

## Delcliffe Water Utility - Water Quality Report for November 2022

### 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 (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>	GVW	MPN/100 mL	1	----	<1	----	----	----
Total Coliform	Caro	MPN/100 mL	1	----	<1	----	----	----
Total Coliform	GVW	MPN/100 mL	1	----	6.3	----	----	----
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	1	----	0.56	----	----	----

<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	30 Days	----	0.91	1.74	1.57
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	30 Days	----	0.20	0.58	0.29

<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	5	-----	1.54	1.68	1.62
<b>Total Chlorine<sup>1</sup></b>	Operator Grab Sample	mg/L	5	-----	1.62	1.88	1.77
<b>E.coli</b>	Caro	CFU/100 mL	5	-----	<1	<1	<1
<b>Total Coliform</b>	Caro	CFU/100 mL	5	-----	<1	1	0.2
<b>Turbidity<sup>1</sup></b>	Operator Grab Sample	NTU	5	-----	0.29	0.85	0.48

<sup>1</sup>WQ Deviation Response Plan - Free Chlorine <0.20 mg/L Turbidity < 1.0 NTU.

<sup>2</sup>One site had a total coliform count of 1 CFU/100 mL from Caro Analytical: Delcliffe Hills PS. The site was resampled and sent to Caro Laboratory and RDNO Laboratory. Both samples came back <1 for Total Coliform and *E.coli*.

**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>	2.34

### 4. Customer Calls

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