



Drinking Water Quality and Compliance
SaskWater – Saskatoon Potable Water Supply System - Northwest
Station Number – SK05HH0345
2017 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 SaskWater – Saskatoon Potable Water Supply System - Northwest water quality and sample submission compliance record for the January 1, 2017 to December 31, 2017 time period. This report was completed on April 6, 2018. Readers should refer to the WSA's Municipal Drinking Water Quality Monitoring Guidelines, October 2012, EPB 202 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. This system is supplied with water by the City of Saskatoon. Results from these tests can be seen at www.saskatoon.ca. 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 | # Of Positive Regular Submitted |
|---------------------|---------------------|--------------------------|---------------------------|---------------------------------|
| Total Coliform | 0 Organisms/100mL | 52 | 52 | 0 |
| E. Coli | 0 Organisms/100m/L | 52 | 52 | 0 |
| Background Bacteria | Less than 200/100mL | 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 for Water in the Distribution System – From Test Results Submitted with Bacteriological Samples

| Parameter | Minimum Limit | Range (mg/L) | Average (mg/L) | # Tests Required | # Tests Submitted | # Adequate Chlorine |
|----------------|---------------|--------------|----------------|------------------|-------------------|---------------------|
| Total Chlorine | 0.5 mg/L | 1.40 – 1.87 | 1.70 | 52 | 52 | 52 |

A minimum of 0.5 mg/L total chlorine residual is required at all times throughout the distribution system. An adequate chlorine residual is a result that indicates that the chlorine level is above the regulated minimums. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.

Total Chlorine Residual for Water entering the Distribution System

| Parameter | Limit (mg/L) | Range (mg/L) | Average (mg/L) | # Tests Required | # Tests Performed | % Adequate Chlorine |
|----------------|--------------|--------------|----------------|------------------|-------------------|---------------------|
| Total Chlorine | At least 0.5 | 0.94 – 5.00 | 1.65 | Continuous | Continuous | 100 |

Minimum 0.5 milligrams per litre (mg/L) total chlorine residual is required for water in a distribution system. Residuals are continuously monitored and recorded.

TURBIDITY

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

| Parameter | Limit (NTU) | Range (NTU) | Average (NTU) | # Tests Required | # Tests Performed | # Exceeding Limit |
|-----------|-------------|-------------|---------------|------------------|-------------------|-------------------|
| Turbidity | No Standard | 0.08 – 0.30 | 0.18 | 52 | 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). The turbidity is tested at the same frequency as the bacteriological testing with a bench testing instrument.

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 | Limit (mg/L) | Average (mg/L) | # of Samples Required | # of Samples Submitted |
|-----------------------|--------------|----------------|-----------------------|------------------------|
| Total Trihalomethanes | 0.100 | 0.041 | 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.

| Parameter | Limit (mg/L) | Average (mg/L) | # Samples Required | # Samples Submitted |
|--------------------|--------------|----------------|--------------------|---------------------|
| Haloacetic Acids 5 | 0.080 | 0.037 | 2 | 2 |

CHEMICAL – HEALTH

Water quality analysis was conducted on July 3, 2017 for information only. SaskWater is not required to perform this testing as part of the operating permit. Sample results indicated that the provincial drinking water quality standards were not exceeded.

| Parameter | MAC (mg/L) | IMAC (mg/L) | AO* (mg/L) | Sample Results (mg/L) | # of Samples Required | # of Samples Submitted |
|-----------|--------------|-------------|------------|-----------------------|-----------------------|------------------------|
| Aluminum | No Objective | | | 0.019 | 0 | 1 |
| Antimony | 0.006 | | | <0.0002 | 0 | 1 |
| Arsenic | 0.010 | | | 0.0003 | 0 | 1 |
| Barium | 1.0 | | | 0.066 | 0 | 1 |
| Boron | | 5.0 | | 0.03 | 0 | 1 |
| Cadmium | 0.005 | | | 0.00001 | 0 | 1 |
| Chromium | 0.05 | | | <0.0005 | 0 | 1 |
| Copper | | | 1.0 | 0.0029 | 0 | 1 |
| Iron | | | 0.3 | 0.013 | 0 | 1 |
| Lead | 0.01 | | | <0.0001 | 0 | 1 |
| Manganese | | | 0.05 | <0.0005 | 0 | 1 |
| Selenium | 0.01 | | | 0.0004 | 0 | 1 |
| Silver | No Objective | | | <0.00005 | 0 | 1 |
| Uranium | 0.02 | | | 0.0012 | 0 | 1 |
| Zinc | | | 5 | 0.0020 | 0 | 1 |

MAC – Maximum Acceptable Concentrations
 IMAC – Interim Maximum Acceptable Concentrations

AO – Aesthetic Objective

CHEMICAL – GENERAL

Water quality analysis was conducted on April 3, 2017 for information only. SaskWater is not required to perform this testing as part of the operating permit. Sample results indicated that the provincial drinking water quality standards were not exceeded.

| Parameter | MAC | AO * | Sample Results | # of Samples Required | # of Samples Submitted |
|-------------------------------|--------------|-------------|-----------------------|------------------------------|-------------------------------|
| Total Alkalinity (mg/L) | | 500 | 132 | 0 | 1 |
| Bicarbonate (mg/L) | No Objective | | 161 | 0 | 1 |
| Calcium (mg/L) | No Objective | | 43 | 0 | 1 |
| Carbonate (mg/L) | No Objective | | <1 | 0 | 1 |
| Chloride (mg/L) | | 250 | 14 | 0 | 1 |
| Fluoride (mg/L) | 1.5 | | 0.56 | 0 | 1 |
| Total Hardness (mg/L) | | 800 | 189 | 0 | 1 |
| Hydroxide (mg/L) | No Objective | | <1 | 0 | 1 |
| Magnesium (mg/L) | | 200 | 20 | 0 | 1 |
| Nitrate (mg/L) | 45 | | 0.40 | 0 | 1 |
| pH (pH units) | | 6.5 - 9.0 | 8.06 | 0 | 1 |
| Potassium (mg/L) | No Objective | | 3.3 | 0 | 1 |
| Sodium (mg/L) | | 300 | 33 | 0 | 1 |
| Specific Conductivity (µs/cm) | No Objective | | 516 | 0 | 1 |
| Sulfate (mg/L) | | 500 | 110 | 0 | 1 |
| Sum of Ions | No Objective | | 385 | 0 | 1 |
| Total Dissolved Solids (mg/L) | | 1500 | 317 | 0 | 1 |

MAC – Maximum Acceptable Concentration

AO – Aesthetic Objective

*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 a health hazards. The aesthetic objectives for several parameters (including hardness as CaCO₃, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

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

SaskWater
 200 - 111 Fairford Street East
 Moose Jaw SK S6H 1C8
 Toll Free: 1-888-230-1111
 Fax: 306-694-3207
 Email: customerservice@saskwater.com