



District of Lake Country
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Water Quality Advisory:

- Beaver Lake Source (Beaver Lake Source (also supplying Okanagan Lake Distribution lines)
- Oyama Lake Source (Offline– Kalamalka Lake Primary supply)

1.0 Bacteriological

Ten (10) bacteriological samples membrane filtration (MF) and seven (7) Presence Absence (P/A) tests were collected in February from the Lake Country Water System (Beaver Lake) all of which were negative for total coliforms and E.coli.

Four (4) MF and Four (4) P/A bacteriological samples were collected in February from the Lake Country Water System (Kalamalka Lake). All samples collected were negative for total coliforms and E.coli.

Four (4) MF and two (2) P/A bacteriological samples were collected in February from the Coral Beach water system (Okanagan Lake). All samples collected were negative for total coliforms and E.coli.

Three (3) MF and two (2) P/A bacteriological samples were collected in February from the Lake Pine water system (Okanagan Lake). All samples collected were negative for total coliforms and E.coli

Results for all bacteriological samples are reported in Tables 1 and 2. Water quality results for physical and chemical parameters tested are in Table 3.

Water System, Source	Tests (MF / P/A)
Lake Country Water System, Beaver Lake Source:	10/7
Lake Country Water System, Kalamalka Lake Source:	4/4
Coral Beach Water System, Okanagan Lake Source:	4/2
Lake Pine Water System, Okanagan Lake Source:	3/2

Table 1. Bacteriological Results

Winfield Okanagan & Oyama Water Systems	Source	Total Coliforms CFU/100mL	E.coli CFU/100mL	Dates Sampled
Camp Rd. Shop	Beaver Lake	<1	<1	22
Easthill off Todd Rd.	Kalamalka Lake	<1	<1	24
Evans	Kalamalka Lake	<1	<1	24
Fire Admin	Beaver Lake	<1	<1	8
Glenmore OK Side	Beaver Lake	<1	<1	8
Kal Pump House	Kalamalka Lake	<1	<1	9
Lakes Lower Reservoir	Beaver Lake	<1	<1	8
Lakes Upper Reservoir	Beaver Lake	<1	<1	8
McCoubrey	Beaver Lake	<1	<1	22
Northview	Beaver Lake	<1	<1	22
Oyama Reservoir	Kalamalka Lake	<1	<1	9
Ottley	Beaver Lake	<1	<1	22
Pow Road	Beaver Lake	<1	<1	8
Ponderosa Pump House	Beaver Lake	<1	<1	22
Coral Beach Water System	Source	Total Coliforms CFU/100mL	E.Coli CFU/100mL	Dates Sampled
Coral Beach South End B/O	Okanagan Lake	<1	<1	10, 23
Coral Beach Pumphouse	Okanagan Lake	<1	<1	10, 23
Lake Pine Water System	Source	Total Coliforms CFU/100mL	E.Coli CFU/100mL	Dates Sampled
Lake Pine Pump House	Okanagan Lake	<1	<1	9, 23
Lake Pine Upper Reservoir	Okanagan Lake	<1	<1	23

Table 2. Bacteriological Results-Presence/Absence

System/Site	Source	Total Coliforms	E.coli	Dates Sampled
<i>District of Lake Country</i>				
Williams Road	Beaver Lake	<1	<1	1
McCoubrey	Beaver Lake	<1	<1	1, 16
Pretty/Roberts	Beaver Lake	<1	<1	1
Eldorado Sink	Beaver Lake	<1	<1	5
Northview	Beaver Lake	<1	<1	16
Benchlands	Beaver Lake	<1	<1	22
Sawmill	Kalamalka Lake	<1	<1	2
Oyama Rd. S.	Kalamalka Lake	<1	<1	2
Evans Road	Kalamalka Lake	<1	<1	2
Oyama Rd. N.	Kalamalka Lake	<1	<1	17
<i>Coral Beach Water System</i>				
Coral Beach South End	Okanagan Lake	<1	<1	18
Coral Beach Pumphouse	Okanagan Lake	<1	<1	3
<i>Lake Pine Water System</i>				
Lake Pine PR Station	Okanagan Lake	<1	<1	3, 17

2.0 Chemical and Physical Parameters

Table 3 contains monthly water chemistry data collected at sites using the water quality hand-held equipment.

Table 3. Water Quality: Chemical & Physical Parameters

Lake Country Water System	Avg. Chlorine Residual	Avg. Turbidity (NTU)	Avg. Temp. (°C)	Avg. pH	Avg. Cond. (µS/cm)	*Apparent colour	Hardness mg/L CaCO ₃
Beaver Lk.-DS.	1.08	0.52	4.5	6.9	88		
Beaver Lk-Raw		0.52	2.1	7.5	75	27	
Kal Lk – D.S.	1.15	0.36	5.9	8.1	402		
Kal Lk – Raw		0.30	5.1	8.0	393	<5	
Coral Beach Water System	Avg. Chlorine Residual	Avg. Turbidity (NTU)	Avg. Temp. (°C)	Avg. pH	Avg. Cond. (µS/cm)	Apparent colour	Hardness mg/L CaCO ₃
Ok.Lk – D.S.	1.35	0.23	5.5	7.7	378		
Ok.Lk -Raw		0.30	6.2	7.9	300	<5	
Lake Pine Water System	Avg. Chlorine Residual	Avg. Turbidity (NTU)	Avg. Temp. (°C)	Avg. pH	Avg. Cond. (µS/cm)	Apparent colour	Hardness mg/L CaCO ₃
OK Lake – D.S.	1.38	0.21	4.7	7.9	342		
OK Lake - Raw		0.24	10.4	7.9	284	<5	

**True Colour results for Raw Water

3.0 Notable Events:

None.



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4.0 Supervisory Control And Data Acquisition (SCADA)Summary**Eldorado SCADA Report**

Date	Turbidity				Residual Chlorine (outlet)		
	Inlet		Outlet		Minimum (PPM)	Maximum (PPM)	Average (PPM)
	Maximum (NTU)	Average (NTU)	Maximum (NTU)	Average (NTU)			
February 1	0.57	0.41	0.56	0.44	0.03	10.48	1.49
February 2	1.78	0.52	0.49	0.48	1.90	3.85	2.59
February 3	2.00	0.68	0.49	0.49	1.82	3.65	2.40
February 4	0.53	0.49	0.50	0.48	1.62	3.48	2.33
February 5	0.84	0.47	0.52	0.50	1.48	3.34	2.16
February 6	0.91	0.63	0.55	0.53	1.54	3.39	2.17
February 7	0.57	0.47	0.59	0.55	1.66	3.25	2.07
February 8	0.52	0.39	0.54	0.54	1.65	3.82	2.20
February 9	0.59	0.48	0.54	0.54	1.25	4.05	2.56
February 10	1.34	0.60	19.98	0.66	0.49	3.73	2.31
February 11	0.62	0.55	1.24	0.55	1.49	3.25	2.35
February 12	0.94	0.52	0.51	0.51	1.56	3.60	2.29
February 13	1.22	0.54	0.49	0.49	1.35	3.47	2.02
February 14	0.53	0.48	0.51	0.46	1.52	3.29	1.92
February 15	0.53	0.49	0.56	0.54	1.38	3.22	1.85
February 16	0.54	0.46	0.50	0.43	1.33	3.42	1.92
February 17	1.00	0.49	0.60	0.49	1.08	3.53	2.09
February 18	0.52	0.42	0.60	0.60	1.81	3.59	2.24
February 19	0.48	0.40	1.07	0.54	1.74	3.45	2.19
February 20	0.48	0.40	0.51	0.51	1.55	3.50	2.21
February 21	2.00	0.48	0.51	0.51	1.46	4.11	2.41
February 22	0.45	0.39	0.51	0.42	1.97	5.44	3.09
February 23	0.46	0.41	0.51	0.50	2.20	4.57	3.11
February 24	3.40	0.80	0.55	0.48	2.42	4.74	3.29
February 25	3.97	1.61	0.70	0.54	2.21	4.40	2.90
February 26	0.94	0.76	0.87	0.78	2.25	4.32	2.78
February 27	1.37	0.64	0.92	0.87	2.07	4.46	2.76
February 28	0.97	0.80	0.82	0.79	2.18	4.32	2.75
February 29	3.04	0.85	0.77	0.72	2.22	4.13	2.69



Oyama Chlorination Facility/Reservoir SCADA Report

For the Oyama Creek Intake SCADA Excel reporting is currently in process of being updated for inclusion in future monthly reports. Even though we are unable to generate a report at this time this chlorination facility is under 24 hr surveillance through our SCADA and alarms will engage should a condition exceed the set limit .



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Kalamalka Pumphouse SCADA Report

Date	Station Flow Total (m3)	Residual Free Chlorine			Turbidity	
		Min (PPM)	Max (PPM)	Avg (PPM)	Max (PPM)	Avg (PPM)
February 1	85.1	1.18	6.77	1.70	0.43	0.23
February 2	126.2	1.26	7.82	1.76	0.38	0.23
February 3	79.7	1.32	8.69	1.72	0.34	0.23
February 4	65.2	1.16	7.42	1.75	0.35	0.24
February 5	119.0	0.99	8.14	1.73	0.36	0.24
February 6	115.4	0.98	7.56	1.65	0.39	0.26
February 7	41.8	0.79	6.88	1.52	0.36	0.24
February 8	123.7	1.04	6.05	1.65	0.38	0.25
February 9	123.0	0.37	7.43	1.65	0.39	0.25
February 10	55.2	0.79	7.48	1.60	0.32	0.23
February 11	96.3	0.79	6.63	1.69	0.34	0.24
February 12	130.9	0.74	6.84	1.77	0.33	0.24
February 13	77.5	0.78	7.98	1.86	0.36	0.22
February 14	64.7	0.93	7.35	1.76	0.40	0.22
February 15	123.6	1.03	7.41	1.82	0.36	0.20
February 16	118.5	0.85	7.44	1.74	0.37	0.20
February 17	46.7	0.78	7.00	1.87	0.37	0.22
February 18	97.9	0.20	5.88	1.73	0.40	0.24
February 19	127.2	0.94	7.36	1.73	0.74	0.24
February 20	104.3	1.03	8.29	1.69	0.74	0.27
February 21	44.3	1.00	7.26	1.65	0.94	0.29
February 22	116.1	0.73	6.94	1.57	10.00	0.41
February 23	134.6	0.64	6.96	1.53	3.90	0.47
February 24	57.3	0.92	6.73	1.51	10.00	0.42
February 25	81.0	0.67	5.87	1.52	0.57	0.34
February 26	112.6	0.76	6.33	1.43	0.64	0.36
February 27	123.2	0.76	5.71	1.45	0.60	0.34
February 28	61.9	0.99	6.05	1.37	0.58	0.33

Note: high turbidity is during equipment maintenance and not actual turbidity reading.



Coral Beach Pumphouse SCADA Report

Date	Flow	pH			Residual Free Chlorine			Turbidity			Pump 1	Pump 2
	Total (m3)	Min (pH)	Max (pH)	Avg (pH)	Min (PPM)	Max (PPM)	Avg (PPM)	Min (PPM)	Max (PPM)	Avg (PPM)	Total (Hrs)	Total (Hrs)
February 1	22.6	7.41	8.10	8.06	0.13	1.99	1.34	Turbidity unavailable this month: This parameter has been under 24 hour monitoring and surveillance within SCADA during this period however is not available for download at this time. At no time did turbidity alarm or exceed the guideline other than during regular maintenance of the equipment				1.73
February 2	48.0	7.41	8.14	8.01	0.15	2.25	1.32					3.75
February 3	44.4	7.40	8.07	8.01	0.22	3.84	1.23					3.50
February 4	49.0	0.00	8.10	7.97	0.00	4.99	1.24					3.87
February 5	49.0	7.38	8.12	7.98	0.15	2.57	1.22					3.79
February 6	45.0	7.41	8.10	8.00	0.39	1.86	1.38					3.57
February 7	34.8	7.37	8.07	7.98	0.21	2.34	1.27					2.74
February 8	53.9	7.40	8.04	7.96	0.45	2.39	1.41					4.16
February 9	18.0	7.39	8.10	7.99	0.18	2.20	1.40					1.48
February 10	70.2	7.20	7.98	7.93	0.68	3.05	1.65					5.43
February 11	46.2	7.19	7.88	7.76	0.68	3.14	2.08					3.66
February 12	51.6	7.20	7.91	7.77	0.35	2.95	1.79					4.07
February 13	24.1	7.15	7.89	7.82	0.26	4.42	1.75					1.85
February 14	29.7	7.16	7.89	7.76	0.42	3.04	1.72					2.29
February 15	46.2	7.13	7.86	7.74	0.21	4.02	1.66					3.64
February 16	40.6	7.13	7.90	7.73	0.37	3.19	1.72					3.27
February 17	45.6	0.00	13.99	7.54	0.00	4.99	1.60					3.53
February 18	49.1	7.13	7.84	7.62	0.50	3.00	1.73					3.79
February 19	11.5	7.11	7.81	7.68	0.24	3.21	1.81					0.91
February 20	29.3	7.11	7.87	7.70	0.24	3.50	1.74					2.27
February 21	30.4	7.11	7.83	7.73	0.26	4.04	1.80					2.37
February 22	53.5	7.10	7.77	7.57	0.22	4.62	1.74					4.16
February 23	21.3	7.10	7.81	7.55	0.25	2.96	1.36					1.67
February 24	40.2	7.09	7.82	7.66	0.24	4.99	1.52					3.14
February 25	46.4	7.10	7.86	7.72	0.25	4.99	1.50					3.67
February 26	38.1	7.11	7.76	7.68	0.21	4.99	2.48					3.01
February 27	48.8	7.76	7.76	7.76	4.99	4.99	4.99					3.78
February 28	37.4	7.76	7.76	7.76	4.99	4.99	4.99					2.91

Low/elevated chlorine was reported at instantaneous drop and recovery at pump start.



Lake Pine SCADA Report

Date	Flow		Turbidity		Injection Residual Chlorine			Flow		Distribution Residual Chlorine		
	Total (m3)		Max (NTU)	Avg (NTU)	Min (PPM)	Max (PPM)	Avg (PPM)	Total (m3)	Min (PPM)	Max (PPM)	Avg (PPM)	
February 1	105.2		0.12	0.12	1.75	3.05	2.14	138.1	1.96	2.28	2.16	
February 2	104.6		0.12	0.12	1.68	4.99	2.45	137.3	1.07	2.34	1.84	
February 3	104.6		0.12	0.12	1.80	2.83	2.11	137.3	1.86	2.20	2.09	
February 4	104.1		0.12	0.12	1.70	4.72	2.55	137.4	1.05	2.35	1.80	
February 5	104.1		0.12	0.12	1.83	2.56	2.08	137.4	1.81	2.22	2.11	
February 6	104.5		0.12	0.12	1.77	5.00	2.60	138.6	1.06	2.38	1.81	
February 7	104.5		0.12	0.12	1.86	2.43	2.08	138.6	1.71	2.23	2.13	
February 8	105.7		0.12	0.12	1.86	4.93	2.56	138.6	1.09	2.34	1.89	
February 9	105.7		0.12	0.12	1.94	2.21	2.01	138.6	2.01	2.17	2.10	
February 10	105.3		0.12	0.12	1.94	3.41	2.32	0.2	2.01	2.46	2.17	
February 11	105.3		0.12	0.12	1.82	2.26	2.04	0.3	1.44	2.23	2.12	
February 12	105.7		0.12	0.12	1.58	5.00	2.64	138.4	1.20	2.51	2.09	
February 13	105.7		0.12	0.12	1.83	2.11	2.02	138.4	1.32	2.23	2.08	
February 14	104.6		0.12	0.12	1.77	5.00	2.61	137.0	1.15	2.54	2.12	
February 15	104.6		0.12	0.12	1.89	2.15	2.01	137.0	1.34	2.26	2.05	
February 16	103.3		0.12	0.12	1.98	5.00	2.75	134.3	1.30	2.38	2.25	
February 17	103.3		0.12	0.11	1.84	4.34	1.96	134.3	1.23	2.20	1.86	
February 18	51.7		0.11	0.09	2.07	5.00	2.74	101.0	2.01	2.39	2.31	
February 19	52.1		0.12	0.11	1.89	4.22	2.12	101.0	1.24	2.27	1.87	
February 20	104.0		0.13	0.12	2.10	5.00	3.02	77.2	1.97	2.30	2.15	
February 21	52.2		0.15	0.13	1.95	3.32	2.06	73.2	1.57	2.17	1.92	
February 22	52.2		0.16	0.15	1.98	5.00	2.75	73.2	2.06	2.39	2.23	
February 23	59.0		0.17	0.16	1.90	5.00	2.23	61.4	1.67	2.11	1.93	
February 24	143.2		0.19	0.17	0.87	4.79	1.89	105.5	1.84	2.13	2.02	
February 25	143.2		0.20	0.19	1.64	5.00	2.90	105.5	1.36	1.84	1.77	
February 26	103.4		0.20	0.20	2.12	4.93	3.48	136.0	1.31	2.56	2.24	
February 27	103.4		0.14	0.12	1.61	2.32	1.97	136.0	1.69	2.22	2.12	
February 28	104.2				1.61	4.90	3.16	137.2	1.42	2.57	2.19	

February 28th turbidity was unable to print to spreadsheet however through this time it was reporting through SCADA and did not alarm or exceed the guideline.

