

**City of Detroit**  
**Water and Sewerage Department**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**July 6, 2010**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	12.00	0.04	0.3/95% (1)		
Total Solids		mg/L	165	166		500	10
Total Dissolved Solids		mg/L	141	134		500	10
Aluminum	Al	mg/L	0.502	0.058		0.05-0.2	0.005
Iron	Fe	mg/L	0.796	0.373		0.3	0.005
Copper	Cu	mg/L	0.026	<0.002	1.3		0.002
Magnesium	Mg	mg/L	8.12	8.34			0.5
Calcium	Ca	mg/L	28.2	28.4			0.1
Sodium	Na	mg/L	5.26	5.33		20 (2)	0.1
Potassium	K	mg/L	0.99	0.90			0.1
Manganese	Mn	mg/L	0.014	<0.002		0.05	0.002
Zinc	Zn	mg/L	<0.1	<0.1		5	0.1
Silica	SiO2	mg/L	0.50	0.6			0.4
Sulfate	SO4	mg/L	21.4	31.9			
Chloride	Cl-	mg/L	8.5	10.5		250	5
Phosphorus	P	mg/L	<0.05	0.34			0.05
Free Carbon Dioxide	CO2	mg/L	2.3	5.6			
Total Hardness (3), (4), (5)		mg/L	99	97			
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	20	16			
Chemical Oxygen Demand		mg/L	8.4	4.8			2
Dissolved Oxygen		mg/L	7.0	7.7			
Ammonia Nitrogen	NH3-N	mg/L	0.1	<0.1			0.1
Organic Nitrogen		mg/L	0.2	0.2			0.1
Nitrite Nitrogen	NO2-N	mg/L	<0.1	<0.1	1		0.1
Nitrate Nitrogen	NO3-N	mg/L	0.43	0.45	10	10	0.1
Fluoride	F	mg/L	0.4	0.8	4		0.5
pH			7.93	7.46	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 oC.		micromhos	225	227			
Temperature		°C	24.9	24.5			

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>5.63 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: Nov., 11, 2010  
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