

## Delcliffe Water Utility - Water Quality Report for March 2024

The following is the water quality summary for the Delcliffe Water utility.

On March 14, 2024, an air locking issue on one of the pumps caused an increase in chlorine residual in the reservoir, with hand dipped samples reading as high as 5.2mg/L of free chlorine. The air lock was removed, and residual chlorine levels returned to normal by the end of the day.

### 1. Source

The Delcliffe water utility pumps raw water from Okanagan Lake through a screened intake line to a covered reservoir. The water is chlorinated with sodium hypochlorite as it enters the baffled reservoir. The reservoir provides chlorine contact time and the system is then fed from a booster station located at the reservoir. A raw (untreated) water sample is taken at the lake pump station at least once per month. Table 1 summarizes the results for bacterial and turbidity for the untreated water.

**Table 1 Delcliffe Intake (untreated)**

Parameter	Laboratory		# of Samples	# of Deviations	Result	Min	Max	Average
E.coli <sup>2</sup>	Caro	MPN/100 mL	1	-----	<1	-----	-----	-----
E.coli <sup>2</sup>	RDNO Lab	MPN/100 mL	2	-----	-----	<1	<1	<1
Total Coliform	Caro	MPN/100 mL	1	-----	1	-----	-----	-----
Total Coliform	RDNO Lab	MPN/100 mL	2	-----	-----	<1	1	<1
Turbidity <sup>1</sup>	GVW WQ Tech	NTU	1	-----	0.38	-----	-----	-----

<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): The number of E. coli in raw water should not exceed 20/100 mL in at least 90% of the weekly samples from the previous six months.

### 2. Treatment Plant

The Delcliffe water utility uses chlorine disinfection only. Table 2 summarizes chlorine and turbidity levels at the point the water enters the distribution system.

**Table 2 Delcliffe Water Treatment SCADA Data**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine <sup>2</sup>	SCADA <sup>1</sup> Daily Average	mg/L	31 Days	-----	1.31	3.05	1.57
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	31 Days	-----	0.17	0.29	0.24

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

<sup>2</sup>Operation Guideline: As outlined in Deviation Response Plan - free chlorine >0.50 mg/L, turbidity <1.0 NTU.

### 3. Distribution

The Delcliffe water utility provides potable water to 30 residential connections. The majority of connected residents are seasonally occupied, with approximately 11 connections considered year-round or permanent. The population increases to an estimated one hundred and eighty (180) persons during peak summer months. Table 3 summarizes the results for chlorine, turbidity, and bacteria for the distribution system. Table 4 summarizes the daily flow rates for this month.

**Table 3 Delcliffe Distribution Parameters**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine <sup>1</sup>	Operator Grab Sample	mg/L	6	-----	1.30	1.61	1.49
Total Chlorine <sup>1</sup>	Operator Grab Sample	mg/L	6	-----	1.57	1.76	1.64
E.coli	Caro	CFU/100 mL	4	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	4	-----	<1	<1	<1
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	6	-----	0.16	0.38	0.32

<sup>1</sup>Operation Guideline: As outlined in Deviation Response Plan - free chlorine >0.20 mg/L, turbidity <1.0 NTU.

**Table 4 Volumes for Delcliffe Distribution System over the Month**

Volumes	Delcliffe
Min (ML/Day)	0.04
Max (ML/Day)	0.14
Average (ML/Day)	0.08
Monthly Total (ML)	2.36

#### **4. Water Quality Customer Calls**

Water Quality customer calls within the Delcliffe service area are tracked and recorded. There were no customer calls this month.