

**City of Detroit**  
**Water and Sewerage Department**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**April 10, 2007**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	13.00	0.30	0.3/95% (1)		
Total Solids		mg/l	185	173		500	10
Total Dissolved Solids		mg/l	179	173		500	10
Aluminum	Al	mg/l	0.402	<0.050		0.05-0.2	0.005
Iron	Fe	mg/l	0.447	0.141		0.3	0.005
Copper	Cu	mg/l	0.019	0.004	1.3		0.002
Magnesium	Mg	mg/l	9.03	9.29			0.1
Calcium	Ca	mg/l	41.3	39.7			0.5
Sodium	Na	mg/l	8.60	8.47		20 (2)	0.1
Potassium	K	mg/l	1.70	1.54			0.1
Manganese	Mn	mg/l	0.008	0.004		0.05	0.002
Zinc	Zn	mg/l	<0.1	<0.1		5	0.1
Silica	SiO <sub>2</sub>	mg/l	1.68	2.0			0.4
Sulfate	SO <sub>4</sub>	mg/l	18.1	34.1			15
Chloride	Cl <sup>-</sup>	mg/l	17.0	17.5		250	5
Phosphorus	P	mg/l	<0.05	0.37			0.05
Free Carbon Dioxide	CO <sub>2</sub>	mg/l	0.6	6.3			
Total Hardness (3), (4), (5)		mg/l	126	134			
Total Alkalinity (3)		mg/l	109	95			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	79	86			
Non-Carbonate Hardness (3)		mg/l	31	24			
Chemical Oxygen Demand		mg/l	6.9	5.7			2
Dissolved Oxygen		mg/l	11.9	11.8			
Ammonia Nitrogen	NH <sub>3</sub> -N	mg/l	<0.1	<0.1			0.1
Organic Nitrogen		mg/l	0.2	0.2			0.1
Nitrite Nitrogen	NO <sub>2</sub> -N	mg/l	<0.1	<0.1	1		0.1
Nitrate Nitrogen	NO <sub>3</sub> -N	mg/l	1.81	1.65	10	10	0.1
Fluoride	F	mg/l	0.1	0.8	4		0.5
pH			8.09	7.48	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	270	315			
Temperature in °C.			9.1	9.6			

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>7.77 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: June 22, 2007

Reviewed By: Mary Lynn Semegan

Water Quality Manager

Initial **M.L.S.**

Date: June 26 2007

**Victor M. Mercado, Director**  
**Detroit Water & Sewerage Department**