

Delcliffe Water Utility - Water Quality Report for July 2020

The following is the water quality summary for the Delcliffe Water Utility. Delcliffe Water Utility was put on a Water Quality Advisory on May 13th until July 14th then back on July 26, 2020 due to continuous high turbidity and the advisory remained on through the rest of July.

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.coli ²	Caro	CFU/100 ML	1	-----	<1
E.coli ²	GVW	MPN/100 MI	1	-----	<1
Total Coliform	Caro	CFU/100 MI	1	-----	167
Total Coliform	GVW	MPN/100 mL	1	-----	88.5
Turbidity ¹	Operator Grab Sample	NTU	2 ³	-----	0.91, 1.78

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

²Drinking Water Treatment Objectives_ BC (Sec 4.3): Determine number of raw water samples with E. coli >20 CFU. The number of E. coli in raw water does not exceed 20/100 mL in at least 90% of the weekly samples from the previous six months.

³Delcliffe Water Utility was put on a Water Quality Advisory on July 26, 2020 due to continuous high turbidity and the advisory remained on through the rest of July.

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

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
Free Chlorine ²	SCADA ¹ Daily Average	mg/L	31 Days	-----	1.47	2.25	1.77
Turbidity ²	SCADA ¹ Daily Average	NTU	31 Days	3 ³	0.74	1.12	0.90

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

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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 Chlorine ¹	Operator Grab Sample	mg/L	6	-----	1.50	2.06	1.85
Total Chlorine ¹	Operator Grab Sample	mg/L	6	-----	1.72	2.20	2.03
E.coli	Caro	CFU/100 mL	4	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	4	-----	<1	<1	<1
Turbidity ¹	Operator Grab Sample	NTU	6	2 ²	0.78	1.08	0.95

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

²Delcliffe Water Utility was put on a Water Quality Advisory on May 13th until July 14th and then back on July 26, 2020 due to continuous high turbidity in raw water and the advisory remained on through the rest of July.

Table 4 Monthly Flows for Delcliffe Distribution System

Flow Statistics	Min (ML/Day)	Max (ML/Day)	Average (ML/Day)	Monthly Total (ML)
Delcliffe	0.07	0.13	0.10	3.02

4. Customer Calls

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