



REGIONAL DISTRICT of NORTH OKANAGAN

Water Quality Report for January 2017

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-Tee station as one volume; it is not possible to separate the volumes of each reservoir. Table 1 shows the daily volumes used at each source. Well 4 and Well 10 have not been used this season. Paradise and Vance Reservoirs were brought online December 7.

Table 1 Daily Volume used at each Source

DATE	WELL # 1	WELL # 2	Well # 3	WELL # 5	PARADISE and VANCE	TOTAL
1	124	220		82	411	837
2	92	165		62	310	629
3	71	130		51	242	493
4	0	159		62	299	512
5	52	146		58	280	536
6	98	176		70	235	579
7	67	194		75	374	709
8	58	109		44	196	407
9	41	247		92	230	609
10	0	113		42	222	372
11	0	178		69	364	602
12	0	110		42	217	365
13	0	190		73	364	683
14	33	166		65	332	595
15	0	170		64	343	568
16	0	112		43	226	375
17	0	134		51	268	446
18	0	124		48	248	414
19	0	136		54	269	452
20	0	159		62	315	527
21	0	188		72	372	622
22	0	141		53	281	468
23	0	169		63	338	563
24	0	90		34	179	298
25	0	126		48	249	417
26	0	116		46	229	384
27	0	159		62	347	561
28	0	187		71	370	616
29	0	149		56	300	498
30	0	153		57	303	501

Distribution

SSW monitors contact time. Table 2 shows the chlorine residuals for the five sites that are monitored within the distribution system. Table 3 summarizes the calculated contact time. Table 4 summarizes the results for chlorine and bacterial for the distribution system.

Table 2 Free Chlorine Residuals within the Distribution

DATE	Firehall	Grandview	Pinnacles	Mid Tee	Maintenance
1					
2	1.71	1.59	1.68	1.62	1.36
3		1.46	1.6		
4		1.48	1.57		
5		1.52	1.61		
6		1.41	1.59		
7		1.48	1.63		
8					
9	1.63	1.56	1.67	1.72	1.27
10		1.49	1.63		
11		1.48	1.59		
12		1.51	1.64		
13		1.54	1.58		
14		1.5	1.55		
15					
16	1.55	1.47	1.6	1.74	1.21
17		1.43	1.58		
18		1.39	1.54		
19		1.41	1.63		
20		1.36	1.59		
21		1.33	1.54		
22					
23	1.53	1.44	1.66	1.81	1.44
24		1.38	1.62		
25		1.41	1.65		
26		1.47	1.6		
27		1.44	1.59		
28		1.49	1.64		
29					
30	1.54	1.51	1.63	1.91	1.33

Table 3 SSW – Contact Time (CT)

Parameter	Days Monitored	Min	Max	Average
Days 99.9% achieved	25 Days	100%	100%	100%

99.9% is 3-log removal for Giardia

Table 4 SSW Distribution

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
Free Chlorine	grab sample	mg/L	25	-----	1.21	1.91	1.57
Total Chlorine	grab sample	mg/L	25	-----	1.37	2.11	1.69
E.coli	Caro	MPN/100 mL	20	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	20	-----	<1	<1	<1
Turbidity	grab sample	NTU	25	-----	0.29	0.61	0.43

Table 5 Mid-T UV Transmissivity

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
UVT (filtered)	grab sample	%	5	-----	97.7	99.3	98.2
UVT (unfiltered)	grab sample	%	5	-----	97.2	98.3	97.8
UVT (online)	Online	%	5	-----	96	98	97.4

Table 6 Mid-T Raw Water Monitoring

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
E.coli	Caro	Counts/100mL	5	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 mL	5	-----	<1	35*	12.6*
Turbidity	grab sample	NTU	5	-----	0.26	0.35	0.31

*The surface water sources were brought online December 7, this is reflected in the increase to the Total Coliform counts.

Table 7 Vance and Paradise Raw Water Monitoring

Parameter	Laboratory		# of Samples	# of Exceedance	Min	Max	Average
E.coli	Caro	Counts/100mL	5	-----	<1	<1	<1
Total Coliform	Caro	CFU/100 MI	5	-----	<1	≥90	22.4
Turbidity	grab sample	NTU	5	-----	0.27	0.42	0.34