

## Delcliffe Water Utility - Water Quality Report for August 2020

Delcliffe Water Utility issued a Water Quality Advisory on July 26, 2020 due to continuous high turbidity. The advisory was rescinded on August 20, 2020 when turbidity levels returned to normal (<1 NTU).

### 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 Lake Pump Station (untreated)**

Parameter	Laboratory		# of Samples	# of Deviations	Reading(s)
E.coli <sup>2</sup>	Caro	MPN/100 mL	1	-----	1
E.coli <sup>2</sup>	GVW	MPN/100 mL	1	-----	<1
Total Coliform	Caro	MPN/100 mL	1	-----	1990
Total Coliform	GVW	MPN/100 mL	1	-----	62.4
Turbidity <sup>1</sup>	Operator Grab Sample	NTU	4 <sup>3</sup>	-----	0.81, 0.91, 0.70, 0.74

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

<sup>2</sup>Drinking 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.

<sup>3</sup>Delcliffe Water Utility issued a Water Quality Advisory on July 26, 2020 due to continuous high turbidity. The advisory was rescinded on August 20, 2020.

### 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 <sup>2</sup>	SCADA <sup>1</sup> Daily Average	mg/L	31 Days	-----	1.45	2.19	1.88
Turbidity <sup>2</sup>	SCADA <sup>1</sup> Daily Average	NTU	31 Days	3 <sup>3</sup>	0.53	1.07	0.80

<sup>1</sup>SCADA: Supervisory Control and Data Acquisition.

<sup>2</sup>WQ Deviation Response Plan - Free Chlorine <0.20 mg/L or >2.20 mg/L; Turbidity <1.0 NTU.

<sup>3</sup>Delcliffe Water Utility issued a Water Quality Advisory on July 26, 2020 due to continuous high turbidity. The advisory was rescinded on August 20, 2020.

### 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
<b>Free Chlorine<sup>1</sup></b>	Operator Grab Sample	mg/L	4	-----	1.66	2.16	1.84
<b>Total Chlorine<sup>1</sup></b>	Operator Grab Sample	mg/L	4	-----	1.86	2.30	2.04
<b>E.coli</b>	Caro	CFU/100 mL	4	-----	<1	<1	<1
<b>Total Coliform</b>	Caro	CFU/100 mL	4	-----	<1	<1	<1
<b>Turbidity<sup>1</sup></b>	Operator Grab Sample	NTU	4	-----	0.53	0.98	0.78

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

<sup>2</sup>Delcliffe Water Utility issued a Water Quality Advisory on July 26, 2020 due to continuous high turbidity. The advisory was rescinded on August 20, 2020.

**Table 4 Monthly Flows for Delcliffe Distribution System**

Flow Statistics	Min (ML/Day)	Max (ML/Day)	Average (ML/Day)	Monthly Total (ML)
<b>Delcliffe</b>	0.10	0.16	0.12	3.69

### 4. Customer Calls

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