

Drinking Water Quality and Compliance
Global Transportation Hub Authority
Station Number SK05JF0650
2023 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 Global Transportation Hub Authority water quality and sample submission compliance record for the January 1, 2023, to December 31, 2023, time period. This report was completed on February 1, 2024. Readers should refer to the WSA's Municipal Drinking Water Quality Monitoring Guidelines 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	Regular Samples Submitted	# Positive of Regular Submitted
Total Coliform	0 Organisms/100 mL	52	52	0
E. Coli	0 Organisms/100 mL	52	52	0
Background Bacteria	Less than 200/100 mL	52	52	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.

WATER DISINFECTION

Chlorine Residual in Distribution System – From Test Results Submitted with Bacteriological Samples

Parameter	Minimum Limit (either/or)	Range (mg/L)	# Tests Required	# Tests Submitted	# Adequate Chlorine
Free Chlorine	0.10 mg/L	0.10 - 1.55	52	52	52
Total Chlorine	0.50 mg/L	0.23 – 1.64	52	52	

A minimum of 0.10 milligrams per litre (mg/L) free chlorine residual **OR** 0.50 mg/L total chlorine residual is required at all times throughout the distribution system. An adequate chlorine is a result that indicates that the chlorine level is above the regulated minimum. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.

Free Chlorine Residual for Water entering the Distribution System

Parameter	Minimum Limit (mg/L)	Range (mg/L)	# Tests Required	# Tests Performed	% Adequate Chlorine
Free Chlorine	0.10	0.09 - 2.52	Continuous	Continuous	99.997

Residuals are continuously monitored and recorded. Tests are performed on a weekly basis by waterworks operators and are recorded in operation records.

The continuous free chlorine residual dropped below the 0.10 mg/L minimum for one fifteen-minute reading on January 19, 2023. The Environment Officer was notified.

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Communication to the analyser was lost for a 1.5-hour period on January 12, 2023. The chlorine residual before the loss was 0.21 mg/L and after the loss was 0.34 mg/L. The Environment Officer was notified.

Water to the chlorine analyser was turned off by a third-party contractor on February 3rd. Water service was restored by SaskWater on February 6th. Independent chlorine residual and laboratory bacteriological testing was completed successfully on February 6th to confirm water quality standard. The Environment Officer was notified.

An equipment malfunction caused inaccurate results from May 23 to May 24. Additional analyser calibrations were required to remedy the issue. Manual chlorine samples at another location on the system yielded adequate chlorine residuals. The Environment Officer was notified.

TURBIDITY

Turbidity in the Distribution System – From Test Results Submitted with Bacteriological Samples

Parameter	Limit (NTU)	Range (NTU)	# Tests Required	# Tests Performed	# Exceeding Limit
Turbidity	No Limit	0.05 – 0.56	0	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). Additional testing was done for informational purposes.

CHEMICAL – TRIHALOMETHANES (THM)

Trihalomethanes are formed when chlorine reacts with organic matter in water. The four THM compounds are: chloroform, dibromochloromethane, bromodichloromethane (BCDM) and bromoform. The sum of the concentrations of these four components is referred to as Total Trihalomethanes. The limit for THM is a long-term objective based on an annual average of seasonal samples.

Parameter	Maximum Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Trihalomethane	0.100	0.073	4	4

CHEMICAL – HALOACETIC ACIDS (HAAs)

Haloacetic acids are formed when chlorine reacts with organic matter in water. The five regulated haloacetic acids are: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. The sum of the concentrations of these five components is referred to as HAA5. The limit for HAA5 is a long-term objective based on an annual average of seasonal samples.

Parameter	Maximum Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Haloacetic Acids 5	0.080	0.043	4	4

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

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