

Delcliffe Water Utility - Water Quality Report for December 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 summarize 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.coli²	Caro	MPN/100 mL	1	-----	<1	-----	-----	-----
E.coli²	RDNO Lab	MPN/100 mL	2	-----	<1	-----	-----	-----
Total Coliform	Caro	MPN/100 mL	1	-----	3	-----	-----	-----
Total Coliform	RDNO Lab	MPN/100 mL	2	-----	-----	2	4.1	3
Turbidity¹	GVW WQ Tech	NTU	1 ³	-----	0.58	-----	-----	-----

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

²Drinking 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.

³The 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 Chlorine²	SCADA ¹ Daily Average	mg/L	31 Days	-----	1.30	1.92	1.72
Turbidity²	SCADA ¹ Daily Average	NTU	31 Days	-----	0.21	0.26	0.23

¹SCADA: Supervisory Control and Data Acquisition.

²WQ Deviation Response Plan - free chlorine < 0.20 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
Free Chlorine¹	Operator Grab Sample	mg/L	6	-----	1.69	1.80	1.76
Total Chlorine¹	Operator Grab Sample	mg/L	6	-----	1.82	1.99	1.91
E.coli	Caro	CFU/100 mL	4	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	4	-----	<1	<1	<1
Turbidity¹	Operator Grab Sample	NTU	6	-----	0.30	0.38	0.32

¹WQ 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)	0.08
Max (ML/Day)	0.10
Average (ML/Day)	0.09
Monthly Total (ML)	2.60

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.