

# MURRAY CITY WATER

## 2023 WATER QUALITY REPORT (2022 DATA)

### Water Source Sample Results

| Substance   | Units       | MCL        | MCLG | High   | Low    | Average  | Most Likely Source Of Contamination  |
|---|-------------|------------|------|--------|--------|----------|--|
| <b>PRIMARY INORGANICS</b>                               |             |            |      |        |        |          |  |
| Arsenic   | mg/L        | 0.01       | 0    | 0.0039 | ND     | 0.001695 | Erosion of natural deposits, runoff from orchards                                  |
| Barium  | mg/L        | 2          | 2    | 0.226  | ND     | 0.086    | Erosion of natural deposits, drilling & metal refinery waste                       |
| Copper  | mg/L        | 1.3        | 1.3  | 0.007  | ND     | 0.0008   | Erosion of natural deposits  |
| Cyanide, Free   | mg/L        | 0.2        | 0.2  | 0.006  | ND     | 0.001    | Discharge from steel/metal, plastic, and fertilizer factories                      |
| Fluoride  | mg/L        | 4          | 4    | 0.3    | ND     | 0.19     | Erosion of natural deposits, discharge from fertilizer and aluminum factories      |
| Lead  | mg/L        | 0.015      | 0    | 0.0005 | ND     | 0.00004  | Erosion of natural deposits  |
| Nickel  | mg/L        | 0.1        | NE   | 0.006  | ND     | 0.0003   | Erosion of natural deposits  |
| Nitrate   | mg/L        | 10         | 10   | 3.4    | ND     | 1.33     | Erosion of natural deposits, runoff from fertilizer use, leaking from septic tanks |
| Selenium  | mg/L        | 0.05       | 0.05 | 0.0032 | ND     | 0.001    | Erosion of natural deposits  |
| Sodium  | mg/L        | NE         | NE   | 133    | 9.7    | 36.8     | Erosion of natural deposits  |
| Sulfate   | mg/L        | 250        | NE   | 104    | 18     | 49.5     | Erosion of natural deposits  |
| Total Dissolved Solids TDS                              | mg/L        | 1000       | NE   | 868    | 124    | 362      | Erosion of natural deposits  |
| Turbidity   | NTU         | 5          | NE   | 1.6    | ND     | 0.32     | Suspended material from soil runoff  |
| <b>SECONDARY INORGANICS - Aesthetic Standards</b>       |             |            |      |        |        |          |  |
| Aluminum  | mg/L        | 0.2        | NE   | 0.1    | ND     | 0.01     | Erosion of natural deposits  |
| Chloride  | mg/L        | 250        | NE   | 247    | 11     | 81.4     | Erosion of natural deposits  |
| Color   | Color Units | 15         | NE   | 10     | ND     | 1.2      | Decaying, naturally-occurring organic material and suspended particles             |
| Iron  | mg/L        | 0.3        | NE   | 0.34   | ND     | 0.04     | Erosion of natural deposits  |
| Manganese   | mg/L        | 0.05       | NE   | 0.124  | ND     | 0.007    | Erosion of natural deposits  |
| Surfactants   | mg/L        | 0.5        | NE   | 0.25   | ND     | 0.07     | Erosion of natural deposits  |
| pH  | pH Units    | 6.5 to 8.5 | NE   | 8      | 7      | 7.6      | Naturally occurring  |
| Zinc  | mg/L        | 5          | NE   | 0.013  | ND     | 0.0007   | Erosion of natural deposits  |
| <b>UNREGULATED PARAMETERS - Monitoring not required</b> |             |            |      |        |        |          |  |
| Alkalinity, Bicarbonate                                 | mg/L        | UR         | NE   | 313    | 78.8   | 141.3    | Naturally occurring  |
| Alkalinity, Carbon Dioxide                              | mg/L        | UR         | NE   | 290    | 2.3    | 66.5     | Naturally occurring  |
| Alkalinity, Total                                       | mg/L        | UR         | NE   | 313    | 78.8   | 127.8    | Naturally occurring  |
| Ammonia   | mg/L        | UR         | NE   | 0.2    | ND     | 0.04     | Runoff from fertilizer and naturally occurring                                     |
| Calcium   | mg/L        | UR         | NE   | 121    | 21.3   | 52.7     | Erosion of natural deposits  |
| Conductivity  | umho/cm     | UR         | NE   | 1300   | 230    | 548.2    | Naturally occurring  |
| Hardness, Total   | mg/L        | UR         | NE   | 463    | 81     | 194.5    | Erosion of natural deposits  |
| Hardness, grains  | mg/L        | UR         | NE   | 27.1   | 4.7    | 11.4     | Erosion of natural deposits  |
| Magnesium   | mg/L        | UR         | NE   | 48.5   | 8.4    | 19.2     | Erosion of natural deposits  |
| Phosphate   | mg/L        | UR         | NE   | 0.26   | ND     | 0.016    | Erosion of natural deposits  |
| Potassium   | mg/L        | UR         | NE   | 7.1    | 1.2    | 2.43     | Erosion of natural deposits  |
| Silica  | mg/L        | UR         | NE   | 21.5   | ND     | 8.64     | Erosion of natural deposits  |
| <b>PESTICIDES</b>                                       |             |            |      |        |        |          |  |
| None detected   |             |            |      |        |        |          |  |
| <b>RADIOLOGICAL - COMPLIANCE</b>                        |             |            |      |        |        |          |  |
| Gross-Alpha   | pCi/L       | 15         | 0    | 13     | -1     | 2.92     | Decay of natural and man-made products   |
| Gross-Beta  | pCi/L       | 50         | 0    | 13     | 0.6    | 3.85     | Decay of natural and man-made products   |
| Radium 228  | pCi/L       |            | 0    | 0.72   | -0.19  | 0.27     | Decay of natural and man-made products   |
| Radium 226  | pCi/L       |            | 0    | 0.55   | ND     | 0.08     | Decay of natural and man-made products   |
| Combined Radium   | pCi/L       | 5          | 0    | 0.74   | -0.19  | 0.29     | Decay of natural and man-made products   |
| Combined Uranium  | mg/L        | 0.03       | 0    | 0.0028 | 0.0028 | 0.0014   | Erosion of natural deposits  |
| <b>VOLATILE ORGANIC COMPOUNDS</b>                       |             |            |      |        |        |          |  |
| Bromodichloromethane                                    | ug/L        | UR         | NE   | 0.6    | ND     | 0.03     | By-product of drinking water disinfection  |
| Chloroform  | ug/L        | UR         | NE   | 3.6    | ND     | 0.415    | By-product of drinking water disinfection  |
| Tetrachloroethene                                       | ug/L        | 5          | 0    | 0.8    | ND     | 0.04     |  |

### Distribution System Sample Results

| Substance  | Units                | MCL     | MCLG | High           | Low          | Average | Most Likely Source Of Contamination   |
|--|----------------------|---------|------|----------------|--------------|---------|---|
| <b>MICROBIOLOGICAL</b>   |                      |         |      |                |              |         |   |
| Total Coliforms  | % positive per month | Not >5% | 0%   | 2.2%           | 0%           | NA      | Human and Animal fecal Waste, naturally-occurring in the environment. Repeat samples were negative, no violations were issued |
| <b>LEAD &amp; COPPER (Tested at customer's residence) Tested every 3 years</b> |                      |         |      |                |              |         |   |
| Copper   | mg/L                 | 1.3     | NE   | 0.45           | 0.0179       | 0.105   | Corrosion of household plumbing systems   |
| Lead   | mg/L                 | 0.015   | NE   | 0.0033         | ND           | 0.0008  | Corrosion of household plumbing systems   |
| 90th Percentile Compliance Numbers from 2022                                   |                      |         |      | Copper: 0.2242 | Lead: 0.0022 |         |   |
| <b>DISINFECTANTS &amp; DISINFECTION BY-PRODUCTS</b>                            |                      |         |      |                |              |         |   |
| Chlorine Residual  | mg/L                 | 4       | NE   | 0.40           | 0.01         | 0.07    | Drinking water disinfectant   |
| TTHMs  | ug/L                 | 80      | NE   | 3.30           | 0.95         | 2.13    | By-product of drinking water disinfection   |
| HAA5s  | ug/L                 | 60      | NE   | 18.23          | 0.00         | 4.74    | By-product of drinking water disinfection   |
| <b>FLUORIDATION</b>  |                      |         |      |                |              |         |   |
| Fluoride   | mg/L                 | 4       | 4    | 1.00           | 0.35         | 0.69    | Water additive that promotes strong teeth   |

#### Key to Table

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| <b>MCL:</b> Maximum Contaminant Level  | <b>NTU:</b> Nephelometric Turbidity Unit (a measurement of the clarity of water, cloudiness) |
| <b>MCLG:</b> Maximum Contaminant Level Goal                                      | <b>CU:</b> Color Unit  |
| <b>mg/L:</b> milligrams per liter (parts per million, one penny in \$10,000)     | <b>ND:</b> Non-detected (less than the laboratory method can see)                            |
| <b>ug/L:</b> micrograms per liter (parts per billion, one penny in \$10,000,000) | <b>NE:</b> Not established   |
| <b>pCi/L:</b> picocuries per liter (a measure of the radioactivity in water)     | <b>UR:</b> unregulated (no EPA standard set)   |
|  | <b>GPG:</b> Grains per gallon  |