

Drinking Water Quality and Compliance Town of Maple Creek – Annual Notice to Consumers

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 Town of Maple Creek water quality and sample submission compliance record for the 2021 calendar year. This report was completed on **10 January 2022**. 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 and the meaning of type of sample. 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.

Water Quality Standards

Bacteriological Quality

| Parameter/Location | Limit | Regular Samples Required | Regular Samples Submitted | # of Positive Regular Submitted (%) |
|--------------------|--------------------|--------------------------|---------------------------|-------------------------------------|
| Total Coliform | 0 Organisms/100 mL | 87 | 87 | 0% |
| E. coli | 0 Organisms/100 mL | 87 | 87 | 0% |

Water Disinfection –

Chlorine Residual in Distribution System for Test Results Submitted with Bacteriological Samples

| Parameter | Minimum Limit | Total Chlorine Residual Range | Free Chlorine Residual Range | # Tests Required | # Tests Submitted | # Adequate Chlorine (%) |
|-------------------|------------------------------------|-------------------------------|------------------------------|------------------|-------------------|-------------------------|
| Chlorine Residual | 0.1 mg/L free OR 0.5 mg/L total | | 0.16-1.08 | 87 | 87 | 100% |

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 0.70 | 0.81-1.14 | 365 | 0 |

A minimum of 0.70 milligrams per litre (mg/L) free chlorine residual is required for water entering the distribution system. Tests are normally performed on a daily basis 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 0.70 mg/L free chlorine residual.

Turbidity – From Water Treatment Plant Records

| Parameter | Limit (NTU) | Test Level Range | # Tests Not Meeting Requirements | Maximum Turbidity (NTU) | # Tests Required | # Tests Performed |
|-----------|-------------|------------------|----------------------------------|-------------------------|------------------|-------------------|
| Turbidity | 0.10 | 0.03-0.09 | 0 | 0.09 | 787 | 787 |



Chemical – Health Category

All waterworks serving less than 5000 persons are required to submit water samples for SE's Chemical Health category once every year. 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 [21 January 2021](#). Sample results indicated that the provincial drinking water quality standard limits were not exceeded.

| Parameter | Limit MAC(mg/L) | Limit IMAC (mg/L) | Sample Result(s) | # Samples Exceeding Limit | |
|------------------|----------------------------|------------------------------|-----------------------------|--------------------------------------|--|
| Arsenic | 0.010 | | <0.0001 | 0 | |
| Barium | 1.0 | | 0.0053 | 0 | |
| Boron | | 5.0 | 0.1 | 0 | |
| Bromate | 0.01 | | n/a | n/a | |
| Cadmium | 0.005 | | <0.00015 | 0 | |
| Chlorate | 1.0 | | n/a | n/a | |
| Chlorite | 1.0 | | n/a | n/a | |
| Chromium | 0.05 | | <0.00019 | 0 | |
| Fluoride (avg*) | 1.5 | | n/a | n/a | |
| Lead | 0.01 | | 0.0003 | 0 | |
| Nitrate (avg.*) | 45.0 | | n/a | n/a | |
| Selenium | 0.01 | | <0.00113 | 0 | |
| Uranium | 0.02 | | <0.00011 | 0 | |

*Results expressed as average values for communities or waterworks that fluoridate drinking water supplies or those with elevated concentration of fluoride or nitrates

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

| Parameter | THMs Limit (mg/L) | Sample Result (average) | # Samples Required | # Samples Submitted |
|------------------|------------------------------|------------------------------------|-------------------------------|--------------------------------|
| Trihalomethanes | 0.1 | <0.004 | quarterly every third year | 2 |
| Haloacetic Acids | 0.08 | <0.010 | quarterly every third year | 2 |

Note: Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs and HAAs. Waterworks using groundwater sources beyond the influence of surface water do not need to report THMs or HAAs since sampling/analysis will not likely have been performed unless otherwise noted in the waterworks permit to operate

General Chemical

| Parameter | Aesthetic Objectives * (mg/L) | Sample Results (average) | # Samples Required | # Samples Submitted |
|------------------------|-------------------------------|--------------------------|--------------------|---------------------|
| Alkalinity | 500 | 88.8 | 1 | 1 |
| Bicarbonate | No Objective | 108 | 1 | 1 |
| Calcium | No Objective | 8 | 1 | 1 |
| Carbonate | No Objective | 0 | 1 | 1 |
| Chloride | 250 | 2.6 | 1 | 1 |
| Conductivity | No Objective | 200 | 1 | 1 |
| Hardness | 800 | 32 | 1 | 1 |
| Magnesium | 200 | 3 | 1 | 1 |
| PH | No Objective | 7.9 | 1 | 1 |
| Sodium | 300 | 28 | 1 | 1 |
| Sulphate | 500 | 9.4 | 1 | 1 |
| Total dissolved solids | 1500 | 161 | 1 | 1 |

All waterworks serving less than 5000 persons are required to submit water samples for SE's General Chemical category once every year if a ground water source and 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, sulphate and total dissolved solids.

The last sample for General Chemical analysis was required 2021 and submitted on [1 November 2021](#). Sample results indicated that there were no exceedences of the provincial aesthetic objectives for the General Chemical category.

*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 hazard. 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:

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