

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 2018 time period. This report was completed on July 8, 2019. 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	0.1 mg/L free OR					
Residual	0.5 mg/L total	0.45-2.09	0.16-1.41	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	0.18-3.58	731	0

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

Turbidity – From Water Treatment Plant Records

Parameter	Limit (NTU)	Test Level Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	1.0	0.11-0.35	0	0.35	365	372

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 (Jan. 3, 2018). Sample results indicated that the provincial drinking water quality standards were not exceeded. (OR) Samples exceeded provincial water quality standards for the following parameters: (Bromate)



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Parameter	Limit MAC(mg/L)	Limit IMAC (mg/L)	Sample Result(s)	# Samples Exceeding Limit	
Arsenic	0.010		<0.00050		* 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		0.00804		
Boron		5.0	0.774		
Bromate	0.01		0.0126	1	
Cadmium	0.005		<0.000025		
Chlorate	1.0		0.650		
Chlorite	1.0		<0.010		
Chromium	0.05		<0.00050		
Fluoride (avg*)	1.5		0.15		
Lead	0.01		0.00025		
Nitrate (avg.*)	45.0		<0.50		
Selenium	0.01		<0.00025		
Uranium	0.02		0.000168		

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	357	1	1
Bicarbonate	No Objective	435	1	1
Calcium	No Objective	100	1	1
Carbonate	No Objective	<10	1	1
Chloride	250	546	1	1
Conductivity	No Objective	3490	1	1
Hardness	800	460	1	1
Magnesium	200	51	1	1
PH	No Objective	7.63	1	1
Sodium	300	690	1	1
Sulphate	500	764	1	1
Total dissolved Solids	1500	2260	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 (2018) and submitted on (Jan. 3, 2018) Samples exceeded provincial aesthetic objectives for the General Chemical category for the following parameters: (Chloride sodium sulphate 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/Village/Hamlet/Rural Municipality/Owner Name and Title
Postal Address
Telephone Number / Facsimile Number (if available)
E-mail address (if available)

June 2015 EPB 536D



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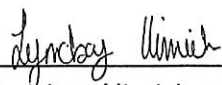
TOWN OF SHELLBROOK
ATTN: Kelly Hoare
71 Main Street
PO Box 40
Shellbrook SK S0J 2E0

Date Received: 03-JAN-18
Report Date: 11-JAN-18 14:56 (MT)
Version: FINAL

Client Phone: 306-747-4900

Certificate of Analysis

Lab Work Order #: L2041109
Project P.O. #: NOT SUBMITTED
Job Reference: WATERWORKS
C of C Numbers:
Legal Site Desc: STATION #SK05GF0085


Lyndsay Hinrichsen
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2041109-1 WELL #10 SK05GF0085							
Sampled By: CLIENT on 03-JAN-18 @ 08:30							
Matrix: WATER							
General Chemical							
Alkalinity by Auto. Titration							
Bicarbonate (HCO ₃)	449.		20	mg/L		04-JAN-18	R3928522
Hydroxide (OH)	<10.		10	mg/L		04-JAN-18	R3928522
Carbonate (CO ₃)	<10.		10	mg/L		04-JAN-18	R3928522
Alkalinity, Total (as CaCO ₃)	368		20	mg/L		04-JAN-18	R3928522
Chloride (Cl)							
Chloride (Cl)	494	DLDS	5.0	mg/L	04-JAN-18	04-JAN-18	R3929074
Conductivity (Automated)							
Conductivity	3270		10	uS/cm		04-JAN-18	R3928522
Fluoride (F)							
Fluoride (F)	0.14		0.10	mg/L		04-JAN-18	R3928622
ICP Cations							
Calcium (Ca)	102	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Potassium (K)	17.5	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Magnesium (Mg)	51.4	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Sodium (Na)	678	DLDS	10	mg/L	05-JAN-18	05-JAN-18	R3929312
Sulfur (as SO ₄)	743	DLDS	15	mg/L	05-JAN-18	05-JAN-18	R3929312
Ion Balance Calculation							
Ion Balance	107			%		10-JAN-18	
Cation - Anion Balance	3.3			%		10-JAN-18	
Computed Conductivity	3150			uS/cm		10-JAN-18	
Conductivity % Difference	-3.6			%		10-JAN-18	
TDS (Calculated)	2310			mg/L		10-JAN-18	
Anion Sum	36.8			me/L		10-JAN-18	
Cation Sum	39.3			me/L		10-JAN-18	
Saturation pH	7.08			pH		10-JAN-18	
Langelier Index	0.7					10-JAN-18	
Hardness (as CaCO ₃)	466			mg/L		10-JAN-18	
Nitrate, Nitrite and Nitrate+Nitrite-N							
Nitrate-N	<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrite-N	<0.050		0.050	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrate+Nitrite-N	<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Total Dissolved Solids							
Total Dissolved Solids	2070		20	mg/L		05-JAN-18	R3932095
pH by Meter (Automated)							
pH	7.75		0.10	pH		04-JAN-18	R3928522
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.015	DLDS	0.015	mg/L		09-JAN-18	R3932640
Antimony (Sb)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Arsenic (As)-Total	0.00203	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Barium (Ba)-Total	0.00930	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Beryllium (Be)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Bismuth (Bi)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Boron (B)-Total	0.721	DLDS	0.050	mg/L		09-JAN-18	R3932640
Cadmium (Cd)-Total	<0.000025	DLDS	0.000025	mg/L		09-JAN-18	R3932640
Calcium (Ca)-Total	92.9	DLDS	0.25	mg/L		09-JAN-18	R3932640
Cesium (Cs)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Chromium (Cr)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Cobalt (Co)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Copper (Cu)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Iron (Fe)-Total	1.73	DLDS	0.050	mg/L		09-JAN-18	R3932640

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2041109-1 WELL #10 SK05GF0085							
Sampled By: CLIENT on 03-JAN-18 @ 08:30							
Matrix: WATER							
Total Metals in Water by CRC ICPMS							
Lead (Pb)-Total	0.00047	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Lithium (Li)-Total	0.173	DLDS	0.0050	mg/L		09-JAN-18	R3932640
Magnesium (Mg)-Total	43.6	DLDS	0.050	mg/L		09-JAN-18	R3932640
Manganese (Mn)-Total	0.0434	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Molybdenum (Mo)-Total	0.0121	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Nickel (Ni)-Total	0.0366	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Potassium (K)-Total	13.3	DLDS	0.25	mg/L		09-JAN-18	R3932640
Phosphorus (P)-Total	0.32	DLDS	0.25	mg/L		09-JAN-18	R3932640
Rubidium (Rb)-Total	0.0038	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Selenium (Se)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Silicon (Si)-Total	7.28	DLDS	0.50	mg/L		09-JAN-18	R3932640
Silver (Ag)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Sodium (Na)-Total	555	DLDS	0.25	mg/L		09-JAN-18	R3932640
Strontium (Sr)-Total	0.939	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Sulfur (S)-Total	248	DLDS	2.5	mg/L		09-JAN-18	R3932640
Tellurium (Te)-Total	<0.0010	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Thallium (Tl)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Thorium (Th)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Tin (Sn)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Titanium (Ti)-Total	<0.0015	DLDS	0.0015	mg/L		09-JAN-18	R3932640
Tungsten (W)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Uranium (U)-Total	0.000158	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Vanadium (V)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Zinc (Zn)-Total	0.024	DLDS	0.015	mg/L		09-JAN-18	R3932640
Zirconium (Zr)-Total	<0.00030	DLDS	0.00030	mg/L		09-JAN-18	R3932640
L2041109-2 WELL #11 SK05GF0109							
Sampled By: CLIENT on 03-JAN-18 @ 08:30							
Matrix: WATER							
General Chemical							
Alkalinity by Auto. Titration							
Bicarbonate (HCO ₃)	451.		20	mg/L		04-JAN-18	R3928522
Hydroxide (OH)	<10.		10	mg/L		04-JAN-18	R3928522
Carbonate (CO ₃)	<10.		10	mg/L		04-JAN-18	R3928522
Alkalinity, Total (as CaCO ₃)	370		20	mg/L		04-JAN-18	R3928522
Chloride (Cl)							
Chloride (Cl)	521	DLDS	5.0	mg/L	04-JAN-18	04-JAN-18	R3929074
Conductivity (Automated)							
Conductivity	3440		10	uS/cm		04-JAN-18	R3928522
Fluoride (F)							
Fluoride (F)	0.15		0.10	mg/L		04-JAN-18	R3928622
ICP Cations							
Calcium (Ca)	107	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Potassium (K)	18.2	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Magnesium (Mg)	53.8	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Sodium (Na)	724	DLDS	10	mg/L	05-JAN-18	05-JAN-18	R3929312
Sulfur (as SO ₄)	767	DLDS	15	mg/L	05-JAN-18	05-JAN-18	R3929312
Ion Balance Calculation							
Cation - Anion Balance	110			%		10-JAN-18	
Computed Conductivity	4.6			%		10-JAN-18	
Conductivity % Difference	3290			uS/cm		10-JAN-18	
	-4.6			%		10-JAN-18	

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L	Units	Extracted	Analyzed	Batch
L2041109-2 WELL #11 SK05GF0109							
Sampled By: CLIENT on 03-JAN-18 @ 08:30							
Matrix: WATER							
Ion Balance Calculation							
TDS (Calculated)	2410			mg/L		10-JAN-18	
Anion Sum	38.1			me/L		10-JAN-18	
Cation Sum	41.7			me/L		10-JAN-18	
Saturation pH	7.06			pH		10-JAN-18	
Langelier Index	0.6					10-JAN-18	
Hardness (as CaCO3)	489			mg/L		10-JAN-18	
Nitrate, Nitrite and Nitrate+Nitrite-N							
Nitrate-N	<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrite-N	<0.050		0.050	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrate+Nitrite-N	<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Total Dissolved Solids							
Total Dissolved Solids	2180		20	mg/L		05-JAN-18	R3932095
pH by Meter (Automated)							
pH	7.66		0.10	pH		04-JAN-18	R3928522
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.018	DLDS	0.015	mg/L		09-JAN-18	R3932640
Antimony (Sb)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Arsenic (As)-Total	0.00231	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Barium (Ba)-Total	0.0109	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Beryllium (Be)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Bismuth (Bi)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Boron (B)-Total	0.771	DLDS	0.050	mg/L		09-JAN-18	R3932640
Cadmium (Cd)-Total	<0.000025	DLDS	0.000025	mg/L		09-JAN-18	R3932640
Calcium (Ca)-Total	95.9	DLDS	0.25	mg/L		09-JAN-18	R3932640
Cesium (Cs)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Chromium (Cr)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Cobalt (Co)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Copper (Cu)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Iron (Fe)-Total	1.99	DLDS	0.050	mg/L		09-JAN-18	R3932640
Lead (Pb)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Lithium (Li)-Total	0.180	DLDS	0.0050	mg/L		09-JAN-18	R3932640
Magnesium (Mg)-Total	45.1	DLDS	0.050	mg/L		09-JAN-18	R3932640
Manganese (Mn)-Total	0.0531	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Molybdenum (Mo)-Total	0.0115	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Nickel (Ni)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Potassium (K)-Total	14.2	DLDS	0.25	mg/L		09-JAN-18	R3932640
Phosphorus (P)-Total	0.33	DLDS	0.25	mg/L		09-JAN-18	R3932640
Rubidium (Rb)-Total	0.0039	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Selenium (Se)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Silicon (Si)-Total	7.57	DLDS	0.50	mg/L		09-JAN-18	R3932640
Silver (Ag)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Sodium (Na)-Total	606	DLDS	0.25	mg/L		09-JAN-18	R3932640
Strontium (Sr)-Total	0.952	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Sulfur (S)-Total	266	DLDS	2.5	mg/L		09-JAN-18	R3932640
Tellurium (Te)-Total	<0.0010	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Thallium (Tl)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Thorium (Th)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Tin (Sn)-Total	0.114	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Titanium (Ti)-Total	<0.0015	DLDS	0.0015	mg/L		09-JAN-18	R3932640
Tungsten (W)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Uranium (U)-Total	0.000181	DLDS	0.000050	mg/L		09-JAN-18	R3932640

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L	Units	Extracted	Analyzed	Batch
L2041109-2	WELL #11 SK05GF0109							
Sampled By:	CLIENT on 03-JAN-18 @ 08:30							
Matrix:	WATER							
Total Metals in Water by CRC ICPMS								
Vanadium (V)-Total		<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Zinc (Zn)-Total		0.053	DLDS	0.015	mg/L		09-JAN-18	R3932640
Zirconium (Zr)-Total		<0.00030	DLDS	0.00030	mg/L		09-JAN-18	R3932640
L2041109-3	DISTRIBUTION SK05GF0003							
Sampled By:	CLIENT on 03-JAN-18 @ 08:30							
Matrix:	WATER							
General Chemical								
Alkalinity by Auto. Titration								
Bicarbonate (HCO3)		435.		20	mg/L		04-JAN-18	R3928522
Hydroxide (OH)		<10.		10	mg/L		04-JAN-18	R3928522
Carbonate (CO3)		<10.		10	mg/L		04-JAN-18	R3928522
Alkalinity, Total (as CaCO3)		357		20	mg/L		04-JAN-18	R3928522
Chloride (Cl)								
Chloride (Cl)		546	DLDS	5.0	mg/L	04-JAN-18	04-JAN-18	R3929074
Conductivity (Automated)								
Conductivity		3490		10	uS/cm		04-JAN-18	R3928522
Fluoride (F)								
Fluoride (F)		0.15		0.10	mg/L		04-JAN-18	R3928622
ICP Cations								
Calcium (Ca)		100	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Potassium (K)		17.2	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Magnesium (Mg)		51.0	DLDS	5.0	mg/L	05-JAN-18	05-JAN-18	R3929312
Sodium (Na)		690	DLDS	10	mg/L	05-JAN-18	05-JAN-18	R3929312
Sulfur (as SO4)		764	DLDS	15	mg/L	05-JAN-18	05-JAN-18	R3929312
Ion Balance Calculation								
Ion Balance		103			%		10-JAN-18	
Cation - Anion Balance		1.5			%		10-JAN-18	
Computed Conductivity		3250			uS/cm		10-JAN-18	
Conductivity % Difference		-7.2			%		10-JAN-18	
TDS (Calculated)		2380			mg/L		10-JAN-18	
Anion Sum		38.4			me/L		10-JAN-18	
Cation Sum		39.6			me/L		10-JAN-18	
Saturation pH		7.10			pH		10-JAN-18	
Langelier Index		0.5					10-JAN-18	
Hardness (as CaCO3)		460			mg/L		10-JAN-18	
Nitrate, Nitrite and Nitrate+Nitrite-N								
Nitrate-N		<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrite-N		<0.050		0.050	mg/L	05-JAN-18	05-JAN-18	R3931979
Nitrate+Nitrite-N		<0.50		0.50	mg/L	05-JAN-18	05-JAN-18	R3931979
Total Dissolved Solids								
Total Dissolved Solids		2260		20	mg/L		05-JAN-18	R3932095
pH by Meter (Automated)								
pH		7.63		0.10	pH		04-JAN-18	R3928522
Total Metals in Water by CRC ICPMS								
Aluminum (Al)-Total		0.016	DLDS	0.015	mg/L		09-JAN-18	R3932640
Antimony (Sb)-Total		<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Arsenic (As)-Total		<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Barium (Ba)-Total		0.00804	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Beryllium (Be)-Total		<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Bismuth (Bi)-Total		<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L	Units	Extracted	Analyzed	Batch
L2041109-3	DISTRIBUTION SK05GF0003						
Sampled By:	CLIENT on 03-JAN-18 @ 08:30						
Matrix:	WATER						
Total Metals in Water by CRC ICPMS							
Boron (B)-Total	0.774	DLDS	0.050	mg/L		09-JAN-18	R3932640
Cadmium (Cd)-Total	<0.000025	DLDS	0.000025	mg/L		09-JAN-18	R3932640
Calcium (Ca)-Total	99.8	DLDS	0.25	mg/L		09-JAN-18	R3932640
Cesium (Cs)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Chromium (Cr)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Cobalt (Co)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Copper (Cu)-Total	0.0344	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Iron (Fe)-Total	0.057	DLDS	0.050	mg/L		09-JAN-18	R3932640
Lead (Pb)-Total	0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Lithium (Li)-Total	0.178	DLDS	0.0050	mg/L		09-JAN-18	R3932640
Magnesium (Mg)-Total	46.2	DLDS	0.050	mg/L		09-JAN-18	R3932640
Manganese (Mn)-Total	0.00808	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Molybdenum (Mo)-Total	0.0121	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Nickel (Ni)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Potassium (K)-Total	14.3	DLDS	0.25	mg/L		09-JAN-18	R3932640
Phosphorus (P)-Total	<0.25	DLDS	0.25	mg/L		09-JAN-18	R3932640
Rubidium (Rb)-Total	0.0040	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Selenium (Se)-Total	<0.00025	DLDS	0.00025	mg/L		09-JAN-18	R3932640
Silicon (Si)-Total	7.31	DLDS	0.50	mg/L		09-JAN-18	R3932640
Silver (Ag)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Sodium (Na)-Total	619	DLDS	0.25	mg/L		09-JAN-18	R3932640
Strontium (Sr)-Total	0.967	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Sulfur (S)-Total	265	DLDS	2.5	mg/L		09-JAN-18	R3932640
Tellurium (Te)-Total	<0.0010	DLDS	0.0010	mg/L		09-JAN-18	R3932640
Thallium (Tl)-Total	<0.000050	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Thorium (Th)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Tin (Sn)-Total	0.00054	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Titanium (Ti)-Total	<0.0015	DLDS	0.0015	mg/L		09-JAN-18	R3932640
Tungsten (W)-Total	<0.00050	DLDS	0.00050	mg/L		09-JAN-18	R3932640
Uranium (U)-Total	0.000168	DLDS	0.000050	mg/L		09-JAN-18	R3932640
Vanadium (V)-Total	<0.0025	DLDS	0.0025	mg/L		09-JAN-18	R3932640
Zinc (Zn)-Total	0.017	DLDS	0.015	mg/L		09-JAN-18	R3932640
Zirconium (Zr)-Total	<0.00030	DLDS	0.00030	mg/L		09-JAN-18	R3932640

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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ALK-PCT-SK Water Alkalinity by Auto. Titration APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

CL-COL-SK Water Chloride (Cl) APHA 4500-CL E

Thiocyanate ion (SCN) is liberated from mercuric thiocyanate by chloride ion to form un-ionized mercuric chloride. In the presence of ferric ion, the liberated SCN forms a colored ferric thiocyanate complex proportional to the original chloride concentration. Absorbance of the colored complex is measured using a Gallery discrete analyzer.

EC-PCT-SK Water Conductivity (Automated) APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

ETL-ROUTINE-ICP-SK Water ICP Cations APHA 3120 B-ICP-OES-ROU

These ions are determined directly by ICP-OES.

Reference:

Greenberg, Arnold E., Cleser, Lenore S., Eaton, Andrew D., Standard Methods For The Examination of Water and Wastewater, 18th Edition, 1992, Method 3120B.

F-SK Water Fluoride (F) APHA 4500-F C

The quantity of free fluoride is determined by inserting a fluoride ion selective electrode into solution and measuring the potential. Samples and standards are mixed beforehand at a 1:1 ratio with a low-level TISAB solution, which frees up any complexed fluoride ions.

Reference:

Greenberg, Arnold E., Cleser, Lenore S., Eaton, Andrew D., Standard Methods For The Examination of Water and Wastewater, 18th Edition, 1992, Method 4500-F C

IONBALANCE-OP03-SK Water Ion Balance Calculation APHA 1030-E

MET-T-CCMS-SK Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

This procedure involves preliminary digestion with concentrated nitric acid followed by instrumental analysis using collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

N2/N3-SK Water Nitrate, Nitrite and Nitrate+Nitrite-N APHA 4500 NO3F

Nitrate is quantitatively reduced to nitrite by passage of the sample through a copperized cadmium column. The nitrite (reduced nitrate plus original nitrite) is then determined by diazotizing with sulfanilamide followed by coupling with N-(1-naphthyl)ethylenediamine dihydrochloride. The resulting water-soluble dye has a magenta color, which is measured at 520nm. Original nitrite can also be determined by removing the cadmium column and following the same procedure. Nitrate-N, Nitrite-N and NO3+NO2-N are reported.

PH-PCT-SK Water pH by Meter (Automated) APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

TDS-SK Water Total Dissolved Solids APHA 2540 C

An aliquot of sample is filtered using a glass fibre filter and the filtrate evaporated to dryness at 180 – 210°C in a pre-weighed dish. The dish plus residue is cooled and weighed to constant weight. Total dissolved solids (TDS) is determined by difference.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

: last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
Chain of Custody Numbers:			

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg ww - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

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

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Environmental

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 1 of 8

Client: TOWN OF SHELLBROOK
71 Main Street PO Box 40
Shellbrook SK S0J 2E0
Contact: Kelly Hoare

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-PCT-SK	Water							
Batch	R3928522							
WG2693218-2	LCS	PCT						
Alkalinity, Total (as CaCO ₃)			92.9		%		85-115	04-JAN-18
WG2693218-3	MB							
Alkalinity, Total (as CaCO ₃)			<20		mg/L		20	04-JAN-18
CL-COL-SK	Water							
Batch	R3929074							
WG2693392-4	LCS	50PPM-CL						
Chloride (Cl)			101.2		%		90-110	04-JAN-18
WG2693392-1	MB							
Chloride (Cl)			<1.0		mg/L		1	04-JAN-18
WG2693392-5	MS	L2041109-2						
Chloride (Cl)			N/A	MS-B	%		-	04-JAN-18
C-PCT-SK	Water							
Batch	R3928522							
WG2693218-2	LCS	PCT						
Conductivity			100.9		%		90-110	04-JAN-18
WG2693218-3	MB							
Conductivity			<10		uS/cm		10	04-JAN-18
ETL-ROUTINE-ICP-SK	Water							
Batch	R3929312							
WG2693589-3	LCS							
Calcium (Ca)			97.7		%		80-120	05-JAN-18
Potassium (K)			108.4		%		80-120	05-JAN-18
Magnesium (Mg)			109.2		%		80-120	05-JAN-18
Sodium (Na)			109.2		%		80-120	05-JAN-18
Sulfur (as SO ₄)			101.5		%		90-110	05-JAN-18
WG2693589-1	MB							
Calcium (Ca)			<1.0		mg/L		1	05-JAN-18
Potassium (K)			<1.0		mg/L		1	05-JAN-18
Magnesium (Mg)			<1.0		mg/L		1	05-JAN-18
Sodium (Na)			<2.0		mg/L		2	05-JAN-18
Sulfur (as SO ₄)			<3.0		mg/L		3	05-JAN-18
F-SK	Water							
Batch	R3928622							
WG2693355-4	LCS	2PPM-F						
Fluoride (F)			102.0		%		90-110	04-JAN-18
WG2693355-3	MB							

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 2 of 8

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-SK	Water							
Batch	R3928622							
WG2693355-3 MB								
Fluoride (F)			<0.10		mg/L		0.1	04-JAN-18
WG2693355-2 MS		L2041109-3						
Fluoride (F)			102.0		%		75-125	04-JAN-18
MET-T-CCMS-SK	Water							
Batch	R3932640							
WG2693590-3 CRM		TMRM_20						
Aluminum (Al)-Total			101.4		%		80-120	09-JAN-18
Antimony (Sb)-Total			101.4		%		80-120	09-JAN-18
Arsenic (As)-Total			97.3		%		80-120	09-JAN-18
Barium (Ba)-Total			106.0		%		80-120	09-JAN-18
Beryllium (Be)-Total			95.9		%		80-120	09-JAN-18
Bismuth (Bi)-Total			98.1		%		80-120	09-JAN-18
Boron (B)-Total			92.0		%		80-120	09-JAN-18
Cadmium (Cd)-Total			91.9		%		80-120	09-JAN-18
Calcium (Ca)-Total			97.3		%		80-120	09-JAN-18
Cesium (Cs)-Total			100.4		%		80-120	09-JAN-18
Chromium (Cr)-Total			97.6		%		80-120	09-JAN-18
Cobalt (Co)-Total			92.9		%		80-120	09-JAN-18
Copper (Cu)-Total			92.5		%		80-120	09-JAN-18
Iron (Fe)-Total			106.7		%		80-120	09-JAN-18
Lead (Pb)-Total			96.5		%		80-120	09-JAN-18
Lithium (Li)-Total			87.0		%		80-120	09-JAN-18
Magnesium (Mg)-Total			102.7		%		80-120	09-JAN-18
Manganese (Mn)-Total			99.6		%		80-120	09-JAN-18
Molybdenum (Mo)-Total			94.1		%		80-120	09-JAN-18
Nickel (Ni)-Total			96.4		%		80-120	09-JAN-18
Potassium (K)-Total			99.0		%		80-120	09-JAN-18
Phosphorus (P)-Total			100.2		%		70-130	09-JAN-18
Rubidium (Rb)-Total			96.4		%		80-120	09-JAN-18
Selenium (Se)-Total			93.4		%		80-120	09-JAN-18
Silicon (Si)-Total			95.5		%		60-140	09-JAN-18
Silver (Ag)-Total			98.1		%		80-120	09-JAN-18
Sodium (Na)-Total			96.6		%		80-120	09-JAN-18
Strontium (Sr)-Total			97.8		%		80-120	09-JAN-18



Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 3 of 8

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-SK	Water							
Batch	R3932640							
WG2693590-3 CRM		TMRM_20						
Sulfur (S)-Total			97.8		%		80-120	09-JAN-18
Tellurium (Te)-Total			95.6		%		80-120	09-JAN-18
Thallium (Tl)-Total			96.3		%		80-120	09-JAN-18
Thorium (Th)-Total			94.7		%		80-120	09-JAN-18
Tin (Sn)-Total			95.1		%		80-120	09-JAN-18
Titanium (Ti)-Total			94.9		%		80-120	09-JAN-18
Tungsten (W)-Total			99.0		%		80-120	09-JAN-18
Uranium (U)-Total			96.6		%		80-120	09-JAN-18
Vanadium (V)-Total			97.6		%		80-120	09-JAN-18
Zinc (Zn)-Total			88.9		%		80-120	09-JAN-18
Zirconium (Zr)-Total			98.2		%		80-120	09-JAN-18
WG2693590-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	09-JAN-18
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Arsenic (As)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Barium (Ba)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	09-JAN-18
Boron (B)-Total			<0.010		mg/L		0.01	09-JAN-18
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	09-JAN-18
Calcium (Ca)-Total			<0.050		mg/L		0.05	09-JAN-18
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	09-JAN-18
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Copper (Cu)-Total			<0.00050		mg/L		0.0005	09-JAN-18
Iron (Fe)-Total			<0.010		mg/L		0.01	09-JAN-18
Lead (Pb)-Total			<0.000050		mg/L		0.00005	09-JAN-18
Lithium (Li)-Total			<0.0010		mg/L		0.001	09-JAN-18
Magnesium (Mg)-Total			<0.010		mg/L		0.01	09-JAN-18
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	09-JAN-18
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	09-JAN-18
Potassium (K)-Total			<0.050		mg/L		0.05	09-JAN-18
Phosphorus (P)-Total			<0.050		mg/L		0.05	09-JAN-18

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 4 of 8

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-SK	Water							
Batch	R3932640							
WG2693590-1 MB								
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	09-JAN-18
Selenium (Se)-Total			<0.000050		mg/L		0.00005	09-JAN-18
Silicon (Si)-Total			<0.10		mg/L		0.1	09-JAN-18
Silver (Ag)-Total			<0.000010		mg/L		0.00001	09-JAN-18
Sodium (Na)-Total			<0.050		mg/L		0.05	09-JAN-18
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	09-JAN-18
Sulfur (S)-Total			<0.50		mg/L		0.5	09-JAN-18
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	09-JAN-18
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	09-JAN-18
Thorium (Th)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Tin (Sn)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	09-JAN-18
Tungsten (W)-Total			<0.00010		mg/L		0.0001	09-JAN-18
Uranium (U)-Total			<0.000010		mg/L		0.00001	09-JAN-18
Vanadium (V)-Total			<0.00050		mg/L		0.0005	09-JAN-18
Zinc (Zn)-Total			<0.0030		mg/L		0.003	09-JAN-18
Zirconium (Zr)-Total			<0.000060		mg/L		0.00006	09-JAN-18
WG2693590-4 MS		L2041109-3						
Aluminum (Al)-Total			99.3		%		70-130	09-JAN-18
Antimony (Sb)-Total			108.0		%		70-130	09-JAN-18
Arsenic (As)-Total			97.4		%		70-130	09-JAN-18
Barium (Ba)-Total			94.0		%		70-130	09-JAN-18
Beryllium (Be)-Total			101.6		%		70-130	09-JAN-18
Bismuth (Bi)-Total			97.4		%		70-130	09-JAN-18
Boron (B)-Total			N/A	MS-B	%		-	09-JAN-18
Cadmium (Cd)-Total			84.2		%		70-130	09-JAN-18
Calcium (Ca)-Total			N/A	MS-B	%		-	09-JAN-18
Cesium (Cs)-Total			102.9		%		70-130	09-JAN-18
Chromium (Cr)-Total			93.3		%		70-130	09-JAN-18
Cobalt (Co)-Total			88.1		%		70-130	09-JAN-18
Copper (Cu)-Total			N/A	MS-B	%		-	09-JAN-18
Iron (Fe)-Total			93.1		%		70-130	09-JAN-18
Lead (Pb)-Total			96.4		%		70-130	09-JAN-18
Lithium (Li)-Total			N/A	MS-B	%		-	09-JAN-18



Environmental

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 5 of 8

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-SK	Water							
Batch	R3932640							
WG2693590-4 MS		L2041109-3						
Magnesium (Mg)-Total			N/A	MS-B	%	-		09-JAN-18
Manganese (Mn)-Total			88.1		%	70-130		09-JAN-18
Molybdenum (Mo)-Total			96.6		%	70-130		09-JAN-18
Nickel (Ni)-Total			89.0		%	70-130		09-JAN-18
Potassium (K)-Total			N/A	MS-B	%	-		09-JAN-18
Phosphorus (P)-Total			102.1		%	70-130		09-JAN-18
Rubidium (Rb)-Total			96.0		%	70-130		09-JAN-18
Selenium (Se)-Total			97.2		%	70-130		09-JAN-18
Silicon (Si)-Total			96.4		%	70-130		09-JAN-18
Silver (Ag)-Total			98.3		%	70-130		09-JAN-18
Sodium (Na)-Total			N/A	MS-B	%	-		09-JAN-18
Strontium (Sr)-Total			N/A	MS-B	%	-		09-JAN-18
Sulfur (S)-Total			N/A	MS-B	%	-		09-JAN-18
Tellurium (Te)-Total			95.8		%	70-130		09-JAN-18
Thallium (Tl)-Total			93.0		%	70-130		09-JAN-18
Thorium (Th)-Total			100.2		%	70-130		09-JAN-18
Tin (Sn)-Total			87.0		%	70-130		09-JAN-18
Titanium (Ti)-Total			94.4		%	70-130		09-JAN-18
Tungsten (W)-Total			105.7		%	70-130		09-JAN-18
Uranium (U)-Total			103.0		%	70-130		09-JAN-18
Vanadium (V)-Total			97.1		%	70-130		09-JAN-18
Zinc (Zn)-Total			80.2		%	70-130		09-JAN-18
Zirconium (Zr)-Total			107.1		%	70-130		09-JAN-18
N2/N3-SK	Water							
Batch	R3931979							
WG2694201-3 LCS								
Nitrate-N			100.9		%	90-110		05-JAN-18
Nitrite-N			100.0		%	90-110		05-JAN-18
Nitrate+Nitrite-N			100.7		%	90-110		05-JAN-18
WG2694201-2 MB								
Nitrate-N			<0.50		mg/L	0.5		05-JAN-18
Nitrite-N			<0.050		mg/L	0.05		05-JAN-18
Nitrate+Nitrite-N			<0.50		mg/L	0.5		05-JAN-18
WG2694201-4 MS		L2041109-3						

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 6 of 8

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
N2/N3-SK Water								
Batch	R3931979							
WG2694201-4	MS	L2041109-3						
Nitrate-N			103.6		%		75-125	05-JAN-18
Nitrite-N			92.0		%		75-125	05-JAN-18
Nitrate+Nitrite-N			102.5		%		75-125	05-JAN-18
PH-PCT-SK Water								
Batch	R3928522							
WG2693218-2	LCS	PCT						
pH			6.84		pH		6.76-6.96	04-JAN-18
TDS-SK Water								
Batch	R3932095							
WG2693595-2	DUP	L2041109-1						
Total Dissolved Solids		2070	2080		mg/L	0.4	20	05-JAN-18
WG2693595-3	LCS	41-SOLIDS-TDS LCS						
Total Dissolved Solids			98.4		%		85-115	05-JAN-18
WG2693595-1	MB							
Total Dissolved Solids			<10		mg/L		10	05-JAN-18

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 7 of 8

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Quality Control Report

Workorder: L2041109

Report Date: 11-JAN-18

Page 8 of 8

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH by Meter (Automated)							
	1	03-JAN-18 08:30	04-JAN-18 11:00	0.25	26	hours	EHTR-FM
	2	03-JAN-18 08:30	04-JAN-18 11:00	0.25	26	hours	EHTR-FM
	3	03-JAN-18 08:30	04-JAN-18 11:00	0.25	26	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.

Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2041109 were received on 03-JAN-18 16:10.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes 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 pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



Chain of Custody (COC) / Analytical Request Form



COC Number: 15 -

Page of

Canada Toll Free: 1 800 668 9878

L2041109-COFC

Report To Contact and company name below will appear on the final report		Report Format Select Report Format: ☒ EXCEL ☐ EDD (DIGITAL) Quality Control (QC) Report with Report ☒ NO ☐ Compare Results to Criteria on Report - provide details below if box checked Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply 4 day [P4] ☐ 1 Business day [E1] ☐ 3 day [P3] ☐ Same Day, Weekend or Statutory holiday [E0] ☐ 2 day [P2] ☐	
Company: Town of Shellbrook Contact: Kelly Hoare Phone: 306-747-4900 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 ☒ NO ☐ Copy of Invoice with Report ☒ NO ☐ Company: Town of Shellbrook Contact:		Email 1 or Fax: townoffice@townofshellbrook.ca Email 2: townshop@sasktel.net Email 3: Invoice Distribution Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX Email 1 or Fax: townoffice@townofshellbrook.ca Email 2: townshop@sasktel.net		For tests that cannot be performed according to the service level selected, you will be contacted. Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below P	
Project Information ALS Account # / Quote #: 25689 Job #: Waterworks <u>Wastewater</u> PO / AFE: Station#: SK05GF0046 LSD:		AFS/Cost Center: PO# Major/Minor Code: Routing Code: Requisitioner: Location: ALS Contact: Lyndsay Hinrichsen Sampler:		General Chemical (GEN-CHEM-SK) Health and Tox (MET-T-COCS-SK)	
Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Number of Containers
well #10 SK05GF0085		Jan 31/18	830am	water	
well #11 SK05GF0109		Jan 31/18	830am	water	
distribution SK05GF0003		Jan 31/18	830am	water	
Reason for Analysis ROUTINE ☒ REPEAT ☐ SPECIAL ☐ OTHER ☐					
Drinking Water (DW) Samples (client use) Are samples taken from a Regulated DW System? ☒ NO ☐ Are samples for human drinking water use? ☒ NO ☐		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)		SAMPLE CONDITION AS RECEIVED (add use only) Frozen ☐ SIF Observations Yes ☐ No ☐ Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐ Cooling Initiated ☐ INITIAL COOLER TEMPERATURES °C: 6 FINAL COOLER TEMPERATURES °C: 6	
SHIPMENT RELEASE (client use) Released by: <u>MTE</u> Date: <u>Jan 31/18</u> Time: <u>830</u>		INITIAL SHIPMENT RECEPTION (add use only) Received by: <u>LM</u> Date: <u>31/18</u> Time: <u>4:10</u>		FINAL SHIPMENT RECEPTION (add use only) Received by: _____ Date: _____ Time: _____	

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

RECEIVED AUG 9 2018

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Bacteriological Samples 2018

Jan 2 8 15 22 29

Feb 5 12 20 26

Mar 5 12 21 28

Apr 2 9 16 23 30

May 9 14 23 30

Jun 4 11 18 25

Jul 3 9 19 25 30

Aug 8 13 20 27

Sep 4 11 17 24

Oct 1 10 15 22 29

Nov 5 13 19 26

Dec 3 10 17 27

