REGIONAL DISTRICT OF NANAIMO

Surfside Distribution (Tap Water) Analysis
1105 Surfside Drive

CDWG=Canadian Drinking Water Guidelines MAC=Maximum Acceptable Concentration
OG= Operational Guidance Value AO= Asthetic Objective.

Green font indicates a value flagged for operational consideration
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		May 13 2014	May 19 2015	May 10 2016	May 8 2017	May 7 2018	May 13 2019	May 20 2020	May 6 2021	May 5 2022	May 25 2023
Miscellaneous Inorganics													
Fluoride	mg/L	1.5	MAC	<0.05	0.024	0.026	0.029	0.026	0.025	<0.05	<0.05	<0.05	<0.05
Alkalinity (total as CaCO)	mg/L			54	53.7	61.4	66.7	51.8	57.2	51	54	55	46
Anions													
Dissolved Sulphate	mg/L	500	AO	4.1	5.19	5.38	5.11	5.7	4.5	4.1	7.2	4.6	5.5
Dissolved Chloride	mg/L	250	AO	9	10	8.6	13	11	10	11	8.8	11	39
Nitrite	mg/L	1	MAC	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005
Miscellaneous													
Apparent Colour	Colour Unit			<5	<5	10	10	5	<2	5	10	<5	<5
Nutrients													
Total Ammonia	mg/L			0.02	0.017	0.017	0.091	<0.020	<0.015	0.021	<0.015	<0.015	<0.015
Physical Properties													
Conductivity	µS/cm			161	154	157	184	157	153	150	140	160	240
pH	pH	7.0:10.5	AO	7	7.68	7.55	7.85	7.72	7.32	7.09	7.3	**6.99**	**6.91**
TDS	mg/L	500	AO	126	90	78	108	98	100	90	88	94	150
Turbidity	NTU			<0.5	<0.10	0.2	0.17	0.27	0.2	<0.1	<0.1	<0.1	<0.1
Microbiological Parameters													
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	0	0	0
Calculated Parameters													
Total Hardness (CaCO)	mg/L			66	59.4	60	85.3	61	59.2	58.9	52.2	61.7	86.6
Nitrate	mg/L	10	MAC	0.71	0.533	0.555	0.529	0.637	0.633	0.85	0.773	0.713	0.784
Elements													
Total Mercury	mg/L	0.001	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.000002	<0.000002	<0.0000019	<0.0000019	<0.0000019	<0.0000019
Total Metals													
Total Aluminum	mg/L	0.1	OG	<0.025	0.003	<0.003	<0.003	<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	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.00025	<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Barium	mg/L	1	MAC	0.00357	0.0011	0.0017	0.0035	0.0018	0.0018	0.0011	<0.001	0.0021	0.0015
Total Beryllium	mg/L			<0.00025	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	0.023	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.0025	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.0088	0.00594	0.00898	0.00451	0.00513	0.00789	0.00638	0.00692	0.00523	0.00419
Total Iron	mg/L	0.3	AO	0.068	0.011	0.0288	0.0483	0.0137	0.0296	0.0223	0.0194	0.0427	0.0131
Total Lead	mg/L	0.01	MAC	0.0019	0.00054	0.00101	0.0003	0.00034	0.00048	0.00044	0.00042	0.00034	0.00032
Total Manganese	mg/L	0.02 0.12	AO MAC	<0.0050	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	<0.001	<0.001	<0.001
Total Molybdenum	mg/L			<0.00025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nickel	mg/L			<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Total Silicon	mg/L			8.18	7.91	8.16	10.4	7.87	7.66	7.69	7.19	7.66	7.9
Total Silver	mg/L			0.00031	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.065	0.0495	0.0551	0.0799	0.0549	0.0517	0.0466	0.0421	0.0542	0.069
Total Thallium	mg/L			<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.0025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Vanadium	mg/L			<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	0.0229	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zirconium	mg/L				<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			22.8	18.9	19.4	29.7	20	19.5	18.5	15.9	20.7	26.9
Total Magnesium	mg/L			2.31	2.96	2.81	2.69	2.69	2.54	3.06	3.05	2.4	4.75
Total Potassium	mg/L			<0.5	0.355	0.404	0.569	0.386	0.411	0.381	0.353	0.443	0.425
Total Sodium	mg/L	200	AO	8.2	6.63	7.03	8.58	6.48	6.71	6.53	6.11	7.03	9.79
Total Sulphur	mg/L				<3.0	<3.0	<3.0	<3.0	<3	<3	<3	<3	<3

Notes below about pH (2015) from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#_ftn1

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.