

## 2008 Drinking Water Quality and Compliance Town Of Rosthern

### 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 Rosthern water quality and sample submission compliance record for the Jan 1 – Dec 31/08 time period. This report was completed on Jan 19/09. (must be completed before June 30 each year on a calendar year based reporting frequency). 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	53	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	.38 – 1.64	.24 – 1.31	52	53	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	.52 – 1.73	380	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		.05 - .48	0	.48	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 May 27/08. Sample results indicated that the provincial drinking water quality standards were not exceeded. *(Use this one if review indicates that there were no exceedences).*  
**(OR)** Samples exceeded provincial water quality standards for the following parameters: *(Use only the applicable portions of table below for which values have been exceeded).*

Parameter	Limit MAC (mg/L)	Limit IMAC (mg/L)	Sample Result(s)	# Samples Exceeding Limit	
Arsenic	0.025		.002 ( .0021 )	nil	*Results expressed as average values for communities or waterworks that fluoridate drinking water supplies or those with elevated concentrations of fluoride or nitrates.
Barium	1.0		.23		
Boron		5.0	.05		
Cadmium	0.005		<.0001		
Chromium	0.05		<.0005		
Fluoride (avg*)	1.5		.19 (.15 )		
Lead	0.01		.0004		
Nitrate (avg*)	45.0		3.7 ( 4.9 )		
Selenium	0.01		.0002		
Uranium	0.02		.0008 ( .0018 )		

#### Chemical – Trihalomethanes (THMs)

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

*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* (mg/L)	Sample Results (average)	# Samples Required	# Samples Submitted
Alkalinity	500	232 ( 233 )	1	1
Bicarbonate	No objective	283 ( 284 )		
Calcium	No objective	67 ( 68 )		
Carbonate	No objective	<1		
Chloride	250	3 ( 4 )		
Conductivity	No objective	471 ( 469 )		
Hardness	800	237 ( 239 )		
Magnesium	200	17		
PH	No objective	8,03		
Sodium	300	62		
Sulphate	500	17		
Total Dissolved Solids	1500	277 ( 281 )		

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 groundwater 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 2008 and submitted on May 27/08 (*use this statement if a groundwater supply*). The last sets of quarterly samples for General Chemical analysis were required on and were submitted on (*use this statement if a surface source or blended source*). Sample results indicated that there were no exceedences of the provincial aesthetic objectives for the General Chemical category (*use this statement if there were no exceedences*). **(OR)** Samples exceeded provincial aesthetic objectives for the General Chemical category for the following parameters: (*use only the applicable portions of the table below for which values have been exceeded*).

\*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 hazard. 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 Rosthern, Box 416, Rosthern, SK S0K 3R0 (306) 232-4826  
[www.townofrosthern@sasktel.net](mailto:www.townofrosthern@sasktel.net)