



# REGIONAL DISTRICT NORTH OKANAGAN

## Mabel Lake Water (MLW) Utility Water Quality Report for May 2023

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

On May 16, 2023, a Precautionary Water Quality Advisory (WQA) was issued due to increased levels of turbidity.

On May 17, 2023, the current Precautionary WQA was upgraded to a Boil Water Notice (BWN) due to increasing turbidity levels. Additionally, normal summer outdoor water restrictions were also put in effect.

### 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 <sup>2</sup>	Caro	MPN/100 mL	4	-----	<1	2	0.75
Total Coliform	Caro	MPN/100 mL	3 <sup>3</sup>	-----	0	24	8.3
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	13	-----	0.22	4.32	1.88
UVT (unfiltered)	RDNO Lab	%	5	-----	83.10	91.00	87.18

<sup>1</sup>Operation Guideline: As outlined in Deviation Response Plan, turbidity < 1 NTU

<sup>2</sup>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.

<sup>3</sup>One total coliform sample was lost due to lab error.

### 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 <sup>2</sup>	SCADA <sup>1</sup> Daily Average	mg/L	31 Days	-----	1.52	1.73	1.66

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>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 13,475 m<sup>3</sup>.

**Table 3 Mabel Lake Distribution Parameters**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine	Operator Grab Sample	mg/L	64	-----	0.43	2.17	0.95
Total Chlorine	Operator Grab Sample	mg/L	64	-----	0.52	2.20	1.05
Turbidity	Operator Grab Sample	NTU	64	-----	0.21	4.36	1.45
E.coli	Caro	CFU/100 mL	8	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	8	-----	<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	WQ restrictions	No	Customer was emailed with current water restrictions and BWN, including a link to the website

**5. Operational or Maintenance Activity**

Operational activities within the Mabel Lake Water service area are tracked and recorded. There was one distribution operational activity 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
0	Water Service Install
0	Water Service Repair
0	Water Turn On/Off
0	Water Curb Stop Repair
1	Water Investigation