



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

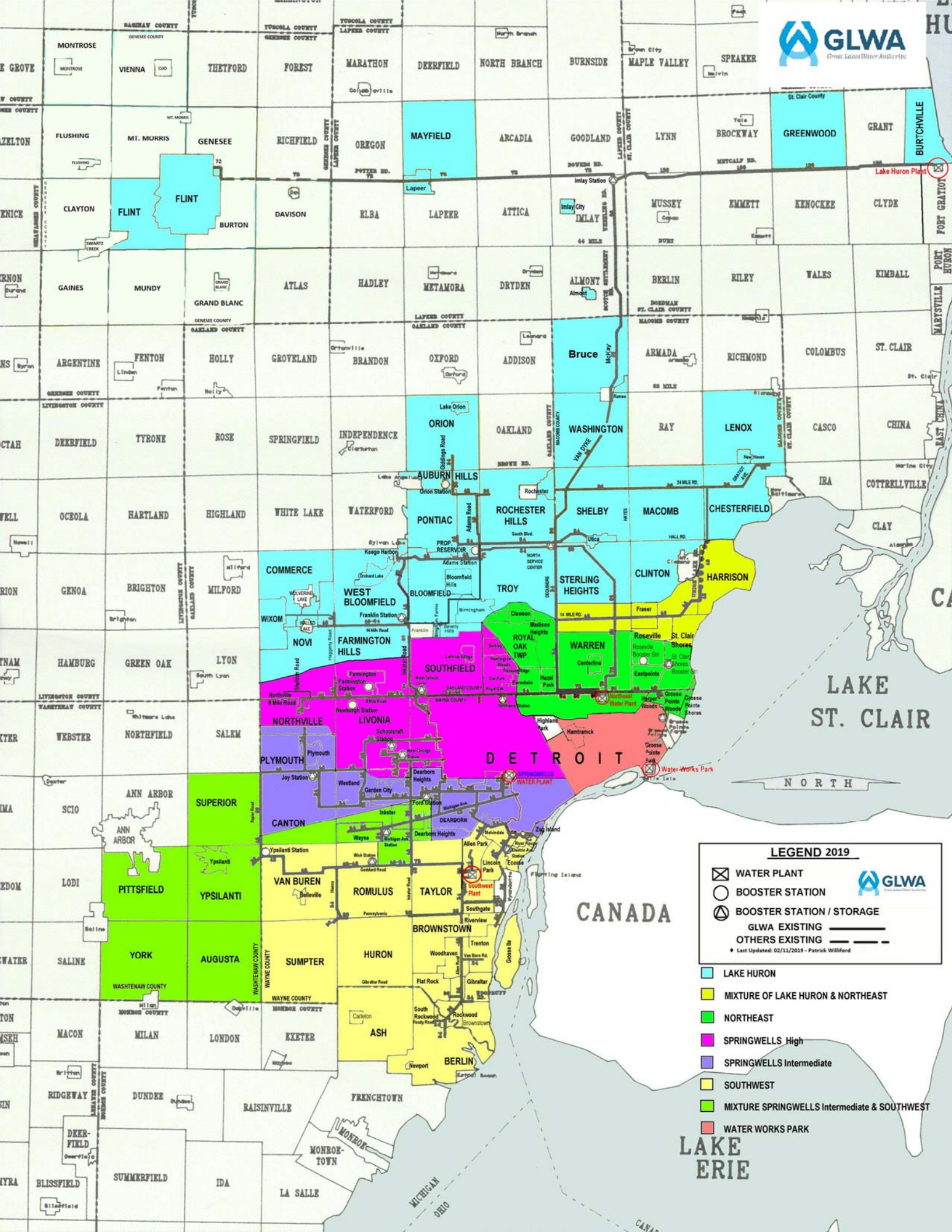
Sample Dates: 05/15/2018 05/15/2018 05/15/2018 05/15/2018 05/15/2018 05/15/2018 05/15/2018 05/15/2018

Parameter	Formula	Units	Lake Huron		Southwest		Belle Isle		Water Works Park		Northeast		Springwells		MCL	Sec.Std	MDL
			Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap			
Turbidity		NTU	0.55	0.05	3.10	0.09	3.10	0.07	0.07	0.07	0.07	0.07	0.08	0.3/95% (1)			
Total Solids		mg/L	141	153	170	179	158	158	171	171	171	171	171		500	10	
Total Dissolved Solids		mg/L	130	129	156	143	137	136	138	138	138	134	134		500	10	
Aluminum	Al	mg/L	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE	AE		0.05-0.2	0.005	
Iron	Fe	mg/L	0.077	0.056	0.179	0.056	0.156	0.026	0.037	0.058	0.058	0.058	0.058		0.3	0.005	
Copper	Cu	mg/L	0.006	< 0.005	< 0.005	< 0.005	0.007	< 0.005	< 0.005	0.006	1.3 (AL)	1.0	0.005		1.0	0.005	
Magnesium	Mg	mg/L	8.18	8.05	8.05	8.35	8.08	8.15	8.23	10.10						0.5	
Calcium	Ca	mg/L	25.1	25.3	31.3	29.7	29.7	26.4	26.4	26.1						0.1	
Sodium	Na	mg/L	5.89	6.36	7.01	8.17	5.96	7.08	9.36	8.18					20 (2)	0.1	
Potassium	K	mg/L	1.02	1.02	1.17	1.17	0.97	1.08	1.09	1.08						0.1	
Manganese	Mn	mg/L	< 0.002	< 0.002	< 0.002	< 0.002	0.003	< 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 ₂	mg/L	1.8	2.1	1.6	1.9	1.6	1.8	1.7	1.7						0.4	
Sulfate	SO ₄ ²⁻	mg/L	16.6	19.2	18.8	24.7	18.2	21.5	25.3	24.7				250			
Chloride	Cl ⁻	mg/L	8.2	9.6	10.7	12.6	8.8	11.2	11.2	12.1				250		5	
Phosphorus	P	mg/L	< 0.05	0.39	< 0.05	0.30	< 0.05	0.33	0.34	0.39						0.05	
Free Carbon Dioxide	CO ₂	mg/L	0.8	3.5	1.4	8.3	1.0	6.2	8.8	7.8							
Total Hardness (3), (4), (5)		mg/L	96	96	102	102	100	100	102	102							
Total Alkalinity (3)		mg/L	78	70	84	72	80	70	70	66							
Carbonate Alkalinity (3)		mg/L	0	0	0	0	0	0	0	0							
Bi-Carbonate Alkalinity (3)		mg/L	76	70	83	72	79	70	70	66							
Non-Carbonate Hardness (3)		mg/L	18	26	18	30	20	30	32	36							
Chemical Oxygen Demand		mg/L	3.8	< 2	< 2	< 2	3.4	2.6	< 2	< 2						2	
Dissolved Oxygen		mg/L	12.6	12.7	10.3	10.5	10.2	10.9	11.4	11.6							
Nitrite Nitrogen	NO ₂ ⁻ - 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 ₃ ⁻ - N	mg/L	AE	AE	AE	AE	AE	AE	AE	AE				10		0.1	
Fluoride	F ⁻	mg/L	0.15	0.66	0.18	0.67	0.11	0.64	0.56	0.57				4.0	2.0	0.5	
pH			8.30	7.60	8.06	7.24	8.20	7.35	7.20	7.23					6.5-8.5		
Specific Conductance @ 25 °C.		micromhos	204	210	229	235	212	218	225	231							
Temperature		°C	10.8	7.7	13.4	12.8	15.0	13.0	11.6	15.0							

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 x (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: **Levoska & Khan** Chemist
 Reviewed By: **Williford** Management Professional - Operations

Great Lakes Water Authority



LEGEND 2019

- WATER PLANT
- BOOSTER STATION
- BOOSTER STATION / STORAGE
- GLWA EXISTING
- OTHERS EXISTING

GLWA
Great Lakes Water Authority

◆ 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