

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 2021 time period. This report was completed on February 28, 2022. 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	52	52	0
E. coli	0 Organisms/100 mL	52	52	0
Background Bacteria	Less than 200/100 mL	52	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	0.23 – 1.61	0.77 -2.39	52	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	0.18 – 4.22	718	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	0.11 – 0.44	0	0.44	365	432

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 14, 2022). Sample results indicated that the provincial drinking water quality standards were not exceeded. (OR) Samples exceeded provincial water quality standards for the following parameters: (Chlorate)



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Parameter	Limit MAC(mg/L)	Limit IMAC (mg/L)	Sample Result(s)	# Samples Exceeding Limit	
Arsenic	0.010		0.00047		* 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		0.00740		
Boron		5.0	0.744		
Bromate	0.01		<0.00150		
Cadmium	0.005		<0.000010		
Chlorate	1.0		1.04		
Chlorite	1.0		<0.050		
Chromium	0.05		<0.0010		
Fluoride (avg*)	1.5		<0.40		
Lead	0.01		<0.00010		
Nitrate (avg.*)	45.0		<0.832		
Selenium	0.01		<0.000100		
Uranium	0.02		0.000150		

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

Parameter	THMs Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	0.1	N/A	4 (1 every 3 months)	N/A
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	353	1	1
Bicarbonate	No Objective	431	1	1
Calcium	No Objective	96.3	1	1
Carbonate	No Objective	<1.0	1	1
Chloride	250	500	1	1
Conductivity	No Objective	3520	1	1
Hardness	800	446	1	1
Magnesium	200	49.0	1	1
PH	No Objective	7.93	1	1
Sodium	300	667	1	1
Sulphate	500	768	1	1
Total dissolved Solids	1500	2320	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 required on (2021) and submitted on (January 14, 2022) Samples exceeded provincial aesthetic objectives for the General Chemical category for the following parameters: (Chloride, Sodium, Sulphate and TDS).



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*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

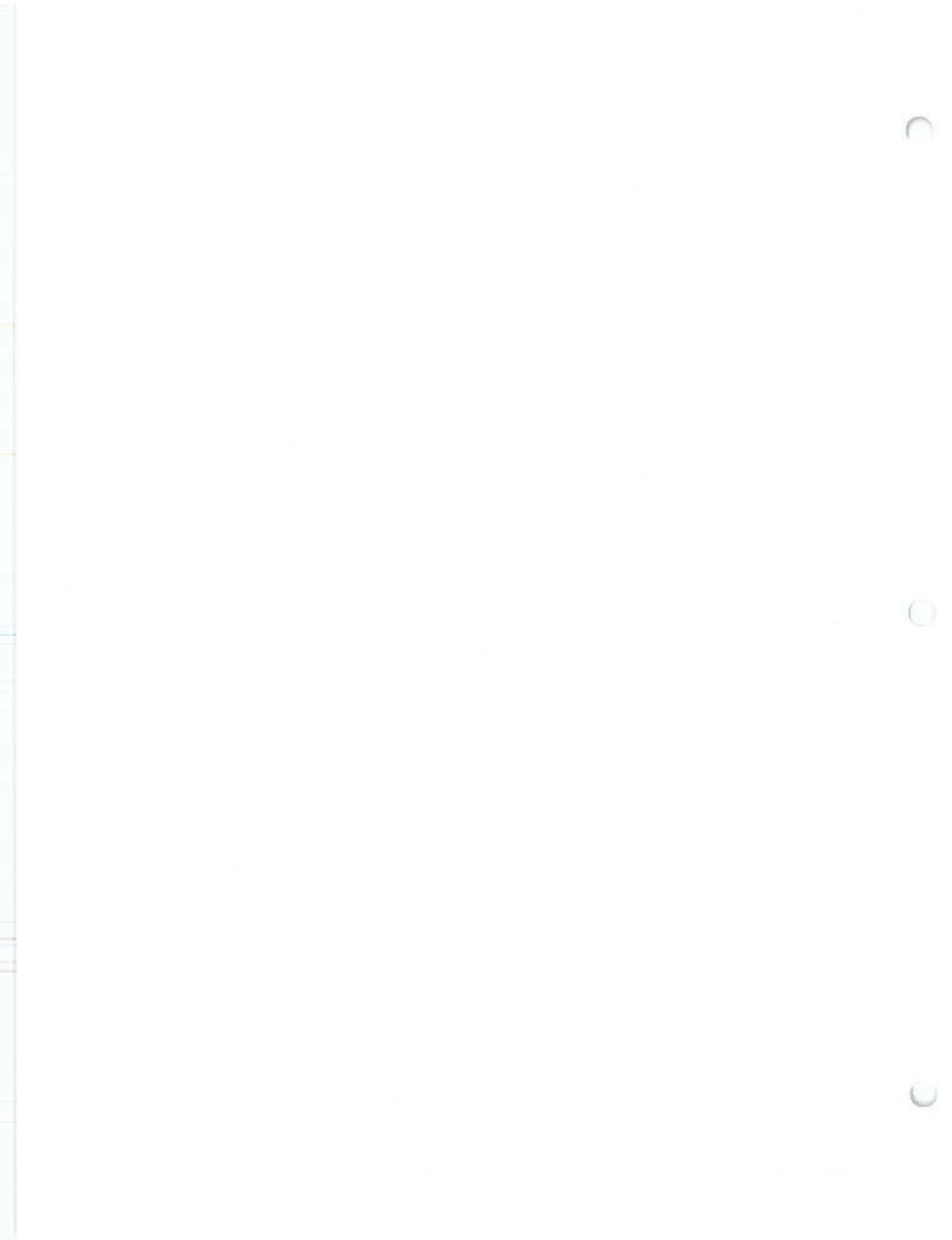
June 2015 EPB 536D



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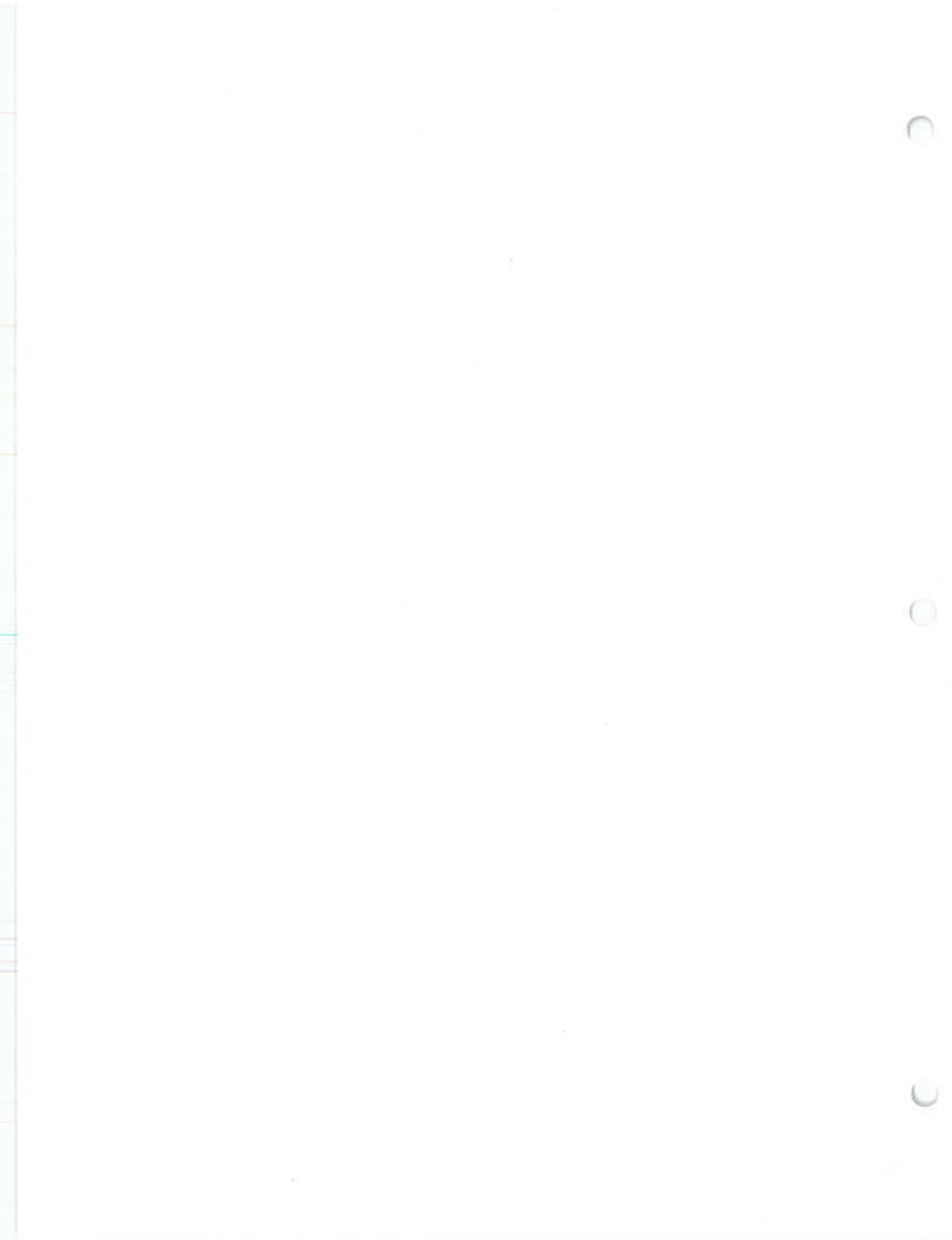
Water Security
Agency



Bacteriological samples 2021

JAN	4	11	18	25	
FEB	1	8	16	22	
MAR	2	8	16	23	29
APR	5	12	19	28	
MAY	3	10	17	25	31
JUN	8	14	21	29	
Jul	5	12	19	26	
AUG	3	8	16	23	30
SEP	7	15	20	27	
OCT	4	12	19	27	
NOV	2	10	18	22	29
DEC	6	14	20	29	

52 samples taken / 52 samples required





ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: SK2200157	Page	: 1 of 5
Client	: Town of Shellbrook	Laboratory	: Saskatoon - Environmental
Contact	: Shalene Gieselman	Account Manager	: Kimberley Head
Address	: 71 Main Street PO Box 40 Shellbrook SK Canada S0J 2E0	Address	: 819 58 Street East Saskatoon SK Canada S7K 6X5
Telephone	: 306-747-4900	Telephone	: +1 306 668 8370
Project	: Waterworks- Gen chem/Health and toxicity	Date Samples Received	: 14-Jan-2022 09:31
PO	: Station#: SK06GF0016	Date Analysis Commenced	: 14-Jan-2022
C-O-C number	: —	Issue Date	: 20-Jan-2022 15:35
Sampler	: AB		
Site	: —		
Quote number	: —		
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
Colby Bingham	Quality Systems Coordinator	Inorganics, Saskatoon, Saskatchewan
Colby Bingham	Quality Systems Coordinator	Metals, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
Lian Nesbitt	Laboratory Analyst	Metals, Saskatoon, Saskatchewan
Melissa Houseman	Team Leader - Inorganics	Metals, Saskatoon, Saskatchewan

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Work Order : SK2200157
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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
-	No Unit
%	percent
µS/cm	Microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

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

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

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLIS	Detection Limit Adjusted due to insufficient sample.
HTDC	Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.
SFP	Sample was filtered and preserved at the laboratory.



Analytical Results

Sub-Matrix: Water (Matrix: Water)		Client sample ID		SK05GF0003 WTP							
Analyte		CAS Number	Method	LOR	Unit	Client sampling date / time		12-Jan-2022 15:10			
Physical Tests						SK2200157-001		Result			
hardness (as CaCO ₃), dissolved conductivity		—	EC100	0.50	mg/L	446		—		—	
pH		—	E100	2.0	µS/cm	3520		—		—	
alkalinity, bicarbonate (as HCO ₃)		—	E108	0.10	pH units	7.93		—		—	
alkalinity, carbonate (as CO ₃)		71-52-3	E290	1.0	mg/L	431		—		—	
alkalinity, hydroxide (as OH)		3812-32-6	E290	1.0	mg/L	<1.0		—		—	
alkalinity, total (as CaCO ₃)		14280-30-9	E290	1.0	mg/L	<1.0		—		—	
solids, total dissolved [TDS], calculated		—	E290	2.0	mg/L	353		—		—	
EC103		—	EC103	1.0	mg/L	2320		—		—	
Anions and Nutrients											
chloride		16887-00-6	E235.Cl	0.50	mg/L	506		—		—	
fluoride		16984-48-8	E235.F	0.020	mg/L	<0.400 ^{DUSE}		—		—	
nitrate (as N)		14797-55-8	E235.NO3	0.020	mg/L	0.832 ^{HTOC}		—		—	
nitrite (as N)		14797-65-0	E235.NO2	0.010	mg/L	0.725 ^{HTOC}		—		—	
sulfate (as SO ₄)		14808-79-8	E235.SO4	0.30	mg/L	768		—		—	
nitrate + nitrite (as N)		—	EC235.N+N	0.0500	mg/L	1.56		—		—	
Ion Balance											
anion sum		—	EC101	0.10	meq/L	37.4		—		—	
cation sum		—	EC101	0.10	meq/L	37.6		—		—	
ion balance (cation-anion difference)		—	EC101	0.010	%	0.267		—		—	
ion balance (cations/anions ratio)		—	EC101	0.010	%	100		—		—	
Total Metals											
aluminum, total		7429-90-5	E420	0.0030	mg/L	<0.0060 ^{DUSE}		—		—	
antimony, total		7440-36-0	E420	0.00010	mg/L	<0.00020 ^{DUSE}		—		—	
arsenic, total		7440-38-2	E420	0.00010	mg/L	0.00047		—		—	
barium, total		7440-39-3	E420	0.00010	mg/L	0.00740		—		—	
beryllium, total		7440-41-7	E420	0.000020	mg/L	<0.000040 ^{DUSE}		—		—	
bismuth, total		7440-69-9	E420	0.000050	mg/L	<0.000100 ^{DUSE}		—		—	
boron, total		7440-42-8	E420	0.010	mg/L	0.744		—		—	
cadmium, total		7440-43-9	E420	0.0000050	mg/L	<0.0000100 ^{DUSE}		—		—	
calcium, total		7440-70-2	E420	0.050	mg/L	96.3		—		—	

Sub-Matrix: Water						
(Matrix: Water)						
Client sample ID			SK05GF0003 WTP			
Client sampling date / time			12-Jan-2022 15:10			
Analyte	CAS Number	Method	LOR	Unit	Result	
Total Metals						
cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000020 OLOS	
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00100 OLOS	
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00026	
copper, total	7440-50-8	E420	0.00050	mg/L	0.0384	
iron, total	7439-89-6	E420	0.010	mg/L	0.066	
lead, total	7439-92-1	E420	0.000050	mg/L	<0.000100 OLOS	
lithium, total	7439-93-2	E420	0.0010	mg/L	0.174	
magnesium, total	7439-95-4	E420	0.0050	mg/L	49.0	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00946	
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0122	
Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00100 OLOS	
phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.100 OLOS	
potassium, total	7440-09-7	E420	0.050	mg/L	15.0	
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00411	
selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000100 OLOS	
silicon, total	7440-21-3	E420	0.10	mg/L	8.28	
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000020 OLOS	
sodium, total	7440-23-5	E420	0.050	mg/L	667	
strontium, total	7440-24-6	E420	0.00020	mg/L	1.03	
sulfur, total	7704-34-9	E420	0.50	mg/L	301	
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00040 OLOS	
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000020 OLOS	
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00020 OLOS	
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00020 OLOS	
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00060 OLOS	
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00020 OLOS	
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000150	
vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00100 OLOS	
zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0060 OLOS	
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00040 OLOS	
Dissolved Metals						

Dissolved Metals



Analytical Results

Sub-Matrix: Water (Matrix: Water)		Client sample ID		SK05GF0003 WTP							
Analyte	CAS Number	Method	LOR	Unit	Client sampling date / time	SK2200157-001	Result				
Dissolved Metals											
calcium, dissolved	7440-70-2	E421	0.050	mg/L		102					
iron, dissolved	7439-89-6	E421	0.030	mg/L		<0.150 ^{aus}					
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		46.5					
manganese, dissolved	7439-96-5	E421	0.00500	mg/L		<0.0250 ^{aus}					
potassium, dissolved	7440-09-7	E421	0.050	mg/L		14.2					
sodium, dissolved	7440-23-5	E421	0.050	mg/L		650					
dissolved metals filtration location		EP421				Laboratory ^{sep}					

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



ALS Environmental

QUALITY CONTROL REPORT

Work Order

: SK2200157

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Client

: Town of Shellbrook

Contact

: Shalene Gieselman

Address

: 71 Main Street PO Box 40
Shellbrook SK Canada S0J 2E0
: 306-747-4900

Telephone

Project

: Waterworks- Gen chem/Health and toxicity

PO

: Station#: SK06GF0016

C-O-C number

: —

Sampler

: AB

Site

: —

Quote number

: —

No. of samples received

: 1

No. of samples analysed

: 1

Laboratory

: Saskatoon - Environmental

Account Manager

: Kimberley Head

Address

: 819 58 Street East
Saskatoon, Saskatchewan Canada S7K 6X5

Telephone

: +1 306 668 8370

Date Samples Received

: 14-Jan-2022 09:31

Date Analysis Commenced

: 14-Jan-2022

Issue Date

: 20-Jan-2022 15:35

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 Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

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

Quality Systems Coordinator

Inorganics, Saskatoon, Saskatchewan

Colby Bingham

Quality Systems Coordinator

Metals, Saskatoon, Saskatchewan

Hedy Lai

Team Leader - Inorganics

Inorganics, Saskatoon, Saskatchewan

Lian Nesbitt

Laboratory Analyst

Metals, Saskatoon, Saskatchewan

Melissa Houseman

Team Leader - Inorganics

Metals, Saskatoon, Saskatchewan

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: Town of Shellbrook
: Waterworks- Gen chem/Health and toxicity



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 Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

= Indicates a QC result that did not meet the ALS DQO.



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Work Order : SK2200157
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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

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: 387224)											
RG2200033-001	Anonymous	conductivity	—	E100	2.0	µS/cm	114	112	0.884%	10%	—
Physical Tests (QC Lot: 387225)											
RG2200033-001	Anonymous	alkalinity, total (as CaCO3)	—	E280	1.0	mg/L	24.5	23.8	3.23%	20%	—
Physical Tests (QC Lot: 387227)											
RG2200033-001	Anonymous	pH	—	E108	0.10	pH units	6.88	6.87	0.239%	3%	—
Anions and Nutrients (QC Lot: 387211)											
SK2200172-019	Anonymous	sulfate (as SO4)	14808-79-8	E235.S04	5.00	mg/L	<5.00	<5.00	0	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387212)											
SK2200172-019	Anonymous	nitrate (as N)	14797-55-8	E235.NO3	0.400	mg/L	105	105	0.254%	20%	—
Anions and Nutrients (QC Lot: 387213)											
SK2200172-019	Anonymous	nitrite (as N)	14797-65-0	E235.NO2	0.200	mg/L	1.14	0.974	0.162	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387214)											
SK2200172-019	Anonymous	fluoride	16984-48-8	E235.F	0.400	mg/L	0.854	0.819	0.036	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387215)											
SK2200172-019	Anonymous	chloride	16887-00-6	E235.Cl	10.0	mg/L	725	725	0.0875%	20%	—
Total Metals (QC Lot: 387020)											
RG2200031-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	—
		antimony, total	7440-38-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00059	0.00059	0.000002	Diff <2x LOR	—
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0181	0.0178	1.98%	20%	—
		beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	—
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		boron, total	7440-42-8	E420	0.010	mg/L	0.108	0.111	2.88%	20%	—
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000130	0.0000139	0.0000008	Diff <2x LOR	—
		calcium, total	7440-70-2	E420	0.050	mg/L	166	162	2.64%	20%	—
		cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		chromium, total	7440-47-3	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00804	0.00816	1.41%	20%	—
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00804	0.00816	1.41%	20%	—
		iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	—
		lead, total	7439-92-1	E420	0.000050	mg/L	0.000165	0.000166	0.0000006	Diff <2x LOR	—



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: 387020) - continued												
RG2200031-001	Anonymous	lithium, total	7439-93-2	E420	0.0010	mg/L	0.0723	0.0744	2.85%	20%	—	
		magnesium, total	7439-95-4	E420	0.0050	mg/L	67.4	69.4	2.96%	20%	—	
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.00709	0.00724	1.99%	20%	—	
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00462	0.00473	2.32%	20%	—	
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.00151	0.00151	0.0000008	Diff <2x LOR	—	
		phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	—	
		potassium, total	7440-09-7	E420	0.050	mg/L	7.40	7.65	3.38%	20%	—	
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00022	0.00024	0.00002	Diff <2x LOR	—	
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000281	0.000272	0.000009	Diff <2x LOR	—	
		silicon, total	7440-21-3	E420	0.10	mg/L	12.0	11.8	1.83%	20%	—	
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—	
		sodium, total	7440-23-5	E420	0.050	mg/L	53.3	52.6	1.33%	20%	—	
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.600	0.609	1.53%	20%	—	
		sulfur, total	7704-34-9	E420	0.50	mg/L	172	172	0.00629%	20%	—	
		tellurium, total	13494-60-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—	
		thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—	
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—	
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—	
		titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	—	
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—	
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.00691	0.00703	1.77%	20%	—	
		vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—	
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0342	0.0342	0.115%	20%	—	
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—	
Dissolved Metals (QC Lot: 388296)												
SK2200157-001	SK05GF0003 WTP	calcium, dissolved	7440-70-2	E421	0.250	mg/L	102	94.8	6.93%	20%	—	
		iron, dissolved	7439-99-6	E421	0.150	mg/L	<0.150	<0.150	0	Diff <2x LOR	—	
		magnesium, dissolved	7439-95-4	E421	0.0250	mg/L	46.5	48.7	4.55%	20%	—	
		manganese, dissolved	7439-96-5	E421	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	—	
		potassium, dissolved	7440-09-7	E421	0.250	mg/L	14.2	14.4	1.50%	20%	—	
		sodium, dissolved	7440-23-5	E421	0.250	mg/L	550	560	1.83%	20%	—	



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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
Physical Tests (QCLot: 387224)					
conductivity	— E100	1	µS/cm	1.4	—
Physical Tests (QCLot: 387225)					
alkalinity, total (as CaCO ₃)	— E290	1	mg/L	<1.0	—
Anions and Nutrients (QCLot: 387211)					
sulfate (as SO ₄)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	—
Anions and Nutrients (QCLot: 387212)					
nitrate (as N)	14797-55-8 E235.NO3	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387213)					
nitrite (as N)	14797-65-0 E235.NO2	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 387214)					
fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387215)					
chloride	16887-00-6 E235.Cl	0.5	mg/L	<0.50	—
Total Metals (QCLot: 387020)					
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	7440-69-9 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	—
magnesium, total	7439-95-4 E420	0.005	mg/L	<0.0050	—
manganese, total	7439-96-5 E420	0.0001	mg/L	<0.00010	—
molybdenum, total	7439-98-7 E420	0.00005	mg/L	<0.000050	—



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Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 387020) - continued						
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	7440-51-1	E420	0.00001	mg/L	<0.000010	-
vanadium, total	7440-52-2	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: 388296)						
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	-



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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

Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Recovery (%)	LCS	Low	High	Qualifier
Physical Tests (QCLot: 387224)										
conductivity	—	E100	1	µS/cm	1000 µS/cm	98.5	98.5	90.0	110	—
Physical Tests (QCLot: 387225)										
alkalinity, total (as CaCO3)	—	E290	1	mg/L	500 mg/L	96.9	96.9	85.0	115	—
Physical Tests (QCLot: 387227)										
pH	—	E108	—	pH units	6.86 pH units	98.9	98.9	98.0	102	—
Anions and Nutrients (QCLot: 387211)										
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	103	90.0	110	—
Anions and Nutrients (QCLot: 387212)										
nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	104	104	90.0	110	—
Anions and Nutrients (QCLot: 387213)										
nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	104	104	90.0	110	—
Anions and Nutrients (QCLot: 387214)										
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	104	90.0	110	—
Anions and Nutrients (QCLot: 387215)										
chloride	16987-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	102	90.0	110	—
Total Metals (QCLot: 387020)										
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	88.9	88.9	80.0	120	—
antimony, total	7440-38-0	E420	0.0001	mg/L	1 mg/L	99.5	99.5	80.0	120	—
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	89.8	89.8	80.0	120	—
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	88.5	88.5	80.0	120	—
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	88.7	88.7	80.0	120	—
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	91.8	91.8	80.0	120	—
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.0	92.0	80.0	120	—
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	85.5	85.5	80.0	120	—
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	88.9	88.9	80.0	120	—
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	97.6	97.6	80.0	120	—
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	86.0	86.0	80.0	120	—
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	86.8	86.8	80.0	120	—
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	85.6	85.6	80.0	120	—
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.5	95.5	80.0	120	—
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	88.2	88.2	80.0	120	—
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	87.8	87.8	80.0	120	—



Sub-Matrix: Water

Sub-Matrix: Water										
Laboratory Control Sample (LCS) Report										
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Recovery (%)		Recovery Limits (%)		Qualifier
						LCS		Low	High	
Total Metals (QCLot: 387020) - continued										
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	93.4		80.0	120	—
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	85.9		80.0	120	—
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	92.5		80.0	120	—
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	88.2		80.0	120	—
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.7		80.0	120	—
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	87.9		80.0	120	—
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	93.3		80.0	120	—
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	93.5		80.0	120	—
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	94.8		80.0	120	—
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.4		80.0	120	—
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	90.7		80.0	120	—
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101		80.0	120	—
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.0		80.0	120	—
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.0		80.0	120	—
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	89.8		80.0	120	—
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	90.2		80.0	120	—
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	86.7		80.0	120	—
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	83.6		80.0	120	—
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	93.8		80.0	120	—
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	88.5		80.0	120	—
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	88.1		80.0	120	—
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	96.8		80.0	120	—
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.8		80.0	120	—
Dissolved Metals (QCLot: 388296)										
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100		80.0	120	—
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	106		80.0	120	—
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102		80.0	120	—
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.2		80.0	120	—
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	101		80.0	120	—
sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104		80.0	120	—



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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 DOO 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

Laboratory sample					Matrix Spike (MS) Report					
					Spike		Recovery (%)		Recovery Limits (%)	
ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 387211)										
SK2200146-003	Anonymous	sulfate (as SO4)	14808-79-8	E235.S04	ND mg/L	100 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387212)										
SK2200146-003	Anonymous	nitrate (as N)	14797-55-8	E235.N03	ND mg/L	2.5 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387213)										
SK2200146-003	Anonymous	nitrite (as N)	14797-85-0	E235.N02	ND mg/L	0.5 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387214)										
SK2200146-003	Anonymous	fluoride	15984-48-8	E235.F	ND mg/L	1 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387215)										
SK2200146-003	Anonymous	chloride	16887-00-6	E235.Cl	ND mg/L	100 mg/L	ND	75.0	125	—
Total Metals (QCLot: 387020)										
RG2200031-002	Anonymous	aluminum, total	7429-90-5	E420	0.208 mg/L	0.2 mg/L	104	70.0	130	—
		antimony, total	7440-36-0	E420	0.0217 mg/L	0.02 mg/L	108	70.0	130	—
		arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	—
		barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		beryllium, total	7440-41-7	E420	0.0391 mg/L	0.04 mg/L	97.9	70.0	130	—
		bismuth, total	7440-69-9	E420	0.00955 mg/L	0.01 mg/L	95.5	70.0	130	—
		boron, total	7440-42-8	E420	0.118 mg/L	0.1 mg/L	118	70.0	130	—
		cadmium, total	7440-43-9	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	—
		calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	—
		chromium, total	7440-47-3	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130	—
		cobalt, total	7440-48-4	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	—
		copper, total	7440-50-8	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	—
		iron, total	7439-89-6	E420	1.99 mg/L	2 mg/L	99.4	70.0	130	—
		lead, total	7439-92-1	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	—
		lithium, total	7439-93-2	E420	0.114 mg/L	0.1 mg/L	114	70.0	130	—
		magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	—
		manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		molybdenum, total	7439-98-7	E420	0.0227 mg/L	0.02 mg/L	114	70.0	130	—
		nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	—



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Report To	Contact and company name below will appear on the final report	Reports / Recipients	Turnaround Time (TAT) Requested
Company:	Town of Shellbrook	Select Report Format: ☒ PDF ☐ EXCEL ☐ EDD (DIGITAL)	☒ Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	Shelene Gieselman	Merge QC/QCI Reports with COA ☒ YES ☐ NO ☐ N/A	☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
Phone:	306-747-4900	☐ Compare Results to Criteria on Report - provide details below if box checked	☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
	Company address below will appear on the final report	Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX	☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
Street:	71 Main Street	Email 1 or Fax townoffice@townofshellbrook.ca	☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
City/Province:	Shellbrook, SK	Email 2 townshop@sasktel.net	☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. All fees may apply to rush requests on weekends, statutory holidays and routine tests
Postal Code:	S0J 2E0	Email 3	
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Recipients	Date and Time Required for all E&P TATs:
Company:	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX	For all tests with rush TATs requested, please contact your AM to confirm availability.
Contact:		Email 1 or Fax townoffice@townofshellbrook.ca	
		Email 2 townshop@sasktel.net	

Project Information	Oil and Gas Required Fields (client use)
ALS Account # / Quote #: 25689 / GMBK100	AFECost Center:
Job #: Waterwork Weekly - Gen Chem / Health and Toxicity	Major/Minor Code:
PO / AFE: Station# SK06GF0016	Routing Code:
LSD:	Location:

ALS Lab Work Order # (ALS use only):	ALS Contact: Kimberley Head	Sampler: AB
Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)
SK05GF0003 WTP	12 Jan 22 13:10	grab

Drinking Water (DW) Samples¹ (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☒ YES ☐ NO	
Are samples for human consumption/ use? ☒ YES ☐ NO	

SHIPMENT RELEASE (client use)	INITIAL SHIPMENT RECEPTION (ALS use only)
Released by: <i>Shelene Gieselman</i>	Received by: <i>Wuu</i>
Date: 13 Jan 22 09:00	Date: Jan 14/22

Time: 9:31	Date: Jan 14/22	Time: 9:31
Time: 9:31	Date: Jan 14/22	Time: 9:31

NUMBER OF CONTAINERS	General Chemical	Total Metals
3	✓	✓

Analysis Request	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
SAMPLES ON HOLD	
EXTENDED STORAGE REQUIRED	
SUSPECTED HAZARD (see notes)	

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Submission Comments Identified on Sample Receipt Notification: ☐ YES ☐ NO
Cooler Custody/Seals Intact: ☐ YES ☐ N/A ☐ Sample Custody/Seals Intact: ☐ YES ☐ N/A
INITIAL COOLER TEMPERATURES °C
FINAL COOLER TEMPERATURES °C

Time: 9:31	Date: Jan 14/22	Time: 9:31
Time: 9:31	Date: Jan 14/22	Time: 9:31

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.



Page : 10 of 10
Work Order : SK2200157
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

Sub-Matrix: Water

Sub-Matrix: Water		Matrix Spike (MS) Report								
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike			Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Total Metals (QCLot: 387020) - continued										
RG2200031-002	Anonymous	phosphorus, total	7723-14-0	E420	11.1 mg/L	10 mg/L	111	70.0	130	—
		potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	—
		selenium, total	7782-49-2	E420	0.0453 mg/L	0.04 mg/L	113	70.0	130	—
		silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	—
		silver, total	7440-22-4	E420	0.00411 mg/L	0.004 mg/L	103	70.0	130	—
		sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	—
		strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	—
		tellurium, total	13494-80-9	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	—
		thallium, total	7440-28-0	E420	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	—
		thorium, total	7440-29-1	E420	0.0215 mg/L	0.02 mg/L	107	70.0	130	—
		tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	—
		titanium, total	7440-32-6	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	—
		tungsten, total	7440-33-7	E420	0.0212 mg/L	0.02 mg/L	106	70.0	130	—
		uranium, total	7440-61-1	E420	ND mg/L	0.004 mg/L	ND	70.0	130	—
		vanadium, total	7440-62-2	E420	0.105 mg/L	0.1 mg/L	105	70.0	130	—
		zinc, total	7440-66-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	—
		zirconium, total	7440-67-7	E420	0.0435 mg/L	0.04 mg/L	109	70.0	130	—
Dissolved Metals (QCLot: 388296)										
SK2200160-001	Anonymous	calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	—
		iron, dissolved	7439-89-6	E421	1.94 mg/L	2 mg/L	97.0	70.0	130	—
		magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	—
		manganese, dissolved	7439-96-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	—
		potassium, dissolved	7440-09-7	E421	ND mg/L	4 mg/L	ND	70.0	130	—
		sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	—



Environmental

CERTIFICATE OF ANALYSIS

Work Order	: SK2200897	Page	: 1 of 3
Client	: Town of Shellbrook	Laboratory	: Saskatoon - Environmental
Contact	: Shalene Gieselman	Account Manager	: Kimberley Head
Address	: 71 Main Street PO Box 40 Shellbrook SK Canada S0J 2E0	Address	: 819 58 Street East Saskatoon SK Canada S7K 6X5
Telephone	: 306-747-4900	Telephone	: +1 306 668 8370
Project	: Waterworks WTP - Monthly	Date Samples Received	: 02-Mar-2022 10:50
PO	: Station #: SK05GF0003	Date Analysis Commenced	: 04-Mar-2022
C-O-C number	: —	Issue Date	: 07-Mar-2022 10:59
Sampler	: —		
Site	: —		
Quote number	: —		
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

Greg Pokocky

Team Leader - Inorganics

Laboratory Department

Inorganics, Waterloo, Ontario

RIGHT SOLUTIONS RIGHT PARTNER



Page : 2 of 3
Work Order : SK2200897
Client : Town of Shellbrook
Project : Waterworks WTP - Monthly

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.

Qualifiers

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

Analytical Results

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

Analyte	CAS Number	Method	Client sampling date / time			Client sample ID		
			LOR	Unit	Result	SK05GF0003	WTP	
Inorganic Parameters chlorite	14998-27-7	E409.CLO2	0.010	mg/L	<0.050	01-Mar-2022	08:29	
	14866-68-3	E409.CLO3	0.010	mg/L	1.04	SK2200897-001	Result	
Disinfectant By-Products								
chlorate								

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



ALS Environmental

QUALITY CONTROL REPORT

Work Order

: SK2200897

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Client

: Town of Shellbrook

Contact

: Shalene Gieselman

Address

: 71 Main Street PO Box 40
Shellbrook SK Canada S0J 2E0
: 306-747-4900

Telephone

Project

: Waterworks WTP - Monthly

PO

: Station #: SK05GF0003

C-O-C number

Sampler

Site

Quote number

No. of samples received

: 1

No. of samples analysed

: 1

Laboratory

: Saskatoon - Environmental

Account Manager

: Kimberley Head

Address

: 819 58 Street East
Saskatoon, Saskatchewan Canada S7K 6X5
: +1 306 668 8370

Telephone

Date Samples Received

: 02-Mar-2022 10:50

Date Analysis Commenced

: 04-Mar-2022

Issue Date

: 07-Mar-2022 10:58

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 Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories

Position

Laboratory Department

Greg Pokocky

Team Leader - Inorganics

Inorganics, Waterloo, Ontario

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: Town of Shellbrook
: Waterworks WTP - Monthly





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
Disinfectant By-Products (QCLot: 423597)						
chlorate	14866-68-3	E409.CLO3	0.01	mg/L	<0.010	—
Disinfectant By-Products (QCLot: 423598)						
chlorite	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

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report			
					Spike Concentration	Recovery (%)	Recovery Limits (%)	Qualifier
Disinfectant By-Products (QCLot: 423597)								
chlorate	14866-68-3	E409.CLO3	0.01	mg/L	1 mg/L	98.5	85.0 115	—
Disinfectant By-Products (QCLot: 423598)								
chlorite	14998-27-7	E409.CLO2	0.01	mg/L	1 mg/L	102	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 >= 1x spike level.

Sub-Matrix: Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Matrix Spike (MS) Report			
					Spike Concentration	Recovery (%)	Recovery Limits (%)	Qualifier
Disinfectant By-Products (QCLot: 423597)								
CG2202038-001	Anonymous	chlorate	14866-68-3	E409.CLO3	1.03 mg/L	103	75.0 125	—
Disinfectant By-Products (QCLot: 423598)								
CG2202038-001	Anonymous	chlorite	14998-27-7	E409.CLO2	1.00 mg/L	100	75.0 125	—



Page : 2 of 4
Work Order : SK2200897
Client : Town of Shellbrook
Project : Waterworks WTP - Monthly

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 Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage 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

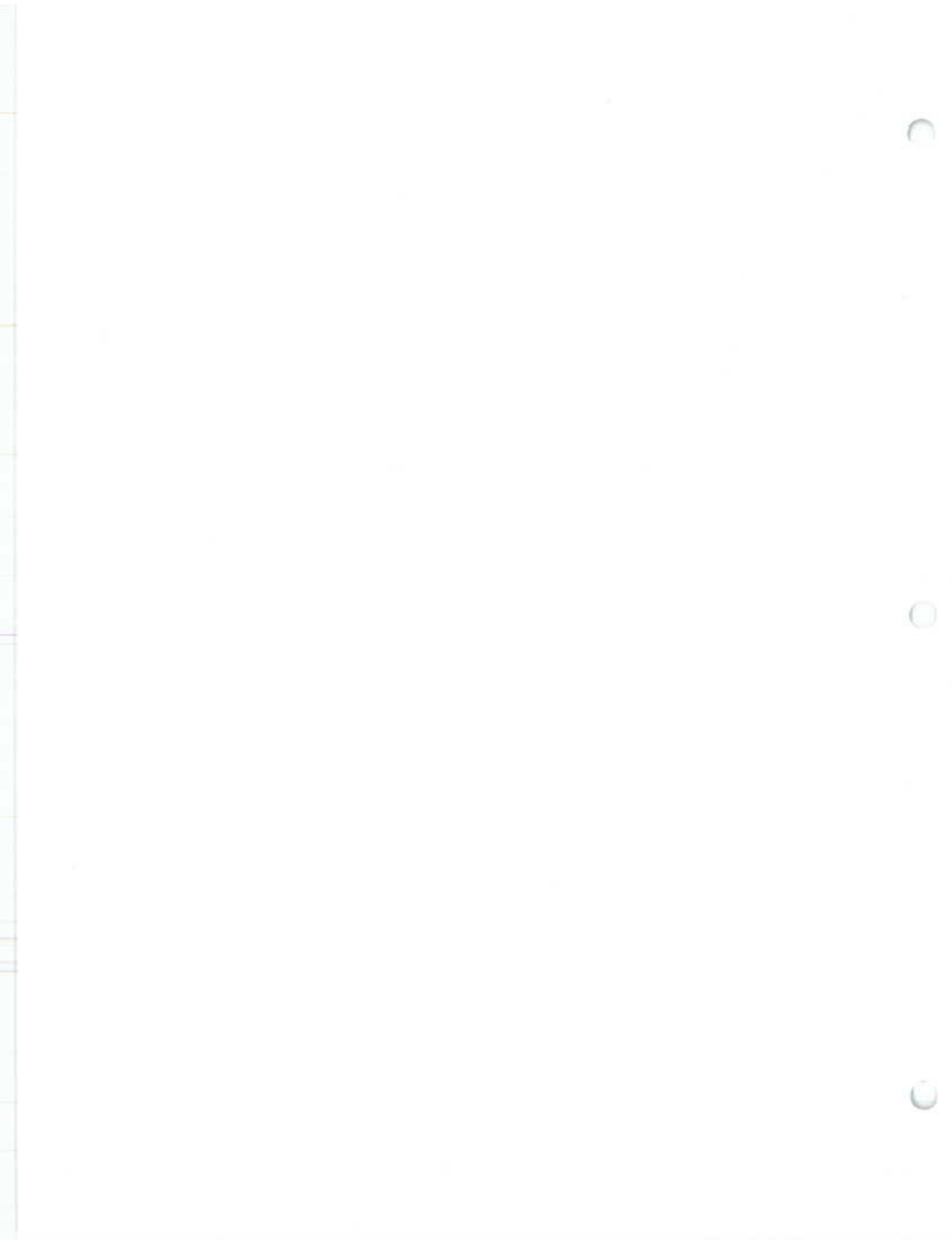
A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an 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
Disinfectant By-Products (QC Lot: 423597)											
CG2202038-001	Anonymous	chlorate	14866-68-3	E409.CLO3	0.010	mg/L	0.362	0.368	1.83%	20%	—
Disinfectant By-Products (QC Lot: 423598)											
CG2202038-001	Anonymous	chlorite	14995-27-7	E409.CLO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	—

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Project

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: SK2200897
: Town of Shellbrook
: Waterworks WTP - Monthly







Environmental

CERTIFICATE OF ANALYSIS

Work Order	: SK2200160	Page	: 1 of 5
Client	: Town of Shellbrook	Laboratory	: Saskatoon - Environmental
Contact	: Shalene Gieselman	Account Manager	: Kimberley Head
Address	: 71 Main Street PO Box 40 Shellbrook SK Canada S0J 2E0	Address	: 819 58 Street East Saskatoon SK Canada S7K 6X5
Telephone	: 306-747-4900	Telephone	: +1 306 668 8370
Project	: Waterworks- Gen chem/Health and toxicity	Date Samples Received	: 14-Jan-2022 09:31
PO	: Station#: SK06GF0016	Date Analysis Commenced	: 14-Jan-2022
C-O-C number	: ---	Issue Date	: 20-Jan-2022 15:36
Sampler	: AB		
Site	: ---		
Quote number	: ---		
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

Colby Bingham
Colby Bingham
Hedy Lai
Lian Nesbitt
Melissa Houseman

Position

Quality Systems Coordinator
Quality Systems Coordinator
Team Leader - Inorganics
Laboratory Analyst
Team Leader - Inorganics

Laboratory Department

Inorganics, Saskatoon, Saskatchewan
Metals, Saskatoon, Saskatchewan
Inorganics, Saskatoon, Saskatchewan
Metals, Saskatoon, Saskatchewan
Metals, Saskatoon, Saskatchewan

RIGHT SOLUTIONS | RIGHT PARTNER



Page : 2 of 5
Work Order : SK2200160
Client : Town of Shellbrook
Project : Watervorks- Gen chem/Health and toxicity

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
-	No Unit
%	percent
µS/cm	Microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

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

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

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLIS	Detection Limit Adjusted due to insufficient sample.
HTDC	Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.
SFP	Sample was filtered and preserved at the laboratory.



Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Client sample ID	Client sampling date / time
------------------	-----------------------------

SK05GF0109
Well 11

Client sampling date / time					12-Jan-2022 13:15				
Analyte	CAS Number	Method	LOR	Unit	SK2200160-001	Result			
Physical Tests									
hardness (as CaCO3), dissolved		EC100	0.50	mg/L		466			
conductivity		E100	2.0	µS/cm		3510			
pH		E108	0.10	pH units		7.94			
alkalinity, bicarbonate (as HCO3)	71-52-3	E290	1.0	mg/L		439			
alkalinity, carbonate (as CO3)	3812-32-6	E290	1.0	mg/L		<1.0			
alkalinity, hydroxide (as OH)	14280-30-9	E290	1.0	mg/L		<1.0			
alkalinity, total (as CaCO3)		E290	2.0	mg/L		360			
solids, total dissolved [TDS], calculated		EC103	1.0	mg/L		2370			
Anions and Nutrients									
chloride	16887-00-6	E235.Cl	0.50	mg/L		483			
fluoride	16984-48-8	E235.F	0.020	mg/L		<0.400 DLS			
nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L		0.808 HOC			
nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L		0.770 HOC			
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L		802			
nitrate + nitrite (as N)		EC235.N+N	0.0500	mg/L		1.58			
Ion Balance									
anion sum		EC101	0.10	meq/L		37.6			
cation sum		EC101	0.10	meq/L		38.9			
ion balance (cation-anion difference)		EC101	0.010	%		1.70			
ion balance (cations/anions ratio)		EC101	0.010	%		103			
Total Metals									
aluminum, total	7429-90-5	E420	0.0030	mg/L		<0.0060 DLS			
antimony, total	7440-36-0	E420	0.00010	mg/L		<0.00020 DLS			
arsenic, total	7440-38-2	E420	0.00010	mg/L		0.00248			
barium, total	7440-39-3	E420	0.00010	mg/L		0.0104			
beryllium, total	7440-41-7	E420	0.000020	mg/L		<0.000040 DLS			
bismuth, total	7440-69-9	E420	0.000050	mg/L		<0.000100 DLS			
boron, total	7440-42-8	E420	0.010	mg/L		0.758			
cadmium, total	7440-43-9	E420	0.000050	mg/L		<0.000100 DLS			
calcium, total	7440-70-2	E420	0.050	mg/L		99.3			



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Work Order : SK2200160
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

Analytical Results

Sub-Matrix: Water

(Matrix: Water)

Client sample ID		Client sampling date / time		SK05GF0109 Well 11		SK2200160-001	
Analyte	CAS Number	Method	LOR	Unit	Result	Result	Result
Total Metals							
cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000020	0.000020	0.000020
chromium, total	7440-47-3	E420	0.000050	mg/L	<0.00100	0.00100	0.00100
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00023	0.00023	0.00023
copper, total	7440-50-8	E420	0.00050	mg/L	<0.00100	0.00100	0.00100
iron, total	7439-89-6	E420	0.010	mg/L	2.05	2.05	2.05
lead, total	7439-92-1	E420	0.000050	mg/L	<0.000100	0.000100	0.000100
lithium, total	7439-93-2	E420	0.0010	mg/L	0.179	0.179	0.179
magnesium, total	7439-95-4	E420	0.0050	mg/L	50.5	50.5	50.5
manganese, total	7439-96-5	E420	0.00010	mg/L	0.0539	0.0539	0.0539
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0121	0.0121	0.0121
nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00100	0.00100	0.00100
phosphorus, total	7723-14-0	E420	0.050	mg/L	0.326	0.326	0.326
potassium, total	7440-09-7	E420	0.050	mg/L	15.4	15.4	15.4
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00398	0.00398	0.00398
selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000100	0.000100	0.000100
silicon, total	7440-21-3	E420	0.10	mg/L	8.54	8.54	8.54
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000020	0.000020	0.000020
sodium, total	7440-23-5	E420	0.050	mg/L	652	652	652
strontium, total	7440-24-6	E420	0.00020	mg/L	1.09	1.09	1.09
sulfur, total	7704-34-9	E420	0.50	mg/L	315	315	315
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00040	0.00040	0.00040
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000020	0.000020	0.000020
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00020	0.00020	0.00020
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00020	0.00020	0.00020
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00060	0.00060	0.00060
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00020	0.00020	0.00020
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000156	0.000156	0.000156
vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00100	0.00100	0.00100
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0150	0.0150	0.0150
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00040	0.00040	0.00040

Dissolved Metals



Analytical Results

Sub-Matrix: Water (Matrix: Water)		Client sample ID : SK05GF0109 Well 11				
Analyte	CAS Number	Method	LOR	Unit	Client sampling date / time	
Dissolved Metals						
calcium, dissolved	7440-70-2	E421	0.050	mg/L	12-Jan-2022 13:15	
iron, dissolved	7439-89-6	E421	0.030	mg/L		
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L		
manganese, dissolved	7439-96-5	E421	0.00500	mg/L		
potassium, dissolved	7440-09-7	E421	0.050	mg/L		
sodium, dissolved	7440-23-5	E421	0.050	mg/L		
dissolved metals filtration location		EP421				
					Result	
					106	
					<0.150 ^{duke}	
					49.0	
					0.0540	
					14.8	
					672	
					Laboratory	

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



ALS Environmental

QUALITY CONTROL REPORT

Work Order

: SK2200160

Page

: 1 of 10

Client

: Town of Shellbrook

Contact

: Shalene Gieselman

Address

: 71 Main Street PO Box 40
Shellbrook SK Canada S0J 2E0
: 306-747-4900

Telephone

Project

: Waterworks- Gen chem/Health and toxicity

PO

: Station#: SK06GF0016

C-O-C number

: —

Sampler

: AB

Site

: —

Quote number

: —

No. of samples received

: 1

No. of samples analysed

: 1

Laboratory

: Saskatoon - Environmental

Account Manager

: Kimberley Head

Address

: 819 58 Street East
Saskatoon, Saskatchewan Canada S7K 6X5

Telephone

: +1 306 668 8370

Date Samples Received

: 14-Jan-2022 09:31

Date Analysis Commenced

: 14-Jan-2022

Issue Date

: 20-Jan-2022 15:36

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 Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

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

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Quality Systems Coordinator

Inorganics, Saskatoon, Saskatchewan

Colby Bingham

Quality Systems Coordinator

Metals, Saskatoon, Saskatchewan

Hedy Lai

Team Leader - Inorganics

Inorganics, Saskatoon, Saskatchewan

Lian Nesbitt

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Metals, Saskatoon, Saskatchewan

Melissa Houseman

Team Leader - Inorganics

Metals, Saskatoon, Saskatchewan



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 Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

= Indicates a QC result that did not meet the ALS DQO.



Page : 3 of 10
Work Order : SK2200160
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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
Physical Tests (QC Lot: 387224)											
RG2200033-001	Anonymous	conductivity	—	E100	2.0	µS/cm	114	112	0.884%	10%	—
Physical Tests (QC Lot: 387225)											
RG2200033-001	Anonymous	alkalinity, total (as CaCO3)	—	E290	1.0	mg/L	24.6	23.8	3.23%	20%	—
Physical Tests (QC Lot: 387227)											
RG2200033-001	Anonymous	pH	—	E108	0.10	pH units	6.89	6.87	0.239%	3%	—
Anions and Nutrients (QC Lot: 387211)											
SK2200172-019	Anonymous	sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	<6.00	<6.00	0	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387212)											
SK2200172-019	Anonymous	nitrate (as N)	14797-55-8	E235.NO3	0.400	mg/L	105	105	0.254%	20%	—
Anions and Nutrients (QC Lot: 387213)											
SK2200172-019	Anonymous	nitrite (as N)	14797-65-0	E235.NO2	0.200	mg/L	1.14	0.974	0.162	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387214)											
SK2200172-019	Anonymous	fluoride	16984-48-8	E235.F	0.400	mg/L	0.854	0.819	0.036	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387215)											
SK2200172-019	Anonymous	chloride	16887-00-6	E235.Cl	10.0	mg/L	725	726	0.0878%	20%	—
Total Metals (QC Lot: 387020)											
RG2200031-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	—
		antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00059	0.00059	0.000002	Diff <2x LOR	—
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0181	0.0178	1.95%	20%	—
		beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	—
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		boron, total	7440-42-8	E420	0.010	mg/L	0.108	0.111	2.85%	20%	—
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000130	0.0000139	0.0000008	Diff <2x LOR	—
		calcium, total	7440-70-2	E420	0.050	mg/L	166	162	2.64%	20%	—
		cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00804	0.00816	1.41%	20%	—
		iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	—
		lead, total	7439-92-1	E420	0.000050	mg/L	0.000165	0.000166	0.0000006	Diff <2x LOR	—



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: 387020) - continued											
RG2200031-001	Anonymous	lithium, total	7439-93-2	E420	0.0010	mg/L	0.0723	0.0744	2.85%	20%	—
		magnesium, total	7439-95-4	E420	0.0050	mg/L	67.4	69.4	2.96%	20%	—
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.00709	0.00724	1.99%	20%	—
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00462	0.00473	2.32%	20%	—
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.00151	0.00151	0.000008	Diff <2x LOR	—
		phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	—
		potassium, total	7440-09-7	E420	0.050	mg/L	7.40	7.65	3.38%	20%	—
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00022	0.00024	0.00002	Diff <2x LOR	—
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000281	0.000272	0.000009	Diff <2x LOR	—
		silicon, total	7440-21-3	E420	0.10	mg/L	12.0	11.8	1.83%	20%	—
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		sodium, total	7440-23-5	E420	0.050	mg/L	53.3	52.6	1.33%	20%	—
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.600	0.609	1.53%	20%	—
		sulfur, total	7704-34-9	E420	0.50	mg/L	172	172	0.00629%	20%	—
		tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		titanium, total	7440-32-5	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	—
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
SK2200157-001	Anonymous	uranium, total	7440-61-1	E420	0.000010	mg/L	0.00691	0.00703	1.77%	20%	—
		vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0342	0.0342	0.115%	20%	—
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		calcium, dissolved	7440-70-2	E421	0.250	mg/L	102	94.8	6.93%	20%	—
		iron, dissolved	7439-89-6	E421	0.150	mg/L	<0.150	<0.150	0	Diff <2x LOR	—
		magnesium, dissolved	7439-95-4	E421	0.0250	mg/L	46.5	48.7	4.55%	20%	—
		manganese, dissolved	7439-96-5	E421	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	—
		potassium, dissolved	7440-09-7	E421	0.250	mg/L	14.2	14.4	1.60%	20%	—
		sodium, dissolved	7440-23-5	E421	0.250	mg/L	650	660	1.53%	20%	—

Dissolved Metals (QC Lot: 388296)



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Work Order : SK2200160
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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
Physical Tests (QCLot: 387224)					
conductivity	— E100	1	µS/cm	1.4	—
Physical Tests (QCLot: 387225)					
alkalinity, total (as CaCO ₃)	— E290	1	mg/L	<1.0	—
Anions and Nutrients (QCLot: 387211)					
sulfate (as SO ₄)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	—
Anions and Nutrients (QCLot: 387212)					
nitrate (as N)	14797-55-8 E235.NO3	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387213)					
nitrite (as N)	14797-65-0 E235.NO2	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 387214)					
fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387215)					
chloride	16887-00-6 E235.Cl	0.5	mg/L	<0.50	—
Total Metals (QCLot: 387020)					
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	7440-69-9 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	7439-98-8 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	—
magnesium, total	7439-95-4 E420	0.005	mg/L	<0.0050	—
manganese, total	7439-96-5 E420	0.0001	mg/L	<0.00010	—
molybdenum, total	7439-98-7 E420	0.00005	mg/L	<0.000050	—



Page : 6 of 10
Work Order : SK2200160
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 387020) - continued						
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	7440-24-8	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: 388296)						
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	-



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. 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	Spike Concentration	Recovery (%)		Recovery Limits (%)		Qualifier
						LCS	Low	High		
Physical Tests (QCLot: 387224)										
conductivity	---	E100	1	µS/cm	1000 µS/cm	98.5	90.0	110	---	
Physical Tests (QCLot: 387225)										
alkalinity, total (as CaCO3)	---	E290	1	mg/L	500 mg/L	96.9	85.0	115	---	
Physical Tests (QCLot: 387227)										
pH	---	E103	---	pH units	6.86 pH units	99.9	98.0	102	---	
Anions and Nutrients (QCLot: 387211)										
sulfate (as SO4)	14808-79-8	E235.S04	0.3	mg/L	100 mg/L	103	90.0	110	---	
Anions and Nutrients (QCLot: 387212)										
nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	104	90.0	110	---	
Anions and Nutrients (QCLot: 387213)										
nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	104	90.0	110	---	
Anions and Nutrients (QCLot: 387214)										
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	90.0	110	---	
Anions and Nutrients (QCLot: 387215)										
chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	---	
Total Metals (QCLot: 387020)										
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	88.9	80.0	120	---	
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	99.5	80.0	120	---	
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	89.8	80.0	120	---	
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	88.5	80.0	120	---	
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	88.7	80.0	120	---	
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	91.8	80.0	120	---	
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.0	80.0	120	---	
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	85.5	80.0	120	---	
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	88.9	80.0	120	---	
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	97.5	80.0	120	---	
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	89.0	80.0	120	---	
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	86.8	80.0	120	---	
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	85.6	80.0	120	---	
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.5	80.0	120	---	
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	88.2	80.0	120	---	
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	87.8	80.0	120	---	



Sub-Matrix: Water

Laboratory Control Sample (LCS) Report						
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Recovery Limits (%)
						Low High
Total Metals (QCLot: 387020) - continued						
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	93.4 120
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	85.9 120
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	92.5 120
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	88.2 120
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.7 120
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	87.9 120
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	93.3 120
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	93.5 120
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	94.8 120
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.4 120
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	90.7 120
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101 120
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.0 120
tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	98.0 120
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	88.8 120
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	90.2 120
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	86.7 120
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	83.6 120
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	93.8 120
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	88.5 120
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	88.1 120
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	85.8 120
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.8 120
Dissolved Metals (QCLot: 388296)						
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100 120
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	105 120
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102 120
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.2 120
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	101 120
sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104 120



Page : 9 of 10
Work Order : SK2200160
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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

Laboratory sample ID		Client sample ID	Analyte	CAS Number	Method	Matrix Spike (MS) Report					
						Spike		Recovery Limits (%)			
						Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 387211)											
SK2200146-003	Anonymous		sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	100 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387212)											
SK2200146-003	Anonymous		nitrate (as N)	14797-55-8	E235.NO3	ND mg/L	2.5 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387213)											
SK2200146-003	Anonymous		nitrite (as N)	14797-65-0	E235.NO2	ND mg/L	0.5 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387214)											
SK2200146-003	Anonymous		fluoride	15954-48-8	E235.F	ND mg/L	1 mg/L	ND	75.0	125	—
Anions and Nutrients (QCLot: 387215)											
SK2200146-003	Anonymous		chloride	16887-00-6	E235.Cl	ND mg/L	100 mg/L	ND	75.0	125	—
Total Metals (QCLot: 387020)											
RG2200031-002	Anonymous		aluminum, total	7429-90-5	E420	0.208 mg/L	0.2 mg/L	104	70.0	130	—
			antimony, total	7440-36-0	E420	0.0217 mg/L	0.02 mg/L	108	70.0	130	—
			arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	—
			barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
			beryllium, total	7440-41-7	E420	0.0391 mg/L	0.04 mg/L	97.9	70.0	130	—
			bismuth, total	7440-69-9	E420	0.00955 mg/L	0.01 mg/L	95.5	70.0	130	—
			boron, total	7440-42-8	E420	0.118 mg/L	0.1 mg/L	118	70.0	130	—
			cadmium, total	7440-43-9	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	—
			calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	—
			cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	—
			chromium, total	7440-47-3	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130	—
			cobalt, total	7440-48-4	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	—
			copper, total	7440-50-8	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	—
			iron, total	7439-89-6	E420	1.99 mg/L	2 mg/L	99.4	70.0	130	—
			lead, total	7439-92-1	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	—
			lithium, total	7439-93-2	E420	0.114 mg/L	0.1 mg/L	114	70.0	130	—
			magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	—
			manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
			molybdenum, total	7439-98-7	E420	0.0227 mg/L	0.02 mg/L	114	70.0	130	—
			nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	—



Sub-Matrix: Water

Sub-Matrix: Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)		Matrix Spike (MS) Report		
					Concentration	Target	MS	Low	High	Qualifier	
Total Metals (QC Lot: 387020) - continued											
RG2200031-002	Anonymous	phosphorus, total	7723-14-0	E420	11.1 mg/L	10 mg/L	111	70.0	130	—	
		potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	—	
		rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	—	
		selenium, total	7782-49-2	E420	0.0453 mg/L	0.04 mg/L	113	70.0	130	—	
		silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	—	
		silver, total	7440-22-4	E420	0.00411 mg/L	0.004 mg/L	103	70.0	130	—	
		sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	—	
		strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—	
		sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	—	
		tellurium, total	13494-80-9	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	—	
		thallium, total	7440-28-0	E420	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	—	
		thorium, total	7440-29-1	E420	0.0215 mg/L	0.02 mg/L	107	70.0	130	—	
		tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	—	
		titanium, total	7440-32-6	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	—	
		tungsten, total	7440-33-7	E420	0.0212 mg/L	0.02 mg/L	106	70.0	130	—	
		uranium, total	7440-51-1	E420	ND mg/L	0.004 mg/L	ND	70.0	130	—	
		vanadium, total	7440-52-2	E420	0.105 mg/L	0.1 mg/L	105	70.0	130	—	
		zinc, total	7440-56-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	—	
		zirconium, total	7440-57-7	E420	0.0436 mg/L	0.04 mg/L	109	70.0	130	—	
Dissolved Metals (QC Lot: 388296)											
SK2200160-001	SK05GF0109 Well 11	calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	—	
		iron, dissolved	7439-89-6	E421	1.94 mg/L	2 mg/L	97.0	70.0	130	—	
		magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	—	
		manganese, dissolved	7439-96-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	—	
		potassium, dissolved	7440-09-7	E421	ND mg/L	4 mg/L	ND	70.0	130	—	
		sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	—	

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Environmental Division
Saskatoon

Page

Work Order Reference
SK2200160

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Report To		Contact and company name below will appear on the final report	
Company:	Town of Shellbrook	Select Report Format:	☒ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Contact:	Shelene Gieselman	Merge QC/QCI Reports with COA	☒ YES ☐ NO ☐ N/A
Phone:	306-747-4500	Compare Results to Criteria on Report - provide details below if box checked	☐
Street:	Company address below will appear on the final report	Select Distribution:	☒ EMAIL ☐ MAIL ☐ FAX
City/Province:	71 Main Street Shellbrook, SK	Email 1 or Fax	townoffice@townofshellbrook.ca
Postal Code:	S0J 2E0	Email 2	townshop@sasktel.net
Invoice To	Same as Report To ☐ YES ☐ NO	Email 3	
Copy of invoice with Report	☐ YES ☐ NO	Invoice Recipients	
Company:		Select Invoice Distribution:	☒ EMAIL ☐ MAIL ☐ FAX
Contact:		Email 1 or Fax	townoffice@townofshellbrook.ca
		Email 2	townshop@sasktel.net
Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	25689 / GMBK100	AFE/Client Center:	PO#
Job #:	Waterwork Weekly - Gen Chem / Health and Toxicity	Major/Minor Code:	Routing Code:
PO / AFE:	Station# SK06GF0016	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):		ALS Contact:	Kimberley Head
ALS Sample # (ALS use only):		Date	12.20.22 13:15
Sample Identification and/or Coordinates (This description will appear on the report)	SK056F0109 well 11	Time (hh:mm)	9:06
Sample Type			
Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)			
Drinking Water (DW) Samples ¹ (client use)			
Are samples taken from a Regulated DW System?	☒ YES ☐ NO		
Are samples for human consumption use?	☒ YES ☐ NO		
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS-use only)	
Received by: <i>[Signature]</i> Date: 13 Jan 22 09:00		Received by: <i>[Signature]</i> Date: 13 Jan 22	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS-use only)	
Time: 9:31		Time: 9:31	
Date: 13 Jan 22		Date: 13 Jan 22	
WHITE - LABORATORY COPY		YELLOW - CLIENT COPY	

Analysis Request	
Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FIP) below	
General Chemical	☒
Total Metals	☒
NUMBER OF CONTAINERS	3
SAMPLES ON HOLD	
EXTENDED STORAGE REQUIRED	
SUSPECTED HAZARD (see notes)	

Turnaround Time (TAT) Requested	
☒ Routine (R) if received by 3pm M-F - no surcharges apply	
☐ 4 day (P4) if received by 3pm M-F - 20% rush surcharge minimum	
☐ 3 day (P3) if received by 3pm M-F - 25% rush surcharge minimum	
☐ 2 day (P2) if received by 3pm M-F - 50% rush surcharge minimum	
☐ 1 day (E) if received by 3pm M-F - 100% rush surcharge minimum	
Same day (E2) if received by 10am M-S - 200% rush surcharge	
fees may apply to rush requests on weekends, statutory holidays a routine tests	

Date and Time Required for all EXP. TATS:	
For all tests with rush TATs requested, please contact your AM to confirm availability.	

Telephone : +1 306 668 8376

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.



Environmental

CERTIFICATE OF ANALYSIS

Work Order	: SK2200161	Page	: 1 of 5
Client	: Town of Shellbrook	Laboratory	: Saskatoon - Environmental
Contact	: Shalene Gieselman	Account Manager	: Kimberley Head
Address	: 71 Main Street PO Box 40	Address	: 819 58 Street East
	Shellbrook SK Canada S0J 2E0		Saskatoon SK Canada S7K 6X5
Telephone	: 306-747-4900	Telephone	: +1 306 668 8370
Project	: Waterworks- Gen chem/Health and toxicity	Date Samples Received	: 14-Jan-2022 09:31
PO	: Station#: SK06GF0016	Date Analysis Commenced	: 14-Jan-2022
C-O-C number	: —	Issue Date	: 20-Jan-2022 15:37
Sampler	: AB		
Site	: —		
Quote number	: —		
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
Colby Bingham	Quality Systems Coordinator	Inorganics, Saskatoon, Saskatchewan
Colby Bingham	Quality Systems Coordinator	Metals, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
Lian Nesbitt	Laboratory Analyst	Metals, Saskatoon, Saskatchewan
Melissa Houseman	Team Leader - Inorganics	Metals, Saskatoon, Saskatchewan

RIGHT SOLUTIONS | RIGHT PARTNER



Page : 2 of 5
Work Order : SK2200161
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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
No Unit	
%	percent
µS/cm	Microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

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

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

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLIS	Detection Limit Adjusted due to insufficient sample.
HTDC	Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.
SFP	Sample was filtered and preserved at the laboratory.



Analytical Results

Sub-Matrix: Water				Client sample ID			
(Matrix: Water)				Well 10			
				12-Jan-2022			
				13:05			
Analyte	CAS Number	Method	LOR	Unit	Result		
Physical Tests							
hardness (as CaCO ₃), dissolved		EC100	0.50	mg/L	445		
conductivity		E100	2.0	µS/cm	3310		
pH		E108	0.10	pH units	8.03		
alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290	1.0	mg/L	437		
alkalinity, carbonate (as CO ₃)	3812-32-6	E290	1.0	mg/L	<1.0		
alkalinity, hydroxide (as OH)	14280-30-9	E290	1.0	mg/L	<1.0		
alkalinity, total (as CaCO ₃)		E290	2.0	mg/L	358		
solids, total dissolved [TDS], calculated		EC103	1.0	mg/L	2190		
Anions and Nutrients							
chloride	16887-00-6	E235.Cl	0.50	mg/L	441		
fluoride	16984-48-8	E235.F	0.020	mg/L	<0.400 ^{DL}		
nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.434 ^{HTDC}		
nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	0.752 ^{HTDC}		
sulfate (as SO ₄)	14808-79-8	E235.SO4	0.30	mg/L	733		
nitrate + nitrite (as N)		EC235.N+N	0.0500	mg/L	1.19		
Ion Balance							
anion sum		EC101	0.10	meq/L	34.9		
cation sum		EC101	0.10	meq/L	35.9		
ion balance (cation-anion difference)		EC101	0.010	%	1.41		
ion balance (cations/anions ratio)		EC101	0.010	%	103		
Total Metals							
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0072		
antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00020 ^{DL}		
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00202		
barium, total	7440-39-3	E420	0.00010	mg/L	0.00880		
beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000040 ^{DL}		
bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000100 ^{DL}		
boron, total	7440-42-8	E420	0.010	mg/L	0.697		
cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000100 ^{DL}		
calcium, total	7440-70-2	E420	0.050	mg/L	89.4		



Analytical Results

Sub-Matrix: Water

(Matrix: Water)

Sub-Matrix: Water (Matrix: Water)		Client sample ID		SK05GF0085 Well 10	Method	Result	Unit	Method	Result	Unit
Sub-Matrix: Water (Matrix: Water)		Client sampling date / time		12-Jan-2022 13:05	SK2200161-001	Result				
Analyte	CAS Number	Method	LOD	Unit	Result	Unit	Method	Result	Unit	Method
Total Metals										
cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000020	DL05				
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00100	DL05				
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00023					
copper, total	7440-50-8	E420	0.00050	mg/L	<0.00100	DL05				
iron, total	7439-89-6	E420	0.010	mg/L	1.71					
lead, total	7439-92-1	E420	0.000050	mg/L	<0.000100	DL05				
lithium, total	7439-93-2	E420	0.0010	mg/L	0.158					
magnesium, total	7439-95-4	E420	0.0050	mg/L	45.2					
manganese, total	7439-96-5	E420	0.00010	mg/L	0.0442					
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0123					
nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00100	DL05				
phosphorus, total	7723-14-0	E420	0.050	mg/L	0.319					
potassium, total	7440-09-7	E420	0.050	mg/L	14.2					
rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00388					
selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000100	DL05				
silicon, total	7440-21-3	E420	0.10	mg/L	8.22					
silver, total	7440-22-4	E420	0.000010	mg/L	<0.000020	DL05				
sodium, total	7440-23-5	E420	0.050	mg/L	580					
strontium, total	7440-24-6	E420	0.00020	mg/L	1.02					
sulfur, total	7704-34-9	E420	0.50	mg/L	290					
tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00040	DL05				
thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000020	DL05				
thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00020	DL05				
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00020	DL05				
titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00060	DL05				
tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00020	DL05				
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000143					
vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00100	DL05				
zinc, total	7440-68-6	E420	0.0030	mg/L	<0.0060	DL05				
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00040	DL05				
Dissolved Metals										

Dissolved Metals



Analytical Results

Sub-Matrix: Water (Matrix: Water)		Client sample ID SK05GF0085 Well 10								
		Client sampling date / time 12-Jan-2022 13:05								
Analyte	CAS Number	Method	LOR	Unit	Result					
Dissolved Metals										
calcium, dissolved	7440-70-2	E421	0.050	mg/L	101					
iron, dissolved	7439-89-6	E421	0.030	mg/L	<0.150 ND					
magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	46.9					
manganese, dissolved	7439-96-5	E421	0.00500	mg/L	0.0456					
potassium, dissolved	7440-09-7	E421	0.050	mg/L	14.2					
sodium, dissolved	7440-23-5	E421	0.050	mg/L	612					
dissolved metals filtration location	—	EP421	-	-	Laboratory ^{SP}					

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



ALS Environmental

QUALITY CONTROL REPORT

Work Order

: SK2200161

Page

: 1 of 10

Client

: Town of Shellbrook

Contact

: Shalene Gieselman

Address

: 71 Main Street PO Box 40
Shellbrook SK Canada S0J 2E0
: 306-747-4900

Telephone

Project

: Waterworks- Gen chem/Health and toxicity

PO

: Station#: SK06GF0016

C-O-C number

: ---

Sampler

: AB

Site

: ---

Quote number

: ---

No. of samples received

: 1

No. of samples analysed

: 1

Laboratory

: Saskatoon - Environmental

Account Manager

: Kimberley Head

Address

: 819 58 Street East
Saskatoon, Saskatchewan Canada S7K 6X5

Telephone

: +1 306 668 8370

Date Samples Received

: 14-Jan-2022 09:31

Date Analysis Commenced

: 14-Jan-2022

Issue Date

: 20-Jan-2022 15:37

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 Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

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

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Quality Systems Coordinator

Inorganics, Saskatoon, Saskatchewan

Colby Bingham

Quality Systems Coordinator

Metals, Saskatoon, Saskatchewan

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Work Order
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: Town of Shellbrook
: Waterworks- Gen chem/Health and toxicity



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 Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

= Indicates a QC result that did not meet the ALS DQO.



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Work Order : SK2200161
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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

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: 387224)											
RG2200033-001	Anonymous	conductivity	—	E100	2.0	µS/cm	114	112	0.884%	10%	—
Physical Tests (QC Lot: 387225)											
RG2200033-001	Anonymous	alkalinity, total (as CaCO3)	—	E290	1.0	mg/L	24.6	23.8	3.23%	20%	—
Physical Tests (QC Lot: 387227)											
RG2200033-001	Anonymous	pH	—	E108	0.10	pH units	6.89	6.87	0.239%	3%	—
Anions and Nutrients (QC Lot: 387211)											
SK2200172-019	Anonymous	sulfate (as SO4)	14808-79-8	E235.S04	6.00	mg/L	<6.00	<6.00	0	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387212)											
SK2200172-019	Anonymous	nitrate (as N)	14797-55-8	E235.NO3	0.400	mg/L	105	105	0.254%	20%	—
Anions and Nutrients (QC Lot: 387213)											
SK2200172-019	Anonymous	nitrite (as N)	14797-65-0	E235.NO2	0.200	mg/L	1.14	0.974	0.162	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387214)											
SK2200172-019	Anonymous	fluoride	16984-48-9	E235.F	0.400	mg/L	0.854	0.819	0.036	Diff <2x LOR	—
Anions and Nutrients (QC Lot: 387215)											
SK2200172-019	Anonymous	chloride	16887-00-6	E235.Cl	10.0	mg/L	725	726	0.0878%	20%	—
Total Metals (QC Lot: 387020)											
RG2200031-001	Anonymous	aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	—
		antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00059	0.00059	0.000002	Diff <2x LOR	—
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0181	0.0178	1.98%	20%	—
		beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	—
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	—
		boron, total	7440-42-8	E420	0.010	mg/L	0.108	0.111	2.88%	20%	—
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000130	0.0000139	0.0000008	Diff <2x LOR	—
		calcium, total	7440-70-2	E420	0.050	mg/L	166	162	2.64%	20%	—
		cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		copper, total	7440-50-8	E420	0.00050	mg/L	0.00804	0.00816	1.41%	20%	—
		iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	—
		lead, total	7439-92-1	E420	0.000050	mg/L	0.000165	0.000166	0.0000006	Diff <2x LOR	—



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: 387020) - continued											
RG2200031-001	Anonymous	lithium, total	7439-93-2	E420	0.0010	mg/L	0.0723	0.0744	2.85%	20%	—
		magnesium, total	7439-95-4	E420	0.0050	mg/L	57.4	59.4	2.96%	20%	—
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.00709	0.00724	1.99%	20%	—
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00462	0.00473	2.32%	20%	—
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.00151	0.00151	0.0000008	Diff <2x LOR	—
		phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	—
		potassium, total	7440-09-7	E420	0.050	mg/L	7.40	7.65	3.38%	20%	—
		rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00022	0.00024	0.00002	Diff <2x LOR	—
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000261	0.000272	0.000009	Diff <2x LOR	—
		silicon, total	7440-21-3	E420	0.10	mg/L	12.0	11.8	1.83%	20%	—
		silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		sodium, total	7440-23-5	E420	0.050	mg/L	53.3	52.6	1.33%	20%	—
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.600	0.609	1.53%	20%	—
		sulfur, total	7704-34-9	E420	0.50	mg/L	172	172	0.00629%	20%	—
		tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	—
		thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
		titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	—
		tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	—
Dissolved Metals (QC Lot: 388296)	Anonymous	uranium, total	7440-61-1	E420	0.000010	mg/L	0.00691	0.00703	1.77%	20%	—
		vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	—
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0342	0.0342	0.115%	20%	—
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	—
		calcium, dissolved	7440-70-2	E421	0.250	mg/L	102	94.8	6.93%	20%	—
		iron, dissolved	7439-89-6	E421	0.150	mg/L	<0.150	<0.150	0	Diff <2x LOR	—
		magnesium, dissolved	7439-95-4	E421	0.0250	mg/L	46.5	48.7	4.55%	20%	—
		manganese, dissolved	7439-96-5	E421	0.0250	mg/L	<0.0250	<0.0250	0	Diff <2x LOR	—
		potassium, dissolved	7440-09-7	E421	0.250	mg/L	14.2	14.4	1.60%	20%	—
		sodium, dissolved	7440-23-5	E421	0.250	mg/L	650	660	1.63%	20%	—



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Work Order : SK2200161
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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
Physical Tests (QCLot: 387224)						
conductivity	—	E100	1	µS/cm	1.4	—
Physical Tests (QCLot: 387225)						
alkalinity, total (as CaCO ₃)	—	E230	1	mg/L	<1.0	—
Anions and Nutrients (QCLot: 387211)						
sulfate (as SO ₄)	14808-79-8	E235.S04	0.3	mg/L	<0.30	—
Anions and Nutrients (QCLot: 387212)						
nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387213)						
nitrite (as N)	14797-55-0	E235.NO2	0.01	mg/L	<0.010	—
Anions and Nutrients (QCLot: 387214)						
fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	—
Anions and Nutrients (QCLot: 387215)						
chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	—
Total Metals (QCLot: 387020)						
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	7440-69-9	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	—
magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	—
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	—
molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	—



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 387020) - continued						
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	7704-34-8	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	7440-31-8	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: 388296)						
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	—



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Work Order : SK2200161
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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

Sub-Matrix: Water		Laboratory Control Sample (LCS) Report							
		Recovery (%)		Recovery Limits (%)		Qualifier			
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration		LCS	Low	High
Physical Tests (QCLot: 387224)									
conductivity	—	E100	1	µS/cm	1000 µS/cm	98.5	90.0	110	—
Physical Tests (QCLot: 387225)									
alkalinity, total (as CaCO3)	—	E290	1	mg/L	500 mg/L	96.9	85.0	115	—
Physical Tests (QCLot: 387227)									
pH	—	E108	—	pH units	6.86 pH units	99.9	98.0	102	—
Anions and Nutrients (QCLot: 387211)									
sulfate (as SO4)	14808-79-8	E235.S04	0.3	mg/L	100 mg/L	103	90.0	110	—
Anions and Nutrients (QCLot: 387212)									
nitrate (as N)	14797-55-8	E235.N03	0.02	mg/L	2.5 mg/L	104	90.0	110	—
Anions and Nutrients (QCLot: 387213)									
nitrite (as N)	14797-65-0	E235.N02	0.01	mg/L	0.5 mg/L	104	90.0	110	—
Anions and Nutrients (QCLot: 387214)									
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	90.0	110	—
Anions and Nutrients (QCLot: 387215)									
chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	—
Total Metals (QCLot: 387020)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	88.9	80.0	120	—
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	99.5	80.0	120	—
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	89.8	80.0	120	—
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	88.5	80.0	120	—
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	88.7	80.0	120	—
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	91.8	80.0	120	—
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	92.0	80.0	120	—
cadmium, total	7440-43-8	E420	0.000005	mg/L	0.1 mg/L	85.5	80.0	120	—
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	88.9	80.0	120	—
cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	97.6	80.0	120	—
chromium, total	7440-47-3	E420	0.00005	mg/L	0.25 mg/L	89.0	80.0	120	—
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	86.8	80.0	120	—
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	85.6	80.0	120	—
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.5	80.0	120	—
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	88.2	80.0	120	—
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	87.8	80.0	120	—



Sub-Matrix: Water

Laboratory Control Sample (LCS) Report										
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Recovery (%)		Recovery Limits (%)		Qualifier
						LCS	Low	High		
Total Metals (QCLot: 387020) - continued										
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	93.4	80.0	120		—
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	85.9	80.0	120		—
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	92.5	80.0	120		—
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	88.2	80.0	120		—
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	95.7	80.0	120		—
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	87.9	80.0	120		—
rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	93.3	80.0	120		—
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	93.5	80.0	120		—
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	94.8	80.0	120		—
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.4	80.0	120		—
sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	90.7	80.0	120		—
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120		—
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	94.0	80.0	120		—
tellurium, total	13454-85-8	E420	0.0002	mg/L	0.1 mg/L	98.0	80.0	120		—
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	89.8	80.0	120		—
thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	90.2	80.0	120		—
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	86.7	80.0	120		—
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	83.6	80.0	120		—
tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	93.8	80.0	120		—
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	88.5	80.0	120		—
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	88.1	80.0	120		—
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	86.8	80.0	120		—
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.8	80.0	120		—
Dissolved Metals (QCLot: 388296)										
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120		—
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	106	80.0	120		—
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120		—
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.2	80.0	120		—
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	101	80.0	120		—
sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104	80.0	120		—



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Work Order : SK2200161
Client : Town of Shellbrook
Project : Waterworks- Gen chem/Health and toxicity

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

Laboratory sample					Matrix Spike (MS) Report						
					Spike		Recovery (%)		Recovery Limits (%)		
					Concentration	Target	MS	Low	High	Qualifier	
ID	Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 387211)											
SK2200146-003	Anonymous	sulfate (as SO4)	14806-79-8	E235.S04	ND mg/L	100 mg/L	ND	75.0	125	—	
Anions and Nutrients (QCLot: 387212)											
SK2200146-003	Anonymous	nitrate (as N)	14797-55-8	E235.NO3	ND mg/L	2.5 mg/L	ND	75.0	125	—	
Anions and Nutrients (QCLot: 387213)											
SK2200146-003	Anonymous	nitrite (as N)	14797-55-0	E235.NO2	ND mg/L	0.5 mg/L	ND	75.0	125	—	
Anions and Nutrients (QCLot: 387214)											
SK2200146-003	Anonymous	fluoride	16984-48-8	E235.F	ND mg/L	1 mg/L	ND	75.0	125	—	
Anions and Nutrients (QCLot: 387215)											
SK2200146-003	Anonymous	chloride	16887-00-6	E235.Cl	ND mg/L	100 mg/L	ND	75.0	125	—	
Total Metals (QCLot: 387020)											
RG2200031-002	Anonymous	aluminum, total	7429-90-5	E420	0.208 mg/L	0.2 mg/L	104	70.0	130	—	
		antimony, total	7440-36-0	E420	0.0217 mg/L	0.02 mg/L	108	70.0	130	—	
		arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	—	
		barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—	
		beryllium, total	7440-41-7	E420	0.0391 mg/L	0.04 mg/L	97.9	70.0	130	—	
		bismuth, total	7440-69-9	E420	0.00955 mg/L	0.01 mg/L	95.5	70.0	130	—	
		boron, total	7440-42-8	E420	0.118 mg/L	0.1 mg/L	118	70.0	130	—	
		cadmium, total	7440-43-9	E420	0.00380 mg/L	0.004 mg/L	95.1	70.0	130	—	
		calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	—	
		cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	—	
		chromium, total	7440-47-3	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130	—	
		cobalt, total	7440-48-4	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	—	
		copper, total	7440-50-8	E420	0.0182 mg/L	0.02 mg/L	91.2	70.0	130	—	
		iron, total	7439-89-6	E420	1.99 mg/L	2 mg/L	99.4	70.0	130	—	
		lead, total	7439-92-1	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	—	
		lithium, total	7439-93-2	E420	0.114 mg/L	0.1 mg/L	114	70.0	130	—	
		magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	—	
		manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—	
		molybdenum, total	7439-98-7	E420	0.0227 mg/L	0.02 mg/L	114	70.0	130	—	
		nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	—	



Sub-Matrix: Water

Sub-Matrix: Water										
					Matrix Spike (MS) Report					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)		Qualifier	
					Concentration	Target	MS	Low		High
Total Metals (QCLot: 387020) - continued										
RG2200031-002	Anonymous	phosphorus, total	7723-14-0	E420	11.1 mg/L	10 mg/L	111	70.0	130	—
		potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	—
		rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	—
		selenium, total	7782-49-2	E420	0.0453 mg/L	0.04 mg/L	113	70.0	130	—
		silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	—
		silver, total	7440-22-4	E420	0.00411 mg/L	0.004 mg/L	103	70.0	130	—
		sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	—
		strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	—
		sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	—
		tellurium, total	13494-80-9	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	—
		thallium, total	7440-28-0	E420	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	—
		thorium, total	7440-29-1	E420	0.0215 mg/L	0.02 mg/L	107	70.0	130	—
		tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	—
		titanium, total	7440-32-6	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	—
		tungsten, total	7440-33-7	E420	0.0212 mg/L	0.02 mg/L	106	70.0	130	—
		uranium, total	7440-61-1	E420	ND mg/L	0.004 mg/L	ND	70.0	130	—
		vanadium, total	7440-62-2	E420	0.105 mg/L	0.1 mg/L	106	70.0	130	—
		zinc, total	7440-66-6	E420	0.379 mg/L	0.4 mg/L	94.8	70.0	130	—
		zirconium, total	7440-67-7	E420	0.0436 mg/L	0.04 mg/L	109	70.0	130	—
Dissolved Metals (QCLot: 388296)										
SK2200160-001	Anonymous	calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	—
		iron, dissolved	7439-89-6	E421	1.94 mg/L	2 mg/L	97.0	70.0	130	—
		magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	—
		manganese, dissolved	7439-98-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	—
		potassium, dissolved	7440-09-7	E421	ND mg/L	4 mg/L	ND	70.0	130	—
		sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	—

Chain of Custody (COC) / Analytical Request Form

COC Number: 20

Environmental Division
SaskatoonWork Order Reference
SK2200161

Page

Canada Toll Free: 1 800 668 9878

www.alslab.com



Report To Company: Town of Shellbrook Contact: Shalene Gieselman Phone: 308-747-4300 Company address below will appear on the final report Street: 71 Main Street City/Province: Shellbrook, SK Postal Code: S0J 2E0 Invoice To: Same as Report To Copy of Invoice with Report: YES ☐ NO ☐ Company: Contact: 		Reports / Recipients Select Report Format: ☒ PDF ☐ EXCEL ☐ EDD (DIGITAL) Merge QC/QCI Reports with COA: ☒ YES ☐ NO ☐ N/A ☐ Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: townoffice@townofshellbrook.ca Email 2: townshop@sasktel.net Email 3: Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: townoffice@townofshellbrook.ca Email 2: townshop@sasktel.net 		Turnaround Time (TAT) Requested ☒ Routine (R) if received by 3pm M-F - no surcharges apply ☐ 4 day (P4) if received by 3pm M-F - 20% rush surcharge minimum ☐ 3 day (P3) if received by 3pm M-F - 25% rush surcharge minimum ☐ 2 day (P2) if received by 3pm M-F - 50% rush surcharge minimum ☐ 1 day (E) if received by 3pm M-F - 100% rush surcharge minimum ☐ Same day (E2) if received by 10am M-S - 200% rush surcharge ☐ fees may apply to rush requests on weekends, statutory holidays 	
Project Information ALS Account # / Quote #: 25689 / GMBK100 Job #: Waterwork Weekly - Gen Chem / Health and Toxicity PO / AFE: Station# SK08GF0016 Location: 		Oil and Gas Required Fields (client use) AFE/Coat Center: Major/Minor Code: Requisitioner: Location: 		Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below 	
ALS Lab Work Order # (ALS use only): SK05GF0085 Well 10 		Sample Identification and/or Coordinates (This description will appear on the report) 		NUMBER OF CONTAINERS General Chemical: ☒ 3 Total Metals: ☒ 3 	
Drinking Water (DW) Samples¹ (client use) Are samples taken from a Regulated DW System? ☒ YES ☐ NO Are samples for human consumption/ use? ☒ YES ☐ NO 		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) 		SAMPLE RECEIPT DETAILS (ALS use only) Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO Cooler Custody: ☐ YES ☐ N/A Sample Custody: ☐ YES ☐ NO INITIAL COOLER TEMPERATURES °C: FINAL COOLER TEMPERATURES °C: 	
SHIPMENT RELEASE (client use) Released by: <i>Shalene Gieselman</i> Date: 13 Jan 22 09:00 		INITIAL SHIPMENT RECEPTION (ALS use only) Received by: <i>Wm</i> Date: 13 Jan 22 09:31 		FINAL SHIPMENT RECEPTION (ALS use only) Received by: <i>Wm</i> Date: 14 Jan 22 09:31 	

REF 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.