

Silver Star Water (SSW) Water Quality Report for August 2020

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. Paradise and Vance Reservoirs are metered in the Mid-T station as one volume; it is not possible to separate the volumes of each reservoir. Table 1 summarizes the results for bacterial and turbidity for the untreated water at the Mid-T which includes the blended water from the wells and surface sources, and the turbidity of the wells alone. Well 4 and Well 10 have not been used this season.

Table 1 Mid-T Blended Raw Water Monitoring

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
E.coli	Caro ³	MPN/100 mL	2	-----	<1	<1	<1
Total Coliform	Caro ³	MPN/100 mL	2	-----	<1	<1	<1
Turbidity "sample site d"	grab sample	NTU	3	-----	0.26	0.11	0.28
Turbidity of the Wells ²	SCADA ¹ Daily Average	NTU	28 Days ²	-----	0.00	0.00	0.00

¹SCADA: Supervisory Control and Data Acquisition.

²Turbidity SCADA data for the wells could not be recovered for 3 days. A pre-existing issue with the Well Turbidity analyzer was fixed August 4th, 2020 therefore only data from August 1st to 3rd are missing.

³August 3rd bacterial sample set was not processed due to an issue with the courier and Caro. RDNO is investigating further.

Distribution

SSW monitors contact time. Table 2 summarizes the results for chlorine, turbidity and bacterial for the distribution system from the following sites: Mid T Treated SS "c", Pinnacles, Grandview, and Maintenance Building. Table 3 summarizes the calculated contact time. Table 4 summarizes the UVT at the Mid-T. The monthly water volume used at Silver Star was approximately 9,368 m³.

Table 2 SSW Distribution

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
Free Chlorine ¹	grab sample	mg/L	41	-----	0.84	1.94	1.62
Total Chlorine	grab sample	mg/L	41	-----	0.92	2.12	1.71
Free Chlorine ^{1,2}	SCADA Daily Average	mg/L	31 Days	-----	1.61	1.73	1.67
E.coli	Caro	CFU/100 mL	20	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	20	-----	<1	<1	<1
Turbidity	grab sample	NTU	41	-----	0.04	0.27	0.17
Turbidity Reservoir	SCADA Daily Average	NTU	31 Days	-----	0.06	0.10	0.08

¹WQ Deviation Response Plan - Free Chlorine <0.20 mg/L or >2.20 mg/L; Turbidity >1.0 NTU

²Chlorine residual taken 10 meters after chlorination.

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

Table 4 Mid-T UV Transmissivity

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
UVT (unfiltered)	grab sample	%	4	-----	100	100	100
UVT (online)	Online Reading	%	4	-----	90.7	96.1	93.4