REGIONAL DISTRICT
NORTH OKANAGAN

Mabel Lake Water (MLW) Utility Water Quality Report for January 2019

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[2]	Caro	CFU/100 mL	1	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	1	-----	<1	<1	<1
Turbidity[1]	Operator Grab Sample	NTU	2	-----	0.29	0.36	0.33
UVT (filtered)	GVW	%	2	-----	91.4	92.2	91.8
UVT (unfiltered)	GVW	%	2	-----	91.3	92.0	91.7

[1]Operation Guideline: As outlined in Deviation Response Plan, turbidity < 1 NTU
[2]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	31 Days	-----	1.62	1.90	1.72
Turbidity[2]	SCADA[1] Daily Average	NTU	31 Days	-----	0.14	0.18	0.16

[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 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 January was approximately 2,139 m^3.

Table 3 Mabel Lake Distribution Parameters

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine	Operator Grab Sample	mg/L	4	-----	0.70	1.59	1.24
Total Chlorine	Operator Grab Sample	mg/L	4	-----	0.74	1.68	1.31
Turbidity	Operator Grab Sample	NTU	4	-----	0.19	0.46	0.37
E.coli	Caro	CFU/100 mL	4	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	4	-----	<1	<1	<1