

Drinking Water Quality and Compliance

Cities Short Form – A Template for Annual Notice to Consumers

Introduction

The Water Security Agency and the 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 **City of Swift Current** water quality and sample submission compliance records for the **2020** time period. This report was completed on **March 9, 2021**. Readers should refer to Saskatchewan Water Security Agency's Municipal Drinking Water Quality Monitoring Guidelines, June 2015, EPB 502 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

Water Quality Standards

Bacteriological Quality

Regular Parameter/Location (%)	Limit	Regular Samples	Regular Samples	# of Positive
		Required	Submitted	Submitted
Total Coliform	0 Organisms/100 mL	208	208	0
E. coli	0 Organisms/100 mL	208	208	0
Background Bacteria	Less than 200/100 mL	208	208	0

Water Disinfection – Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples

Parameter	Limit (mg/L)	Test Level Range	# Tests Performed	# Tests Not Meeting Requirements
Chlorine Residual	0.1 mg/L free	0-2.2 mg/l	204	0

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	0-5 mg/l	Continuous	0

Turbidity

Parameter	Limit (NTU)	Test Level Range	# Tests Not Meeting Requirements	Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	0.30	0-10 ntu	0	0.036-0.294	Continuous	Continuous

Chemical – Health Category

All waterworks serving 5000 persons or more are required to submit water samples for Saskatchewan Environment's "Chemical Health" based on population size. The "Chemical Health" category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium.

Samples for "Chemical Health" analysis were submitted on **Feb 27, 2020**. Sample results indicated that the provincial drinking water quality standards were not exceeded.



Parameter	Limit MAC (mg/L)	Limit IMAC (mg/L)	Sample Results	# Samples Exceeding Limit	# Samples Required	# Samples Submitted
Fluoride (avg.*)	1.5		0.66	0	52	52

* Results expressed as average values for communities or waterworks which fluoridate drinking water supplies or those with elevated concentrations of fluoride or nitrates.

Chemical – Trihalomethanes (THMs) and Haloacetic Acids (HAAs)

Parameter	Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes	0.1	0.1014	4 (2 every 3 months)	8
Haloacetic Acids	0.080	0.0814	4 (2 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 Trihalomethanes and Haloacetic Acids. Waterworks using groundwater sources beyond the influence of surface water do not need to report trihalomethanes and haloacetic acids, since sampling and analysis will not likely have been performed), unless otherwise specified in the waterworks permit to operate.

General Chemical

All waterworks serving more than 5000 persons are required to submit water samples for the General Chemical category as per their operating permit. The General Chemical category includes analysis for alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness (as CaCO₃), magnesium, sodium, sulphate and total dissolved solids.

The last sets of quarterly samples for General Chemical analysis were required on **4th quarter 2020** and were submitted on **Dec 7, 2020**. 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 CaCO₃, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

Chemical – Pesticides

All waterworks serving 5000 persons or more are required to submit water samples for Saskatchewan Environment's "Pesticides" category. The frequency of sample submission depends on the number of persons supplied by the waterworks. The "Pesticides" category includes analysis for atrazine, bromoxynil, carbofuran, chlorpyrifos, dicamba, 2,4-D, diclofop-methyl, dimethoate, malathion, pentachlorophenol, picloram and trifluralin.

Samples for pesticide analysis were submitted on **Feb 27, 2020**. Sample results indicated that the provincial drinking water quality standards were not exceeded.



Chemical – Cyanide and Mercury

Parameter	Limit MAC (mg/L)	Sample Results	# Samples Exceeding MAC	# Samples Required	# Samples Submitted
Cyanide	0.2	<u>0.005 mg/l</u>	<u>0</u>	<u>1</u>	<u>1</u>
Mercury	0.001	<u><0.001 mg/l</u>	<u>0</u>	<u>1</u>	<u>1</u>

Algal Toxins –Microcystin-LR

Date of last sample: Oct 26, 2020

Parameter	Limit MAC (mg/L)	Sample Results	# Samples Exceeding MAC	# Samples Required	# Samples Submitted
Microcystin LR	0.0015	<u>0.0002 mg/l</u>	<u>0</u>	<u>6</u>	<u>6</u>

Microcystin LR is an algal toxin typically released following die-off on an algal bloom in a raw surface water supply. Samples should typically be collected and analyzed on a monthly basis during periods when algae blooms on reservoirs or other surface water sources occur.

Chemical – Synthetic Organic Chemicals

All waterworks serving 5000 persons or more are required to submit water samples for Saskatchewan Environment's "Synthetic Organic Chemicals" category. The frequency of sample submission depends on the number of persons supplied by the waterworks. The "Synthetic Organic Chemicals" category includes analysis for Benzene, Benzo(a)pyrene, Carbon tetrachloride, 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, Dichloromethane, 2,4-Dichlorophenol, Monochlorobenzene, 2,3,4,6-Tetrachlorophenol, Trichloroethylene, 2,4,6-Trichlorophenol and Vinyl Chloride.

Samples for synthetic organic chemicals were submitted on **Feb 27, 2020**. Sample results indicated that the provincial drinking water quality standards were not exceeded.

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

City of Swift Current,
Bryan Cobb, Superintendent of Water Treatment
306-778-2755
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**Saskatchewan
Ministry of
Environment**

