

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 2022 time period. This report was completed on February 14, 2023. 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 (%)
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	.76 to 1.99	.42 to 1.42	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	.82 to 1.58	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 .19	0	.15	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 5, 2022. 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	(see attached)
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 Limit (mg/L)	Sample Result (average)	# Samples Required	# Samples 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 Objectives * (mg/L)	Sample Results (average)	# Samples Required	# Samples Submitted	(see attached)
Alkalinity	500	_____	_____	_____	(see attached)
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 CaCO₃), magnesium, sodium, sulphate and total dissolved solids.

The last sample for General Chemical analysis was submitted on December 15, 2021. 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:

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

June 2015 EPB 536D



**Saskatchewan
Ministry of
Environment**



Environmental Services Analysis Report - Final

Invoice Number: 1163813	Collected Date: 05-Dec-2022 8:35 AM
Sample Location: WTP Large Reservoir (Dist. System)	Received: 06-Dec-2022 11:49 AM
Collected by: Blair Winterhalt Permit: 2579	Reported: 12-Dec-2022 1:31 PM
Station #: SK05GC0012 WILKIE DIST.SYSTEM	Water Source: Distributed

Submitted By:	Invoice:
WILKIE TOWN OF	WILKIE TOWN OF
BOX 580	BOX 580
WILKIE, SK	WILKIE, SK
S0K 4W0	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)	18.2	µg/L	< 1000		
Cadmium (ICPMS)	<0.15	µg/L	< 5		
Chromium (ICPMS)	<0.19	µg/L	< 50		
Copper (ICPMS)	10.3	µg/L	< 1000		
Lead (ICPMS)	<0.07	µg/L	< 10		
Selenium (ICPMS)	<1.13	µg/L	< 10		
Uranium (ICPMS)	1.6	µg/L	< 20		
Zinc (ICPMS)	<4.00	µg/L	< 5000		
Antimony (ICPMS)	<0.16	µg/L	No Guideline		
Silver (ICPMS)	<0.20	µg/L	No Guideline		

Environmental Services Analysis Report - Final

Invoice Number:	1163813	Collected Date:	05-Dec-2022 8:35 AM
Sample Location:	WTP Large Reservoir (Dist. System)	Received:	06-Dec-2022 11:49 AM
Collected by:	Blair Winterhalt	Reported:	12-Dec-2022 1:31 PM
Station #:	SK05GC0012 WILKIE DIST.SYSTEM	Water Source:	Distributed
		Permit:	2579

Submitter Phone Number: 306-843-2212 **Emailed results to:** town.wilkie@sasktel.net
wilkie.administrator@sasktel.net

Comments:

Please include
Invoice Number
with payment
and remit to:

**Saskatchewan Health Authority
c/o Finance
2180 23rd Avenue
Regina, Saskatchewan
S4S 0A5**

Total Fees (including GST)	92.50
Tax Summary	4.40
G.S.T. (reg # 89583 0180 RT001)	
Amount Received: (Visa)	92.50

Refund to be issued by the Department of Finance.

Balance	\$0.00
----------------	---------------

Contact Us:

Result Interpretation: Please contact your EPO for advice or phone 306-535-4347
Billing Inquiries: Phone: 1-833-989-5353, Email: shaar@saskhealthauthority.ca

Environmental Services Analysis Report - Final

Invoice Number: 1149493	Collected Date: 15-Dec-2021 11:30 AM
Sample Location: WTP - Large Reservoir	Received: 16-Dec-2021 8:59 AM
Collected by: Dylan Gillespie	Reported: 22-Dec-2021 9:53 AM
Station #: SK05GC0012	Water Source: Distributed
Permit: 2579	
WILKIE DIST.SYSTEM	

Submitted By:	Invoice:
WILKIE TOWN OF	WILKIE TOWN OF
BOX 580	BOX 580
WILKIE, SK	WILKIE, SK
S0K 4W0	S0K 4W0

Analysis	Result	Unit	Sask Guideline	Test Comment	Fee
Health and Toxicity Panel					92.50
Boron	0.1	mg/L	< 5.0		
Aluminum (ICPMS)	<6.96	µg/L	No Guideline		
Arsenic (ICPMS)	0.30	µg/L	< 10		
Barium (ICPMS)	19.4	µg/L	< 1000		
Cadmium (ICPMS)	<0.15	µg/L	< 5		
Chromium (ICPMS)	<0.19	µg/L	< 50		
Copper (ICPMS)	11.3	µg/L	< 1000		
Lead (ICPMS)	<0.07	µg/L	< 10		
Selenium (ICPMS)	<1.13	µg/L	< 10		
Uranium (ICPMS)	1.6	µg/L	< 20		
Zinc (ICPMS)	<4.00	µg/L	< 5000		
Antimony (ICPMS)	<0.16	µg/L	No Guideline		
Silver (ICPMS)	<0.20	µg/L	No Guideline		
General Chemistry/Water Quality Panel					104.00
Conductivity	1104	µS/cm	< 2300		
pH	7.5	pH Units	7.0 - 10.5		
Total Alkalinity	350	mg/L CaCO3	< 500		
Phenol Alkalinity	0.00	mg/L CaCO3	No Guideline		
Bicarbonate	427	mg/L	No Guideline		
Carbonate	0	mg/L	No Guideline		
Hydroxide	0	mg/L	No Guideline		
Chloride Dissolved	13.4	mg/L	< 250		
Fluoride Dissolved	0.21	mg/L	< 1.5		
Nitrate Dissolved	2.1	mg/L	< 45		
Sulfate Dissolved	258.9	mg/L	< 500		
Total Hardness (Calculated)	516	mg/L CaCO3	< 800		
Total Dissolved Solids	926	mg/L	< 1500		
Iron	<0.1	mg/L	< 0.3		
Manganese	<0.01	mg/L	< 0.05		
Calcium	111	mg/L	No Guideline		
Magnesium	58	mg/L	< 200		
Potassium	8	mg/L	No Guideline		
Sodium	48	mg/L	< 300		

Environmental Services Analysis Report - Final

Invoice Number:	1149493	Collected Date:	15-Dec-2021 11:30 AM
Sample Location:	WTP - Large Reservoir	Received:	16-Dec-2021 8:59 AM
Collected by:	Dylan Gillespie	Reported:	22-Dec-2021 9:53 AM
Station #:	SK05GC0012	Water Source:	Distributed
	Permit: 2579		
	WILKIE DIST.SYSTEM		

Submitter Phone Number: 306-843-2212

Emailed results to: town.wilkie@sasktel.net
wilkie.administrator@sasktel.net

Comments:

Is this water used for livestock? For information on livestock water quality guidelines contact the Agriculture Knowledge Centre (AKC) Phone: 1-866-457-2377 Email: aginfo@gov.sk.ca

Please include Invoice Number with payment and remit to:

**Saskatchewan Health Authority
c/o Finance
2180 23rd Avenue
Regina, Saskatchewan
S4S 0A5**

Total Fees (including GST)	185.00
Tax Summary	8.81
G.S.T. (reg # 89583 0180 RT001)	
Amount Received: (Visa)	185.00

Refund to be issued by the Department of Finance.

Balance	\$0.00
----------------	---------------

Contact Us:

Result Interpretation: Please contact your EPO for advice or phone 306-787-6517
Billing Inquiries: Phone: (306) 766-5832, Fax: (306) 766-5188, Email: corpfinance@rqhealth.ca

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-37	Colilert-QuantiTray / Total Coliforms & E.coli
ES-8	Closed Reflux Colorimeter / Chemical Oxygen Demand	ES-38	Membrane Filtration - DC Agar / Total Coliforms & E.coli
ES-9	Conductivity Meter / Conductivity	ES-41	Calculation / Total Kjeldahl Nitrogen
ES-13	Calculation / Total Dissolved Solids	ES-44	Gas Diffusion + Conductimetric Detection / Ammonia
ES-14	Gravimetric / Suspended Solids (total, fixed and volatile)	ES-45	Abraxis Kit (ELISA) / Microcystin
ES-16	Nephelometer / Turbidity	ES-47	Automated Spectrophotometric / Nitrate
ES-22	Spectrophotometer / Chlorophyll a	ES-50	E-PERM Electret Ion Chamber / Radon in Indoor Air
ES-23	Ion-Selective Electrode / Fluoride	ES-51	Enzyme Detection (Pseudalert) / Pseudomonas
ES-25 & 59	ICP-AES / Metals and Calculation / Hardness	ES-52	Quanti-Tray / Heterotrophic Plate Count
ES-26	Cold-Vapor AA / Mercury in Water	ES-53	ICP-MS (Metals)
ES-27	Automated Ascorbic Acid Reduction / Total Phosphorus	ES-55	GC/MS Headspace / VOCs
ES-30	Digestion - Cold Vapor AA / Mercury in Fish	ES-58	Ion Chromatography / Anions (Cl, F, NO ₃ and SO ₄)

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 = 1,000 µg/L)

Parameter	Maximum Acceptable Concentration (MAC)	Parameter	Aesthetic Objective (AO)
Arsenic	0.01 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	7.0 – 10.5
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	1,500 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>