

**Drinking Water Quality and Compliance**  
**Town of Kindersley**  
**Station Number SK05GB0004**  
**2020 Notification to Consumers**

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 Town of Kindersley water quality and sample submission compliance record for the January 1, 2020 to December 31, 2020 time period. This report was completed on January 28, 2021. Readers should refer to the WSA's Municipal Drinking Water Quality Monitoring Guidelines, October 2012, EPB 202 for more information on minimum sample submission requirements and types of samples. Permit requirements for a specific waterworks may require more sampling than outlined in the Agency's monitoring guidelines. If consumers need to know more about drinking water in Saskatchewan, more detailed information is available from: <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/index-eng.php>.

**BACTERIOLOGICAL QUALITY**

**Sampling from Distribution System**

Parameter	Limit	Regular Samples Required	Regular Samples Submitted	# of Positive Regular Submitted
Total Coliform	0 Organisms/100mL	104	100	0
E. Coli	0 Organisms/100mL	104	100	0
Background Bacteria	Less than 200/100mL	104	100	0

Analysis is performed on a single sample for all parameters mentioned above. All waterworks are required to submit samples for bacteriological water quality; the frequency of monitoring depends on the population served by the waterworks.

One sample collected on May 12, 2020 was not tested by the lab because of a paperwork error. Two samples collected on June 30, 2020 were not tested because of a postal delay. One sample collected on July 27, 2020 was not tested because of a lab error. The EPO was notified of all instances.

**WATER DISINFECTION**

**Chlorine Residual in the Distribution System – From Test Results Submitted with Bacteriological Samples**

Parameter	Minimum Limit (either/or)	Range (mg/L)	# Tests Required	# Tests Submitted	# Adequate Chlorine
Free Chlorine	0.10 mg/L	0.44 – 1.41	104	104	104
Total Chlorine	0.50 mg/L	0.52 – 1.65	104	104	

A minimum of 0.10 milligrams per litre (mg/L) Free Chlorine residual **OR** 0.50 mg/L Total Chlorine residual is required at all times throughout the distribution system. An adequate chlorine residual is a result that indicates that the chlorine level is above the regulated minimums. A waterworks is required to submit chlorine residual test results on every bacteriological sample they submit.

**Free Chlorine Residual for Water Entering Distribution System**

Parameter	Minimum Limit (mg/L)	Range (mg/L)	# Tests Required	# Tests Performed	% Adequate Chlorine
Free Chlorine	0.10	0.27 – 1.90	366	1078	100

Residuals are monitored continuously and tests performed regularly by waterworks operators and are to be recorded in operation records. Additional testing was done for informational purposes.

**Town of Kindersley**

**TURBIDITY**

**Turbidity for Water Leaving the Filter**

Parameter	Limit (NTU)	Range (NTU)	95th Percentile	# Tests Required	# Tests Performed	# of Months Exceeding 95 <sup>th</sup> Percentile Limit
Turbidity	< 0.3 or 0.2 – 95% of measurements each month; not to exceed 0.3 or 0.2 for more than 12 consecutive hours; never >1.0	0.02 – 0.46	0.05	Continuous	Continuous	0

Turbidity is monitored continuously and multiple tests are done daily by waterworks operators and are recorded in daily records.

**Turbidity in the Distribution System – From Test Results Submitted with Bacteriological Samples**

Parameter	Limit (NTU)	Range (NTU)	# Tests Required	# Tests Performed	# Exceeding Limit
Turbidity	No Standard	0.06 – 0.37	104	104	0

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). The turbidity is tested at the same frequency as the bacteriological testing with a bench testing instrument.

**CHEMICAL – TRIHALOMETHANES (THM)**

Trihalomethanes are formed when chlorine reacts with organic matter in water. The four THM compounds are: chloroform, dibromochloromethane, bromodichloromethane (BCDM) and bromoform. The sum of the concentrations of these four components is referred to as Total Trihalomethanes. The limit for THM is a long term objective based on an annual average of seasonal samples.

Parameter	Maximum Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Total Trihalomethanes	0.100	0.022	4	4

**CHEMICAL – HALOACETIC ACIDS (HAAs)**

Haloacetic acids are formed when chlorine reacts with organic matter in water. The five regulated haloacetic acids are: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. The sum of the concentrations of these five components is referred to as HAA5.

Parameter	Maximum Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Haloacetic Acids 5	0.080	0.011	4	4

**Ultraviolet Dosage**

Parameter	Limit (%T)	Range (% T)	# Samples Required	# Samples Submitted
Ultraviolet Transmittance	No Standard	90.1 – 100.4	366	368

Additional testing done for informational purposes.

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**FLUORIDE**

**Fluoride – From Treated Water at the Water Treatment Plant (on-site testing)**

Parameter	Maximum Limit (mg/L)	Average (mg/L)	Maximum (mg/L)	# Samples Required	# Samples Submitted	# Exceeding Limit
Fluoride	1.50	0.42	0.90	366	367	0

Additional testing done for informational purposes.

**Fluoride – From Test Results Submitted with Bacteriological Samples (off-site testing)**

Parameter	Maximum Limit (mg/L)	Average (mg/L)	Maximum (mg/L)	# Samples Required	# Samples Submitted	# Exceeding Limit
Fluoride	1.50	0.24	0.68	52	50	0

One fluoride sample collected on June 30, 2020 was not tested because of a postal delay. One sample collected on July 27, 2020 was not tested because of a lab error. The EPO was notified of both instances.

**CHEMICAL – GENERAL**

The Town of Kindersley is required to submit water samples for the WSA's General Chemical category once per three months every second year. 2020 is not a required sampling year. The 2019 results are included for informational purposes.

Parameter	MAC	AO *	2019 Sample Results	# of Samples Required	# of Samples Submitted
Total Alkalinity (mg/L)		500	155	0	0
Bicarbonate (mg/L)	No Objective		189	0	0
Calcium (mg/L)	No Objective		54	0	0
Carbonate (mg/L)	No Objective		<1	0	0
Chloride (mg/L)		250	20	0	0
Fluoride (mg/L)	1.5		0.28	0	0
Total Hardness (mg/L)		800	233	0	0
Hydroxide (mg/L)	No Objective		<1	0	0
Magnesium (mg/L)		200	24	0	0
Nitrate (mg/L)	45		1.0	0	0
pH (pH units)		6.5 - 9.0	7.62	0	0
Potassium (mg/L)	No Objective		3.0	0	0
Sodium (mg/L)		300	42	0	0
Specific Conductivity (µs/cm)	No Objective		639	0	0
Sulphate (mg/L)		500	143	0	0
Sum of Ions	No Objective		475	0	0
Total Dissolved Solids (mg/L)		1500	400	0	0

MAC – Maximum Acceptable Concentration

AO – Aesthetic Objective

**Town of Kindersley**

**CHEMICAL – HEALTH**

The Town of Kindersley is required to submit water samples for the WSA's Chemical Health category once every 2 years. 2020 is not a required sampling year. The 2019 results are included for informational purposes.

Parameter	MAC (mg/L)	IMAC (mg/L)	AO (mg/L)	2019 Sample Results (mg/L)	# of Samples Required	# of Samples Submitted
Aluminum	No Objective			0.020	0	0
Antimony	0.006			<0.0002	0	0
Arsenic	0.010			<0.0001	0	0
Barium	1.0			0.049	0	0
Boron		5.0		0.08	0	0
Cadmium	0.005			<0.00001	0	0
Chromium	0.05			<0.0005	0	0
Copper			1.0	0.0010	0	0
Iron			0.3	0.0015	0	0
Lead	0.01			<0.0001	0	0
Manganese			0.05	<0.0005	0	0
Selenium	0.01			0.0002	0	0
Silver	No Objective			<0.00005	0	0
Uranium	0.02			0.0013	0	0
Zinc			5.0	0.0030	0	0

MAC – Maximum Acceptable Concentrations

AO – Aesthetic Objective

IMAC – Interim Maximum Acceptable Concentrations

\*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.

**TOTAL MICROCYSTIN – RAW WATER**

The Town of Kindersley is required to sample in the raw water at the water treatment plant following detection of significant algal blooms affecting the water intake.

Parameter	Limit (mg/L)	Average (mg/L)	# Samples Required	# Samples Submitted
Microcystin	No Standard	<0.0001	1	1

More information on water quality and sample submission performance may be obtained from:

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