



REGIONAL DISTRICT NORTH OKANAGAN

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

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

On August 3, 2023, a No Outdoor Watering Notice was issued, in effect from August 3, 2023 until August 8, 2023, due to water system capacity concerns for the August long weekend. This was to ensure water availability for essential domestic use and reduce the risk of loss of water.

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 | Results | Min | Max | Average |
|------------------------|-------------------------------------|------------|--------------|-----------------|---------|------|-------------------|---------|
| E.coli ³ | Caro | MPN/100 mL | 5 | ----- | ----- | <1 | <1 | <1 |
| E.coli | RDNO Lab | MPN/100 mL | 4 | ----- | ----- | <1 | <1 | <1 |
| Total Coliform | Caro | MPN/100 mL | 5 | ----- | ----- | 2 | 6 | 3.6 |
| Total Coliform | RDNO Lab | MPN/100 mL | 4 | ----- | ----- | 2 | 8.6 | 4.5 |
| Turbidity ² | SCADA ¹ Daily Average | NTU | 31 Days | ----- | ----- | 0.17 | 1.02 ⁴ | 0.53 |
| Turbidity ² | Operator Grab Sample | NTU | 14 | ----- | ----- | 0.32 | 0.68 | 0.53 |
| UVT (unfiltered) | RDNO Lab | % | 4 | ----- | ----- | 86.0 | 88.6 | 87.2 |

¹SCADA: Supervisory Control and Data Acquisition.

²Operation Guideline: As outlined in Deviation Response Plan, turbidity < 1 NTU

³Drinking 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.

⁴There was a turbidity event that was > 1 NTU for approximately 2 hours on August 3, 2023.

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 | ----- | 1.53 | 1.75 | 1.71 |

¹SCADA: Supervisory Control and Data Acquisition.

²WQ 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 18,704 m³.

Table 3 Mabel Lake Distribution Parameters

| Parameter | Laboratory | | # of Samples | # of Deviations | Min | Max | Average |
|----------------|-------------------------|---------------|--------------|-----------------|------|------|---------|
| Free Chlorine | Operator Grab Sample | mg/L | 48 | ----- | 0.34 | 1.52 | 0.92 |
| Total Chlorine | Operator Grab Sample | mg/L | 48 | ----- | 0.16 | 1.58 | 0.98 |
| Turbidity | Operator Grab Sample | NTU | 48 | ----- | 0.26 | 0.96 | 0.53 |
| E.coli | Caro | CFU/100 mL | 10 | ----- | <1 | <1 | <1 |
| E.coli | RDNO Lab | MPN/100 mL | 10 | ----- | <1 | <1 | <1 |
| Total Coliform | Caro | CFU/100 mL | 10 | ----- | <1 | 1 | <1 |
| Total Coliform | RDNO Lab | MPN/100 mL | 10 | ----- | <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 were no customer calls this month.

Table 4 Water Quality Customer Calls for the month

| # of Calls | Type of Call | Issue/Inquiry | Investigation | Comments |
|------------|--------------|---------------|---------------|----------|
| 0 | ----- | ----- | ----- | ----- |

5. Operational or Maintenance Activity

Operational activities within the Mabel Lake Water service area are tracked and recorded.
There were no 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 |
| 0 | Water Service Install |
| 0 | Water Service Repair |
| 0 | Water Turn On/Off |
| 0 | Water Curb Stop Repair |
| 0 | Water Investigation |