CERTIFICATE OF ANALYSIS

Work Order	: **TY2312721**	Page	: 1 of 3
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Thunder Bay
Contact	: Layla Miller	Account Manager	: Cassidy Young
Address	: 1263 Innovation Drive Thunderbay ON Canada P7B 0A2	Address	: 1081 Barton Street Thunder Bay ON Canada P7B 5N3
Telephone	: (807)285-9005	Telephone	: +1 807 623 6463
Project	: McTavish	Date Samples Received	: 06-Dec-2023 13:33
PO	: 111745322	Date Analysis Commenced	: 08-Dec-2023
C-O-C number	: ----	Issue Date	: 12-Dec-2023 15:49
Sampler	: ----		
Site	: ----		
Quote number	: Stantec TCLP 2023		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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*
Robert Braun	Soils Team Supervisor	Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Metals, 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

<: 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: **Bulk Material**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Composite paints on Plaster brown, cream, turqoise, yellow, grey	Cream paint sample on wood trim	----	----	----
					Client sampling date / time	06-Dec-2023 10:30	06-Dec-2023 10:30	----	----	----
						TY2312721-001	TY2312721-002	--------	--------	--------
						Result	Result	----	----	----
TCLP Metals										
pH, TCLP 1st preliminary	----	EPP444/WT	0.010	pH units		8.42	5.83	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/WT	0.010	pH units		1.80	1.54	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/WT	0.010	pH units		4.89	4.89	----	----	----
pH, TCLP final	----	EPP444/WT	0.010	pH units		5.25	5.03	----	----	----
Lead, TCLP	7439-92-1	E444/WT	0.25	mg/L		<0.25	19.6	----	----	----

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.

ALS Canada Ltd.

right solutions.
right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **TY2312721**	Page	: 1 of 5
Client	: **Stantec Consulting Ltd.**	Laboratory	: ALS Environmental - Thunder Bay
Contact	: Layla Miller	Account Manager	: Cassidy Young
Address	: 1263 Innovation Drive Thunderbay ON Canada P7B 0A2	Address	: 1081 Barton Street Thunder Bay, Ontario Canada P7B 5N3
Telephone	: (807)285-9005	Telephone	: +1 807 623 6463
Project	: McTavish	Date Samples Received	: 06-Dec-2023 13:33
PO	: 111745322	Issue Date	: 12-Dec-2023 15:50
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Stantec TCLP 2023		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 / 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
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) Composite paints on Plaster - brown, cream, turqoise, yellow, grey	E444	08-Dec-2023	11-Dec-2023	182 days	5 days	✓	11-Dec-2023	182 days	5 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved) Cream paint sample on wood trim	E444	08-Dec-2023	11-Dec-2023	182 days	5 days	✓	11-Dec-2023	182 days	5 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) Composite paints on Plaster - brown, cream, turqoise, yellow, grey	EPP444	06-Dec-2023	08-Dec-2023	----	----		----	28 days	2 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 28 day HT (e.g. Hg, CrVI, PFAS) Cream paint sample on wood trim	EPP444	06-Dec-2023	08-Dec-2023	----	----		----	28 days	2 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	1271375	1	5	20.0	5.0	✓
Laboratory Control Samples (LCS)							
Metals by CRC ICPMS (TCLP)	E444	1271375	1	5	20.0	5.0	✓
Method Blanks (MB)							
Metals by CRC ICPMS (TCLP)	E444	1271375	1	5	20.0	5.0	✓
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	1271375	1	5	20.0	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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.

QUALITY CONTROL REPORT

Work Order	: **TY2312721**	Page	: 1 of 3
Client	: Stantec Consulting Ltd.	Laboratory	: ALS Environmental - Thunder Bay
Contact	: Layla Miller	Account Manager	: Cassidy Young
Address	: 1263 Innovation Drive Thunderbay ON Canada P7B 0A2	Address	: 1081 Barton Street Thunder Bay, Ontario Canada P7B 5N3
Telephone	:	Telephone	: +1 807 623 6463
Project	: McTavish	Date Samples Received	: 06-Dec-2023 13:33
PO	: 111745322	Date Analysis Commenced	: 08-Dec-2023
C-O-C number	: ----	Issue Date	: 12-Dec-2023 15:49
Sampler	: ---- (807)285-9005		
Site	: ----		
Quote number	: Stantec TCLP 2023		
No. of samples received	: 2		
No. of samples analysed	: 2		

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*
Robert Braun	Soils Team Supervisor	Waterloo Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Metals, 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 Metals (QC Lot: 1271375)											
WT2339835-001	Anonymous	Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.95	0.96	0.01	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 Metals (QCLot: 1271375)						
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----

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 Metals (QCLot: 1271375)									
Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.025 mg/L	104	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**

					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 Metals (QCLot: 1271375)										
WT2339835-001	Anonymous	Lead, TCLP	7439-92-1	E444	9.75 mg/L	10 mg/L	97.5	50.0	140	----

ALS Environmental

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ALS CANADA LIMITED Part of the ALS Group A Campbell Brothers Limited Company www.alsglobal.com

Company:	**Stantec Consulting**		
Contact:	**Layla Miller**		
Address:	**1263 Innovation Drive, Thunder Bay, ON**		
Phone:	**807-629-8759**	**Fax:**	**807-623-5690**
Email:	layla.miller@stantec.com		
Project:	**McTavish**	**PO:**	**111475322**
Quote #			
Invoice To:		**Same as Report:** ☑ Yes ☐ No	
Company:			
Contact:			
Address:			
Email:			
Account Manager	Christine	**Sampler:**	**Stantec**

Regulatory Information

- ☐ O. Reg 153 (O. Reg 511 Amend) Table:_____
- Record of Site Condition ☐ Yes ☐ No
- PWQO☐ MISA☐ MMER☐ CCME☐
- Guideline Required:
- TCLP Regulation 5☐8 Other: O. Reg. 347

Service Requested

- ☑ Regular TAT (7 Days)
- ☐ Priority TAT 50% Surcharge (3-5 Days)
- ☐ Emergency TAT 100% Surcharge (1-2 Days)
- Specify Date Required:

All TAT quoted material is in business days which exclude statutory holidays and weekends. Samples received past 3:00pm or Saturday/Sunday begin the next day.

Both questions below must answered for water samples

Are any samples taken from a regulated DW System? ☐ Yes ☑ No

If yes, an authorized DW COC must be used.

Is the water sampled intended for human consumption? ☐ Yes ☑ No

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date	Time	Sample Type	TCLP - Pb	Number of Containers
TCLP-01	Composite paints on plaster (brown, cream, turqoise, yellow, grey)	06-Dec-23	10:30am	Bulk	X	1
TCLP-02	Cream paint sample on wood trim	06-Dec-23	10:30am	Bulk	X	1

Environmental Division
Thunder Bay
Work Order Reference
TY2312721

Telephone : +1 807 623 6463

Special Instructions / Comments

Please do a TCLP for the entire sample (composite). O. Reg. 347, Schedule 4 criteria for lead leachate

TY2312721

SHIPMENT RELEASE (client use)		SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)		
Released by: Kayla Huneau	Date & Time: December 6, 2023 @ 1:30pm	Received by: LV	Date & Time 12/6/23 @ 1:33	Temp 20.4	Cooling Initiated ☐ Yes ☑ No	Verified by:	Date & Time	Observations: Yes / No ? If Yes add SIF

****Failure to complete all portions of this form may delay analysis.** **TAT may vary dependant on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs. Any known or suspected hazards relating to a sample must be noted on the chain of custody in the comments section. By use of the form the user acknowledges and agrees with the Terms and Conditions as specified on the back page.

Drop off NO COC

Intake and Login Verification Form

SAMPLE INTAKE					
Priority/Emergency Service Requested			YES	NO	
Time Sensitive Hold Time			YES	NO	
Client:	Stantec				
SAMPLE RECEIPT INFORMATION					
Mode of Delivery:	Courier		Drop Off		
Courier					
Waybill Number					
Temperature	20.4		Cooler Count	—	
Cooling Method	None	Ice	Ice Packs		
SAMPLE MATRIX/BOTTLE INFORMATION					
Matrix:	Water	Soil	Air	Biota	Other
DW Schedule 24 Bottles Correct?				Yes	No
DW Metals pH Check <2				Yes	No
Regulation Circled, Works # present		Yes		No - Reject?	
# of Bottles:	1	Sample Count		2	
Green/white					
Purple/white					
Warm red/white					
Yellow/black					
Light blue/white					
Orange/black					
Others (detail)	2 Bulk Samples				
Comments on Samples and Bottles:					
Samples Requiring Preservation or Filtering:					
Layout Staff Initials Date and Time of Layout	LV 12/6/23 2:02				

ACCOUNT INFO VERIFICATION		
Priority/Emergency Service Requested	YES	NO
Confirmed all as accurate as per COC, Sample Remarks or PM		
Client ✓	Work Contact ✓	Quote ✓
RECEIPT DETAIL		
Project ✓	PO	Site/LSD ✓
Overall Description Entered	Yes	NA
Received date/time as per COC	✓	
Recipients match CoC or Sample Remarks	Yes	No
Billing Instruction added to remarks	Yes	NA
Sample Remarks/Specification Doc checked	✓	
Submission Issues communicated	Yes	NA
Sample Info communicated via Remarks	Yes	NA
VERIFICATION CHECKLIST		
Plannned Event Submission	Yes	No
Sample Name entered as per CoC	✓	
Sampling Date and time entered as per CoC	✓	
Containers selected in layout order	✓	
Sales items entered from QUOTE ONLY (and/or verified as correct)	✓	
Field Data/EC298A removed if not on COC	Yes	NA
Bottle Allocation Verified	✓	
Guideline added or auto-allocated	✓	
Due dates updated	✓	
VALIDATION		
Validation errors resolved?	Yes	No
Internal Sublet CoC created	Yes	NA
Login Comments:		
Login Staff Initials:		