Drinking Water Quality and Compliance
Jackfish Lake West Water Utility Corporation
Station Number - SK05EG0282
2023 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 Jackfish Lake West Water Utility Corporation water quality and sample submission compliance record for the January 1, 2023, to December 31, 2023, time period. This report was completed on February 1, 2024. Readers should refer to the WSA's Municipal Drinking Water Quality Monitoring Guidelines for more information on minimum sample submission requirements and types of samples. Permit requirements for a 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

Parameter	Limit	Regular Samples Required	Regular Samples Submitted	# Positive of Regular Submitted
Total Coliform	0 Organisms/100 mL	52	52	0
E. coli	0 Organisms/100 mL	52	52	0
Background Bacteria	Less than 200/100 mL	52	52	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.

WATER DISINFECTION

Chlorine Residual in 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	0.73 – 1.36	52	52	52
Total Chlorine	0.50 mg/L	0.84 – 1.48	52	52	

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. Adequate chlorine is a result that indicates that the chlorine level is above the regulated minimum. 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	0.20	0.66 – 1.55	365	Continuous	100

Residuals are continuously monitored and recorded. Tests normally performed on a daily basis by waterworks operators are recorded in operation records. Additional testing done for informational purposes.

Jackfish Lake West Water Utility Corporation

TURBIDITY

Turbidity for Water Leaving the Filter

Parameter	Limit (NTU)	Range (NTU)	95th Percentile (NTU)	# Tests Required	# Tests Performed	Exceeded 95% Limit
Turbidity	< 0.3 or 0.2 – 95% of measurements; not to exceed 0.3 or 0.2 for more than 12 consecutive hours; never >1.0	0.05 - 0.18	0.10	0	Continuous	No

Filter turbidity is continuously monitored. Tests normally performed on a daily basis by waterworks operators are recorded in operation records. Additional testing done for informational purposes.

Turbidity for Water Entering Distribution System

Parameter	Limit (NTU)	Range (NTU)	95th Percentile	# Tests Required	# Tests Performed	# months Exceeding Limit
Turbidity	< 1.0 – 95% of the measurements each month	0.07 – 0.28	0.20	365	365	0

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	0.07 – 0.20	0	52	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). All waterworks are required to monitor turbidity at the water treatment plant. Multiple turbidity tests are done daily with a bench testing instrument, and recorded in operation records. Additional testing done for informational purposes.

MANGANESE (on-site testing)

Parameter	Regulatory Limit	Aesthetic Objective (mg/L)	Average (mg/L)	# Tests Required	# Tests Submitted
Manganese	No Limit	0.05	0.018	24	365

Additional testing was done for informational purposes.

Jackfish Lake West Water Utility Corporation

CHEMICAL – HEALTH

The Jackfish Lake Water Utility Corporation WTP is required to submit water samples for the WSA's Chemical Health category once every year.

Parameter	MAC (mg/L)	IMAC (mg/L)	AO * (mg/L)	Sample Results (mg/L)	# of Samples Required	# of Samples Submitted
Aluminum	No Objective			0.0160	1	1
Antimony	0.006			<0.0002	1	1
Arsenic	0.010			0.0001	1	1
Barium	1.0			0.063	1	1
Boron		5.0		0.03	1	1
Cadmium	0.005			<0.00001	1	1
Chromium	0.05			<0.0005	1	1
Copper			1.0	0.0024	1	1
Iron			0.3	0.0031	1	1
Lead	0.01			<0.0001	1	1
Manganese			0.05	0.0008	1	1
Selenium	0.01			<0.0001	1	1
Silver	No Objective			<0.00005	1	1
Uranium	0.02			<0.0001	1	1
Zinc			5.0	0.0012	1	1

MAC – Maximum Acceptable Concentration AO – Aesthetic Objective IMAC – Interim Maximum Acceptable Concentration

CHEMICAL – GENERAL

The Jackfish Lake Water Utility Corporation WTP is required to submit water samples for the WSA's General Chemical category once every year.

Parameter	MAC	AO *	Sample Results	# of Samples Required	# of Samples Submitted
Total Alkalinity (mg/L)		500	158	1	1
Bicarbonate (mg/L)	No Objective		193	1	1
Calcium (mg/L)	No Objective		52	1	1
Carbonate (mg/L)	No Objective		<1	1	1
Chloride (mg/L)		250	11	1	1
Fluoride (mg/L)	1.5		0.12	1	1
Total Hardness (mg/L)		800	195	1	1
Hydroxide (mg/L)	No Objective		<1	1	1
Magnesium (mg/L)		200	16	1	1
Nitrate (mg/L)	45		0.7	1	1
pH (pH units)		7.0 – 10.5	7.93	1	1
Potassium (mg/L)	No Objective		1.7	1	1
Sodium (mg/L)		300	16	1	1
Specific Conductivity (µs/cm)	No Objective		449	1	1
Sulphate (mg/L)		500	60	1	1
Sum of Ions	No Objective		350	1	1
Total Dissolved Solids (mg/L)		1500	262	1	1

MAC – Maximum Acceptable Concentration AO – Aesthetic Objective

*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 $CaCO_3$, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

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)	# of Samples Required	# of Samples Submitted
Total Trihalomethanes	0.100	0.058	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. The limit for HAA5 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
Haloacetic Acids 5	0.080	0.043	4	4

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

Jackfish Lake West Water Utility Corporation
P.O. Box 123
Meota SK S0M 1X0
Phone: 306-892-2277;
Fax: 306-892-2275 Email: jlwwuc@outlook.com