

## Delcliffe Water Utility - Water Quality Report for October 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) |
|------------------------------|----------------------|------------|--------------|-----------------|------------|
| <b>E.coli<sup>2</sup></b>    | Caro                 | MPN/100 mL | 1            | -----           | <1         |
| <b>E.coli<sup>2</sup></b>    | GVW                  | MPN/100 mL | 1            | -----           | 1          |
| <b>Total Coliform</b>        | Caro                 | MPN/100 mL | 1            | -----           | 8          |
| <b>Total Coliform</b>        | GVW                  | MPN/100 mL | 1            | -----           | 19.2       |
| <b>Turbidity<sup>1</sup></b> | Operator Grab Sample | NTU        | 2            | -----           | 1.14, 0.89 |

<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 The advisory was rescinded on August 20, 2020.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 |
|----------------------------------|-------------------------------------|------|--------------|-----------------|------|------|---------|
| <b>Free Chlorine<sup>2</sup></b> | SCADA <sup>1</sup><br>Daily Average | mg/L | 31 Days      | -----           | 1.45 | 2.19 | 1.88    |
| <b>Turbidity<sup>2</sup></b>     | SCADA <sup>1</sup><br>Daily Average | NTU  | 31 Days      | 3               | 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.

### 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 <sup>1</sup>  | Operator Grab Sample | mg/L       | 4            | -----           | 1.35 | 1.73 | 1.60    |
| Total Chlorine <sup>1</sup> | Operator Grab Sample | mg/L       | 4            | -----           | 1.59 | 1.92 | 1.81    |
| E.coli                      | Caro                 | CFU/100 mL | 4            | -----           | <1   | <1   | <1      |
| Total Coliform              | Caro                 | CFU/100 mL | 4            | -----           | <1   | <1   | <1      |
| Turbidity <sup>1</sup>      | Operator Grab Sample | NTU        | 4            | -----           | 0.43 | 0.48 | 0.45    |

<sup>1</sup>WQ 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         | 0.08         | 0.06             | 1.90               |

### 4. Customer Calls

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