REGIONAL DISTRICT
NORTH OKANAGAN

Silver Star Water (SSW) Water Quality Report for May 2021

The following is the water quality summary for the Silver Star Water (SSW) Utility.

1. Sources

Not all of Silver Star's water sources are utilized year round; the system is constructed so that the sources can be brought on line based on demand. As Silver Star is primarily a winter resort, the highest water demands occur during November to March. SSW has nine water sources used for domestic use: Well 1, Well 2, Well 3, Well 4, Well 5, Well 10, Well 12, Paradise Reservoir and Vance Reservoir.

The surface water sources, Paradise and Vance Reservoirs, are metered in the Mid T water treatment plant as one volume; it is not possible to separate the volumes of each reservoir. The surface water sources were not in use for the month of May. Table 1 summarizes the results for bacterial and turbidity for the untreated water of the wells. Well 4 and Well 10 have not been used this season.

Table 1 Mid T Raw Water Monitoring (Wells)

Parameter	Laboratory		# of Samples	# of Deviations[1]	Min	Max	Average
E.coli	Caro	MPN/100 mL	3	-----	<1	<1	<1
Total Coliform	Caro	MPN/100 mL	3	-----	<1	<1	<1
Turbidity of the Wells	Grab sample	NTU	4	-----	0.11	0.12	0.12
Turbidity of the Wells	SCADA[2] Daily Average	NTU	30 Days[3]	-----	0.04	0.10	0.08

[1]SSW WQ Deviation Response Plan – Free Chlorine <0.20 mg/L Turbidity >1.0 NTU
[2]SCADA: Supervisory Control and Data Acquisition.
[3]One day of data could not be recovered from SCADA due to new computers being installed.

2. Treatment Plant

SSW has a treatment plant, the Mid T Water Treatment Plant (MTWTP). The MTWTP uses a dual disinfection process of Ultra-violet (UV) disinfection and chlorine. Chlorine is added after UV treatment to ensure contact time for the removal of viruses. Tables 2 and 3 summarize the results for chlorine, bacterial, turbidity, and calculated contact time.

Table 2 Mid T Water Treatment Plant

Parameter	Laboratory		# of Samples	# of Deviations[1]	Min	Max	Average
Free Chlorine	SCADA[2] Daily Average	mg/L	30 Days[3]	-----	1.45	1.65	1.60

Free Chlorine	Grab sample	mg/L	10	-----	1.58	1.72	1.66
Total Chlorine	Grab sample	mg/L	10	-----	1.65	1.83	1.74
E.coli	Caro	CFU/100 mL	10	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	10	-----	<1	<1	<1
Turbidity	SCADA[2] Daily Average	NTU	30 Days[3]	-----	0.10	0.79	0.25
Turbidity	Grab sample	NTU	10	-----	0.09	0.16	0.12

[1]SSW WQ Deviation Response Plan – Free Chlorine <0.20 mg/L Turbidity >1.0 NTU
[2]SCADA: Supervisory Control and Data Acquisition.
[3]One day of data could not be recovered from SCADA due to new computers being installed.

Table 3 SSW – Contact Time (CT)

Parameter	Days Monitored	Min	Max	Average
Days 99.9% achieved	13 Days	100%	100%	100%

99.9% is 3-log removal for Giardia

3. Distribution

Table 4 summarizes the results for chlorine, turbidity and bacterial for the distribution system from the following sites: Pinnacles, Grandview, Firehall, and Maintenance Building. The monthly water volume used at Silver Star was 5,188 m^3.

Table 4 SSW Distribution

Parameter	Laboratory		# of Samples	# of Deviations[1]	Min	Max	Average
Free Chlorine	grab sample	mg/L	30	-----	1.18	1.66	1.55
Total Chlorine	grab sample	mg/L	30	-----	1.24	1.78	1.62
E.coli	Caro	CFU/100 mL	9[2]	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	9[2]	-----	<1	<1	<1
Turbidity	grab sample	NTU	30	-----	0.08	0.19	0.13

[1]SSW WQ Deviation Response Plan – Free Chlorine <0.20 mg/L Turbidity >1.0 NTU
[2]Treatment Plant bacterial samples are included in the required monthly bacterial sampling amounts as per Drinking Water Protection Regulations Schedule B