

Town of Wadena

Annual Notice to Consumers Regarding Drinking-Water Quality and Water-Sample Compliance For the Year Ending December 31 2016

Introduction

Sask. Environment (SE) requires that, at least once each year, waterworks owners provide notification to consumers of

- the quality of water produced and supplied; and
- information on the performance in submitting samples as required by the Minister's Order for the Wadena waterworks system

The following is a summary of the Wadena water-quality data and sample-submission records for 2016. This report was completed on March 3, 2017.

Readers should refer to Saskatchewan Environment's "*Municipal Drinking Water Quality Monitoring Guidelines, November 2002, EPB202*" for more information on minimum sample submission requirements.

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, more information is available from:

<http://www.hc-sc.gc.ca/hecs-sesc/water/dwgsup.htm>.

Water Quality Standards Bacteriological Quality

Parameter / Location	Limit	Number of Samples Required	Number of Samples Submitted	Number of Positive Samples
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 100 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

Parameter	Minimum Limit	Free Chlorine Residual Range	Total Chlorine Residual Range	Number of Tests Required	Number of Tests Submitted	Number with Adequate Chlorine (%)
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.08 to 1.60	0.42 to 2.15	52	52	49samples 92%

Water Disinfection – Free Chlorine Residual for Water Entering Distribution System

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	0.19 to 2.10	365	0

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total 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 the 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	Number of Tests Not Meeting Requirements	Maximum Turbidity (NTU)	Number of Tests Required	Number of Tests Performed
Turbidity	1.0	0.21-2.15	37	0.98	365	365

Turbidity is a measure of water treatment efficiency. Turbidity measures the “clarity” of the 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-Health Category

All waterworks serving less than 5,000 persons are required to submit water samples for Saskatchewan Environment’s “Chemical Health” category once every two years.

The last sample for “Chemical Health and Toxicity” analysis was submitted on August 18, 2015. Analysis results indicated that the provincial drinking water quality limits were not exceeded.

Parameter	Maximum Acceptable Concentration (mg / L)	Aesthetic Objective (mg / L)	Sample Results	Exceeds Limit
Aluminum	< 0.1	None set	< 0.0032	No
Arsenic	0.025	None set	0.0010	No
Barium	1.0	None set	0.0039	No
Boron	5.0	None set	0.2	No
Cadmium	0.005	None set	< 0.00055	No
Chromium	0.05	None set	< 0.0002	No
Copper	1.0	None set	.0199	No
Iron	0.3	None set	< 0.1	No
Lead	0.01	None set	0.0003	No
Manganese	< 0.05	None set	< 0.01	No
Selenium	0.01	None set	< 0.00094	No
Uranium	0.02	None set	0.0065	No
Zinc	5.0	None set	0.0139	No

General Chemical

Parameter	Aesthetic Objectives* (mg/L)	Sample Results Average (mg/L)	Number of Samples Required	Number of Samples Submitted
Alkalinity	< 500	422	1	1
Bicarbonate	No objective	546.0	1	1
Calcium	No objective	207.0	1	1
Carbonate	No objective	0.0	1	1
Chloride	< 250	22.8	1	1
Conductivity	< 2.3	1.785	1	1
Hardness	< 800	833	1	1
Magnesium	< 200	76.0	1	1
pH	6.5 to 9.0 pH units	7.4	1	1
Sodium	< 300	55.0	1	1
Total dissolved solids	< 1,500	1396	1	1
Potassium	No objective	11.0	1	1
Sulfate	< 500.	562.3	1	1
Hydroxide	No objective	0.0	1	1
Iron	< 0.3	0.1	1	1
Nitrate	< 45	3.6	1	1
Fluoride	< 1.5	0.86	1	1
Manganese	< 0.05	0.02	1	1

All waterworks serving less than 5,000 persons are required to submit water samples for Sask. Environment's General Chemical category once every two years if a ground water source.

The last sets of samples for "General Chemical" analysis were submitted on July 2015. The samples' results indicated that there was no exceedance 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 hazard. The aesthetic objectives for several parameters (including hardness as CaCO₃, 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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