

## Outback Water System - Water Quality Report for September 2022

The following is the water quality summary for the Outback Water System.

On September 19<sup>th</sup>, the south cell of the reservoir was cleaned.

### 1. Source

The Outback water system pumps raw water from Okanagan Lake through a screened intake line to a booster station. The booster station houses the Ultraviolet reactor, sodium hypochlorite injection, instrumentation and booster pumps to pump water to a two celled reservoir. A raw (untreated) water sample is taken at the intake lake pump station approximately once a month. Table 1 summarizes the results for bacterial, turbidity and UV Transmittance (UVT) for the untreated water at the lake pump station.

**Table 1 Outback Intake (untreated)**

| Parameter              | Laboratory      |            | # of Samples | # of Deviations | Result | Min   | Max   | Average |
|------------------------|-----------------|------------|--------------|-----------------|--------|-------|-------|---------|
| 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            | -----           | 21     | ----- | ----- | -----   |
| Total Coliform         | GVW             | MPN/100 mL | 1            | -----           | 13.5   | ----- | ----- | -----   |
| Turbidity <sup>1</sup> | GVW grab sample | NTU        | 1            | -----           | 0.56   | ----- | ----- | -----   |

<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): 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 Plants

The Outback water system uses Ultraviolet (UV) and chlorine disinfection. Table 2 summarizes results for chlorine, bacterial, turbidity, and UV Transmittance (UVT).

**Table 2 Outback Water Treatment Plant**

| Parameter                              | Laboratory                       |            | # of Samples | # of Deviations | Min   | Max   | Average |
|--|----------------------------------|------------|--------------|-----------------|-------|-------|---------|
| Free Chlorine <sup>2</sup> (Reservoir) | GVW grab sample                  | mg/L       | 5            | -----           | 1.15  | 1.82  | 1.54    |
| Free Chlorine <sup>2</sup> (Reservoir) | SCADA <sup>1</sup> Daily Average | mg/L       | 30 Days      | -----           | 1.18  | 1.82  | 1.53    |
| Total Chlorine (Reservoir)             | GVW grab sample                  | mg/L       | 5            | -----           | 1.28  | 2.04  | 1.71    |
| E.coli (Reservoir)                     | Caro                             | CFU/100 mL | 4            | -----           | <1    | <1    | <1      |
| Total Coliform (Reservoir)             | Caro                             | CFU/100 mL | 4            | -----           | <1    | <1    | <1      |
| Turbidity <sup>2</sup> (Reservoir)     | GVW grab sample                  | NTU        | 5            | -----           | 0.32  | 0.40  | 0.35    |
| Turbidity <sup>2</sup> (Reservoir)     | SCADA <sup>1</sup> Daily Average | NTU        | 30 Days      | -----           | 0.22  | 0.39  | 0.26    |
| UVT (Unfiltered) Booster               | SCADA <sup>1</sup> Daily Average | %          | 30 Days      | -----           | 88.36 | 90.26 | 89.12   |

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

<sup>2</sup>GVW WQ Deviation Response Plan - Free Chlorine >0.20 mg/L Turbidity < 1 NTU.

<sup>3</sup>One sample had a total coliform count of 9 CFU/100 mL from Caro Analytical. The site was resampled and sent to Caro Laboratory and RDNO Laboratory. Both samples came back <1 for Total Coliform and *E.coli*.

## Distribution

The Outback water system is owned and operated by Greater Vernon Water a service of the Regional District of North Okanagan. The water system, supplies bulk water from the reservoir to the Outback Resort. The Outback Resort (the water distribution system) is a “stand alone system” and the responsibility of the owner/ operator (Strata). Greater Vernon Water does not monitor the water quality in the Outback Resort (Strata). Table 3 summarizes the daily flow rates for the month.

**Table 3 Monthly Supply Volumes for Outback System over the Month**

| Volumes            | Outback |
|--------------------|---------|
| Min (ML/Day)       | 0.00    |
| Max (ML/Day)       | 0.59    |
| Average (ML/Day)   | 0.14    |
| Monthly Total (ML) | 4.32    |

**3. Outback resident Calls**

There were no water quality calls from the Outback Resort in September.