Saskatchewan Ministry of Environment

Water Security Agency

Northern Settlement of Uranium City
Drinking Water Quality and Compliance
Annual Notice to Consumers
2024

Introduction

The Water Security Agency and the Ministry of Environment require 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 from January 1, 2024, to December 31, 2024. This report was completed on March 25, 2025. Readers should refer to the 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 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 .

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

Parameter/Location	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted (%)
Total Coliform	0 Organisms/100 mg/L	24	23	0%
E. coli	0 Organisms/100 ml	24	23	0%
Background Bacteria	Less than 200 Organisms/100 mL	24	23	0%

The owner/operator is responsible for ensuring that 100 percent 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

Parameter	Minimum Limit (mg/L)	Free Chlorine Residual Range	Total Chlorine Residual Range	# Tests Required	# Tests Submitted	# Adequate Chlorine (%)
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	0.02- 1.56	0.03- 1.62	24	23	96%

Unless otherwise approved, a minimum of 0.1 milligrams per liter (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is always required throughout the distribution system. A proper chlorine submission is defined as a bacteriological sample submission form filled out with both the free and total chlorine

residual fields. Adequate chlorine is a result that indicates that the chlorine level is above the regulated minimum. 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

Parameter	Limit (mg/L)	Test Level Range	# Tests Performed	# Tests Not Meeting Requirements
Free Chlorine Residual	at least 0.1	0.02 – 2.10	364	3*

A minimum of 0.16 milligrams per liter (mg/L) of 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. *All Tests not meeting requirements were reported to the EPO.

Turbidity – From Water Treatment Plant Records

Parameter	Limit (NTU)	Test Level Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	< 1.5	0.33 – 4.92	5	4.18	1 per day	364

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 daily for small systems to continuous for larger waterworks.

Chemical – Health Category

All waterworks serving less than 5000 persons are required to submit water samples for SE’s chemical health category once every two years. The chemical health category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium, and uranium. The last sample for chemical health analysis was submitted on January 19, 2023. Sample results indicated that the provincial drinking water quality standards were not exceeded. The next scheduled test will be taken in 2025 as per permit requirements.

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General Chemical

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 groundwater 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 CaCO3), magnesium, sodium, sulfate, and total dissolved solids.

A general chemical analysis was submitted on January 19, 2023, and met all drinking quality water standards. The next scheduled test will be taken in 2023 as per permit requirements.

*Objectives apply to certain characteristics of substances found in water for human consumption 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 such as CaCO3, magnesium, sodium, and total dissolved solids) consider regional differences in drinking water sources and quality.

Chemical – Trihalomethanes (THMs) and Halo acetic Acids (HAAs)

Parameter Limit IMAC (mg/L)	Sample Result (average)	# Samples Required	# Samples Submitted
Trihalomethanes (THMs) 0.1	1.193	4	2
Halo acetic Acids (HAAs) 0.080	.0787	3	3

THMs and Halo acetic 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 every quarter 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 THMs and Halo acetic Acids unless otherwise specified in the facility's Permit to Operate.

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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