

Englishman River PW2 Raw Well Water Analysis

2231 Rascal Lane

CDWG=Canadian Drinking Water Guidelines
OG= Operational Guidance Value

MAC=Maximum Acceptable Concentration
AO=Aesthetic Objective

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

	Units	CDWG		October 29 2018	October 17 2019	October 20 2020	July 14 2021	October 14 2021	October 20 2022
Miscellaneous Inorganics									
Fluoride	mg/L	1.5	MAC	0.09	0.085	0.082	0.08	0.089	0.088
Alkalinity (total as CaCO ₃)	mg/L			126	130	130	130	130	120
Anions									
Dissolved Sulphate	mg/L	500	AO	6.8	7.5	8	9.4	9.3	7.4
Dissolved Chloride	mg/L	250	AO	56	67	83	92	82	93
Nitrite	mg/L	1	MAC	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005
Miscellaneous									
Apparent Colour	Colour Unit			5	5	10	<5	<5	<5
Nutrients									
Total Ammonia	mg/L			0.045	0.13	0.061	0.049	0.049	0.068
Physical Properties									
Conductivity	µS/cm			446	460	510	530	500	580
pH	pH	7.0:10.5	OG	8.17	8	8.2	7.9	8.24	8.11
TDS	mg/L	500	AO	266	270	240	350	330	350
Turbidity	NTU			0.18	<0.1	<0.1	0.19	0.12	<0.1
Microbiological Parameters									
E.coli	MPN/100mL	1	MAC	<1.0	0	0	0	0	0
Total Coliforms	MPN/100mL	1	MAC	<1.0	0	0	0	0	0
Calculated Parameters									
Total Hardness (CaCO ₃)	mg/L			169	168	190	194	188	208
Nitrate	mg/L	10	MAC	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02
Elements									
Total Mercury	mg/L	0.001	MAC	<0.000002	<0.000002	<0.0000019	<0.0000019	<0.0000019	<0.0000019
Total Metals									
Total Aluminum	mg/L	0.1	OG	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	0.00172	0.00163	0.0017	0.00164	0.0017	0.0017
Total Barium	mg/L	1	MAC	0.0263	0.0269	0.0307	0.0329	0.0306	0.0341
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	<0.050	<0.05	<0.05	<0.05	<0.05	0.056
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.00137	0.00043	0.0004	0.00699	0.00267	0.00045
Total Iron	mg/L	0.3	AO	0.0247	0.0216	0.0055	0.0544	0.025	0.0087
Total Lead	mg/L	0.01	MAC	0.00037	<0.0002	<0.0002	0.0004	<0.0002	<0.0002
Total Manganese	mg/L	0.02 0.12	AO MAC	0.0311	0.0304	0.0339	0.0365	0.034	0.0375
Total Molybdenum	mg/L			0.0014	0.0012	0.0013	0.0014	0.0014	0.0012
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Silicon	mg/L			6.9	6.5	6.72	5.86	7.03	7.89
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.315	0.317	0.371	0.373	0.382	0.428
Total Thallium	mg/L			<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	0.00032	0.00031	0.00033	0.00032	0.00032	0.00031
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	0.0091	0.0052	<0.005	0.0059	0.0095	<0.005
Total Zirconium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			43.8	43.6	47.9	49	48.1	53.6
Total Magnesium	mg/L			14.4	14.4	17	17.5	16.4	18
Total Potassium	mg/L			1.35	1.36	1.5	1.53	1.5	1.44
Total Sodium	mg/L	200	AO	17.4	18	21.5	22.2	20.8	23.4
Total Sulphur	mg/L			<3.0	<3	<3	<3	<3	<3

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.

Englishman River PW3 Raw Well Water Analysis

2231 Rascal Lane

CDWG=Canadian Drinking Water Guidelines

MAC=Maximum Acceptable Concentration

OG= Operational Guidance Value

AO=Aesthetic Objective

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

	Units	CDWG		October 29 2018	October 17 2019	October 20 2020	July 14 2021	October 14 2021	October 20 2022
Miscellaneous Inorganics									
Fluoride	mg/L	1.5	MAC	0.094	0.084	0.086	0.087	0.091	0.095
Alkalinity (total as CaCO ₃)	mg/L			129	130	130	130	140	130
Anions									
Dissolved Sulphate	mg/L	500	AO	7.5	8.1	8.5	10	9	7.6
Dissolved Chloride	mg/L	250	AO	85	98	99	100	100	92
Nitrite	mg/L	1	MAC	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005
Miscellaneous									
Apparent Colour	Colour Unit			5	10	10	<5	<5	<5
Nutrients									
Total Ammonia	mg/L			0.058	0.13	0.069	0.058	0.05	0.065
Physical Properties									
Conductivity	µS/cm			554	570	570	550	580	580
pH	pH	7.0:10.5	OG	8.16	7.96	8.21	7.97	8.29	8.13
TDS	mg/L	500	AO	326	330	330	340	370	280
Turbidity	NTU			0.35	0.41	0.13	0.21	1.1	0.1
Microbiological Parameters									
E.coli	MPN/100mL	<1	MAC	<1.0	0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	<1.0	0	0	0	0	0
Calculated Parameters									
Total Hardness (CaCO ₃)	mg/L			182	186	197	180	193	195
Nitrate	mg/L	10	MAC	<0.020	<0.02	<0.02	<0.02	<0.02	<0.02
Elements									
Total Mercury	mg/L	0.001	MAC	<0.000002	<0.000002	<0.0000019	<0.0000019	<0.0000019	0.0000034
Total Metals									
Total Aluminum	mg/L	0.1	OG	<0.003	<0.03	<0.003	<0.003	<0.003	<0.003
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	0.00146	0.00148	0.00154	0.00151	0.00162	0.00168
Total Barium	mg/L	1	MAC	0.032	0.0331	0.034	0.034	0.0353	0.0351
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	0.068	0.075	0.08	0.073	0.081	0.095
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.00175	0.00065	0.00048	0.00324	0.00358	0.00061
Total Iron	mg/L	0.3	AO	0.0477	0.0541	0.0286	0.0492	0.101	0.0284
Total Lead	mg/L	0.01	MAC	0.00031	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
Total Manganese	mg/L	0.02 0.12	AO MAC	0.0481	0.0475	0.0452	0.0456	0.0467	0.0473
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	0.001	0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Silicon	mg/L			6.97	6.83	7.57	6.1	7.38	8.37
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.357	0.377	0.388	0.365	0.426	0.428
Total Thallium	mg/L			<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	0.00034	0.00035	0.00035	0.000034	0.00034	0.00034
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	0.0123	0.0174	<0.005	<0.005	0.0258	<0.005
Total Zirconium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			47.6	49.2	52.4	46.1	50.5	51.4
Total Magnesium	mg/L			15.4	15.3	16.1	15.7	16.2	16.3
Total Potassium	mg/L			1.48	1.47	1.53	1.53	1.54	1.48
Total Sodium	mg/L	200	AO	27.3	29.6	31.9	32.1	31.7	33.8
Total Sulphur	mg/L			3.1	<3	<3	<3	<3	<3

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.