Drinking Water Quality and Compliance
SaskWater – Saskatoon Potable Water Supply System - North
Station Number – SK05HH0025
2016 Notification to Consumers

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 - North water quality and sample submission compliance record for the January 1, 2016 to December 31, 2016 time period. This report was completed on March 20, 2017. 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	# of Samples Submitted	# of Positive Regular Submitted
Total Coliform	0 Organisms/100mL	156	156	0
E. Coli	0 Organisms/100m/L	156	156	0
Background Bacteria	Less than 200/100mL	156	156	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 (either/or)	Range (mg/L)	Average (mg/L)	# Tests Required	# Tests Submitted	# Adequate Chlorine
Total Chlorine	0.5 mg/L	1.04 – 1.99	1.64	156	156	156

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)	# Tests Required	# Tests Performed	% Adequate Chlorine
Total Chlorine	At least 0.5	1.05 – 3.09	366	Continuous	100

Minimum 0.5 milligrams per litre (mg/L) total chlorine residual is required for water in a distribution system. Residuals are monitored continuously and tests by waterworks operators are to be recorded in operation records.

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	0.10 – 0.44	0.19	156	156	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	0.038	4	4

CHEMICAL – HEALTH

Water quality analysis was conducted on January 25, 2016 for information only. SaskWater is not required to perform this testing as part of the operating permit. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Parameter	MAC (mg/L)	IMAC (mg/L)	AO* (mg/L)	Sample Results (mg/L)	# of Samples Required	# of Samples Submitted
Aluminum	No Objective			0.0083	0	1
Arsenic	0.010			0.0003	0	1
Barium	1.0			0.050	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	0.0010	0	1
Iron			0.3	0.0043	0	1
Lead	0.01			<0.0001	0	1
Manganese			0.05	0.0008	0	1
Selenium	0.01			0.0004	0	1
Uranium	0.02			0.0013	0	1
Zinc			5	0.0008	0	1

MAC – Maximum Acceptable Concentrations
IMAC – Interim Maximum Acceptable Concentrations
AO – Aesthetic Objective

CHEMICAL – GENERAL

Water quality analysis was conducted on October 11, 2016 for information only. SaskWater is not required to perform this testing as part of the operating permit. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Parameter	MAC	AO*	Sample Results	# of Samples Required	# of Samples Submitted
Total Alkalinity (mg/L)		500	151	0	1
Bicarbonate (mg/L)	No Objective		184	0	1
Calcium (mg/L)	No Objective		47	0	1
Carbonate (mg/L)	No Objective		<1	0	1
Chloride (mg/L)		250	13	0	1
Fluoride (mg/L)	1.5		0.56	0	1
Total Hardness (mg/L)		800	199	0	1
Hydroxide (mg/L)	No Objective		<1	0	1
Magnesium (mg/L)		200	20	0	1
Nitrate (mg/L)	45		1.3	0	1
pH (pH units)		6.5 - 9.0	8.25	0	1
Potassium (mg/L)	No Objective		3.4	0	1
Sodium (mg/L)		300	31	0	1
Specific Conductivity (µs/cm)	No Objective		506	0	1
Sulphate (mg/L)		500	100	0	1
Sum of Ions	No Objective		400	0	1
Total Dissolved Solids (mg/L)		1500	313	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 $CaCO_3$, 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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