

## Delcliffe Water Utility - Water Quality Report for February 2023

### 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 a month. Table 1 summarizes the results for bacterial and turbidity for the untreated water.

**Table 1 Delcliffe Intake (source)**

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	1	-----	<1	-----	-----	-----
Total Coliform	Caro	MPN/100 mL	1	-----	<1	-----	-----	-----
Total Coliform	RDNO Lab	MPN/100 mL	1	-----	<1	-----	-----	-----
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	1	-----	0.51	-----	-----	-----

<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.

<sup>3</sup>The turbidity readings are grab samples. Turbidity is monitored continuously online for turbidity and will go to moderate deviation if the 24 hour average is >1 NTU.

### 2. Treatment Plant

The Delcliffe water utility utilizes 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	28 Days	5 <sup>2</sup>	1.70	2.33	1.96
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	28 Days	-----	0.17	0.58	0.26

<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

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
<b>Free Chlorine<sup>1</sup></b>	Operator Grab Sample	mg/L	4	2 <sup>2</sup>	1.73	2.40	2.08
<b>Total Chlorine<sup>1</sup></b>	Operator Grab Sample	mg/L	4	2 <sup>2</sup>	1.80	2.70	2.29
<b>E.coli</b>	Caro	CFU/100 mL	4	-----	<1	<1	<1
<b>Total Coliform</b>	Caro	CFU/100 mL	4	-----	<1	<1	<1
<b>Turbidity<sup>1</sup></b>	Operator Grab Sample	NTU	4	-----	0.25	0.36	0.29

<sup>1</sup>WQ Deviation Response Plan - free chlorine < 0.20 mg/L or > 2.20 mg/L turbidity < 1.0 NTU.

<sup>2</sup>Two samples had free and total chlorine > 2.20 mg/L.

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

Volumes	Delcliffe
<b>Min (ML/Day)</b>	0.07
<b>Max (ML/Day)</b>	0.09
<b>Average (ML/Day)</b>	0.08
<b>Monthly Total (ML)</b>	2.16

### 4. Customer Calls

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