

**2016 Drinking Water Quality and Compliance  
Annual Notice to Consumers**

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 Pense's water quality and sample submission compliance record for the January 1 – December 31, 2016 time period. 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.sask2o.ca>.

**Water Quality Standards**

**Bacteriological Quality**

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

The owner/operator is responsible to ensure that one hundred percent of all bacteriological samples are submitted as required. All waterworks are required to submit samples for bacteriological water quality. The frequency of monitoring depends on the population served by the waterworks.

**Water Disinfection – Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples**

<b>Parameter</b>	<b>Minimum Limit (mg/L)</b>	<b>Free Chlorine Residual Range</b>	<b>Total Chlorine Residual Range</b>	<b># Tests Submitted</b>	<b># Inadequate Chlorine</b>	<b># Proper Chlorine</b>
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	.41mg/ L- 1.48 mg/L	.80 mg/L - 1.90 mg/L	52	0	52

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is required at all times throughout the distribution system unless otherwise approved. A proper chlorine submission is defined as a bacteriological sample submission form with the free and total chlorine residual fields filled out. An inadequate chlorine is a result that indicates that the chlorine level is below the regulated minimums. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.

**General Chemical**

<b>Samples Required</b>	<b>Samples Submitted</b>	<b>Date of Last Samples(s)</b>
Not Required		

The community's waterworks is required to submit sample(s) every second year. The community has 12 months from the **date** of the last sample to submit the next sample. If the community relies on surface water, or ground water influenced by surface water a sample has to be submitted every three months for the 12 month time period. The general chemical sample test for a range of parameters such as hardness and alkalinity. The results of these tests show the aesthetic quality of your drinking water.

### Health and Toxicity Analysis

<u>Samples Required</u>	<u>Samples Submitted</u>	<u>Date of Last Samples(s)</u>
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Not Required  
All waterworks serving less than 5000 persons are required to submit one water sample for Saskatchewan Environment's "Health and Toxicity" category once every 2 years. This category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium. Sample results indicated that the provincial drinking water quality standards were not exceeded.

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

<u>Parameter</u>	<u>Limit (mg/L)</u>	<u>Test Level Range</u>	<u># Tests Performed</u>	<u># Tests Not Meeting Requirements</u>
Free Chlorine Residual	>0.1	0.54 mg/L- 1.40 mg/L	366	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

<u>Parameter</u>	<u>Limit (NTU)</u>	<u>Test Level Range</u>	<u># Tests Not Meeting Requirements</u>	<u>Maximum Turbidity (NTU)</u>	<u># Tests Required</u>	<u># Tests Performed</u>
Turbidity	Not Required					

Turbidity is a measure of water efficiency. Turbidity measures the "clarity" of drinking water and is generally reported in Nephelometric Turbidity Units (NTU). All waterworks are required to monitor turbidity at the water treatment plant. The frequency of measurement varies from daily for small systems to continuous for larger waterworks.

### Chemical – Trihalomethanes

<u>Parameter</u>	<u>Limit IMAC (ppb)</u>	<u>Sample Result (average)</u>	<u># Samples Required</u>	<u># Samples Submitted</u>
Trihalomethanes	100	107.35. ug/l	4	4

Trihalomethanes are generated during the water disinfection process as a by-product of reactions between chlorine and organic material. Trihalomethanes are generally found only in drinking water obtained from surface water supplies. Trihalomethanes are to be monitored on a quarterly basis and the Interim Maximum Concentration (IMAC) result is expressed as an average of 4 quarterly samples. Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for trihalomethanes.

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

Town of Pense  
Box 125  
Pense, SK