# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED FEBRUARY, 26 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | SOUTH | | Central | North | Central | North |
| TEMPERATURE | | °C | 00010 | 2 | 4 | 4 | 4 | 3 | 4 | 5 | 4 | 3 |
| TURBIDITY | 0.5 | N.T.U. | 82079 | 18.0 | 0.15 | 0.20 | 0.20 | 32.6 | 0.20 | 0.15 | 0.25 | 0.25 |
| THRESHOLD ODOR, STRAIGHT | *3 | T.O.N | 00086 | 2G | 2Cc | 2Cc | 1Cc | 2G | 2Cc | 2Cc | 1Cc | 1Cc |
| THRESHOLD ODOR, DECHLORINATED | *3 | T.O.N. | | | 1M | 1M | 1M | | 1M | 1M | 2M | 1M |
| COLOR | *15 | Pt.-Co. Units | 00080 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| pH | *6.5-8.5 | STD. Units | 00040 | 8.24 | 7.54 | 7.45 | 7.42 | 8.26 | 7.47 | 7.49 | 7.72 | 7.63 |
| FREE CHLORINE RESIDUAL | | $CL_2$, mg/L | 50064 | 0.00 | 0.80 | 0.89 | 0.56 | 0.00 | 0.92 | 0.93 | 0.66 | 0.78 |
| SATURATION INDEX, LANGELIER | | UNITS +/- | | -0.13 | -0.80 | -0.86 | -0.88 | -0.09 | -0.83 | -0.78 | -0.61 | -0.71 |
| ALKALINITY, PHENOLPHTHALEIN | | CaCO3, mg/L | 00415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ALKALINITY, TOTAL | | CaCO3, mg/L | 00410 | 114 | 108 | 112 | 117 | 110 | 114 | 117 | 109 | 115 |
| BROMIDE | | Br, mg/L | 71870 | 0.038 | <0.006 | <0.006 | <0.006 | 0.030 | <0.006 | <0.006 | <0.006 | <0.006 |
| CHLORIDE | *250 | Cl, mg/L | 00940 | 17.8 | 13.1 | 13.2 | 12.7 | 13.4 | 14.2 | 14.1 | 13.6 | 14.4 |
| FLUORIDE | 4 | F, mg/L | 00951 | 0.17 | 0.91 | 0.93 | 0.94 | 0.17 | 0.88 | 0.89 | 0.96 | 0.92 |
| SULFATE | *250 | SO4, mg/L | 00945 | 28.6 | 29.6 | 29.6 | 29.0 | 25.0 | 29.0 | 29.0 | 28.1 | 29.0 |
| HARDNESS | | CaCO3, mg/L | 00900 | 162 | 153 | 152 | 153 | 156 | 150 | 152 | 150 | 151 |
| CALCIUM | | Ca, mg/L | 00916 | 36.1 | 34.9 | 35.7 | 34.8 | 35.5 | 35.5 | 35.6 | 34.8 | 35.4 |
| MAGNESIUM | | Mg, mg/L | 00927 | 13.2 | 12.8 | 13.0 | 12.8 | 13.7 | 12.8 | 12.7 | 12.6 | 13.0 |
| POTASSIUM | | K, mg/L | 00937 | 1.5 | 1.4 | 1.4 | 1.3 | 1.4 | 1.2 | 1.2 | 1.3 | 1.3 |
| SODIUM | | Na, mg/L | 00006 | 6.9 | 7.4 | 7.5 | 7.1 | 7.8 | 7.7 | 7.7 | 7.6 | 7.9 |
| SOLIDS, TOTAL DISSOLVED | *500 | TDS, mg/L | 00150 | 187 | 172 | 176 | 178 | 185 | 184 | 182 | 173 | 185 |
| SOLIDS, TOTAL | | Tot. Sol., mg/L | 00500 | 191 | 179 | 176 | 181 | 191 | 184 | 185 | 185 | 189 |
| TOTAL ORGANIC CARBON | | NPOC, mg/L | 00680 | 1.54 | 1.41 | 1.36 | 1.26 | 2.30 | 1.40 | 1.46 | 1.39 | 1.44 |
| OXYGEN DEMAND, CHEMICAL | | O, mg/L | 00335 | <5 | 8 | <5 | 8 | <5 | 6 | <5 | 6 | <5 |
| NITROGEN, AMMONIA | | N, mg/L | 00610 | 0.01 | <0.01 | <0.01 | <0.01 | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| NITROGEN, NITRATE | 10 | N, mg/L | 00620 | 0.317 | 0.323 | 0.326 | 0.324 | 0.370 | 0.353 | 0.350 | 0.332 | 0.355 |
| NITROGEN, NITRITE | 1 | N, mg/L | 00615 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| NITROGEN, TOTAL KJELDAHL | | N, mg/L | 00625 | 0.181 | 0.121 | 0.198 | <0.100 | 0.229 | 0.150 | 0.140 | <0.100 | <0.100 |
| ORTHOPHOSPHATE | | PO4, mg/L | 00660 | <0.020 | 0.523 | 0.510 | 0.493 | 0.028 | 0.446 | 0.421 | 0.528 | 0.536 |
| PHOSPHATE, TOTAL | | PO4, mg/L | 00650 | 0.045 | 1.233 | 1.098 | 1.145 | 0.065 | 0.938 | 0.917 | 1.178 | 0.980 |
| CYANIDE, TOTAL | 0.2 | CN, mg/L | 00720 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| FOAMING AGENT | *0.5 | MBAS, mg/L | 38260 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |
| PHENOLICS, TOTAL | | Phenol, µg/L | 32730 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS ALPHA | 15 | pCi/L | 01501 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS BETA | 50 | pCi/L | 03501 | 1.1 | 2.0 | 2.0 | 1.6 | <1 | 1.7 | 2.2 | 2.0 | 3.0 |

* Federal/State Secondary MCL's ** Action Level ***Distribution samples are composited.

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED FEBRUARY, 26 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | South | | Central | North | Central | North |
| ALUMINUM | | Al, µg/L | 01105 | 290 | 24 | 38 | 34 | 346 | 20 | 57 | 18 | 25 |
| ANTIMONY | 6 | Sb, µg/L | 01268 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| ARSENIC | 50 | As, µg/L | 01002 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| BARIUM | 2000 | Ba, µg/L | 01007 | 20 | 17 | 17 | 16 | 23 | 17 | 18 | 17 | 17 |
| BERYLLIUM | 4 | Be, µg/L | 01012 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| BORON | | B, µg/L | 01022 | 23 | 19 | 21 | 28 | 22 | 18 | 21. | 27 | 26 |
| CADMIUM | 5 | Cd, µg/L | 01027 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| CHROMIUM | 100 | Cr, µg/L | 01034 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| COBALT | | Co, µg/L | 01037 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| COPPER | **1300 | Cu, µg/L | 01042 | 6 | <3 | <3 | 3 | 4 | <3 | <3 | <3 | <3 |
| IRON | *300 | Fe, µg/L | 01045 | 121 | 9 | <7 | 9 | 281 | 13 | <7 | 16 | 52 |
| LEAD | **15 | Pb, µg/L | 01051 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| LITHIUM | | Li, µg/L | 01132 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MANGANESE | *50 | Mn, µg/L | 01055 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| MERCURY | 2 | Hg, µg/L | 71900 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| MOLYBDENUM | | Mo, µg/L | 01062 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| NICKEL | 100 | Ni, µg/L | 01067 | <2 | <2 | <2 | <2 | 4 | 2 | <2 | <2 | <2 |
| SELENIUM | 50 | Se, µg/L | 01147 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| SILICON | | Si, µg/L | 01142 | 689 | 972 | 936 | 968 | 768 | 977 | 933 | 992 | 963 |
| SILVER | *100 | Ag, µg/L | 01077 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| STRONTIUM | | Sr, µg/L | 01082 | 129 | 128 | 129 | 130 | 140 | 135 | 138 | 132 | 138 |
| THALLIUM | 2 | Tl, µg/L | 01059 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| TITANIUM | | Ti, µg/L | 01152 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| VANADIUM | | V, µg/L | 00985 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| ZINC | *5000 | Zn, µg/L | 01092 | <2 | <2 | <2 | 14 | 11 | 12 | <2 | 14 | 10 |

* Federal/State Secondary MCL's ** Action Level ***Distribution samples are composited.

Hazel A O'Connor
CHIEF WATER CHEMIST

DIRECTOR, WATER PURIFICATION LABORATORIES

Ellen P Flanagan
ASSISTANT COMMISSIONER

COMPREHENSIVE CHEMICAL ANALYSIS

# CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED MAY 13, 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | SOUTH | | Central | North | Central | North |
| TEMPERATURE | | °C | 00010 | 9 | 12 | 13 | 13 | 10 | 13 | 13 | 14 | 16 |
| TURBIDITY | 0.5 | N.T.U. | 82079 | 1.30 | 0.10 | 0.15 | 0.20 | 1.65 | 0.10 | 0.10 | 0.15 | 0.20 |
| THRESHOLD ODOR, STRAIGHT | *3 | T.O.N. | 00086 | 2G | 2Cc | 2Cc | 2Cc | 2G | 2Cc | 2Cc | 1Cc | 2Cc |
| THRESHOLD ODOR, DECHLORINATED | *3 | T.O.N. | | | 2Mm | 2M | 2M | | 2M | 2M | 2M | 2M |
| COLOR | *15 | Pt.-Co. Units | 00080 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| pH | *6.5-8.5 | STD. Units | 00040 | 8.13 | 7.64 | 7.54 | 7.57 | 8.25 | 7.58 | 7.48 | 7.63 | 7.71 |
| FREE CHLORINE RESIDUAL | | $CL_2$, mg/L | 50064 | 0.00 | 1.05 | 1.05 | 0.6 | 0.00 | 0.93 | 0.94 | 0.54 | 0.64 |
| SATURATION INDEX, LANGELIER | | UNITS +/- | | 0.24 | 0.28 | -0.38 | -0.21 | 0.36 | -0.36 | -0.45 | -0.15 | -0.06 |
| ALKALINITY, PHENOLPHTHALEIN | | CaCO3, mg/L | 00415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALKALINITY, TOTAL | | CaCO3, mg/L | 00410 | 112 | 100 | 100 | 108 | 111 | 96 | 103 | 104 | 109 |
| BROMIDE | | Br, mg/L | 71870 | 0.023 | <0.006 | <0.006 | <0.006 | 0.027 | <0.006 | <0.006 | <0.006 | <0.006 |
| CHLORIDE | *250 | Cl, mg/L | 00940 | 10.8 | 12.2 | 12.2 | 14.1 | 13.8 | 14.9 | 14.9 | 13.7 | 13.7 |
| FLUORIDE | 4 | F, mg/L | 00951 | 0.02 | 0.92 | 0.91 | 0.93 | 0.16 | 0.92 | 0.09 | 0.91 | 0.9 |
| SULFATE | *250 | SO4, mg/L | 00945 | 21.2 | 27.2 | 26.8 | 27.7 | 22.4 | 27.8 | 27.7 | 27.2 | 27.2 |
| HARDNESS | | CaCO3, mg/L | 00900 | 134 | 134 | 134 | 142 | 138 | 142 | 142 | 141 | 139 |
| CALCIUM | | Ca, mg/L | 00916 | 38.8 | 39.1 | 38.5 | 39.8 | 40.2 | 40.2 | 39.3 | 40.5 | 39.9 |
| MAGNESIUM | | Mg, mg/L | 00927 | 10.6 | 11.2 | 10.1 | 10.6 | 11.0 | 11.1 | 10.9 | 10.9 | 10.9 |
| POTASSIUM | | K, mg/L | 00937 | 1.2 | 1.1 | 1.1 | 1.2 | 1.3 | 1.2 | 1.3 | 1.2 | 1.5 |
| SODIUM | | Na, mg/L | 00006 | 6.3 | 6.7 | 6.8 | 7.8 | 7.8 | 8.3 | 8.3 | 7.7 | 7.6 |
| SOLIDS, TOTAL DISSOLVED | *500 | TDS, mg/L | 00150 | 169 | 175 | 170 | 175 | 174 | 176 | 173 | 174 | 175 |
| SOLIDS, TOTAL | | Tot. Sol., mg/L | 00500 | 180 | 187 | 184 | 190 | 189 | 189 | 186 | 185 | 192 |
| TOTAL ORGANIC CARBON | | NPOC, mg/L | 00680 | 1.51 | 1.32 | 1.29 | 1.34 | 1.56 | 1.35 | 1.23 | 1.41 | 1.66 |
| OXYGEN DEMAND, CHEMICAL | | O, mg/L | 00335 | <5 | 5 | 6 | <5 | 7 | <5 | <5 | <5 | 7 |
| NITROGEN, AMMONIA | | N, mg/L | 00610 | 0.02 | 0.02 | 0.02 | 0.02 | 0.04 | 0.02 | 0.02 | 0.02 | 0.03 |
| NITROGEN, NITRATE | 10 | N, mg/L | 00620 | 0.260 | 0.265 | 0.261 | 0.304 | 0.288 | 0.301 | 0.299 | 0.292 | 0.283 |
| NITROGEN, NITRITE | 1 | N, mg/L | 00615 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| NITROGEN, TOTAL KJELDAHL | | N, mg/L | 00625 | 0.208 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| ORTHOPHOSPHATE | | PO4, mg/L | 00660 | 0.010 | 0.512 | 0.549 | 0.566 | 0.046 | 0.429 | 0.455 | 0.662 | 0.551 |
| PHOSPHATE, TOTAL | | PO4, mg/L | 00650 | 0.042 | 1.015 | 1.225 | 1.359 | 0.072 | 1.018 | 0.910 | 1.166 | 1.020 |
| CYANIDE, TOTAL | 0.2 | CN, mg/L | 00720 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| FOAMING AGENT | *0.5 | MBAS, mg/L | 38260 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |
| PHENOLICS, TOTAL | | Phenol, µg/L | 32730 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS ALPHA | 15 | pCi/L | 01501 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS BETA | 50 | pCi/L | 03501 | 3.3 | 1.1 | 1.8 | 2.0 | 1.8 | 1.2 | 2 | 2.3 | 2.5 |

* Federal/State Secondary MCL's  ** Action Level  ***Distribution samples are composited

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

**SAMPLES COLLECTED MAY 13, 2003**

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | South | | Central | North | Central | North |
| ALUMINUM | | Al, µg/L | 01105 | 32 | 60 | 59 | 58 | 32 | 58 | 60 | 44 | 46 |
| ANTIMONY | 6 | Sb, µg/L | 01268 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| ARSENIC | 50 | As, µg/L | 01002 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| BARIUM | 2000 | Ba, µg/L | 01007 | 18 | 17 | 18 | 18 | 18 | 18 | 18 | 17 | 18 |
| BERYLLIUM | 4 | Be, µg/L | 01012 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| BORON | | B, µg/L | 01022 | 41 | 24 | 20 | 37 | 20 | 18 | 23 | 22 | 21 |
| CADMIUM | 5 | Cd, µg/L | 01027 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| CHROMIUM | 100 | Cr, µg/L | 01034 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| COBALT | | Co, µg/L | 01037 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| COPPER | **1300 | Cu, µg/L | 01042 | 4 | <3 | <3 | <3 | 6 | <3 | <3 | <3 | <3 |
| IRON | *300 | Fe, µg/L | 01045 | 38 | <7 | <7 | 12 | 38 | <7 | <7 | <7 | <7 |
| LEAD | **15 | Pb, µg/L | 01051 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| LITHIUM | | Li, µg/L | 01132 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| MANGANESE | *50 | Mn, µg/L | 01055 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MERCURY | 2 | Hg, µg/L | 71900 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| MOLYBDENUM | | Mo, µg/L | 01062 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| NICKEL | 100 | Ni, µg/L | 01067 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| SELENIUM | 50 | Se, µg/L | 01147 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| SILICON | | Si, µg/L | 01142 | 837 | 821 | 812 | 835 | 512 | 722 | 740 | 830 | 781 |
| SILVER | *100 | Ag, µg/L | 01077 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| STRONTIUM | | Sr, µg/L | 01082 | 117 | 118 | 118 | 128 | 122 | 128 | 123 | 121 | 123 |
| THALLIUM | 2 | Tl, µg/L | 01059 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| TITANIUM | | Ti, µg/L | 01152 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| VANADIUM | | V, µg/L | 00985 | 4 | 4 | 4 | <4 | 4 | <4 | <4 | <4 | <4 |
| ZINC | *5000 | Zn, µg/L | 01092 | <8 | <8 | <8 | <8 | <8 | <8 | <6 | 16 | 14 |

* Federal/State Secondary MCL's  ** Action Level  ***Distribution samples are composited

Miguel A. O'Connor
CHIEF WATER CHEMIST

DIRECTOR, WATER PURIFICATION LABORATORIES

DEPUTY COMMISSIONER

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED AUGUST 25, 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | SOUTH | | Central | North | Central | North |
| TEMPERATURE | | °C | 00010 | 23 | 21 | 21 | 24 | 22 | 21 | 20 | 25 | 26 |
| TURBIDITY | 0.5 | N.T.U. | 82079 | 0.80 | 0.20 | 0.20 | 0.35 | 1.20 | 0.02 | 0.15 | 0.15 | 0.30 |
| THRESHOLD ODOR, STRAIGHT | *3 | T.O.N | 00086 | 1Mm | 1Cc | 2Cc | 2Cc | 1E | 1Cc | 2Cc | 1Cc | 1Cc |
| THRESHOLD ODOR, DECHLORINATED | *3 | T.O.N. | | | 1Mm | 1M | 1Mm | | 1Mm | 1Mm | 1Ep | 1Ep |
| COLOR | *15 | Pt.-Co. Units | 00080 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| pH | *6.5-8.5 | STD. Units | 00040 | 8.19 | 7.52 | 7.44 | 7.58 | 8.29 | 7.54 | 7.48 | 7.46 | 7.46 |
| FREE CHLORINE RESIDUAL | | $CL_2$, mg/L | 50064 | 0.00 | 0.79 | 0.75 | 0.55 | 0.00 | 0.87 | 0.85 | 0.54 | 0.62 |
| SATURATION INDEX, LANGELIER | | UNITS +/- | | 0.35 | -0.42 | -0.47 | -0.27 | 0.05 | -0.43 | -0.47 | -0.39 | -0.42 |
| ALKALINITY, PHENOLPHTHALEIN | | CaCO3, mg/L | 00415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALKALINITY, TOTAL | | CaCO3, mg/L | 00410 | 115 | 105 | 111 | 106 | 113 | 101 | 108 | 101 | 100 |
| BROMIDE | | Br, mg/L | 71870 | 0.027 | <0.006 | <0.006 | <0.006 | 0.026 | <0.006 | <0.006 | <0.006 | <0.006 |
| CHLORIDE | *250 | Cl, mg/L | 00940 | 11.7 | 13.4 | 13.5 | 13.5 | 11.2 | 13.0 | 13.0 | 13.4 | 13.3 |
| FLUORIDE | 4 | F, mg/L | 00951 | 0.17 | 0.94 | 0.92 | 0.94 | 0.17 | 0.95 | 0.95 | 0.94 | 0.96 |
| SULFATE | *250 | SO4, mg/L | 00945 | 22.8 | 28 | 28 | 28.0 | 22.6 | 26.7 | 26.8 | 27.3 | 26.8 |
| HARDNESS | | CaCO3, mg/L | 00900 | 147 | 143 | 143 | 142 | 141 | 140 | 140 | 140 | 140 |
| CALCIUM | | Ca, mg/L | 00916 | 35.5 | 33.9 | 33.5 | 34.4 | 33.8 | 33.2 | 33.6 | 33.5 | 31.4 |
| MAGNESIUM | | Mg, mg/L | 00927 | 12.0 | 11.8 | 11.7 | 11.7 | 12.0 | 11.8 | 11.9 | 12.2 | 12.4 |
| POTASSIUM | | K, mg/L | 00937 | 1.2 | 1.2 | 1.3 | 1.2 | 1.3 | 1.2 | 1.4 | 1.4 | 1.5 |
| SODIUM | | Na, mg/L | 00006 | 6.2 | 6.2 | 6.2 | 6.2 | 5.6 | 6.0 | 5.9 | 6.1 | 6.1 |
| SOLIDS, TOTAL DISSOLVED | *500 | TDS, mg/L | 00150 | 164 | 170 | 168 | 163 | 160 | 168 | 169 | 168 | 167 |
| SOLIDS, TOTAL | | Tot. Sol., mg/L | 00500 | 176 | 184 | 183 | 176 | 172 | 177 | 186 | 182 | 183 |
| TOTAL ORGANIC CARBON | | NPOC, mg/L | 00680 | 1.93 | 2.03 | 2.04 | 1.84 | 2.55 | 1.77 | 1.80 | 1.87 | 2.07 |
| OXYGEN DEMAND, CHEMICAL | | O, mg/L | 00335 | <5 | <5 | 6 | 5 | <5 | <5 | 5 | <5 | <5 |
| NITROGEN, AMMONIA | | N, mg/L | 00610 | 0.02 | 0.02 | 0.01 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.01 |
| NITROGEN, NITRATE | 10 | N, mg/L | 00620 | 0.226 | 0.197 | 0.196 | 0.202 | 0.187 | 0.190 | 0.189 | 0.226 | 0.190 |
| NITROGEN, NITRITE | 1 | N, mg/L | 00615 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| NITROGEN, TOTAL KJELDAHL | | N, mg/L | 00625 | 0.173 | 0.148 | 0.134 | <0.100 | 0.247 | 0.211 | 0.173 | 0.173 | 0.182 |
| ORTHOPHOSPHATE | | PO4, mg/L | 00660 | <0.05 | 0.626 | 0.544 | 0.534 | <0.05 | 0.458 | 0.448 | 0.525 | 0.484 |
| PHOSPHATE, TOTAL | | PO4, mg/L | 00650 | <0.05 | 1.245 | 1.031 | 1.035 | <0.05 | 0.889 | 0.867 | 1.040 | 0.960 |
| CYANIDE, TOTAL | 0.2 | CN, mg/L | 00720 | 0.001 | <0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | <0.001 | <0.001 |
| FOAMING AGENT | *0.5 | MBAS, mg/L | 38260 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |
| PHENOLICS, TOTAL | | Phenol, µg/L | 32730 | 6 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | 8 |
| RADIOACTIVITY, GROSS ALPHA | 15 | pCi/L | 01501 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS BETA | 50 | pCi/L | 03501 | 1.9 | 3.3 | 1.8 | 1.5 | 1.4 | 1.8 | 1.9 | 2.4 | 2.4 |

* Federal/State Secondary MCL's  ** Action Level  ***Distribution samples are composited

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED AUGUST 25, 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | South | | Central | North | Central | North |
| ALUMINUM | | Al, µg/L | 01105 | 37 | 173 | 167 | 144 | 53 | 115 | 132 | 89 | 136 |
| ANTIMONY | 6 | Sb, µg/L | 01268 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| ARSENIC | 50 | As, µg/L | 01002 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| BARIUM | 2000 | Ba, µg/L | 01007 | 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| BERYLLIUM | 4 | Be, µg/L | 01012 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| BORON | | B, µg/L | 01022 | 8 | 22 | 23 | 22 | 23 | 23 | 21 | 21 | 20 |
| CADMIUM | 5 | Cd, µg/L | 01027 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| CHROMIUM | 100 | Cr, µg/L | 01034 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| COBALT | | Co, µg/L | 01037 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| COPPER | **1300 | Cu, µg/L | 01042 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| IRON | *300 | Fe, µg/L | 01045 | 16 | <7 | <7 | 10 | 17 | <7 | <7 | <7 | 31 |
| LEAD | **15 | Pb, µg/L | 01051 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| LITHIUM | | Li, µg/L | 01132 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MANGANESE | *50 | Mn, µg/L | 01055 | 8 | 4 | 4 | 4 | 5 | 4 | 3 | 4 | 5 |
| MERCURY | 2 | Hg, µg/L | 71900 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| MOLYBDENUM | | Mo, µg/L | 01062 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| NICKEL | 100 | Ni, µg/L | 01067 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| SELENIUM | 50 | Se, µg/L | 01147 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| SILICON | | Si, µg/L | 01142 | 432 | 609 | 590 | 552 | 648 | 756 | 763 | 716 | 772 |
| SILVER | *100 | Ag, µg/L | 01077 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| STRONTIUM | | Sr, µg/L | 01082 | 124 | 125 | 124 | 123 | 123 | 125 | 125 | 125 | 123 |
| THALLIUM | 2 | Tl, µg/L | 01059 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| TITANIUM | | Ti, µg/L | 01152 | 5 | <5 | 5 | <5 | 5 | <5 | <5 | 6 | <5 |
| VANADIUM | | V, µg/L | 00985 | 6 | <4 | <4 | <4 | <4 | <4 | <4 | <4 | <4 |
| ZINC | *5000 | Zn, µg/L | 01092 | <8 | <8 | 9 | 10 | <8 | <8 | <8 | 17 | 11 |

* Federal/State Secondary MCL's  ** Action Level  ***Distribution samples are composited

Hazel N. O'Connor
CHIEF WATER CHEMIST

DIRECTOR, WATER PURIFICATION LABORATORIES

DEPUTY COMMISSIONER

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED NOVEMBER 17, 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | SOUTH | | Central | North | Central | North |
| TEMPERATURE | | °C | 00010 | 9 | 10 | 11 | 12 | 8 | 10 | 10 | 12 | 13 |
| TURBIDITY | 0.5 | N.T.U. | 82079 | 2.05 | 0.15 | 0.15 | 0.15 | 2.20 | 0.10 | 0.15 | 0.15 | 0.25 |
| THRESHOLD ODOR, STRAIGHT | *3 | T.O.N | 00086 | 1Mm | 1Cc | 1Cc | 1Cc | 1Mm | 1Cc | 1Cc | 1Cc | 1Cc |
| THRESHOLD ODOR, DECHLORINATED | *3 | T.O.N. | | | 1M | 1M | 1Mm | | 1Mm | 1Mm | 1Mm | 1Mm |
| COLOR | *15 | Pt.-Co. Units | 00080 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| pH | *6.5-8.5 | STD. Units | 00040 | 8.21 | 7.46 | 7.48 | 7.47 | 8.11 | 7.51 | 7.49 | 7.53 | 7.55 |
| FREE CHLORINE RESIDUAL | | $CL_2$, mg/L | 50064 | 0.00 | 0.99 | 0.96 | 0.67 | 0.00 | 0.94 | 0.98 | 0.59 | 0.58 |
| SATURATION INDEX, LANGELIER | | UNITS +/- | | 0.22 | -0.55 | -0.51 | -0.52 | 0.09 | -0.48 | -0.50 | -0.46 | -0.47 |
| ALKALINITY, PHENOLPHTHALEIN | | CaCO3, mg/L | 00415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALKALINITY, TOTAL | | CaCO3, mg/L | 00410 | 110 | 99 | 101 | 99 | 106 | 101 | 100 | 101 | 100 |
| BROMIDE | | Br, mg/L | 71870 | 0.025 | <0.006 | <0.006 | <0.006 | 0.023 | <0.006 | <0.006 | <0.006 | <0.006 |
| CHLORIDE | *250 | Cl, mg/L | 00940 | 11.0 | 12.3 | 12.3 | 12.3 | 10.8 | 12.1 | 12.1 | 12.2 | 12.2 |
| FLUORIDE | 4 | F, mg/L | 00951 | 0,16 | 0.91 | 0.90 | 0.89 | 0.16 | 0.85 | 0.85 | 0.86 | 0.85 |
| SULFATE | *250 | SO4, mg/L | 00945 | 22.0 | 28.0 | 28.0 | 27.6 | 22.0 | 27.8 | 27.9 | 27.7 | 27.6 |
| HARDNESS | | CaCO3, mg/L | 00900 | 136 | 143 | 141 | 138 | 136 | 137 | 138 | 140 | 139 |
| CALCIUM | | Ca, mg/L | 00916 | 33.7 | 33.8 | 34.8 | 34.4 | 34.6 | 35.0 | 35.3 | 35.1 | 35.0 |
| MAGNESIUM | | Mg, mg/L | 00927 | 9.7 | 9.9 | 10.3 | 9.7 | 10.0 | 9.9 | 10.1 | 9.9 | 10.2 |
| POTASSIUM | | K, mg/L | 00937 | 1.4 | 1.8 | 1.3 | 1.4 | 1.3 | 1.6 | 1.3 | 1.5 | 1.3 |
| SODIUM | | Na, mg/L | 00006 | 6.1 | 6.4 | 6.6 | 6.5 | 5.9 | 6.2 | 6.2 | 6.3 | 6.2 |
| SOLIDS, TOTAL DISSOLVED | *500 | TDS, mg/L | 00150 | 163 | 162 | 165 | 168 | 171 | 169 | 164 | 166 | 165 |
| SOLIDS, TOTAL | | Tot. Sol., mg/L | 00500 | 169 | 171 | 180 | 179 | 173 | 176 | 177 | 177 | 173 |
| TOTAL ORGANIC CARBON | | NPOC, mg/L | 00680 | 1.92 | 1.78 | 1.67 | 1.64 | 2.14 | 1.60 | 1.64 | 1.66 | 1.60 |
| OXYGEN DEMAND, CHEMICAL | | O, mg/L | 00335 | 14 | 6 | 7 | 6 | 13 | 7 | 10 | 6 | 6 |
| NITROGEN, AMMONIA | | N, mg/L | 00610 | 0.02 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 |
| NITROGEN, NITRATE | 10 | N, mg/L | 00620 | 0.234 | 0.227 | 0.227 | 0.228 | 0.214 | 0.218 | 0.222 | 0.221 | 0.223 |
| NITROGEN, NITRITE | 1 | N, mg/L | 00615 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| NITROGEN, TOTAL KJELDAHL | | N, mg/L | 00625 | 0.226 | 0.216 | 0.379 | 0.155 | 0.279 | 0.163 | 0.151 | 0.116 | 0.158 |
| ORTHOPHOSPHATE | | PO4, mg/L | 00660 | <0.05 | 0.439 | 0.544 | 0.493 | <0.05 | 0.400 | 0.419 | 0.482 | 0.449 |
| PHOSPHATE, TOTAL | | PO4, mg/L | 00650 | <0.05 | 1.009 | 1.296 | 1.112 | 0.067 | 0.843 | 0.767 | 1.114 | 0.954 |
| CYANIDE, TOTAL | 0.2 | CN, mg/L | 00720 | <0.001 | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 | 0.001 | <0.001 | <0.001 |
| FOAMING AGENT | *0.5 | MBAS, mg/L | 38260 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 | <0.025 |
| PHENOLICS, TOTAL | | Phenol, µg/L | 32730 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS ALPHA | 15 | pCi/L | 01501 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| RADIOACTIVITY, GROSS BETA | 50 | pCi/L | 03501 | <1 | 1.3 | 1.1 | 3.1 | 2.2 | 2.2 | 1.7 | 2.1 | 2.0 |

* Federal/State Secondary MCL's ** Action Level ***Distribution samples are composited.

# COMPREHENSIVE CHEMICAL ANALYSIS
## CITY OF CHICAGO - DEPARTMENT OF WATER MANAGEMENT - BUREAU OF WATER SUPPLY
## WATER QUALITY DIVISION-WATER PURIFICATION LABORATORIES

SAMPLES COLLECTED NOVEMBER 17, 2003

| PARAMETER | IEPA MCL | DETERMINED AS | STORET NUMBER | SOUTH WATER PURIFICATION PLANT | | | | JARDINE WATER PURIFICATION PLANT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RAW LAKE | OUTLETS | | ***DISTRIBUTION | RAW LAKE | OUTLETS | | ***DISTRIBUTION | |
| | | | | | 73rd Street | 79th Street | South | | Central | North | Central | North |
| ALUMINUM | | Al, µg/L | 01105 | 79 | 65 | 153 | 64 | 82 | 62 | 57 | 69 | 42 |
| ANTIMONY | 6 | Sb, µg/L | 01268 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| ARSENIC | 50 | As, µg/L | 01002 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| BARIUM | 2000 | Ba, µg/L | 01007 | 24 | 22 | 21 | 21 | 22 | 21 | 21 | 20 | 20 |
| BERYLLIUM | 4 | Be, µg/L | 01012 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| BORON | | B, µg/L | 01022 | 28 | 21 | 24 | 24 | 21 | 23 | 17 | 16 | 19 |
| CADMIUM | 5 | Cd, µg/L | 01027 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| CHROMIUM | 100 | Cr, µg/L | 01034 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| COBALT | | Co, µg/L | 01037 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| COPPER | **1300 | Cu, µg/L | 01042 | <3 | <.3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| IRON | *300 | Fe, µg/L | 01045 | 38 | <7 | <7 | <7 | 74 | <7 | <7 | 12 | 61 |
| LEAD | **15 | Pb, µg/L | 01051 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| LITHIUM | | Li, µg/L | 01132 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| MANGANESE | *50 | Mn, µg/L | 01055 | 3 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MERCURY | 2 | Hg, µg/L | 71900 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| MOLYBDENUM | | Mo, µg/L | 01062 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| NICKEL | 100 | Ni, µg/L | 01067 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| SELENIUM | 50 | Se, µg/L | 01147 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| SILICON | | Si, µg/L | 01142 | 494 | 653 | 615 | 614 | 413 | 520 | 540 | 554 | 499 |
| SILVER | *100 | Ag, µg/L | 01077 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| STRONTIUM | | Sr, µg/L | 01082 | 117 | 112 | 114 | 113 | 113 | 112 | 111 | 111 | 114 |
| THALLIUM | 2 | Tl, µg/L | 01059 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| TITANIUM | | Ti, µg/L | 01152 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| VANADIUM | | V, µg/L | 00985 | 4 | 8 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| ZINC | *5000 | Zn, µg/L | 01092 | <8 | <8 | 45 | <8 | <8 | <8 | <8 | 20 | <8 |

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CHIEF WATER CHEMIST

DIRECTOR, WATER PURIFICATION LABORATORIES

DEPUTY COMMISSIONER