

**Drinking Water Quality and Compliance  
Town Short Form – A Template for 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 Wilkie's water quality and sample submission compliance record for the year of 2018 time period. This report was completed on March 21, 2019. 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/Location	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted (%)
Total Coliform	0 Organisms/100 mL	52	52	0.00%
E. coli	0 Organisms/100 mL			
Background Bacteria	Less than 200/100 mL			

**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	0.33 to 4.35	.83 to 3.90	52	52	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	.83 to 3.90	365	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	# Tests Not Meeting Requirements	Maximum Turbidity (NTU)	# Tests Required	# Tests Performed
Turbidity	1	.06 to .56	0	.56	365	365

**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 December 19, 2017. Sample results indicated that the provincial drinking water quality standards were not exceeded.



**Saskatchewan  
Ministry of  
Environment**



Parameter	Limit	Limit	Sample	# Samples	(see attached)
	MAC(mg/L)	IMAC (mg/L)	Result(s)	Exceeding Limit	
Arsenic	0.010		_____	_____	* 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		_____	_____	
Boron		5.0	_____	_____	
Bromate	0.01		_____	_____	
Cadmium	0.005		_____	_____	
Chlorate	1.0		_____	_____	
Chlorite	1.0		_____	_____	
Chromium	0.05		_____	_____	
Fluoride (avg*)	1.5		_____	_____	
Lead	0.01		_____	_____	
Nitrate (avg.*)	45.0		_____	_____	
Selenium	0.01		_____	_____	
Uranium	0.02		_____	_____	

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

Parameter	THMs	Sample	# Samples	# Samples
	Limit (mg/L)	Result (average)	Required	Submitted
Trihalomethanes	0.1	_____n/a_____	4 (1 every 3 months)	_____
Haloacetic Acids	0.08	_____n/a_____	4 (1 every 3 months)	_____

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	Sample Results	# Samples	# Samples	(see attached)
	Objectives * (mg/L)	(average)	Required	Submitted	
Alkalinity	500	_____	_____	_____	
Bicarbonate	No Objective	_____	_____	_____	
Calcium	No Objective	_____	_____	_____	
Carbonate	No Objective	_____	_____	_____	
Chloride	250	_____	_____	_____	
Conductivity	No Objective	_____	_____	_____	
Hardness	800	_____	_____	_____	
Magnesium	200	_____	_____	_____	
PH	No Objective	_____	_____	_____	
Sodium	300	_____	_____	_____	
Sulphate	500	_____	_____	_____	
Total dissolved Solids	1500	_____	_____	_____	

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 December 2018 and submitted on January 16, 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 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:**

Town of Wilkie  
Box 580  
WILKIE, SK S0K 4W0  
(306) 843-2692  
(306) 843-3151 fax  
Email: [wilkieoffice@sasktel.net](mailto:wilkieoffice@sasktel.net)

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## Environmental Services Analysis Report - Final

<b>Invoice Number:</b>	1093526	<b>Collected Date:</b>	19-Dec-2017 2:06 PM
<b>Sample Location:</b>	WTP large reservoir distribution system	<b>Received:</b>	20-Dec-2017 8:34 AM
<b>Collected by:</b>	Blair Winterhalt	<b>Permit:</b>	2579
<b>Station #:</b>	SK05GC0012	<b>Water Source:</b>	Distributed
	WILKIE DIST.SYSTEM	<b>Reported:</b>	22-Dec-2017 2:21 PM

**Submitted By:**

WILKIE TOWN OF  
BOX 580  
WILKIE, SK  
S0K 4W0

**Invoice:**

WILKIE TOWN OF  
BOX 580  
WILKIE, SK  
S0K 4W0

Analysis	Result	Unit	Sask Guideline	Test Comment	Fee
Health and Toxicity Panel					92.50
Boron	0.1	mg/L	< 5.0		
Iron	<0.1	mg/L	< 0.3		
Manganese	<0.01	mg/L	< 0.05		
Aluminum (ICPMS)	<6.96	µg/L	No Guideline		
Arsenic (ICPMS)	0.30	µg/L	< 10		
Barium (ICPMS)	19.1	µg/L	< 1000		
Cadmium (ICPMS)	<0.15	µg/L	< 5		
Chromium (ICPMS)	<0.19	µg/L	< 50		
Copper (ICPMS)	12.2	µg/L	< 1000		
Lead (ICPMS)	0.10	µg/L	< 10		
Selenium (ICPMS)	1.3	µg/L	< 10		
Uranium (ICPMS)	1.6	µg/L	< 20		
Zinc (ICPMS)	4.5	µg/L	< 5000		
Antimony (ICPMS)	<0.16	µg/L	No Guideline		
Silver (ICPMS)	<0.20	µg/L	No Guideline		



## RRPL TESTING METHODS AND SASKATCHEWAN WATER STANDARDS INFORMATION

### Roy Romanow Provincial Laboratory (RRPL) Methodology

Method	Description/Parameter	Method	Description/Parameter
ES-1	Membrane Filtration / Fecal Streptococci	ES-32	Combustion-IR / Dissolved Organic Carbon -CL / Total Nitrogen
ES-6	Titration + Electrode / pH & Alkalinity	ES-34	Automated Ascorbic Acid Reduction / Ortho Phosphorus
ES-7	Biochemical Oxygen Demand / 5-Day BOD, 5 day CBOD	ES-36 & 54	Ion Chromatography / Anions (Cl, F, NO <sub>3</sub> and SO <sub>4</sub> )
ES-8	Closed Reflux Colorimeter / Chemical Oxygen Demand	ES-37	Colilert-QuantiTray / Total Coliforms & E.coli
ES-9	Conductivity Meter / Conductivity	ES-38	Membrane Filtration - DC Agar / Total Coliforms & E.coli
ES-13	Calculation / Total Dissolved Solids	ES-41	Calculation / Total Kjeldahl Nitrogen
ES-14	Gravimetric / Suspended Solids (total, fixed and volatile)	ES-44	Gas Diffusion + Conductimetric Detection / Ammonia
ES-16	Nephelometer / Turbidity	ES-45	Abraxis Kit (ELISA) / Microcystin
ES-22	Spectrophotometer / Chlorophyll a	ES-47	Automated Spectrophotometric / Nitrate
ES-23	Ion-Selective Electrode / Fluoride	ES-50	E-PERM Electret Ion Chamber / Radon in Indoor Air
ES-25	ICP-AES / Metals and Calculation / Hardness	ES-51	Enzyme Detection (Pseudalert) / Pseudomonas
ES-26	Cold-Vapor AA / Mercury in Water	ES-52	Quanti-Tray / Heterotrophic Plate Count
ES-27	Automated Ascorbic Acid Reduction / Total Phosphorus	ES-53	ICP-MS (Metals)
ES-30	Digestion - Cold Vapor AA / Mercury in Fish	ES-55	GC/MS Headspace / VOCs

Notes: Testing results of these parameters are time sensitive. The results may change if a sample does not arrive at the lab within the sample holding time. For the most accurate results, it is recommended that samples be submitted to the lab immediately after collection. Additional information such as date and time of analysis, method calculated uncertainty, equipment maintenance records etc. are available upon request.

The Roy Romanow Provincial Laboratory guarantees the quality and correctness of the analyses performed on the sample as received and relates only to the tested sample.

Results authorized by: Dr. Phillip Bailey (Director, Environmental Services)

Detailed information on Saskatchewan's Drinking Water Quality Standards and Objectives may be found at <http://www.saskh2o.ca/pdf/EPB507.pdf>

### Summary of Saskatchewan Drinking Water Standards and Objectives

#### Bacteriological Standards

Parameter	Maximum Acceptable Concentration (MAC)
Total Coliform	No organisms detectable / 100 mL
E. coli	No organisms detectable / 100 mL

#### Chemical Parameters and Physical Properties (1 mg/L = 1000 µg/L)

Parameter	Maximum Acceptable Concentration (MAC)	Parameter	Aesthetic Objective (AO)
Arsenic	0.010 mg/L	Alkalinity	500 mg/L
Barium	1 mg/L	Chloride	250 mg/L
Boron	5 mg/L Interim MAC	Copper	1 mg/L
Cadmium	0.005 mg/L	Hardness	800 mg/L (as Calcium Carbonate)
Chromium	0.05 mg/L	Iron	0.3 mg/L
Fluoride	1.5 mg/L	Magnesium	200 mg/L
Lead	0.01 mg/L	Manganese	0.05 mg/L
Mercury	1 µg/L	pH	6.5 - 9.0
Nitrate	45 mg/L	Sodium	300 mg/L
Selenium	0.01 mg/L	Sulphate	500 mg/L
THM	100 µg/L (Average of 4 seasonal samples)	TDS	1500 mg/L
Turbidity	1.0 NTU	Zinc	5 mg/L
Uranium	0.02 mg/L		

For all other water quality information in Saskatchewan please refer to <http://www.saskh2o.ca/WaterInformation.asp>