



WATER OPERATING SERVICES  
 WATER QUALITY  
 10100 EAST JEFFERSON AVENUE  
 DETROIT, MICHIGAN 48214  
 PHONE: 313-926-8102 / 313-926-8127

### GLWA Water Treatment Plants' - Mineral Reports

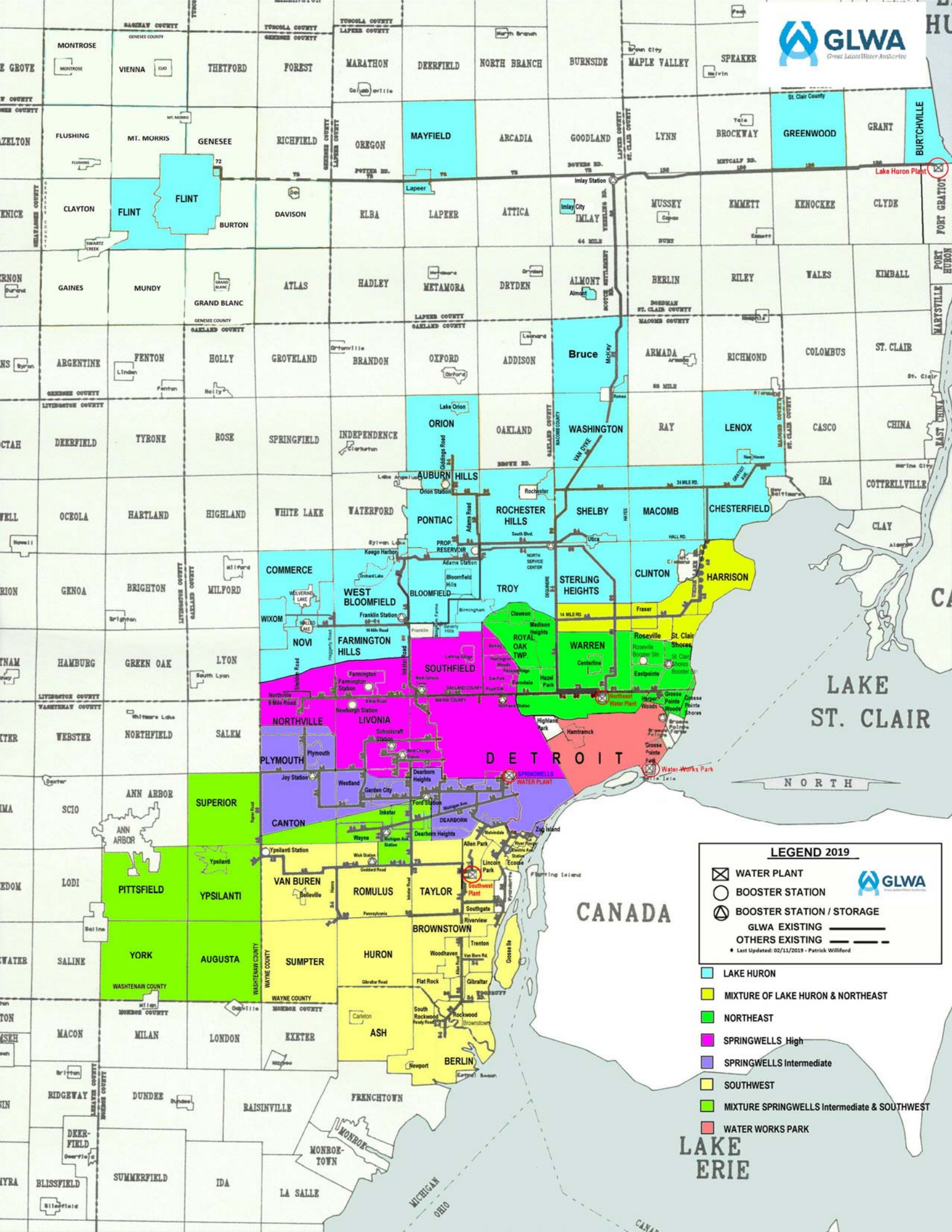
Parameter	Formula	Units	01/16/2018		01/16/2018		01/16/2018		01/16/2018		01/16/2018		MCL	Sec.Std	MDL		
			Lake Huron		Southwest		Belle Isle		Water Works Park		Northeast					Springwells	
			Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap				Raw	Tap
Turbidity		NTU	1.50	0.05	2.70	0.03	1.90	0.07	0.10	0.05	0.3/95% (1)						
Total Solids		mg/L	108	113	125	127	123	127	123	137			500	10			
Total Dissolved Solids		mg/L	130	118	114	123	117	122	131	126			500	10			
Aluminum	Al	mg/L	0.138	0.103	0.169	0.078	0.260	0.117	0.169	0.066			0.05-0.2	0.005			
Iron	Fe	mg/L	0.030	< 0.005	0.068	< 0.005	0.080	< 0.005	< 0.005	0.022			0.3	0.005			
Copper	Cu	mg/L	0.013	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.3 (AL)		1.0	0.002			
Magnesium	Mg	mg/L	7.78	8.30	8.65	8.90	7.98	8.35	8.98	8.93				0.5			
Calcium	Ca	mg/L	25.9	26.4	26.7	27.8	26.9	27.2	27.8	27.5				0.1			
Sodium	Na	mg/L	4.69	4.93	5.21	5.40	5.55	5.13	5.68	5.70			20 (2)	0.1			
Potassium	K	mg/L	0.87	0.88	0.90	0.90	1.06	0.95	0.90	0.92				0.1			
Manganese	Mn	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	< 0.002			0.05	0.002			
Lead	Pb	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.015 (AL)			0.001			
Zinc	Zn	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1			5	0.1			
Silica	SiO <sub>2</sub>	mg/L	0.9	1.1	0.9	1.1	1.1	1.1	0.8	0.9				0.4			
Sulfate	SO <sub>4</sub> <sup>2-</sup>	mg/L	16.8	21.5	17.8	25.5	17.2	22.7	24.0	24.9			250				
Chloride	Cl <sup>-</sup>	mg/L	7.9	8.9	7.9	9.4	8.4	9.9	9.9	9.9			250	5			
Phosphorus	P	mg/L	< 0.05	0.39	< 0.05	0.34	< 0.05	0.36	0.36	0.37				0.05			
Free Carbon Dioxide	CO <sub>2</sub>	mg/L	1.0	5.7	1.6	7.8	1.4	7.6	6.9	7.0							
Total Hardness (3), (4), (5)		mg/L	96	104	106	104	102	106	106	102							
Total Alkalinity (3)		mg/L	82	72	86	74	86	74	76	80							
Carbonate Alkalinity (3)		mg/L	0	0	0	0	0	0	0	0							
Bi-Carbonate Alkalinity (3)		mg/L	81	72	85	74	85	74	76	80							
Non-Carbonate Hardness (3)		mg/L	14	32	20	30	16	32	30	22							
Chemical Oxygen Demand		mg/L	2.9	< 2	2.9	2.9	3.3	3.3	2.5	2.5				2			
Dissolved Oxygen		mg/L	15.0	15.6	14.5	14.8	15.2	16.8	14.7	15.2							
Nitrite Nitrogen	NO <sub>2</sub> <sup>-</sup> - N	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1			0.1			
Nitrate Nitrogen	NO <sub>3</sub> <sup>-</sup> - N	mg/L	0.30	0.29	0.30	0.30	0.29	0.27	0.28	0.30	10			0.1			
Fluoride	F <sup>-</sup>	mg/L	0.08	0.75	0.08	0.61	0.07	0.60	0.39	0.35	4.0		2.0	0.5			
pH			8.20	7.40	8.04	7.28	8.08	7.29	7.34	7.36			6.5-8.5				
Specific Conductance @ 25 °C.		micromhos	218	228	231	240	230	237	239	239							
Temperature		°C	0.0	9.2	1.5	1.7	0.1	4.0	1.1	2.0							

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of samples in any month and always be < 1 NTU
Sec.Std: Secondary Standard	(2) EPA Guidance Level
NTU: Nephelometric Turbidity Unit	(3) As Calcium Carbonate
mg/L: Milligram Per Liter	mg/L is equivalent to part per million (ppm)
AL: Action Level	
MDL: Method Detection Limit	(4) By Titration
< : Less than	(5) Hardness in Grains per Gallon = 0.058 × (Hardness in mg/L)
AE: Analytical Error	(6) Reported results are below the low calibration standard but above the instrument detection limit.
IV: Invalid Sample	

Reporting Analyst: **Raupach**  
 Reviewed By: **Williford**

Chemist  
 Management Professional - Operations

Great Lakes Water Authority



**LEGEND 2019**

- WATER PLANT
- BOOSTER STATION
- BOOSTER STATION / STORAGE
- GLWA EXISTING
- OTHERS EXISTING
- Last Updated: 02/11/2019 - Patrick Williford

- LAKE HURON
- MIXTURE OF LAKE HURON & NORTHEAST
- NORTHEAST
- SPRINGWELLS High
- SPRINGWELLS Intermediate
- SOUTHWEST
- MIXTURE SPRINGWELLS Intermediate & SOUTHWEST
- WATER WORKS PARK

LAKE ERIE