	0.043	0.006	mg/L	ND	108	58-138			
1,2-Dichlorobenzene	0.040	0.004	mg/L	ND	99.6	60-150			
1,4-Dichlorobenzene	0.041	0.004	mg/L	ND	102	63-132			
1,2-Dichloroethane	0.046	0.005	mg/L	ND	114	50-140			
1,1-Dichloroethylene	0.041	0.006	mg/L	ND	102	43-153			
Methyl Ethyl Ketone (2-Butanone)	0.111	0.30	mg/L	ND	111	26-153			
Methylene Chloride	0.047	0.04	mg/L	ND	117	58-149			
Tetrachloroethylene	0.038	0.005	mg/L	ND	94.7	51-145			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Trichloroethylene	0.038	0.004	mg/L	ND	94.5	52-135			
Vinyl chloride	0.035	0.005	mg/L	ND	88.0	31-159			
Surrogate: 4-Bromofluorobenzene	*0.0924*		*%*		*115*	*83-134*			
Surrogate: Dibromofluoromethane	*0.0818*		*%*		*102*	*78-124*			
Surrogate: Toluene-d8	*0.0794*		*%*		*99.3*	*76-118*			
Hydrocarbons									
F1 PHCs (C6-C10)	187	7	ug/g	ND	93.4	85-115			
F2 PHCs (C10-C16)	102	4	ug/g	ND	88.0	60-140			
F3 PHCs (C16-C34)	297	8	ug/g	35	92.2	60-140			
F4 PHCs (C34-C50)	212	6	ug/g	84	70.8	60-140			
Volatiles									
Benzene	3.65	0.02	ug/g	ND	91.3	60-130			
Ethylbenzene	3.59	0.05	ug/g	ND	89.9	60-130			
Toluene	3.41	0.05	ug/g	ND	85.2	60-130			
m,p-Xylenes	7.16	0.05	ug/g	ND	89.5	60-130			
o-Xylene	3.63	0.05	ug/g	ND	90.7	60-130			
Surrogate: Toluene-d8	*7.84*		*%*		*98.0*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

QC Qualifiers:

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

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 results are reported on a dry weight basis unlesss otherwise noted.

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.

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

PARACEL LABORATORIES LTD.

Paracel ID: 2433154

Laurent Blvd.
o K1G 4J8
047
aracellabs.com
bs.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)

Client Name: Paterson	Project Ref: PE5996	Page __ of __
Contact Name: Mark D'Arcy	Quote #:	Turnaround Time
Address: 9 Auriga	PO #: 60983	☐ 1 day ☐ 3 day
Telephone: 613 226 7381	E-mail: mdarcy@patersongroup.ca gpaterson@patersongroup.ca	☐ 2 day ☒ Regular
		Date Required:

☒ REG 153/04 ☐ REG 406/19

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
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)

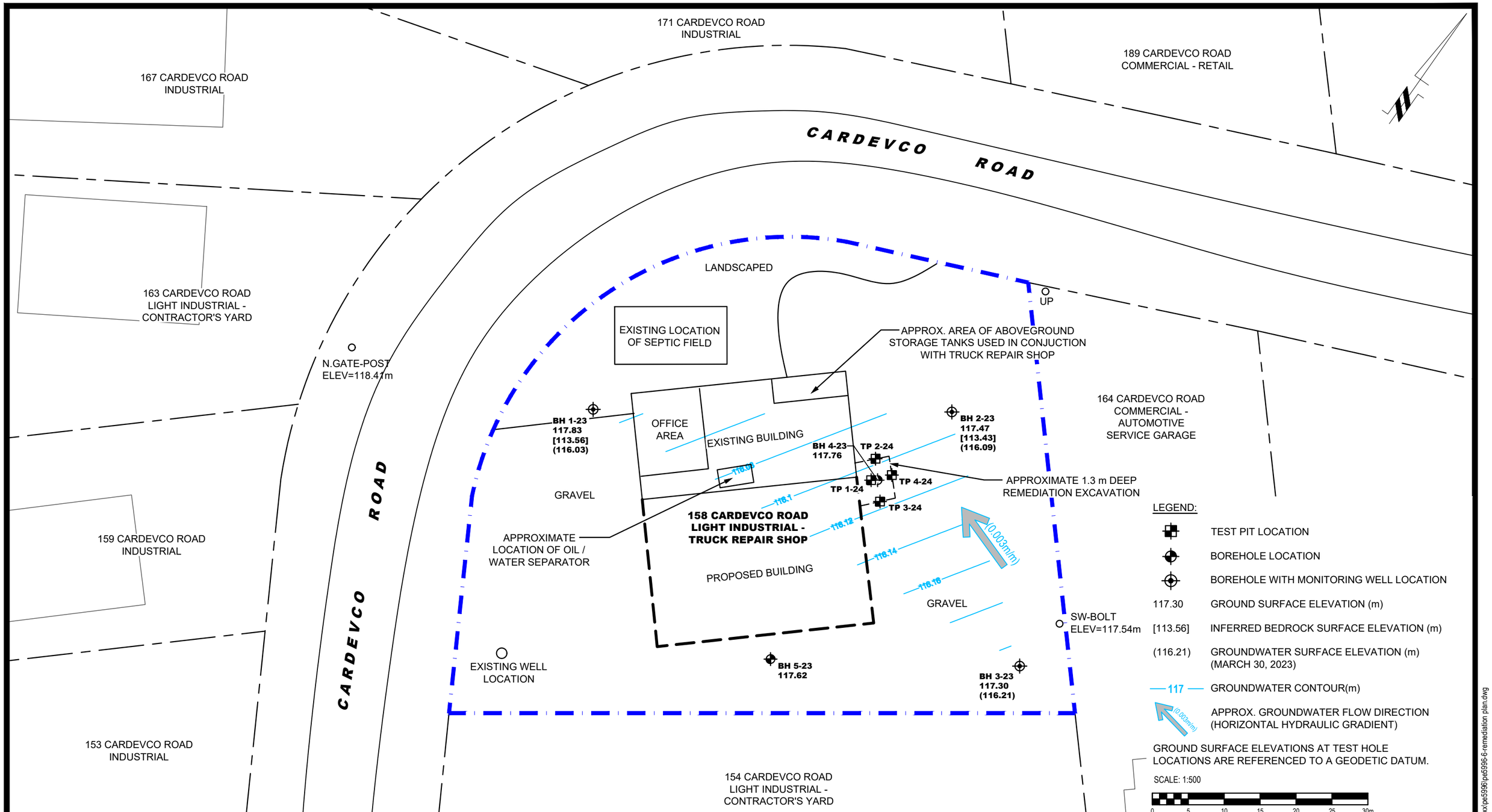
Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	Flash Point	PAH Leach	Metals + inorganics Leach	pH	VOCs Leach
1	TCLP	S		4	Aug 12		X							X	X	X	X	X
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: Paracel Courier

Relinquished By (Sign): GPat	Received By Driver/Depot:	Received at Lab: SS	Verified By: SS
Relinquished By (Print): Grant Paterson	Date/Time:	Date/Time: 12 Aug 24 1642	Date/Time: 12 Aug 24 1643
Date/Time: Aug 12 2024	Temperature: °C	Temperature: 14.2	pH Verified: ☐ By:



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

NO.	REVISIONS	DATE	INITIAL

PRITEC CONSTRUCTION LTD.

SOIL REMEDIATION
158 CARDEVCO ROAD

OTTAWA, ONTARIO

Title:

REMEDIATION PLAN

Scale: 1:500	Date: 10/2024
Drawn by: YA	Report No.: PE5996-LET.02
Checked by: GP	Dwg. No.: PE5996-6
Approved by: MSD	Revision No.:

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