Drinking Water Quality and Compliance
SaskWater Pierceland Water Treatment Plant
2017 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 Pierceland Water Treatment Plant (WTP) water quality and sample submission compliance record for the January 1, 2017 to December 31, 2017 time period. This report was completed on April 6, 2018. 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. 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	Required Samples Submitted	# Positive of Regular Submitted
Total Coliform	0 Organisms/100 mL	52	51	0
E. Coli	0 Organisms/100 mL	52	51	0
Background Bacteria	Less than 200/100 mL	52	51	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.

Samples were not tested due to a postal error, January 9, 2017. EPO was notified.

WATER DISINFECTION

Chlorine Residual – From Test Results Submitted with Bacteriological Samples from the WTP

Parameter	Minimum Limit (either/or)	Range (mg/L)	# Tests Required	# Tests Submitted	# Adequate Chlorine
Free Chlorine	0.1 mg/L	0.72 – 1.62	52	52	52
Total Chlorine	0.5 mg/L	0.92 – 1.97	52	52	

Free Chlorine Residual for Water Entering Distribution System

Parameter	Limit (mg/L)	Range (mg/L)	# Tests Required	# Tests Performed	% Adequate Chlorine
Free Chlorine	At least 0.1	0.36 – 2.00	365	Continuous	100

Minimum 0.1 milligrams per liter (mg/L) free chlorine residual is required for water entering a distribution system. Residuals are monitored continuously and tests normally performed on a daily basis and recorded in operation records.

TURBIDITY

Turbidity for Water Entering Distribution System

Parameter	Limit (NTU)	Range (NTU)	95th Percentile	# Tests Required	# Tests Performed	# months Exceeding Limit
Turbidity	< 1.0 – 95% of the measurements each month	0.03 – 0.84	0.22	365	Continuous	0

Turbidity – From Test Results Submitted with Bacteriological Samples

Parameter	Limit (NTU)	Range (NTU)	# Tests Required	# Tests Performed	# Exceeding Limit
Turbidity	No standard	0.06 – 0.24	52	52	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 done daily with a bench testing instrument, as well as continuous with an in-line analyzer.

CHEMICAL – HEALTH

The Pierceland WTP is required to submit water samples for the WSA’s Chemical Health category once every second year. 2017 is not a required sampling year. 2016 results are included 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			0.0012	0	0
Antimony	0.006			<0.0002	0	0
Arsenic	0.010			<0.0001	0	0
Barium	1.0			0.21	0	0
Boron		5.0		0.04	0	0
Cadmium	0.005			<0.00001	0	0
Chromium	0.05			<0.0005	0	0
Copper			1.0	0.04	0	0
Iron			0.3	0.0036	0	0
Lead	0.01			0.0009	0	0
Manganese			0.05	0.0054	0	0
Selenium	0.01			<0.0001	0	0
Silver	No Objective			<0.00005	0	0
Uranium	0.02			<0.0001	0	0
Zinc			5	0.007	0	0

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

CHEMICAL – GENERAL

The Pierceland WTP is required to submit water samples for the WSA's General Chemical category once every second year. 2017 is not a required sampling year. 2016 results are included for informational purposes.

Parameter	MAC	AO *	Sample Results	# of Samples Required	# of Samples Submitted
Total Alkalinity (mg/L)		500	404	0	0
Bicarbonate (mg/L)	No Objective		493	0	0
Calcium (mg/L)	No Objective		85	0	0
Carbonate (mg/L)	No Objective		<1	0	0
Chloride (mg/L)		250	5	0	0
Fluoride (mg/L)	1.5		0.39	0	0
Total Hardness (mg/L)		800	385	0	0
Hydroxide (mg/L)	No Objective		<1	0	0
Magnesium (mg/L)		200	42	0	0
Nitrate (mg/L)	45		0.33	0	0
pH (pH units)		6.5 - 9.0	8.12	0	0
Potassium (mg/L)	No Objective		5	0	0
Sodium (mg/L)		300	11	0	0
Specific Conductivity (µs/cm)	No Objective		732	0	0
Sulphate (mg/L)		500	6	0	0
Sum of Ions	No Objective		647	0	0
Total Dissolved Solids (mg/L)		1500	395	0	0

MAC – Maximum Acceptable Concentration AO – Aesthetic Objective

*Objectives apply to certain characteristics of, or substances found, in water for human consumptive or hygienic use. Compliance with drinking water aesthetic objectives (AO) is not mandatory as these objectives are in the range where they do not constitute a health hazards. The AO for several parameters (including hardness, magnesium, sodium and total dissolved solids) consider regional differences in sources and quality.

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

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