

## Drinking Water Quality and Compliance

### 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 Lemberg water quality and sample submission compliance record for the January 1, 2021 to December 31, 2021 time period. This report was completed on March 17 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](http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index_e.html).

### Water Quality Standards

#### Bacteriological Quality

Parameter	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted (%)
Total Coliform	Zero organisms/100 mL	24	24	0
E. Coli	Zero organisms/100 mL	24	24	0
Background Bacteria	<200 organisms/100mL	n/a	n/a	n/a

#### 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	# of Tests Required	# of Tests Submitted	% Adequate Chlorine
Chlorine Residual	0.1 mg/L free OR 0.5 mg/L total	.53 – 2.26	.1 - .65	30	30	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	# of Tests Performed	# Of Tests Not Meeting Requirements
Free Chlorine	Minimum 0.1 mg/L	1.12 – 3.8	363	0

*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	# of Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# of Tests Required	# of Tests Performed
Turbidity	1.0	.01 - .83	0	.83	365	363

### Chemical – Health Category

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 February 10, 2020. Sample results indicated that the provincial drinking water quality standards were not exceeded.

Parameter	Limit MAC	Units	Limit IMAC	Units	Sample Result (s)	Units	# of Samples Exceeding Limit	*Results expressed as average values for communities or waterworks that fluoridate drinking water supplies or those with elevated concentrations of fluoride or nitrates.
Arsenic	10.0	µg/L			0.70	µg/L		
Barium	1.0	mg/L			7.1	µg/L		
Boron			5.0	mg/L	0.90	mg/L		
Bromate	10.0	µg/L			n/a			
Cadmium	5.0	µg/L			<0.15	µg/L		
Chlorate	1.0	mg/L			n/a			
Chlorite	1.0	mg/L			n/a			
Chromium	50.0	µg/L			0.20	µg/L		
Flouride (avg. *)	1.5	mg/L			n/a			
Lead	10.0	µg/L			0.30	µg/L		
Nitrate (avg. *)	45.0	mg/L			n/a			
Selenium	10.0	µg/L			<1.13	µg/L		
Uranium	20.0	µg/L			<0.11	µg/L		

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

Parameter	Limit (mg/L)	Sample Result (average)	Units (mg/L or µg/L)	# of Samples Required	# of Samples Submitted
Trihalomethanes	0.1			4 (1 every 3 months)	n/a
Haloacetic Acid	0.08			4 (1 every 3 months)	n/a

*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 Objective (mg/L)	Sample Results (average)	Units (mg/L or µg/L)	# of Samples Required	# of Samples Submitted
Alkalinity	500	455	mg/l CaCO <sub>3</sub>	1	1
Bicarbonate	No Objective	555	mg/L	1	1
Calcium	No Objective	182	mg/L	1	1
Carbonate	No Objective	0	mg/L	1	1
Chloride	250	41.6	mg/L	1	1
Conductivity	No Objective	2364	µS/cm	1	1
Hardness	800	817	mg/l CaCO <sub>3</sub>	1	1
Magnesium	200	88	mg/L	1	1
pH	No Objective	7.6	pH Units	1	1
Sodium	300	271	mg/L	1	1
Sulphate	500	926.9	mg/L	1	1
Total Dissolved Solids	1500	2082	mg/L	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 CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids.

The last sample for General Chemical analysis was required in 2020 and submitted on *February 10, 2020*. Samples exceeded provincial aesthetic objectives for the General Chemical category for the following parameters: *Hardness, Sulphate and Total Dissolved Solids*.

\*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 CaCO<sub>3</sub>, 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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