

**City of Detroit**  
**Water and Sewerage Department**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**February 5, 2008**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	3.80	0.07	0.3/95% (1)		
Total Solids		mg/l	140	145		500	10
Total Dissolved Solids		mg/l	134	138		500	10
Aluminum	Al	mg/l	0.157	0.160		0.05-0.2	0.005
Iron	Fe	mg/l	0.144	<0.050		0.3	0.005
Copper	Cu	mg/l	0.010	0.006	1.3		0.002
Magnesium	Mg	mg/l	7.81	8.02			0.1
Calcium	Ca	mg/l	30.2	30.0			0.5
Sodium	Na	mg/l	6.81	6.36		20 (2)	0.1
Potassium	K	mg/l	0.97	0.94			0.1
Manganese	Mn	mg/l	0.004	<0.002		0.05	0.002
Zinc	Zn	mg/l	<0.1	<0.1		5	0.1
Silica	SiO <sub>2</sub>	mg/l	1.85	2.2			0.4
Sulfate	SO <sub>4</sub>	mg/l	49.9	55.8			15
Chloride	Cl <sup>-</sup>	mg/l	9.0	10.0		250	5
Phosphorus	P	mg/l	<0.05	0.22			0.05
Free Carbon Dioxide	CO <sub>2</sub>	mg/l	1.1	8.6			
Total Hardness (3), (4), (5)		mg/l	104	106			
Total Alkalinity (3)		mg/l	86	64			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	81	75			
Non-Carbonate Hardness (3)		mg/l	26	34			
Chemical Oxygen Demand		mg/l	2.7	<2.0			2
Dissolved Oxygen		mg/l	15.2	14.7			
Ammonia Nitrogen	NH <sub>3</sub> -N	mg/l	<0.1	<0.1			0.1
Organic Nitrogen		mg/l	0.2	0.1			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	0.52	0.47	10	10	0.1
Fluoride	F	mg/l	0.1	0.9	4		0.5
pH			7.80	7.17	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	224	233			
Temperature in °C.			4.2	9.7			

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>6.15 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: Mary Lynn Semegan

Sr. Analytical Chemist

Principal Chemist

Initial **B. B.**

Initial **M.L.S.**

Date: Apr 1, 2008

Date: April 9, 2008

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