

## Outback Water System - Water Quality Report for November 2018

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

### 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 Ultra Violet 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 at least once a month. Tables 1 summarize the results for bacterial, turbidity and UV Transmittance (UVT) for the untreated water at the lake pump station.

**Table 1 Outback Lake Pump Station (untreated)**

Parameter	Laboratory		# of Samples	# of Deviations	Min	Max	Average
E.coli <sup>2</sup>	Caro	CFU/100 mL	1	-----	<1	<1	<1
E.coli <sup>2</sup>	GVW	MPN/100 mL	1	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	1	-----	<1	<1	<1
Total Coliform	GVW	MPN/100 mL	1	-----	3.1	3.1	3.1
Turbidity <sup>1</sup>	GVW Grab Sample	NTU	1	-----	1.29	1.29	1.29
UVT (filtered)	GVW	%	1	-----	86.4	86.4	86.4
UVT (unfiltered)	GVW	%	1	-----	83.6	83.6	83.6

<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.

## 2. Treatment Plants

The Outback water system uses dual disinfection, Ultra Violet (UV) and chlorine. Tables 2 summarize 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	6	-----	1.06	1.46	1.21
<b>Free Chlorine<sup>2</sup> (Reservoir)</b>	SCADA <sup>1</sup> Daily Average	mg/L	30 Days	-----	0.96	1.34	1.17
Total Chlorine (Reservoir)	GVW grab sample	mg/L	6	-----	1.24	1.64	1.37
E.coli (Reservoir)	Caro	CFU/100 mL	6	-----	<1	<1	<1
E.coli (Reservoir)	GVW	MPN/100 mL	1	-----	A	A	A
Total Coliform (Reservoir)	Caro	CFU/100 mL	6	-----	<1	<1	<1
Total Coliform (Reservoir)	GVW	MPN/100 mL	1	-----	A	A	A
Turbidity <sup>2</sup> (Reservoir)	GVW grab sample	NTU	6	-----	0.26	0.36	0.30
<b>Turbidity <sup>2</sup> (Reservoir)</b>	SCADA <sup>1</sup> Daily Average	NTU	30 Days	-----	0.22	0.26	0.24
<b>UVT (filtered) Booster</b>	GVW	%	5	-----	87.6	90.0	89.2
<b>UVT (unfiltered) Booster</b>	GVW	%	5	-----	86.9	89.7	88.6
<b>UVT<sup>3</sup> (Unfiltered) Booster</b>	SCADA <sup>1</sup> Daily Average	%	25 Days <sup>4</sup>	-----	88.17	95.39	92.20

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

<sup>2</sup>GVW WQ Deviation Response Plan - Free Chlorine >0.20 mg/L or <2.20 mg/L , Turbidity < 1 NTU

<sup>3</sup>Outback UVT online results after UV treatment are being report as of July 2018.

<sup>4</sup>No data was available from November 26 to November 30 as the UVT online instrument needs to be repaired.

**3. Distribution**

The Outback Water Treatment Plant (OWTP) water system is owned and operated by Greater Vernon Water a service of the Regional District of North Okanagan. The OWTP water system, supplies bulk water from the reservoir to the Outback Resort. The Outback Resort (the water distribution system) is a “system within a system” and the responsibility of the owner/ operator (Strata). Greater Vernon Water does not monitor the water quality in the Outback Resort (Strata) distribution system.

Table 3 summarizes the daily flow rates for the month of November.

**Table 3 Monthly Flows for Outback Distribution System**

Distribution Systems	Outback
Min (ML/Day)	0.00
Max (ML/Day)	0.25
Average (ML/Day)	0.06
Monthly Total (ML)	1.72

**4. Outback resident Calls**

The strata resort owns, operates and maintains the water distribution within its property. There were no water quality calls from the Outback Resort in November.