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**City of Detroit**  
Water and Sewerage Department  
Laboratory Analysis of Water Samples Collected at  
Southwest Plant  
April 21, 2004

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	16.00	0.10	0.3/95% (1)		
Total Solids		mg/l	144	136		500	10
Total Dissolved Solids		mg/l	123	128		500	10
Aluminum	Al	mg/l	0.354	0.040		0.05-0.2	0.005
Iron	Fe	mg/l	0.454	0.017		0.3	0.002
Copper	Cu	mg/l	0.016	0.008	1.3		0.001
Magnesium	Mg	mg/l	7.82	7.67			0.2
Calcium	Ca	mg/l	29.3	29.4			0.06
Sodium	Na	mg/l	3.89	4.33		20 (2)	0.01
Potassium	K	mg/l	0.98	1.01			0.01
Manganese	Mn	mg/l	0.012	<0.001		0.05	0.001
Zinc	Zn	mg/l	0.03	<0.01		5	0.01
Silica	SiO <sub>2</sub>	mg/l	16.59	20.95			0.4
Sulfate	SO <sub>4</sub>	mg/l	36.1	30.1			
Chloride	Cl <sup>-</sup>	mg/l	8.3	10.6		250	1
Phosphorus	P	mg/l	<0.01	0.33			0.01
Free Carbon Dioxide	CO <sub>2</sub>	mg/l	0.0	4.1			
Total Hardness (3), (4), (5)		mg/l	104	107			
Total Alkalinity (3)		mg/l	80	79			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	80	79			
Non-Carbonate Hardness (3)		mg/l	24	28			
Chemical Oxygen Demand		mg/l	<2.0	<2.0			2
Dissolved Oxygen		mg/l	10.3	10.2			
Ammonia Nitrogen	NH <sub>3</sub> -N	mg/l	<0.10	<0.10			0.1
Organic Nitrogen		mg/l	0.3	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	0.44	0.49	10	10	0.01
Fluoride	F	mg/l	0.1	0.9	4		0.1
pH			7.98	7.58	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	202	212			
Temperature in °C.			11.1	9.9			

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	<b>6.21 GPG</b>
IV: Invalid Sample	

Analyst: Brian Brown      Sr. Analytical Chemist    Initial B. B.    Date    June 2, 2004  
 Reviewed By: Bahi Habib, P.E.    Chemical Engineer      Initial B. H.    Date

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