

Drinking Water Quality and Compliance

2017 Annual Notice to Consumers of DUNDURN

Introduction

Water Security Agency (WSA) 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 Permit to Operate a waterworks. The following is a summary of Dundurn’s water quality and sample submission compliance record for the 2017 calendar year (January 1, 2017 – December 31, 2017). This report was completed on January 9, 2018. Readers should refer to Agency’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 Agency’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.

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 mg/L Less than 200 Organisms/100 mL	52	52 (100)	0

The owner/operator is responsible to ensure that one hundred 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 (mg/L)	Total Chlorine Residual Range	Free Chlorine Residual Range	# of Tests Required	# of Tests Submitted	# of Adequate Chlorine (%)
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	1.34 - 1.87 mg/L	N.A.	52	52	(100)

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is required at all times throughout the distribution system unless otherwise approved. A proper chlorine submission is defined as a bacteriological sample submission form with both the free and total chlorine residual fields filled out. An adequate chlorine submission is a result that indicates that the chlorine level is above the regulated minimums. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit. As of February 11, 2012 Dundurn Waterworks has received water from the Dundurn Rural Water Utility; therefore, free chlorine residual range has changed for the minimum limits requirements. Water is now chloraminated, and the system operates on total chlorine residual and is required to meet 0.5 mg/L.

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
Total Chlorine Residual	at least 0.5	1.34 – 2.20 mg/l	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. As of February 11, 2012 Dundurn Waterworks has received water from the Dundurn Rural Water Utility; therefore, free chlorine residual range has changed for the minimum limits requirements. As of November 15, 2012 as per the Permit to Operate, free chlorine residual samples are not required. Water is now chloraminated, and the system operates on total chlorine residual and is required to meet 0.5 mg/L.

Turbidity – From Water Treatment Plant Records

Parameter	Limit aesthetic objective (NTU)	Test Level Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	5.0	0.10 – 0.17 NTU	0	0.17	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. Water Security Agency’s requirement for a distribution system is an aesthetic objective of 5.0 NTU. Any samples exceeding 1.0 NTU prior to connecting to Saskatoon water would be non-compliant.

Chemical – Trihalomethanes (THMs)

Parameter	THMs Limit (ug/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	100	41.15	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.

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

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