REGIONAL DISTRICT
NORTH OKANAGAN

Mabel Lake Water (MLW) Utility Water Quality Report for September 2023

The following is the water quality summary for the Mabel Lake Water Utility (MLW).

1. Source

The MLW system draws raw water from Mabel Lake through a screened intake line to a clear well. Water from the clear well is chlorinated and pumped into a 526 meter long pipe which provides chlorine contact time. Water then flows into the distribution system. Table 1 summarizes the results for bacterial and turbidity for the untreated water at the treatment plant.

Table 1 Mabel Lake Intake

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
E.coli[3]	Caro	MPN/100 mL	4	-----	<1	<1	<1
E.coli	RDNO Lab	MPN/100 mL	1	-----	<1	<1	<1
Total Coliform	Caro	MPN/100 mL	4	-----	3	11	6
Total Coliform	RDNO Lab	MPN/100 mL	1	-----	1	1	1
Turbidity[2]	SCADA[1] Daily Average	NTU	30	-----	0.29	0.99	0.48
Turbidity[2]	Operator Grab Sample	NTU	13	-----	0.38	0.69	0.55
UVT (unfiltered)	RDNO Lab	%	4	-----	87.1	88.6	87.6

[1]SCADA: Supervisory Control and Data Acquisition.
[2]Operation Guideline: As outlined in Deviation Response Plan, turbidity < 1 NTU
[3]Drinking Water Treatment Objectives_ BC (Sec 4.3): Determine number of raw water samples with E. coli >20 CFU. The number of E. coli in raw water does not exceed 20/100 mL in at least 90% of the weekly samples from the previous six months.

2. Treatment Plant

MLW utilizes chlorine disinfection only. Table 2 summarizes chlorine and turbidity levels from the pipe that flow into the distribution system.

Table 2 Mabel Lake Water Treatment

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine[2]	SCADA[1] Daily Average	mg/L	30	-----	1.55	1.73	1.68

[1]SCADA: Supervisory Control and Data Acquisition.
[2]WQ Deviation Response Plan - free chlorine < 0.20 mg/L or > 2.20 mg/L; turbidity > 1.0 NTU

3. Distribution

MLW provides potable water to 3 commercial and 338 residential connections. The majority of connected residents and all 3 commercial connections are seasonally occupied, with approximately 20 connections considered year-round or permanent. The population increases to an estimated one thousand three hundred and fifty (1350) persons during peak summer months.

Table 3 summarizes the results for chlorine, turbidity, and bacteria for the distribution system. The monthly water volume used at Mabel Lake this month was 12,783 m^3.

Table 3 Mabel Lake Distribution Parameters

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine	Operator Grab Sample	mg/L	43	-----	0.28	1.62	0.80
Total Chlorine	Operator Grab Sample	mg/L	43	-----	0.34	1.71	0.87
Turbidity	Operator Grab Sample	NTU	43	-----	0.21	0.97	0.48
E.coli	Caro	CFU/100 mL	8	-----	<1	<1	<1
E.coli	RDNO Lab	MPN/100 mL	2	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	8	-----	<1	<1	<1
Total Coliform	RDNO Lab	MPN/100 mL	2	-----	<1	<1	<1

4. Water Quality Customer Calls and Notifications

Customer calls within the Mabel Lake Water Utility service area are tracked and recorded.

There was one customer call this month.

Table 4 Water Quality Customer Calls for the month

# of Calls	Type of Call	Issue/Inquiry	Investigation	Comments
1	Inquiry	Low pressure	No	Realtor of newly sold property inquiring about water pressure at property.

5. Operational or Maintenance Activity

Operational activities within the Mabel Lake Water service area are tracked and recorded.

There were two distribution operational activities this month.

Table 5 outlines the distribution operational and maintenance activities during the month.

Table 5 Monthly Operational Work and Maintenance

NUMBER OF LOCATIONS	TYPE OF WORK
0	Standpipe Maintenance
0	Water Service Locate
0	Water Main Break Repair
0	Water Meter Inspection
0	Water Meter Maintenance
1	Water Service Install
0	Water Service Repair
1	Water Turn On/Off
0	Water Curb Stop Repair
0	Water Investigation