

Drinking Water Quality and Compliance

Town Short Form – A Template for Annual Notice to Consumers

(Note: This short form may be used for communities or waterworks serving a population of less than 5000).

Introduction

The Water Security Agency and the Ministry of Environment requires that at least once each year waterworks owners provide notification to consumers of the quality of water produced and supplied as well as information on the performance of the waterworks in submitting samples as required by a Minister's Order or Permit to Operate a waterworks. The following is a summary of the Town of Shellbrook water quality and sample submission compliance record for the 2024 time period. This report was completed on August 25, 2025. Readers should refer to Water Security Agency's Municipal Drinking Water Quality Monitoring Guidelines, June 2015, EPB 502 for more information on minimum sample submission requirements and the meaning of type of sample. Permit requirements for a specific waterworks may require more sampling than outlined in the department's monitoring guidelines. If consumers need more information on the nature and significance of specific water tests, for example, "what is the significance of Selenium in a water supply", more detailed information is available from: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html.

Water Quality Standards

Bacteriological Quality

Parameter/Location	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted (%)
Total Coliform	0 Organisms/100 mL	53	52	0
E. coli	0 Organisms/100 mL	53	52	0
Background Bacteria	Less than 200/100 mL	53	52	0

Water Disinfection –

Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples

Parameter	Minimum Limit	Total Chlorine Residual Range	Free Chlorine Residual Range	# Tests Required	# Tests Submitted	# Adequate Chlorine (%)
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.55-2.20	0.12-2.20	53	52	100

Water Disinfection - Free Chlorine Residual for Water Entering Distribution System from Waterworks Records- From Water Treatment Plant Records

Parameter	Limit (mg/L)	Test Level Range	# Tests Performed	# Tests Not Meeting Requirements
Free Chlorine Residual	at least 0.1	0.19-6.10	731	0

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual is required for water entering the distribution system. Tests are normally performed on a daily basis by the waterworks operator and are to be recorded in operation records. This data includes the number of free chlorine residual tests performed, the overall range of free chlorine residual (highest and lowest recorded values) and the number of tests and percentage of results not meeting the minimum requirement of 0.1 mg/L free chlorine residual.

Turbidity – From Water Treatment Plant Records

Parameter	Limit (NTU)	Test Level Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	1.0	0.07-0.85	0	0.85	730	732

Chemical – Health Category

All waterworks serving less than 5000 persons are required to submit water samples for SE's Chemical Health category once every 2 years. The Chemical Health category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium.

The last sample for Chemical Health analysis was submitted on (January 15, 2025). Samples exceeded provincial water quality standards for the following parameters: (Bromate)



**Saskatchewan
Ministry of
Environment**



Parameter	Limit MAC(mg/L)	Limit IMAC (mg/L)	Sample Result(s)	# Samples Exceeding Limit	
Arsenic	0.010		0.00052		* Results expressed as average values for communities or waterworks that fluoridate drinking water supplies or those with elevated concentrations of fluoride or nitrates.
Barium	1.0		0.00634		
Boron		5.0	0.749		
Bromate	0.01		<0.00105	Exceed	
Cadmium	0.005		<0.0000250		
Chlorate	1.0		1.45	Exceed	
Chlorite	1.0		<0.050		
Chromium	0.05		<0.00025		
Fluoride (avg*)	1.5		<0.40		
Lead	0.01		<0.000250		
Nitrate (avg.*)	45.0		<0.400		
Selenium	0.01		<0.000250		
Uranium	0.02		0.000180		

Chemical – Trihalomethanes (THMs) and Haloacetic Acids (HAAs)

Parameter	THMs Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	0.1	0.191	4 (1 every 3 months)	1
Haloacetic Acids	0.08	N/A	4 (1 every 3 months)	N/A

Note: Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs and HAAs. Waterworks using groundwater sources beyond the influence of surface water do not need to report THMs or HAAs since sampling/analysis will not likely have been performed unless otherwise noted in the waterworks permit to operate

General Chemical

Parameter	Aesthetic Objectives * (mg/L)	Sample Results (average)	# Samples Required	# Samples Submitted
Alkalinity	500	352	1	1
Bicarbonate	No Objective	430	1	1
Calcium	No Objective	98.6	1	1
Carbonate	No Objective	<1.0	1	1
Chloride	250	504	1	1
Conductivity	No Objective	3590	1	1
Hardness	800	441	1	1
Magnesium	200	49.6	1	1
PH	No Objective	8.05	1	1
Sodium	300	640	1	1
Sulphate	500	801	1	1
Total dissolved Solids	1500	2330	1	1

All waterworks serving less than 5000 persons are required to submit water samples for SE's General Chemical category once every two years if a ground water source and once per three months every second year if a surface water or blended surface/groundwater source. The General Chemical category includes analysis for alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness (as CaCO₃), magnesium, sodium, sulphate and total dissolved solids.

The last sample for General Chemical analysis was submitted on (January 15, 2025) Samples exceeded provincial aesthetic objectives for the General Chemical category for the following parameters: (Chloride, Sodium, Sulphate and TDS).

*Objectives apply to certain characteristics of or substances found in water for human consumptive or hygienic use. The presence of these substances will affect the acceptance of water by consumers and/or interfere with the practice of supplying good quality water. Compliance with drinking water aesthetic objectives is not mandatory as these objectives are in the range where they do not constitute a health hazards. The aesthetic objectives for several parameters (including hardness as CaCO_3 , magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

More information on water quality and sample submission performance may be obtained from:

Town of Shellbrook
Box 40, Shellbrook, SK S0J 2E0
(306) 747-4900
townoffice@townofshellbrook.ca

June 2015 EPB 536D



Saskatchewan
Ministry of
Environment



Water Security
Agency

Town of Shellbrook Bacteriological Samples 2024

- January 2,9,15,22,29
- February 6,12,20,28
- March 5,11,18,27
- April 1,8,15,22,29
- May 6,13,21,27
- June 3,10,17,24
- July 2,9,15,21,30
- August 7,12,19,26
- September 4,10,16,23
- October 1,7,15,21,28
- November 4,12,19,25
- December 2,9,16,23,30

63 Samples in total

Other samples collected include;

- July 8/9 501 1st Ave E repair
- September 16/17 temporary service for 1st Ave E
- November 4/5 1st Ave E repaired BIS

Bromate Samples

Jan 2, Feb 12, Mar 5, Apr 1, May 6, Jun 3, July 2, Aug 7, Sep 4, Oct 7, Nov 4, Dec 2

Free chlorine samples 731

Total chlorine samples 731

Turbidity samples 730

CERTIFICATE OF ANALYSIS

Work Order
Client: **SK2500218**
Contact: **Town of Shellbrook**
Address: **Lydia McQuillan**
71 Main Street PO Box 40
Shellbrook Saskatchewan Canada S0J 2E0
Telephone: **306-747-4900**
Project: **Waterworks**
C-O-C number: **---**
Sampler: **AB**
Site: **---**
Quote number: **---**
No. of samples received: **3**
No. of samples analysed: **3**

Laboratory
Account Manager: **ALS Environmental - Saskatoon**
Address: **Kimberley Head**
819 58 Street East
Saskatoon SK Canada S7K 6X5
+1 306 668 8370
Telephone: **16-Jan-2025 09:50**
Date Samples Received: **16-Jan-2025**
Date Analysis Commenced: **22-Jan-2025 14:38**
Issue Date:

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.

Signature	Position	Laboratory Department
Colby Bingham	Laboratory Supervisor	Metals, Saskatoon, Saskatchewan
Colby Bingham	Laboratory Supervisor	Inorganics, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
Jing Liu	Laboratory Analyst	Inorganics, Edmonton, Alberta
Kimberly Hanson	Laboratory Analyst	Metals, Saskatoon, Saskatchewan
Milad Khani	Laboratory Analyst	Metals, Saskatoon, Saskatchewan
Milad Khani	Laboratory Analyst	Inorganics, Saskatoon, Saskatchewan
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, Saskatoon, Saskatchewan
		Inorganics, Waterloo, Ontario

Work Order : SK2500218
Client : Town of Shellbrook
Project : Waterworks



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 result is less 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
-	no units
%	percent
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
µS/cm	microsiemens per centimetre

<: 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.

Accreditation

Accreditation	Description	Laboratory	Address
A	CALA ISO/IEC 17025:2017	SK ALS Environmental - Saskatoon	819 58 Street East, Saskatoon, SK
B	CALA ISO/IEC 17025:2017	EO ALS Environmental - Edmonton	9450 - 17 Avenue NW, Edmonton, AB
C	CALA ISO/IEC 17025:2017	WT ALS Environmental - Waterloo	60 Northland Road, Unit 1, Waterloo, ON

Applicable accreditations are indicated in the Method/Lab column.



Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Sub-Matrix: Treated Drinking Water
(Matrix: Water)

Page: 4 of 11



Analytical Results

Sub-Matrix: Treated Drinking Water
Matrix: Water

Client sample ID											
SK05GF0003 WTP											
Client sampling date / time											
15-Jan-2025 15:56											
SK2500218-001											
Result											
</											

Work Order : SK2500218
Client : Town of Shellbrook
Project : Waterworks



Analytical Results

Sub-Matrix: Treated Drinking Water
(Matrix: Water)

Client sample ID				SK05GF0003 WTP					
Client sampling date / time				15-Jan-2025 15:56					
Unit				SK2500218-001					
LOR				Result					
Method/Lab									
CAS Number									
Analyte									
Total Metals									
Molybdenum, total	7439-98-7	E420/SK	A	0.000050	mg/L	0.0130			
Nickel, total	7440-02-0	E420/SK	A	0.00050	mg/L	<0.00250	DLDS		
Phosphorus, total	7723-14-0	E420/SK	A	0.050	mg/L	<0.250	DLDS		
Potassium, total	7440-09-7	E420/SK	A	0.050	mg/L	15.6			
Rubidium, total	7440-17-7	E420/SK	A	0.00020	mg/L	0.00421			
Selenium, total	7782-49-2	E420/SK	A	0.000050	mg/L	<0.000250	DLDS		
Silicon, total	7440-21-3	E420/SK	A	0.10	mg/L	7.75			
Silver, total	7440-22-4	E420/SK	A	0.000010	mg/L	<0.000050	DLDS		
Sodium, total	7440-23-5	E420/SK	A	0.050	mg/L	640			
Strontium, total	7440-24-6	E420/SK	A	0.00020	mg/L	1.06			
Sulfur, total	7704-34-9	E420/SK	A	0.50	mg/L	280			
Tellurium, total	13494-80-9	E420/SK	A	0.00020	mg/L	<0.00100	DLDS		
Thallium, total	7440-28-0	E420/SK	A	0.000010	mg/L	<0.000050	DLDS		
Thorium, total	7440-29-1	E420/SK	A	0.00010	mg/L	<0.00050	DLDS		
Tin, total	7440-31-5	E420/SK	A	0.00010	mg/L	<0.00050	DLDS		
Titanium, total	7440-32-6	E420/SK	A	0.00030	mg/L	<0.00150	DLDS		
Tungsten, total	7440-33-7	E420/SK	A	0.00010	mg/L	<0.00050	DLDS		
Uranium, total	7440-61-1	E420/SK	A	0.000010	mg/L	0.000180			
Vanadium, total	7440-62-2	E420/SK	A	0.00050	mg/L	<0.00250	DLDS		
Zinc, total	7440-66-6	E420/SK	A	0.0030	mg/L	<0.0150	DLDS		
Zirconium, total	7440-67-7	E420/SK	A	0.00020	mg/L	<0.00100	DLDS		



Analytical Results

Sub-Matrix: Treated Drinking Water
 Matrix: Water

Analyze	Client sample ID				SK05GF0003 WTP			
	CAS Number	Method/Lab	Client sampling date / time		LOR	Unit	Result	
Dissolved Metals	7440-70-2	E421/SK	A	0.050	mg/L	98.9		
	7439-89-6	E421/SK	A	0.010	mg/L	<0.050 plus		
	7439-95-4	E421/SK	A	0.0050	mg/L	47.2		
	7439-96-5	E421/SK	A	0.00010	mg/L	0.00147		
	7440-09-7	E421/SK	A	0.050	mg/L	15.4		
	7440-23-5	E421/SK	A	0.050	mg/L	632		
Dissolved metals filtration location	----	EP421/SK				Laboratory		
Disinfectant By-Products								
Chlorate	14866-68-3	E409.CLO3W	C	0.010	mg/L	1.45 plus		

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

Analytical Results

Sub-Matrix: Well Water
 Matrix: Water

Analyze	Client sample ID				SK05GF0016 Well			
	CAS Number	Method/Lab	Client sampling date / time		LOR	Unit	Result	
Physical Tests	---	EC100/SK		0.50	mg/L	454	422	
	---	E100/SK	A	2.0	µS/cm	3610	3390	
	---	E108/SK	A	0.10	pH units	8.07	8.12	
	71-52-3	E290/SK	A	1.0	mg/L	439	438	
Alkalinity, bicarbonate (as HCO ₃)	3812-32-6	E290/SK	A	1.0	mg/L	<1.0	<1.0	

Work Order : SK2500218
Client : Town of Shellbrook
Project : Waterworks



Analytical Results

Sub-Matrix: Well Water
(Matrix: Water)

Sub-Matrix: Well Water (Matrix: Water)		Client sample ID		SK05GF0016 Well #11	SK05GF0016 Well #10				
		Client sampling date / time		15-Jan-2025 15:56	15-Jan-2025 15:50				
Analyte	CAS Number	Method/Lab	LOR	Unit	Result				
					Result	Result			
Physical Tests									
Alkalinity, hydroxide (as OH)	14280-30-9	E290/SK	A	1.0	mg/L	<1.0	<1.0		
Alkalinity, total (as CaCO3)	----	E290/SK	A	2.0	mg/L	360	359		
Solids, total dissolved [TDS], calculated	----	EC103/SK		1.0	mg/L	2360	2220		
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/EO	B	0.0050	mg/L	2.54	2.42		
Chloride	16887-00-6	E235.Cl/SK	A	0.50	mg/L	485	449		
Fluoride	16984-48-8	E235.F/SK	A	0.020	mg/L	<0.400 DLOS	<0.400 DLOS		
Nitrate (as N)	14797-55-8	E235.NO3/SK	A	0.020	mg/L	<0.400 DLOS	<0.400 DLOS		
Nitrite (as N)	14797-65-0	E235.NO2/SK	A	0.010	mg/L	<0.200 DLOS	<0.200 DLOS		
Sulfate (as SO4)	14808-79-8	E235.SO4/SK	A	0.30	mg/L	836	772		
Nitrate + Nitrite (as N)	----	EC235.N+N/S	K	0.0500	mg/L	<0.447	<0.447		
Inorganics									
Chlorite	14998-27-7	E409.CLO2/W	T	0.010	mg/L	<0.050 DLOS	<0.050 DLOS		
Ion Balance									
Anion sum	----	EC101/SK		0.10	meq/L	38.3	35.9		
Cation sum	----	EC101/SK		0.10	meq/L	37.3	35.2		
Ion balance (APHA)	----	EC101/SK		0.01	%	-1.32	-0.98		
Ion balance (cations/anions)	----	EC101/SK		0.010	%	97.4	98.0		
Total Metals									
Aluminum, total	7429-90-5	E420/SK	A	0.0030	mg/L	<0.0150 DLOS	<0.0150 DLOS		
Antimony, total	7440-36-0	E420/SK	A	0.00010	mg/L	<0.00050 DLOS	<0.00050 DLOS		



Analytical Results

Sub-Matrix: Well Water
 Matrix: Water

Sub-Matrix: Well Water											
Matrix: Water											
Analyte	Client sample ID				SK05GF0016 Well #11		SK05GF0016 Well #10				
	CAS Number	Method/Lab	LOR	Unit	Client sampling date / time	Result	Unit	Client sampling date / time	Result		
Total Metals											
Arsenic, total	7440-38-2	E420/SK	A	0.00010	mg/L	0.00252	mg/L	0.00219			
Barium, total	7440-39-3	E420/SK	A	0.00010	mg/L	0.0109	mg/L	0.00943			
Beryllium, total	7440-41-7	E420/SK	A	0.000020	mg/L	<0.000100	mg/L	<0.000100	DLDS		
Bismuth, total	7440-69-9	E420/SK	A	0.000050	mg/L	<0.000250	mg/L	<0.000250	DLDS		
Boron, total	7440-42-8	E420/SK	A	0.010	mg/L	0.771	mg/L	0.732			
Cadmium, total	7440-43-9	E420/SK	A	0.0000050	mg/L	<0.0000250	mg/L	<0.0000250	DLDS		
Calcium, total	7440-70-2	E420/SK	A	0.050	mg/L	104	mg/L	99.3			
Cesium, total	7440-46-2	E420/SK	A	0.000010	mg/L	<0.000050	mg/L	<0.000050	DLDS		
Chromium, total	7440-47-3	E420/SK	A	0.00050	mg/L	<0.00250	mg/L	<0.00250	DLDS		
Cobalt, total	7440-48-4	E420/SK	A	0.00010	mg/L	<0.00050	mg/L	<0.00050	DLDS		
Copper, total	7440-50-8	E420/SK	A	0.00050	mg/L	<0.00250	mg/L	<0.00250	DLDS		
Cron, total	7439-89-6	E420/SK	A	0.010	mg/L	2.13	mg/L	1.86			
Lead, total	7439-92-1	E420/SK	A	0.000050	mg/L	<0.000250	mg/L	<0.000250	DLDS		
Lithium, total	7439-93-2	E420/SK	A	0.0010	mg/L	0.197	mg/L	0.188			
Magnesium, total	7439-95-4	E420/SK	A	0.0050	mg/L	50.9	mg/L	47.2			
Manganese, total	7439-96-5	E420/SK	A	0.00010	mg/L	0.0593	mg/L	0.0484			
Molybdenum, total	7439-98-7	E420/SK	A	0.000050	mg/L	0.0136	mg/L	0.0139			
Nickel, total	7440-02-0	E420/SK	A	0.00050	mg/L	<0.00250	mg/L	<0.00250	DLDS		
Phosphorus, total	7723-14-0	E420/SK	A	0.050	mg/L	<0.250	mg/L	<0.250	DLDS		
Potassium, total	7440-09-7	E420/SK	A	0.050	mg/L	15.7	mg/L	15.0			
Rubidium, total	7440-17-7	E420/SK	A	0.00020	mg/L	0.00424	mg/L	0.00416			

Work Order : SK2500218
Client : Town of Shellbrook
Project : Waterworks



Analytical Results

Sub-Matrix: Well Water
(Matrix: Water)

Sub-Matrix: Well Water (Matrix: Water)	Client sample ID					SK05GF0016 Well #10	SK05GF0016 Well #11	15-Jan-2025 15:50	SK2500218-003	Result	Result																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</
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Analytical Results

Sub-Matrix: Well Water
 Matrix: Water

Sub-Matrix: Well Water										
Matrix: Water										
Analyte	CAS Number	Method/Lab	Client sample ID		Client sampling date / time		SK05GF0016 Well #11		SK05GF0016 Well #10	
			LOR	Unit	15-Jan-2025 15:56	15-Jan-2025 15:50	Result	Result		
Dissolved Metals										
Potassium, dissolved	7440-09-7	E421/SK	0.050	mg/L	14.9	14.7				
Sodium, dissolved	7440-23-5	E421/SK	0.050	mg/L	636	604				
Dissolved metals filtration location	----	EP421/SK	-	-	Laboratory	Laboratory				
Disinfectant By-Products										
Chlorate	14866-68-3	E409.CLO3/W	0.010	mg/L	0.297	0.264				

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



QUALITY CONTROL REPORT

Work Order	: SK2500218	Page	1 of 13
Client	: Town of Shellbrook	Laboratory	: ALS Environmental - Saskatoon
Contact	: Lydia McQuillan	Account Manager	: Kimberley Head
Address	: 71 Main Street PO Box 40	Address	: 819 58 Street East
Telephone	: Shellbrook SK Canada S0J 2E0	Telephone	: +1 306 668 8370
Project	: 306-747-4900	Date Samples Received	: 16-Jan-2025 09:50
PO	: Waterworks	Date Analysis Commenced	: 16-Jan-2025
C-O-C number	: ---	Issue Date	: 22-Jan-2025 14:37
Sampler	: AB		
Site	: ---		
Quote number	: ---		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

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

Signatories

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

Signatories	Position	Laboratory Department
Colby Bingham	Laboratory Supervisor	Saskatoon Inorganics, Saskatoon, Saskatchewan
Colby Bingham	Laboratory Supervisor	Saskatoon Metals, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Inorganics, Saskatoon, Saskatchewan
Jing Liu	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Kimberly Hanson	Laboratory Analyst	Saskatoon Metals, Saskatoon, Saskatchewan
Milad Khani	Laboratory Analyst	Saskatoon Inorganics, Saskatoon, Saskatchewan
Milad Khani	Laboratory Analyst	Saskatoon Metals, Saskatoon, Saskatchewan
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario



General Comments

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

By :

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 (out-of 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
Physical Tests (QC Lot: 1841970)											
SK2500206-001	Anonymous	Conductivity	---	E100	2.0	µS/cm	1230	1220	0.733%	10%	---
Physical Tests (QC Lot: 1841971)											
SK2500206-001	Anonymous	pH	---	E108	0.10	pH units	8.17	8.06	1.36%	3%	---
Physical Tests (QC Lot: 1841972)											
SK2500206-001	Anonymous	Alkalinity, total (as CaCO3)	---	E280	2.0	mg/L	362	362	0.108%	20%	---
Anions and Nutrients (QC Lot: 1841680)											
SK2500218-001	SK05GF0003 WTP	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	801	807	0.718%	20%	---
Anions and Nutrients (QC Lot: 1841681)											
SK2500218-001	SK05GF0003 WTP	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1841682)											
SK2500218-001	SK05GF0003 WTP	Nitrate (as N)	14797-55-8	E235.NO3	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1841683)											
SK2500218-001	SK05GF0003 WTP	Chloride	16887-00-6	E235.Cl	10.0	mg/L	504	505	0.0940%	20%	---
Anions and Nutrients (QC Lot: 1841684)											
SK2500218-001	SK05GF0003 WTP	Nitrite (as N)	14797-65-0	E235.NO2	0.200	mg/L	<0.200	<0.200	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1843564)											
FC2500131-002	Anonymous	Ammonia, total (as N)	7664-41-7	E238	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	---
Total Metals (QC Lot: 1841546)											
RG2500029-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0060	mg/L	0.0099	0.0098	0.00009	Diff <2x LOR	---
		Antimony, total	7440-36-0	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	0.00377	0.00381	0.958%	20%	---
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.185	0.183	4.36%	20%	---
		Beryllium, total	7440-41-7	E420	0.000040	mg/L	<0.000040	<0.000040	0	Diff <2x LOR	---
		Bismuth, total	7440-89-9	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Boron, total	7440-42-8	E420	0.020	mg/L	0.777	0.784	1.00%	20%	---
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.0000101	0.0000152	0.0000051	Diff <2x LOR	---
		Calcium, total	7440-70-2	E420	0.100	mg/L	289	289	0.0694%	20%	---
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.000194	0.000194	0.0000008	Diff <2x LOR	---
		Chromium, total	7440-47-3	E420	0.00100	mg/L	0.00126	0.00117	0.00008	Diff <2x LOR	---
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00038	0.00038	0.000004	Diff <2x LOR	---



Lab 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: 1841546) - continued												
RG2500029-001	Anonymous	Copper, total	7440-50-8	E420	0.00100	mg/L	0.0244	0.0247	1.20%	20%	----	
		Iron, total	7439-89-6	E420	0.020	mg/L	0.057	0.054	0.003	Diff <2x LOR	----	
		Lead, total	7439-92-1	E420	0.000100	mg/L	<0.000100	0.000146	0.000046	Diff <2x LOR	----	
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.101	0.101	0.397%	20%	----	
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	93.4	93.7	0.375%	20%	----	
		Manganese, total	7439-96-5	E420	0.00020	mg/L	1.79	1.81	1.07%	20%	----	
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0370	0.0362	2.23%	20%	----	
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.00121	0.00134	0.00012	Diff <2x LOR	----	
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	2.28	2.26	0.622%	20%	----	
		Potassium, total	7440-09-7	E420	0.100	mg/L	8.97	8.82	1.70%	20%	----	
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00250	0.00254	0.00004	Diff <2x LOR	----	
		Selenium, total	7782-49-2	E420	0.000100	mg/L	0.128	0.126	1.60%	20%	----	
		Silicon, total	7440-21-3	E420	0.20	mg/L	9.64	9.46	1.84%	20%	----	
		Silver, total	7440-22-4	E420	0.000020	mg/L	0.000031	0.000028	0.000003	Diff <2x LOR	----	
		Sodium, total	7440-23-5	E420	0.100	mg/L	226	231	2.14%	20%	----	
		Strontium, total	7440-24-6	E420	0.00040	mg/L	1.84	1.84	0.0577%	20%	----	
		Sulfur, total	7704-34-9	E420	1.00	mg/L	489	488	0.308%	20%	----	
		Tellurium, total	13494-80-9	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----	
		Thallium, total	7440-28-0	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----	
		Thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----	
Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----			
Titanium, total	7440-32-6	E420	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----			
Tungsten, total	7440-33-7	E420	0.00020	mg/L	0.00026	0.00026	0.00001	Diff <2x LOR	----			
Uranium, total	7440-61-1	E420	0.000020	mg/L	0.000290	0.000286	1.60%	20%	----			
Vanadium, total	7440-62-2	E420	0.00100	mg/L	0.00152	0.00163	0.00011	Diff <2x LOR	----			
Zinc, total	7440-66-6	E420	0.0060	mg/L	0.0102	0.0109	0.0007	Diff <2x LOR	----			
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----	
Dissolved Metals (QC Lot: 1841560)												
RG2500023-001	Anonymous	Calcium, dissolved	7440-70-2	E421	0.050	mg/L	66.8	71.4	2.24%	20%	----	
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----	
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	53.4	53.7	0.604%	20%	----	
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00026	0.00015	0.00012	Diff <2x LOR	----	
		Potassium, dissolved	7440-08-7	E421	0.050	mg/L	2.10	2.08	1.18%	20%	----	
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	13.0	13.4	2.96%	20%	----	



Sub-Matrix: Water

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
Disinfectant By-Products (QC Lot: 1847418)											
CG2500570-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	0.010	mg/L	0.096	0.090	0.005	Diff <2x LOR	---
Disinfectant By-Products (QC Lot: 1847419)											
CG2500570-001	Anonymous	Chlorite	14998-27-7	E409.CLO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	---



Page 6 of 13
Job Order SK2500218
Client Town of Shellbrook
Project Waterworks

Method Blank (MB) Report

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
Physical Tests (QCLot: 1841970)						
Conductivity	---	E100	1	µS/cm	1.7	----
Physical Tests (QCLot: 1841972)						
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	<1.0	----
Anions and Nutrients (QCLot: 1841680)						
Sulfate (as SO ₄)	14808-79-8	E235.S04	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1841681)						
Fluoride	16964-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1841682)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1841683)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1841684)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1843564)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Total Metals (QCLot: 1841546)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-58-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1841546) - continued						
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.00050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 1841560)						
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Disinfectant By-Products (QCLot: 1847418)						
Chlorate	14866-69-3	E409.CLO3	0.01	mg/L	<0.010	----
Disinfectant By-Products (QCLot: 1847419)						
Chlorine	14998-27-7	E409.CLO2	0.01	mg/L	<0.010	----





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									
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	Recovery Limits (%)		Qualifier	
						Recovery (%)	Low		
Physical Tests (QCLot: 1841970)									
Conductivity	---	E100	1	µS/cm	1000 µS/cm	102	90.0	110	---
Physical Tests (QCLot: 1841971)									
pH	---	E108	---	pH units	7 pH units	101	98.8	101	---
Physical Tests (QCLot: 1841972)									
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	500 mg/L	98.6	85.0	115	---
Anions and Nutrients (QCLot: 1841680)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 1841681)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	---
Anions and Nutrients (QCLot: 1841682)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 1841683)									
Chloride	16987-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	---
Anions and Nutrients (QCLot: 1841684)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	104	90.0	110	---
Anions and Nutrients (QCLot: 1843564)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	---
Total Metals (QCLot: 1841546)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	103	80.0	120	---
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	107	80.0	120	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	109	80.0	120	---
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	---
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	105	80.0	120	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	106	80.0	120	---
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	93.2	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	106	80.0	120	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	---



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report									
Sub-Matrix: Water									
Analyte	CAS Number	Method	LOR	Unit	Spike Target Concentration	Recovery Limits (%)		Qualifier	
						Recovery (%)	Low High		
Total Metals (QCLot: 1841546) - continued									
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	103	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	105	80.0	120	---
Lithium, total	7438-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.6	80.0	120	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	109	80.0	120	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	97.8	80.0	120	---
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	107	80.0	120	---
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100.0	80.0	120	---
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	105	80.0	120	---
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.8	80.0	120	---
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	101	80.0	120	---
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	102	80.0	120	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	102	80.0	120	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	113	80.0	120	---
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	96.5	80.0	120	---
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.7	80.0	120	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	107	80.0	120	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	108	80.0	120	---
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	---
Zinc, total	7440-68-8	E420	0.003	mg/L	0.5 mg/L	106	80.0	120	---
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.1	80.0	120	---
Dissolved Metals (QCLot: 1841560)									
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	106	80.0	120	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	107	80.0	120	---
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	107	80.0	120	---
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	106	80.0	120	---
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	111	80.0	120	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	107	80.0	120	---



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report			
					Spike	Recovery (%)	Recovery Limits (%)	Qualifier
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High
Disinfectant By-Products (QCLot: 1847418)								
Chlorate	14866-68-3	E409, CLO3	0.01	mg/L	1 mg/L	102	85.0	115

Disinfectant By-Products (QCLot: 1847419)								
Chlorite	14998-27-7	E409, CLO2	0.01	mg/L	1 mg/L	105	85.0	115



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 $\geq 1 \times$ spike level.

Sub-Matrix: Water

Matrix Spike (MS) Report											
Laboratory sample ID		Client sample ID	Analyte	CAS Number	Method	Spike		Recovery Limits (%)			
						Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1841680)											
SK2500218-001	SK05GF0003 WTP		Sulfate (as SO4)	14808-79-8	E235.S04	ND mg/L	---	ND	75.0	125	---
Anions and Nutrients (QCLot: 1841681)											
SK2500218-001	SK05GF0003 WTP		Fluoride	18384-48-3	E235.F	0.971 mg/L	1 mg/L	97.1	75.0	125	---
Anions and Nutrients (QCLot: 1841682)											
SK2500218-001	SK05GF0003 WTP		Nitrate (as N)	14797-55-8	E235.NO3	2.34 mg/L	2.5 mg/L	93.6	75.0	125	---
Anions and Nutrients (QCLot: 1841683)											
SK2500218-001	SK05GF0003 WTP		Chloride	16887-00-6	E235.Cl	ND mg/L	---	ND	75.0	125	---
Anions and Nutrients (QCLot: 1841684)											
SK2500218-001	SK05GF0003 WTP		Nitrite (as N)	14797-65-0	E235.NO2	0.391 mg/L	0.5 mg/L	78.2	75.0	125	---
Anions and Nutrients (QCLot: 1843564)											
FC2500131-002	Anonymous		Ammonia, total (as N)	7664-41-7	E298	0.0984 mg/L	0.1 mg/L	98.4	75.0	125	---
Total Metals (QCLot: 1841546)											
RG2500029-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	---	ND	70.0	130	---	
		Antimony, total	7440-36-0	E420	0.0212 mg/L	0.02 mg/L	106	70.0	130	---	
		Arsenic, total	7440-38-2	E420	0.0228 mg/L	0.02 mg/L	114	70.0	130	---	
		Barium, total	7440-39-3	E420	ND mg/L	---	ND	70.0	130	---	
		Beryllium, total	7440-41-7	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130	---	
		Bismuth, total	7440-69-9	E420	0.0102 mg/L	0.01 mg/L	102	70.0	130	---	
		Boron, total	7440-42-8	E420	ND mg/L	---	ND	70.0	130	---	
		Cadmium, total	7440-43-9	E420	0.00438 mg/L	0.004 mg/L	110	70.0	130	---	
		Calcium, total	7440-70-2	E420	ND mg/L	---	ND	70.0	130	---	
		Cesium, total	7440-46-2	E420	0.0108 mg/L	0.01 mg/L	108	70.0	130	---	
		Chromium, total	7440-47-3	E420	0.0412 mg/L	0.04 mg/L	103	70.0	130	---	
		Cobalt, total	7440-48-4	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	---	
		Copper, total	7440-50-8	E420	ND mg/L	---	ND	70.0	130	---	
		Iron, total	7439-89-6	E420	2.08 mg/L	2 mg/L	104	70.0	130	---	
		Lead, total	7439-92-1	E420	0.0210 mg/L	0.02 mg/L	105	70.0	130	---	
		Lithium, total	7439-93-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	---	
		Magnesium, total	7439-95-4	E420	ND mg/L	---	ND	70.0	130	---	
		Manganese, total	7439-96-5	E420	ND mg/L	---	ND	70.0	130	---	
		Molybdenum, total	7439-98-7	E420	0.0231 mg/L	0.02 mg/L	116	70.0	130	---	
		Nickel, total	7440-02-0	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	---	
		Phosphorus, total	7723-14-0	E420	11.0 mg/L	10 mg/L	110	70.0	130	---	
		Potassium, total	7440-09-7	E420	ND mg/L	---	ND	70.0	130	---	
		Rubidium, total	7440-17-7	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	---	
		Selenium, total	7782-49-2	E420	0.0414 mg/L	0.04 mg/L	103	70.0	130	---	

Sub-Matrix: Water



Sub-Matrix: Water

Sub-Matrix: Water									
					Matrix Spike (MS) Report				
		Spike							
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	Recovery (%)	Recovery Limits (%)	Qualifier
Total Metals (QCLot: 1841546) - continued									
RG2500029-002	Anonymous	Silicon, total	7440-21-3	E420	10.4 mg/L	10 mg/L	104	70.0	130
		Silver, total	7440-22-4	E420	0.00433 mg/L	0.004 mg/L	108	70.0	130
		Sodium, total	7440-23-5	E420	ND mg/L	---	ND	70.0	130
		Strontium, total	7440-24-6	E420	ND mg/L	---	ND	70.0	130
		Sulfur, total	7704-34-9	E420	ND mg/L	---	ND	70.0	130
		Tellurium, total	13494-80-9	E420	0.0439 mg/L	0.04 mg/L	110	70.0	130
		Thallium, total	7440-28-0	E420	0.00432 mg/L	0.004 mg/L	108	70.0	130
		Thorium, total	7440-29-1	E420	0.0223 mg/L	0.02 mg/L	111	70.0	130
		Tin, total	7440-31-5	E420	0.0216 mg/L	0.02 mg/L	108	70.0	130
		Titanium, total	7440-32-6	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130
		Tungsten, total	7440-33-7	E420	0.0222 mg/L	0.02 mg/L	111	70.0	130
		Uranium, total	7440-81-1	E420	0.00436 mg/L	0.004 mg/L	109	70.0	130
		Vanadium, total	7440-62-2	E420	0.109 mg/L	0.1 mg/L	109	70.0	130
		Zinc, total	7440-66-6	E420	0.422 mg/L	0.4 mg/L	106	70.0	130
		Zirconium, total	7440-67-7	E420	0.0421 mg/L	0.04 mg/L	105	70.0	130
Dissolved Metals (QCLot: 1841560)									
RG2500023-004	Anonymous	Calcium, dissolved	7440-70-2	E421	ND mg/L	---	ND	70.0	130
		Iron, dissolved	7439-89-6	E421	2.14 mg/L	2 mg/L	107	70.0	130
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	---	ND	70.0	130
		Manganese, dissolved	7439-96-5	E421	0.0210 mg/L	0.02 mg/L	105	70.0	130
		Potassium, dissolved	7440-09-7	E421	4.15 mg/L	4 mg/L	104	70.0	130
Sodium, dissolved	7440-23-5	E421	ND mg/L	---	ND	70.0	130		
Disinfectant By-Products (QCLot: 1847418)									
CG2500570-001	Anonymous	Chlorate	14866-68-3	E409.CLO3	1.03 mg/L	1 mg/L	103	75.0	125
Disinfectant By-Products (QCLot: 1847419)									
CG2500570-001	Anonymous	Chlorite	14958-27-7	E409.CLO2	0.981 mg/L	1 mg/L	98.1	75.0	125



Chain of Custody (COC) / Analytical Request Form

COC Number: 23, 1132803

Page of

Canada Toll Free: 1 800 663 9678

www.als-lab.com

Environmental Division
Saskatoon
Work Order Reference
SK2500218



Telephone: +1 306 666 8370

Report To		Company Name below will appear on the final report	
Company:	TOWN OF SASKatoon		
Contact:	KARL HEDGECOCK		
Phone:	306-747-3900		
Company address below will appear on the final report			
Sheet:	71 Main Street		
City/Province:	Saskatoon SK		
Postal Code:	S7N 1H5		
Invoice To	Same as Report To	☒ YES ☐ NO	
Copy of Invoice with Report	☒ YES ☐ NO		
Company:	TOWN OF SASKatoon		
Contact:			
Project Information			
ALS Client Code / QUOTE #:	AFR0000000		
Job / Project #:	1146-11111111		
PO / A/E:	Permit # 2485		
LSD:			
ALS Lab Work Order # (ALS use only):			
ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (mm:ss)
SK2500003 WTP		14/06/25	15:56
SK2500006 Well #11		"	15:46
SK2500006 Well #10		"	15:50
Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)			
Drinking Water (DW) Samples (client use)			
Are samples taken from a Regulated DW System?	☐ YES ☐ NO		
Are samples for human consumption use?	☐ YES ☐ NO		
SHIPPING RELEASE (client use)			
Released by:	Date:	Time:	
Reviewed by:	Date:	Time:	
WHITE - LABORATORY COPY	YELLOW - CLIENT COPY		
16/06/25	16/06/25	12:33	12:33
INITIAL SHIPMENT RECEPTION (ALS use only)			
Received by:	Date:	Time:	
16/06/25	16/06/25	12:33	12:33
FINAL SHIPMENT RECEPTION (ALS use only)			
Received by:	Date:	Time:	
16/06/25	16/06/25	12:33	12:33
SUSPECTED HAZARD (see notes)			
EXTENDED STORAGE REQUIRED			
SUSPECTED HAZARD (see notes)			

NUMBER OF CONTAINERS	CHLORATE CHLORIDE	NH3	TOT. METALS	COB QUALITY
4	✓	✓	✓	✓
4	✓	✓	✓	✓
4	✓	✓	✓	✓
4	✓	✓	✓	✓

Turnaround Time (TAT) Requested
☐ Routine (R) if received by 3pm M-F - no surcharge apply
☐ 4 day (M) if received by 3pm M-F - 20% rush surcharge if
☐ 3 day (P) if received by 3pm M-F - 25% rush surcharge if
☐ 2 day (P) if received by 3pm M-F - 50% rush surcharge if
☐ 1 day (E) if received by 3pm M-F - 100% rush surcharge if
☐ Same day (E) if received by 10am M-S - 200% rush sur

Additional Fee may apply to rush requests
☐ Rush and Time Requested for AFTER HOURS
☐ For all tests with rush TAT request

Indicate Filled (F), Preserved (P) & Aged
☐ Filled (F)
☐ Preserved (P)
☐ Aged

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.
1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.