

**Drinking Water Quality and Compliance
Town Long Form – 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 Rose Valley’s** water quality and sample submission compliance record for the January 1, 2020 to December 31, 2020 time period. This report was completed on March 24, 2021. 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 (Percentage)
Total Coliform	0 Organisms/100 mg/L	<u>24</u>	<u>26</u>	<u>0</u>
E. coli	0 Organisms/100 ml	<u>24</u>	<u>26</u>	<u>0</u>
Background Bacteria	Less than 200 Organisms/100 mL	<u>24</u>	<u>26</u>	<u>0</u>

The owner/operator is responsible to ensure that 100 per cent 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	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	<u>0.71 - 1.41 mg/L</u>	<u>0.68 – 1.19 mg/L</u>	<u>24</u>	<u>26</u>	<u>100%</u>

A minimum of 0.1 milligrams per litre (mg/L) free chlorine residual OR 0.5 mg/L total chlorine residual is required at all times throughout the distribution system unless otherwise approved. A proper chlorine submission is defined as a bacteriological sample submission form with both the free and total chlorine residual fields filled out. An adequate chlorine is a result that indicates that the chlorine level is above the regulated minimums. An 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	0.68 - 1.36 mg/L	366	nil

A minimum of 0.1 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 0.1 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	.05 - .23 NTU	Nil	.23 NTU	366	366

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 from daily for small systems to continuous for larger waterworks.

Chemical – Health Category

Parameter	Limit Maximum Acceptable Concentration (MAC) mg/l	Interim Limit Maximum Acceptable Concentration (IMAC) mg/l	Sample Results mg/L	Number of Samples Exceeding the Limit
Antimony	No Guideline		<0.00016	NIL
Arsenic	0.010		0.0016	NIL
Barium	1.000		<0.00071	NIL
Boron	<5.0		0.40000	NIL
Bromate	0.010		NR	NIL
Cadmium	0.005		.00015	NIL
Chlorate	1.000		NR	NIL
Chlorite	1.000		NR	NIL
Chromium	0.050		<0.00019	NIL
Fluoride (avg *)	1.500		<0.05000	NIL
Lead	0.010		<0.00007	NIL
Nitrate (avg *)	45.000		<0.02000	NIL
Selenium	0.010		<0.00113	NIL
Silver	No Guideline		<.00020	NIL
Uranium	0.020		<0.00011	NIL

All waterworks serving less than 5000 persons are required to submit water samples for SE’s Chemical Health category once every 2 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 May 8, 2019. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Substances within the chemical health category may be naturally occurring in drinking water sources or may be the result of human activities. These substances may represent a long-term health risk if the Maximum Acceptable Concentration (MAC) or Interim Maximum Acceptable Concentration (IMAC) is exceeded. All drinking water supplies are required to monitor for substances in the Chemical-Health category, the frequency of monitoring depends on the population served by the waterworks. The Town of Rose Valley does not add fluoride to drinking water supplies.

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

Chemical – Trihalomethanes (THMs)

Note: Only water supplies derived from surface water or groundwater under the influence of surface water are required to monitor for THMs unless otherwise specified in the facility Permit to Operate. The Town of Rose Valley's water supplies are derived from groundwater NOT under the influence of surface water therefore sampling/analysis for THMs is not required or performed. The Permit to Operate does not require sampling/analysis for THMs.

General Chemical

Parameter	Aesthetic Objectives * (mg/L)	Sample Results Average (mg/L)	Number of Samples Required	Number of Samples Submitted
Aluminum	No Guideline	0.0086	1	1
Alkalinity	<500	65.0	1	1
Phenol Alkalinity	No Guideline	5.4	1	1
Bicarbonate	No Guideline	66	1	1
Calcium	No Guideline	2	1	1
Carbonate	No Guideline	6	1	1
Chloride	<250	9.4	1	1
Conductivity	<2300 uS/cm	189 uS/cm	1	1
Copper	1	0.00829	1	1
Hardness	<800	9	1	1
Hydroxide	No Guideline	0	1	1
Iron	<0.3	0.1	1	1
Magnesium	<200	<1	1	1
Manganese	<0.05	0.01	1	1
pH	6.5 - 9.0 pH units	9.0 pH units	1	1
Potassium	No Guideline	<1	1	1
Sodium	<300	37	1	1
Sulphate	<500	15.5	1	1
Total dissolved Solids	<1500	138	1	1
Zinc	<5	.004	1	1



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 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 in 2019 and submitted on May 8, 2019. 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 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:

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