

## Outback Water System - Water Quality Report for December 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	-----	2	2	2
Turbidity <sup>1</sup>	GVW Grab Sample	NTU	1	-----	0.46	0.46	0.46
UVT (filtered)	GVW	%	1	-----	84.6	84.6	84.6
UVT (unfiltered)	GVW	%	1	-----	84.2	84.2	84.2

<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	5	----	0.98	1.39	1.19
<b>Free Chlorine<sup>2</sup> (Reservoir)</b>	SCADA <sup>1</sup> Daily Average	mg/L	31 Days	----	0.89	1.67	1.18
Total Chlorine (Reservoir)	GVW grab sample	mg/L	5	----	1.18	1.63	1.39
E.coli (Reservoir)	Caro	CFU/100 ML	1	----	<1	<1	<1
E.coli (Reservoir)	GVW	MPN/100 mL	1	----	A	A	A
Total Coliform (Reservoir)	Caro	CFU/100 mL	5	----	<1	<1	<1
Total Coliform (Reservoir)	GVW	MPN/100 mL	1	----	A	A	A
Turbidity <sup>2</sup> (Reservoir)	GVW grab sample	NTU	5	----	0.24	0.34	0.27
<b>Turbidity <sup>2</sup> (Reservoir)</b>	SCADA <sup>1</sup> Daily Average	NTU	31 Days	----	0.20	0.24	0.22
<b>UVT (filtered) Booster</b>	GVW	%	3	----	89.2	90.0	89.6
<b>UVT (unfiltered) Booster</b>	GVW	%	3	----	88.3	89.4	89.0
<b>UVT<sup>3</sup> (Unfiltered) Booster</b>	SCADA <sup>1</sup> Daily Average	%	0 Days <sup>4</sup>	----	----	----	----

<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 for December 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)	0.21
Average (ML/Day)	0.04
Monthly Total (ML)	1.26

### 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 December.