



City Of Brantford Water System

Treatment Operators Analysis

January 2020

Source	Parameter	Units	MAC	AO/OG	Minimum	Maximum	Average
Grand River	Ammonia	mg/L			0.05	0.34	0.14
Brantford POE	Ammonia	mg/L			0.25	0.54	0.34
Grand River	True Colour	PtCo			11.0	34.0	20.0
Brantford POE	True Colour	PtCo		5	0.0	3.0	0.0
Brantford POE	Aluminum	mg/L		0.100	0.025	0.101	0.051
Grand River	UV254				0.132	0.206	0.162
Brantford POE	UV254				0.018	0.090	0.055
Brantford POE	Fluoride	mg/L	1.50		0.150	0.720	0.630
Brantford POE	Free chlorine	mg/L			0.10	0.10	0.10
Brantford POE	Combined Chlorine	mg/L	3.00		2.40	2.90	2.61
Brantford POE	Total Chlorine	mg/L			2.50	3.00	2.71

MAC - Maximum Acceptable Concentration

AO/OG - Aesthetic Objective/Operational Guideline

Combined Chlorine - The concentration of residual chlorine that is combined with ammonia (NH₃), organic nitrogen, or both in water as chloramine, yet is still available to oxidize organic matter and act as a disinfectant. Combined chlorine can be accurately estimated as the difference between the measured total chlorine and measure or known free chlorine residual.



City Of Brantford Water System

SCADA Data - Monthly Averages

January 2020

<i>Water Treatment Plant</i>			
Source	Parameter	Units	Monthly Average
Grand River	Flow Rate	ML/d	34.28
Brantford POE	Flow Rate	ML/d	31.08

Grand River	Turbidity	NTU	2.18
Filter 1	Turbidity	NTU	0.034
Filter 2	Turbidity	NTU	0.039
Filter 3	Turbidity	NTU	0.040
Filter 4	Turbidity	NTU	0.039
Filter 5	Turbidity	NTU	0.027
Filter 6	Turbidity	NTU	0.045
Filter 7	Turbidity	NTU	0.027
Filter 8	Turbidity	NTU	0.040
Brantford POE	Turbidity	NTU	0.057

CCC Effluent	Log Removal		8.63
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Brantford POE	Combined Chlorine	mg/L	2.60
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Brantford POE	Pressure	psi	94.60
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<i>Distribution System</i>			
Source	Parameter	Units	Monthly Average
Tollgate Reservoir	Total Chlorine	mg/L	2.52
Park Rd. Reservoir	Total Chlorine	mg/L	2.51
Northwest Reservoir	Total Chlorine	mg/L	2.59

Albion St. Booster	Pressure	psi	90.41
Tollgate Reservoir	Pressure	psi	59.60
Park Rd. Reservoir	Pressure	psi	79.21
Northwest Reservoir	Pressure	psi	85.67
Bell Lane	Pressure	psi	48.06
Fifth Ave	Pressure	psi	99.86
Lawren Harris	Pressure	psi	65.08
St. Andrews	Pressure	psi	93.58
Empy St.	Pressure	psi	82.95

Definitions:

SCADA - Supervisory Control and Data Acquisition

CCC - Chlorine Contact Chambers

Log Removal – a shorthand term for \log_{10} removal, used in reference to the physical-chemical treatment of water to remove, kill, or inactivate pathogenic organisms.

Combined Chlorine - The concentration of residual chlorine that is combined with ammonia (NH₃), organic nitrogen, or both in water as chloramine, yet is still available to oxidize organic matter and act as a disinfectant. Combined chlorine can be accurately estimated as the difference between the measured total chlorine and measure or known free chlorine residual.