



## City Of Brantford Water System

### Treatment Operators Analysis

November 2019

Source	Parameter	Units	MAC	AO/OG	Minimum	Maximum	Average
Grand River	Ammonia	mg/L			0.02	0.26	0.09
Brantford POE	Ammonia	mg/L			0.13	0.54	0.36
Grand River	True Colour	PtCo			8.0	36.0	19.5
Brantford POE	True Colour	PtCo		5	0.0	1.0	0.0
Brantford POE	Aluminum	mg/L		0.100	0.025	0.098	0.066
Grand River	UV254				0.134	0.232	0.162
Brantford POE	UV254				0.040	0.067	0.053
Brantford POE	Fluoride	mg/L	1.50		0.630	0.870	0.750
Brantford POE	Free chlorine	mg/L			0.10	0.10	0.10
Brantford POE	Combined Chlorine	mg/L	3.00		2.40	2.80	2.62
Brantford POE	Total Chlorine	mg/L			2.50	2.90	2.72

**MAC** - Maximum Acceptable Concentration

**AO/OG** - Aesthetic Objective/Operational Guideline

**Combined Chlorine** - The concentration of residual chlorine that is combined with ammonia (NH<sub>3</sub>), 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**  
 November 2019

<i>Water Treatment Plant</i>			
Source	Parameter	Units	Monthly Average
Grand River	Flow Rate	ML/d	35.03
Brantford POE	Flow Rate	ML/d	31.73

Grand River	Turbidity	NTU	5.59
Filter 1	Turbidity	NTU	0.034
Filter 2	Turbidity	NTU	0.038
Filter 3	Turbidity	NTU	0.039
Filter 4	Turbidity	NTU	0.043
Filter 5	Turbidity	NTU	0.028
Filter 6	Turbidity	NTU	0.045
Filter 7	Turbidity	NTU	0.028
Filter 8	Turbidity	NTU	0.042
Brantford POE	Turbidity	NTU	0.059

CCC Effluent	Log Removal		9.14
--------------	-------------	--	------

Brantford POE	Combined Chlorine	mg/L	2.63
---------------	-------------------	------	------

Brantford POE	Pressure	psi	94.53
---------------	----------	-----	-------

<i>Distribution System</i>			
Source	Parameter	Units	Monthly Average
Tollgate Reservoir	Total Chlorine	mg/L	2.46
Park Rd. Reservoir	Total Chlorine	mg/L	2.37
Northwest Reservoir	Total Chlorine	mg/L	2.52

Albion St. Booster	Pressure	psi	90.32
Tollgate Reservoir	Pressure	psi	59.86
Park Rd. Reservoir	Pressure	psi	79.27
Northwest Reservoir	Pressure	psi	85.40
Bell Lane	Pressure	psi	47.97
Fifth Ave	Pressure	psi	99.84
Lawren Harris	Pressure	psi	65.10
St. Andrews	Pressure	psi	93.42
Empey St.	Pressure	psi	83.00

**Definitions:**

**SCADA** - Supervisory Control and Data Acquisition

**CCC** - Chlorine Contact Chambers

**Log Removal** – a shorthand term for log<sub>10</sub> 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 (NH<sub>3</sub>), 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.