

Delcliffe Water Utility - Water Quality Report for May 2023

On May 6, 2023, a Water Quality Advisory was issued in the Delcliffe Road and Cameron Road area due to spring melt causing an increase in turbidity above the 1.0 NTU drinking water standard.

On May 30, 2023, the Water Quality Advisory that was issued on May 6, 2023 was rescinded due to all bacterial testing results and disinfection levels being within normal drinking water standards in the distribution system.

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.coli ²	Caro	MPN/100 mL	2	-----	-----	1	1	1
E.coli ²	RDNO Lab	MPN/100 mL	2	-----	-----	<1	2	1
Total Coliform	Caro	MPN/100 mL	2	-----	-----	1	8	4.5
Total Coliform	RDNO Lab	MPN/100 mL	2	-----	-----	2	8.6	5.3
Turbidity ¹	GVW WQ Tech/Operator Grab Sample	NTU	3 ³	-----	-----	1.06	2.98	2.13

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	-----	0.95	1.73	1.42
Turbidity²	SCADA ¹ Daily Average	NTU	31 Days	-----	0.55	1.54	1.08

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	-----	1.2	1.61	1.48
Total Chlorine¹	Operator Grab Sample	mg/L	6	-----	1.44	1.82	1.67
E.coli	Caro	CFU/100 mL	6	-----	<1	<1	<1
E.coli	RDNO Lab	MPN/100 mL	1	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	6	-----	<1	<1	<1
Total Coliform	RDNO Lab	MPN/100 mL	1	-----	<1	<1	<1
Turbidity¹	Operator Grab Sample	NTU	6	-----	0.75	1.61	1.11

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)	0.09
Max (ML/Day)	0.14
Average (ML/Day)	0.11
Monthly Total (ML)	3.25

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.