Regional District of Nanaimo - Water Services Department

French Creek Water Analysis - 2021 Monthly Report

		BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer										Bureau Veritas Lab	
Date	Sample Location (Address)	E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)	Total Iron (mg/L)	Manganese (mg/L)
08-Dec-21	1381 Gilley			0	0	10	6.82	0.07	68.3	0.07	144.7			0.0078	0.0015
08-Dec-21	1228 Sunrise			0	0	10		0.09						0.11	0.0011
14-Dec-21	1228 Sunrise			0	0	9	7.27	0.15	67.2	0.07	146.2				
14-Dec-21	1381 Gilley			0	0	9		0.09							
20-Dec-21	1228 Sunrise			0	0	8		0.09							
20-Dec-21	1381 Gilley			0	0	9	7.25	0.05	85.5	0.09	180.2				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas -->

Legend:

*** Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)**

Orange font indicates non-compliance with the Aesthetic Objective (AO) in the Canadian Drinking Water Guidelines (CDWG)

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Comments:

Notes below about Manganese (2019) from: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
I = Inorganic chemical parameter	Manganese (2019)	0.12	AO: <0.02	Dissolution of naturally-occurring minerals commonly found in soil and rock. Other sources include industrial discharge, mining activities and leaching from landfills.	**Health Basis of MAC:** Effects on neurological development and behaviour; deficits in memory, attention, and motor skills. **Other:** Formula-fed infants (where water containing manganese at levels above the MAC is used to prepare formula) may be especially at risk.	AO based on minimizing the occurrence of discoloured water, consumer complaints and staining of laundry.

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01-Nov-21	1228 Sunrise	0	0	0	0	12	7.86	0.22	172.8	0.17	360.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas -->			
08-Nov-21	1381 Gilley	0	0	0	0	12	6.99	0.05	90.1	0.09	189.4				
15-Nov-21	1228 Sunrise			0	0	11	7.16	0.07	89.7	0.09	188.8			0.0099	0.0015
22-Nov-21	1381 Gilley			0	0	11	7.27	0.05	93.0	0.09	195.6			0.0128	0.0012
22-Nov-21	1228 Sunrise			0	0	11	7.27	0.11	94.0	0.09	194.7				
29-Nov-21	1381 Gilley			0	0	11	6.99	0.05	91.7	0.09	193.1				
29-Nov-21	1228 Sunrise			0	0	10	7.09	0.11	92.3	0.09	196.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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05-Oct-21	1228 Sunrise			0	0	13	7.87	0.40	169.3	0.17	353.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas -->			
13-Oct-21	1228 Sunrise			0	0	15	7.52	0.27	171.9	0.17	358.0			0.115	0.125
18-Oct-21	1381 Gilley	0	0	0	0	14	7.77	0.21	125.8	0.13	263.0			0.0889	0.0987
25-Oct-21	1228 Sunrise	0	0	0	0	14	7.41	0.29	173.1	0.17	360.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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07-Sep-21	1228 Sunrise	0	0	0	0	17	7.99	0.40	171.8	0.17	360.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas -->			
13-Sep-21	1381 Gilley	0	0	0	0	17	8.02	0.32	176.6	0.16	352.0				
20-Sep-21	1228 Sunrise			0	0	13	7.87	0.28	173.3	0.17	361.0			0.107	0.131
27-Sep-21	1381 Gilley			0	0	16	8.00	0.49	176.7	0.18	367.0			0.0892	0.114
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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03-Aug-21	1228 Sunrise	0	0	0	0		7.91	0.33	167.6	0.17	349.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas -->			
09-Aug-21	1381 Gilley	0	0	0	0	18	7.84	0.39	169.0	0.17	352.0			0.0813	0.101
16-Aug-21	1228 Sunrise			0	0	14	7.86	0.49	168.2	0.17	348.0			0.089	0.109
23-Aug-21	1381 Gilley			0	0	18	8.26	0.50	168.7	0.17	351.0				
30-Aug-21	1381 Gilley			0	0	18	8.24	0.41	174.7	0.17	363.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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06-Jul-21	1228 Sunrise	0	0	0	0	14	8.08	0.56	165.8	0.15	341.0				
12-Jul-21	1381 Gilley	0	0	0	0	17	8.08	0.50	171.1	0.17	356.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
19-Jul-21	1228 Sunrise			0	0	13	8.11	0.47	167.9	0.17	350.0			0.0991	0.123
27-Jul-21	1381 Gilley			0	0	18	8.20	0.46	168.7	0.17	351.0			0.0892	0.109
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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01-Jun-21	1228 Sunrise	0	0	0	0	12	7.23	0.65	168.0	0.17	349.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
07-Jun-21	1381 Gilley	0	0	0	0	14	7.57	0.54	167.4	0.17	349.0				
14-Jun-21	1228 Sunrise			0	0	12	7.07	0.47	166.6	0.17	346.0			0.0808	0.126
21-Jun-21	1381 Gilley			0	0	15	7.19	0.42	168.0	0.17	350.0			0.072	0.115
29-Jun-21	1381 Gilley	0	0	0	0	18	7.07	0.70	165.4	0.17	345.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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03-May-21	1228 Sunrise	0	0	0	0	11	6.98	0.65	166.0	0.17	346.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->		0.091	0.124
10-May-21	1381 Gilley	0	0	0	0	12	6.99	0.53	164.4	0.16	342.0			0.0825	0.11
17-May-21	1228 Sunrise			0	0	12	6.99	0.48	165.3	0.16	343.0				
25-May-21	1381 Gilley			0	0	13	6.97	0.47	166.9	0.15	341.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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06-Apr-21	1228 Sunrise			0	0	8	7.71	0.34	170.3	0.17	355.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
12-Apr-21	1381 Gilley	0	0	0	0	9	7.21	0.25	167.0	0.17	348.0			0.0925	0.101
19-Apr-21	1228 Sunrise	0	0	0	0	11	6.99	0.52	164.2	0.16	342.0			0.0963	0.116
26-Apr-21	1381 Gilley			0	0	11	7.29	0.74	166.8	0.17	347.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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03-Mar-21	1228 Sunrise			0	0	9	7.33	1.10	168.9	0.17	351.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
08-Mar-21	1381 Gilley	0	0	0	0	8	7.59	0.31	169.6	0.17	353.0				
15-Mar-21	1228 Sunrise	0	0	0	0	9	7.11	0.52	167.9	0.17	350.0			0.111	0.129
22-Mar-21	1381 Gilley			0	0	8	7.30	0.20	180.2	0.15	359.0			0.0827	0.0933
28-Mar-21	1381 Gilley			0	0	7	7.10	0.28	170.7	0.17	355.0				
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

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		BC Centre for Disease Control		RDN In-House Laboratory & Spectrophotometer									Bureau Veritas Lab	
Date	Sample Location (Address)	E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)	Total Iron (mg/L)	Manganese (mg/L)
03-Feb-21	1228 Sunrise	0	0	0	0	9	7.53	0.49	167.5	0.17	349.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
08-Feb-21	1381 Gilley	0	0	0	0	8	7.42	0.40	168.6	0.17	351.0				
17-Feb-21	1228 Sunrise			0	0	7	7.49	0.71	164.9	0.16	344.0			0.116	0.0983
22-Feb-21	1381 Gilley			0	0	8	7.65	0.62	167.8	0.17	350.0			0.0886	0.0758
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

Legend:

*** Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)**

Orange font indicates non-compliance with the Aesthetic Objective (AO) in the Canadian Drinking Water Guidelines (CDWG)

Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

Comments:

Notes below about Manganese (2019) from: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
I = Inorganic chemical parameter	Manganese (2019)	0.12	AO: <0.02	Dissolution of naturally-occurring minerals commonly found in soil and rock. Other sources include industrial discharge, mining activities and leaching from landfills.	**Health Basis of MAC:** Effects on neurological development and behaviour; deficits in memory, attention, and motor skills. **Other:** Formula-fed infants (where water containing manganese at levels above the MAC is used to prepare formula) may be especially at risk.	AO based on minimizing the occurrence of discoloured water, consumer complaints and staining of laundry.

Regional District of Nanaimo - Water Services Department

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		BC Centre for Disease Control		RDN In-House Laboratory & Spectrophotometer										Bureau Veritas Lab	
Date	Sample Location (Address)	E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)	Total Iron (mg/L)	Manganese (mg/L)
04-Jan-21	1228 Sunrise	0	0	0	0	9.5	7.22	0.47	163.1	0.16	339.0	Fe and Mn are no longer tested in-house. Please see test results from Bureau Veritas ->			
11-Jan-21	1381 Gilley	0	0	0	0	9	7.58	0.35	168.1	0.17	352.0				
18-Jan-21	1228 Sunrise			0	0	9	7.55	0.73	168.7	0.17	351.0			0.106	0.108
25-Jan-21	1381 Gilley			0	0	8	7.56	0.57	168.2	0.17	350.0			0.0863	0.108
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC	0.3	0.02 AO 0.12 MAC

Legend:

*** Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)**

Orange font indicates non-compliance with the Aesthetic Objective (AO) in the Canadian Drinking Water Guidelines (CDWG)

Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

Comments:

Notes below about Manganese (2019) from: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
I = Inorganic chemical parameter	Manganese (2019)	0.12	AO: <0.02	Dissolution of naturally-occurring minerals commonly found in soil and rock. Other sources include industrial discharge, mining activities and leaching from landfills.	**Health Basis of MAC:** Effects on neurological development and behaviour; deficits in memory, attention, and motor skills. **Other:** Formula-fed infants (where water containing manganese at levels above the MAC is used to prepare formula) may be especially at risk.	AO based on minimizing the occurrence of discoloured water, consumer complaints and staining of laundry.