



City Of Brantford Water System

Treatment Operators Analysis

June 2019

Source	Parameter	Units	MAC	AO/OG	Minimum	Maximum	Average
Grand River	Ammonia	mg/L			0.07	0.16	0.11
Brantford POE	Ammonia	mg/L			0.24	0.48	0.36
Grand River	True Colour	PtCo			13.0	26.0	21.0
Brantford POE	True Colour	PtCo		5	0.0	3.0	0.0
Brantford POE	Aluminum	mg/L		0.100	0.054	0.214	0.167
Grand River	UV254				0.150	0.189	0.167
Brantford POE	UV254				0.034	0.046	0.040
Brantford POE	Fluoride	mg/L	1.50		0.190	0.880	0.720
Brantford POE	Free chlorine	mg/L			0.10	0.10	0.10
Brantford POE	Combined Chlorine	mg/L	3.00		2.40	2.80	2.57
Brantford POE	Total Chlorine	mg/L			2.50	2.90	2.67

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
 June 2019

<i>Water Treatment Plant</i>			
Source	Parameter	Units	Monthly Average
Grand River	Flow Rate	ML/d	38.54
Brantford POE	Flow Rate	ML/d	34.95
Grand River	Turbidity	NTU	6.27
Filter 1	Turbidity	NTU	0.056
Filter 2	Turbidity	NTU	0.058
Filter 3	Turbidity	NTU	0.059
Filter 4	Turbidity	NTU	0.053
Filter 5	Turbidity	NTU	0.058
Filter 6	Turbidity	NTU	0.069
Filter 7	Turbidity	NTU	0.050
Filter 8	Turbidity	NTU	0.060
Brantford POE	Turbidity	NTU	0.079
CCC Effluent	Log Removal		18.10
Brantford POE	Combined Chlorine	mg/L	2.54
Brantford POE	Pressure	psi	94.54

<i>Distribution System</i>			
Source	Parameter	Units	Monthly Average
Tollgate Reservoir	Total Chlorine	mg/L	2.17
Park Rd. Reservoir	Total Chlorine	mg/L	2.22
Northwest Reservoir	Total Chlorine	mg/L	2.37
Albion St. Booster	Pressure	psi	89.97
Tollgate Reservoir	Pressure	psi	59.80
Park Rd. Reservoir	Pressure	psi	79.13
Northwest Reservoir	Pressure	psi	85.13
Bell Lane	Pressure	psi	47.72
Fifth Ave	Pressure	psi	99.46
Lawren Harris	Pressure	psi	64.67
St. Andrews	Pressure	psi	92.50
Empey St.	Pressure	psi	82.15

Definitions:

SCADA - Supervisory Control and Data Acquisition

CCC - Chlorine Contact Chambers

Log Removal – a shorthand term for log₁₀ 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.