

Delcliffe Water Utility - Water Quality Report for December 2020

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 Lake Pump Station (untreated)

Parameter	Laboratory		# of Samples	# of Deviations	Reading(s)
E.coli²	Caro	MPN/100 mL	1	-----	<1
E.coli²	GVW	MPN/100 mL	1	-----	2
Total Coliform	Caro	MPN/100 mL	1	-----	20
Total Coliform	GVW	MPN/100 mL	1	-----	4.2
Turbidity¹	Operator Grab Sample	NTU	1	-----	0.41

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.

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	-----	1.54	2.10	1.82
Turbidity²	SCADA ¹ Daily Average	NTU	31 Days	-----	0.28	0.38	0.32

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 summarize 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	5	-----	1.80	1.97	1.88
Total Chlorine¹	Operator Grab Sample	mg/L	5	-----	1.93	2.17	2.03
E.coli	Caro	CFU/100 mL	5	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	5	-----	<1	<1	<1
Turbidity¹	Operator Grab Sample	NTU	5	-----	0.27	0.45	0.35

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

Table 4 Monthly Flows for Delcliffe Distribution System

Flow Statistics	Min (ML/Day)	Max (ML/Day)	Average (ML/Day)	Monthly Total (ML)
Delcliffe	0.05	0.06	0.05	1.65

4. Customer Calls

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