



**Drinking Water Quality and Compliance  
for the Village of Drake  
2019 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 Village of Drake’s water quality and sample submission compliance record for the January 1, 2019 to December 31, 2019 time period. This report was completed on March 17, 2020. 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-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/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	24	26	1

**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	0.83 - 1.91	0.11 - 0.28	24	26	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 0.1	0.11 - 0.95	365	0

*A minimum of 0.1 milligrams per liter (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 # Tests Range	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	1.0	0.21 - 1.40	2	1.40	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. 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 March 25, 2019. Sample results indicated that the provincial drinking water quality standards were not exceeded. Though it is not listed in the panel of Health and Toxicity parameters, Manganese, at 0.09 mg/L exceeded the provincial guideline of < 0.05 mg/L.

Parameter	Limit MAC (mg/L)	Limit IMAC (mg/L)	Sample Result(s)	# Samples Exceeding Limit	
Arsenic	0.010		0.0004	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		0.0039	0	
Boron		5.0	0.4	0	
Cadmium	0.005		<0.00015	0	
Chromium	0.05		<0.00019	0	
Fluoride (avg*)	1.5		N/A		
Lead	0.01		<0.00007	0	
Nitrate (avg.*)	45.0		N/A		
Selenium	0.01		<0.00113	0	
Uranium	0.02		<0.0002	0	

### General Chemical

Parameter	Aesthetic	Sample Results (average)	# Samples Required	# Samples Submitted
	Objectives * (mg/L)			
Alkalinity	500	405 mg/L		
Bicarbonate	No Objective	494 mg/L		
Calcium	No Objective	161 mg/L		
Carbonate	No Objective	0		
Chloride	250	141.5 mg/L		
Conductivity	No Objective	2908 mS/ cm		
Hardness	800	715 mg/L		
Magnesium	200	76 mg/L		
pH	No Objective	7.7 PH Units		
Sodium	300	479 mg/L		
Sulphate	500	1074.6 mg/L		
Total dissolved Solids	1500	2436 mg/L		

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 CaCO<sub>3</sub>), magnesium, sodium, sulphate and total dissolved solids.

The last sample for General Chemical analysis was required in 2019 and was submitted on April 23, 2019. The next sample for General Chemical analysis is required in 2021. Sample results indicated that there were no exceedances of the provincial aesthetic objectives for the General Chemical panel except those associate with common problems specific to this aquifer.

\*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 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:**

**The Village of Drake**  
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 Drake, SK S0K 1H0  
 E-mail address: [villageofdrake@sasktel.net](mailto:villageofdrake@sasktel.net)