



# REGIONAL DISTRICT NORTH OKANAGAN

## Mabel Lake Water (MLW) Utility Water Quality Report for August 2022

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

The Water Quality Advisory issued on July 14, 2022 was rescinded on August 23, 2022.

No outdoor watering was in effect from July 28, 2022 to August 2, 2022 due to water system capacity concerns during the long weekend.

### 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/100mL	6	-----	<1	<1	<1
E.coli <sup>2</sup>	RDNO Lab	MPN/100 mL	2	-----	<1	<1	<1
Total Coliform	Caro	MPN/100mL	6	-----	1	4	2.5
Total Coliform	RDNO Lab	MPN/100 mL	2	-----	3	5.2	4.1
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	31 Days	<b>2<sup>1</sup></b>	0.45	1.06	0.72
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	14	<b>4<sup>1</sup></b>	0.67	1.55	0.91
UVT (unfiltered)	GVW	%	5	-----	85.6	87.4	86.2

<sup>1</sup>WQ Deviation Response Plan - turbidity > 1.0 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.

## 2. Treatment Plant

MLW utilizes chlorine disinfection only. Table 2 summarizes the chlorine levels from the pipe that flows 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	-----	1.59	1.76	1.72

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

<sup>2</sup>WQ Deviation Response Plan - Free Chlorine <0.20 mg/L

## 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 18,606 m3.

**Table 3 Mabel Lake Distribution Parameters**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine <sup>1</sup>	Operator Grab Sample	mg/L	69	-----	0.45	2.09	1.05
Total Chlorine	Operator Grab Sample	mg/L	69	-----	0.49	2.17	1.17
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	69	18 <sup>2</sup>	0.42	1.90	0.85
<b>E.coli</b>	Caro	CFU/100 mL	14	-----	<1	<1	<1
E.coli	RDNO	MPN/100 mL	10	-----	<1	<1	<1
<b>Total Coliform</b>	Caro	CFU/100 mL	14	3 <sup>3</sup>	<1	76	5.6
Total Coliform	RDNO	MPN/100 mL	10	-----	<1	<1	<1

<sup>1</sup>GVW WQ Deviation Response Plan – free chlorine <0.20 mg/L turbidity > 1.0 NTU

<sup>2</sup>Eighteen samples had turbidity >1 NTU.

<sup>3</sup>Three samples had Total Coliform counts from Caro Laboratory: 3525 Enderby Mabel Lake Road SS August 2 (76 CFU/100 mL) and August 9 (2 CFU/100 mL) and Cessna Road SS August 2 (1 CFU/100 mL). The water utility was already on a water quality advisory due to turbidity > 1 NTU.

**4. Customer Calls and Notifications**

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

There was one customer call in August.

**Table 4 Customer calls for the month**

# of Calls	Type of Call	Issue/Inquiry	Investigation	Comments
1	Inquiry	Why boil water	No	RDNO staff discussed BWN and cause due to high turbidity in raw water

**5. Operational or Maintenance Activity**

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

There were 10 distribution operational activities in August. 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
2	Standpipe Maintenance
0	Water Service Locate
0	Water Main Break Repair
0	Water Service Install
1	Water Turn On/Off
0	Water Curb Stop Repair
7	Water Investigation