



# REGIONAL DISTRICT of NORTH OKANAGAN

## Mabel Lake Water (MLW) Utility Water Quality Report for October 2018

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 <sup>2</sup>	Caro	CFU/100 mL	2	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	2	-----	<1	<1	<1
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	2	-----	0.46	0.64	0.55
UVT (filtered)	GVW	%	2	-----	89.9	92.3	91.1
UVT (unfiltered)	GVW	%	2	-----	88.7	91.5	90.1

<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.

### 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	-----	1.48	1.90	1.71
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	31 Days	-----	0.21	0.42	0.30

<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 307 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 in October was approximately 6,380 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	4	-----	1.24	1.85	1.45
Total Chlorine	Operator Grab Sample	mg/L	4	-----	1.31	2.04	1.56
Turbidity	Operator Grab Sample	NTU	4	-----	0.47	1.13	0.68
E.coli	Caro	CFU/100 mL	4	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	4	-----	<1	<1	<1