

## Drinking Water Quality and Compliance Town of St. Brieux & Lakeview Developments

### 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 St. Brieux and Lakeview Developments** water quality and sample submission compliance record for the year from **January 1, 2012 to December 31, 2012**. This report was completed on the **7<sup>th</sup> of March, 2012**. 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 (%)
<b>Lakeview Developments</b>				
Total Coliform and Background Bacteria	0 Organisms/100 mL Less than 200/100 mL	12	12 (100%)	0 (0%)
<b>Town of St. Brieux</b>				
Total Coliform and Background Bacteria	0 Organisms/100 mL Less than 200/100 mL	52	52 (100%)	0 (0%)

### Water Disinfection -

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

Parameter	Limit	Residual Range	Residual Range	Required	Submitted	Chlorine (%)
<b>Lakeview Developments</b>						
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.18 - 1.31	0.15 - .90	12	12	100%
<b>Town of St. Brieux</b>						
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.40 - 1.86	0.14 - 1.34	52	52	100%

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

#### Town of St. Brieux & Lakeview Developments

Free Chlorine Residual	at least 0.1	0.14 - 1.73	365	203 (56%)
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### High Ammonia levels affect Free Chlorine Levels. SE is aware of this levels and quality is still good.

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

Turbidity	-----	0.01 - 0.31	0	0.31	365	365
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### 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 **24 -FEB, 2012**

Sample results indicated that the provincial drinking water quality standards were not exceeded.

Limit Parameter	Limit MA	Sample IMAC (mg/L)	# Samples Result(s)	Samples Exceeding Limit	
Arsenic	25		0.2 ug/L	NONE	
Barium		1	0.12 mg/L	NONE	* Results expressed as
Boron	5		0.08 mg/L	NONE	average values for
Cadmium	0.005		<0.00001 mg/L	NONE	communities or
Chromium	0.05		<0.0005 mg/L	NONE	waterworks that
Fluoride (avg*)	1.5		0.20 mg/L	NONE	fluoridate drinking
Lead	0.01		0.0002 mg/L	NONE	water supplies or
Nitrate (avg.*)	45		<0.04 mg/L	NONE	those with elevated
Selenium	0.01		<0.0001 mg/L	NONE	concentrations of
Uranium	20		0.8 ug/L	NONE	fluoride or nitrates.

### Chemical - Trihalomethanes (THMs)

Parameter	THMs	Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	0.1	NOT APPLICABLE (1 every 3 months)	4 NONE	0	0

*Note: Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs. Waterworks using groundwater sources beyond the influence of surface water do not need to report THMs since sampling/analysis will not likely have been performed.*

### General Chemical

Parameter	Aesthetic Objectives *	Sample Results (Average)	# Samples Required	# Samples Submitted
Alkalinity	500	400 mg/L	1	1
Bicarbonate	No Objective	488 mg/L	1	1
Calcium	No Objective	113 mg/L	1	1
Carbonate	No Objective	< 1 mg/L	1	1
Chloride	250	46 mg/L	1	1
Conductivity	No Objective	961 uS/cm	1	1
Hardness	800	496mg/L	1	1
Magnesium	200	52 mg/L	1	1
PH	No Objective	7.76 pH units	1	1
Sodium	300	22 mg/L	1	1
Sulphate	500	78 mg/L	1	1
Total dissolved Solids	1500	602 mg/L	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 CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids.

The last sample for **General Chemical** analysis was required in **2012** and submitted on **24-FEB-2012**. Sample results indicated that there were no exceedences 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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