



**Detroit Water and Sewerage Department**  
**Water Quality Division**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**02/11/2014**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	28.00	0.06	0.3/95% (1)		
Total Solids		mg/L	221	147		500	10
Total Dissolved Solids		mg/L	154	145		500	10
Aluminum	Al	mg/L	2.650	0.125		0.05-0.2	0.005
Iron	Fe	mg/L	0.970	0.503		0.3	0.005
Copper	Cu	mg/L	0.015	< 0.005	1.3		0.002
Magnesium	Mg	mg/L	8.13	7.50			0.5
Calcium	Ca	mg/L	29.1	26.9			0.1
Sodium	Na	mg/L	6.01	6.06		20 (2)	0.1
Potassium	K	mg/L	1.15	0.99			0.1
Manganese	Mn	mg/L	0.014	< 0.002		0.05	0.002
Lead	Pb	mg/L	< 0.002	< 0.002	0.015		0.002
Zinc	Zn	mg/L	0.00	0.00		5	0.1
Silica	SiO <sub>2</sub>	mg/L	0.8	1.0			0.4
Sulfate	SO <sub>4</sub> <sup>2-</sup>	mg/L	19.8	28.0			
Chloride	Cl <sup>-</sup>	mg/L	12.5	11.5		250	5
Phosphorus	P	mg/L	< 0.05	0.32			0.05
Free Carbon Dioxide	CO <sub>2</sub>	mg/L	2.8	7.5			
Total Hardness (3), (4), (5)		mg/L	AE	120			
Total Alkalinity (3)		mg/L	86	79			
Carbonate Alkalinity (3)		mg/L	0	0			
Bi-Carbonate Alkalinity (3)		mg/L	86	79			
Non-Carbonate Hardness (3)		mg/L	AE	41			
Chemical Oxygen Demand		mg/L	7.6	2.0			2
Dissolved Oxygen		mg/L	11.9	12.3			
Nitrite Nitrogen	NO <sub>2</sub> <sup>-</sup> -N	mg/L	< 0.1	< 0.1	1		0.1
Nitrate Nitrogen	NO <sub>3</sub> <sup>-</sup> -N	mg/L	0.62	0.50	10	10	0.1
Fluoride	F <sup>-</sup>	mg/L	0.36	0.54	4		0.5
pH			7.78	7.32	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	335	345			
Temperature		°C	6.4	2			

Legend	Notes:
MCL: Maximum Contaminant Level	(1) Turbidity must not exceed 0.3 NTU in 95% of daily samples in any month
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)
µg/L: Microgram Per Liter	µg/L is equivalent to part per billion (ppb)
MDL: Method Detection Limit	(4) By Titration
< : Less than	(5) Tap Water Hardness in Grains per Gallon <b>6.96 GPG</b>
AE: Analytical Error	(6) Reported results are below the low calibration standard but above the instrument
IV: Invalid Sample	detection limit.

Analyst: Brian Brown      Sr. Analytical Chemist      Initial **B. B.**      Date: 05/08/2014  
 Reviewed By: Patrick Williford      Principal Chemist      Initial **P. W.**      Date: 06/10/2014

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