



**Northern Settlement of Uranium City  
Drinking Water Quality and Compliance  
Annual Notice to Consumers  
2023**

**Introduction**

The Water Security Agency and the Ministry of Environment 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 Minister's Order or Permit to Operate a waterworks. The following is a summary of the **Northern Settlement of Uranium City** water quality and sample submission compliance record January 1, 2023, to December 31, 2023. This report was completed on June 13, 2024. Readers should refer to Water Security Agency's "Municipal Drinking Water Quality Monitoring Guidelines, June 2015, EPB 502" for more information on minimum sample submission requirements. Permit requirements for a specific waterworks may require more sampling than outlined in the department's monitoring guidelines. If consumers need more information on the nature and significance of specific water tests, for example, "what is the significance of selenium in a water supply", more detailed information is available from: [http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index\\_e.html](http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html).

**The Water Security Agency issued a precautionary drinking water advisory for the Northern Settlement of Uranium City in May 2001 and an emergency boil water advisory in February 2015. Both those advisories are still in effect.**

**Water Quality Standards**

**Bacteriological Quality**

<b>Parameter/Location</b>	<b>Limit</b>	<b>Regular Samples Required</b>	<b>Regular Samples Submitted</b>	<b># of Positive Regular Submitted (%)</b>
Total Coliform	0 Organisms/100 mg/L	24	19	0%
E. coli	0 Organisms/100 ml	24	19	0%
Background Bacteria	Less than 200 Organisms/100 mL	24	19	0%

The owner/operator is responsible for ensuring that 100 per cent of all bacteriological samples are submitted as required. 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 in Distribution System for Test Results Submitted with Bacteriological Samples**

<b>Parameter</b>	<b>Minimum Limit (mg/L)</b>	<b>Free Chlorine Residual Range</b>	<b>Total Chlorine Residual Range</b>	<b># Tests Required</b>	<b># Tests Submitted</b>	<b># Adequate Chlorine (%)</b>
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.21- 1.57	0.45- 1.74	24	19	100%

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is always required throughout the distribution system unless otherwise approved. A proper chlorine submission is defined as a bacteriological sample submission form with both the free and total chlorine residual fields filled out. An adequate chlorine is a result that indicates that the chlorine level is above the regulated minimum. An adequate chlorine may be counted



even if the chlorine results were submitted incorrectly. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.

**Water Disinfection**

**Free Chlorine Residual for Water Entering Distribution System from Waterworks Records-From Water Treatment Plant Records**

<b>Parameter</b>	<b>Limit (mg/L)</b>	<b>Test Level Range</b>	<b># Tests Performed</b>	<b># Tests Not Meeting Requirements</b>
Free Chlorine Residual	at least 0.1	0.06 – 1.52	346	1

A minimum of 0.16 milligrams per liter (mg/L) free chlorine residual is required for water entering the distribution system. Tests are normally performed daily by the waterworks operator and are to be recorded in operation records. This data includes the number of free chlorine residual tests performed, the overall range of free chlorine residual (highest and lowest recorded values) and the number of tests and percentage of results not meeting the minimum requirement of 0.16 mg/L free chlorine residual.

**Turbidity – From Water Treatment Plant Records**

<b>Parameter</b>	<b>Limit (NTU)</b>	<b>Test Level Range</b>	<b># Tests Not Meeting Requirements</b>	<b>Maximum Turbidity (NTU)</b>	<b># Tests Required</b>	<b># Tests Performed</b>
Turbidity	< 1.5	0.37 – 3.50	91	3.50	1 per day	346

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). All waterworks are required to monitor turbidity at the water treatment plant. The frequency of measurement varies from daily for small systems to continuous for larger waterworks.

**Chemical – Health Category**

Samples for a chemical health analysis are submitted every 2 years. The next year of submittal is 2024.

Health category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium.. Some waterworks will add fluoride to drinking water to aid in the prevention of dental decay. Substances within the chemical health category may be naturally occurring in drinking water sources or may be the result of human activities. These substances may represent a long-term health risk if the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) is exceeded. All waterworks serving less than 5000 persons are required to submit water samples for SE’s chemical health category once every two years.

### General Chemical

Samples for a general chemical analysis were submitted **January 19, 2023**.

<b>Parameter</b>	<b>Aesthetic Objectives* (mg/L)</b>	<b>Sample Results (average)</b>	<b># Samples Required</b>	<b># Samples Submitted</b>
Alkalinity	500	44.4	1	1
Bicarbonate	No Objective	54.1	1	1
Calcium	No Objective	15.8	1	1
Carbonate	No Objective	<1	1	1
Chloride	250	4.14	1	1
Hardness	800	51.8	1	1
Magnesium	200	3	1	1
Nitrate (avg. *)	45.0	.097	1	1
PH	No Objective	7.69	1	1
Sodium	300	1.82	1	1
Sulphate	500	3.49	1	1
Total dissolved solids	1500	61.4	1	1

All waterworks serving less than 5000 persons are required to submit water samples for SE's General Chemical category once every two years if a ground water source or once per three months every second year if a surface water or blended surface/groundwater source. The General Chemical category includes analysis for alkalinity, bicarbonate, calcium, carbonate, chloride, conductivity, hardness (as CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids.

\*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 health hazards. The aesthetic objectives for several parameters (including hardness as CaCO<sub>3</sub>, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

### Chemical – Trihalomethanes (THMs) and Haloacetic Acids (HAAs)

<b>Parameter Limit IMAC (mg/L)</b>	<b>Sample Result (average)</b>	<b># Samples Required</b>	<b># Samples Submitted</b>
Trihalomethanes (THMs) 0.1	.109	4	1
Haloacetic Acids (HAAs) 0.080	.106	4	1

THMs and Haloacetic Acids are generated during the water disinfection process as a by-product of reactions between chlorine and organic material. THMs are generally found only in drinking water obtained from surface water supplies. THMs and HAAs are to be monitored on a quarterly basis and the IMAC result is expressed as an average of 4 quarterly samples. Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs and Haloacetic Acids unless otherwise specified in the facility Permit to Operate.



**Saskatchewan  
Ministry of  
Environment**



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

Northern Municipal Trust Account  
Northern Settlement of Uranium City  
c/o District Public Works Manager  
Box 113 La Ronge, SK. S0J 1L0  
E-mail address: [nms@gov.sk.ca](mailto:nms@gov.sk.ca)