CERTIFICATE OF ANALYSIS

Work Order	: **WP2421510**	Page	: 1 of 3
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 06-Sep-2024 10:24
PO	: ----	Date Analysis Commenced	: 10-Sep-2024
C-O-C number	: ----	Issue Date	: 17-Sep-2024 16:27
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 10		
No. of samples analysed	: 10		

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*
Nik Perkio	Senior Analyst	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

<: 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: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LEAD #9 (DISTRIBUTION GRAB)	LEAD #16 (DISTRIBUTION GRAB)	LEAD #18 (DISTRIBUTION GRAB)	LEAD #19 (DISTRIBUTION GRAB)	LEAD #20 (DISTRIBUTION GRAB)
					Client sampling date / time	03-Sep-2024 09:00	03-Sep-2024 09:15	03-Sep-2024 09:30	03-Sep-2024 09:45	03-Sep-2024 10:15
						WP2421510-001	WP2421510-002	WP2421510-003	WP2421510-004	WP2421510-005
						Result	Result	Result	Result	Result
Total Metals										
Lead, total	7439-92-1	E420/WT	0.000050	mg/L		0.0168	0.00103	0.000538	0.000813	0.00199

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.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LEAD #13 (DISTRIBUTION GRAB)	LEAD #11 (DISTRIBUTION GRAB)	LEAD #12 (DISTRIBUTION GRAB)	LEAD #8 (DISTRIBUTION GRAB)	LEAD #3 (DISTRIBUTION GRAB)
					Client sampling date / time	03-Sep-2024 10:00	03-Sep-2024 16:00	03-Sep-2024 17:00	04-Sep-2024 08:15	04-Sep-2024 09:30
						WP2421510-006	WP2421510-007	WP2421510-008	WP2421510-009	WP2421510-010
						Result	Result	Result	Result	Result
Total Metals										
Lead, total	7439-92-1	E420/WT	0.000050	mg/L		0.000295	0.00532	0.000720	0.000928	0.00150

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	: **WP2421510**	Page	: 1 of 6
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 06-Sep-2024 10:24
PO	: ----	Issue Date	: 17-Sep-2024 16:27
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 10		
No. of samples analysed	: 10		

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: **Water**

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
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #3 (DISTRIBUTION GRAB)	E420	04-Sep-2024	10-Sep-2024	180 days	6 days	✓	10-Sep-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #8 (DISTRIBUTION GRAB)	E420	04-Sep-2024	10-Sep-2024	180 days	6 days	✓	10-Sep-2024	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #11 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #12 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #13 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #16 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #18 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓

Matrix: **Water**

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*	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #19 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #20 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LEAD #9 (DISTRIBUTION GRAB)	E420	03-Sep-2024	10-Sep-2024	180 days	7 days	✓	10-Sep-2024	180 days	7 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: **Water**

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)							
Total Metals in Water by CRC ICPMS	E420	1641758	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Total Metals in Water by CRC ICPMS	E420	1641758	1	10	10.0	5.0	✓
Method Blanks (MB)							
Total Metals in Water by CRC ICPMS	E420	1641758	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
Total Metals in Water by CRC ICPMS	E420	1641758	1	10	10.0	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
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Waterloo	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

QUALITY CONTROL REPORT

Work Order	: **WP2421510**	Page	: 1 of 3
Client	: City of Flin Flon	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 06-Sep-2024 10:24
PO	: ----	Date Analysis Commenced	: 10-Sep-2024
C-O-C number	: ----	Issue Date	: 17-Sep-2024 16:29
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 10		
No. of samples analysed	: 10		

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*
Nik Perkio	Senior Analyst	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: **Water**

					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
Total Metals (QC Lot: 1641758)											
WP2421510-001	LEAD #9 (DISTRIBUTION GRAB)	Lead, total	7439-92-1	E420	0.000050	mg/L	0.0168	0.0168	0.343%	20%	----

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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1641758)						
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1641758)									
Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	99.6	80.0	120	----

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: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1641758)										
WP2421510-002	LEAD #16 (DISTRIBUTION GRAB)	Lead, total	7439-92-1	E420	0.0254 mg/L	0.025 mg/L	102	70.0	130	----

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

Page 1 of 1

Report To			**Report Format / Distribution**	**Service Requested** (Rush for routine analysis subject to availability)
Company:	City of Flin Flon	(W973)	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	JAMES REITLO		☑ PDF ☐ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	20 First Avenue		Email 1: jreitlo@flinflon.ca	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Flin Flon, MB, R8A 0T7		Email 2:	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	204-687-0499	Fax: 204-681-7534	Email 3:	
Invoice To	Same as Report ? ☐ Yes	☑ No	**Client / Project Information**	**Analysis Request**
Hardcopy of Invoice with Report?	☐ Yes	☐ No	Job #: Flin Flon Lead Monitoring	Please indicate below
Company:	Accounts Payable - The City of Flin Flon		PO / AFE:	
Contact:	purchasing@flinflon.ca		LSD:	
Address:				
Phone:		Fax:	Quote #:	

Lab Work Order # (lab use only): WP2421510

ALS Contact: Craig Riddell **Sampled By:** James Reitlo

Environmental Division Winnipeg
Work Order Reference
WP2421510
Telephone : +1 204 255 9720

Sample #	Sample Identification (This description will appear on the report)	Date Sampled	Time Sampled	Sample Type	RDT Lead	Number of Containers
	Lead #9 (distribution grab)	03/09/2024	9:00 am	Water	X	1
	Lead #16 (distribution grab)	03/09/2024	9:15 am	Water	X	1
	Lead #18 (distribution grab)	03/09/2024	9:30 am	Water	X	1
	Lead #19 (distribution grab)	03/09/2024	9:45 am	Water	X	1
	Lead #20 (distribution grab)	03/09/2024	10:15 am	Water	X	1
	Lead #13 (distribution grab)	03/09/2024	10:00 am	Water	X	1
	Lead #11 (distribution grab)	03/09/2024	4:00 pm	Water	X	1
	Lead #12 (distribution grab)	03/09/2024	5:00 pm	Water	X	1
	Lead #8 (distribution grab)	04/09/2024	8:15 am	Water	X	1
	Lead #3 (distribution grab)	04/09/2024	9:30 am	Water	X	1
	NOTE: ** Not Filtered or Preserved - Please Lab Filter					

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
			MH	6Sep24	11:24	7.8 °C	VM	9-7-24	10:45	

MM073

temp ID - 1

GENF 18.01 Front

Sample Intake

Client: Flin Flon						COC receipt info complete ☐
Express TAT?	no	same day	1 day	Yes: 2 day	3 days	4 day
Short hold time?	no	<24 hrs	1 day	Yes: 2 days	3 days	4 days
Matrix:	Water	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:

Green/white		Orange/black	
Purple/white		Dark blue/white	
Red/white		Black/white	10 × 1L bottles
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black		Beige/white	
Light blue/white		Other (specify)	

Comments:

Sample Login

Receipt Window	√/X	N/A	Bottles	√/X	N/A
# of fractions, matrix and submatrix			All received bottles have IDs		
Client, office, contact, quote, project			Type, volume, and locations		
Receipt time/date, PO, project, site			Labels and internal COCs printed		
Temp, cooling method, sampler			Client Contacts	√/X	N/A
Sample Info	√/X	N/A	Report/invoice/EDD recipients		
Sample size/time			Report types/formats		
Sample ID/description			Post-committing	√/X	N/A
Sales items			Runs built and field data entered		
Guidelines/thresholds			Billing information entered		
Additional sample/WO information			Action Required?	Yes	No
Due Dates	√/X	N/A	Update default receipt data		
COC/GEL/client due dates match			Update default report data		
Express TAT surcharges			Add sales/billing items to quote		
Clock running for all samples			SIF initiated (elaborate in comments)		

Comments:

CERTIFICATE OF ANALYSIS

Work Order	: **WP2421742**	Page	: 1 of 4
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 11-Sep-2024 11:06
PO	: ----	Date Analysis Commenced	: 13-Sep-2024
C-O-C number	: ----	Issue Date	: 17-Sep-2024 08:37
Sampler	: James Reitlo		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 11		
No. of samples analysed	: 11		

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- Analytical Results

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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*
Lee McTavish		Metals, Winnipeg, Manitoba

General Comments

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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

<: 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: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Lead #1 (distribution grab)	Lead #4 (distribution grab)	Lead #2 (distribution grab)	Lead #5 (distribution grab)	Lead #5B (5 minute flush)
					Client sampling date / time	04-Sep-2024 08:15	04-Sep-2024 08:47	05-Sep-2024 08:40	05-Sep-2024 09:12	05-Sep-2024 09:20
						WP2421742-001	WP2421742-002	WP2421742-003	WP2421742-004	WP2421742-005
						Result	Result	Result	Result	Result
Total Metals										
Lead, total	7439-92-1	E420.Pb/WP	0.000050	mg/L		0.000373	0.000529	0.00346	0.0145	0.00150

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.

Analytical Results

Sub-Matrix: **Water**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Lead #6 (distribution grab)	Lead #10 (distribution grab)	Lead #14 (distribution grab)	Lead #17 (distribution grab)	Lead #7 (distribution grab)
					Client sampling date / time	06-Sep-2024 08:05	06-Sep-2024 08:09	06-Sep-2024 09:30	09-Sep-2024 13:41	09-Sep-2024 13:15
						WP2421742-006	WP2421742-007	WP2421742-008	WP2421742-009	WP2421742-010
						Result	Result	Result	Result	Result
Total Metals										
Lead, total	7439-92-1	E420.Pb/WP	0.000050	mg/L		0.000164	0.00587	0.00435	0.000430	0.00128

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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	Lead #15 (distribution grab)	----	----	----	----
					Client sampling date / time	09-Sep-2024 13:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2421742-011	--------	--------	--------	--------
						Result	----	----	----	----
Total Metals										
Lead, total	7439-92-1	E420.Pb/WP	0.000050	mg/L		0.00159	----	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2421742**	Page	: 1 of 6
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 11-Sep-2024 11:06
PO	: ----	Issue Date	: 17-Sep-2024 08:37
C-O-C number	: ----		
Sampler	: James Reitlo		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 11		
No. of samples analysed	: 11		

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: **Water**

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
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #15 (distribution grab)	E420.Pb	09-Sep-2024	13-Sep-2024	180 days	4 days	✓	13-Sep-2024	180 days	4 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #17 (distribution grab)	E420.Pb	09-Sep-2024	13-Sep-2024	180 days	4 days	✓	13-Sep-2024	180 days	4 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #7 (distribution grab)	E420.Pb	09-Sep-2024	13-Sep-2024	180 days	4 days	✓	13-Sep-2024	180 days	4 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #10 (distribution grab)	E420.Pb	06-Sep-2024	13-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	7 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #14 (distribution grab)	E420.Pb	06-Sep-2024	13-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	7 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #6 (distribution grab)	E420.Pb	06-Sep-2024	13-Sep-2024	180 days	7 days	✓	13-Sep-2024	180 days	7 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Lead #2 (distribution grab)	E420.Pb	05-Sep-2024	13-Sep-2024	180 days	8 days	✓	13-Sep-2024	180 days	8 days	✓

Matrix: **Water**

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*	
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved) Lead #5 (distribution grab)	E420.Pb	05-Sep-2024	13-Sep-2024	180 days	8 days	✓	13-Sep-2024	180 days	8 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved) Lead #5B (5 minute flush)	E420.Pb	05-Sep-2024	13-Sep-2024	180 days	8 days	✓	13-Sep-2024	180 days	8 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved) Lead #1 (distribution grab)	E420.Pb	04-Sep-2024	13-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	9 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE - total (lab preserved) Lead #4 (distribution grab)	E420.Pb	04-Sep-2024	13-Sep-2024	180 days	9 days	✓	13-Sep-2024	180 days	9 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: **Water**

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)							
Total Lead in Water by CRC ICPMS	E420.Pb	1649430	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1649430	1	12	8.3	5.0	✓
Method Blanks (MB)							
Total Lead in Water by CRC ICPMS	E420.Pb	1649430	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1649430	1	12	8.3	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
Total Lead in Water by CRC ICPMS	E420.Pb ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.

QUALITY CONTROL REPORT

Work Order	: **WP2421742**	Page	: 1 of 3
Client	: City of Flin Flon	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON LEAD MONITORING	Date Samples Received	: 11-Sep-2024 11:06
PO	: ----	Date Analysis Commenced	: 13-Sep-2024
C-O-C number	: ----	Issue Date	: 17-Sep-2024 08:37
Sampler	: James Reitlo		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
No. of samples received	: 11		
No. of samples analysed	: 11		

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*
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba

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: **Water**

					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
Total Metals (QC Lot: 1649430)											
WP2421742-001	Lead #1 (distribution grab)	Lead, total	7439-92-1	E420.Pb	0.000050	mg/L	0.000373	0.000396	0.000023	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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1649430)						
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	<0.000050	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1649430)									
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	0.5 mg/L	102	80.0	120	----

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: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1649430)										
WP2421742-001	Lead #1 (distribution grab)	Lead, total	7439-92-1	E420.Pb	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----

ALS Environmental

Telephone : +1 204 255 9720

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC # _____

Page 1 of 1

Report To			Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	City of Flin Flon (W973)		☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	JAMES REITLO		☑ PDF ☐ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	20 First Avenue		Email 1: jreitlo@flinflon.ca	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Flin Flon, MB, R8A 0T7		Email 2:	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	204-687-0499 Fax: 204-681-7534		Email 3:	
Invoice To	Same as Report ? ☐ Yes ☑ No		**Client / Project Information**	**Analysis Request**
Hardcopy of Invoice with Report?	☐ Yes ☐ No		Job #: Flin Flon Lead Monitoring	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:	Accounts Payable - The City of Flin Flon		PO / AFE:	
Contact:	purchasing@flinflon.ca		LSD:	
Address:				
Phone:	Fax:		Quote #:	

Lab Work Order # (lab use only)	2421742	ALS Contact:	Craig Riddell	Sampled By:	James Reitlo

Sample #	Sample Identification (This description will appear on the report)	Date Sampled	Time Sampled	Sample Type	RDT Lead	Number of Containers
	Lead #1 (distribution grab)	04/09/2024	8:15am	Water	X	1
	Lead #4 (distribution grab)	04/09/2024	8:47 am	Water	X	1
	Lead #2 (distribution grab)	05/09/2024	8:40 am	Water	X	1
	Lead #5 (distribution grab)	05/09/2024	9:12 am	Water	X	1
	Lead #5B (5 minute flush)	05/09/2024	9:20 pm	Water	X	1
	Lead #6 (distribution grab)	06/09/2024	8:05 am	Water	X	1
	Lead #10 (distribution grab)	06/09/2024	8:09 am	Water	X	1
	Lead #14(distribution grab)	06/09/2024	9:30 am	Water	X	1
	Lead #17 (distribution grab)	09/09/2024	1:41 pm	Water	X	1
	Lead #7 (distribution grab)	09/09/2024	1:15 pm	Water	X	1
	Lead #15 (distribution grab)	09/09/2024	1:30 pm	Water	X	1
	NOTE: ** Not Filtered or Preserved - Please Lab Filter					

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
			ledinghaf	SEP 11 2024	11:00	7.6 °C				

Sample Intake

Client: City of Flint Flon					COC receipt info complete	☑
Express TAT?	no	same day	1 day	Yes: 2 day	3 days	4 day
Short hold time?	no	<24 hrs	1 day	Yes: 2 days	3 days	4 days
Matrix	Water	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:			
Green/white		Orange/black	
Purple/white		Dark blue/white	
Red/white	11x1000	Black/white	
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black		Beige/white	
Light blue/white		Other (specify)	

Comments:

7.6°C, ice packs ✓

Sample Login

Receipt Window	✓/X	N/A	Bottles	✓/X	N/A
# of fractions, matrix and submatrix	✓		All received bottles have IDs		
Client, office, contact, quote, project	✓		Type, volume, and locations		
Receipt time/date, PO, project, site	✓		Labels and internal COCs printed		
Temp, cooling method, sampler	✓		Client Contacts	✓/X	N/A
Sample Info	✓/X	N/A	Report/invoice/EDD recipients		
Sample date/time	✓		Report types/formats		
Sample ID/description	✓		Post-committing	✓/X	N/A
Sales items	✓		Runs built and field data entered		
Guidelines/thresholds	✓		Billing information entered		
Additional sample/WO information		✓	Action Required?	Yes	No
Due Dates	✓/X	N/A	Update default receipt data		
COC/GEL/client due dates match	✓		Update default report data		
Express TAT surcharges		✓	Add sales/billing items to quote		
Clock running for all samples	✓		SIF initiated (elaborate in comments)		

Comments:

CERTIFICATE OF ANALYSIS

Work Order	: **WP2422560**	Page	: 1 of 2
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON - PWS 69.00	Date Samples Received	: 20-Sep-2024 10:28
PO	: ----	Date Analysis Commenced	: 25-Sep-2024
C-O-C number	: ----	Issue Date	: 26-Sep-2024 16:06
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
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*
Lee McTavish		Metals, Winnipeg, Manitoba

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

<: 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: **Water** (Matrix: **Water**)				*Client sample ID*	**Lead #10A**	**Lead #11A**	**----**	**----**	**----**
				Client sampling date / time	19-Sep-2024 00:00	19-Sep-2024 00:00	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*LOR*	*Unit*	**WP2422560-001**	**WP2422560-002**	--------	--------	--------
					Result	Result	----	----	----
Total Metals									
Lead, total	7439-92-1	E420.Pb/WP	0.000050	mg/L	0.00264	0.00125	----	----	----

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.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2422560**	Page	: 1 of 5
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON - PWS 69.00	Date Samples Received	: 20-Sep-2024 10:28
PO	: ----	Issue Date	: 26-Sep-2024 16:24
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
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: **Water**

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
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE total (nitric acid)										
Lead #10A	E420.Pb	19-Sep-2024	25-Sep-2024	180 days	6 days	✓	25-Sep-2024	180 days	6 days	✓
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE total (nitric acid)										
Lead #11A	E420.Pb	19-Sep-2024	25-Sep-2024	180 days	6 days	✓	25-Sep-2024	180 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: **Water**

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)							
Total Lead in Water by CRC ICPMS	E420.Pb	1671569	1	7	14.2	5.0	✓
Laboratory Control Samples (LCS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1671569	1	7	14.2	5.0	✓
Method Blanks (MB)							
Total Lead in Water by CRC ICPMS	E420.Pb	1671569	1	7	14.2	5.0	✓
Matrix Spikes (MS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1671569	1	7	14.2	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
Total Lead in Water by CRC ICPMS	E420.Pb ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.

QUALITY CONTROL REPORT

Work Order	: **WP2422560**	Page	: 1 of 3
Client	: City of Flin Flon	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: FLIN FLON - PWS 69.00	Date Samples Received	: 20-Sep-2024 10:28
PO	: ----	Date Analysis Commenced	: 25-Sep-2024
C-O-C number	: ----	Issue Date	: 26-Sep-2024 16:12
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
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*
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba

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: **Water**

					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
Total Metals (QC Lot: 1671569)											
WP2422534-001	Anonymous	Lead, total	7439-92-1	E420.Pb	0.000050	mg/L	0.000675	0.000680	0.718%	20%	----

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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1671569)						
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	<0.000050	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1671569)									
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	0.5 mg/L	95.2	80.0	120	----

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: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1671569)										
WP2422534-001	Anonymous	Lead, total	7439-92-1	E420.Pb	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Report To			**Report Format / Distribution**	**Service Requested** (Rush for routine analysis subject to availability)
Company:	City of Flin Flon	(W973)	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	JAMES REITLO		☑ PDF ☐ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	20 First Avenue		Email 1: jreitlo@flinflon.ca	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Flin Flon, MB, R8A 0T7		Email 2:	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	204-687-0499	Fax: 204-681-7534	Email 3:	**Analysis Request**
Invoice To	Same as Report ? ☐ Yes	☑ No	**Client / Project Information**	Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?	☐ Yes	☐ No	Job #: Flin Flon Lead Monitoring	
Company:	Accounts Payable - The City of Flin Flon		PO / AFE:	
Contact:	purchasing@flinflon.ca		LSD:	
Address:				
Phone:		Fax:	Quote #:	
Lab Work Order # (lab use only)			**ALS Contact:** Craig Riddell	**Sampled By:** James Reitlo

Sample #	Sample Identification (This description will appear on the report)	Date Sampled	Time Sampled	Sample Type	RDT Lead	Number of Containers
	Lead #10A (distribution grab)	19/09/2024	10:32 am	Water	X	1
	Lead #11A (distribution grab)	19/09/2024	2:00 pm	Water	X	1
	NOTE: ** Not Filtered or Preserved - Please Lab Filter					

Environmental Division
Winnipeg
Work Order Reference
WP2422560

Telephone : +1 204 255 9720

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
			RS	20/09/2024	10:28	5.3 °C				

Sample Intake

Client: city of Plin Plon					**COC receipt info complete**	☐
Express TAT?	no	same day	1 day	**Yes:** 2 day	3 days	4 day
Short hold time?	no	<24 hrs	1 day	**Yes:** 2 days	3 days	4 days
Matrix	~~Water~~	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:			
Green/white		Orange/black	
Purple/white		Dark blue/white	
Red/white		Black/white	
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black		Beige/white	
Light blue/white		Other (specify)	2 x 1L

Comments:
5.3°C

Sample Login

Receipt Window	✓/X	N/A	**Bottles**	✓/X	N/A
# of fractions, matrix and submatrix			All received bottles have IDs		
Client, office, contact, quote, project			Type, volume, and locations		
Receipt time/date, PO, project, site			Labels and internal COCs printed		
Temp, cooling method, sampler			**Client Contacts**	✓/X	N/A
Sample Info	✓/X	N/A	Report/invoice/EDD recipients		
Sample date/time			Report types/formats		
Sample ID/description			**Post-committing**	✓/X	N/A
Sales items			Runs built and field data entered		
Guidelines/thresholds			Billing information entered		
Additional sample/WO information			**Action Required?**	**Yes**	**No**
Due Dates	✓/X	N/A	Update default receipt data		
COC/GEL/client due dates match			Update default report data		
Express TAT surcharges			Add sales/billing items to quote		
Clock running for all samples			SIF initiated (elaborate in comments)		

Comments:

CERTIFICATE OF ANALYSIS

Work Order	:	**WP2423383**			
Client	:	**City of Flin Flon**	Laboratory	:	ALS Environmental - Winnipeg
Contact	:	James Reitlo	Account Manager	:	Judy Dalmaijer
Address	:	20 First Avenue Flin Flon Manitoba Canada R8A 0T7	Address	:	1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	:	204 687 0499	Telephone	:	+1 204 255 9720
Project	:	----	Date Samples Received	:	04-Oct-2024 13:03
PO	:	CONTRACT 6675	Date Analysis Commenced	:	08-Oct-2024
C-O-C number	:	----	Issue Date	:	10-Oct-2024 11:06
Sampler	:	----			
Site	:	----			
Quote number	:	Analytical Testing - 2024			
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

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*
Lee McTavish		Metals, Winnipeg, Manitoba

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

<: 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: Water (Matrix: Water)					Client sample ID	Lead #9A	----	----	----	----
					Client sampling date / time	04-Oct-2024 12:22	----	----	----	----
Analyte	CAS Number	Method/Lab/Accreditation	LOR	Unit		WP2423383-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Lead, total	7439-92-1	E420.Pb/WP	0.000050	mg/L		0.00255	----	----	----	----

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	: **WP2423383**	Page	: 1 of 5
Client	: **City of Flin Flon**	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 04-Oct-2024 13:03
PO	: CONTRACT 6675	Issue Date	: 10-Oct-2024 11:05
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
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 Laboratory Control Sample (LCS) 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: **Water**

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*	
Total Metals : Total Lead in Water by CRC ICPMS										
HDPE total (nitric acid)										
Lead #9A	E420.Pb	04-Oct-2024	08-Oct-2024	180 days	4 days	✓	09-Oct-2024	180 days	5 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: **Water**

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)							
Total Lead in Water by CRC ICPMS	E420.Pb	1697204	0	1	0.0	5.0	✗
Laboratory Control Samples (LCS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1697204	1	1	100.0	5.0	✓
Method Blanks (MB)							
Total Lead in Water by CRC ICPMS	E420.Pb	1697204	1	1	100.0	5.0	✓
Matrix Spikes (MS)							
Total Lead in Water by CRC ICPMS	E420.Pb	1697204	0	1	0.0	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
Total Lead in Water by CRC ICPMS	E420.Pb ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.

QUALITY CONTROL REPORT

Work Order	: **WP2423383**	Page	: 1 of 3
Client	: City of Flin Flon	Laboratory	: ALS Environmental - Winnipeg
Contact	: James Reitlo	Account Manager	: Judy Dalmaijer
Address	: 20 First Avenue Flin Flon MB Canada R8A 0T7	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 687 0499	Telephone	: +1 204 255 9720
Project	: ----	Date Samples Received	: 04-Oct-2024 13:03
PO	: CONTRACT 6675	Date Analysis Commenced	: 08-Oct-2024
C-O-C number	: ----	Issue Date	: 10-Oct-2024 11:08
Sampler	: ----		
Site	: ----		
Quote number	: Analytical Testing - 2024_V2		
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:

- 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*
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba

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.

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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1697204)						
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	<0.000050	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1697204)									
Lead, total	7439-92-1	E420.Pb	0.00005	mg/L	0.5 mg/L	94.3	80.0	120	----

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page 1 of 1

Report To			**Report Format / Distribution**				**Service Requested** (Rush for routine analysis subject to availability)
Company:	City of Flin Flon	(W973)	☑ Standard	☐ Other			◉ Regular (Standard Turnaround Times - Business Days)
Contact:	JAMES REITLO		☑ PDF	☐ Excel	☐ Digital	☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	20 First Avenue		Email 1:	jreitlo@flinflon.ca			○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Flin Flon, MB, R8A 0T7		Email 2:				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	204-687-0499	Fax: 204-681-7534	Email 3:				**Analysis Request**
Invoice To	Same as Report ?	☐ Yes ☑ No	**Client / Project Information**				Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?		☐ Yes ☐ No	Job #:	Flin Flon Lead Monitoring			
Company:	Accounts Payable - The City of Flin Flon		PO / AFE:				
Contact:	purchasing@flinflon.ca		LSD:				
Address:							
Phone:		Fax:	Quote #:				

Lab Work Order # (lab use only)	WP 2423383	**ALS Contact:**	Craig Riddell	**Sampled By:**	James Reitlo

Sample #	Sample Identification (This description will appear on the report)	Date Sampled	Time Sampled	Sample Type	RDT Lead	Number of Containers
	Lead #9A (distribution grab)	03/10/2024	11:00 am	Water	X	1
	NOTE: ** Not Filtered or Preserved - Please Lab Filter					

Environmental Division
Winnipeg
Work Order Reference
WP2423383

Telephone : +1 204 255 9720

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
			MB	Oct 4 2024	1222	4.8 °C				

GENF 18.01 Front

Sample Intake

Client: Flin Flon					COC receipt info complete ☐
Express TAT?	no	same day	1 day	Yes: 2 day	3 days	4 day
Short hold time?	no	<24 hrs	1 day	Yes: 2 days	3 days	4 days
Matrix	Water	Soil/solid	Air	Biota	Food/micro	Other

Total number of bottles/fractions:			
Green/white		Orange/black	
Purple/white		Dark blue/white	
Red/white	1x 1L	Black/white	
Dark green/white		Brown/white	
Grey/white		Pink/white	
Yellow/black		Beige/white	
Light blue/white		Other (specify)	

Comments: 4.8° icepacks.

Sample Login

Receipt Window	✓/X	N/A	Bottles	✓/X	N/A
# of fractions, matrix and submatrix			All received bottles have IDs		
Client, office, contact, quote, project			Type, volume, and locations		
Receipt time/date, PO, project, site			Labels and internal COCs printed		
Temp, cooling method, sampler			**Client Contacts**	✓/X	N/A
Sample Info	✓/X	N/A	Report/invoice/EDD recipients		
Sample date/time			Report types/formats		
Sample ID/description			**Post-committing**	✓/X	N/A
Sales items			Runs built and field data entered		
Guidelines/thresholds			Billing information entered		
Additional sample/WO information			**Action Required?**	Yes	No
Due Dates	✓/X	N/A	Update default receipt data		
COC/GEL/client due dates match			Update default report data		
Express TAT surcharges			Add sales/billing items to quote		
Clock running for all samples			SIF initiated (elaborate in comments)		

Comments: