Fairfax Water

# WATER QUALITY LABORATORY
## INORGANIC ANALYSES
## PERIOD OF 01/01/2008 TO 12/31/2008
## Occoquan Reservoir – Griffith Water Treatment Plant Source

| Parameter | MCL[1] | Units[2] | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Avg | Max | Min | Quant Limit | # of Tests |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aggressive Index Number | | Units | 11 | 11 | 10 | 11 | 10 | 10 | 10 | 10 | 9 | 10 | 11 | 11 | 10 | 11 | 9 | - | 12 |
| Alkalinity, Bicarbonate | | mg/L | 76 | 69 | 50 | 57 | 32 | 41 | 56 | 67 | 31 | 53 | 53 | 57 | 54 | 76 | 31 | - | 12 |
| Alkalinity, Carbonate | | mg/L | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 12 |
| Alkalinity, Hydroxyl | | mg/L | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 12 |
| Alkalinity, Phenolphthalein | | mg/L | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 12 |
| Alkalinity, Total | | mg/L | 76 | 69 | 50 | 57 | 32 | 41 | 56 | 67 | 31 | 53 | 53 | 57 | 54 | 76 | 31 | - | 12 |
| Bromide | | mg/L | 0.05 | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 | 0.03 | 0.04 | BQL | 0.02 | 0.02 | 0.03 | 0.03 | 0.05 | BQL | 0.01 | 12 |
| Carbon Dioxide | | mg/L | 5 | 9 | 10 | 7 | 20 | 6 | 14 | 21 | 31 | 67 | 5 | 4 | 17 | 67 | 4 | - | 12 |
| Chloride | | mg/L | 49.3 | 63.6 | 55.2 | -- | 11.4 | 13.5 | 20.0 | 27.4 | 10.4 | 20.5 | 20.8 | 26.6 | 29.0 | 63.6 | 10.4 | 5.0 | 11 |
| Color | | Units | -- | 49 | 55 | 34 | 96 | -- | 43 | 32 | 63 | 39 | 32 | 32 | 48 | 96 | 32 | 0 | 10 |
| Dissolved Oxygen | | mg/L | 8.9 | 11.5 | 10.5 | 9.1 | 6.4 | -- | 2.2 | 3.9 | 3.6 | 3.1 | 6.1 | 6.6 | 6.5 | 11.5 | 2.2 | 0.0 | 11 |
| Fluoride | | mg/L | 0.4 | 0.3 | 0.2 | 0.2 | BQL | BQL | 0.2 | BQL | BQL | BQL | 0.2 | BQL | BQL | 0.4 | BQL | 0.2 | 12 |
| Hardness, Calcium | | mg/L | 97 | 89 | 69 | 70 | 32 | 55 | 50 | 66 | 26 | 52 | 50 | 70 | 61 | 97 | 26 | - | 12 |
| Hardness, Total | | mg/L | 126 | 121 | 93 | 96 | 44 | 61 | 72 | 92 | 50 | 88 | 86 | 102 | 86 | 126 | 44 | - | 12 |
| Methylene Blue Activated Substances | | mg/L | -- | -- | -- | -- | -- | -- | -- | BQL | -- | -- | -- | -- | BQL | BQL | BQL | 0.050 | 1 |
| N, Ammonia (Ammonia as N) | | mg/L | 0.24 | BQL | -- | BQL | BQL | 0.25 | BQL | 0.22 | -- | -- | BQL | BQL | BQL | 0.25 | BQL | 0.20 | 9 |
| N, Nitrate (Nitrate as N) | | mg/L | 1.5 | 1.6 | 1.4 | 1.4 | 0.8 | 0.8 | 0.6 | 0.5 | 0.4 | 0.9 | 0.9 | 1.1 | 1.0 | 1.6 | 0.4 | 0.2 | 12 |
| N, Nitrite (Nitrite as N) | | mg/L | 0.03 | BQL | 0.01 | 0.01 | BQL | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.03 | BQL | 0.01 | 12 |
| pH | | Units | 7.5 | 7.2 | 7.0 | 7.2 | 6.5 | 7.1 | 6.9 | 6.8 | 6.3 | 6.2 | 7.3 | 7.4 | 7.0 | 7.5 | 6.2 | - | 12 |
| Phosphate as Phosphorous | | mg/L | -- | BQL | BQL | BQL | 0.03 | BQL | -- | BQL | -- | -- | -- | BQL | BQL | 0.03 | BQL | 0.02 | 7 |
| Solids, Total | | mg/L | 286 | 288 | 250 | 208 | 142 | 150 | 144 | 178 | 95 | 145 | 181 | 177 | 187 | 288 | 95 | 1 | 12 |
| Solids, Total Dissolved | | mg/L | 271 | 257 | 215 | 197 | 104 | 125 | 129 | 175 | 80 | 149 | 139 | 178 | 168 | 271 | 80 | 1 | 12 |
| Solids, Total Suspended | | mg/L | 2 | 15 | 19 | 3 | 6 | 6 | -- | 3 | 3 | 3 | 4 | 3 | 6 | 19 | 2 | 1 | 11 |
| Specific Conductivity | | µmhos/cm | 434 | 438 | 353 | 348 | 129 | 157 | 219 | 299 | 120 | 243 | -- | 292 | 276 | 438 | 120 | 0 | 11 |
| Sulfate | | mg/L | 62.9 | 45.5 | 32.4 | 33.9 | 12.6 | 13.8 | 20.6 | 31.2 | 14.0 | 27.7 | 28.9 | 37.2 | 30.1 | 62.9 | 12.6 | 5.0 | 12 |
| Temperature | | °C | 6.6 | 6.1 | 9.9 | 16.1 | 16.3 | 18.9 | 25.3 | 24.1 | 23.1 | 18.3 | 14.2 | 9.7 | 15.7 | 25.3 | 6.1 | - | 12 |
| Threshold Odor Number | | Units | 6 | 4 | 5 | 5 | 3 | 3 | 6 | 5 | 1 | 9 | 7 | 3 | 5 | 9 | 1 | 0 | 12 |
| Total Organic Carbon | | mg/L | 4.3 | 4.4 | 5.3 | 4.8 | 6.2 | 5.8 | 5.8 | 5.2 | 5.9 | 5.1 | 4.9 | 4.4 | 5.2 | 6.2 | 4.3 | 0.5 | 12 |
| Turbidity | | NTU | 3.20 | 21.00 | 22.00 | 3.30 | 17.00 | 6.10 | 4.70 | 3.00 | 8.90 | 4.20 | 6.20 | 4.20 | 8.65 | 22.00 | 3.00 | 0.00 | 12 |

BQL = The lowest quantitation limit of all analyses for the particular parameter, Below Quantitation Limit.

[1] Environmental Protection Agency/Virginia Department of Health established levels for drinking water
P=Primary-enforceable, S=Secondary-non-enforceable, AL=Action Level on specific taps, MCL=Maximum Contaminant Level.

[2] mg/L=milligrams per liter, µg/L=micrograms per liter

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Fairfax Water

# WATER QUALITY LABORATORY
## METAL ANALYSES
## PERIOD OF 01/01/2008 TO 12/31/2008
## Occoquan Reservoir – Griffith Water Treatment Plant Source

| Parameter | MCL[1] | Units[2] | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Avg | Max | Min | Quant Limit | # of Tests |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | µg/L | 66.4 | -- | -- | 66.0 | -- | -- | 53.7 | -- | -- | 84.8 | -- | -- | 67.7 | 84.8 | 53.7 | 25.0 | 4 |
| Antimony | | µg/L | BQL | -- | -- | -- | -- | -- | -- | -- | -- | BQL | BQL | -- | BQL | BQL | BQL | 2.0 | 3 |
| Arsenic | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 2.0 | 4 |
| Barium | | µg/L | 41.6 | -- | -- | 36.3 | -- | -- | 33.6 | -- | -- | 33.7 | -- | -- | 36.3 | 41.6 | 33.6 | 25.0 | 4 |
| Beryllium | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 2.0 | 4 |
| Cadmium | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 2.0 | 4 |
| Calcium | | mg/L | 37.9 | -- | -- | 29.2 | -- | -- | 20.2 | -- | -- | 21.7 | -- | -- | 27.3 | 37.9 | 20.2 | 4.0 | 4 |
| Chromium | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 5.0 | 4 |
| Copper | | µg/L | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | BQL | 25.0 | 12 |
| Iron | | µg/L | 128 | 587 | 517 | 169 | 1,021 | 454 | 204 | 73 | 432 | 211 | 323 | 187 | 359 | 1021 | 73 | 60 | 12 |
| Lead | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 2.0 | 4 |
| Magnesium | | mg/L | 8.0 | -- | -- | 7.2 | -- | -- | 4.7 | -- | -- | 4.9 | -- | -- | 6.2 | 8.0 | 4.7 | 4.0 | 4 |
| Manganese | | µg/L | 165.0 | 81.4 | 51.4 | 78.2 | 54.3 | 131.0 | 375.0 | 271.0 | 78.7 | 319.0 | 230.0 | 190.0 | 168.8 | 375.0 | 51.4 | 25.0 | 12 |
| Mercury | | µg/L | -- | BQL | -- | -- | -- | -- | -- | -- | -- | -- | -- | BQL | BQL | BQL | BQL | 0.50 | 2 |
| Nickel | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 5.0 | 4 |
| Potassium | | mg/L | 8.6 | -- | -- | 4.0 | -- | -- | 4.0 | -- | -- | 5.0 | -- | -- | 5.4 | 8.6 | 4.0 | 0.5 | 4 |
| Selenium | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 5.0 | 4 |
| Silicon | | mg/L | BQL | -- | -- | BQL | -- | -- | 5 | -- | -- | BQL | -- | -- | BQL | 5 | BQL | 4 | 4 |
| Silver | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 5.0 | 4 |
| Sodium | | mg/L | 37.3 | 40.2 | 32.8 | 26.6 | BQL | 10.1 | 14.3 | 19.7 | BQL | 16.4 | 17.9 | 21.1 | 19.7 | 40.2 | BQL | 5.0 | 12 |
| Thallium | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 2.0 | 4 |
| Zinc | | µg/L | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | -- | -- | BQL | BQL | BQL | 25.0 | 4 |

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