2022 Drinking Water Quality Report

In 2022, as in previous years, regular testing was undertaken within the City of Regina's (City) water distribution system and at the Buffalo Pound Water Treatment Plant (Plant). All samples were analyzed by the Plant's analytical lab or other Canadian accredited labs. This report is composed of water quality data for samples taken within the Regina water distribution system, and at the Plant as required by Saskatchewan Water Security Agency (WSA), and any additional sampling voluntarily performed by the City of Regina.

1. Regina Distribution System Water Quality

The City performs regular sampling at 18 locations throughout its water distribution system to ensure a high quality of water supplied is to the residents. These samples are taken to comply with the City's Permit to Operate which is approved by the WSA. They include tests for chlorine and turbidity, as well as bacteriological quality and trihalomethane.

Saskatchewan Water Security Agency 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 water works in submitting samples as required by the Minister's Order or Permit to Operate a Waterworks.

The following is a summary of the City of Regina's water quality and sample submission compliance records for the period of January 1, 2022 - December 31, 2022. This report was completed on July 13, 2022.

Readers should refer to the Saskatchewan Drinking Water Standards and Objectives for more information on minimum sample submission requirements and the meaning of each type of sample.

http://www.saskh2o.ca/pdf/epb507.pdf

Permit requirements for a specific waterworks may require more sampling than outlined in the Authority's monitoring guidelines. If consumers would like more information on the nature and significance of specific water tests, for example, "what is the significance of sulphate?", click on the following link.

https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#t2

Water Quality Standards

I. Bacteriological Quality

Parameter	Maximum Limit	Regular Samples Required	Total Samples Tested	No. of Samples Meeting Regulations
Total Coliform and Background Bacteria	Zero Organisms/100ml Less than 200/100ml	936	940*	940[a]

** Enhanced sampling undertaken during the week of November 1, 2022*

II. Water Disinfection - Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples

Parameter	Minimum Requirements (mg/L)	Result, average (mg/L)	No. of Tests Required	No. of Tests Performed	No. of Samples Not Meeting Requirements
Chlorine Residual	0.1 mg/L Free	0.71	936	940	0[b]
	0.5 mg/L Total	0.93			

III. Turbidity

Parameter	Maximum Limit (NTU)	Test Level Range	No. of Tests Required	No. of Tests Performed	No. of Tests Not Meeting Requirements
Turbidity	1.0	0.19	936	940	0

(NTU) Nephelometric Turbidity Unit - a unit of measurement used to indicate the clarity of drinking water

IV. Chemical - Trihalomethanes

Parameter	Maximum Limit (mg/l)	Sample Result (Average)	No. of Samples Required	No. of Samples Taken
Trihalomethanes	0.1	0.048 mg/L	24	24

V. Chemical – Haloacetic Acids

Parameter	Maximum Limit (mg/l)	Sample Result (Average)	No. of Samples Required	No. of Samples Taken
Trihalomethanes	0.08	0.032 mg/L	16	16

Notes:

a. Positive bacteriological samples are resampled to confirm the presence or absence of pathogens. Follow up tests confirmed the absence of pathogens in all cases.

b. To meet Regulations, either free or total chlorine residual must meet or exceed the minimum requirements.

Contact Information

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

City of Regina
Tel: 306-777-7000
Web: www.regina.ca

2. Plant Clearwell Drinking Water Quality

The Plant clear well holds the water after treatment, from there the water is pumped to Regina and distributed through the City's water distribution system. According to the Plant's Permit to Operate, samples were taken regularly and the comprehensive water quality analyses for all parameters were conducted in the plant analytical lab which is a Canadian accredited lab.

Parameter	Testing Result Annual Average (mg/L)	Saskatchewan's Drinking Water Quality Standards and Objectives (mg/L)
Sodium (Na)	40	300 (AO)
Sulphate (SO4)	113	500 (AO)
Total Dissolved Solids (TDS)	360	1500
Manganese (Mn)	non-detect	0.05 (AO)
Nitrate (NO3)	non-detect	45 (MAC)
Potassium (K)	5.0	No Standard
Total Hardness (as CaCO3)	208	800 (AO)
Iron (Fe)	non-detect	0.3 (AO)
Magnesium (Mg)	23	200 (AO)
Calcium (Ca)	50	No Standard
Chloride (Cl)	31.2	250 (AO)
Fluoride (F)*	0.12	1.5 (MAC)
Total Alkalinity (as $CaCO_3$)	147	500 (AO)

Notes:

- *Values are given in milligrams per litre (mg/l) which is equivalent to parts per million (ppm)*
- **No fluoride was added to Regina water. Fluoride measured is naturally occurring.*
- *"AO" means "Aesthetic Objective", "MAC" means "Maximum Allowable Concentration"*

3. Additional Drinking Water Quality

The following water quality parameters are sampled from within Regina's water distribution system and tested by the Plant analytical lab and other Canadian accredited labs. The tested parameters are additional parameters within Health Canada guidelines which are not typically tested in this region or required by the Water Security Agency. The City voluntarily tests these additional parameters for the residents interest. The results are given below.

Parameter	Testing Results	Detection Threshold	Health Canada Guideline Water Quality Objective
	(mg/L)	(mg/L)	(mg/L)
Antimony	0.00017	0.00010	0.006
Azinphos-methyl	non-detect	0.0001	0.02
Calcium	39.8	0.050	Not Regulated
Chloramines	0.20	0.020	Not Regulated
Chlorite	non-detect	0.010	1
Diquat	non-detect	0.0001	0.07
Diuron	non-detect	0.018	0.15
Formaldehyde	0.0027	0.0002	Not Regulated
Metribuzin	non-detect	0.0001	0.08
Nitrite	non-detect	0.010	3
N-Nitrosodimethyalmine	non-detect	0.00003	0.00004
Paraquat	non-detect	0.0001	0.01
	(Bq/L)	(Bq/L)	(Bq/L)
Lead-210	0.06	0.02	0.2
Radium-226	non-detect	0.005	0.5
Radon-222	non-detect	4	Not Regulated
Strontium-90	0.09	0.05	5

Notes:

- *Milligrams per liter (mg/l) which is equivalent to parts per million (ppm)*
- *Becquerel per liter (Bq/L) is a measure of the strength of radioactivity*

Parameter	Testing Results	Detection Threshold	Health Canada Guideline Water Quality Objective
Total Asbestos (MFL)[a]	non-detect	0.18	Not Regulated

Notes:

a. MFL means Millions of Fibers per Liter. This is a measure of fibers present within a liter of tested water.