

Surfside #1 Raw Well Water Analysis 3547 Island Highway

CDWG=Canadian Drinking Water Guidelines
OG= Operational Guidance Value

MAC=Maximum Acceptable Concentration
AO= Aesthetic Objective

Green font indicates a value flagged for operational considerations.

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

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

	Units	CDWG		Sept 18 2017	October 25 2018	October 3 2019	October 21 2020	October 21 2021	October 13 2022	August 10 2023	October 3 2024
Miscellaneous Inorganics											
Fluoride	mg/L	1.5	MAC	0.026	0.023	<0.05	<0.05	<0.05	<0.05	<0.50	<0.05
Alkalinity (total as CaCO ₃)	mg/L			55.3	53.4	53	50	57	50	43	52
Anions											
Dissolved Sulphate	mg/L	500	AO	6.2	4.8	4.1	4.4	5.1	4.8	10	6.5
Dissolved Chloride	mg/L	250	AO	14	11	22	9	14	13	94	29
Nitrite	mg/L	1	MAC	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Miscellaneous											
Apparent Colour	Colour Unit			5	5	<5	5	<5	<5	<5	<2
Nutrients											
Total Ammonia	mg/L			<0.020	<0.020	0.045	<0.015	<0.015	<0.015	<0.015	<0.015
Physical Properties											
Conductivity	µS/cm			170	149	190	140	160	170	440	210
pH	pH	7.0:10.5	OG	7.56	7.75	6.95	7.03	7.01	7.12	6.56	6.82
TDS	mg/L	500	AO	120	94	130	100	110	100	350	140
Turbidity	NTU			0.23	<0.10	<0.1	0.13	<0.1	0.1	0.15	<0.1
Microbiological Parameters											
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	0	0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	17	<1.0	0	0	0	0	0	7.5
Calculated Parameters											
Total Hardness (CaCO ₃)	mg/L			64.6	60.6	77.4	57.8	62.4	63.2	157	78
Nitrate	mg/L	10	MAC	0.519	0.525	0.609	0.597	0.482	0.479	0.716	0.545
Elements											
Total Mercury	mg/L	0.001	MAC	<0.00001	0.0000053	<0.000002	<0.0000019	<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	<0.0030	<0.003
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Barium	mg/L	1	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Boron	mg/L	5	MAC	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Cobalt	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.0002
Total Copper	mg/L	1	AO	0.00235	0.00339	0.00301	0.00366	0.00272	0.00293	0.00403	0.00579
Total Iron	mg/L	0.1	AO	0.0072	0.0067	0.0054	<0.005	<0.005	<0.005	0.0212	0.0153
Total Lead	mg/L	0.01	MAC	<0.0002	0.00044	0.00041	0.00048	0.00021	<0.0002	0.00021	<0.0002
Total Manganese	mg/L	0.02 0.12	AO MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0017	<0.001
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Silicon	mg/L			7.54	7.37	7.76	7.76	7.69	7.89	8.26	8.28
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.00002
Total Strontium	mg/L			0.0463	0.0429	0.0536	0.0406	0.0426	0.0445	0.12	0.0573
Total Thallium	mg/L			<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Uranium	mg/L	0.02	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Zinc	mg/L	5	AO	<0.005	<0.005	0.0062	0.0089	0.0085	<0.005	0.0093	0.0065
Total Zirconium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Calcium	mg/L			19.4	18.4	23.6	17	18.9	19.1	47.6	23.1
Total Magnesium	mg/L			3.92	3.56	4.5	3.5	3.7	3.77	9.23	4.94
Total Potassium	mg/L			0.403	0.349	0.389	0.35	0.366	0.368	0.549	0.439
Total Sodium	mg/L	200	AO	6.25	5.21	6.64	5.29	5.49	5.66	12.6	9.29
Total Sulphur	mg/L			<3.0	<3.0	<3.0	<3	<3	<3	3.7	3.5

Notes below from: <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#2>

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.

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	Units	CDWG		Sept 18 2017	October 25 2018	October 3 2019	October 21 2020	October 21 2021	October 13 2022	August 10 2023	October 3 2024
Miscellaneous Inorganics											
Fluoride	mg/L	1.5	MAC	0.023	0.02	<0.05	<0.05	<0.05	<0.05	<0.50	<0.05
Alkalinity (total as CaCO ₃)	mg/L			56.6	49.6	49	48	53	51	37	50
Anions											
Dissolved Sulphate	mg/L	500	AO	9.8	5.8	6.4	5.3	5	7.7	38	9.6
Dissolved Chloride	mg/L	250	AO	32	11	47	9.9	16	31	320	41
Nitrite	mg/L	1	MAC	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Miscellaneous											
Apparent Colour	Colour Unit			5	<5.0	<5.0	5	<5	<5	<5	<2
Nutrients											
Total Ammonia	mg/L			<0.020	<0.020	0.058	<0.015	<0.015	<0.015	<0.015	<0.015
Physical Properties											
Conductivity	µS/cm			243	142	270	150	160	240	1300	260
pH	pH	7.0:10.5	OG	7.51	7.51	7.38	6.99	7.07	7.08	6.39	6.76
TDS	mg/L	500	AO	170	74	160	100	140	170	830	150
Turbidity	NTU			<0.10	0.1	<0.1	0.17	<0.1	0.12	0.1	<0.1
Microbiological Parameters											
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	0	0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	<1.0	<1.0	0	0	0	0	0	0
Calculated Parameters											
Total Hardness (CaCO ₃)	mg/L			85.2	55.4	96.8	54.8	39.5	83.6	402	75.8
Nitrate	mg/L	10	MAC	0.463	0.498	0.542	0.525	0.424	0.404	0.618	0.498
Elements											
Total Mercury	mg/L	0.001	MAC	<0.00001	0.0000044	<0.000002	<0.0000019	<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	<0.0030	<0.003
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Barium	mg/L	1	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Boron	mg/L	5	MAC	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.050	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000012	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Cobalt	mg/L			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.0002
Total Copper	mg/L	1	AO	0.00368	0.00277	0.00217	0.00204	0.00263	0.00311	0.00411	0.00492
Total Iron	mg/L	0.1	AO	0.0087	0.0154	0.0152	0.0097	0.0087	0.0085	0.0111	0.0052
Total Lead	mg/L	0.01	MAC	0.00104	0.00073	0.00047	0.00023	0.00025	0.00025	0.00034	0.00166
Total Manganese	mg/L	0.02	AO MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	<0.001
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Silicon	mg/L			7.81	7.03	7.66	7.26	7.29	8.3	8.26	8.12
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.00002
Total Strontium	mg/L			0.0651	0.0409	0.0805	0.0413	0.0423	0.0645	0.44	0.0638
Total Thallium	mg/L			<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Uranium	mg/L	0.02	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005
Total Zinc	mg/L	5	AO	0.0303	0.0107	0.0083	0.0052	0.0138	0.0081	0.0173	0.0086
Total Zirconium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001
Total Calcium	mg/L			26	16.8	29.7	16.5	18.2	25.1	120	22.6
Total Magnesium	mg/L			4.95	3.24	5.48	3.31	3.36	5.07	24.6	4.7
Total Potassium	mg/L			0.459	0.314	0.455	0.328	0.339	0.43	1.12	0.453
Total Sodium	mg/L	200	AO	12.1	6.41	13.6	7.06	7.12	10.5	63.9	17.8
Total Sulphur	mg/L			<3.0	<3.0	<3.0	<3	<3	<3	12.3	<3

Notes below from: <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#2>

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.
Inorganic chemical	Chloride (1979, 2005)	None	AO: ≤ 250	Naturally occurring (seawater intrusion); dissolved salt deposits, highway salt, industrial effluents, oil well operations, sewage, irrigation drainage, refuse leachates	A guidelines value is not necessary as health effects are not of concern at levels found in drinking water.	Based on taste and potential for corrosion in the distribution system.
Acceptability	Total dissolved solids (TDS) (1991)	None	AO: ≤ 500	Naturally occurring; sewage, urban and agricultural runoff, industrial wastewater	Not applicable	Based on taste; TDS above 500 mg/L results in excessive scaling in water pipes, water heaters, boilers and appliances; TDS is composed of calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate.