



The 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 the SaskWater – Saskatoon Potable Water Supply System - West water quality and sample submission compliance record for the January 1, 2019 to December 31, 2019 time period. This report was completed on February 10, 2020. Readers should refer to the WSA's Municipal Drinking Water Quality Monitoring Guidelines, October 2012, EPB 202 for more information on minimum sample submission requirements and types of samples. Permit requirements for a specific waterworks may require more sampling than outlined in the Agency's monitoring guidelines. This system is supplied with water by the City of Saskatoon. Results from these tests can be seen at www.saskatoon.ca. If consumers need to know more about drinking water in Saskatchewan, more detailed information is available from: <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index-eng.php>.

BACTERIOLOGICAL QUALITY

Parameter	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted
Total Coliform	0 Organisms/100mL	104	104	0
E. Coli	0 Organisms/100m/L	104	104	0
Background Bacteria	Less than 200/100mL	104	104	0

Analysis is performed on a single sample for all parameters mentioned above. 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 for Water in the Distribution System – From Test Results Submitted with Bacteriological Samples

Parameter	Minimum Limit	Range (mg/L)	Average (mg/L)	# Tests Required	# Tests Submitted	# Adequate Chlorine
Total Chlorine	0.5 mg/L	0.69 – 2.14	1.67	104	104	104

A minimum of 0.5 mg/L total chlorine residual is required at all times throughout the distribution system. An adequate chlorine residual 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.

Total Chlorine Residual for Water entering the Distribution System

Parameter	Limit (mg/L)	Range (mg/L)	Average (mg/L)	# Tests Required	# Tests Performed	% Adequate Chlorine
Total Chlorine	At least 0.5	1.15 – 3.34	1.74	Continuous	Continuous	100

Total chlorine residuals are continuously monitored and recorded.

Saskatoon West Treated Water Supply System

TURBIDITY

Turbidity for Water in the Distribution System – From Test Results Submitted with Bacteriological Samples

Parameter	Limit (NTU)	Range (NTU)	Average (NTU)	# Tests Required	# Tests Performed	# Exceeding Limit
Turbidity	No Standard	0.09 – 1.31	0.23	104	104	0

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). The turbidity is tested at the same frequency as the bacteriological testing with a bench testing instrument.

CHEMICAL – TRIHALOMETHANES (THM)

Trihalomethanes are formed when chlorine reacts with organic matter in water. The four THM compounds are: chloroform, dibromochloromethane, bromodichloromethane (BCDM) and bromoform. The sum of the concentrations of these four components is referred to as Total Trihalomethanes. The limit for THM is a long term objective based on an annual average of seasonal samples.

Parameter	Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Total Trihalomethanes	0.100	0.044	4	4

CHEMICAL – HALOACETIC ACIDS (HAAs)

Haloacetic acids are formed when chlorine reacts with organic matter in water. The five regulated haloacetic acids are: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. The sum of the concentrations of these five components is referred to as HAA5.

Parameter	Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Haloacetic Acids 5	0.080	0.026	4	4

CHEMICAL – HEALTH

SaskWater is not required to perform this testing as part of the operating permit. Additional testing was carried out by SaskWater for informational purposes.

Parameter	MAC (mg/L)	IMAC (mg/L)	AO* (mg/L)	Sample Results (mg/L)	# of Samples Required	# of Samples Submitted
Aluminum	No Objective			0.010	0	1
Antimony	0.006			<0.0002	0	1
Arsenic	0.010			0.0003	0	1
Barium	1.0			0.045	0	1
Boron		5.0		0.02	0	1
Cadmium	0.005			0.00001	0	1
Chromium	0.05			<0.0005	0	1
Copper			1.0	0.023	0	1
Iron			0.3	0.0066	0	1
Lead	0.01			0.0001	0	1
Manganese			0.05	0.0041	0	1
Selenium	0.01			0.0004	0	1
Silver	No Objective			<0.00005	0	1
Uranium	0.02			0.001	0	1
Zinc			5	0.011	0	1

MAC – Maximum Acceptable Concentrations

AO – Aesthetic Objective

IMAC – Interim Maximum Acceptable Concentrations

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CHEMICAL – GENERAL

SaskWater is not required to perform this testing as part of the operating permit. Additional testing was carried out by SaskWater for informational purposes.

Parameter	MAC	AO *	Sample Results	# of Samples Required	# of Samples Submitted
Total Alkalinity (mg/L)		500	130	0	1
Bicarbonate (mg/L)	No Objective		159	0	1
Calcium (mg/L)	No Objective		43	0	1
Carbonate (mg/L)	No Objective		<1	0	1
Chloride (mg/L)		250	15	0	1
Fluoride (mg/L)	1.5		0.76	0	1
Total Hardness (mg/L)		800	173	0	1
Hydroxide (mg/L)	No Objective		<1	0	1
Magnesium (mg/L)		200	16	0	1
Nitrate (mg/L)	45		1.3	0	1
pH (pH units)		6.5 - 9.0	8.27	0	1
Potassium (mg/L)	No Objective		3.5	0	1
Sodium (mg/L)		300	25	0	1
Specific Conductivity (µs/cm)	No Objective		442	0	1
Sulphate (mg/L)		500	78	0	1
Sum of Ions	No Objective		341	0	1
Total Dissolved Solids (mg/L)		1500	262	0	1

MAC – Maximum Acceptable Concentration

AO – Aesthetic Objective

*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.

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

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