



**Drinking Water Quality and Compliance
For The Town of Watrous
2020 Annual Notice to Consumers**

Introduction

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 Town of Watrous' water quality and sample submission compliance record for the January 1, 2020 to December 31, 2020 time period. This report was completed on February 2, 2021. Readers should refer to the Agency's [Municipal Drinking Water Quality Monitoring Guidelines, November 2015, EPB 202](#) 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 Agency'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-smpt/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 and Background Bacteria | 0 Organisms/100 mL Less than 200/100 mL | 52 | 53 | 0 |

Note: Due to Covid related issues with Canada Post 6 of our regular bacteriological sample submissions were not received by the Provincial Lab within 48 hours of collection resulting in the cancellation of those samples.

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 | 0.47-1.16 | 0.46-1.07 | 52 | 53 | 98% |

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 | 0.51 – 1.20 | 365 | Zero |

A minimum of 0.1 milligrams per liter (mg/L) free chlorine residual is required for water entering the distribution system (unless otherwise stated in waterworks operating permit). 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 0.1 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 | 1.0 | 0.05 – 0.18 | 0 | 0.18 | 365 | 365 |

Chemical – Health Category

All waterworks serving less than 5000 persons are required to submit water samples for WSA’s Chemical Health category once every 2 years (*unless otherwise stated in waterworks operating permit*). The Chemical Health category includes analysis for arsenic, barium, boron, cadmium, chromium, fluoride, lead, nitrate, selenium and uranium.

The Town of Watrous submitted a sample for Chemical Health analysis on an annual basis, the last sample was submitted on January 4, 2021. Sample results indicated that the provincial drinking water quality standards were not exceeded.

| Parameter | Limit MAC (mg/L) | Limit IMAC (mg/L) | Sample Result(s) | # Samples Exceeding Limit | |
|-----------------|------------------|-------------------|------------------|---------------------------|--|
| Arsenic | 0.010 | | 0.00040 | 0 | * Results expressed as average values for communities or waterworks that fluoridate drinking water supplies or those with elevated concentrations of fluoride or nitrates. |
| Barium | 1.0 | | <0.00071 | 0 | |
| Boron | | 5.0 | 0.3 | 0 | |
| Cadmium | 0.005 | | <0.00015 | 0 | |
| Chromium | 0.05 | | <0.00019 | 0 | |
| Fluoride (avg*) | 1.5 | | N/A | 0 | |
| Lead | 0.01 | | <0.00007 | 0 | |
| Nitrate (avg.*) | 45.0 | | <0.2 | 0 | |
| Selenium | 0.01 | | <0.00113 | 0 | |
| Uranium | 0.02 | | <0.0011 | 0 | |

General Chemical

| Parameter | Aesthetic | Sample Results | # Samples | # Samples |
|------------------------|---------------------|-----------------------------|-----------|-----------|
| | Objectives * (mg/L) | (average) | Required | Submitted |
| Alkalinity | 500 | 72.2 mg/L CaCO ₃ | 1 | 1 |
| Bicarbonate | No Objective | 88 | 1 | 1 |
| Calcium | No Objective | 2 | 1 | 1 |
| Carbonate | No Objective | 0 | 1 | 1 |
| Chloride | 250 | 17.8 | 1 | 1 |
| Conductivity | No Objective | 233 | 1 | 1 |
| Hardness | 800 | 9 mg/L /CaCO ₃ | 1 | 1 |
| Magnesium | 200 | <0.01 | 1 | 1 |
| pH | No Objective | 8.3 | 1 | 1 |
| Sodium | 300 | 44 | 1 | 1 |
| Sulphate | 500 | 18.8 | 1 | 1 |
| Total dissolved Solids | 1500 | 173 | 1 | 1 |

All waterworks serving less than 5000 persons are required to submit water samples for WSA’s General Chemical category once every two years 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.

Although the Town of Watrous is only required to submit water samples for WSA’s General Chemical every two years, we have and will continue to submit samples on an annual basis. Our last General Chemical sample was submitted on Jan 4, 2021. Sample results indicated that there were no exceedances of the provincial aesthetic objectives for the General Chemical.

*Objectives apply to certain characteristics of 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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