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**City of Detroit**  
Water and Sewerage Department  
Laboratory Analysis of Water Samples Collected at  
Southwest Plant  
June 5, 2004

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	6.50	0.08	0.3/95% (1)		
Total Solids		mg/l	185	171		500	10
Total Dissolved Solids		mg/l	154	168		500	10
Aluminum	Al	mg/l	0.570	0.132		0.05-0.2	0.005
Iron	Fe	mg/l	1.539	0.223		0.3	0.002
Copper	Cu	mg/l	0.021	0.054	1.3		0.001
Magnesium	Mg	mg/l	7.33	7.10			0.2
Calcium	Ca	mg/l	26.9	26.2			0.06
Sodium	Na	mg/l	3.66	3.64		20 (2)	0.01
Potassium	K	mg/l	1.09	0.98			0.01
Manganese	Mn	mg/l	0.002	0.008		0.05	0.001
Zinc	Zn	mg/l	<0.01	<0.01		5	0.01
Silica	SiO <sub>2</sub>	mg/l	11.54	11.54			0.4
Sulfate	SO <sub>4</sub>	mg/l	16.5	39.5			
Chloride	Cl	mg/l	8.3	9.4		250	1
Phosphorus	P	mg/l	<0.01	0.31			0.01
Free Carbon Dioxide	CO <sub>2</sub>	mg/l	0.8	3.2			
Total Hardness (3), (4), (5)		mg/l	110	110			
Total Alkalinity (3)		mg/l	83	78			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	83	78			
Non-Carbonate Hardness (3)		mg/l	27	32			
Chemical Oxygen Demand		mg/l	2.1	<2.0			2
Dissolved Oxygen		mg/l	8.7	10.9			
Ammonia Nitrogen	NH <sub>3</sub> -N	mg/l	<0.10	<0.10			0.1
Organic Nitrogen		mg/l	0.4	0.2			0.1
Nitrite Nitrogen	NO <sub>2</sub> -N	mg/l	<0.01	<0.01	1		0.01
Nitrate Nitrogen	NO <sub>3</sub> -N	mg/l	0.78	0.75	10	10	0.01
Fluoride	F	mg/l	0.1	1.0	4		0.1
pH			8.04	7.68	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	230	238			
Temperature in °C.			20.7	19.6			

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
EF: Equipment Failure	6.38 GPG
IV: Invalid Sample	

Analyst: Brian Brown      Sr. Analytical Chemist      Initial B. B.      Date: Aug 5, 2004  
 Reviewed By: Bahi Habib, P.E. Chemical Engineer      Initial B. H.      Date: Aug 6, 2004

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