
CERTIFICATE OF ANALYSIS

Work Order	: WP2517039	Laboratory	: ALS Environmental - Winnipeg
Client	: AECOM Canada ULC	Account Manager	: Judy Dalmajjer
Contact	: Jen Murray	Address	: 1329 Niakwa Road East, Unit 12
Address	: 99 Commerce Drive Winnipeg Manitoba Canada R3P 0Y7		: Winnipeg MB Canada R2J 3T4
Telephone	: 204 477 5381	E-mail	: Judy.Dalmajjer@ALSGlobal.com
Project	: 60705950-104	Telephone	: +1 204 255 9720
PO	: ----	Date Samples Received	: 01-Oct-2025 16:46
C-O-C number	: ----	Date Analysis Commenced	: 06-Oct-2025
Sampler	: ----	Issue Date	: 08-Oct-2025 14:00
Site	: ----		
Quote number	: 2025 Standing offer		
No. of samples received	: 3		
No. of samples analysed	: 3		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Inorganics, 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
mg/L	milligrams per litre
pH units	pH units
µg/L	micrograms per litre

<: 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)

					Client sample ID	SP25-1	SP25-3A	SP25-3B	----	----
					Client sampling date / time	01-Oct-2025 00:00	01-Oct-2025 00:00	01-Oct-2025 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2517039-001	WP2517039-002	WP2517039-003	----	----	----
					Result	Result	Result	----	----	----
TCLP Extractables										
Acenaphthene, TCLP	83-32-9	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Acenaphthylene, TCLP	208-96-8	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Acridine, TCLP	260-94-6	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Anthracene, TCLP	120-12-7	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Benz(a)anthracene, TCLP	56-55-3	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Benzo(a)pyrene, TCLP	50-32-8	E644/WT	0.00020	mg/L	<0.00020	<0.00020	<0.00020	----	----	----
Benzo(b+j)fluoranthene, TCLP	----	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Benzo(g,h,i)perylene, TCLP	191-24-2	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Benzo(k)fluoranthene, TCLP	207-08-9	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Chrysene, TCLP	218-01-9	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Dibenz(a,h)anthracene, TCLP	53-70-3	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Fluoranthene, TCLP	206-44-0	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Fluorene, TCLP	86-73-7	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Indeno(1,2,3-cd)pyrene, TCLP	193-39-5	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Naphthalene, TCLP	91-20-3	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Phenanthrene, TCLP	85-01-8	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
Pyrene, TCLP	129-00-0	E644/WT	0.0050	mg/L	<0.0050	<0.0050	<0.0050	----	----	----
TCLP Extractables Surrogates										
Chrysene-d12, TCLP	1719-03-5	E644/WT	5.0	%	110	113	103	----	----	----
Naphthalene-d8, TCLP	1146-65-2	E644/WT	5.0	%	87.6	92.5	89.5	----	----	----
Phenanthrene-d10, TCLP	1517-22-2	E644/WT	5.0	%	112	113	105	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

					Client sample ID	SP25-1	SP25-3A	SP25-3B	----	----
					Client sampling date / time	01-Oct-2025 00:00	01-Oct-2025 00:00	01-Oct-2025 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2517039-001	WP2517039-002	WP2517039-003	----	----	----
					Result	Result	Result	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/WT	0.010	pH units	9.36	7.59	7.32	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/WT	0.010	pH units	6.36	5.27	5.32	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/WT	0.010	pH units	2.90	2.90	2.90	----	----	----
pH, TCLP final	----	EPP444/WT	0.010	pH units	5.56	4.89	5.06	----	----	----
Antimony, TCLP	7440-36-0	E444/WT	0.10	mg/L	<0.10	<0.10	<0.10	----	----	----
Arsenic, TCLP	7440-38-2	E444/WT	1.0	mg/L	<1.0	<1.0	<1.0	----	----	----
Barium, TCLP	7440-39-3	E444/WT	2.5	mg/L	<2.5	<2.5	<2.5	----	----	----
Beryllium, TCLP	7440-41-7	E444/WT	0.025	mg/L	<0.025	<0.025	<0.025	----	----	----
Boron, TCLP	7440-42-8	E444/WT	0.50	mg/L	0.71	<0.50	<0.50	----	----	----
Cadmium, TCLP	7440-43-9	E444/WT	0.050	mg/L	<0.050	0.083	0.083	----	----	----
Calcium, TCLP	7440-70-2	E444/WT	10	mg/L	1080	810	995	----	----	----
Chromium, TCLP	7440-47-3	E444/WT	0.25	mg/L	<0.25	<0.25	<0.25	----	----	----
Cobalt, TCLP	7440-48-4	E444/WT	0.050	mg/L	<0.050	<0.050	<0.050	----	----	----
Copper, TCLP	7440-50-8	E444/WT	0.050	mg/L	<0.050	0.164	0.159	----	----	----
Iron, TCLP	7439-89-6	E444/WT	5.0	mg/L	<5.0	<5.0	<5.0	----	----	----
Lead, TCLP	7439-92-1	E444/WT	0.25	mg/L	<0.25	<0.25	<0.25	----	----	----
Magnesium, TCLP	7439-95-4	E444/WT	2.5	mg/L	354	242	216	----	----	----
Nickel, TCLP	7440-02-0	E444/WT	0.25	mg/L	<0.25	<0.25	<0.25	----	----	----
Selenium, TCLP	7782-49-2	E444/WT	0.10	mg/L	<0.10	<0.10	<0.10	----	----	----
Silver, TCLP	7440-22-4	E444/WT	0.050	mg/L	<0.050	<0.050	<0.050	----	----	----
Thallium, TCLP	7440-28-0	E444/WT	1.0	mg/L	<1.0	<1.0	<1.0	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

					Client sample ID	SP25-1 ----	SP25-3A ----	SP25-3B ----	----	----
					Client sampling date / time	01-Oct-2025 00:00	01-Oct-2025 00:00	01-Oct-2025 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2517039-001	WP2517039-002	WP2517039-003	----	----
						Result	Result	Result	----	----
TCLP Metals										
Uranium, TCLP	7440-61-1	E444/WT	0.20	mg/L		<0.20	<0.20	<0.20	----	----
Vanadium, TCLP	7440-62-2	E444/WT	0.15	mg/L		<0.15	<0.15	<0.15	----	----
Zinc, TCLP	7440-66-6	E444/WT	0.50	mg/L		<0.50	5.68	5.12	----	----
Zirconium, TCLP	7440-67-7	E444/WT	10	mg/L		<10	<10	<10	----	----
TCLP VOCs										
Benzene, TCLP	71-43-2	E615B/WT	0.0050	mg/L		<0.0050	<0.0050	<0.0050	----	----
Bromodichloromethane, TCLP	75-27-4	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Bromoform, TCLP	75-25-2	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Carbon tetrachloride, TCLP	56-23-5	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Chlorobenzene, TCLP	108-90-7	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Chloroform, TCLP	67-66-3	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Dibromochloromethane, TCLP	124-48-1	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Dichloromethane, TCLP	75-09-2	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Ethylbenzene, TCLP	100-41-4	E615B/WT	0.0050	mg/L		<0.0050	<0.0050	<0.0050	----	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B/WT	0.10	mg/L		<0.10	<0.10	<0.10	----	----
Tetrachloroethylene, TCLP	127-18-4	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Toluene, TCLP	108-88-3	E615B/WT	0.0050	mg/L		<0.0050	<0.0050	<0.0050	----	----



Analytical Results

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

					Client sample ID	SP25-1 ----	SP25-3A ----	SP25-3B ----	----	----
					Client sampling date / time	01-Oct-2025 00:00	01-Oct-2025 00:00	01-Oct-2025 00:00	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2517039-001	WP2517039-002	WP2517039-003	----	----
						Result	Result	Result	----	----
TCLP VOCs										
Trichloroethylene, TCLP	79-01-6	E615B/WT	0.025	mg/L		<0.025	<0.025	<0.025	----	----
Vinyl chloride, TCLP	75-01-4	E615B/WT	0.050	mg/L		<0.050	<0.050	<0.050	----	----
Xylene, m+p-, TCLP	179601-23-1	E615B/WT	0.0050	mg/L		<0.0050	<0.0050	<0.0050	----	----
Xylene, o-, TCLP	95-47-6	E615B/WT	0.0050	mg/L		<0.0050	<0.0050	<0.0050	----	----
Xylenes, total, TCLP	1330-20-7	E615B/WT	0.0075	mg/L		<0.0075	<0.0075	<0.0075	----	----
BTEX, total, TCLP	n/a	E615B/WT	0.012	mg/L		<0.012	<0.012	<0.012	----	----
Trihalomethanes [THMs], total, TCLP	----	E615B/WT	0.20	mg/L		<0.20	<0.20	<0.20	----	----
TCLP VOCs Surrogates										
Bromofluorobenzene, 4-, TCLP	460-00-4	E615B/WT	1.0	%		91.8	91.9	91.0	----	----
Difluorobenzene, 1,4-, TCLP	540-36-3	E615B/WT	1.0	%		96.7	97.1	97.6	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: WP2517039	Page	: 1 of 6
Client	: AECOM Canada ULC	Laboratory	: ALS Environmental - Winnipeg
Contact	: Jen Murray	Account Manager	: Judy Dalmajjer
Address	: 99 Commerce Drive Winnipeg MB Canada R3P 0Y7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 5381	Telephone	: +1 204 255 9720
Project	: 60705950-104	Date Samples Received	: 01-Oct-2025 16:46
PO	: ----	Issue Date	: 08-Oct-2025 14:00
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: 2025 Standing offer_V2		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

- No Quality Control Sample Frequency Outliers occur.



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 : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Extractables : PAHs by GC-MS (TCLP)										
Amber glass/Teflon lined cap (sodium bisulfate) SP25-1	E644	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	40 days	0 days	✓
TCLP Extractables : PAHs by GC-MS (TCLP)										
Amber glass/Teflon lined cap (sodium bisulfate) SP25-3A	E644	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	40 days	0 days	✓
TCLP Extractables : PAHs by GC-MS (TCLP)										
Amber glass/Teflon lined cap (sodium bisulfate) SP25-3B	E644	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	40 days	0 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) SP25-1	E444	06-Oct-2025	07-Oct-2025	185 days	6 days	✓	07-Oct-2025	185 days	6 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) SP25-3A	E444	06-Oct-2025	07-Oct-2025	185 days	6 days	✓	07-Oct-2025	185 days	6 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) SP25-3B	E444	06-Oct-2025	07-Oct-2025	185 days	6 days	✓	07-Oct-2025	185 days	6 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg) SP25-1	EPP444	01-Oct-2025	06-Oct-2025	----	----		----	180 days	5 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method 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	
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg) SP25-3A	EPP444	01-Oct-2025	06-Oct-2025	----	----		----	180 days	5 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg) SP25-3B	EPP444	01-Oct-2025	06-Oct-2025	----	----		----	180 days	5 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate) SP25-1	E615B	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	19 days	6 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate) SP25-3A	E615B	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	19 days	6 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate) SP25-3B	E615B	06-Oct-2025	07-Oct-2025	19 days	6 days	✓	07-Oct-2025	19 days	6 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)							
Metals by CRC ICPMS (TCLP)	E444	2262194	1	13	7.6	5.0	✔
VOCs by Headspace GC-MS (TCLP)	E615B	2262166	1	5	20.0	5.0	✔
PAHs by GC-MS (TCLP)	E644	2262091	1	4	25.0	5.0	✔
Laboratory Control Samples (LCS)							
Metals by CRC ICPMS (TCLP)	E444	2262194	1	13	7.6	5.0	✔
VOCs by Headspace GC-MS (TCLP)	E615B	2262166	1	5	20.0	5.0	✔
PAHs by GC-MS (TCLP)	E644	2262091	1	4	25.0	5.0	✔
Method Blanks (MB)							
Metals by CRC ICPMS (TCLP)	E444	2262194	1	13	7.6	5.0	✔
VOCs by Headspace GC-MS (TCLP)	E615B	2262166	1	5	20.0	5.0	✔
PAHs by GC-MS (TCLP)	E644	2262091	1	4	25.0	5.0	✔
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	2262194	1	13	7.6	5.0	✔
VOCs by Headspace GC-MS (TCLP)	E615B	2262166	1	5	20.0	5.0	✔
PAHs by GC-MS (TCLP)	E644	2262091	1	4	25.0	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
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.
VOCs by Headspace GC-MS (TCLP)	E615B ALS Environmental - Waterloo	Soil/Solid	EPA 1311/8260D (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.
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.
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.
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	: WP2517039	Page	: 1 of 10
Client	: AECOM Canada ULC	Laboratory	: ALS Environmental - Winnipeg
Contact	: Jen Murray	Account Manager	: Judy Dalmaijer
Address	: 99 Commerce Drive Winnipeg MB Canada R3P 0Y7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 5381	Telephone	: +1 204 255 9720
Project	: 60705950-104	Date Samples Received	: 01-Oct-2025 16:46
PO	: ----	Date Analysis Commenced	: 06-Oct-2025
C-O-C number	: ----	Issue Date	: 08-Oct-2025 14:00
Sampler	: ----		
Site	: ----		
Quote number	: 2025 Standing offer_V2		
No. of samples received	: 3		
No. of samples analysed	: 3		

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
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Waterloo Inorganics, 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

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: 2262091)											
WT2527500-001	Anonymous	Acenaphthene, TCLP	83-32-9	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Acenaphthylene, TCLP	208-96-8	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Acridine, TCLP	260-94-6	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Anthracene, TCLP	120-12-7	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Benz(a)anthracene, TCLP	56-55-3	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Benzo(a)pyrene, TCLP	50-32-8	E644	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
		Benzo(b+j)fluoranthene, TCLP	----	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Benzo(g,h,i)perylene, TCLP	191-24-2	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Benzo(k)fluoranthene, TCLP	207-08-9	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Chrysene, TCLP	218-01-9	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Dibenz(a,h)anthracene, TCLP	53-70-3	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Fluoranthene, TCLP	206-44-0	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Fluorene, TCLP	86-73-7	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Indeno(1,2,3-cd)pyrene, TCLP	193-39-5	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Naphthalene, TCLP	91-20-3	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Phenanthrene, TCLP	85-01-8	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Pyrene, TCLP	129-00-0	E644	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 2262194)											
WP2517173-001	Anonymous	Antimony, TCLP	7440-36-0	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		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	3.3	3.2	0.02	Diff <2x LOR	----
		Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	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	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1200	1200	0.272%	30%	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Cobalt, TCLP	7440-48-4	E444	0.050	mg/L	0.057	0.057	0.0001	Diff <2x LOR	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.48	0.48	0.004	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
TCLP Metals (QC Lot: 2262194) - continued											
WP2517173-001	Anonymous	Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	170	170	0.185%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		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	----
		Thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	0	Diff <2x LOR	----
		Zinc, TCLP	7440-66-6	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----
TCLP VOCs (QC Lot: 2262166)											
TY2511133-001	Anonymous	Benzene, TCLP	71-43-2	E615B	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Bromodichloromethane, TCLP	75-27-4	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Bromoform, TCLP	75-25-2	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chloroform, TCLP	67-66-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Dibromochloromethane, TCLP	124-48-1	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Ethylbenzene, TCLP	100-41-4	E615B	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	0.050 mg/L	51	2	Diff <2x LOR	----
		Toluene, TCLP	108-88-3	E615B	5.0	µg/L	<0.0050 mg/L	5.0	0.05	Diff <2x LOR	----
		Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<0.050 mg/L	<50	0	Diff <2x LOR	----
		Xylene, m+p-, TCLP	179601-23-1	E615B	5.0	µg/L	0.0061 mg/L	6.4	0.3	Diff <2x LOR	----
		Xylene, o-, TCLP	95-47-6	E615B	5.0	µg/L	<0.0050 mg/L	<5.0	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: 2262091)						
Acenaphthene, TCLP	83-32-9	E644	5	µg/L	<5.0	----
Acenaphthylene, TCLP	208-96-8	E644	5	µg/L	<5.0	----
Acridine, TCLP	260-94-6	E644	5	µg/L	<5.0	----
Anthracene, TCLP	120-12-7	E644	5	µg/L	<5.0	----
Benz(a)anthracene, TCLP	56-55-3	E644	5	µg/L	<5.0	----
Benzo(a)pyrene, TCLP	50-32-8	E644	0.2	µg/L	<0.20	----
Benzo(b+j)fluoranthene, TCLP	----	E644	5	µg/L	<5.0	----
Benzo(g,h,i)perylene, TCLP	191-24-2	E644	5	µg/L	<5.0	----
Benzo(k)fluoranthene, TCLP	207-08-9	E644	5	µg/L	<5.0	----
Chrysene, TCLP	218-01-9	E644	5	µg/L	<5.0	----
Dibenz(a,h)anthracene, TCLP	53-70-3	E644	5	µg/L	<5.0	----
Fluoranthene, TCLP	206-44-0	E644	5	µg/L	<5.0	----
Fluorene, TCLP	86-73-7	E644	5	µg/L	<5.0	----
Indeno(1,2,3-cd)pyrene, TCLP	193-39-5	E644	5	µg/L	<5.0	----
Naphthalene, TCLP	91-20-3	E644	5	µg/L	<5.0	----
Phenanthrene, TCLP	85-01-8	E644	5	µg/L	<5.0	----
Pyrene, TCLP	129-00-0	E644	5	µg/L	<5.0	----
TCLP Metals (QCLot: 2262194)						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP Metals (QCLot: 2262194) - continued						
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
TCLP VOCs (QCLot: 2262166)						
Benzene, TCLP	71-43-2	E615B	5	µg/L	<5.0	----
Bromodichloromethane, TCLP	75-27-4	E615B	100	µg/L	<100	----
Bromoform, TCLP	75-25-2	E615B	100	µg/L	<100	----
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	----
Dibromochloromethane, TCLP	124-48-1	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	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<25	----
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<100	----
Ethylbenzene, TCLP	100-41-4	E615B	5	µg/L	<5.0	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<100	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	<25	----
Toluene, TCLP	108-88-3	E615B	5	µg/L	<5.0	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<25	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<50	----
Xylene, m+p-, TCLP	179601-23-1	E615B	5	µg/L	<5.0	----
Xylene, o-, TCLP	95-47-6	E615B	5	µg/L	<5.0	----



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	Target Concentration	LCS	Low	High	Qualifier
TCLP Extractables (QCLot: 2262091)									
Acenaphthene, TCLP	83-32-9	E644	5	µg/L	0.526 µg/L	99.5	50.0	130	----
Acenaphthylene, TCLP	208-96-8	E644	5	µg/L	0.526 µg/L	97.3	50.0	130	----
Acridine, TCLP	260-94-6	E644	5	µg/L	0.526 µg/L	119	50.0	140	----
Anthracene, TCLP	120-12-7	E644	5	µg/L	0.526 µg/L	109	50.0	130	----
Benz(a)anthracene, TCLP	56-55-3	E644	5	µg/L	0.526 µg/L	122	50.0	140	----
Benzo(a)pyrene, TCLP	50-32-8	E644	0.2	µg/L	0.526 µg/L	109	60.0	140	----
Benzo(b+j)fluoranthene, TCLP	----	E644	5	µg/L	0.526 µg/L	86.1	50.0	130	----
Benzo(g,h,i)perylene, TCLP	191-24-2	E644	5	µg/L	0.526 µg/L	99.4	50.0	140	----
Benzo(k)fluoranthene, TCLP	207-08-9	E644	5	µg/L	0.526 µg/L	88.7	50.0	150	----
Chrysene, TCLP	218-01-9	E644	5	µg/L	0.526 µg/L	112	50.0	140	----
Dibenz(a,h)anthracene, TCLP	53-70-3	E644	5	µg/L	0.526 µg/L	101	50.0	140	----
Fluoranthene, TCLP	206-44-0	E644	5	µg/L	0.526 µg/L	106	50.0	130	----
Fluorene, TCLP	86-73-7	E644	5	µg/L	0.526 µg/L	106	50.0	130	----
Indeno(1,2,3-cd)pyrene, TCLP	193-39-5	E644	5	µg/L	0.526 µg/L	120	50.0	140	----
Naphthalene, TCLP	91-20-3	E644	5	µg/L	0.526 µg/L	95.2	50.0	130	----
Phenanthrene, TCLP	85-01-8	E644	5	µg/L	0.526 µg/L	111	50.0	130	----
Pyrene, TCLP	129-00-0	E644	5	µg/L	0.526 µg/L	108	50.0	140	----
TCLP Metals (QCLot: 2262194)									
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	0.05 mg/L	102	70.0	130	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	0.05 mg/L	104	70.0	130	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	0.012 mg/L	105	70.0	130	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	0.005 mg/L	102	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	102	70.0	130	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	2.5 mg/L	97.7	70.0	130	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	0.012 mg/L	102	70.0	130	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	0.012 mg/L	97.8	70.0	130	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	0.012 mg/L	99.8	70.0	130	----
Iron, TCLP	7439-89-6	E444	5	mg/L	0.05 mg/L	98.6	70.0	130	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.025 mg/L	102	70.0	130	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	2.5 mg/L	111	70.0	130	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.025 mg/L	99.3	70.0	130	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
TCPLP Metals (QCLot: 2262194) - continued									
Selenium, TCPLP	7782-49-2	E444	0.1	mg/L	0.05 mg/L	95.9	70.0	130	----
Silver, TCPLP	7440-22-4	E444	0.05	mg/L	0.005 mg/L	102	70.0	130	----
Thallium, TCPLP	7440-28-0	E444	1	mg/L	0.05 mg/L	102	70.0	130	----
Uranium, TCPLP	7440-61-1	E444	0.2	mg/L	0 mg/L	102	70.0	130	----
Vanadium, TCPLP	7440-62-2	E444	0.15	mg/L	0.025 mg/L	101	70.0	130	----
Zinc, TCPLP	7440-66-6	E444	0.5	mg/L	0.025 mg/L	99.2	70.0	130	----
Zirconium, TCPLP	7440-67-7	E444	10	mg/L	0.005 mg/L	100	70.0	130	----
TCPLP VOCs (QCLot: 2262166)									
Benzene, TCPLP	71-43-2	E615B	5	µg/L	100 µg/L	98.2	70.0	130	----
Bromodichloromethane, TCPLP	75-27-4	E615B	100	µg/L	100 µg/L	94.6	70.0	130	----
Bromoform, TCPLP	75-25-2	E615B	100	µg/L	100 µg/L	97.9	70.0	130	----
Carbon tetrachloride, TCPLP	56-23-5	E615B	25	µg/L	100 µg/L	91.6	60.0	140	----
Chlorobenzene, TCPLP	108-90-7	E615B	25	µg/L	100 µg/L	98.5	70.0	130	----
Chloroform, TCPLP	67-66-3	E615B	100	µg/L	100 µg/L	94.8	70.0	130	----
Dibromochloromethane, TCPLP	124-48-1	E615B	100	µg/L	100 µg/L	94.6	70.0	130	----
Dichlorobenzene, 1,2-, TCPLP	95-50-1	E615B	25	µg/L	100 µg/L	101	70.0	130	----
Dichlorobenzene, 1,4-, TCPLP	106-46-7	E615B	25	µg/L	100 µg/L	107	70.0	130	----
Dichloroethane, 1,2-, TCPLP	107-06-2	E615B	25	µg/L	100 µg/L	90.2	70.0	130	----
Dichloroethylene, 1,1-, TCPLP	75-35-4	E615B	25	µg/L	100 µg/L	101	70.0	130	----
Dichloromethane, TCPLP	75-09-2	E615B	100	µg/L	100 µg/L	92.4	70.0	130	----
Ethylbenzene, TCPLP	100-41-4	E615B	5	µg/L	100 µg/L	99.7	70.0	130	----
Methyl ethyl ketone [MEK], TCPLP	78-93-3	E615B	100	µg/L	100 µg/L	86.3	50.0	150	----
Tetrachloroethylene, TCPLP	127-18-4	E615B	25	µg/L	100 µg/L	97.3	70.0	130	----
Toluene, TCPLP	108-88-3	E615B	5	µg/L	100 µg/L	99.6	70.0	130	----
Trichloroethylene, TCPLP	79-01-6	E615B	25	µg/L	100 µg/L	94.6	70.0	130	----
Vinyl chloride, TCPLP	75-01-4	E615B	50	µg/L	100 µg/L	98.0	60.0	130	----
Xylene, m+p-, TCPLP	179601-23-1	E615B	5	µg/L	200 µg/L	96.3	70.0	130	----
Xylene, o-, TCPLP	95-47-6	E615B	5	µg/L	100 µg/L	99.2	70.0	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

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: 2262091)										
WT2527500-001	Anonymous	Acenaphthene, TCLP	83-32-9	E644	0.5 µg/L	0.526 µg/L	102	50.0	140	----
		Acenaphthylene, TCLP	208-96-8	E644	0.5 µg/L	0.526 µg/L	99.9	50.0	140	----
		Acridine, TCLP	260-94-6	E644	0.6 µg/L	0.526 µg/L	116	50.0	140	----
		Anthracene, TCLP	120-12-7	E644	0.6 µg/L	0.526 µg/L	111	50.0	140	----
		Benz(a)anthracene, TCLP	56-55-3	E644	0.6 µg/L	0.526 µg/L	122	50.0	140	----
		Benzo(a)pyrene, TCLP	50-32-8	E644	0.58 µg/L	0.526 µg/L	111	50.0	140	----
		Benzo(b+j)fluoranthene, TCLP	----	E644	0.5 µg/L	0.526 µg/L	87.6	50.0	140	----
		Benzo(g,h,i)perylene, TCLP	191-24-2	E644	0.5 µg/L	0.526 µg/L	99.8	50.0	140	----
		Benzo(k)fluoranthene, TCLP	207-08-9	E644	0.5 µg/L	0.526 µg/L	90.3	50.0	140	----
		Chrysene, TCLP	218-01-9	E644	0.6 µg/L	0.526 µg/L	114	50.0	140	----
		Dibenz(a,h)anthracene, TCLP	53-70-3	E644	0.5 µg/L	0.526 µg/L	103	50.0	140	----
		Fluoranthene, TCLP	206-44-0	E644	0.6 µg/L	0.526 µg/L	108	50.0	140	----
		Fluorene, TCLP	86-73-7	E644	0.6 µg/L	0.526 µg/L	110	50.0	140	----
		Indeno(1,2,3-cd)pyrene, TCLP	193-39-5	E644	0.6 µg/L	0.526 µg/L	122	50.0	140	----
		Naphthalene, TCLP	91-20-3	E644	0.5 µg/L	0.526 µg/L	96.4	50.0	140	----
		Phenanthrene, TCLP	85-01-8	E644	0.6 µg/L	0.526 µg/L	114	50.0	140	----
		Pyrene, TCLP	129-00-0	E644	0.6 µg/L	0.526 µg/L	110	50.0	140	----
TCLP Metals (QCLot: 2262194)										
WP2517173-001	Anonymous	Antimony, TCLP	7440-36-0	E444	5.19 mg/L	5 mg/L	104	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	5.3 mg/L	5 mg/L	106	50.0	140	----
		Barium, TCLP	7440-39-3	E444	13.4 mg/L	12.5 mg/L	107	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.248 mg/L	0.25 mg/L	99.0	50.0	140	----
		Boron, TCLP	7440-42-8	E444	9.99 mg/L	10 mg/L	99.9	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.254 mg/L	0.25 mg/L	102	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.29 mg/L	1.25 mg/L	103	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.247 mg/L	0.25 mg/L	99.0	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.49 mg/L	2.5 mg/L	99.5	50.0	140	----
		Iron, TCLP	7439-89-6	E444	245 mg/L	250 mg/L	98.1	50.0	140	----
		Lead, TCLP	7439-92-1	E444	10.0 mg/L	10 mg/L	100	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	269 mg/L	250 mg/L	108	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.51 mg/L	2.5 mg/L	100	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	4.92 mg/L	5 mg/L	98.3	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.104 mg/L	0.1 mg/L	104	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	5.0 mg/L	5 mg/L	101	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.07 mg/L	5 mg/L	101	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	0.79 mg/L	0.75 mg/L	105	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.94 mg/L	10 mg/L	99.4	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	1.0 mg/L	1 mg/L	99.3	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: 2262166)										
TY2511133-001	Anonymous	Benzene, TCLP	71-43-2	E615B	229 µg/L	250 µg/L	91.6	50.0	140	----
		Bromodichloromethane, TCLP	75-27-4	E615B	230 µg/L	250 µg/L	91.3	50.0	140	----
		Bromoform, TCLP	75-25-2	E615B	240 µg/L	250 µg/L	97.0	50.0	140	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	202 µg/L	250 µg/L	80.9	50.0	140	----
		Chlorobenzene, TCLP	108-90-7	E615B	229 µg/L	250 µg/L	91.5	50.0	140	----
		Chloroform, TCLP	67-66-3	E615B	220 µg/L	250 µg/L	88.6	50.0	140	----
		Dibromochloromethane, TCLP	124-48-1	E615B	240 µg/L	250 µg/L	94.0	50.0	140	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	236 µg/L	250 µg/L	94.4	50.0	140	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	243 µg/L	250 µg/L	97.4	50.0	140	----
		Dichloroethane, 1,2-, TCLP	107-06-2	E615B	229 µg/L	250 µg/L	91.6	50.0	140	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	226 µg/L	250 µg/L	90.6	50.0	140	----
		Dichloromethane, TCLP	75-09-2	E615B	220 µg/L	250 µg/L	89.3	50.0	140	----
		Ethylbenzene, TCLP	100-41-4	E615B	222 µg/L	250 µg/L	88.9	50.0	140	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	260 µg/L	250 µg/L	104	50.0	140	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	209 µg/L	250 µg/L	83.7	50.0	140	----
		Toluene, TCLP	108-88-3	E615B	225 µg/L	250 µg/L	90.0	50.0	140	----
		Trichloroethylene, TCLP	79-01-6	E615B	214 µg/L	250 µg/L	85.5	50.0	140	----
		Vinyl chloride, TCLP	75-01-4	E615B	225 µg/L	250 µg/L	90.1	50.0	140	----
		Xylene, m+p-, TCLP	179601-23-1	E615B	429 µg/L	500 µg/L	85.8	50.0	140	----
		Xylene, o-, TCLP	95-47-6	E615B	227 µg/L	250 µg/L	90.7	50.0	140	----