Regional District of Nanaimo - Water Services Department

Englishman River Water Analysis - 2020 Monthly Report

		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)
1-Dec-20	1969 Kaye	0	0	0	0	8	7.81	0.75	255.0	0.25	526.0	Fe and Mn are no longer tested in-house. See test results from Bureau Veritas ---->.		0.0107	0.006
7-Dec-20	2235 Rascal	0	0	0	0	9	8.04	0.66	257.0	0.26	530.0			0.0114	0.0108
14-Dec-20	2235 Rascal			0	0	9	8.19	0.50	255.0	0.26	527.0				
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

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.

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2-Nov-20	1969 Kaye	0	0	0	0	11	7.98	0.61	265.0	0.26	547.0	Fe and Mn are no longer tested in-house. See test results from Bureau Veritas ----->.			
9-Nov-20	2235 Rascal	0	0	0	0	11	8.26	0.57	263.0	0.26	543.0				
16-Nov-20	1969 Kaye			0	0	10	8.11	0.77	259.0	0.26	534.0			0.009	0.0054
23-Nov-20	2235 Rascal			0	0	9	7.95	0.56	258.0	0.26				0.014	0.0111
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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5-Oct-20	1969 Kaye			0	0	16	8.11	0.67	267.0	0.27	551.0	Fe and Mn are no longer tested in-house. See test results from Bureau Veritas ----->.			
13-Oct-20	2235 Rascal	0	0	0	0	15	8.10	0.74	269.0	0.27	553.0				
19-Oct-20	1969 Kaye	0	0	0	0	14	8.00	0.59	265.0	0.26	547.0			0.0097	0.0068
26-Oct-20	2235 Rascal			0	0	11	7.96	0.67	265.0	0.26	546.0				
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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2-Sep-20	1969 Kaye	0	0	0	0	16	8.08	0.65	273.0	0.27	563.0	Fe and Mn are no longer tested in-house. See test results from Bureau Veritas ----->.			
8-Sep-20	2235 Rascal	0	0	0	0	16	8.09	0.78	262.0	0.27	560.0				
14-Sep-20	1969 Kaye			0	0	15	8.11	0.58	278.0	0.29	544.0			0.0133	0.0092
21-Sep-20	2235 Rascal			0	0	14	8.03	0.69	271.0	0.27	558.0				
28-Sep-20	2235 Rascal			0	0	15	8.21	0.69	265.0	0.27	547.0			0.0175	0.001
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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4-Aug-20	1969 Kaye	0	0	0	0	15	7.30	0.92	277.0	0.28	571.0				
12-Aug-20	2235 Rascal	0	0	0	0	18	8.00	0.77	261.0	0.26	538.0	Fe and Mn are no longer tested in-house. See test results from Bureau Veritas ----->.			
17-Aug-20	1969 Kaye			0	0	17	8.00	0.65	268.0	0.27	553.0			0.015	0.0159
24-Aug-20	2235 Rascal			0	0	15	8.10	0.61	264.0	0.26	546.0			0.0225	**0.029**
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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6-Jul-20	1969 Kaye	0	0	0	0	14	7.35	0.80	277.0	0.27	541.0	0.03	0.031		
13-Jul-20	2235 Rascal	0	0	0	0	15	7.40	0.79	271.0	0.27	559.0			0.0625	0.0282
20-Jul-20	1969 Kaye			0	0	15	7.29	0.74	273.0	0.27	451.0			0.0165	0.0182
27-Jul-20	2235 Kaye			0	0	14	7.29	0.92	271.0	0.27	557.0				
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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1-Jun-20	1969 Kaye	0	0	0	0	12	7.48	0.76	269.0	0.27	554.0	0.03	0.024
8-Jun-20	2235 Rascal	0	0	0	0	13	7.39	0.88	277.0	0.25	550.0		
15-Jun-20	1969 Kaye			0	0	13	7.41	0.68	270.0	0.27	557.0		
22-Jun-20	2235 Rascal			0	0	12	7.40	0.88	271.0	0.26	555.0		
29-Jun-20	2235 Rascal			0	0	14	7.14	0.77	273.0	0.27	563.0		
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

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4-May-20	1969 Kaye			0	0	9	7.68	0.63	268.0	0.27	552.0	0.03	0.036
11-May-20	2235 Rascal	0	0	0	0	10	7.48	0.71	266.0	0.27	547.0		
19-May-20	1969 Kaye	0	0	0	0	11	7.41	0.78	268.0	0.27	553.0		
25-May-20	2235 Rascal			0	0	12	7.40	0.77	268.0	0.27	553.0		
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

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6-Apr-20	1969 Kaye	0	0	0	0	8	7.04	0.59	266.0	0.25	536.0	0.02	0.034
14-Apr-20	2235 Rascal Lane	0	0	0	0	8	7.66	0.62	266.0	0.27	551.0		
20-Apr-20	1969 Kaye			0	0	8	7.66	0.76	267.0	0.27	551.0		
28-Apr-20	2235 Rascal Lane			0	0	10	7.49	0.73	280.0	0.28	571.0		
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

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2-Mar-20	1969 Kaye	0	0	0	0	6	7.05	0.59	260.0	0.26	539.0	0.03	0.027
9-Mar-20	2235 Rascal	0	0	0	0	7	7.61	0.03	262.0	0.26	540.0		
16-Mar-20	1969 Kaye			0	0	6	7.15	0.61	261.0	0.26	538.0		
23-Mar-20	2235 Rascal			0	0	7	7.84	0.58	262.0	0.26	540.0		
30-Apr-20	1969 Kaye			0	0	8	7.60	0.63	264.0	0.26	544.0		
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

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3-Feb-20	1969 Kaye	0	0	0	0	6	7.29	0.60	262.0	0.26	541.0	0.02	0.048
10-Feb-20	2235 Rascal	0	0	0	0	6	7.52	0.70	264.0	0.26	544.0		
18-Feb-20	1969 Kaye			0	0	9	7.06	0.55	262.0	0.26	542.0		
24-Feb-20	2235 Rascal			0	0	7	7.19	0.59	259.0	0.34	546.0		
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

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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

Englishman River Water Analysis - 2020 Monthly Report

		BC Centre for Disease Control		RDN In-House Laboratory & Spectrophotometer									
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)
6-Jan-20	1969 Kaye	0	0	0	0	7	7.37	0.62	266.0	0.27	549.0	0.01	0.039
13-Jan-20	2235 Rascal	0	0	0	0	6	7.50	0.61	266.0	0.27	548.0		
20-Jan-20	1969 Kaye			0	0	7	7.44	0.56	249.0	0.26	550.0		
27-Jan-20	2235 Rascal			0	0	7	7.26	0.63	263.0	0.26	543.0		
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

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:

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