

**2009 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 **Diefenbaker Lake Cottage Development** water quality and sample submission compliance record for the **January 1, 2009 – December 31, 2009** time period. **This report was completed on May 31, 2010.** 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	24	26(100%)	0(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	0.58 – 1.33	0.33 – 0.97	25	26	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	0.26 – 1.33	365	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	0.14–1.62	2	1.62	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. The limits for these parameters do not come into affect until **December 5, 2010**

The last sample for Chemical Health analysis was submitted on **October 05, 2009**. Sample results indicated that the future provincial drinking water quality standards were not exceeded.

Parameter	Limit MAC*(m	Limit IMAC"(mg/L)	Sample Result(s)	
Arsenic	0.025		0.0029	"MAC = Maximum Acceptable
Barium	1.0		0.0159	IMAC = Interim Maximum Acceptable
Boron		5.0		Concentration
Cadmium	0.005		<0.00003	
Chromium	0.05		0.0001	
Fluoride	1.5 -		0.33	
Lead	0.01		0.0005	
Nitrate	45.0		1.3	
Selenium	0.01		0.0064	
Uranium	0.02		0.0114	

General Chemical

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. The General Chemical category includes analysis of for alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness (as CaCo3), magnesium, sodium, sulphate and total dissolved solids. The last samples submitted for General Chemical analysis was submitted on **October 05, 2009**. Sample results indicated that there were no exceedences of the provincial aesthetic objectives for the General Chemical category.

Aesthetic Parameter	Objectives * (mg/L)	Sample Results
<i>Alkalinity</i>	<i>500</i>	<i>330</i>
<i>Bicarbonate</i>	<i>No Objective</i>	<i>403</i>
<i>Calcium</i>	<i>No Objective</i>	<i>131</i>
<i>Carbonate</i>	<i>No Objective</i>	<i>0</i>
<i>Chloride</i>	<i>250</i>	<i>15.6</i>
<i>Conductivity</i>	<i>No Objective</i>	<i>1410</i>
<i>Hardness</i>	<i>800</i>	<i>644</i>
<i>Magnesium</i>	<i>200</i>	<i>77</i>
<i>PH</i>	<i>No Objective (PH</i>	<i>7.6</i>
<i>Sodium</i>	<i>300</i>	<i>82</i>
<i>Sulphate</i>	<i>500</i>	<i>458.7</i>
<i>Total dissolved Solids</i>	<i>1500</i>	<i>1175</i>

Total Drinking Water Consumption during 2009

1,462,810 US gallons

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

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