

**Town of Turtleford  
Drinking Water Quality and Compliance  
Annual Notice to Consumers**

**Introduction**

Saskatchewan Environment (SE) 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 Turtleford** water quality and sample submission compliance record for the **January 1, 2020 to December 31, 2020** time period. This report was completed on February 3, 2021. Readers should refer to SE's "Municipal Drinking Water Quality Monitoring Guidelines, November 2002, EPB 202" 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/hecs-sesc/water/dwgsup.htm>.

**Water Quality Standards**

**Bacteriological Quality**

Parameter/Location	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted (%)
Total Coliform and Background Bacteria	0 Organisms/100 mL Less than 200/100 mL	52	55	0%

Note: Nov 25<sup>th</sup> The sample was received at the lab after 48 hours. Nov 30<sup>th</sup> The sample was received at the lab after 48 hours.  
Dec 7<sup>th</sup> The sample was received at the lab after 48 hours. Dec 22<sup>nd</sup> The sample was received at the lab after 48 hours.

**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	0.65-3.55	0.14-2.40	52	55	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	0.11-2.83	365	none

*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 Record**

Parameter	Limit (NTU)	Test Level Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	#Tests Performed
Turbidity	1.0	0.12-1.31	1	1.31	365	365

**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.

Parameter	Saskatchewan Quality Objectives	Result(s)	Sample Exceeding Limit	# Samples
Arsenic	<25	1.4 µg/L		*Results expressed as average values for communities or waterworks that fluoride drinking water supplies or those with elevated concentrations of fluoride or nitrates.
Barium	<1000	11.5 µg/L		
Boron	<5.0	0.2 mg/L		
Cadmium	<5	<0.15 µg/L		
Chromium	<50	<0.19 µg/L		
Fluoride (avg*)	<1.5	0.30 mg/L		
Lead	<10	<0.07 µg/L		
Nitrate (avg*)	<45	3.7 mg/L		
Selenium	<10	<1.13 µg/L		
Uranium	<20	2.0 µg/L		

## **General Chemical**

<b>Parameter</b>	<b>Aesthetic Objectives *</b>	<b>Sample Results (average)</b>	<b># Samples Required</b>	<b>#Samples Submitted</b>
Alkalinity	<500 mg/L CaCO <sub>3</sub>	451		
Bicarbonate	No Objective	550		
Calcium	No Objective	92		
Carbonate	No Objective	0		
Chloride	<250 mg/L	24.9		
Conductivity	<2300 µS/cm	1338 µS/cm		
Hardness	<800 mg/L CaCO <sub>3</sub>	370		
Magnesium	<200 mg/L	34		
pH	6.5-9.0 pH Units	7.7		
Sodium	<300 mg/L	173		
Sulfate	<500 mg/L	276.1		
Total dissolved Solids	<1500 mg/L	1159		

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 CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids.

The last sample for General Chemical analysis was submitted on January 9<sup>th</sup>, 2019. Sample results indicated that there were no exceedances of the provincial aesthetic objectives for the General Chemical category.

\*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<sub>3</sub>, 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:**

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Box 38  
Turtleford, Saskatchewan  
S0M 2Y0  
845-2156 (phone)  
845-3320 (fax)