

2025 Drinking Water Quality Report

Regina's drinking water originates in the Rocky Mountains and flows through Lake Diefenbaker to Buffalo Pound Lake. Water from Buffalo Pound Lake is treated at the Buffalo Pound Water Treatment Plant (BPWTP) and pumped over 60 kilometres to five reservoirs within Regina. Four pump stations in Regina then pressurize the system to get water safely to our customers. Water quality is checked at the BPWTP and again throughout the main distribution system in Regina that provides water to homes and businesses within the city.

The Redbear Avenue pump station and reservoirs came online in late 2025. The station allows Regina to continue to meet our goals for providing safe and reliable water, improves pressure in the eastern portion of Regina and an improved ability to provide drinking water to Regina, even when the treatment plant is down.

In 2025, as in previous years, regular testing was undertaken within the City of Regina's (City) water distribution system and at the BPWTP. All samples were analyzed by the BPWTP's analytical lab or other accredited Canadian labs and met all permit requirements. This report is composed of water quality data for samples taken within Regina's water distribution system, as required by Saskatchewan Water Security Agency (WSA) and includes any additional sampling voluntarily performed by the City.

2025 saw a continuation of the upgrades at the BPWTP. As a result, periodic planned shutdowns necessitated the use of backup groundwater wells located northeast and northwest of Regina. In 2025, Regina purchased 29,400,000 m³ (29.4 billion litres) of water from BPWTP. Due to the ongoing BPWTP upgrades, the City also supplemented the drinking water supply with 714,000 m³ of well water (714 million litres). While the use of the wells may have caused taste and colour changes to the water, the water supplied met all required safety standards.

1. Regina Distribution System Water Quality

The 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 water works in submitting samples as required by the Minister's Order or Permit to Operate a Waterworks (Permit). This report satisfies that requirement.

The City performs weekly sampling at 18 locations throughout its water distribution system to ensure high quality water is supplied. These samples are taken to comply with the City's permit issued by the WSA. Weekly tests include, but are not limited to, chlorine, turbidity, bacteria and trihalomethanes, with quarterly sampling for haloacetic acids and manganese. Sampling locations are at representative locations throughout the distribution system.

The following is a summary of the City's water quality and sample submission compliance records for the period January 1, 2025 to December 31, 2025. This report was completed in May 2026. Samples were collected following the permit requirements, and all results were within the safe ranges as specified by the permit.

The criteria specified by WSA in the City's permit are based on the [Saskatchewan Drinking Water Standards and Objectives](#). These standards and objectives are derived from Health Canada's Canadian Drinking Water Guidelines. Each province reviews these guidelines and determines what levels and parameters to adopt to create their own standards based on regional differences and, in some cases, their own research outside of that done by Health Canada.

If consumers would like more information on the nature or significance of specific water tests, for example, "chlorine" click on this [link](#) for more information from Health Canada.

Water Quality Standards

The below potable water testing conducted by City staff throughout 2025 met all permit requirements, and the water quality was well within the standards set by Health Canada and the permit, as applicable.

I. Bacteriological Quality

Bacteriological water quality monitoring is required for systems supplying water for human consumption or hygienic use and is used as an indicator of the potential presence of pathogens.

Parameter	Maximum Limit	Regular Samples Required	Total Samples Tested ^a	No. of Samples Meeting Requirements
Total Coliform and Background Bacteria	Zero organisms/100ml	918	919*	918
	< 200 organisms/100ml			

* Enhanced sampling undertaken on June 17, 2025

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, indicating a false positive occurred.

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 Meeting Requirements
Chlorine	0.1 mg/L Free	0.64	918	918	918
Residual^b	0.5 mg/L Total	0.87			

Notes:

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

III. Turbidity

Parameter	Maximum Limit (NTU)	Result, Average (NTU)	No. of Tests Required	No. of Tests Performed	No. of Tests Meeting Requirements
Turbidity	1.0	0.26	918	918	918

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

IV. Chemical – Trihalomethanes & Haloacetic Acids

Trihalomethanes (THM) and haloacetic acids (HAA) are generated during the water disinfection process as a by-product of reactions between chlorine and organic material. THMs and HAAs are generally only in drinking water that is obtained from surface water supplies that are disinfected by chlorine, such as Regina's water. BPWTP recent upgrades removed the process that resulted in high THMs, as raw water is no longer chlorinated prior to filtering; therefore, there is less organic material to react during final disinfection, greatly reducing the THM and HAA concentrations. During 2025, upgrades to the BPWTP system were ongoing so the test results include both the historical water treatment process and the upgraded, which results in lower THM and HAA levels.

THMs are to be monitored from two different representative locations at the extremities of the distribution system every month, while HAAs are to be monitored from four different representative locations at the extremities of the distribution system every three months. The yearly averages are then compared to the maximum limit. The City voluntarily tests THMs weekly at varying locations.

Parameter	Maximum Limit (mg/L)	Sample Result, Average mg/L	No. of Samples Required	No. of Samples Taken
Trihalomethanes	0.1	0.043	24	84*
Haloacetic Acids	0.08	0.024	16	16

* Due to increasing trihalomethane levels in previous years, additional samples have been taken the last number of years to better monitor the levels and ensure they remain below the permit level.

V. Well Testing

The permit to operate requires annual water quality testing on the supplemental drinking water wells with coliform testing occurring twice a year. Results posted below are the average values of the eight wells. Overall, the results tend to be more elevated than the water from BPWTP. Groundwater is only used when needed as a form of back up, such as when BPWTP is unable to supply full water requirements due to a major event such as damage to BPWTP or during planned upgrades. The highest amount of groundwater in the last five years was used in 2025 due to the ongoing BPWTP upgrades and it still only accounted for approximately 0.7 per cent of the total water used.

Parameter	Testing Result Annual Average	Permit to Operate – Limits
Bacteriological	CFU/100 ml	CFU/100 ml
E. coli	None Detected	0
Total coliforms	None Detected	0
Parameter	Testing Result Annual Average (mg/L)	Permit to Operate – Limits (mg/L)
General Chemistry	mg/L	mg/L
Alkalinity (Total, as CaCO ₃)	430	No Standard
Bicarbonate	524	No Standard
Calcium (Ca)	139	No Standard
Carbonate (as CaCO ₃)	None Detected	No Standard
Chloride (Cl)	10	No Standard
Conductivity	1,408 (uS/cm)	No Standard
Cyanide	None Detected	0.2
Fluoride (F)	0.21	1.5
Hardness (Total, as CaCO ₃)	649	No Standard
Magnesium (Mg)	77	No Standard
Nitrate (NO ₃)	0.052	45
pH	8.00	No Standard
Sodium (Na)	76	No Standard
Sulphate (SO ₄)	391	No Standard
Total Dissolved Solids (TDS)	991	No Standard
Pesticides and Synthetic Organics	mg/L	mg/L
Pesticides/Herbicides	None Detected	Variable
Per- and polyfluoroalkyl Substances (PFAS/PFOS)	None Detected	None (ALARA: 0.00003)
Volatile Organic Compounds	None Detected	Variable
Benzo(a)pyrene	None Detected	0.00001

Metals (total)	mg/L	mg/L
Aluminum (Al)	0.0034	No Standard
Antimony (Sb)	0.000069	No Standard
Arsenic (As)	0.013	0.01
Barium (Ba)	0.016	1.0
Boron (B)	0.25	5
Cadmium (Cd)	0.0000038	0.005
Chromium (Ch)	0.00034	0.05
Copper (Cu)	0.0038	No Standard
Iron (Fe)	1.6	No Standard
Lead (Pb)	0.00027	0.01
Manganese (Mn)	0.88	No Standard
Mercury (Hg)	None Detected	0.001
Selenium (Se)	0.000046	0.01
Silver (Ag)	0.0000069	No Standard
Uranium (U)	0.0067	0.02
Zinc (Zn)	0.013	No Standard

Notes:

- a) CFU means colony forming unit, a unit of measure for bacteria.
- b) Unless otherwise stated, values are given in milligrams per litre (mg/L) which is equivalent to parts per million (ppm).
- c) uS/cm (micro-siemens per centimeter) is a measurement of how electrical current travels through water. It is used to assess salinity in water.
- d) No fluoride was added to Regina water. Fluoride measured is naturally occurring.
- e) Pesticides/herbicides include 30 specific compounds, all of which are non-detectable.
- f) Volatile organic compounds include 20 different compounds, all of which are non-detectable.
- g) ALARA means as low as reasonably achievable.

2. BPWTP Clearwell Drinking Water Quality

Following treatment, the BPWTP's clearwell holds the water. From there, water is pumped to Regina. Acting in accordance with the permit, BPWTP staff obtained regular samples from the clearwell and conducted comprehensive water quality analyses in their accredited on-site analytical lab for all parameters, including, but not limited to, hardness, alkalinity, iron, manganese, sulphate, total dissolved solids, coliforms, metals and many other parameters. The Buffalo Pound Water Treatment Corporation publishes their annual water quality testing results, which can be found [here](#).

3. Additional Drinking Water Data

The following water quality parameters were sampled from Regina's water distribution system on a voluntary basis. This is done to identify emerging parameters of concern and ensure the quality of water being distributed. The parameters chosen for sampling are those suggested by Health Canada but are not required by the permit.

All 18 locations in 2025 were sampled for routine water chemistry (major ions, hardness, alkalinity) and metals; 10 locations were sampled for asbestos, and one location was sampled for over 135 parameters listed by Health Canada, including volatile organic compounds (VOCs), pesticides and radiological parameters. All samples were under Health Canada's Water Quality Objectives. The results for voluntary asbestos and select Health Canada parameters are summarized below.

Parameter	Testing Results ^a	Detection Threshold	Health Canada Guideline Water Quality Objective
Total Asbestos (MFL)^b	None Detected	0.18	Not Regulated

Notes:

- a) Asbestos was sampled at 10 locations. None of the 10 samples had detectable asbestos.
- b) MFL means millions of fibers per litre. This is a measure of fibers present within a litre of tested water.

For more details regarding the asbestos sampling, please see the annual asbestos sampling report on [Regina.ca](https://www.regina.ca).

Parameter	Testing Results	Detection Threshold	Health Canada Guideline Water Quality Objective
Inorganics	(mg/L)	(mg/L)	(mg/L)
Alkalinity	140	1.0	Not Regulated
Ammonia	0.014	0.050	Not Regulated
Chloramines	0.21	0.20	Not Regulated
Chlorite	None Detected	0.010	1
Cyanide	None Detected	0.0020	0.2
Fluoride	0.100	0.020	1.5
Pesticides/Herbicides	None Detected	0.0001	Variable
Formaldehyde	None Detected	0.0002	Not Regulated
Hardness	203	0.50	Not Regulated
Nitrate	0.021	0.020	45
Nitrite	None Detected	0.010	3
N-Nitrosodimethylamine	None Detected	0.00003	0.00004
Per- and polyfluoroalkyl Substances (PFAS/PFOS)	None Detected	0.000001	None (ALARA: 0.00003)
Total Dissolved Solids (TDS)	370	1.0	500
Microcystin	None Detected	0.0002	0.0015
Organics	(mg/L)	(mg/L)	(mg/L)
Volatile Organic Compounds (not inc. THM)	None Detected	0.0005	Variable
Benzo(a)pyrene	None Detected	0.000005	0.00004

Radiological Isotopes	(Bq/L)	(Bq/L)	(Bq/L)
Lead-210	None Detected	0.02	0.2
Radium-226	None Detected	0.005	0.5
Radon-222	None Detected	4	Not Regulated
Strontium-90	None Detected	0.05	5

Notes:

- a) Summary of results for voluntary parameters at the one sampling location. No parameter exceeded Health Canada guidelines.
- b) Milligrams per litre (mg/L) which is equivalent to parts per million (ppm).
- c) Becquerel per litre (Bq/L) is a measure of the strength of radioactivity.
- d) Fluoride is not added to Regina water. The measured concentration is naturally occurring.
- e) ALARA means as low as reasonably achievable.
- f) TDS is composed of calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate. A TDS concentration above 500 can cause scaling on pipes, faucets and appliances. Saskatchewan has adopted 1,500 mg/L as the TDS drinking water objective due to higher naturally occurring mineral content in surface water and groundwater.
- g) Pesticides/herbicides include 30 specific compounds, all of which are non-detectable.
- h) Microcystin is a toxin produced by cyanobacteria (blue-green algae) that can naturally be found in Buffalo Pound Lake.
- i) Volatile Organic Compounds (VOCs) include over 50 specific compounds (such as benzene), all of which were non-detectable.

Parameter	Testing Results	Detection Threshold	Health Canada Guideline Water Quality Objective
Metals	(mg/L)	(mg/L)	(mg/L)
Aluminum	0.026	0.003	0.1
Antimony	0.0002	0.0001	0.006
Arsenic	0.0005	0.0001	0.010
Barium	0.061	0.0001	2.0
Beryllium	None Detected	0.00002	Not Regulated
Boron	0.057	0.01	5
Cadmium	None Detected	0.000005	0.007
Calcium	45.3	0.05	Not Regulated
Cesium	None Detected	0.00001	Not Regulated
Chromium	None Detected	0.0005	0.05
Cobalt	None Detected	0.0001	Not Regulated
Copper	0.036	0.0005	1
Iron	0.18	0.01	0.1
Lead	0.0003	0.00005	0.005
Lithium	0.023	0.001	Not Regulated
Magnesium	22.0	0.005	Not Regulated
Manganese	0.00034	0.0001	0.02
Mercury	None Detected	0.00005	0.001
Molybdenum	0.0021	0.00005	Not Regulated
Nickel	0.0008	0.0005	Not Regulated
Phosphorus	None Detected	0.05	Not Regulated

Parameter	Testing Results	Detection Threshold	Health Canada Guideline Water Quality Objective
Metals	(mg/L)	(mg/L)	(mg/L)
Potassium	5.7	0.05	Not Regulated
Selenium	0.00033	0.00005	0.05
Silver	None Detected	0.00001	Not Regulated
Sodium	46.0	0.05	200
Strontium	0.31	0.0002	7
Sulfur	42.0	0.5	Not Regulated
Thallium	None Detected	0.00001	Not Regulated
Thorium	None Detected	0.0001	Not Regulated
Tin	None Detected	0.0001	Not Regulated
Titanium	None Detected	0.0003	Not Regulated
Uranium	0.00033	0.0001	0.02
Vanadium	0.00058	0.00001	Not Regulated
Zinc	0.0059	0.0005	5

Notes:

- Results are an average of 18 regular sampling locations. No parameters or locations exceeded Health Canada guidelines.
- Milligrams per litre (mg/L), which is equivalent to parts per million (ppm).

Contact Information:

More information on water quality and sample submission performance may be obtained from the City at 306-777-7000 or Regina.ca.

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