CEGP Consultants Ltd.

Date: December 5, 2023

Zeljko Holdings Limited
4728 Dorchester Road
Unit 11B, 2nd Floor
Niagara Falls, ON
L2E 7H9

Re: Phase Two Environmental Site Assessment Update, 6285 Main Street, 6289 Main Street, Former (now closed) municipal road allowance, Murray Street, Niagara Falls, Ontario

This letter presents an update to the Phase Two Environmental Site Assessment (Phase Two ESA) report completed by CEGP Consultants Ltd. on October 19, 2021 for the subject Phase Two Property.

Based on a site visit completed on May 19, 2023, fill material of unknown quality Potentially Contaminating Activity (PCA #30) was identified across the property.

On August 4, 2023, test pits were completed to characterize the fill material. A total of 4 test pits were completed in the vicinity of the former dwellings. The soil stratigraphy consisted of a thin surficial layer of (imported) reddish clayey silt and a mix of sand, silt, gravel, rubble at the surface underlain by building rubble to a depth of 1.2m to 1.5m below grade. The rubble contained brick and concrete debris, ashes, cinders, plastics. Strong hydrocarbon odour was present in the test pit completed at 6285 Main Street.

Select worst case soil samples identified as 5619, Imported, 6285, Surface were sent to the laboratory for analysis of parameter groups of Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Metals, As, Se, Sb, Cr(VI), B(HWS), CN, Hg, SAR, EC. Two additional soil samples BH5 SS1A and TP4A were also included and put on hold – these soil samples were selected for delineation of Metal exceedances identified during the Phase Two ESA in 2021.

The soil laboratory analytical results were compared to Table 3 : Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for residential, Parkland, Institutional property use with medium-fine textured soils (Table 3 SCS Criteria), as published in the Soil,

ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act, April 2011.

The tabulated results are presented in the Appendix B along with the laboratory certificate of analysis. Exceedances to Table 3 SCS Criteria were identified as follows:

- PHC F2 in soil sample 6285,
- Lead in soil samples Imported, 6285, Surface, and
- EC in soil samples 6285, 5619.

The layout of the soil samples collected at the Phase Two Property is presented in Image 1 below:

Image 1: Layout showing soil sample locations at the Phase Two Property

Additionally, a composite soil sample (identified as X) was also included for analysis of Toxicity Leachate Characteristic Procedure (TCLP). The analytical results met Schedule 4, Leachate Quality Criteria of Ontario Regulation 347: General – Waste Management.

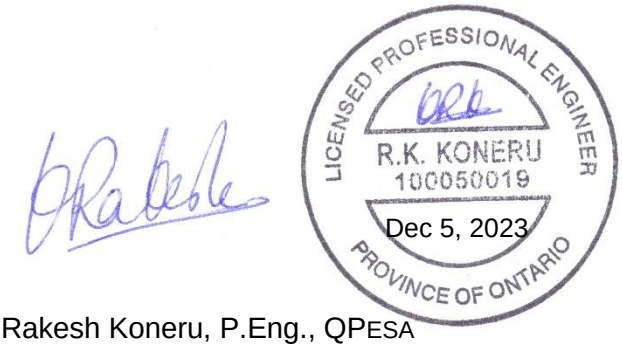
Based on the findings of the Phase Two ESA completed in 2021 and the current intrusive program, soil remediation will be required before a Record of Site Condition (RSC) can be

submitted. It is our understanding that the remediation will be undertaken as part of site development, after installation of shoring along property boundaries for the building construction.

The Phase Two ESA will be updated upon completion of remedial work, and collection of confirmation soil samples. Lateral and vertical delineation will be completed at the time of remediation.

It should be noted that the ESA reports should be dated within 18 months of the RSC submission.

Excess soil characterization, as required by Ontario Regulation 406/19, can be undertaken prior to installation of shoring and/or in conjunction with remedial works.



Rakesh Koneru, P.Eng., QPESA
Principal
CEGP Consultants Ltd.
29 Larkspur Drive
Markham, L6B 0N1
Ontario

Attachments

Tabulated Soil Data
Laboratory Certificates of Analyses

Results Summary WT2324230

Project	CEGP 5619
Report To	Rakesh Koneru, CEGP Consultants Ltd.
Date Received	04-Aug-2023 13:40
Issue Date	17-Aug-2023 16:38
Amendment	0

Guideline Category: Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011) - 153 T3-Soil-Res/Park/Inst. Property Use (Fine)

Client Sample ID				5619	Imported	6285	Surface
Date Sampled				04-Aug-2023	04-Aug-2023	04-Aug-2023	04-Aug-2023
Time Sampled				09:00	09:52	10:40	10:56
ALS Sample ID				WT2324230-001	WT2324230-002	WT2324230-003	WT2324230-006
Analyte	Guideline Limit	Lowest Detection Limit	Units	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid
Physical Tests (Matrix: Soil/Solid)							
Conductivity (1:2 leachate)	0.7(U)	0.00500	mS/cm	2.54	0.246	1.52	0.367
Moisture		0.25	%	5.91	14.1	10.6	10.9
pH (1:2 soil:CaCl2-aq)		0.10	pH units	7.37	5.70	7.27	7.24
Cyanides (Matrix: Soil/Solid)							
Cyanide, weak acid dissociable	0.051(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables (Matrix: Soil/Solid)							
Calcium, soluble ion content		0.50	mg/L	489	2.86	225	29.4
Magnesium, soluble ion content		0.50	mg/L	122	1.15	30.5	5.02
Sodium, soluble ion content		0.50	mg/L	27.7	27.6	74.7	20.2
Sodium adsorption ratio [SAR]	5(U)	0.10	-	0.29	3.48	1.24	0.91
Metals (Matrix: Soil/Solid)							
Antimony	7.5(U)	0.10	mg/kg	0.43	0.20	1.56	0.60
Arsenic	18(U)	0.10	mg/kg	3.40	4.56	5.84	7.38
Barium	390(U)	0.50	mg/kg	45.7	36.0	70.7	58.7
Beryllium	5(U)	0.10	mg/kg	0.30	0.57	0.54	0.43
Boron	120(U)	5.0	mg/kg	<5.0	6.9	11.0	6.3
Boron, hot water soluble	1.5(U)	0.10	mg/kg	0.53	<0.10	1.49	0.47
Cadmium	1.2(U)	0.020	mg/kg	0.290	0.204	0.508	0.437
Chromium	160(U)	0.50	mg/kg	12.3	16.8	26.3	17.6
Cobalt	22(U)	0.10	mg/kg	4.31	8.74	8.43	6.72
Copper	180(U)	0.50	mg/kg	10.9	16.7	34.8	27.3
Lead	120(U)	0.50	mg/kg	45.4	355	141	122

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Mercury	1.8(U)	0.0050	mg/kg	0.0316	0.0133	0.0556	0.0824
Molybdenum	6.9(U)	0.10	mg/kg	0.36	0.52	0.91	0.64
Nickel	130(U)	0.50	mg/kg	10.0	20.3	22.8	19.5
Selenium	2.4(U)	0.20	mg/kg	<0.20	<0.20	<0.20	0.22
Silver	25(U)	0.10	mg/kg	<0.10	<0.10	<0.10	0.12
Thallium	1(U)	0.050	mg/kg	0.069	0.098	0.101	0.102
Uranium	23(U)	0.050	mg/kg	0.358	0.453	0.533	0.393
Vanadium	86(U)	0.20	mg/kg	18.1	24.9	25.6	22.2
Zinc	340(U)	2.0	mg/kg	84.1	102	296	146
Speciated Metals (Matrix: Soil/Solid)							
Chromium, hexavalent [Cr VI]	10(U)	0.10	mg/kg	0.12	0.25	0.22	<0.10
Volatile Organic Compounds (Matrix: Soil/Solid)							
Acetone	28(U)	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50
Benzene	0.17(U)	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	13(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Bromoform	0.26(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Bromomethane	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	0.12(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	2.7(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Chloroform	0.18(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	9.4(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	4.3(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	6(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	0.097(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050

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Dichlorodifluoromethane	25(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	11(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, cis-1,2-	30(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	0.75(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloromethane	0.96(U)	0.045	mg/kg	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	0.085(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis+trans-1,3-	0.083(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis-1,3-		0.030	mg/kg	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, trans-1,3-		0.030	mg/kg	<0.030	<0.030	<0.030	<0.030
Ethylbenzene	15(U)	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015
Hexane, n-	34(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Methyl ethyl ketone [MEK]	44(U)	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	4.3(U)	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	1.4(U)	0.040	mg/kg	<0.040	<0.040	<0.040	<0.040
Styrene	2.2(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	2.3(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Toluene	6(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	3.4(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	0.05(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	0.52(U)	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	5.8(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	0.022(U)	0.020	mg/kg	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-		0.030	mg/kg	<0.030	<0.030	<0.030	<0.030

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Xylene, o-		0.030	mg/kg	<0.030	<0.030	<0.030	<0.030
Xylenes, total	25(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
BTEX, total		0.10	mg/kg	<0.10	<0.10	<0.10	<0.10
Hydrocarbons (Matrix: Soil/Solid)							
F1 (C6-C10)	65(U)	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0
F2-Naphthalene		25	mg/kg	<25	<25	463	<25
F3-PAH		50	mg/kg	<50	<50	244	<50
F1-BTEX	65(U)	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	150(U)	10	mg/kg	<10	<10	463	<10
F3 (C16-C34)	1300(U)	50	mg/kg	<50	<50	246	<50
F4 (C34-C50)	5600(U)	50	mg/kg	<50	<50	51	<50
F4G-sg	5600(U)	250	mg/kg			300	
Hydrocarbons, total (C6-C50)		80	mg/kg	<80	<80	760	<80
Chromatogram to baseline at nC50			-	YES	YES	NO	YES
Hydrocarbons Surrogates (Matrix: Soil/Solid)							
surrogate)		1.0	%	95.6	96.0	102	96.9
Dichlorotoluene, 3,4-		1.0	%	94.8	74.4	84.6	86.4
Volatile Organic Compounds Surrogates (Matrix: Soil/Solid)							
Bromofluorobenzene, 4-		0.10	%	100	84.9	87.7	95.3
Difluorobenzene, 1,4-		0.10	%	113	94.6	96.5	106
Polycyclic Aromatic Hydrocarbons (Matrix: Soil/Solid)							
Acenaphthene	58(U)	0.050	mg/kg	<0.050	<0.050	0.088	<0.050
Acenaphthylene	0.17(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050

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Analyte	Guideline Limit	Lowest Detection Limit	Units	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid	Sub-Matrix: Soil/Solid
Anthracene	0.74(U)	0.050	mg/kg	<0.050	<0.050	0.061	<0.050
Benz(a)anthracene	0.63(U)	0.050	mg/kg	<0.050	<0.050	0.153	0.073
Benzo(a)pyrene	0.3(U)	0.050	mg/kg	<0.050	<0.050	0.145	0.084
Benzo(b+j)fluoranthene	0.78(U)	0.050	mg/kg	<0.050	<0.050	0.202	0.136
Benzo(g,h,i)perylene	7.8(U)	0.050	mg/kg	<0.050	<0.050	0.107	0.073
Benzo(k)fluoranthene	0.78(U)	0.050	mg/kg	<0.050	<0.050	0.078	<0.050
Chrysene	7.8(U)	0.050	mg/kg	<0.050	<0.050	0.153	0.088
Dibenz(a,h)anthracene	0.1(U)	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050
Fluoranthene	0.69(U)	0.050	mg/kg	<0.050	<0.050	0.347	0.138
Fluorene	69(U)	0.050	mg/kg	<0.050	<0.050	0.235	<0.050
Indeno(1,2,3-c,d)pyrene	0.48(U)	0.050	mg/kg	<0.050	<0.050	0.109	0.071
Methylnaphthalene, 1+2-	3.4(U)	0.050	mg/kg	<0.050	<0.050	0.339	<0.050
Methylnaphthalene, 1-	3.4(U)	0.030	mg/kg	<0.030	<0.030	0.248	<0.030
Methylnaphthalene, 2-	3.4(U)	0.030	mg/kg	<0.030	<0.030	0.091	<0.030
Naphthalene	0.75(U)	0.010	mg/kg	<0.010	<0.010	<0.070	<0.010
Phenanthrene	7.8(U)	0.050	mg/kg	<0.050	<0.050	0.257	0.057
Pyrene	78(U)	0.050	mg/kg	<0.050	<0.050	0.297	0.118
Polycyclic Aromatic Hydrocarbons Surrogates (Matrix: Soil/Solid)							
Acridine-d9		0.1	%	90.7	94.9	93.9	91.1
Chrysene-d12		0.1	%	85.4	92.6	87.3	86.9
Naphthalene-d8		0.1	%	90.9	92.6	83.6	87.2
Phenanthrene-d10		0.1	%	88.5	96.2	88.8	88.6

(L) = Lower Limit

(U) = Upper Limit

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Qualifier Legend

AI

DLQ

EMPC

Results highlighted in red exceed the guide

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WT2324230**	Page	: 1 of 18
Client	: **CEGP Consultants Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 647-987-1384	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Date Analysis Commenced	: 05-Aug-2023
C-O-C number	: 20-949685	Issue Date	: 17-Aug-2023 16:37
Sampler	: RK		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 6		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Organics, Waterloo, Ontario
Jon Fisher	Production Manager, Environmental	Metals, Waterloo, Ontario
Niral Patel		Centralized Prep, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	VOC, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mS/cm	millisiemens per centimetre
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit .

Qualifiers

Qualifier	*Description*
AI	*Analytical interferences may be present. Result may be biased high.*
DLQ	*Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.*
EMPC	*Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.*

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	Method/Lab	LOR	Unit	Client sample ID: 5619 Sampling date/time: 04-Aug-2023 09:00 WT2324230-001	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Physical Tests										
Conductivity (1:2 leachate)	E100-L/WT	0.00500	mS/cm	2.54	0.7 mS/cm	0.7 mS/cm	--	--	--	--
Moisture	E144/WT	0.25	%	5.91	--	--	--	--	--	--
pH (1:2 soil:CaCl2-aq)	E108A/WT	0.10	pH units	7.37	--	--	--	--	--	--
Cyanides										
Cyanide, weak acid dissociable	E336A/WT	0.050	mg/kg	<0.050	0.051 mg/kg	0.051 mg/kg	--	--	--	--
Fixed-Ratio Extractables										
Calcium, soluble ion content	E484/WT	0.50	mg/L	489	--	--	--	--	--	--
Magnesium, soluble ion content	E484/WT	0.50	mg/L	122	--	--	--	--	--	--
Sodium, soluble ion content	E484/WT	0.50	mg/L	27.7	--	--	--	--	--	--
Sodium adsorption ratio [SAR]	E484/WT	0.10	-	0.29	5 -	5 -	--	--	--	--
Metals										
Antimony	E440C/WT	0.10	mg/kg	0.43	7.5 mg/kg	7.5 mg/kg	--	--	--	--
Arsenic	E440C/WT	0.10	mg/kg	3.40	18 mg/kg	18 mg/kg	--	--	--	--
Barium	E440C/WT	0.50	mg/kg	45.7	390 mg/kg	390 mg/kg	--	--	--	--
Beryllium	E440C/WT	0.10	mg/kg	0.30	4 mg/kg	5 mg/kg	--	--	--	--
Boron, hot water soluble	E487/WT	0.10	mg/kg	0.53	1.5 mg/kg	1.5 mg/kg	--	--	--	--
Boron	E440C/WT	5.0	mg/kg	<5.0	120 mg/kg	120 mg/kg	--	--	--	--
Cadmium	E440C/WT	0.020	mg/kg	0.290	1.2 mg/kg	1.2 mg/kg	--	--	--	--
Chromium	E440C/WT	0.50	mg/kg	12.3	160 mg/kg	160 mg/kg	--	--	--	--
Cobalt	E440C/WT	0.10	mg/kg	4.31	22 mg/kg	22 mg/kg	--	--	--	--
Copper	E440C/WT	0.50	mg/kg	10.9	140 mg/kg	180 mg/kg	--	--	--	--
Lead	E440C/WT	0.50	mg/kg	45.4	120 mg/kg	120 mg/kg	--	--	--	--
Mercury	E510C/WT	0.0050	mg/kg	0.0316	0.27 mg/kg	1.8 mg/kg	--	--	--	--
Molybdenum	E440C/WT	0.10	mg/kg	0.36	6.9 mg/kg	6.9 mg/kg	--	--	--	--
Nickel	E440C/WT	0.50	mg/kg	10.0	100 mg/kg	130 mg/kg	--	--	--	--
Selenium	E440C/WT	0.20	mg/kg	<0.20	2.4 mg/kg	2.4 mg/kg	--	--	--	--
Silver	E440C/WT	0.10	mg/kg	<0.10	20 mg/kg	25 mg/kg	--	--	--	--
Thallium	E440C/WT	0.050	mg/kg	0.069	1 mg/kg	1 mg/kg	--	--	--	--
Uranium	E440C/WT	0.050	mg/kg	0.358	23 mg/kg	23 mg/kg	--	--	--	--
Vanadium	E440C/WT	0.20	mg/kg	18.1	86 mg/kg	86 mg/kg	--	--	--	--
Zinc	E440C/WT	2.0	mg/kg	84.1	340 mg/kg	340 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-001 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Speciated Metals										
Chromium, hexavalent [Cr VI]	E532/WT	0.10	mg/kg	0.12	8 mg/kg	10 mg/kg	--	--	--	--
Volatile Organic Compounds										
Acetone	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	28 mg/kg	--	--	--	--
Benzene	E611D/WT	0.0050	mg/kg	<0.0050	0.21 mg/kg	0.17 mg/kg	--	--	--	--
Bromodichloromethane	E611D/WT	0.050	mg/kg	<0.050	13 mg/kg	13 mg/kg	--	--	--	--
Bromoform	E611D/WT	0.050	mg/kg	<0.050	0.27 mg/kg	0.26 mg/kg	--	--	--	--
Bromomethane	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Carbon tetrachloride	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.12 mg/kg	--	--	--	--
Chlorobenzene	E611D/WT	0.050	mg/kg	<0.050	2.4 mg/kg	2.7 mg/kg	--	--	--	--
Chloroform	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.18 mg/kg	--	--	--	--
Dibromochloromethane	E611D/WT	0.050	mg/kg	<0.050	9.4 mg/kg	9.4 mg/kg	--	--	--	--
Dibromoethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichlorobenzene, 1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	4.3 mg/kg	--	--	--	--
Dichlorobenzene, 1,3-	E611D/WT	0.050	mg/kg	<0.050	4.8 mg/kg	6 mg/kg	--	--	--	--
Dichlorobenzene, 1,4-	E611D/WT	0.050	mg/kg	<0.050	0.083 mg/kg	0.097 mg/kg	--	--	--	--
Dichlorodifluoromethane	E611D/WT	0.050	mg/kg	<0.050	16 mg/kg	25 mg/kg	--	--	--	--
Dichloroethane, 1,1-	E611D/WT	0.050	mg/kg	<0.050	3.5 mg/kg	11 mg/kg	--	--	--	--
Dichloroethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, 1,1-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, cis-1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	30 mg/kg	--	--	--	--
Dichloroethylene, trans-1,2-	E611D/WT	0.050	mg/kg	<0.050	0.084 mg/kg	0.75 mg/kg	--	--	--	--
Dichloromethane	E611D/WT	0.045	mg/kg	<0.045	0.1 mg/kg	0.96 mg/kg	--	--	--	--
Dichloropropane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.085 mg/kg	--	--	--	--
Dichloropropylene, cis+trans-1,3-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.083 mg/kg	--	--	--	--
Dichloropropylene, cis-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Dichloropropylene, trans-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Ethylbenzene	E611D/WT	0.015	mg/kg	<0.015	2 mg/kg	15 mg/kg	--	--	--	--
Hexane, n-	E611D/WT	0.050	mg/kg	<0.050	2.8 mg/kg	34 mg/kg	--	--	--	--
Methyl ethyl ketone [MEK]	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	44 mg/kg	--	--	--	--
Methyl isobutyl ketone [MIBK]	E611D/WT	0.50	mg/kg	<0.50	1.7 mg/kg	4.3 mg/kg	--	--	--	--
Methyl-tert-butyl ether [MTBE]	E611D/WT	0.040	mg/kg	<0.040	0.75 mg/kg	1.4 mg/kg	--	--	--	--
Styrene	E611D/WT	0.050	mg/kg	<0.050	0.7 mg/kg	2.2 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.058 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,2,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethylene	E611D/WT	0.050	mg/kg	<0.050	0.28 mg/kg	2.3 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-001 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Volatile Organic Compounds - Continued										
Toluene	E611D/WT	0.050	mg/kg	<0.050	2.3 mg/kg	6 mg/kg	--	--	--	--
Trichloroethane, 1,1,1-	E611D/WT	0.050	mg/kg	<0.050	0.38 mg/kg	3.4 mg/kg	--	--	--	--
Trichloroethane, 1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Trichloroethylene	E611D/WT	0.010	mg/kg	<0.010	0.061 mg/kg	0.52 mg/kg	--	--	--	--
Trichlorofluoromethane	E611D/WT	0.050	mg/kg	<0.050	4 mg/kg	5.8 mg/kg	--	--	--	--
Vinyl chloride	E611D/WT	0.020	mg/kg	<0.020	0.02 mg/kg	0.022 mg/kg	--	--	--	--
Xylene, m+p-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylene, o-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylenes, total	E611D/WT	0.050	mg/kg	<0.050	3.1 mg/kg	25 mg/kg	--	--	--	--
BTEX, total	E611D/WT	0.10	mg/kg	<0.10	--	--	--	--	--	--
Hydrocarbons										
F1 (C6-C10)	E581.F1/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
F2 (C10-C16)	E601.SG-L/WT	10	mg/kg	<10	98 mg/kg	150 mg/kg	--	--	--	--
F2-Naphthalene	EC600/WT	25	mg/kg	<25	--	--	--	--	--	--
F3 (C16-C34)	E601.SG-L/WT	50	mg/kg	<50	300 mg/kg	1300 mg/kg	--	--	--	--
F3-PAH	EC600/WT	50	mg/kg	<50	--	--	--	--	--	--
F4 (C34-C50)	E601.SG-L/WT	50	mg/kg	<50	2800 mg/kg	5600 mg/kg	--	--	--	--
F1-BTEX	EC580/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
Hydrocarbons, total (C6-C50)	EC581/WT	80	mg/kg	<80	--	--	--	--	--	--
Chromatogram to baseline at nC50	E601.SG-L/WT		-	YES	--	--	--	--	--	--
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	E601.SG-L/WT	1.0	%	95.6	--	--	--	--	--	--
Dichlorotoluene, 3,4-	E581.F1/WT	1.0	%	94.8	--	--	--	--	--	--
Bromofluorobenzene, 4-	E611D/WT	0.10	%	100	--	--	--	--	--	--
Difluorobenzene, 1,4-	E611D/WT	0.10	%	113	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	E641A/WT	0.050	mg/kg	<0.050	7.9 mg/kg	58 mg/kg	--	--	--	--
Acenaphthylene	E641A/WT	0.050	mg/kg	<0.050	0.15 mg/kg	0.17 mg/kg	--	--	--	--
Anthracene	E641A/WT	0.050	mg/kg	<0.050	0.67 mg/kg	0.74 mg/kg	--	--	--	--
Benz(a)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.5 mg/kg	0.63 mg/kg	--	--	--	--
Benzo(a)pyrene	E641A/WT	0.050	mg/kg	<0.050	0.3 mg/kg	0.3 mg/kg	--	--	--	--
Benzo(b+j)fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Benzo(g,h,i)perylene	E641A/WT	0.050	mg/kg	<0.050	6.6 mg/kg	7.8 mg/kg	--	--	--	--
Benzo(k)fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Chrysene	E641A/WT	0.050	mg/kg	<0.050	7 mg/kg	7.8 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-001 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Polycyclic Aromatic Hydrocarbons - Continued										
Dibenz(a,h)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.1 mg/kg	0.1 mg/kg	--	--	--	--
Fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.69 mg/kg	0.69 mg/kg	--	--	--	--
Fluorene	E641A/WT	0.050	mg/kg	<0.050	62 mg/kg	69 mg/kg	--	--	--	--
Indeno(1,2,3-c,d)pyrene	E641A/WT	0.050	mg/kg	<0.050	0.38 mg/kg	0.48 mg/kg	--	--	--	--
Methylnaphthalene, 1+2-	E641A/WT	0.050	mg/kg	<0.050	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 1-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 2-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Naphthalene	E641A/WT	0.010	mg/kg	<0.010	0.6 mg/kg	0.75 mg/kg	--	--	--	--
Phenanthrene	E641A/WT	0.050	mg/kg	<0.050	6.2 mg/kg	7.8 mg/kg	--	--	--	--
Pyrene	E641A/WT	0.050	mg/kg	<0.050	78 mg/kg	78 mg/kg	--	--	--	--
Acridine-d9	E641A/WT	0.1	%	90.7	--	--	--	--	--	--
Chrysene-d12	E641A/WT	0.1	%	85.4	--	--	--	--	--	--
Naphthalene-d8	E641A/WT	0.1	%	90.9	--	--	--	--	--	--
Phenanthrene-d10	E641A/WT	0.1	%	88.5	--	--	--	--	--	--

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
5619	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T3-RPI-C	2.54 mS/cm	0.7 mS/cm
	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T3-RPI-F	2.54 mS/cm	0.7 mS/cm

Key:

ON153/04	Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
T3-RPI-C	153 T3-Soil-Res/Park/Inst. Property Use (Coarse)
T3-RPI-F	153 T3-Soil-Res/Park/Inst. Property Use (Fine)

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	Method/Lab	LOR	Unit	Client sample ID: Imported Sampling date/time: 04-Aug-2023 09:52 WT2324230-002	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Physical Tests										
Conductivity (1:2 leachate)	E100-L/WT	0.00500	mS/cm	0.246	0.7 mS/cm	0.7 mS/cm	--	--	--	--
Moisture	E144/WT	0.25	%	14.1	--	--	--	--	--	--
pH (1:2 soil:CaCl2-aq)	E108A/WT	0.10	pH units	5.70	--	--	--	--	--	--
Cyanides										
Cyanide, weak acid dissociable	E336A/WT	0.050	mg/kg	<0.050	0.051 mg/kg	0.051 mg/kg	--	--	--	--
Fixed-Ratio Extractables										
Calcium, soluble ion content	E484/WT	0.50	mg/L	2.86	--	--	--	--	--	--
Magnesium, soluble ion content	E484/WT	0.50	mg/L	1.15	--	--	--	--	--	--
Sodium, soluble ion content	E484/WT	0.50	mg/L	27.6	--	--	--	--	--	--
Sodium adsorption ratio [SAR]	E484/WT	0.10	-	3.48	5 -	5 -	--	--	--	--
Metals										
Antimony	E440C/WT	0.10	mg/kg	0.20	7.5 mg/kg	7.5 mg/kg	--	--	--	--
Arsenic	E440C/WT	0.10	mg/kg	4.56	18 mg/kg	18 mg/kg	--	--	--	--
Barium	E440C/WT	0.50	mg/kg	36.0	390 mg/kg	390 mg/kg	--	--	--	--
Beryllium	E440C/WT	0.10	mg/kg	0.57	4 mg/kg	5 mg/kg	--	--	--	--
Boron, hot water soluble	E487/WT	0.10	mg/kg	<0.10	1.5 mg/kg	1.5 mg/kg	--	--	--	--
Boron	E440C/WT	5.0	mg/kg	6.9	120 mg/kg	120 mg/kg	--	--	--	--
Cadmium	E440C/WT	0.020	mg/kg	0.204	1.2 mg/kg	1.2 mg/kg	--	--	--	--
Chromium	E440C/WT	0.50	mg/kg	16.8	160 mg/kg	160 mg/kg	--	--	--	--
Cobalt	E440C/WT	0.10	mg/kg	8.74	22 mg/kg	22 mg/kg	--	--	--	--
Copper	E440C/WT	0.50	mg/kg	16.7	140 mg/kg	180 mg/kg	--	--	--	--
Lead	E440C/WT	0.50	mg/kg	355	120 mg/kg	120 mg/kg	--	--	--	--
Mercury	E510C/WT	0.0050	mg/kg	0.0133	0.27 mg/kg	1.8 mg/kg	--	--	--	--
Molybdenum	E440C/WT	0.10	mg/kg	0.52	6.9 mg/kg	6.9 mg/kg	--	--	--	--
Nickel	E440C/WT	0.50	mg/kg	20.3	100 mg/kg	130 mg/kg	--	--	--	--
Selenium	E440C/WT	0.20	mg/kg	<0.20	2.4 mg/kg	2.4 mg/kg	--	--	--	--
Silver	E440C/WT	0.10	mg/kg	<0.10	20 mg/kg	25 mg/kg	--	--	--	--
Thallium	E440C/WT	0.050	mg/kg	0.098	1 mg/kg	1 mg/kg	--	--	--	--
Uranium	E440C/WT	0.050	mg/kg	0.453	23 mg/kg	23 mg/kg	--	--	--	--
Vanadium	E440C/WT	0.20	mg/kg	24.9	86 mg/kg	86 mg/kg	--	--	--	--
Zinc	E440C/WT	2.0	mg/kg	102	340 mg/kg	340 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-002 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Speciated Metals										
Chromium, hexavalent [Cr VI]	E532/WT	0.10	mg/kg	0.25	8 mg/kg	10 mg/kg	--	--	--	--
Volatile Organic Compounds										
Acetone	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	28 mg/kg	--	--	--	--
Benzene	E611D/WT	0.0050	mg/kg	<0.0050	0.21 mg/kg	0.17 mg/kg	--	--	--	--
Bromodichloromethane	E611D/WT	0.050	mg/kg	<0.050	13 mg/kg	13 mg/kg	--	--	--	--
Bromoform	E611D/WT	0.050	mg/kg	<0.050	0.27 mg/kg	0.26 mg/kg	--	--	--	--
Bromomethane	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Carbon tetrachloride	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.12 mg/kg	--	--	--	--
Chlorobenzene	E611D/WT	0.050	mg/kg	<0.050	2.4 mg/kg	2.7 mg/kg	--	--	--	--
Chloroform	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.18 mg/kg	--	--	--	--
Dibromochloromethane	E611D/WT	0.050	mg/kg	<0.050	9.4 mg/kg	9.4 mg/kg	--	--	--	--
Dibromoethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichlorobenzene, 1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	4.3 mg/kg	--	--	--	--
Dichlorobenzene, 1,3-	E611D/WT	0.050	mg/kg	<0.050	4.8 mg/kg	6 mg/kg	--	--	--	--
Dichlorobenzene, 1,4-	E611D/WT	0.050	mg/kg	<0.050	0.083 mg/kg	0.097 mg/kg	--	--	--	--
Dichlorodifluoromethane	E611D/WT	0.050	mg/kg	<0.050	16 mg/kg	25 mg/kg	--	--	--	--
Dichloroethane, 1,1-	E611D/WT	0.050	mg/kg	<0.050	3.5 mg/kg	11 mg/kg	--	--	--	--
Dichloroethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, 1,1-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, cis-1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	30 mg/kg	--	--	--	--
Dichloroethylene, trans-1,2-	E611D/WT	0.050	mg/kg	<0.050	0.084 mg/kg	0.75 mg/kg	--	--	--	--
Dichloromethane	E611D/WT	0.045	mg/kg	<0.045	0.1 mg/kg	0.96 mg/kg	--	--	--	--
Dichloropropane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.085 mg/kg	--	--	--	--
Dichloropropylene, cis+trans-1,3-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.083 mg/kg	--	--	--	--
Dichloropropylene, cis-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Dichloropropylene, trans-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Ethylbenzene	E611D/WT	0.015	mg/kg	<0.015	2 mg/kg	15 mg/kg	--	--	--	--
Hexane, n-	E611D/WT	0.050	mg/kg	<0.050	2.8 mg/kg	34 mg/kg	--	--	--	--
Methyl ethyl ketone [MEK]	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	44 mg/kg	--	--	--	--
Methyl isobutyl ketone [MIBK]	E611D/WT	0.50	mg/kg	<0.50	1.7 mg/kg	4.3 mg/kg	--	--	--	--
Methyl-tert-butyl ether [MTBE]	E611D/WT	0.040	mg/kg	<0.040	0.75 mg/kg	1.4 mg/kg	--	--	--	--
Styrene	E611D/WT	0.050	mg/kg	<0.050	0.7 mg/kg	2.2 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.058 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,2,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethylene	E611D/WT	0.050	mg/kg	<0.050	0.28 mg/kg	2.3 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-002 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Volatile Organic Compounds - Continued										
Toluene	E611D/WT	0.050	mg/kg	<0.050	2.3 mg/kg	6 mg/kg	--	--	--	--
Trichloroethane, 1,1,1-	E611D/WT	0.050	mg/kg	<0.050	0.38 mg/kg	3.4 mg/kg	--	--	--	--
Trichloroethane, 1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Trichloroethylene	E611D/WT	0.010	mg/kg	<0.010	0.061 mg/kg	0.52 mg/kg	--	--	--	--
Trichlorofluoromethane	E611D/WT	0.050	mg/kg	<0.050	4 mg/kg	5.8 mg/kg	--	--	--	--
Vinyl chloride	E611D/WT	0.020	mg/kg	<0.020	0.02 mg/kg	0.022 mg/kg	--	--	--	--
Xylene, m+p-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylene, o-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylenes, total	E611D/WT	0.050	mg/kg	<0.050	3.1 mg/kg	25 mg/kg	--	--	--	--
BTEX, total	E611D/WT	0.10	mg/kg	<0.10	--	--	--	--	--	--
Hydrocarbons										
F1 (C6-C10)	E581.F1/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
F2 (C10-C16)	E601.SG-L/WT	10	mg/kg	<10	98 mg/kg	150 mg/kg	--	--	--	--
F2-Naphthalene	EC600/WT	25	mg/kg	<25	--	--	--	--	--	--
F3 (C16-C34)	E601.SG-L/WT	50	mg/kg	<50	300 mg/kg	1300 mg/kg	--	--	--	--
F3-PAH	EC600/WT	50	mg/kg	<50	--	--	--	--	--	--
F4 (C34-C50)	E601.SG-L/WT	50	mg/kg	<50	2800 mg/kg	5600 mg/kg	--	--	--	--
F1-BTEX	EC580/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
Hydrocarbons, total (C6-C50)	EC581/WT	80	mg/kg	<80	--	--	--	--	--	--
Chromatogram to baseline at nC50	E601.SG-L/WT		-	YES	--	--	--	--	--	--
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	E601.SG-L/WT	1.0	%	96.0	--	--	--	--	--	--
Dichlorotoluene, 3,4-	E581.F1/WT	1.0	%	74.4	--	--	--	--	--	--
Bromofluorobenzene, 4-	E611D/WT	0.10	%	84.9	--	--	--	--	--	--
Difluorobenzene, 1,4-	E611D/WT	0.10	%	94.6	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	E641A/WT	0.050	mg/kg	<0.050	7.9 mg/kg	58 mg/kg	--	--	--	--
Acenaphthylene	E641A/WT	0.050	mg/kg	<0.050	0.15 mg/kg	0.17 mg/kg	--	--	--	--
Anthracene	E641A/WT	0.050	mg/kg	<0.050	0.67 mg/kg	0.74 mg/kg	--	--	--	--
Benz(a)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.5 mg/kg	0.63 mg/kg	--	--	--	--
Benzo(a)pyrene	E641A/WT	0.050	mg/kg	<0.050	0.3 mg/kg	0.3 mg/kg	--	--	--	--
Benzo(b+j)fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Benzo(g,h,i)perylene	E641A/WT	0.050	mg/kg	<0.050	6.6 mg/kg	7.8 mg/kg	--	--	--	--
Benzo(k)fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Chrysene	E641A/WT	0.050	mg/kg	<0.050	7 mg/kg	7.8 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-002 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Polycyclic Aromatic Hydrocarbons - Continued										
Dibenz(a,h)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.1 mg/kg	0.1 mg/kg	--	--	--	--
Fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.69 mg/kg	0.69 mg/kg	--	--	--	--
Fluorene	E641A/WT	0.050	mg/kg	<0.050	62 mg/kg	69 mg/kg	--	--	--	--
Indeno(1,2,3-c,d)pyrene	E641A/WT	0.050	mg/kg	<0.050	0.38 mg/kg	0.48 mg/kg	--	--	--	--
Methylnaphthalene, 1+2-	E641A/WT	0.050	mg/kg	<0.050	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 1-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 2-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Naphthalene	E641A/WT	0.010	mg/kg	<0.010	0.6 mg/kg	0.75 mg/kg	--	--	--	--
Phenanthrene	E641A/WT	0.050	mg/kg	<0.050	6.2 mg/kg	7.8 mg/kg	--	--	--	--
Pyrene	E641A/WT	0.050	mg/kg	<0.050	78 mg/kg	78 mg/kg	--	--	--	--
Acridine-d9	E641A/WT	0.1	%	94.9	--	--	--	--	--	--
Chrysene-d12	E641A/WT	0.1	%	92.6	--	--	--	--	--	--
Naphthalene-d8	E641A/WT	0.1	%	92.6	--	--	--	--	--	--
Phenanthrene-d10	E641A/WT	0.1	%	96.2	--	--	--	--	--	--

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
Imported	Soil/Solid	Lead		ON153/04	T3-RPI-C	355 mg/kg	120 mg/kg
	Soil/Solid	Lead		ON153/04	T3-RPI-F	355 mg/kg	120 mg/kg

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T3-RPI-C 153 T3-Soil-Res/Park/Inst. Property Use (Coarse)

T3-RPI-F 153 T3-Soil-Res/Park/Inst. Property Use (Fine)

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	Method/Lab	LOR	Unit	Client sample ID: 6285 Sampling date/time: 04-Aug-2023 10:40 WT2324230-003	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Physical Tests										
Conductivity (1:2 leachate)	E100-L/WT	0.00500	mS/cm	1.52	0.7 mS/cm	0.7 mS/cm	--	--	--	--
Moisture	E144/WT	0.25	%	10.6	--	--	--	--	--	--
pH (1:2 soil:CaCl2-aq)	E108A/WT	0.10	pH units	7.27	--	--	--	--	--	--
Cyanides										
Cyanide, weak acid dissociable	E336A/WT	0.050	mg/kg	<0.050	0.051 mg/kg	0.051 mg/kg	--	--	--	--
Fixed-Ratio Extractables										
Calcium, soluble ion content	E484/WT	0.50	mg/L	225	--	--	--	--	--	--
Magnesium, soluble ion content	E484/WT	0.50	mg/L	30.5	--	--	--	--	--	--
Sodium, soluble ion content	E484/WT	0.50	mg/L	74.7	--	--	--	--	--	--
Sodium adsorption ratio [SAR]	E484/WT	0.10	-	1.24	5 -	5 -	--	--	--	--
Metals										
Antimony	E440C/WT	0.10	mg/kg	1.56	7.5 mg/kg	7.5 mg/kg	--	--	--	--
Arsenic	E440C/WT	0.10	mg/kg	5.84	18 mg/kg	18 mg/kg	--	--	--	--
Barium	E440C/WT	0.50	mg/kg	70.7	390 mg/kg	390 mg/kg	--	--	--	--
Beryllium	E440C/WT	0.10	mg/kg	0.54	4 mg/kg	5 mg/kg	--	--	--	--
Boron, hot water soluble	E487/WT	0.10	mg/kg	1.49	1.5 mg/kg	1.5 mg/kg	--	--	--	--
Boron	E440C/WT	5.0	mg/kg	11.0	120 mg/kg	120 mg/kg	--	--	--	--
Cadmium	E440C/WT	0.020	mg/kg	0.508	1.2 mg/kg	1.2 mg/kg	--	--	--	--
Chromium	E440C/WT	0.50	mg/kg	26.3	160 mg/kg	160 mg/kg	--	--	--	--
Cobalt	E440C/WT	0.10	mg/kg	8.43	22 mg/kg	22 mg/kg	--	--	--	--
Copper	E440C/WT	0.50	mg/kg	34.8	140 mg/kg	180 mg/kg	--	--	--	--
Lead	E440C/WT	0.50	mg/kg	141	120 mg/kg	120 mg/kg	--	--	--	--
Mercury	E510C/WT	0.0050	mg/kg	0.0556	0.27 mg/kg	1.8 mg/kg	--	--	--	--
Molybdenum	E440C/WT	0.10	mg/kg	0.91	6.9 mg/kg	6.9 mg/kg	--	--	--	--
Nickel	E440C/WT	0.50	mg/kg	22.8	100 mg/kg	130 mg/kg	--	--	--	--
Selenium	E440C/WT	0.20	mg/kg	<0.20	2.4 mg/kg	2.4 mg/kg	--	--	--	--
Silver	E440C/WT	0.10	mg/kg	<0.10	20 mg/kg	25 mg/kg	--	--	--	--
Thallium	E440C/WT	0.050	mg/kg	0.101	1 mg/kg	1 mg/kg	--	--	--	--
Uranium	E440C/WT	0.050	mg/kg	0.533	23 mg/kg	23 mg/kg	--	--	--	--
Vanadium	E440C/WT	0.20	mg/kg	25.6	86 mg/kg	86 mg/kg	--	--	--	--
Zinc	E440C/WT	2.0	mg/kg	296	340 mg/kg	340 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-003 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Speciated Metals										
Chromium, hexavalent [Cr VI]	E532/WT	0.10	mg/kg	0.22	8 mg/kg	10 mg/kg	--	--	--	--
Volatile Organic Compounds										
Acetone	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	28 mg/kg	--	--	--	--
Benzene	E611D/WT	0.0050	mg/kg	<0.0050	0.21 mg/kg	0.17 mg/kg	--	--	--	--
Bromodichloromethane	E611D/WT	0.050	mg/kg	<0.050	13 mg/kg	13 mg/kg	--	--	--	--
Bromoform	E611D/WT	0.050	mg/kg	<0.050	0.27 mg/kg	0.26 mg/kg	--	--	--	--
Bromomethane	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Carbon tetrachloride	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.12 mg/kg	--	--	--	--
Chlorobenzene	E611D/WT	0.050	mg/kg	<0.050	2.4 mg/kg	2.7 mg/kg	--	--	--	--
Chloroform	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.18 mg/kg	--	--	--	--
Dibromochloromethane	E611D/WT	0.050	mg/kg	<0.050	9.4 mg/kg	9.4 mg/kg	--	--	--	--
Dibromoethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichlorobenzene, 1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	4.3 mg/kg	--	--	--	--
Dichlorobenzene, 1,3-	E611D/WT	0.050	mg/kg	<0.050	4.8 mg/kg	6 mg/kg	--	--	--	--
Dichlorobenzene, 1,4-	E611D/WT	0.050	mg/kg	<0.050	0.083 mg/kg	0.097 mg/kg	--	--	--	--
Dichlorodifluoromethane	E611D/WT	0.050	mg/kg	<0.050	16 mg/kg	25 mg/kg	--	--	--	--
Dichloroethane, 1,1-	E611D/WT	0.050	mg/kg	<0.050	3.5 mg/kg	11 mg/kg	--	--	--	--
Dichloroethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, 1,1-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, cis-1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	30 mg/kg	--	--	--	--
Dichloroethylene, trans-1,2-	E611D/WT	0.050	mg/kg	<0.050	0.084 mg/kg	0.75 mg/kg	--	--	--	--
Dichloromethane	E611D/WT	0.045	mg/kg	<0.045	0.1 mg/kg	0.96 mg/kg	--	--	--	--
Dichloropropane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.085 mg/kg	--	--	--	--
Dichloropropylene, cis+trans-1,3-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.083 mg/kg	--	--	--	--
Dichloropropylene, cis-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Dichloropropylene, trans-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Ethylbenzene	E611D/WT	0.015	mg/kg	<0.015	2 mg/kg	15 mg/kg	--	--	--	--
Hexane, n-	E611D/WT	0.050	mg/kg	<0.050	2.8 mg/kg	34 mg/kg	--	--	--	--
Methyl ethyl ketone [MEK]	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	44 mg/kg	--	--	--	--
Methyl isobutyl ketone [MIBK]	E611D/WT	0.50	mg/kg	<0.50	1.7 mg/kg	4.3 mg/kg	--	--	--	--
Methyl-tert-butyl ether [MTBE]	E611D/WT	0.040	mg/kg	<0.040	0.75 mg/kg	1.4 mg/kg	--	--	--	--
Styrene	E611D/WT	0.050	mg/kg	<0.050	0.7 mg/kg	2.2 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.058 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,2,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethylene	E611D/WT	0.050	mg/kg	<0.050	0.28 mg/kg	2.3 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-003 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Volatile Organic Compounds - Continued										
Toluene	E611D/WT	0.050	mg/kg	<0.050	2.3 mg/kg	6 mg/kg	--	--	--	--
Trichloroethane, 1,1,1-	E611D/WT	0.050	mg/kg	<0.050	0.38 mg/kg	3.4 mg/kg	--	--	--	--
Trichloroethane, 1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Trichloroethylene	E611D/WT	0.010	mg/kg	<0.010	0.061 mg/kg	0.52 mg/kg	--	--	--	--
Trichlorofluoromethane	E611D/WT	0.050	mg/kg	<0.050	4 mg/kg	5.8 mg/kg	--	--	--	--
Vinyl chloride	E611D/WT	0.020	mg/kg	<0.020	0.02 mg/kg	0.022 mg/kg	--	--	--	--
Xylene, m+p-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylene, o-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylenes, total	E611D/WT	0.050	mg/kg	<0.050	3.1 mg/kg	25 mg/kg	--	--	--	--
BTEX, total	E611D/WT	0.10	mg/kg	<0.10	--	--	--	--	--	--
Hydrocarbons										
F1 (C6-C10)	E581.F1/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
F2 (C10-C16)	E601.SG-L/WT	10	mg/kg	463	98 mg/kg	150 mg/kg	--	--	--	--
F2-Naphthalene	EC600/WT	25	mg/kg	463	--	--	--	--	--	--
F3 (C16-C34)	E601.SG-L/WT	50	mg/kg	246	300 mg/kg	1300 mg/kg	--	--	--	--
F3-PAH	EC600/WT	50	mg/kg	244	--	--	--	--	--	--
F4 (C34-C50)	E601.SG-L/WT	50	mg/kg	51	2800 mg/kg	5600 mg/kg	--	--	--	--
F4G-sg	E601.F4G-L/WT	250	mg/kg	300	2800 mg/kg	5600 mg/kg	--	--	--	--
F1-BTEX	EC580/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
Hydrocarbons, total (C6-C50)	EC581/WT	80	mg/kg	760	--	--	--	--	--	--
Chromatogram to baseline at nC50	E601.SG-L/WT		-	NO	--	--	--	--	--	--
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	E601.SG-L/WT	1.0	%	102	--	--	--	--	--	--
Dichlorotoluene, 3,4-	E581.F1/WT	1.0	%	84.6	--	--	--	--	--	--
Bromofluorobenzene, 4-	E611D/WT	0.10	%	87.7	--	--	--	--	--	--
Difluorobenzene, 1,4-	E611D/WT	0.10	%	96.5	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	E641A/WT	0.050	mg/kg	0.088 AI	7.9 mg/kg	58 mg/kg	--	--	--	--
Acenaphthylene	E641A/WT	0.050	mg/kg	<0.050	0.15 mg/kg	0.17 mg/kg	--	--	--	--
Anthracene	E641A/WT	0.050	mg/kg	0.061 EMPC	0.67 mg/kg	0.74 mg/kg	--	--	--	--
Benz(a)anthracene	E641A/WT	0.050	mg/kg	0.153	0.5 mg/kg	0.63 mg/kg	--	--	--	--
Benzo(a)pyrene	E641A/WT	0.050	mg/kg	0.145	0.3 mg/kg	0.3 mg/kg	--	--	--	--
Benzo(b+j)fluoranthene	E641A/WT	0.050	mg/kg	0.202	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Benzo(g,h,i)perylene	E641A/WT	0.050	mg/kg	0.107	6.6 mg/kg	7.8 mg/kg	--	--	--	--
Benzo(k)fluoranthene	E641A/WT	0.050	mg/kg	0.078	0.78 mg/kg	0.78 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-003 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Polycyclic Aromatic Hydrocarbons - Continued										
Chrysene	E641A/WT	0.050	mg/kg	0.153	7 mg/kg	7.8 mg/kg	--	--	--	--
Dibenz(a,h)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.1 mg/kg	0.1 mg/kg	--	--	--	--
Fluoranthene	E641A/WT	0.050	mg/kg	0.347	0.69 mg/kg	0.69 mg/kg	--	--	--	--
Fluorene	E641A/WT	0.050	mg/kg	0.235 AI	62 mg/kg	69 mg/kg	--	--	--	--
Indeno(1,2,3-c,d)pyrene	E641A/WT	0.050	mg/kg	0.109	0.38 mg/kg	0.48 mg/kg	--	--	--	--
Methylnaphthalene, 1+2-	E641A/WT	0.050	mg/kg	0.339	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 1-	E641A/WT	0.030	mg/kg	0.248 EMPC	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 2-	E641A/WT	0.030	mg/kg	0.091	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Naphthalene	E641A/WT	0.010	mg/kg	<0.070 DLQ	0.6 mg/kg	0.75 mg/kg	--	--	--	--
Phenanthrene	E641A/WT	0.050	mg/kg	0.257	6.2 mg/kg	7.8 mg/kg	--	--	--	--
Pyrene	E641A/WT	0.050	mg/kg	0.297	78 mg/kg	78 mg/kg	--	--	--	--
Acridine-d9	E641A/WT	0.1	%	93.9	--	--	--	--	--	--
Chrysene-d12	E641A/WT	0.1	%	87.3	--	--	--	--	--	--
Naphthalene-d8	E641A/WT	0.1	%	83.6	--	--	--	--	--	--
Phenanthrene-d10	E641A/WT	0.1	%	88.8	--	--	--	--	--	--

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
6285	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T3-RPI-C	1.52 mS/cm	0.7 mS/cm
	Soil/Solid	Lead		ON153/04	T3-RPI-C	141 mg/kg	120 mg/kg
	Soil/Solid	F2 (C10-C16)		ON153/04	T3-RPI-C	463 mg/kg	98 mg/kg
	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T3-RPI-F	1.52 mS/cm	0.7 mS/cm
	Soil/Solid	Lead		ON153/04	T3-RPI-F	141 mg/kg	120 mg/kg
	Soil/Solid	F2 (C10-C16)		ON153/04	T3-RPI-F	463 mg/kg	150 mg/kg

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T3-RPI-C 153 T3-Soil-Res/Park/Inst. Property Use (Coarse)

T3-RPI-F 153 T3-Soil-Res/Park/Inst. Property Use (Fine)

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	Method/Lab	LOR	Unit	Client sample ID: Surface Sampling date/time: 04-Aug-2023 10:56 WT2324230-006	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Physical Tests										
Conductivity (1:2 leachate)	E100-L/WT	0.00500	mS/cm	0.367	0.7 mS/cm	0.7 mS/cm	--	--	--	--
Moisture	E144/WT	0.25	%	10.9	--	--	--	--	--	--
pH (1:2 soil:CaCl2-aq)	E108A/WT	0.10	pH units	7.24	--	--	--	--	--	--
Cyanides										
Cyanide, weak acid dissociable	E336A/WT	0.050	mg/kg	<0.050	0.051 mg/kg	0.051 mg/kg	--	--	--	--
Fixed-Ratio Extractables										
Calcium, soluble ion content	E484/WT	0.50	mg/L	29.4	--	--	--	--	--	--
Magnesium, soluble ion content	E484/WT	0.50	mg/L	5.02	--	--	--	--	--	--
Sodium, soluble ion content	E484/WT	0.50	mg/L	20.2	--	--	--	--	--	--
Sodium adsorption ratio [SAR]	E484/WT	0.10	-	0.91	5 -	5 -	--	--	--	--
Metals										
Antimony	E440C/WT	0.10	mg/kg	0.60	7.5 mg/kg	7.5 mg/kg	--	--	--	--
Arsenic	E440C/WT	0.10	mg/kg	7.38	18 mg/kg	18 mg/kg	--	--	--	--
Barium	E440C/WT	0.50	mg/kg	58.7	390 mg/kg	390 mg/kg	--	--	--	--
Beryllium	E440C/WT	0.10	mg/kg	0.43	4 mg/kg	5 mg/kg	--	--	--	--
Boron, hot water soluble	E487/WT	0.10	mg/kg	0.47	1.5 mg/kg	1.5 mg/kg	--	--	--	--
Boron	E440C/WT	5.0	mg/kg	6.3	120 mg/kg	120 mg/kg	--	--	--	--
Cadmium	E440C/WT	0.020	mg/kg	0.437	1.2 mg/kg	1.2 mg/kg	--	--	--	--
Chromium	E440C/WT	0.50	mg/kg	17.6	160 mg/kg	160 mg/kg	--	--	--	--
Cobalt	E440C/WT	0.10	mg/kg	6.72	22 mg/kg	22 mg/kg	--	--	--	--
Copper	E440C/WT	0.50	mg/kg	27.3	140 mg/kg	180 mg/kg	--	--	--	--
Lead	E440C/WT	0.50	mg/kg	122	120 mg/kg	120 mg/kg	--	--	--	--
Mercury	E510C/WT	0.0050	mg/kg	0.0824	0.27 mg/kg	1.8 mg/kg	--	--	--	--
Molybdenum	E440C/WT	0.10	mg/kg	0.64	6.9 mg/kg	6.9 mg/kg	--	--	--	--
Nickel	E440C/WT	0.50	mg/kg	19.5	100 mg/kg	130 mg/kg	--	--	--	--
Selenium	E440C/WT	0.20	mg/kg	0.22	2.4 mg/kg	2.4 mg/kg	--	--	--	--
Silver	E440C/WT	0.10	mg/kg	0.12	20 mg/kg	25 mg/kg	--	--	--	--
Thallium	E440C/WT	0.050	mg/kg	0.102	1 mg/kg	1 mg/kg	--	--	--	--
Uranium	E440C/WT	0.050	mg/kg	0.393	23 mg/kg	23 mg/kg	--	--	--	--
Vanadium	E440C/WT	0.20	mg/kg	22.2	86 mg/kg	86 mg/kg	--	--	--	--
Zinc	E440C/WT	2.0	mg/kg	146	340 mg/kg	340 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-006 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Speciated Metals										
Chromium, hexavalent [Cr VI]	E532/WT	0.10	mg/kg	<0.10	8 mg/kg	10 mg/kg	--	--	--	--
Volatile Organic Compounds										
Acetone	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	28 mg/kg	--	--	--	--
Benzene	E611D/WT	0.0050	mg/kg	<0.0050	0.21 mg/kg	0.17 mg/kg	--	--	--	--
Bromodichloromethane	E611D/WT	0.050	mg/kg	<0.050	13 mg/kg	13 mg/kg	--	--	--	--
Bromoform	E611D/WT	0.050	mg/kg	<0.050	0.27 mg/kg	0.26 mg/kg	--	--	--	--
Bromomethane	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Carbon tetrachloride	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.12 mg/kg	--	--	--	--
Chlorobenzene	E611D/WT	0.050	mg/kg	<0.050	2.4 mg/kg	2.7 mg/kg	--	--	--	--
Chloroform	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.18 mg/kg	--	--	--	--
Dibromochloromethane	E611D/WT	0.050	mg/kg	<0.050	9.4 mg/kg	9.4 mg/kg	--	--	--	--
Dibromoethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichlorobenzene, 1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	4.3 mg/kg	--	--	--	--
Dichlorobenzene, 1,3-	E611D/WT	0.050	mg/kg	<0.050	4.8 mg/kg	6 mg/kg	--	--	--	--
Dichlorobenzene, 1,4-	E611D/WT	0.050	mg/kg	<0.050	0.083 mg/kg	0.097 mg/kg	--	--	--	--
Dichlorodifluoromethane	E611D/WT	0.050	mg/kg	<0.050	16 mg/kg	25 mg/kg	--	--	--	--
Dichloroethane, 1,1-	E611D/WT	0.050	mg/kg	<0.050	3.5 mg/kg	11 mg/kg	--	--	--	--
Dichloroethane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, 1,1-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Dichloroethylene, cis-1,2-	E611D/WT	0.050	mg/kg	<0.050	3.4 mg/kg	30 mg/kg	--	--	--	--
Dichloroethylene, trans-1,2-	E611D/WT	0.050	mg/kg	<0.050	0.084 mg/kg	0.75 mg/kg	--	--	--	--
Dichloromethane	E611D/WT	0.045	mg/kg	<0.045	0.1 mg/kg	0.96 mg/kg	--	--	--	--
Dichloropropane, 1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.085 mg/kg	--	--	--	--
Dichloropropylene, cis+trans-1,3-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.083 mg/kg	--	--	--	--
Dichloropropylene, cis-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Dichloropropylene, trans-1,3-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Ethylbenzene	E611D/WT	0.015	mg/kg	<0.015	2 mg/kg	15 mg/kg	--	--	--	--
Hexane, n-	E611D/WT	0.050	mg/kg	<0.050	2.8 mg/kg	34 mg/kg	--	--	--	--
Methyl ethyl ketone [MEK]	E611D/WT	0.50	mg/kg	<0.50	16 mg/kg	44 mg/kg	--	--	--	--
Methyl isobutyl ketone [MIBK]	E611D/WT	0.50	mg/kg	<0.50	1.7 mg/kg	4.3 mg/kg	--	--	--	--
Methyl-tert-butyl ether [MTBE]	E611D/WT	0.040	mg/kg	<0.040	0.75 mg/kg	1.4 mg/kg	--	--	--	--
Styrene	E611D/WT	0.050	mg/kg	<0.050	0.7 mg/kg	2.2 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.058 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethane, 1,1,2,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Tetrachloroethylene	E611D/WT	0.050	mg/kg	<0.050	0.28 mg/kg	2.3 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-006 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Volatile Organic Compounds - Continued										
Toluene	E611D/WT	0.050	mg/kg	<0.050	2.3 mg/kg	6 mg/kg	--	--	--	--
Trichloroethane, 1,1,1-	E611D/WT	0.050	mg/kg	<0.050	0.38 mg/kg	3.4 mg/kg	--	--	--	--
Trichloroethane, 1,1,2-	E611D/WT	0.050	mg/kg	<0.050	0.05 mg/kg	0.05 mg/kg	--	--	--	--
Trichloroethylene	E611D/WT	0.010	mg/kg	<0.010	0.061 mg/kg	0.52 mg/kg	--	--	--	--
Trichlorofluoromethane	E611D/WT	0.050	mg/kg	<0.050	4 mg/kg	5.8 mg/kg	--	--	--	--
Vinyl chloride	E611D/WT	0.020	mg/kg	<0.020	0.02 mg/kg	0.022 mg/kg	--	--	--	--
Xylene, m+p-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylene, o-	E611D/WT	0.030	mg/kg	<0.030	--	--	--	--	--	--
Xylenes, total	E611D/WT	0.050	mg/kg	<0.050	3.1 mg/kg	25 mg/kg	--	--	--	--
BTEX, total	E611D/WT	0.10	mg/kg	<0.10	--	--	--	--	--	--
Hydrocarbons										
F1 (C6-C10)	E581.F1/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
F2 (C10-C16)	E601.SG-L/WT	10	mg/kg	<10	98 mg/kg	150 mg/kg	--	--	--	--
F2-Naphthalene	EC600/WT	25	mg/kg	<25	--	--	--	--	--	--
F3 (C16-C34)	E601.SG-L/WT	50	mg/kg	<50	300 mg/kg	1300 mg/kg	--	--	--	--
F3-PAH	EC600/WT	50	mg/kg	<50	--	--	--	--	--	--
F4 (C34-C50)	E601.SG-L/WT	50	mg/kg	<50	2800 mg/kg	5600 mg/kg	--	--	--	--
F1-BTEX	EC580/WT	5.0	mg/kg	<5.0	55 mg/kg	65 mg/kg	--	--	--	--
Hydrocarbons, total (C6-C50)	EC581/WT	80	mg/kg	<80	--	--	--	--	--	--
Chromatogram to baseline at nC50	E601.SG-L/WT		-	YES	--	--	--	--	--	--
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	E601.SG-L/WT	1.0	%	96.9	--	--	--	--	--	--
Dichlorotoluene, 3,4-	E581.F1/WT	1.0	%	86.4	--	--	--	--	--	--
Bromofluorobenzene, 4-	E611D/WT	0.10	%	95.3	--	--	--	--	--	--
Difluorobenzene, 1,4-	E611D/WT	0.10	%	106	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	E641A/WT	0.050	mg/kg	<0.050	7.9 mg/kg	58 mg/kg	--	--	--	--
Acenaphthylene	E641A/WT	0.050	mg/kg	<0.050	0.15 mg/kg	0.17 mg/kg	--	--	--	--
Anthracene	E641A/WT	0.050	mg/kg	<0.050	0.67 mg/kg	0.74 mg/kg	--	--	--	--
Benz(a)anthracene	E641A/WT	0.050	mg/kg	0.073	0.5 mg/kg	0.63 mg/kg	--	--	--	--
Benzo(a)pyrene	E641A/WT	0.050	mg/kg	0.084	0.3 mg/kg	0.3 mg/kg	--	--	--	--
Benzo(b+j)fluoranthene	E641A/WT	0.050	mg/kg	0.136	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Benzo(g,h,i)perylene	E641A/WT	0.050	mg/kg	0.073	6.6 mg/kg	7.8 mg/kg	--	--	--	--
Benzo(k)fluoranthene	E641A/WT	0.050	mg/kg	<0.050	0.78 mg/kg	0.78 mg/kg	--	--	--	--
Chrysene	E641A/WT	0.050	mg/kg	0.088	7 mg/kg	7.8 mg/kg	--	--	--	--

Analyte	Method/Lab	LOR	Unit	WT2324230-006 (Continued)	ON153/04 T3-RPI-C	ON153/04 T3-RPI-F	--	--	--	--
Polycyclic Aromatic Hydrocarbons - Continued										
Dibenz(a,h)anthracene	E641A/WT	0.050	mg/kg	<0.050	0.1 mg/kg	0.1 mg/kg	--	--	--	--
Fluoranthene	E641A/WT	0.050	mg/kg	0.138	0.69 mg/kg	0.69 mg/kg	--	--	--	--
Fluorene	E641A/WT	0.050	mg/kg	<0.050	62 mg/kg	69 mg/kg	--	--	--	--
Indeno(1,2,3-c,d)pyrene	E641A/WT	0.050	mg/kg	0.071	0.38 mg/kg	0.48 mg/kg	--	--	--	--
Methylnaphthalene, 1+2-	E641A/WT	0.050	mg/kg	<0.050	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 1-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Methylnaphthalene, 2-	E641A/WT	0.030	mg/kg	<0.030	0.99 mg/kg	3.4 mg/kg	--	--	--	--
Naphthalene	E641A/WT	0.010	mg/kg	<0.010	0.6 mg/kg	0.75 mg/kg	--	--	--	--
Phenanthrene	E641A/WT	0.050	mg/kg	0.057	6.2 mg/kg	7.8 mg/kg	--	--	--	--
Pyrene	E641A/WT	0.050	mg/kg	0.118	78 mg/kg	78 mg/kg	--	--	--	--
Acridine-d9	E641A/WT	0.1	%	91.1	--	--	--	--	--	--
Chrysene-d12	E641A/WT	0.1	%	86.9	--	--	--	--	--	--
Naphthalene-d8	E641A/WT	0.1	%	87.2	--	--	--	--	--	--
Phenanthrene-d10	E641A/WT	0.1	%	88.6	--	--	--	--	--	--

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
Surface	Soil/Solid	Lead		ON153/04	T3-RPI-C	122 mg/kg	120 mg/kg
	Soil/Solid	Lead		ON153/04	T3-RPI-F	122 mg/kg	120 mg/kg

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T3-RPI-C 153 T3-Soil-Res/Park/Inst. Property Use (Coarse)

T3-RPI-F 153 T3-Soil-Res/Park/Inst. Property Use (Fine)

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2324230**	Page	: 1 of 15
Client	: **CEGP Consultants Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 647-987-1384	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Issue Date	: 17-Aug-2023 16:39
C-O-C number	: 20-949685		
Sampler	: RK		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 6		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E336A	04-Aug-2023	05-Aug-2023	14 days	1 days	✓	08-Aug-2023	14 days	3 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E336A	04-Aug-2023	05-Aug-2023	14 days	1 days	✓	08-Aug-2023	14 days	3 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E336A	04-Aug-2023	05-Aug-2023	14 days	1 days	✓	08-Aug-2023	14 days	3 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E336A	04-Aug-2023	05-Aug-2023	14 days	1 days	✓	08-Aug-2023	14 days	3 days	✓
Fixed-Ratio Extractables : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E484	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Fixed-Ratio Extractables : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E484	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Fixed-Ratio Extractables : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E484	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Fixed-Ratio Extractables : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E484	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] 5619	E581.F1	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] 6285	E581.F1	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] Imported	E581.F1	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] Surface	E581.F1	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F4G by Gravimetry (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E601.F4G-L	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E601.SG-L	04-Aug-2023	08-Aug-2023	14 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E601.SG-L	04-Aug-2023	08-Aug-2023	14 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E601.SG-L	04-Aug-2023	08-Aug-2023	14 days	4 days	✓	09-Aug-2023	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E601.SG-L	04-Aug-2023	08-Aug-2023	14 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E487	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E487	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E487	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E487	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	09-Aug-2023	180 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E510C	04-Aug-2023	09-Aug-2023	28 days	5 days	✓	10-Aug-2023	28 days	6 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E510C	04-Aug-2023	09-Aug-2023	28 days	5 days	✓	10-Aug-2023	28 days	6 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E510C	04-Aug-2023	09-Aug-2023	28 days	5 days	✓	10-Aug-2023	28 days	6 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E510C	04-Aug-2023	09-Aug-2023	28 days	5 days	✓	10-Aug-2023	28 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E440C	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	10-Aug-2023	180 days	6 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E440C	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	10-Aug-2023	180 days	6 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E440C	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	10-Aug-2023	180 days	6 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E440C	04-Aug-2023	09-Aug-2023	180 days	5 days	✓	10-Aug-2023	180 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E100-L	04-Aug-2023	09-Aug-2023	30 days	5 days	✓	10-Aug-2023	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E100-L	04-Aug-2023	09-Aug-2023	30 days	5 days	✓	10-Aug-2023	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E100-L	04-Aug-2023	09-Aug-2023	30 days	5 days	✓	10-Aug-2023	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E100-L	04-Aug-2023	09-Aug-2023	30 days	5 days	✓	10-Aug-2023	30 days	6 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E144	04-Aug-2023	----	----	----		09-Aug-2023	----	5 days	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E144	04-Aug-2023	----	----	----		09-Aug-2023	----	5 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E144	04-Aug-2023	----	----	----		09-Aug-2023	----	6 days	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E144	04-Aug-2023	----	----	----		09-Aug-2023	----	6 days	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E108A	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E108A	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E108A	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E108A	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	30 days	4 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E641A	04-Aug-2023	08-Aug-2023	60 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E641A	04-Aug-2023	08-Aug-2023	60 days	4 days	✓	09-Aug-2023	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E641A	04-Aug-2023	08-Aug-2023	60 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E641A	04-Aug-2023	08-Aug-2023	60 days	4 days	✓	09-Aug-2023	40 days	1 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] 5619	E532	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] 6285	E532	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] Imported	E532	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] Surface	E532	04-Aug-2023	05-Aug-2023	30 days	1 days	✓	08-Aug-2023	7 days	3 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] 5619	E611D	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] 6285	E611D	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] Imported	E611D	04-Aug-2023	09-Aug-2023	14 days	5 days	✓	09-Aug-2023	40 days	0 days	✓

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Boron-Hot Water Extractable by ICPOES	E487	1073160	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1076532	1	20	5.0	5.0	✓
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	1077231	0	2	0.0	5.0	✗
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1073164	1	18	5.5	5.0	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1073159	1	20	5.0	5.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	1073156	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1073161	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1073162	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1077740	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1073163	1	18	5.5	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	1073157	1	20	5.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1073158	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1076530	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1073155	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Boron-Hot Water Extractable by ICPOES	E487	1073160	2	20	10.0	10.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1076532	1	20	5.0	5.0	✓
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	1077231	1	2	50.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1073164	1	18	5.5	5.0	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1073159	2	20	10.0	10.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	1073156	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1073161	2	20	10.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1073162	2	20	10.0	10.0	✓
Moisture Content by Gravimetry	E144	1077740	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1073163	1	18	5.5	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	1073157	1	20	5.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1073158	2	20	10.0	10.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1076530	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1073155	1	20	5.0	5.0	✓
Method Blanks (MB)							
Boron-Hot Water Extractable by ICPOES	E487	1073160	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1076532	1	20	5.0	5.0	✓
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	1077231	1	2	50.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1073164	1	18	5.5	5.0	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1073159	1	20	5.0	5.0	✓

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Hexavalent Chromium (Cr VI) by IC	E532	1073156	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1073161	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1073162	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1077740	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1073163	1	18	5.5	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1073158	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1076530	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1073155	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
CCME PHC - F1 by Headspace GC-FID	E581.F1	1076532	1	20	5.0	5.0	✓
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	1077231	0	2	0.0	5.0	×
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1073164	1	18	5.5	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1073163	1	18	5.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1076530	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1073155	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L ALS Environmental - Waterloo	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Conductance is measured in the fluid that is observed in the upper layer.
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3137A	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
WAD Cyanide (0.01M NaOH Extraction)	E336A ALS Environmental - Waterloo	Soil/Solid	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined after extraction by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C ALS Environmental - Waterloo	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 355 µm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484 ALS Environmental - Waterloo	Soil/Solid	SW846 6010C	A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Boron-Hot Water Extractable by ICPOES	E487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO_3 and HCl, followed by CVAAS analysis.
Hexavalent Chromium (Cr VI) by IC	E532 ALS Environmental - Waterloo	Soil/Solid	APHA 3500-CR C	Instrumental analysis is performed by ion chromatography with UV detection.
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	A portion of the silica gel treated sample extract is filtered and dried at 105°C and the mass of the residual gravimetric heavy hydrocarbons (F4G) is determined gravimetrically. Where both F4 and F4G are reported, the greater of both results must be used for comparison to CWS PHC F4 guidelines.
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs by Hex:Ace GC-MS	E641A ALS Environmental - Waterloo	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone and analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
F1-BTEX	EC580 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.
F2 to F3 minus PAH	EC600 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	F2-PAH = CCME Fraction 2 (C10-C16) minus Naphthalene F3-PAH = CCME Fraction 3 (C16-C34) minus select Polycyclic Aromatic Hydrocarbons (PAH) as per CCME Soil Tier 1

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Waterloo	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
Cyanide Extraction for CFA (0.01M NaOH)	EP333A ALS Environmental - Waterloo	Soil/Solid	ON MECP E3015 (mod)	Extraction for various cyanide analysis is by rotary extraction of the soil with 0.01M Sodium Hydroxide.
Digestion for Metals and Mercury (355 µm Sieve)	EP440C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2 (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
Boron-Hot Water Extractable	EP487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with weak calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011)
Preparation of Hexavalent Chromium (Cr VI) for IC	EP532 ALS Environmental - Waterloo	Soil/Solid	EPA 3060A	Field moist samples are digested with a sodium hydroxide/sodium carbonate solution as described in EPA 3060A.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Methanol Extraction for Headspace Analysis	EP581 ALS Environmental - Waterloo	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.

QUALITY CONTROL REPORT

Work Order	: **WT2324230**	Page	: 1 of 19
Client	: CEGP Consultants Ltd.	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	:	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Date Analysis Commenced	: 05-Aug-2023
C-O-C number	: 20-949685	Issue Date	: 17-Aug-2023 16:37
Sampler	: RK 647-987-1384		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 6		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Waterloo Organics, Waterloo, Ontario
Jon Fisher	Production Manager, Environmental	Waterloo Metals, Waterloo, Ontario
Niral Patel		Waterloo Centralized Prep, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1073157)											
WT2324123-002	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	7.13	7.17	0.559%	5%	----
Physical Tests (QC Lot: 1073159)											
WT2324123-001	Anonymous	Conductivity (1:2 leachate)	----	E100-L	5.00	µS/cm	0.227 mS/cm	231	1.75%	20%	----
Physical Tests (QC Lot: 1077740)											
TY2307622-001	Anonymous	Moisture	----	E144	0.25	%	5.18	5.13	1.10%	20%	----
Cyanides (QC Lot: 1073155)											
WT2324123-001	Anonymous	Cyanide, weak acid dissociable	----	E336A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Metals (QC Lot: 1073158)											
WT2324123-001	Anonymous	Calcium, soluble ion content	7440-70-2	E484	0.50	mg/L	16.9	17.5	3.49%	30%	----
		Magnesium, soluble ion content	7439-95-4	E484	0.50	mg/L	0.83	0.86	0.03	Diff <2x LOR	----
		Sodium, soluble ion content	17341-25-2	E484	0.50	mg/L	5.92	6.06	2.34%	30%	----
Metals (QC Lot: 1073160)											
WT2324123-001	Anonymous	Boron, hot water soluble	7440-42-8	E487	0.10	mg/kg	0.37	0.38	0.01	Diff <2x LOR	----
Metals (QC Lot: 1073161)											
WT2324123-001	Anonymous	Mercury	7439-97-6	E510C	0.0050	mg/kg	0.0332	0.0352	5.72%	40%	----
Metals (QC Lot: 1073162)											
WT2324123-001	Anonymous	Antimony	7440-36-0	E440C	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic	7440-38-2	E440C	0.10	mg/kg	2.53	2.55	0.921%	30%	----
		Barium	7440-39-3	E440C	0.50	mg/kg	68.8	71.9	4.31%	40%	----
		Beryllium	7440-41-7	E440C	0.10	mg/kg	0.39	0.41	0.01	Diff <2x LOR	----
		Boron	7440-42-8	E440C	5.0	mg/kg	6.4	6.3	0.2	Diff <2x LOR	----
		Cadmium	7440-43-9	E440C	0.020	mg/kg	0.200	0.193	3.14%	30%	----
		Chromium	7440-47-3	E440C	0.50	mg/kg	18.6	18.1	2.72%	30%	----
		Cobalt	7440-48-4	E440C	0.10	mg/kg	4.51	4.62	2.30%	30%	----
		Copper	7440-50-8	E440C	0.50	mg/kg	7.43	7.66	3.05%	30%	----
		Lead	7439-92-1	E440C	0.50	mg/kg	8.52	8.72	2.29%	40%	----
		Molybdenum	7439-98-7	E440C	0.10	mg/kg	0.51	0.48	0.03	Diff <2x LOR	----
		Nickel	7440-02-0	E440C	0.50	mg/kg	10.9	10.8	1.02%	30%	----
		Selenium	7782-49-2	E440C	0.20	mg/kg	0.25	0.25	0.002	Diff <2x LOR	----
		Silver	7440-22-4	E440C	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 1073162) - continued											
WT2324123-001	Anonymous	Thallium	7440-28-0	E440C	0.050	mg/kg	0.092	0.090	0.002	Diff <2x LOR	----
		Uranium	7440-61-1	E440C	0.050	mg/kg	0.501	0.531	5.83%	30%	----
		Vanadium	7440-62-2	E440C	0.20	mg/kg	31.0	30.8	0.939%	30%	----
		Zinc	7440-66-6	E440C	2.0	mg/kg	35.6	37.5	5.29%	30%	----
Speciated Metals (QC Lot: 1073156)											
WT2324123-002	Anonymous	Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1076530)											
WT2324069-001	Anonymous	Acetone	67-64-1	E611D	0.50	mg/kg	<0.50 µg/g	<0.50	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.0050	mg/kg	<0.0050 µg/g	<0.0050	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045 µg/g	<0.045	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015 µg/g	<0.015	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50 µg/g	<0.50	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50 µg/g	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1076530) - continued											
WT2324069-001	Anonymous	Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040 µg/g	<0.040	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.010	mg/kg	<0.010 µg/g	<0.010	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020 µg/g	<0.020	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1073164)											
WT2324123-001	Anonymous	F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10	<10	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG-L	50	mg/kg	<50	<50	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1076532)											
WT2324069-001	Anonymous	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0 µg/g	<5.0	0	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 1073163)											
WT2324123-001	Anonymous	Acenaphthene	83-32-9	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Acenaphthylene	208-96-8	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Anthracene	120-12-7	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Benz(a)anthracene	56-55-3	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Benzo(a)pyrene	50-32-8	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Benzo(b+j)fluoranthene	n/a	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Benzo(g,h,i)perylene	191-24-2	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Benzo(k)fluoranthene	207-08-9	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chrysene	218-01-9	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dibenz(a,h)anthracene	53-70-3	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Fluoranthene	206-44-0	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Fluorene	86-73-7	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Methylnaphthalene, 1-	90-12-0	E641A	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Polycyclic Aromatic Hydrocarbons (QC Lot: 1073163) - continued											
WT2324123-001	Anonymous	Methylnaphthalene, 2-	91-57-6	E641A	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		Naphthalene	91-20-3	E641A	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Phenanthrene	85-01-8	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Pyrene	129-00-0	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1073159)						
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	<5.00	----
Physical Tests (QCLot: 1077740)						
Moisture	----	E144	0.25	%	<0.25	----
Cyanides (QCLot: 1073155)						
Cyanide, weak acid dissociable	----	E336A	0.05	mg/kg	<0.050	----
Metals (QCLot: 1073158)						
Calcium, soluble ion content	7440-70-2	E484	0.5	mg/L	<0.50	----
Magnesium, soluble ion content	7439-95-4	E484	0.5	mg/L	<0.50	----
Sodium, soluble ion content	17341-25-2	E484	0.5	mg/L	<0.50	----
Metals (QCLot: 1073160)						
Boron, hot water soluble	7440-42-8	E487	0.1	mg/kg	<0.10	----
Metals (QCLot: 1073161)						
Mercury	7439-97-6	E510C	0.005	mg/kg	<0.0050	----
Metals (QCLot: 1073162)						
Antimony	7440-36-0	E440C	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440C	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440C	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440C	0.1	mg/kg	<0.10	----
Boron	7440-42-8	E440C	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440C	0.02	mg/kg	<0.020	----
Chromium	7440-47-3	E440C	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440C	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440C	0.5	mg/kg	<0.50	----
Lead	7439-92-1	E440C	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E440C	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440C	0.5	mg/kg	<0.50	----
Selenium	7782-49-2	E440C	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440C	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E440C	0.05	mg/kg	<0.050	----
Uranium	7440-61-1	E440C	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440C	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440C	2	mg/kg	<2.0	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Speciated Metals (QCLot: 1073156)						
Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.1	mg/kg	<0.10	----
Volatile Organic Compounds (QCLot: 1076530)						
Acetone	67-64-1	E611D	0.5	mg/kg	<0.50	----
Benzene	71-43-2	E611D	0.005	mg/kg	<0.0050	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	<0.050	----
Bromoform	75-25-2	E611D	0.05	mg/kg	<0.050	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	<0.050	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	<0.050	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	<0.050	----
Chloroform	67-66-3	E611D	0.05	mg/kg	<0.050	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	<0.050	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	<0.050	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	<0.050	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	<0.050	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	<0.050	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	<0.050	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	<0.030	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	<0.030	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	<0.050	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	<0.50	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	<0.040	----
Styrene	100-42-5	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	<0.050	----
Toluene	108-88-3	E611D	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1076530) - continued						
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	<0.050	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	<0.050	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	<0.010	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	<0.050	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	<0.020	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	<0.030	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	<0.030	----
Hydrocarbons (QCLot: 1073164)						
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	<50	----
Hydrocarbons (QCLot: 1076532)						
F1 (C6-C10)	----	E581.F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 1077231)						
F4G-sg	----	E601.F4G-L	250	mg/kg	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1073163)						
Acenaphthene	83-32-9	E641A	0.05	mg/kg	<0.050	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	<0.050	----
Anthracene	120-12-7	E641A	0.05	mg/kg	<0.050	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	<0.050	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	<0.050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	<0.050	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	<0.050	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	<0.050	----
Chrysene	218-01-9	E641A	0.05	mg/kg	<0.050	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	<0.050	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	<0.050	----
Fluorene	86-73-7	E641A	0.05	mg/kg	<0.050	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	<0.050	----
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	<0.030	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	<0.030	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	<0.010	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	<0.050	----
Pyrene	129-00-0	E641A	0.05	mg/kg	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1073157)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	99.4	98.0	102	----
Physical Tests (QCLot: 1073159)									
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	1409 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 1077740)									
Moisture	----	E144	0.25	%	50 %	99.4	90.0	110	----
Cyanides (QCLot: 1073155)									
Cyanide, weak acid dissociable	----	E336A	0.05	mg/kg	1.25 mg/kg	95.0	80.0	120	----
Metals (QCLot: 1073158)									
Calcium, soluble ion content	7440-70-2	E484	0.5	mg/L	300 mg/L	105	80.0	120	----
Magnesium, soluble ion content	7439-95-4	E484	0.5	mg/L	50 mg/L	102	80.0	120	----
Sodium, soluble ion content	17341-25-2	E484	0.5	mg/L	50 mg/L	103	80.0	120	----
Metals (QCLot: 1073160)									
Boron, hot water soluble	7440-42-8	E487	0.1	mg/kg	1.33333 mg/kg	105	70.0	130	----
Metals (QCLot: 1073161)									
Mercury	7439-97-6	E510C	0.005	mg/kg	0.1 mg/kg	100	80.0	120	----
Metals (QCLot: 1073162)									
Antimony	7440-36-0	E440C	0.1	mg/kg	100 mg/kg	100	80.0	120	----
Arsenic	7440-38-2	E440C	0.1	mg/kg	100 mg/kg	104	80.0	120	----
Barium	7440-39-3	E440C	0.5	mg/kg	25 mg/kg	98.4	80.0	120	----
Beryllium	7440-41-7	E440C	0.1	mg/kg	10 mg/kg	98.9	80.0	120	----
Boron	7440-42-8	E440C	5	mg/kg	100 mg/kg	93.7	80.0	120	----
Cadmium	7440-43-9	E440C	0.02	mg/kg	10 mg/kg	101	80.0	120	----
Chromium	7440-47-3	E440C	0.5	mg/kg	25 mg/kg	97.4	80.0	120	----
Cobalt	7440-48-4	E440C	0.1	mg/kg	25 mg/kg	100	80.0	120	----
Copper	7440-50-8	E440C	0.5	mg/kg	25 mg/kg	97.3	80.0	120	----
Lead	7439-92-1	E440C	0.5	mg/kg	50 mg/kg	102	80.0	120	----
Molybdenum	7439-98-7	E440C	0.1	mg/kg	25 mg/kg	99.4	80.0	120	----
Nickel	7440-02-0	E440C	0.5	mg/kg	50 mg/kg	99.5	80.0	120	----
Selenium	7782-49-2	E440C	0.2	mg/kg	100 mg/kg	96.7	80.0	120	----
Silver	7440-22-4	E440C	0.1	mg/kg	10 mg/kg	98.9	80.0	120	----
Thallium	7440-28-0	E440C	0.05	mg/kg	100 mg/kg	97.3	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1073162) - continued									
Uranium	7440-61-1	E440C	0.05	mg/kg	0.5 mg/kg	90.8	80.0	120	----
Vanadium	7440-62-2	E440C	0.2	mg/kg	50 mg/kg	103	80.0	120	----
Zinc	7440-66-6	E440C	2	mg/kg	50 mg/kg	96.6	80.0	120	----
Speciated Metals (QCLot: 1073156)									
Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.1	mg/kg	0.8 mg/kg	102	80.0	120	----
Volatile Organic Compounds (QCLot: 1076530)									
Acetone	67-64-1	E611D	0.5	mg/kg	3.475 mg/kg	104	60.0	140	----
Benzene	71-43-2	E611D	0.005	mg/kg	3.475 mg/kg	104	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	3.475 mg/kg	105	50.0	140	----
Bromoform	75-25-2	E611D	0.05	mg/kg	3.475 mg/kg	96.2	70.0	130	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	3.475 mg/kg	103	50.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	3.475 mg/kg	105	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	3.475 mg/kg	102	70.0	130	----
Chloroform	67-66-3	E611D	0.05	mg/kg	3.475 mg/kg	107	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	3.475 mg/kg	100	60.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	3.475 mg/kg	101	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	3.475 mg/kg	101	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	3.475 mg/kg	100	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	3.475 mg/kg	99.4	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	3.475 mg/kg	59.7	50.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	3.475 mg/kg	118	60.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	3.475 mg/kg	97.8	60.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	3.475 mg/kg	105	60.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	3.475 mg/kg	105	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	3.475 mg/kg	110	60.0	130	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	3.475 mg/kg	111	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	3.475 mg/kg	108	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	3.475 mg/kg	103	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	3.475 mg/kg	98.1	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	3.475 mg/kg	96.7	70.0	130	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	3.475 mg/kg	118	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	3.475 mg/kg	95.3	60.0	140	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	3.475 mg/kg	105	60.0	140	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	3.475 mg/kg	102	70.0	130	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Volatile Organic Compounds (QCLot: 1076530) - continued									
Styrene	100-42-5	E611D	0.05	mg/kg	3.475 mg/kg	99.4	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	3.475 mg/kg	103	60.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	3.475 mg/kg	111	60.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	3.475 mg/kg	98.4	60.0	130	----
Toluene	108-88-3	E611D	0.05	mg/kg	3.475 mg/kg	97.2	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	3.475 mg/kg	103	60.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	3.475 mg/kg	104	60.0	130	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	3.475 mg/kg	104	60.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	3.475 mg/kg	97.3	50.0	140	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	3.475 mg/kg	96.2	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	6.95 mg/kg	99.8	70.0	130	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	3.475 mg/kg	98.8	70.0	130	----
Hydrocarbons (QCLot: 1073164)									
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	656.4125 mg/kg	112	70.0	130	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	1332.613 mg/kg	110	70.0	130	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	761.4625 mg/kg	105	70.0	130	----
Hydrocarbons (QCLot: 1076532)									
F1 (C6-C10)	----	E581.F1	5	mg/kg	69.1875 mg/kg	89.5	80.0	120	----
Hydrocarbons (QCLot: 1077231)									
F4G-sg	----	E601.F4G-L	250	mg/kg	1298.6 mg/kg	93.0	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1073163)									
Acenaphthene	83-32-9	E641A	0.05	mg/kg	0.5 mg/kg	80.0	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	0.5 mg/kg	80.3	60.0	130	----
Anthracene	120-12-7	E641A	0.05	mg/kg	0.5 mg/kg	80.4	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	0.5 mg/kg	86.0	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	0.5 mg/kg	76.9	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	0.5 mg/kg	86.1	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	0.5 mg/kg	84.4	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	0.5 mg/kg	80.8	60.0	130	----
Chrysene	218-01-9	E641A	0.05	mg/kg	0.5 mg/kg	84.4	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	0.5 mg/kg	83.6	60.0	130	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	0.5 mg/kg	81.6	60.0	130	----
Fluorene	86-73-7	E641A	0.05	mg/kg	0.5 mg/kg	82.8	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	0.5 mg/kg	85.4	60.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1073163) - continued									
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	0.5 mg/kg	74.7	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	0.5 mg/kg	83.2	60.0	130	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	0.5 mg/kg	75.0	60.0	130	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	0.5 mg/kg	80.6	60.0	130	----
Pyrene	129-00-0	E641A	0.05	mg/kg	0.5 mg/kg	79.9	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Cyanides (QCLot: 1073155)										
WT2324123-001	Anonymous	Cyanide, weak acid dissociable	----	E336A	1.21 mg/kg	1.25 mg/kg	93.3	70.0	130	----
Volatile Organic Compounds (QCLot: 1076530)										
WT2324069-001	Anonymous	Acetone	67-64-1	E611D	2.51 mg/kg	3.125 mg/kg	124	50.0	140	----
		Benzene	71-43-2	E611D	2.23 mg/kg	3.125 mg/kg	110	50.0	140	----
		Bromodichloromethane	75-27-4	E611D	2.35 mg/kg	3.125 mg/kg	117	50.0	140	----
		Bromoform	75-25-2	E611D	2.15 mg/kg	3.125 mg/kg	106	50.0	140	----
		Bromomethane	74-83-9	E611D	2.54 mg/kg	3.125 mg/kg	126	50.0	140	----
		Carbon tetrachloride	56-23-5	E611D	2.18 mg/kg	3.125 mg/kg	108	50.0	140	----
		Chlorobenzene	108-90-7	E611D	2.19 mg/kg	3.125 mg/kg	109	50.0	140	----
		Chloroform	67-66-3	E611D	2.34 mg/kg	3.125 mg/kg	116	50.0	140	----
		Dibromochloromethane	124-48-1	E611D	2.17 mg/kg	3.125 mg/kg	107	50.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	2.33 mg/kg	3.125 mg/kg	115	50.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	2.14 mg/kg	3.125 mg/kg	106	50.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	2.09 mg/kg	3.125 mg/kg	104	50.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	2.08 mg/kg	3.125 mg/kg	103	50.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	2.07 mg/kg	3.125 mg/kg	102	50.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	2.63 mg/kg	3.125 mg/kg	130	50.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	2.24 mg/kg	3.125 mg/kg	111	50.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	2.33 mg/kg	3.125 mg/kg	115	50.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	2.36 mg/kg	3.125 mg/kg	117	50.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	2.41 mg/kg	3.125 mg/kg	120	50.0	140	----
		Dichloromethane	75-09-2	E611D	2.44 mg/kg	3.125 mg/kg	121	50.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	2.40 mg/kg	3.125 mg/kg	119	50.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	2.29 mg/kg	3.125 mg/kg	113	50.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	2.24 mg/kg	3.125 mg/kg	111	50.0	140	----
		Ethylbenzene	100-41-4	E611D	2.08 mg/kg	3.125 mg/kg	103	50.0	140	----
		Hexane, n-	110-54-3	E611D	2.68 mg/kg	3.125 mg/kg	133	50.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	2.43 mg/kg	3.125 mg/kg	120	50.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	2.50 mg/kg	3.125 mg/kg	124	50.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	2.13 mg/kg	3.125 mg/kg	106	50.0	140	----
		Styrene	100-42-5	E611D	2.07 mg/kg	3.125 mg/kg	102	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1076530) - continued										
WT2324069-001	Anonymous	Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	2.21 mg/kg	3.125 mg/kg	110	50.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	2.45 mg/kg	3.125 mg/kg	122	50.0	140	----
		Tetrachloroethylene	127-18-4	E611D	1.99 mg/kg	3.125 mg/kg	98.9	50.0	140	----
		Toluene	108-88-3	E611D	2.08 mg/kg	3.125 mg/kg	103	50.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	2.20 mg/kg	3.125 mg/kg	109	50.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	2.33 mg/kg	3.125 mg/kg	116	50.0	140	----
		Trichloroethylene	79-01-6	E611D	2.20 mg/kg	3.125 mg/kg	109	50.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	2.21 mg/kg	3.125 mg/kg	109	50.0	140	----
		Vinyl chloride	75-01-4	E611D	2.27 mg/kg	3.125 mg/kg	113	50.0	140	----
		Xylene, m+p-	179601-23-1	E611D	4.28 mg/kg	6.25 mg/kg	106	50.0	140	----
		Xylene, o-	95-47-6	E611D	2.14 mg/kg	3.125 mg/kg	106	50.0	140	----
Hydrocarbons (QCLot: 1073164)										
WT2324123-001	Anonymous	F2 (C10-C16)	----	E601.SG-L	526 mg/kg	656.4125 mg/kg	107	60.0	140	----
		F3 (C16-C34)	----	E601.SG-L	1050 mg/kg	1332.613 mg/kg	105	60.0	140	----
		F4 (C34-C50)	----	E601.SG-L	576 mg/kg	761.4625 mg/kg	101	60.0	140	----
Hydrocarbons (QCLot: 1076532)										
WT2324069-001	Anonymous	F1 (C6-C10)	----	E581.F1	39.8 mg/kg	62.5 mg/kg	98.7	60.0	140	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1073163)										
WT2324123-001	Anonymous	Acenaphthene	83-32-9	E641A	0.297 mg/kg	0.5 mg/kg	81.2	50.0	140	----
		Acenaphthylene	208-96-8	E641A	0.299 mg/kg	0.5 mg/kg	81.9	50.0	140	----
		Anthracene	120-12-7	E641A	0.305 mg/kg	0.5 mg/kg	83.4	50.0	140	----
		Benz(a)anthracene	56-55-3	E641A	0.318 mg/kg	0.5 mg/kg	87.0	50.0	140	----
		Benzo(a)pyrene	50-32-8	E641A	0.288 mg/kg	0.5 mg/kg	78.7	50.0	140	----
		Benzo(b+j)fluoranthene	n/a	E641A	0.312 mg/kg	0.5 mg/kg	85.5	50.0	140	----
		Benzo(g,h,i)perylene	191-24-2	E641A	0.311 mg/kg	0.5 mg/kg	85.0	50.0	140	----
		Benzo(k)fluoranthene	207-08-9	E641A	0.306 mg/kg	0.5 mg/kg	83.9	50.0	140	----
		Chrysene	218-01-9	E641A	0.300 mg/kg	0.5 mg/kg	82.2	50.0	140	----
		Dibenz(a,h)anthracene	53-70-3	E641A	0.308 mg/kg	0.5 mg/kg	84.3	50.0	140	----
		Fluoranthene	206-44-0	E641A	0.299 mg/kg	0.5 mg/kg	81.8	50.0	140	----
		Fluorene	86-73-7	E641A	0.305 mg/kg	0.5 mg/kg	83.5	50.0	140	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.324 mg/kg	0.5 mg/kg	88.6	50.0	140	----
		Methylnaphthalene, 1-	90-12-0	E641A	0.285 mg/kg	0.5 mg/kg	78.0	50.0	140	----
		Methylnaphthalene, 2-	91-57-6	E641A	0.320 mg/kg	0.5 mg/kg	87.6	50.0	140	----
		Naphthalene	91-20-3	E641A	0.297 mg/kg	0.5 mg/kg	81.2	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1073163) - continued										
WT2324123-001	Anonymous	Phenanthrene	85-01-8	E641A	0.300 mg/kg	0.5 mg/kg	82.1	50.0	140	----
		Pyrene	129-00-0	E641A	0.293 mg/kg	0.5 mg/kg	80.3	50.0	140	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

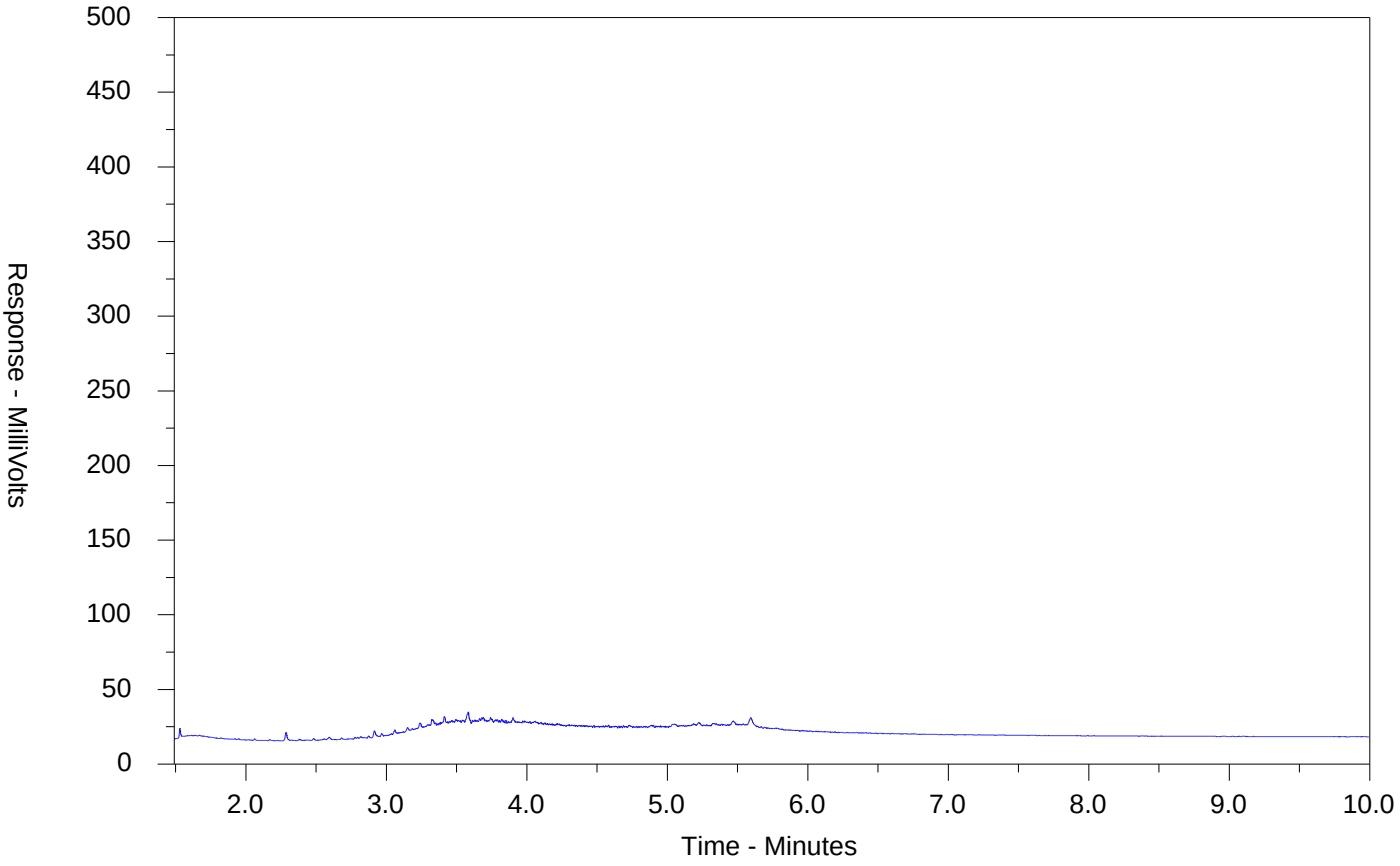
					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (QCLot: 1073159)									
	RM	Conductivity (1:2 leachate)	----	E100-L	1725.6 µS/cm	106	70.0	130	----
Metals (QCLot: 1073158)									
	RM	Calcium, soluble ion content	7440-70-2	E484	78.94 mg/L	108	70.0	130	----
	RM	Magnesium, soluble ion content	7439-95-4	E484	24.16 mg/L	109	70.0	130	----
	RM	Sodium, soluble ion content	17341-25-2	E484	72.46 mg/L	104	70.0	130	----
Metals (QCLot: 1073160)									
	RM	Boron, hot water soluble	7440-42-8	E487	1.6542 mg/kg	109	60.0	140	----
Metals (QCLot: 1073161)									
	RM	Mercury	7439-97-6	E510C	0.0585 mg/kg	103	70.0	130	----
Metals (QCLot: 1073162)									
	RM	Antimony	7440-36-0	E440C	3.99 mg/kg	105	70.0	130	----
	RM	Arsenic	7440-38-2	E440C	3.73 mg/kg	99.6	70.0	130	----
	RM	Barium	7440-39-3	E440C	105 mg/kg	106	70.0	130	----
	RM	Beryllium	7440-41-7	E440C	0.349 mg/kg	104	70.0	130	----
	RM	Boron	7440-42-8	E440C	8.5 mg/kg	106	70.0	130	----
	RM	Cadmium	7440-43-9	E440C	0.91 mg/kg	98.1	70.0	130	----
	RM	Chromium	7440-47-3	E440C	101 mg/kg	97.7	70.0	130	----
	RM	Cobalt	7440-48-4	E440C	6.9 mg/kg	102	70.0	130	----
	RM	Copper	7440-50-8	E440C	123 mg/kg	101	70.0	130	----
	RM	Lead	7439-92-1	E440C	267 mg/kg	105	70.0	130	----
	RM	Molybdenum	7439-98-7	E440C	1.03 mg/kg	102	70.0	130	----
	RM	Nickel	7440-02-0	E440C	26.7 mg/kg	105	70.0	130	----
	RM	Silver	7440-22-4	E440C	4.06 mg/kg	93.4	70.0	130	----
	RM	Thallium	7440-28-0	E440C	0.0786 mg/kg	115	70.0	130	----
	RM	Uranium	7440-61-1	E440C	0.52 mg/kg	94.2	70.0	130	----
	RM	Vanadium	7440-62-2	E440C	32.7 mg/kg	101	70.0	130	----
	RM	Zinc	7440-66-6	E440C	297 mg/kg	97.3	70.0	130	----
Speciated Metals (QCLot: 1073156)									

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Speciated Metals (QCLot: 1073156) - continued									
	RM	Chromium, hexavalent [Cr VI]	18540-29-9	E532	172 mg/kg	97.0	70.0	130	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2324230-001-E601.SG-L
Client Sample ID: 5619



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

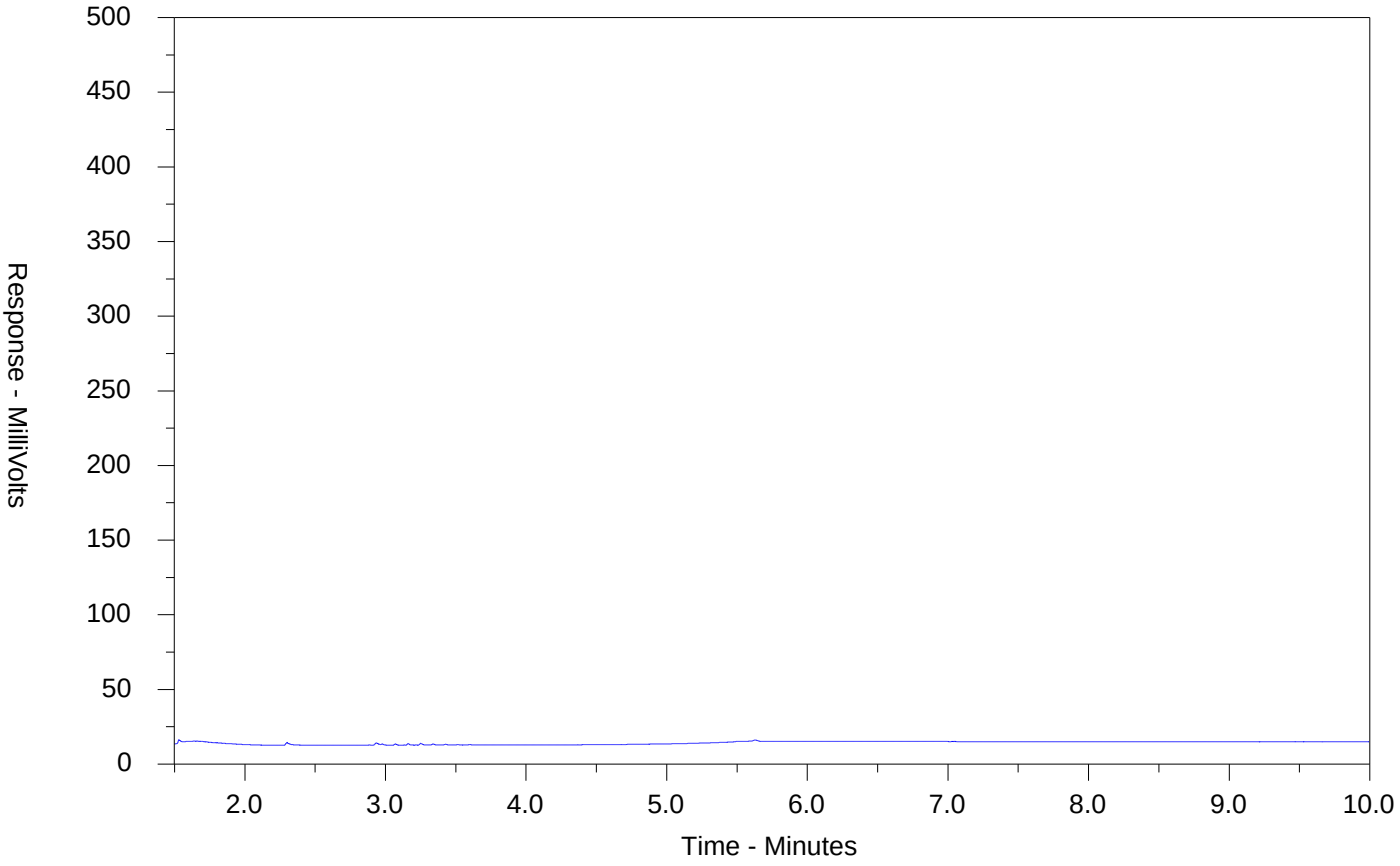
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2324230-002-E601.SG-L
Client Sample ID: Imported



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

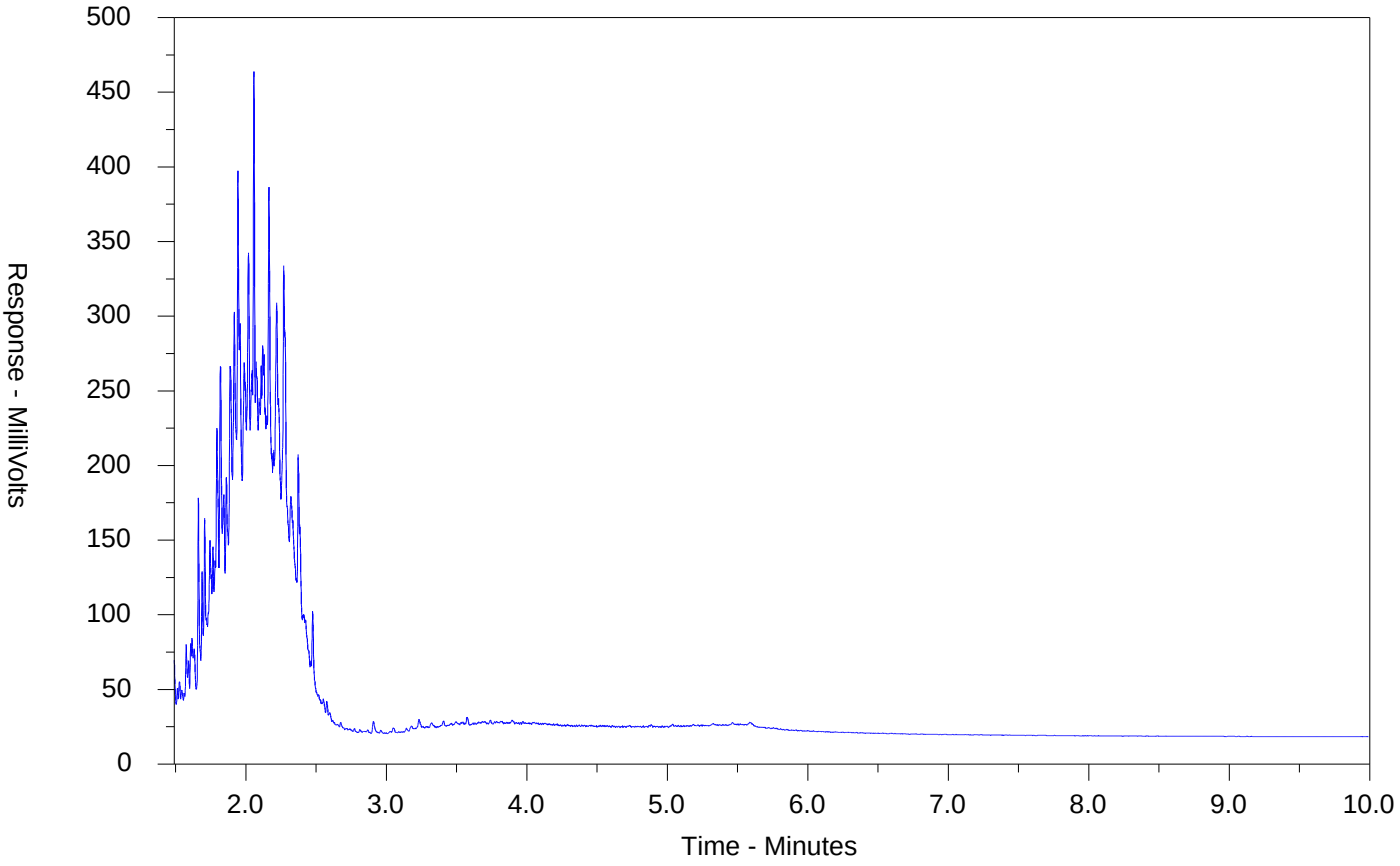
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2324230-003-E601.SG-L
Client Sample ID: 6285



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

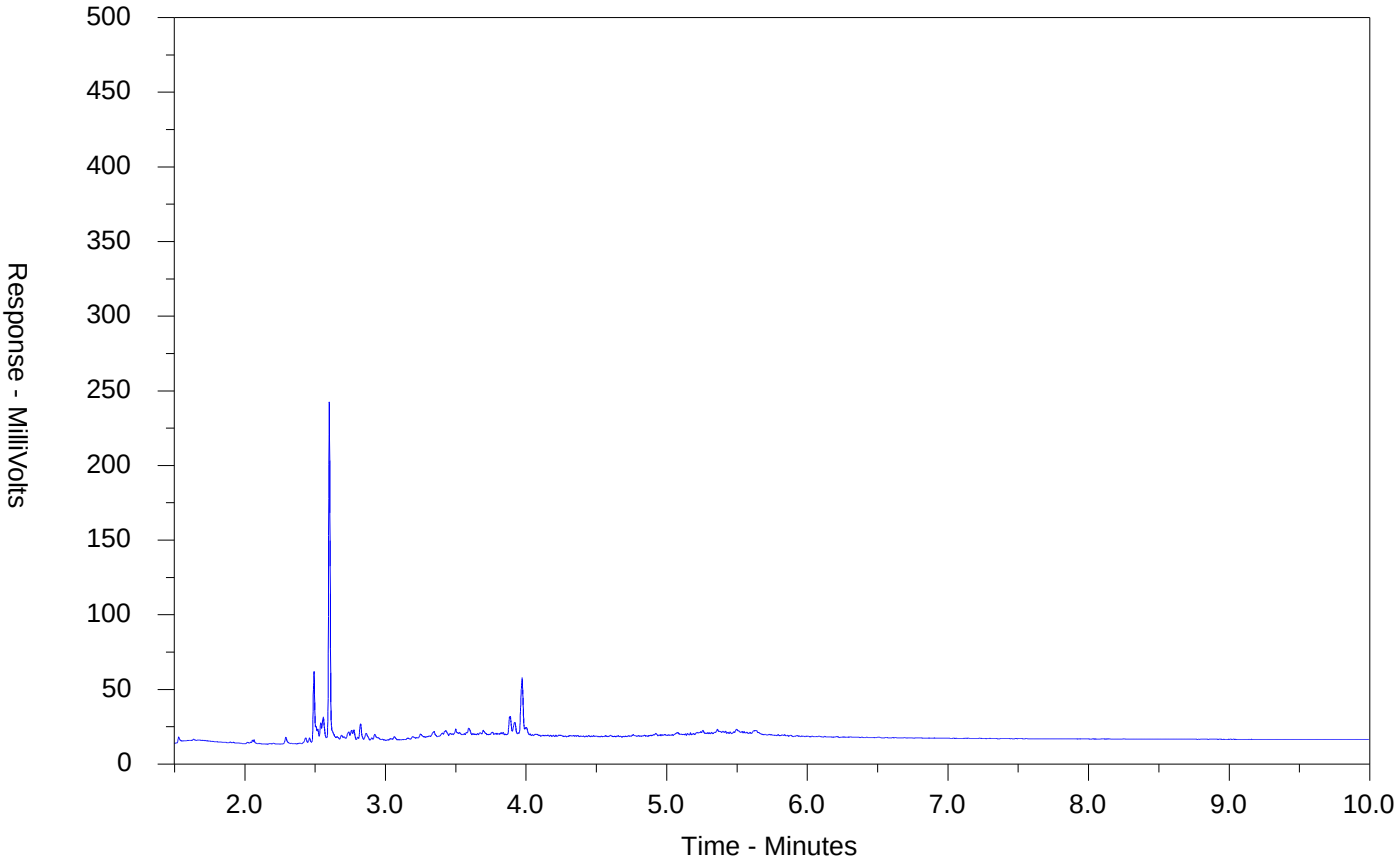
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2324230-006-E601.SG-L
Client Sample ID: Surface



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 949685

Page 1 of 1

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Environmental Division Waterloo
Work Order Reference
WT2324230

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	CEGP Consultants Ltd
Contact:	Rakesh
Phone:	647 987 1384
	Company address below will appear on the final report
Street:	29 Larkspur Dr
City/Province:	Markham
Postal Code:	L6B0N1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☑ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	rakesh@cegp.ca
Email 2	
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	rakesh@cegp.ca
Email 2	

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additic may apply to rush requests on weekends, statutory holidays and non-rout
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please co

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	CEGP 5619	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):		ALS Contact: Emily Smith	Sampler: RK

Analysis Req

Indicate Filtered (F), Preserved (P) or Filtered and

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX/VOC	PAH	M&I Metals											SAMPLES ON HOLD	EXTENDED STORAGE REQ	SUSPECTED HAZARD (sea
	5619	4/8/23	900	Soil	4	✓	✓	✓													
	Imported	4/8/23	952	Soil	4	✓	✓	✓													
	6285		1040	Soil	4	✓	✓	✓													
	BH5 SS1A		1045	Soil	1				✓			HOLD									
	TP4A		1052	Soil	1				✓			HOLD									
	Surface		1056	Soil	4	✓	✓	✓													

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	OReg 153/04 Table 3 RPI
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☑ ICE PACKS ☐ FROZEN ☑ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
13-8	2.5

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Rakesh	Date: 4/8/23	Time: 1342	Received by: AM	Date: 08/04/2023	Time: 13:40	Received by: TL	Date: AUG 4/23	Time: 18:35

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

SOL- 856

CM VS- 301

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **WT2324233**	Page	: 1 of 4
Client	: **CEGP Consultants Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: 647-987-1384	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Date Analysis Commenced	: 09-Aug-2023
C-O-C number	: 20-949686	Issue Date	: 14-Aug-2023 23:48
Sampler	: Client		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Organics, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Inorganics, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	VOC, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
µg/L	micrograms per litre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: **Soil/Solid**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: X	----	----	----	----
					Client sampling date / time: 04-Aug-2023 10:50	----	----	----	----
					WT2324233-001	--------	--------	--------	--------
					Result	----	----	----	----
TCLP Extractables									
Aroclor 1016, TCLP	12674-11-2	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1221, TCLP	11104-28-2	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1232, TCLP	11141-16-5	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1242, TCLP	53469-21-9	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1248, TCLP	12672-29-6	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1254, TCLP	11097-69-1	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1260, TCLP	11096-82-5	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1262, TCLP	37324-23-5	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Aroclor 1268, TCLP	11100-14-4	E688A/WT	0.00020	mg/L	<0.00020	----	----	----	----
Benzo(a)pyrene, TCLP	50-32-8	E644/WT	0.00050	mg/L	<0.00050	----	----	----	----
Decachlorobiphenyl, TCLP	2051-24-3	E688A/WT	0.1	%	74.9	----	----	----	----
Tetrachloro-m-xylene, TCLP	877-09-8	E688A/WT	0.1	%	90.8	----	----	----	----
TCLP Extractables Surrogates									
Chrysene-d12, TCLP	1719-03-5	E644/WT	5.0	%	84.0	----	----	----	----
Naphthalene-d8, TCLP	1146-65-2	E644/WT	5.0	%	97.4	----	----	----	----
Phenanthrene-d10, TCLP	1517-22-2	E644/WT	5.0	%	76.4	----	----	----	----
TCLP Metals									
Arsenic, TCLP	7440-38-2	E444/WT	1.0	mg/L	<1.0	----	----	----	----
pH, TCLP 1st preliminary	----	EPP444/WT	0.010	pH units	8.88	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/WT	0.010	pH units	2.18	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/WT	0.010	pH units	4.90	----	----	----	----
pH, TCLP final	----	EPP444/WT	0.010	pH units	5.79	----	----	----	----
Barium, TCLP	7440-39-3	E444/WT	2.5	mg/L	<2.5	----	----	----	----
Boron, TCLP	7440-42-8	E444/WT	0.50	mg/L	<0.50	----	----	----	----
Cadmium, TCLP	7440-43-9	E444/WT	0.050	mg/L	<0.050	----	----	----	----
Chromium, TCLP	7440-47-3	E444/WT	0.25	mg/L	<0.25	----	----	----	----
Lead, TCLP	7439-92-1	E444/WT	0.25	mg/L	<0.25	----	----	----	----
Selenium, TCLP	7782-49-2	E444/WT	0.10	mg/L	<0.10	----	----	----	----
Silver, TCLP	7440-22-4	E444/WT	0.050	mg/L	<0.050	----	----	----	----

Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)									
				Client sample ID	X	----	----	----	----
				Client sampling date / time	04-Aug-2023 10:50	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2324233-001	--------	--------	--------	--------
					Result	----	----	----	----
TCLP Metals									
Uranium, TCLP	7440-61-1	E444/WT	0.20	mg/L	<0.20	----	----	----	----
Mercury, TCLP	7439-97-6	E512/WT	0.0010	mg/L	<0.0010	----	----	----	----
TCLP VOCs									
Benzene, TCLP	71-43-2	E615B/WT	0.0050	mg/L	<0.0050	----	----	----	----
Carbon tetrachloride, TCLP	56-23-5	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Chlorobenzene, TCLP	108-90-7	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Chloroform, TCLP	67-66-3	E615B/WT	0.10	mg/L	<0.10	----	----	----	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Dichloromethane, TCLP	75-09-2	E615B/WT	0.10	mg/L	<0.10	----	----	----	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B/WT	0.10	mg/L	<0.10	----	----	----	----
Tetrachloroethylene, TCLP	127-18-4	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Trichloroethylene, TCLP	79-01-6	E615B/WT	0.025	mg/L	<0.025	----	----	----	----
Vinyl chloride, TCLP	75-01-4	E615B/WT	0.050	mg/L	<0.050	----	----	----	----
TCLP VOCs Surrogates									
Bromofluorobenzene, 4-, TCLP	460-00-4	E615B/WT	1.0	%	96.7	----	----	----	----
Difluorobenzene, 1,4-, TCLP	540-36-3	E615B/WT	1.0	%	104	----	----	----	----
Polychlorinated Biphenyls									
Polychlorinated biphenyls [PCBs], total, TCLP	----	E688A/WT	0.00060	mg/L	<0.00060	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2324233**	Page	: 1 of 7
Client	: **CEGP Consultants Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 647-987-1384	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Issue Date	: 14-Aug-2023 23:48
C-O-C number	: 20-949686		
Sampler	: Client		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polychlorinated Biphenyls : PCB Aroclors by GC-MS (TCLP)										
Amber glass/Teflon lined cap [ON MECP]										
X	E688A	09-Aug-2023	10-Aug-2023	19 days	6 days	✓	11-Aug-2023	19 days	7 days	✓
TCLP Extractables : PAHs by GC-MS (TCLP)										
Amber glass/Teflon lined cap (sodium bisulfate)										
X	E644	09-Aug-2023	10-Aug-2023	19 days	6 days	✓	11-Aug-2023	40 days	1 days	✓
TCLP Extractables : PCB Aroclors by GC-MS (TCLP)										
Amber glass/Teflon lined cap [ON MECP]										
X	E688A	09-Aug-2023	10-Aug-2023	19 days	6 days	✓	11-Aug-2023	19 days	7 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
X	E512	09-Aug-2023	10-Aug-2023	33 days	6 days	✓	10-Aug-2023	33 days	6 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
X	E444	09-Aug-2023	10-Aug-2023	185 days	6 days	✓	10-Aug-2023	185 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN, SVOC, NOx)										
X	EPP444	04-Aug-2023	09-Aug-2023	----	----		----	14 days	5 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate)										
X	E615B	11-Aug-2023	12-Aug-2023	21 days	8 days	✓	12-Aug-2023	21 days	8 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Mercury by CVAAS (TCLP)	E512	1078603	1	18	5.5	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1078382	1	17	5.8	5.0	✓
PAHs by GC-MS (TCLP)	E644	1078360	1	2	50.0	5.0	✓
PCB Aroclors by GC-MS (TCLP)	E688A	1079339	1	6	16.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1082678	0	6	0.0	5.0	✗
Laboratory Control Samples (LCS)							
Mercury by CVAAS (TCLP)	E512	1078603	1	18	5.5	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1078382	1	17	5.8	5.0	✓
PAHs by GC-MS (TCLP)	E644	1078360	1	2	50.0	5.0	✓
PCB Aroclors by GC-MS (TCLP)	E688A	1079339	1	6	16.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1082678	1	6	16.6	5.0	✓
Method Blanks (MB)							
Mercury by CVAAS (TCLP)	E512	1078603	1	18	5.5	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1078382	1	17	5.8	5.0	✓
PAHs by GC-MS (TCLP)	E644	1078360	1	2	50.0	5.0	✓
PCB Aroclors by GC-MS (TCLP)	E688A	1079339	1	6	16.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1082678	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
Mercury by CVAAS (TCLP)	E512	1078603	1	18	5.5	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1078382	1	17	5.8	5.0	✓
PAHs by GC-MS (TCLP)	E644	1078360	1	2	50.0	5.0	✓
PCB Aroclors by GC-MS (TCLP)	E688A	1079339	1	6	16.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1082678	1	6	16.6	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Waterloo	Soil/Solid	SW 846 -1311/245.1 CVAA ON TCLP LEACHATE	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
VOCs by Headspace GC-MS (TCLP)	E615B ALS Environmental - Waterloo	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by GC-MS (TCLP)	E644 ALS Environmental - Waterloo	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by GC-MS.
PCB Aroclors by GC-MS (TCLP)	E688A ALS Environmental - Waterloo	Soil/Solid	EPA 8270E (mod)	PCB Aroclors are analyzed by GC-MS

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis (TCLP)	EP582 ALS Environmental - Waterloo	Soil/Solid	EPA 5021A (mod)	Liquid obtained after the TCLP process is prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PHCs and PAHs Extraction (TCLP)	EP602 ALS Environmental - Waterloo	Soil/Solid	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Pesticides, PCB, and Neutral Extractable Chlorinated Hydrocarbons Extraction (TCLP)	EP661 ALS Environmental - Waterloo	Soil/Solid	EPA 3511 (mod)	Samples are extracted from aqueous sample using an organic solvent liquid-liquid extraction.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TCLP Leachate Preparation (VOCs)	EPP582 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	An extract produced by the Toxicity Characteristic Leaching Procedure (TCLP) as per EPA 1311.

QUALITY CONTROL REPORT

Work Order	: **WT2324233**	Page	: 1 of 9
Client	: CEGP Consultants Ltd.	Laboratory	: ALS Environmental - Waterloo
Contact	: Rakesh Koneru	Account Manager	: Emily Smith
Address	: 29 Larkspur Drive Markham ON Canada L6B 0N1	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	:	Telephone	: +1 519 886 6910
Project	: CEGP 5619	Date Samples Received	: 04-Aug-2023 13:40
PO	: ----	Date Analysis Commenced	: 09-Aug-2023
C-O-C number	: 20-949686	Issue Date	: 14-Aug-2023 23:48
Sampler	: Client 647-987-1384		
Site	: ----		
Quote number	: 2022 Price List		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Waterloo Organics, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Waterloo Inorganics, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
TCLP Extractables (QC Lot: 1078360)											
WT2324233-001	X	Benzo(a)pyrene, TCLP	50-32-8	E644	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
TCLP Extractables (QC Lot: 1079339)											
WT2323984-001	Anonymous	Aroclor 1016, TCLP	12674-11-2	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1221, TCLP	11104-28-2	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1232, TCLP	11141-16-5	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1242, TCLP	53469-21-9	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1248, TCLP	12672-29-6	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1254, TCLP	11097-69-1	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1260, TCLP	11096-82-5	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1262, TCLP	37324-23-5	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Aroclor 1268, TCLP	11100-14-4	E688A	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1078382)											
WT2324138-012	Anonymous	Arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	0	Diff <2x LOR	----
		Boron, TCLP	7440-42-8	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Lead, TCLP	7439-92-1	E444	0.25	mg/L	2.09	2.30	9.24%	50%	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1078603)											
WT2324138-012	Anonymous	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Extractables (QCLot: 1078360)						
Benzo(a)pyrene, TCLP	50-32-8	E644	0.5	µg/L	<0.50	----
TCLP Extractables (QCLot: 1079339)						
Aroclor 1016, TCLP	12674-11-2	E688A	0.2	µg/L	<0.20	----
Aroclor 1221, TCLP	11104-28-2	E688A	0.2	µg/L	<0.20	----
Aroclor 1232, TCLP	11141-16-5	E688A	0.2	µg/L	<0.20	----
Aroclor 1242, TCLP	53469-21-9	E688A	0.2	µg/L	<0.20	----
Aroclor 1248, TCLP	12672-29-6	E688A	0.2	µg/L	<0.20	----
Aroclor 1254, TCLP	11097-69-1	E688A	0.2	µg/L	<0.20	----
Aroclor 1260, TCLP	11096-82-5	E688A	0.2	µg/L	<0.20	----
Aroclor 1262, TCLP	37324-23-5	E688A	0.2	µg/L	<0.20	----
Aroclor 1268, TCLP	11100-14-4	E688A	0.2	µg/L	<0.20	----
TCLP Metals (QCLot: 1078382)						
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
TCLP Metals (QCLot: 1078603)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP VOCs (QCLot: 1082678)						
Benzene, TCLP	71-43-2	E615B	5	µg/L	<5.0	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<25	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<25	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	<100	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<25	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<25	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<25	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP VOCs (QCLot: 1082678) - continued						
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<25	----
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<100	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<100	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	<25	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<25	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<50	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
TCLP Extractables (QCLot: 1078360)									
Benzo(a)pyrene, TCLP	50-32-8	E644	0.5	µg/L	0.5263 µg/L	94.5	60.0	140	----
TCLP Extractables (QCLot: 1079339)									
Aroclor 1016, TCLP	12674-11-2	E688A	0.2	µg/L	0.2 µg/L	112	65.0	130	----
Aroclor 1221, TCLP	11104-28-2	E688A	0.2	µg/L	0.2 µg/L	112	65.0	130	----
Aroclor 1232, TCLP	11141-16-5	E688A	0.2	µg/L	0.2 µg/L	112	65.0	130	----
Aroclor 1242, TCLP	53469-21-9	E688A	0.2	µg/L	0.2 µg/L	112	65.0	130	----
Aroclor 1248, TCLP	12672-29-6	E688A	0.2	µg/L	0.2 µg/L	85.4	65.0	130	----
Aroclor 1254, TCLP	11097-69-1	E688A	0.2	µg/L	0.2 µg/L	81.8	65.0	130	----
Aroclor 1260, TCLP	11096-82-5	E688A	0.2	µg/L	0.2 µg/L	65.1	65.0	130	----
Aroclor 1262, TCLP	37324-23-5	E688A	0.2	µg/L	0.2 µg/L	65.1	65.0	130	----
Aroclor 1268, TCLP	11100-14-4	E688A	0.2	µg/L	0.2 µg/L	65.1	65.0	130	----
TCLP Metals (QCLot: 1078382)									
Arsenic, TCLP	7440-38-2	E444	1	mg/L	0.05 mg/L	109	70.0	130	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	0.0125 mg/L	110	70.0	130	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	0.05 mg/L	105	70.0	130	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	0.005 mg/L	104	70.0	130	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	0.0125 mg/L	105	70.0	130	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.025 mg/L	105	70.0	130	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	0.05 mg/L	102	70.0	130	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	0.005 mg/L	108	70.0	130	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	0.00025 mg/L	105	70.0	130	----
TCLP Metals (QCLot: 1078603)									
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	0.0001 mg/L	102	70.0	130	----
TCLP VOCs (QCLot: 1082678)									
Benzene, TCLP	71-43-2	E615B	5	µg/L	250 µg/L	92.7	70.0	130	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	250 µg/L	92.4	60.0	140	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	250 µg/L	94.0	70.0	130	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	250 µg/L	93.8	70.0	130	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	250 µg/L	91.5	70.0	130	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	250 µg/L	89.5	70.0	130	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	250 µg/L	101	70.0	130	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
TCLP VOCs (QCLot: 1082678) - continued									
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	250 µg/L	94.6	70.0	130	----
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	250 µg/L	92.3	70.0	130	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	250 µg/L	97.9	50.0	150	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	250 µg/L	90.3	70.0	130	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	250 µg/L	94.0	70.0	130	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	250 µg/L	88.4	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Extractables (QCLot: 1078360)										
WT2324233-001	X	Benzo(a)pyrene, TCLP	50-32-8	E644	0.53 µg/L	0.5263 µg/L	101	50.0	140	----
TCLP Extractables (QCLot: 1079339)										
WT2323984-001	Anonymous	Aroclor 1016, TCLP	12674-11-2	E688A	0.21 µg/L	0.2 µg/L	107	50.0	150	----
		Aroclor 1221, TCLP	11104-28-2	E688A	0.21 µg/L	0.2 µg/L	107	50.0	150	----
		Aroclor 1232, TCLP	11141-16-5	E688A	0.21 µg/L	0.2 µg/L	107	50.0	150	----
		Aroclor 1242, TCLP	53469-21-9	E688A	0.21 µg/L	0.2 µg/L	105	50.0	150	----
		Aroclor 1248, TCLP	12672-29-6	E688A	0.21 µg/L	0.2 µg/L	107	50.0	150	----
		Aroclor 1254, TCLP	11097-69-1	E688A	0.18 µg/L	0.2 µg/L	89.9	50.0	150	----
		Aroclor 1260, TCLP	11096-82-5	E688A	0.20 µg/L	0.2 µg/L	102	50.0	150	----
		Aroclor 1262, TCLP	37324-23-5	E688A	0.20 µg/L	0.2 µg/L	103	50.0	150	----
		Aroclor 1268, TCLP	11100-14-4	E688A	0.20 µg/L	0.2 µg/L	103	50.0	150	----
TCLP Metals (QCLot: 1078382)										
WT2324138-012	Anonymous	Arsenic, TCLP	7440-38-2	E444	5.4 mg/L	5 mg/L	109	50.0	140	----
		Barium, TCLP	7440-39-3	E444	12.9 mg/L	12.5 mg/L	103	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.53 mg/L	10 mg/L	95.3	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.253 mg/L	0.25 mg/L	101	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.32 mg/L	1.25 mg/L	106	50.0	140	----
		Lead, TCLP	7439-92-1	E444	10.1 mg/L	10 mg/L	101	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	5.15 mg/L	5 mg/L	103	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.095 mg/L	0.1 mg/L	95.0	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.21 mg/L	5 mg/L	104	50.0	140	----
TCLP Metals (QCLot: 1078603)										
WT2324138-012	Anonymous	Mercury, TCLP	7439-97-6	E512	0.0030 mg/L	0.003 mg/L	99.9	50.0	140	----
TCLP VOCs (QCLot: 1082678)										
WT2324233-001	X	Benzene, TCLP	71-43-2	E615B	241 µg/L	250 µg/L	96.4	50.0	140	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	221 µg/L	250 µg/L	88.3	50.0	140	----
		Chlorobenzene, TCLP	108-90-7	E615B	246 µg/L	250 µg/L	98.2	50.0	140	----
		Chloroform, TCLP	67-66-3	E615B	250 µg/L	250 µg/L	99.8	50.0	140	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	237 µg/L	250 µg/L	94.7	50.0	140	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	224 µg/L	250 µg/L	89.5	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP VOCs (QCLot: 1082678) - continued										
WT2324233-001	X	Dichloroethane, 1,2-, TCLP	107-06-2	E615B	288 µg/L	250 µg/L	115	50.0	140	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	228 µg/L	250 µg/L	91.2	50.0	140	----
		Dichloromethane, TCLP	75-09-2	E615B	250 µg/L	250 µg/L	99.8	50.0	140	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	300 µg/L	250 µg/L	120	50.0	140	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	211 µg/L	250 µg/L	84.4	50.0	140	----
		Trichloroethylene, TCLP	79-01-6	E615B	234 µg/L	250 µg/L	93.8	50.0	140	----
		Vinyl chloride, TCLP	75-01-4	E615B	211 µg/L	250 µg/L	84.4	50.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 949686

Canada Toll Free: 1 800 668 9878

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Environmental Division Waterloo
Work Order Reference
WT2324233

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	CEGP Consultants Ltd
Contact:	Rakesh
Phone:	647 987 1384
	Company address below will appear on the final report
Street:	29 Larkspur Dr
City/Province:	Markham
Postal Code:	L6B 0N1
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A
☑ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: rakesh@cegp.ca
Email 2:
Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: rakesh@cegp.ca
Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Addition may apply to rush requests on weekends, statutory holidays and non-routir

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please con

Project Information

Account # / Quote #: CEGP 5019
AFE:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#:
Major/Minor Code: Routing Code:
Requisitioner:
Location:

Lab Work Order # (ALS use only):

ALS Contact: Emily Smith Sampler: RK

Analysis Requ

Indicate Filtered (F), Preserved (P) or Filtered and P

Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	TCLP VOC	TCLP Metals	TCLP BAP	TCLP PCB	SAMPLES ON HOLD	EXTENDED STORAGE REQ	SUSPECTED HAZARD (see
	X	4/8/23	1050	Soil	3	✓	✓	✓	✓			

Drinking Water (DW) Samples[1] (client use)

Samples taken from a Regulated DW System? ☐ YES ☐ NO
Samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

OReg 347

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☐ ICE PACKS ☐ FROZEN ☑ COOLING INITIATED
Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO
Cooler Custody Seals Intact: ☑ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
13.8				2.5			

SHIPMENT RELEASE (client use)

Released by: Rakesh Date: 4/8/23 Time: 1242

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: AM Date: 08/04/2023 Time: 13:40

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: TC Date: Aug 4/23 Time: 18:37

CM T-668