



## 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

Saskatchewan 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 Birch Hills water quality and sample submission compliance record for the year **2009**. This report was completed on May 28, 2010. Readers should refer to Environment'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/ewh-semt/pubs/water-eau/index\\_e.html](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 and Background Bacteria	0 Organisms/100 mL 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 Residual	0.1 mg/L free OR 0.5 mg/L total		.11 – 3.5	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	.10 - .50	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	1.00	.16 – 1.56	3	1.56	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 last sample for Chemical Health analysis was submitted on July 15, 2008. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Analyte	Units	Results	Sask. Municipal Max. Acceptable Concentration	Sask. Municipal Aesthetic Objective
Aluminum	mg/L	0.13	none set	none set
Arsenic	ug/L	0.6	25	none set
Barium	mg/L	0.042	1	none set
Boron	mg/L	0.05	5	none set
Cadmium	mg/L	<0.0001	0.005	none set
Chromium	mg/L	<0.0005	0.05	none set
Copper	mg/L	0.023	none set	1
Iron	mg/L	0.0041	none set	0.3
Lead	mg/L	0.0001	0.01	none set
Manganese	mg/L	0.023	none set	0.05
Selenium	mg/L	0.0002	0.01	none set
Uranium	ug/L	0.5	20	none set
Zinc	mg/L	0.0055	none set	5

**Chemical – Trihalomethanes (THMs)**

Parameter	THMs Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	0.1	124.5	4 (1 every 3 months)	4

*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**

Analyte	Units	Results	Sask. Municipal Max. Acceptable Concentration	Sask. Municipal Aesthetic Objectives
Bicarbonate	mg/L	149	none set	none set
Calcium	mg/L	44	none set	none set
Carbonate	mg/L	<1	none set	none set
Chloride	mg/L	27	none set	250
Hydroxide	mg/L	<1	none set	none set
Magnesium	mg/L	20	none set	none set
pH	pH units	7.94	none set	6.5 – 9.0
Potassium	mg/L	16	none set	none set
Sodium	mg/L	15	none set	300
Specific conductivity	uS/cm	506	none set	none set
Sulfate	mg/L	91	none set	500
Sum of ions	mg/L	364	none set	none set
Total alkalinity	mg/L	122	none set	500
Total hardness	mg/L	192	none set	800
Nitrate	mg/L	1.9	45	none set
Fluoride	mg/L	0.14	1.5	none set
Total dissolved solids	mg/L	293	none set	1500

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 sets of quarterly samples for General Chemical analysis were required in 2008. 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:**

Town of Birch Hills  
PO Box 206

Telephone: 749-2232

Samples for the 2009 time period.  
Report Completed *June 10, 2010*

*March 2008 EPB 236D*