

**City of Detroit**  
**Water and Sewerage Department**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**August 3, 2011**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	7.30	0.09	0.3/95% (1)		
Total Solids		mg/L	162	150		500	10
Total Dissolved Solids		mg/L	152	141		500	10
Aluminum	Al	mg/L	0.367	0.159		0.05-0.2	0.005
Iron	Fe	mg/L	0.277	<0.050		0.3	0.005
Copper	Cu	mg/L	0.020	<0.002	1.3		0.002
Magnesium	Mg	mg/L	8.23	7.95			0.5
Calcium	Ca	mg/L	24.6	24.3			0.1
Sodium	Na	mg/L	5.57	5.62		20 (2)	0.1
Potassium	K	mg/L	1.02	0.89			0.1
Manganese	Mn	mg/L	0.010	<0.002		0.05	0.002
Zinc	Zn	mg/L	<0.1	<0.1		5	0.1
Silica	SiO2	mg/L	0.74	0.9			0.4
Sulfate	SO4	mg/L	18.8	25.4			
Chloride	Cl-	mg/L	8.5	10.5		250	5
Phosphorus	P	mg/L	<0.05	0.33			0.05
Free Carbon Dioxide	CO2	mg/L	1.1	4.9			
Total Hardness (3), (4), (5)		mg/L	101	101			
Total Alkalinity (3)		mg/L	79	81			
Carbonate Alkalinity (3)		mg/L	0	0			
Bi-Carbonate Alkalinity (3)		mg/L	79	81			
Non-Carbonate Hardness (3)		mg/L	22	20			
Chemical Oxygen Demand		mg/L	6.0	4.8			2
Dissolved Oxygen		mg/L	8.3	8.0			
Ammonia Nitrogen	NH3-N	mg/L	0.2	0.2			0.1
Organic Nitrogen		mg/L	<0.1	<0.1			0.1
Nitrite Nitrogen	NO2-N	mg/L	<0.1	<0.1	1		0.1
Nitrate Nitrogen	NO3-N	mg/L	0.24	0.25	10	10	0.1
Fluoride	F	mg/L	0.14	0.85	4		0.5
pH			8.26	7.52	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	220	226			
Temperature		°C	26	25.4			

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)
MDL: Method Detection Limit	(4) By Titration
<: Less than	(5) Tap Water Hardness in Grains per Gallon <b>5.86 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  
Reviewed By: Patrick Williford

Sr. Analytical Chemist  
Principal Chemist

Initial **B. B.**  
Initial **P.W.**

Date: Jan 9, 2012  
Date: 01/12/2012

**Sue McCormick Director**  
**Detroit Water & Sewerage Department**