TECHNICAL MEMORANDUM

DATE May 22, 2025 **Project No.** CA0051319.2938

TO Remi Godin, P.Eng., Senior Area Manager
Waste Management of Canada Corporation

FROM Kelly Patterson, P.Geo. (Limited)

SOIL ANALYSIS TO SUPPORT THE MAINTENANCE BUILDING PERMIT APPLICATION WCEC, 2413 CARP ROAD, OTTAWA

WSP Canada Inc. (WSP) completed a geotechnical investigation at the West Carlton Environmental Centre (WCEC) located at 2413 Carp Road in Ottawa, Ontario. The investigation was completed to support the building permit application for a maintenance building to be constructed approximately 70 metres (m) from the landfill boundary with a gas detector system installed within the building. The investigation included drilling four (4) boreholes as shown on the figure attached.

As part of the geotechnical investigation, five (5) composite soil samples were collected at varying depths from the boreholes four (4). Sample 1 was a composite sample from a depth of surface to 0.61 m from each of the four boreholes and consisted of gravel, silt, sand and topsoil. Sample 2 was a composite from a depth of 0.61 to 1.1 m from each of the four boreholes and consisted of sand and silt. Sample 3 was a composite from a depth of 1.1 to 1.7 m from each of the four boreholes and consisted of sand and silt. Sample 4 was a composite from a depth of 1.7 to 2.4 m from each of the four boreholes and consisted of coarse sand. Sample 5 was a composite from a depth of 2.4 to 2.8 m from each of the four boreholes and consisted of coarse sand. The five (5) composite samples (Sample 1 to Sample 5) were submitted to Paracel Laboratories Ltd. for analysis pH, metals including hydrides, Volatile Organic Compounds (VOCs), Petroleum Hydrocarbons (PHCs) in the F1 to F4 ranges and Polycyclic Aromatic Hydrocarbons (PAHs). Corrosivity, sulphate and chloride will be reported in the geotechnical investigation report.

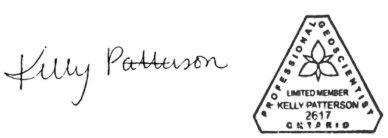
The Environmental Compliance Approval (ECA) Number A461002 for the landfill indicates (paragraph 6.9) that soil to be used as intermediate or final cover, or anywhere at the landfill is to meet the Table 7 Site Condition Standards for shallow soil and a non-potable ground water condition.

The soil samples collected during the geotechnical investigation were compared to the Table 7 SCS, as shown in the attached tables. The five (5) samples meet the Table 7 SCS and can be used as fill at the WCEC.

We trust the information presented herein meets your requirements. If you have any questions, please contact the undersigned.

WSP Canada Inc.
55 King Street, Suite 700, St. Catharines, ON L2R 3H5 T: 905-687-1771

WSP Canada Inc.



Kelly Patterson, P.Geo. (Limited)
Team Lead, Environmental Geoscientist

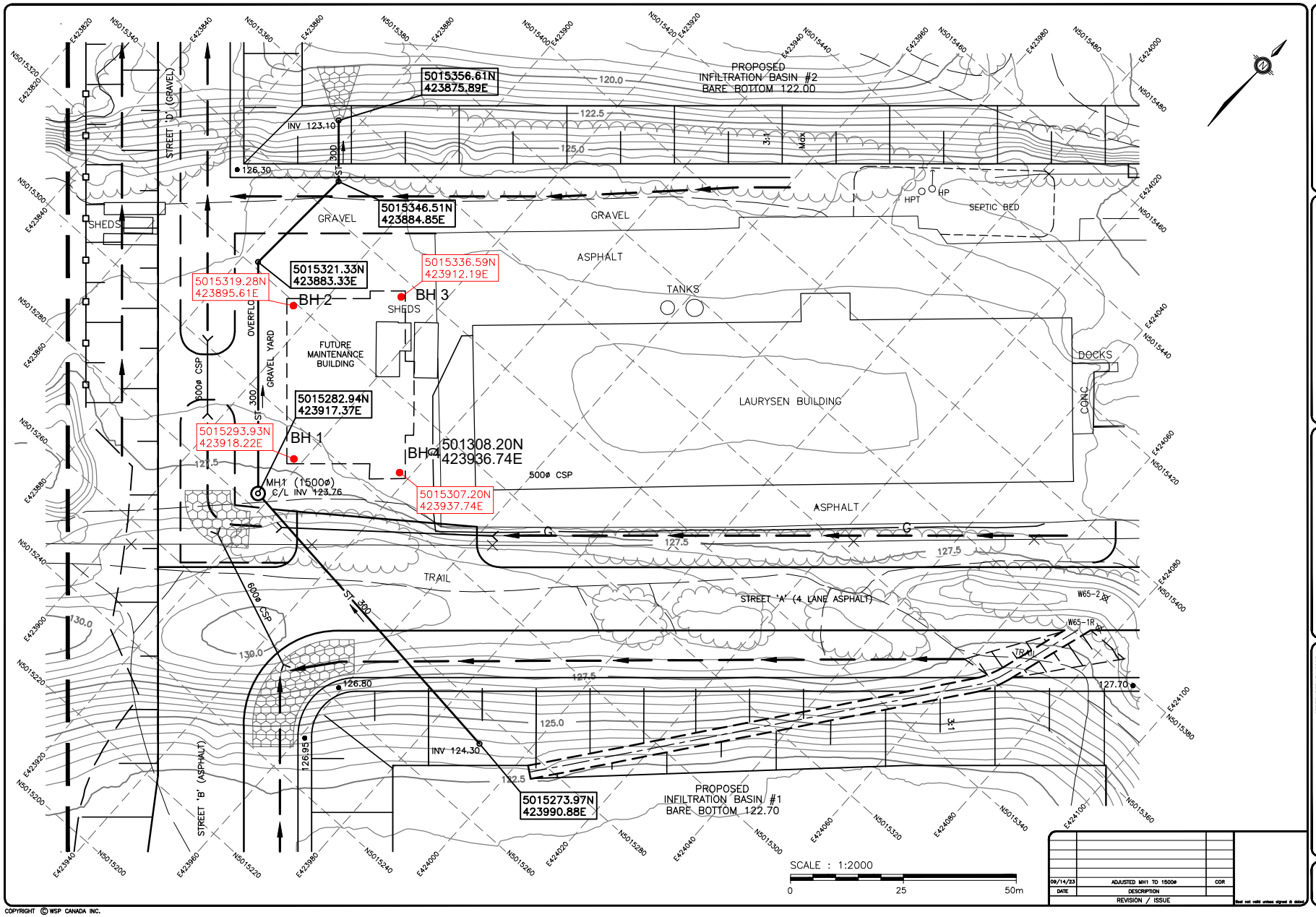
Patrick Shriner, P.Geo., QPESA
Principal, Environmental Geoscientist

KP/PS/rc

Attachments: Appendix A – Figure
Appendix B – Soil Samples
Appendix C – Tables

APPENDIX A

Figure



APPENDIX B

Soil Samples

PARACEL LABORATORIES LTD.

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351 Nash Road North, unit 9B
Hamilton, ON L8H 7P4
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

WSP Canada Inc. (St. Catharines)
55 King Street, Suite 700
St. Catherines, ON L2R 3H5
Attn: Cristina Olarte

Client PO: CA0051319.2938 Task 200
Project: CA0051319.2938 Task 200
Custody: 79012

Report Date: 13-May-2025
Order Date: 12-May-2025

Order #: 2520119

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

Paracel ID	Client ID
2520119-01	SAMPLE 1
2520119-02	SAMPLE 2
2520119-03	SAMPLE 3
2520119-04	SAMPLE 4
2520119-05	SAMPLE 5

Approved By:

Mark Foto, M.Sc.

Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Anions	EPA 300.1 - IC, water extraction	13-May-25	13-May-25
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	13-May-25	13-May-25
PHC F1	CWS Tier 1 - P&T GC-FID	13-May-25	13-May-25
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	13-May-25	13-May-25
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	13-May-25	13-May-25
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	13-May-25	13-May-25
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	13-May-25	13-May-25
Resistivity	EPA 120.1 - probe, water extraction	13-May-25	13-May-25
Solids, %	CWS Tier 1 - Gravimetric	13-May-25	13-May-25

Certificate of Analysis

Report Date: 13-May-2025

Client: **WSP Canada Inc. (St. Catharines)**

Order Date: 12-May-2025

Client PO: **CA0051319.2938 Task 200**

Project Description: **CA0051319.2938 Task 200**

	Client ID:	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	-	-
	Sample Date:	12-May-25 09:30	12-May-25 09:45	12-May-25 09:45	12-May-25 09:45		
	Sample ID:	2520119-01	2520119-02	2520119-03	2520119-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	94.4	95.8	97.6	94.6	-	-
General Inorganics							
pH	0.05 pH Units	7.64	7.86	7.88	7.93	-	-
Resistivity	0.1 Ohm.m	27.9	36.0	72.4	107	-	-
Anions							
Chloride	10 ug/g	108	43	24	<10	-	-
Sulphate	10 ug/g	50	38	16	<10	-	-
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1.0 ug/g	3.0	3.1	2.1	1.6	-	-
Barium	1.0 ug/g	79.2	49.1	50.9	25.3	-	-
Beryllium	0.5 ug/g	<0.5	0.6	<0.5	<0.5	-	-
Boron	5.0 ug/g	10.7	10.2	<5.0	<5.0	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium	5.0 ug/g	21.3	24.9	12.1	9.2	-	-
Cobalt	1.0 ug/g	7.3	8.8	4.6	4.3	-	-
Copper	5.0 ug/g	11.3	12.7	8.3	12.1	-	-
Lead	1.0 ug/g	11.5	6.9	9.3	2.2	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Nickel	5.0 ug/g	18.5	14.9	7.8	7.1	-	-
Selenium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	<0.3	<0.3	-	-
Thallium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Uranium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Vanadium	10.0 ug/g	34.9	53.2	23.6	19.5	-	-

	Client ID:	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	-	-
	Sample Date:	12-May-25 09:30	12-May-25 09:45	12-May-25 09:45	12-May-25 09:45		
	Sample ID:	2520119-01	2520119-02	2520119-03	2520119-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Metals							
Zinc	20.0 ug/g	51.8	38.4	34.5	<20.0	-	-
Volatiles							
Acetone	0.50 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Benzene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Bromodichloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromoform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Bromomethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Chloroform	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dibromochloromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,3-Dichloropropene, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-

	Client ID:	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	-	-
	Sample Date:	12-May-25 09:30	12-May-25 09:45	12-May-25 09:45	12-May-25 09:45		
	Sample ID:	2520119-01	2520119-02	2520119-03	2520119-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Hexane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl Isobutyl Ketone	0.50 ug/g	<0.50	<0.50	<0.50	<0.50	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Methylene Chloride	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Styrene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Toluene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichloroethylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Vinyl chloride	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	<0.05	<0.05	-	-
Toluene-d8	Surrogate	104%	104%	103%	104%	-	-
Dibromofluoromethane	Surrogate	92.1%	90.4%	89.8%	92.0%	-	-
4-Bromofluorobenzene	Surrogate	96.9%	96.2%	95.4%	96.8%	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	<4	-	-

Certificate of Analysis

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	Sample Date:	12-May-25 09:30	12-May-25 09:45	12-May-25 09:45	12-May-25 09:45		
	Sample ID:	2520119-01	2520119-02	2520119-03	2520119-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Hydrocarbons							
F3 PHCs (C16-C34)	8 ug/g	<8	<8	<8	<8	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	<6	<6	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Chrysene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	<0.04	<0.04	<0.04	-	-
Naphthalene	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	-	-
Phenanthrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
Pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	-	-
2-Fluorobiphenyl	Surrogate	73.4%	74.3%	71.1%	70.8%	-	-
Terphenyl-d14	Surrogate	73.3%	73.1%	72.8%	67.8%	-	-

	Client ID:	SAMPLE 5				-	-
	Sample Date:	12-May-25 09:45					
	Sample ID:	2520119-05					
	Matrix:	Soil					
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	96.7	-	-	-	-	-
General Inorganics							
pH	0.05 pH Units	7.98	-	-	-	-	-
Resistivity	0.1 Ohm.m	119	-	-	-	-	-
Anions							
Chloride	10 ug/g	<10	-	-	-	-	-
Sulphate	10 ug/g	<10	-	-	-	-	-
Metals							
Antimony	1.0 ug/g	<1.0	-	-	-	-	-
Arsenic	1.0 ug/g	1.8	-	-	-	-	-
Barium	1.0 ug/g	25.3	-	-	-	-	-
Beryllium	0.5 ug/g	<0.5	-	-	-	-	-
Boron	5.0 ug/g	<5.0	-	-	-	-	-
Cadmium	0.5 ug/g	<0.5	-	-	-	-	-
Chromium	5.0 ug/g	11.3	-	-	-	-	-
Cobalt	1.0 ug/g	5.7	-	-	-	-	-
Copper	5.0 ug/g	14.1	-	-	-	-	-
Lead	1.0 ug/g	2.6	-	-	-	-	-
Molybdenum	1.0 ug/g	<1.0	-	-	-	-	-
Nickel	5.0 ug/g	8.9	-	-	-	-	-
Selenium	1.0 ug/g	<1.0	-	-	-	-	-
Silver	0.3 ug/g	<0.3	-	-	-	-	-
Thallium	1.0 ug/g	<1.0	-	-	-	-	-
Uranium	1.0 ug/g	<1.0	-	-	-	-	-
Vanadium	10.0 ug/g	28.9	-	-	-	-	-

	Client ID:	SAMPLE 5				-	-
	Sample Date:	12-May-25 09:45					
	Sample ID:	2520119-05					
	Matrix:	Soil					
	MDL/Units						
Metals							
Zinc	20.0 ug/g	<20.0	-	-	-	-	-
Volatiles							
Acetone	0.50 ug/g	<0.50	-	-	-	-	-
Benzene	0.02 ug/g	<0.02	-	-	-	-	-
Bromodichloromethane	0.05 ug/g	<0.05	-	-	-	-	-
Bromoform	0.05 ug/g	<0.05	-	-	-	-	-
Bromomethane	0.05 ug/g	<0.05	-	-	-	-	-
Carbon Tetrachloride	0.05 ug/g	<0.05	-	-	-	-	-
Chlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
Chloroform	0.05 ug/g	<0.05	-	-	-	-	-
Dibromochloromethane	0.05 ug/g	<0.05	-	-	-	-	-
Dichlorodifluoromethane	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,3-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,4-Dichlorobenzene	0.05 ug/g	<0.05	-	-	-	-	-
1,1-Dichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,1-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
1,2-Dichloropropane	0.05 ug/g	<0.05	-	-	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	<0.05	-	-	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	<0.05	-	-	-	-	-
1,3-Dichloropropene, total	0.05 ug/g	<0.05	-	-	-	-	-
Ethylbenzene	0.05 ug/g	<0.05	-	-	-	-	-

	Client ID:	SAMPLE 5				-	-
	Sample Date:	12-May-25 09:45					
	Sample ID:	2520119-05					
	Matrix:	Soil					
	MDL/Units						
Volatiles							
Ethylene dibromide (dibromoethane,	0.05 ug/g	<0.05	-	-	-	-	-
Hexane	0.05 ug/g	<0.05	-	-	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	<0.50	-	-	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g	<0.50	-	-	-	-	-
Methyl tert-butyl ether	0.05 ug/g	<0.05	-	-	-	-	-
Methylene Chloride	0.05 ug/g	<0.05	-	-	-	-	-
Styrene	0.05 ug/g	<0.05	-	-	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	<0.05	-	-	-	-	-
Tetrachloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
Toluene	0.05 ug/g	<0.05	-	-	-	-	-
1,1,1-Trichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
1,1,2-Trichloroethane	0.05 ug/g	<0.05	-	-	-	-	-
Trichloroethylene	0.05 ug/g	<0.05	-	-	-	-	-
Trichlorofluoromethane	0.05 ug/g	<0.05	-	-	-	-	-
Vinyl chloride	0.02 ug/g	<0.02	-	-	-	-	-
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	101%	-	-	-	-	-
Dibromofluoromethane	Surrogate	92.3%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	93.3%	-	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	-	-	-	-	-
F2 PHCs (C10-C16)	4 ug/g	<4	-	-	-	-	-

	Client ID:	SAMPLE 5				-	-
	Sample Date:	12-May-25 09:45					
	Sample ID:	2520119-05					
	Matrix:	Soil					
	MDL/Units						
Hydrocarbons							
F3 PHCs (C16-C34)	8 ug/g	<8	-	-	-	-	-
F4 PHCs (C34-C50)	6 ug/g	<6	-	-	-	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	-	-	-	-	-
Acenaphthylene	0.02 ug/g	<0.02	-	-	-	-	-
Anthracene	0.02 ug/g	<0.02	-	-	-	-	-
Benzo [a] anthracene	0.02 ug/g	<0.02	-	-	-	-	-
Benzo [a] pyrene	0.02 ug/g	<0.02	-	-	-	-	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	-	-	-	-	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	-	-	-	-	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	-	-	-	-	-
Chrysene	0.02 ug/g	<0.02	-	-	-	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	-	-	-	-	-
Fluoranthene	0.02 ug/g	<0.02	-	-	-	-	-
Fluorene	0.02 ug/g	<0.02	-	-	-	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	-	-	-	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	-	-	-	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	-	-	-	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	-	-	-	-	-
Naphthalene	0.01 ug/g	<0.01	-	-	-	-	-
Phenanthrene	0.02 ug/g	<0.02	-	-	-	-	-
Pyrene	0.02 ug/g	<0.02	-	-	-	-	-
2-Fluorobiphenyl	Surrogate	50.3%	-	-	-	-	-
Terphenyl-d14	Surrogate	49.6%	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions								
Chloride	ND	10	ug/g					
Sulphate	ND	10	ug/g					
General Inorganics								
Resistivity	ND	0.1	Ohm.m					
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	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					
Semi-Volatiles								
Acenaphthene	ND	0.02	ug/g					
Acenaphthylene	ND	0.02	ug/g					
Anthracene	ND	0.02	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
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	*0.846*		*%*	*63.5*	*50-140*			
Surrogate: Terphenyl-d14	*1.08*		*%*	*80.6*	*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	%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	*7.62*		*%*	*95.3*	*50-140*			
Surrogate: Dibromofluoromethane	*6.38*		*%*	*79.8*	*50-140*			
Surrogate: Toluene-d8	*8.45*		*%*	*106*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	10	ug/g	ND			NC	35	
Sulphate	188	10	ug/g	188			0.2	35	
General Inorganics									
pH	6.85	0.05	pH Units	6.90			0.7	2.3	
Resistivity	66.1	0.1	Ohm.m	63.0			4.8	20	
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)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	2.6	1.0	ug/g	2.0			23.5	30	
Barium	52.7	1.0	ug/g	44.1			17.8	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron	ND	5.0	ug/g	ND			NC	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	19.3	5.0	ug/g	15.0			25.4	30	
Cobalt	5.1	1.0	ug/g	4.1			21.2	30	
Copper	13.6	5.0	ug/g	11.0			21.1	30	
Lead	15.1	1.0	ug/g	12.1			21.5	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	10.7	5.0	ug/g	8.9			18.3	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	0.4	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	30.9	10.0	ug/g	24.0			25.2	30	
Zinc	53.9	20.0	ug/g	44.1			20.0	30	
Physical Characteristics									

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
% Solids	76.8	0.1	% by Wt.	77.6			1.0	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	*0.933*		*%*		*66.1*	*50-140*			
Surrogate: Terphenyl-d14	*0.947*		*%*		*67.1*	*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	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*10.5*		*%*		*104*	*50-140*			
Surrogate: Dibromofluoromethane	*9.49*		*%*		*93.8*	*50-140*			
Surrogate: Toluene-d8	*11.5*		*%*		*114*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	104	10	ug/g	ND	104	82-118			
Sulphate	277	10	ug/g	188	89.3	80-120			
Hydrocarbons									
F1 PHCs (C6-C10)	181	7	ug/g	ND	105	85-115			
F2 PHCs (C10-C16)	88	4	ug/g	ND	90.2	60-140			
F3 PHCs (C16-C34)	244	8	ug/g	ND	102	60-140			
F4 PHCs (C34-C50)	159	6	ug/g	ND	106	60-140			
Metals									
Antimony	43.8	1.0	ug/g	ND	87.5	70-130			
Arsenic	51.5	1.0	ug/g	ND	101	70-130			
Barium	68.2	1.0	ug/g	17.6	101	70-130			
Beryllium	51.8	0.5	ug/g	ND	103	70-130			
Boron	47.8	5.0	ug/g	ND	93.0	70-130			
Cadmium	49.1	0.5	ug/g	ND	98.1	70-130			
Chromium	60.4	5.0	ug/g	6.0	109	70-130			
Cobalt	48.1	1.0	ug/g	1.6	92.9	70-130			
Copper	54.7	5.0	ug/g	ND	101	70-130			
Lead	48.9	1.0	ug/g	4.9	88.1	70-130			
Molybdenum	51.9	1.0	ug/g	ND	104	70-130			
Nickel	55.8	5.0	ug/g	ND	105	70-130			
Selenium	51.6	1.0	ug/g	ND	103	70-130			
Silver	41.4	0.3	ug/g	ND	82.6	70-130			
Thallium	45.5	1.0	ug/g	ND	90.9	70-130			
Uranium	47.8	1.0	ug/g	ND	95.1	70-130			
Vanadium	63.5	10.0	ug/g	ND	108	70-130			
Zinc	67.6	20.0	ug/g	ND	99.8	70-130			
Semi-Volatiles									
Acenaphthene	0.150	0.02	ug/g	ND	85.2	50-140			
Acenaphthylene	0.153	0.02	ug/g	ND	86.9	50-140			
Anthracene	0.143	0.02	ug/g	ND	81.1	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] anthracene	0.140	0.02	ug/g	ND	79.4	50-140			
Benzo [a] pyrene	0.140	0.02	ug/g	ND	79.2	50-140			
Benzo [b] fluoranthene	0.158	0.02	ug/g	ND	89.4	50-140			
Benzo [g,h,i] perylene	0.151	0.02	ug/g	ND	85.8	50-140			
Benzo [k] fluoranthene	0.151	0.02	ug/g	ND	85.6	50-140			
Chrysene	0.150	0.02	ug/g	ND	85.0	50-140			
Dibenzo [a,h] anthracene	0.158	0.02	ug/g	ND	89.4	50-140			
Fluoranthene	0.156	0.02	ug/g	ND	88.1	50-140			
Fluorene	0.149	0.02	ug/g	ND	84.4	50-140			
Indeno [1,2,3-cd] pyrene	0.152	0.02	ug/g	ND	86.1	50-140			
1-Methylnaphthalene	0.155	0.02	ug/g	ND	87.9	50-140			
2-Methylnaphthalene	0.157	0.02	ug/g	ND	88.9	50-140			
Naphthalene	0.139	0.01	ug/g	ND	78.6	50-140			
Phenanthrene	0.157	0.02	ug/g	ND	89.1	50-140			
Pyrene	0.155	0.02	ug/g	ND	88.0	50-140			
Surrogate: 2-Fluorobiphenyl	*1.03*		*%*		*73.0*	*50-140*			
Surrogate: Terphenyl-d14	*1.09*		*%*		*77.3*	*50-140*			
Volatiles									
Acetone	13.1	0.50	ug/g	ND	131	50-140			
Benzene	4.41	0.02	ug/g	ND	110	60-130			
Bromodichloromethane	3.88	0.05	ug/g	ND	97.0	60-130			
Bromoform	3.91	0.05	ug/g	ND	97.7	60-130			
Bromomethane	4.84	0.05	ug/g	ND	121	50-140			
Carbon Tetrachloride	3.78	0.05	ug/g	ND	94.6	60-130			
Chlorobenzene	4.74	0.05	ug/g	ND	119	60-130			
Chloroform	4.46	0.05	ug/g	ND	112	60-130			
Dibromochloromethane	3.88	0.05	ug/g	ND	96.9	60-130			
Dichlorodifluoromethane	4.50	0.05	ug/g	ND	113	50-140			
1,2-Dichlorobenzene	4.30	0.05	ug/g	ND	108	60-130			
1,3-Dichlorobenzene	4.34	0.05	ug/g	ND	108	60-130			
1,4-Dichlorobenzene	4.38	0.05	ug/g	ND	110	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethane	4.29	0.05	ug/g	ND	107	60-130			
1,2-Dichloroethane	4.74	0.05	ug/g	ND	118	60-130			
1,1-Dichloroethylene	4.47	0.05	ug/g	ND	112	60-130			
cis-1,2-Dichloroethylene	4.38	0.05	ug/g	ND	109	60-130			
trans-1,2-Dichloroethylene	4.43	0.05	ug/g	ND	111	60-130			
1,2-Dichloropropane	4.31	0.05	ug/g	ND	108	60-130			
cis-1,3-Dichloropropylene	3.83	0.05	ug/g	ND	95.7	60-130			
trans-1,3-Dichloropropylene	3.83	0.05	ug/g	ND	95.8	60-130			
Ethylbenzene	4.73	0.05	ug/g	ND	118	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.78	0.05	ug/g	ND	94.4	60-130			
Hexane	4.84	0.05	ug/g	ND	121	60-130			
Methyl Ethyl Ketone (2-Butanone)	10.7	0.50	ug/g	ND	107	50-140			
Methyl Isobutyl Ketone	9.96	0.50	ug/g	ND	99.6	50-140			
Methyl tert-butyl ether	11.3	0.05	ug/g	ND	113	50-140			
Methylene Chloride	5.01	0.05	ug/g	ND	125	60-130			
Styrene	4.91	0.05	ug/g	ND	123	60-130			
1,1,1,2-Tetrachloroethane	3.61	0.05	ug/g	ND	90.2	60-130			
1,1,2,2-Tetrachloroethane	3.72	0.05	ug/g	ND	92.9	60-130			
Tetrachloroethylene	4.27	0.05	ug/g	ND	107	60-130			
Toluene	5.04	0.05	ug/g	ND	126	60-130			
1,1,1-Trichloroethane	4.05	0.05	ug/g	ND	101	60-130			
1,1,2-Trichloroethane	4.10	0.05	ug/g	ND	102	60-130			
Trichloroethylene	4.20	0.05	ug/g	ND	105	60-130			
Trichlorofluoromethane	4.21	0.05	ug/g	ND	105	50-140			
Vinyl chloride	4.87	0.02	ug/g	ND	122	50-140			
m,p-Xylenes	9.80	0.05	ug/g	ND	122	60-130			
o-Xylene	4.87	0.05	ug/g	ND	122	60-130			
Surrogate: 4-Bromofluorobenzene	*7.15*		*%*		*89.4*	*50-140*			
Surrogate: Dibromofluoromethane	*6.92*		*%*		*86.5*	*50-140*			
Surrogate: Toluene-d8	*8.07*		*%*		*101*	*50-140*			

Qualifier Notes:

Login Qualifiers :

Sample - F1/BTEX/VOCs (soil) not submitted according to Reg. 153/04, Amended 2011 - not field preserved. Prepared in the lab as directed by client.

Applies to Samples: SAMPLE 1, SAMPLE 2, SAMPLE 3, SAMPLE 4, SAMPLE 5

Sample Data Revisions:

None

Certificate of Analysis

Report Date: 13-May-2025

Client: **WSP Canada Inc. (St. Catharines)**

Order Date: 12-May-2025

Client PO: **CA0051319.2938 Task 200**

Project Description: CA0051319.2938 Task 200

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.

PARACEL LABORATORIES LTD.

Paracel ID: 2520119

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tario K1G 4J8
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ellabs.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2520119	№ 79012

Client Name: WSP CANADA INC	Project Ref:	Page __ of __
Contact Name: CRISTINA OLARTE	Quote #: 25-283 CA0051319.2938	**Turnaround Time**
Address: 55 ST CATHRINES ONTARIO	PO #:	☑ 1 day ☐ 3 day ☐ 2 day ☐ Regular
Telephone: 343 997 1419	E-mail: CRISTINA.OLARTE@WSP.COM SAHIL.GAIND@WSP.COM	Date Required: ASAP

☐ REG 153/04 ☐ REG 406/19	Other Regulation
☐ Table 1 ☐ Agri/Other ☐ Med/Fine	☐ REG 558 ☐ PWQO
☐ Table 2 ☐ Res/Park ☐ Coarse	☐ CCME ☐ MISA
☐ Table 3 ☐ Ind/Comm	☐ SU - Sani ☐ SU - Storm
☐ Table___	Mun:
For RSC: ☐ Yes ☐ No	☐ Other:

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

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken Date	Sample Taken Time	Required Analysis: CORROSIVITY	METALS BB ICP	PAH's by GC-MS	PHC F1+F2 to F4
1	SAMPLE 1	S		1		25/05/12	9:30	/	/	/	/
2	/ 2	S		1		/	9:45	/	/	/	/
3	/ 3	S		1		/	/	/	/	/	/
4	/ 4	S		1		/	/	/	/	/	/
5	/ 5	S		1		/	/	/	/	/	/
6											
7											
8											
9											
10											

Comments:

Method of Delivery: WALK IN

Relinquished By (Sign): Sahil	Received at Depot:	Received at Lab: JM	Verified By: SD
Relinquished By (Print): SAHIL GAIND	Date/Time:	Date/Time: May 12/25 1600	Date/Time: May 12, 2025 4:55p
Date/Time: 2025/05/12 (4:00PM)	Temperature: °C	Temperature: 25.9 °C	pH Verified: ☐ By:

APPENDIX C

Tables

Table 1

Summary of Metals, Hydride Metals and Other Reportable Parameters Soil Analyses

	Sample Location		Table 7 SCS I/C/C coarse soil	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
	Sample Depth (m)							
	Laboratory Sample ID			2520119-01	2520119-02	2520119-03	2520119-04	2520119-05
	Sample Date			12-May-25	12-May-25	12-May-25	12-May-25	12-May-25
Parameters	**Units**	**RL**						
Metals and Inorganics								
Antimony	ug/g	1	40	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	ug/g	1	18	3.0	3.1	2.1	1.6	1.8
Barium	ug/g	1	670	79.2	49.1	50.9	25.3	25.3
Beryllium	ug/g	0.5	8	ND (0.5)	0.6	ND (0.5)	ND (0.5)	ND (0.5)
Boron	ug/g	5	120	10.7	10.2	ND (5.0)	ND (5.0)	ND (5.0)
Cadmium	ug/g	0.5	1.9	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	ug/g	5	160	21.3	24.9	12.1	9.2	11.3
Cobalt	ug/g	1	80	7.3	8.8	4.6	4.3	5.7
Copper	ug/g	5	230	11.3	12.7	8.3	12.1	14.1
Lead	ug/g	1	120	11.5	6.9	9.3	2.2	2.6
Molybdenum	ug/g	1	40	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Nickel	ug/g	5	270	18.5	14.9	7.8	7.1	8.9
Selenium	ug/g	1	5.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Silver	ug/g	0.3	40	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)	ND (0.3)
Thallium	ug/g	1	3.3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Uranium	ug/g	1	33	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	ug/g	10	86	34.9	53.2	23.6	19.5	28.9
Zinc	ug/g	20	340	51.8	38.4	34.5	ND (20.0)	ND (20.0)
pH (pH Units)	%	0.05	NV	7.64	7.86	7.88	7.93	7.98

Table 2

Summary of Polycyclic Aromatic Hydrocarbon Soil Analyses

Sample Location			Table 7 SCS I/C/C coarse soil	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Sample Depth (m)								
Laboratory Sample ID				2520119-01	2520119-02	2520119-03	2520119-04	2520119-05
	Sample Date			12-May-25	12-May-25	12-May-25	12-May-25	12-May-25
Parameters	**Units**	**RL**						
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	µg/g	0.02	96	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Acenaphthylene	µg/g	0.02	0.15	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Anthracene	µg/g	0.02	0.67	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Benzo[a]anthracene	µg/g	0.02	0.96	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Benzo[a]pyrene	µg/g	0.02	0.3	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Benzo[b]fluoranthene	µg/g	0.02	0.96	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Benzo[g,h,i]perylene	µg/g	0.02	9.6	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Benzo[k]fluoranthene	µg/g	0.02	0.96	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Chrysene	µg/g	0.02	9.6	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Dibenzo[a,h]anthracene	µg/g	0.02	0.1	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Fluoranthene	µg/g	0.02	9.6	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Fluorene	µg/g	0.02	62	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Indeno [1,2,3-cd] pyrene	µg/g	0.02	0.76	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
1-Methylnaphthalene	µg/g	0.02	76	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
2-Methylnaphthalene	µg/g	0.02	76	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Methylnaphthalene (1&2)	µg/g	0.03	76	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Naphthalene	µg/g	0.01	9.6	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenanthrene	µg/g	0.02	12	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Pyrene	µg/g	0.02	96	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)

Table 3

Summary of Petroleum Hydrocarbon and Volatile Organic Compounds Soil Analyses

Sample Location			Table 7 SCS I/C/C coarse soil	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Sample Depth (m)								
Laboratory Sample ID				2520119-01	2520119-02	2520119-03	2520119-04	2520119-05
Sample Date				12-May-25	12-May-25	12-May-25	12-May-25	12-May-25
Parameters	**Units**	**RL**						
Volatile Organic Compounds (VOCs)								
Acetone	µg/g	0.5	16	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzene	µg/g	0.02	0.32	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Bromodichloromethane	µg/g	0.05	18	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromoform	µg/g	0.05	0.61	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Bromomethane	µg/g	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Carbon Tetrachloride	µg/g	0.05	0.21	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chlorobenzene	µg/g	0.05	2.4	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Chloroform	µg/g	0.05	0.47	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dibromochloromethane	µg/g	0.05	13	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Dichlorodifluoromethane	µg/g	0.05	16	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichlorobenzene	µg/g	0.05	6.8	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichlorobenzene	µg/g	0.05	9.6	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,4-Dichlorobenzene	µg/g	0.05	0.2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethane	µg/g	0.05	17	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloroethane	µg/g	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1-Dichloroethylene	µg/g	0.05	0.064	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,2-Dichloroethylene	µg/g	0.05	55	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,2-Dichloroethylene	µg/g	0.05	1.3	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,2-Dichloropropane	µg/g	0.05	0.16	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
cis-1,3-Dichloropropylene	µg/g	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
trans-1,3-Dichloropropylene	µg/g	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,3-Dichloropropene, total	µg/g	0.05	0.18	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylbenzene	µg/g	0.05	9.5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Ethylene dibromide (dibromoethane, 1,2-)	µg/g	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexane	µg/g	0.05	46	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methyl Ethyl Ketone (2-Butanone)	µg/g	0.5	70	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl Isobutyl Ketone	µg/g	0.5	31	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methyl tert-butyl ether	µg/g	0.05	11	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Methylene Chloride	µg/g	0.05	1.6	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Styrene	µg/g	0.05	34	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.087	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Tetrachloroethylene	µg/g	0.05	4.5	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	µg/g	0.05	68	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,1-Trichloroethane	µg/g	0.05	6.1	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
1,1,2-Trichloroethane	µg/g	0.05	0.05	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichloroethylene	µg/g	0.05	0.91	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Trichlorofluoromethane	µg/g	0.05	4	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Vinyl Chloride	µg/g	0.02	0.032	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
m/p-Xylene	µg/g	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	µg/g	0.05	NV	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	µg/g	0.05	26	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Petroleum Hydrocarbons (PHCs)								
F1 (C6-C10)	µg/g	7	55	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)
F2 (C10-C16)	µg/g	4	230	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
F3 (C16-C34)	µg/g	8	1700	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)
F4 (C34-C50)	µg/g	6	3300	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)