

City of Detroit
Water and Sewerage Department
Laboratory Analysis of Water Samples Collected at
Southwest Plant
April 12, 2005

Parameter	Formula	Units	Raw	Tap	MCL	Sec.Std	MDL
Turbidity		NTU	23.00	0.10	0.3/95% (1)		
Total Solids		mg/l	203	197		500	10
Total Dissolved Solids		mg/l	185	183		500	10
Aluminum	Al	mg/l	0.638	0.089		0.05-0.2	0.005
Iron	Fe	mg/l	0.701	0.039		0.3	0.005
Copper	Cu	mg/l	0.023	0.011	1.3		0.002
Magnesium	Mg	mg/l	9.11	7.05			0.1
Calcium	Ca	mg/l	27.5	23.4			0.5
Sodium	Na	mg/l	8.81	7.85		20 (2)	0.1
Potassium	K	mg/l	1.80	1.20			0.1
Manganese	Mn	mg/l	0.011	<0.002		0.05	0.002
Zinc	Zn	mg/l	<0.1	<0.1		5	0.1
Silica	SiO ₂	mg/l	20.45	23.2			0.4
Sulfate	SO ₄	mg/l	24.9	37.2			15
Chloride	Cl ⁻	mg/l	18.8	22.2		250	5
Phosphorus	P	mg/l	<0.05	0.26			0.05
Free Carbon Dioxide	CO ₂	mg/l	0.6	2.3			
Total Hardness (3), (4), (5)		mg/l	138	136			
Total Alkalinity (3)		mg/l	100	90			
Carbonate Alkalinity (3)		mg/l	0	0			
Bi-Carbonate Alkalinity (3)		mg/l	100	90			
Non-Carbonate Hardness (3)		mg/l	38	46			
Chemical Oxygen Demand		mg/l	4.4	3.6			2
Dissolved Oxygen		mg/l	9.1	8.9			
Ammonia Nitrogen	NH ₃ -N	mg/l	<0.10	<0.10			0.1
Organic Nitrogen		mg/l	0.3	0.2			0.1
Nitrite Nitrogen	NO ₂ -N	mg/l	<0.01	<0.01	1		0.1
Nitrate Nitrogen	NO ₃ -N	mg/l	1.43	1.53	10	10	0.1
Fluoride	F	mg/l	0.1	0.9	4		0.5
pH			8.11	7.89	6.5-8.5	6.5-8.5	
Specific Conductance @ 25 °C.		micromhos	327	336			
Temperature in °C.			9.4	10.2			

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 7.89 GPG
EF: Equipment Failure	(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: July 1, 2005

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

Initial **B. H.**

Date: July 1, 2005

Victor M. Mercado, Director
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