

Delcliffe Water Utility - Water Quality Report for June 2020

The following is the water quality summary for the Delcliffe Water Utility.

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 |
|------------------------|----------------------|------------|--------------|-----------------|---------|
| E.coli | Caro | CFU/100 ML | 1 | ----- | 1 |
| E.coli | GVW | MPN/100 MI | 1 | ----- | <1 |
| Total Coliform | Caro | CFU/100 MI | 1 | ----- | 29.5 |
| Total Coliform | GVW | MPN/100 mL | 1 | ----- | 4.2 |
| Turbidity ¹ | Operator Grab Sample | NTU | 1 | ----- | 1.48 |

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.

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 | 30 Days | ----- | 1.19 | 1.99 | 1.60 |
| Turbidity ² | SCADA ¹ Daily Average | NTU | 30 Days | 22 ³ | 0.82 | 1.43 | 1.08 |

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

³Delcliffe Water Utility was put on a Water Quality Advisory on May 13, 2020 due to continuous high turbidity and the advisory remained on through the rest of June.

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 | 5 | ---- | 1.12 | 1.68 | 1.37 |
| Total Chlorine ¹ | Operator Grab Sample | mg/L | 5 | ---- | 1.29 | 1.90 | 1.56 |
| E.coli | Caro | CFU/100 mL | 5 | ---- | <1 | <1 | <1 |
| Total Coliform | Caro | CFU/100 mL | 5 | ---- | <1 | <1 | <1 |
| Turbidity ¹ | Operator Grab Sample | NTU | 5 | ---- | 0.90 | 1.40 | 1.14 |

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 | 0.06 | 0.11 | 0.08 | 2.38 |

4. Customer Calls

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