

City of Detroit
Water and Sewerage Department
Laboratory Analysis of Water Samples Collected at
Southwest Plant
August 11, 2009

| Parameter | Formula | Units | Raw | Tap | MCL | Sec.Std | MDL |
|-------------------------------|--------------------|-----------|-------|--------|-------------|----------|-------|
| Turbidity | | NTU | 3.2 | 0.09 | 0.3/95% (1) | | |
| Total Solids | | mg/L | 155 | 155 | | 500 | 10 |
| Total Dissolved Solids | | mg/L | 151 | 150 | | 500 | 10 |
| Aluminum | Al | mg/L | 0.084 | 0.066 | | 0.05-0.2 | 0.005 |
| Iron | Fe | mg/L | 0.108 | <0.050 | | 0.3 | 0.005 |
| Copper | Cu | mg/L | 0.012 | 0.010 | 1.3 | | 0.002 |
| Magnesium | Mg | mg/L | 7.40 | 7.72 | | | 0.5 |
| Calcium | Ca | mg/L | 29.5 | 29.6 | | | 0.1 |
| Sodium | Na | mg/L | 6.25 | 6.40 | | 20 (2) | 0.1 |
| Potassium | K | mg/L | 0.88 | 0.93 | | | 0.1 |
| Manganese | Mn | mg/L | 0.005 | <0.002 | | 0.05 | 0.002 |
| Zinc | Zn | mg/L | <0.1 | <0.1 | | 5 | 0.1 |
| Silica | SiO ₂ | mg/L | 0.83 | 1.02 | | | 0.4 |
| Sulfate | SO ₄ | mg/L | 23.2 | 27.7 | | | |
| Chloride | Cl ⁻ | mg/L | 8.00 | 9.50 | | 250 | 5 |
| Phosphorus | P | mg/L | <0.05 | 0.26 | | | 0.05 |
| Free Carbon Dioxide | CO ₂ | mg/L | 0.00 | 4.95 | | | |
| Total Hardness (3), (4), (5) | | mg/L | 102 | 103 | | | |
| Total Alkalinity (3) | | mg/L | 86 | 75 | | | |
| Carbonate Alkalinity (3) | | mg/L | 0 | 0 | | | |
| Bi-Carbonate Alkalinity (3) | | mg/L | 86 | 75 | | | |
| Non-Carbonate Hardness (3) | | mg/L | 16 | 28 | | | |
| Chemical Oxygen Demand | | mg/L | 4 | 4 | | | 2 |
| Dissolved Oxygen | | mg/L | 7.76 | 7.81 | | | |
| Ammonia Nitrogen | NH ₃ -N | mg/L | <0.1 | <0.1 | | | 0.1 |
| Organic Nitrogen | | mg/L | 0.19 | 0.15 | | | 0.1 |
| Nitrite Nitrogen | NO ₂ -N | mg/L | <0.1 | <0.1 | 1 | | 0.1 |
| Nitrate Nitrogen | NO ₃ -N | mg/L | 0.22 | 0.22 | 10 | 10 | 0.1 |
| Fluoride | F | mg/L | 0.12 | 0.97 | 4 | | 0.5 |
| pH | | | 8.02 | 7.48 | 6.5-8.5 | 6.5-8.5 | |
| Specific Conductance @ 25 °C. | | micromhos | 220 | 223 | | | |
| Temperature | | °C | 24 | 23.7 | | | |

| 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 5.97 GPG |
| AE: Analytical Error | (6) Reported results are below the low calibration standard but above the instrument detection limit. |
| IV: Invalid Sample | |

Analyst: Brian Brown
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Water Quality Manager

Initial **B. B.**
Initial **M.L.S.**

Date: September 18, 2009
Date: September 18, 2009

Pam Turner
Detroit Water & Sewerage Department