

Delcliffe Water Utility - Water Quality Report for December 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 ²	Caro	MPN/100 mL	1	----	<1	----	----	----
E.coli ²	GVW	MPN/100 mL	1	----	<1	----	----	----
Total Coliform	Caro	MPN/100 mL	1	----	4	----	----	----
Total Coliform	GVW	MPN/100 mL	1	----	2	----	----	----
Turbidity ¹	Operator Grab Sample	NTU	1	----	0.80	----	----	----

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 Chlorine ²	SCADA ¹ Daily Average	mg/L	31 Days	----	1.35	1.68	1.51
Turbidity ²	SCADA ¹ Daily Average	NTU	31 Days	----	0.17	0.47	0.27

¹SCADA: Supervisory Control and Data Acquisition.

²WQ 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
Free Chlorine¹	Operator Grab Sample	mg/L	4	-----	1.26	1.64	1.51
Total Chlorine¹	Operator Grab Sample	mg/L	4	-----	1.53	1.86	1.72
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	4	-----	0.30	0.65	0.41

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

²One 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
Min (ML/Day)	0.07
Max (ML/Day)	0.09
Average (ML/Day)	0.08
Monthly Total (ML)	2.36

4. Customer Calls

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