

**City of Detroit**  
**Water and Sewerage Department**  
**Laboratory Analysis of Water Samples Collected at**  
**Southwest Plant**  
**January 10, 2006**

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	8.30	0.06	0.3/95% (1)		
Total Solids		mg/l	139	137		500	10
Total Dissolved Solids		mg/l	130	123		500	10
Aluminum	Al	mg/l	0.482	0.091		0.05-0.2	0.005
Iron	Fe	mg/l	AE	6.397		0.3	0.005
Copper	Cu	mg/l	0.012	0.003	1.3		0.002
Magnesium	Mg	mg/l	7.38	7.16			0.1
Calcium	Ca	mg/l	29.7	30.1			0.5
Sodium	Na	mg/l	5.00	5.00		20 (2)	0.1
Potassium	K	mg/l	0.99	0.97			0.1
Manganese	Mn	mg/l	0.008	<0.002		0.05	0.002
Zinc	Zn	mg/l	<0.1	<0.1		5	0.1
Silica	SiO <sub>2</sub>	mg/l	16.57	22.0			0.4
Sulfate	SO <sub>4</sub>	mg/l	19.9	33.6			15
Chloride	Cl <sup>-</sup>	mg/l	7.5	9.5		250	5
Phosphorus	P	mg/l	<0.05	0.29			0.05
Free Carbon Dioxide	CO <sub>2</sub>	mg/l	1.1	4.8			
Total Hardness (3), (4), (5)		mg/l	100	101			
Total Alkalinity (3)		mg/l	76	65			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	76	65			
Non-Carbonate Hardness (3)		mg/l	24	36			
Chemical Oxygen Demand		mg/l	2.7	<2.0			2
Dissolved Oxygen		mg/l	12.0	12.3			
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	0.35	0.46	10	10	0.1
Fluoride	F	mg/l	0.1	0.8	4		0.5
pH			7.80	7.43	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	226	231			
Temperature in °C.			3.6	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 detection limit.
IV: Invalid Sample	

Analyst: Brian Brown

Sr. Analytical Chemist

Initial **B. B.**

Date: March 3, 2006

Reviewed By: Bahi Habib, P.E. Chemical Engineer

Initial **B. H.**

Date: March 3, 2006

**Victor M. Mercado, Director**  
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