

Physical and Chemical Analysis of Water Supply

2020 – Capilano Water System

Parameter	Untreated	Treated		Canadian Guideline		
	Average	Average	Range	Days Exceeded	Limit	Reason Established
Alkalinity as CaCO ₃ (mg/L)	2.9	10	5.8-12		none	
Aluminum Dissolved (µg/L)	81	29	20-48		none	
Aluminum Total (µg/L)	143	29	18-58		none	
Antimony Total (µg/L)	<0.5	<0.5	<0.5	0	6	Health
Arsenic Total (µg/L)	<0.5	<0.5	<0.5	0	10	Health
Barium Total (µg/L)	2.7	2.9	2.1-3.6	0	1000	Health
Boron Total (µg/L)	<10	<10	<10	0	5000	Health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.1	Health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Cadmium Total (µg/L)	<0.2	<0.2	<0.2	0	5	Health
Calcium Total (µg/L)	1160	4180	2460-4640		none	
Carbon Organic - Dissolved (mg/L)	1.9	0.7	0.4-1.0		none	
Carbon Organic - Total (mg/L)	1.9	0.7	0.5-1.0		none	
Chlorate (mg/L)	<0.01	0.02	0.02-0.03	0	1	Health
Chloride (mg/L)	<0.5	2.5	2.0-3.2	0	≤250	Aesthetic
Chromium Total (µg/L)	<0.07	<0.05	<0.05	0	50	Health
Cobalt Total (µg/L)	<0.5	<0.5	<0.5		none	
Color - Apparent (ACU)	17	<2	<2-2		none	
Color - True (TCU)	12	<1	<1-1	0	≤15	Aesthetic
Conductivity (µmhos/cm)	10	32	22-37		none	
Copper Total (µg/L)	3.1	<0.5	<0.5	0	≤1000	Aesthetic
Cyanide Total (mg/L)	<0.02	<0.02	<0.02	0	0.2	Health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	Health
Hardness as CaCO ₃ (mg/L)	3.6	11.1	6.7-12.3		none	
Iron Dissolved (µg/L)	34	<5	<5-8		none	
Iron Total (µg/L)	91	<5	<5-14	0	≤300	Aesthetic
Lead Total (µg/L)	<0.5	<0.5	<0.5	0	5	Health
Magnesium Total (µg/L)	167	171	122-200		none	
Manganese Dissolved (µg/L)	3.8	1.7	0.9-3.7		none	
Manganese Total (µg/L)	5.1	2.9	1.9-5.2	0	≤120	Health
Mercury Total (µg/L)	<0.05	<0.05	<0.05	0	1	Health
Molybdenum Total (µg/L)	<0.5	<0.5	<0.5		none	
Nickel Total (µg/L)	<0.5	<0.5	<0.5		none	
Nitrogen - Ammonia as N (mg/L)	<0.02	<0.02	<0.02		none	
Nitrogen - Nitrate as N (mg/L)	0.07	0.06	0.03-0.12	0	45	Health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1	Health
pH (pH units)	6.5	7.4	7.2-7.7	0	7.0 to 10.5	Aesthetic
Phenol (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Dissolved (µg/L)	<10	<10	<10		none	
Phosphorus Total (µg/L)	<10	<10	<5-10		none	
Potassium Total (µg/L)	159	170	153-200		none	
Residue Total (mg/L)	18	28	23-32		none	
Residue Total Dissolved (mg/L)	10	20	20-30	0	≤500	Aesthetic
Residue Total Fixed (mg/L)	8	20	14-24		none	
Residue Total Volatile (mg/L)	10	8	6-11		none	
Selenium Total (µg/L)	<0.5	<0.5	<0.5	0	50	Health
Silica as SiO ₂ (mg/L)	3.4	3.4	2.5-3.9		none	
Silver Total (µg/L)	<0.5	<0.5	<0.5		none	
Sodium Total (µg/L)	595	1580	1290-1800	0	≤200000	Aesthetic
Sulphate (mg/L)	0.7	1	0.7-1.4	0	≤500	Aesthetic
Turbidity (NTU)	1	0.12	0.08-0.21		none	
Turbidity IFE (NTU)	-	-	-	0	≤ 1.0	Health
UV Absorbance 254 nm (Abs/cm)	0.08	0.011	0.008-0.021		none	
Zinc Total (µg/L)	<3	<3	<3	0	≤5000	Aesthetic

These figures are averaged values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analyzed. Average values containing one or more results below the detection limit are preceded with "<" symbol. Minimum range values than "<" denotes not detectable with the technique used for determination. Methods and terms are based on those of the most current on-line version of "Standard Methods for the Examination of Water and Waste Water". Untreated water is from the intake prior to the raw water tunnel, treated water is from a single site in the GVWD distribution system after the treated water tunnel and before the breakhead tank. Guidelines are taken from the most current Guidelines for Canadian Drinking Water Quality summary table updated in September 2020. Capilano Source was operational for 365 days in 2020.

¹Treated turbidity guideline and the number of exceedances applies to Individual Filter Effluent readings; measured in events and not days.

Physical and Chemical Analysis of Water Supply

2020 – Seymour Water System

Parameter	Untreated	Treated		Canadian Guideline		
	Average	Average	Range	Days Exceeded	Limit	Reason Established
Alkalinity as CaCO ₃ (mg/L)	3.6	10	5.9-12		none	
Aluminum Dissolved (µg/L)	70	30	19-57		none	
Aluminum Total (µg/L)	199	29	18-66		none	
Antimony Total (µg/L)	<0.5	<0.5	<0.5	0	6	Health
Arsenic Total (µg/L)	<0.5	<0.5	<0.5	0	10	Health
Barium Total (µg/L)	3.7	3	2.1-3.5	0	1000	Health
Boron Total (µg/L)	<10	<10	<10	0	5000	Health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.1	Health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Cadmium Total (µg/L)	<0.2	<0.2	<0.2	0	5	Health
Calcium Total (µg/L)	1670	4210	2420-4820		none	
Carbon Organic - Dissolved (mg/L)	1.7	0.7	0.5-1.0		none	
Carbon Organic - Total (mg/L)	1.7	0.7	0.5-1.0		none	
Chlorate (mg/L)	<0.01	0.02	0.02-0.03	0	1	Health
Chloride (mg/L)	<0.5	2.5	2.0-3.2	0	≤250	Aesthetic
Chromium Total (µg/L)	0.06	<0.05	<0.05	0	50	Health
Cobalt Total (µg/L)	<0.5	<0.5	<0.5		none	
Color - Apparent (ACU)	19	<2	<2-2		none	
Color - True (TCU)	12	<1	<1-1	0	≤15	Aesthetic
Conductivity (µmhos/cm)	13	32	22-36		none	
Copper Total (µg/L)	19.9	<0.5	<0.5-0.7	0	≤1000	Aesthetic
Cyanide Total (mg/L)	<0.02	<0.02	<0.02	0	0.2	Health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	Health
Hardness as CaCO ₃ (mg/L)	4.9	11.2	6.6-12.9		none	
Iron Dissolved (µg/L)	80	<5	<5-7		none	
Iron Total (µg/L)	214	<6	<5-11	0	≤300	Aesthetic
Lead Total (µg/L)	<0.5	<0.5	<0.5	0	5	Health
Magnesium Total (µg/L)	182	173	121-204		none	
Manganese Dissolved (µg/L)	5.5	3.9	2.4-7.8		none	
Manganese Total (µg/L)	11.4	4.6	3.4-8.4	0	≤120	Health
Mercury Total (µg/L)	<0.05	<0.05	<0.05	0	1	Health
Molybdenum Total (µg/L)	<0.5	<0.5	<0.5		none	
Nickel Total (µg/L)	<0.5	<0.5	<0.5		none	
Nitrogen - Ammonia as N (mg/L)	<0.02	<0.02	<0.02		none	
Nitrogen - Nitrate as N (mg/L)	0.06	0.06	0.03-0.12	0	45	Health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1	Health
pH (pH units)	6.5	7.4	7.2-7.6	0	7.0 to 10.5	Aesthetic
Phenol (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Dissolved (µg/L)	<10	<10	<10		none	
Phosphorus Total (µg/L)	<10	<10	<5-10		none	
Potassium Total (µg/L)	188	175	142-203		none	
Residue Total (mg/L)	20	25	23-27		none	
Residue Total Dissolved (mg/L)	10	20	10-20	0	≤500	Aesthetic
Residue Total Fixed (mg/L)	12	17	14-20		none	
Residue Total Volatile (mg/L)	9	8	5-11		none	
Selenium Total (µg/L)	<0.5	<0.5	<0.5	0	50	Health
Silica as SiO ₂ (mg/L)	3.4	3.3	2.5-3.9		none	
Silver Total (µg/L)	<0.5	<0.5	<0.5		none	
Sodium Total (µg/L)	571	1580	1300-1810	0	≤200000	Aesthetic
Sulphate (mg/L)	1.2	1	0.7-1.4	0	≤500	Aesthetic
Turbidity (NTU)	1.6	0.12	0.07-0.59		none	
Turbidity IFE (NTU)	-	-	-	0	≤ 1.0	Health
UV Absorbance 254 nm (Abs/cm)	0.074	0.011	0.008-0.016		none	
Zinc Total (µg/L)	<3	<3	<3	0	≤5000	Aesthetic

These figures are averaged values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analyzed. Average values containing one or more results below the detection limit are preceded with "<" symbol. Minimum range values than "<" denotes not detectable with the technique used for determination. Methods and terms are based on those of the most current on-line version of "Standard Methods for the Examination of Water and Waste Water". Untreated water is from a sample site prior to coagulation, treated water is from a sample site downstream of the SFCP clearwell. Guidelines are taken from the most current Guidelines for Canadian Drinking Water Quality summary table updated in September 2020. Seymour Source was operational for 365 days in 2020.

¹Treated turbidity guideline and the number of exceedances applies to Individual Filter Effluent readings; measured in events and not days.



Physical and Chemical Analysis of Water Supply

2020 – Coquitlam Water System

Parameter	Untreated	Treated		Canadian Guideline		
	Average	Average	Range	Days Exceeded	Limit	Reason Established
Alkalinity as CaCO3 (mg/L)	2	8.6	7.5-11		none	
Aluminum Dissolved (µg/L)	63	62	59-66		none	
Aluminum Total (µg/L)	100	96	77-166		none	
Antimony Total (µg/L)	<0.5	<0.5	<0.5	0	6	Health
Arsenic Total (µg/L)	<0.5	<0.5	<0.5	0	10	Health
Barium Total (µg/L)	2.4	2.3	2.1-2.5	0	1000	Health
Boron Total (µg/L)	<10	<10	<10	0	5000	Health
Bromate (mg/L)	<0.01	<0.01	<0.01	0	0.1	Health
Bromide (mg/L)	<0.01	<0.01	<0.01		none	
Cadmium Total (µg/L)	<0.2	<0.2	<0.2	0	5	Health
Calcium Total (µg/L)	837	834	799-873		none	
Carbon Organic - Dissolved (mg/L)	1.6	1.5	0.2-2.1		none	
Carbon Organic - Total (mg/L)	1.8	1.5	1.3-2.1		none	
Chlorate (mg/L)	<0.01	0.06	0.04-0.08	0	1	Health
Chloride (mg/L)	<0.5	2.2	1.8-2.5	0	≤250	Aesthetic
Chromium Total (µg/L)	<0.05	<0.05	<0.05	0	50	Health
Cobalt Total (µg/L)	<0.5	<0.5	<0.5		none	
Color - Apparent (ACU)	14	<2	<2-3		none	
Color - True (TCU)	10	<1	<1-1	0	≤15	Aesthetic
Conductivity (µmhos/cm)	8	27	25-33		none	
Copper Total (µg/L)	4.2	<0.5	<0.5	0	≤1000	Aesthetic
Cyanide Total (mg/L)	<0.02	<0.02	<0.02	0	0.2	Health
Fluoride (mg/L)	<0.05	<0.05	<0.05	0	1.5	Health
Hardness as CaCO3 (mg/L)	2.5	2.5	2.3-2.6		none	
Iron Dissolved (µg/L)	21	23	15-43		none	
Iron Total (µg/L)	52	52	35-97	0	≤300	Aesthetic
Lead Total (µg/L)	<0.5	<0.5	<0.5	0	5	Health
Magnesium Total (µg/L)	98	97	84-109		none	
Manganese Dissolved (µg/L)	4.1	2.3	1.5-3.0		none	
Manganese Total (µg/L)	4.6	3.2	2.4-4.6	0	≤120	Health
Mercury Total (µg/L)	<0.05	<0.05	<0.05	0	1	Health
Molybdenum Total (µg/L)	<0.5	<0.5	<0.5		none	
Nickel Total (µg/L)	<0.5	<0.5	<0.5		none	
Nitrogen - Ammonia as N (mg/L)	<0.02	<0.02	<0.02		none	
Nitrogen - Nitrate as N (mg/L)	0.07	0.07	0.04-0.09	0	45	Health
Nitrogen - Nitrite as N (mg/L)	<0.01	<0.01	<0.01	0	1	Health
pH (pH units)	6.3	7.6	7.1-8.1	0	7.0 to 10.5	Aesthetic
Phenol (mg/L)	<0.005	<0.005	<0.005		none	
Phosphorus Dissolved (µg/L)	<10	<10	<10		none	
Phosphorus Total (µg/L)	<10	<10	<5-10		none	
Potassium Total (µg/L)	113	114	106-122		none	
Residue Total (mg/L)	14	26	21-30		none	
Residue Total Dissolved (mg/L)	10	20	8-30	0	≤500	Aesthetic
Residue Total Fixed (mg/L)	7	16	11-22		none	
Residue Total Volatile (mg/L)	7	10	7-12		none	
Selenium Total (µg/L)	<0.5	<0.5	<0.5	0	50	Health
Silica as SiO2 (mg/L)	2.6	2.6	2.4-2.9		none	
Silver Total (µg/L)	<0.5	<0.5	<0.5		none	
Sodium Total (µg/L)	470	5100	4640-5650	0	≤200000	Aesthetic
Sulphate (mg/L)	0.5	<0.6	<0.5-0.6	0	≤500	Aesthetic
Turbidity (NTU)	0.49	0.42	0.19-1.4		none	
UV 254 - Apparent (Abs/cm)	0.073	0.023	0.014-0.059		none	
UV Absorbance 254 nm (Abs/cm)	0.067	0.019	0.015-0.024		none	
Zinc Total (µg/L)	<3	<3	<3	0	≤5000	Aesthetic

These figures are averaged values from a number of laboratory analyses done throughout the year. Where the range is a single value no variation was measured for the samples analyzed. Average values containing one or more results below the detection limit are preceded with "<" symbol. Minimum range values than "<" denotes not detectable with the technique used for determination. Methods and terms are based on those of the most current on-line version of "Standard Methods for the Examination of Water and Waste Water". Untreated water is from the intake prior to treatment, treated water is from a single site in the GVWD distribution system downstream of CWTP. Guidelines are taken from the most current Guidelines for Canadian Drinking Water Quality summary table updated in September 2020. Recommended turbidity guidelines applies to finished treated water from an un-filtered source. Coquitlam source was operational for 365 days in 2020.