

# ***Union County Water District***

## ***Water Quality Report***

### ***2024***

For previous reports include year.  
Example: [tapwaterinfo.com/2023/unioncounty](http://tapwaterinfo.com/2023/unioncounty)

Water System ID: KY1130433      Manager: Gary Sheffer  
CCR Contact: Gary Sheffer      Phone: 270-389-3868  
Mailing Address: P.O. Box 146 Morganfield, KY 42437  
Meeting Location and Time: 510 South Mart St, - 2nd Tuesdays at 5:00 PM

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

#### **Source Information:**

Union County Water District purchases water from Morganfield. The City of Morganfield treats surface water from the Ohio River. Activities and land uses upstream of Morganfield's source of water can pose potential risks to your drinking water. These activities, and how they are conducted, are of interest to the entire community because they potentially affect your health and the cost of treating your water. Activities immediately upstream of your water supply intake are of special concern because they provide little response time to the water system operators. An analysis of the susceptibility of Morganfield's water supply to contamination indicates that this susceptibility is generally moderate. However, there are a few areas of high concern. Potential contaminant sources of concern include statewide coverage of row crops, underground injection sites, ten oil and gas wells, and a major road. Each of these are rated as high in the susceptibility analysis table because of the contaminant type, their proximity, and the high chance of release. This is a partial listing of potential contaminant sources. The complete Source Water Assessment Plan is available for review at the Morganfield Water Treatment Plant.

#### **Information About Lead:**

Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your local water system is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact your local water system. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

#### **Service Line Inventory Information:**

To address lead in drinking water, EPA requires that all community water systems develop and maintain an inventory of service line materials. We have completed a service line inventory (SLI) and it is available for review at our office.

#### **Lead Sample Results Availability Information:**

We are required to periodically sample water from customer taps to determine lead and copper levels. EPA sets the lead action level at 0.015 mg/L (15 ppb). For a water system to be in compliance, at least 90% of tap water samples must have lead levels below this limit. This report contains the 90th percentile and range of our most recent sampling. The individual results for each location sampled can be reviewed at our office.

We are only required to test for some contaminants periodically, so the results listed in this report may not be from the previous year. Only detected contaminants are included in this report. For a list of all contaminants we test for please contact us. Copies of this report are available upon request by contacting our office.

**Some or all of these definitions may be found in this report:**

**Maximum Contaminant Level (MCL)** - the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG)** - the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level (MRDL)** - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - the level of a drinking water disinfectant below which there is no known or expected risk to health.

MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Below Detection Levels (BDL)** - laboratory analysis indicates that the contaminant is not present.

**Not Applicable (N/A)** - does not apply.

**Parts per million (ppm)** - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb)** - or micrograms per liter, (µg/L). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - a measure of the radioactivity in water.

**Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.

**Million Fibers per Liter (MFL)** - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

**Variances & Exemptions (V&E)** - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.

**Treatment Technique (TT)** - a required process intended to reduce the level of a contaminant in drinking water.

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

| Regulated Contaminant Test Results Morganfield, City of |     |      |                 |                       |                   |           |                                                                                    |
|---------------------------------------------------------|-----|------|-----------------|-----------------------|-------------------|-----------|------------------------------------------------------------------------------------|
| Contaminant<br>[code] (units)                           | MCL | MCLG | Report<br>Level | Range<br>of Detection | Date of<br>Sample | Violation | Likely Source of<br>Contamination                                                  |
| Barium<br>[1010] (ppm)                                  | 2   | 2    | 0.046           | 0.046 to 0.046        | Oct-24            | No        | Drilling wastes; metal refineries; erosion of natural deposits                     |
| Fluoride<br>[1025] (ppm)                                | 4   | 4    | 0.88            | 0.88 to 0.88          | Oct-24            | No        | Water additive which promotes strong teeth                                         |
| Nickel (ppb)<br>(US EPA remanded MCL in February 1995)  | N/A | N/A  | 2               | 2 to 2                | Oct-24            | No        | N/A                                                                                |
| Nitrate<br>[1040] (ppm)                                 | 10  | 10   | 0.808           | 0.808 to 0.808        | Feb-24            | No        | Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits |

| Disinfectants/Disinfection Byproducts and Precursors                                                                               |     |     |                          |                                  |      |    |                                   |
|------------------------------------------------------------------------------------------------------------------------------------|-----|-----|--------------------------|----------------------------------|------|----|-----------------------------------|
| Total Organic Carbon (ppm)<br>(measured as ppm, but reported as a ratio)                                                           | TT* | N/A | 1.13<br>(lowest average) | 0.80 to 1.87<br>(monthly ratios) | 2024 | No | Naturally present in environment. |
| *Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance. |     |     |                          |                                  |      |    |                                   |

| Other Constituents                                                        |                                                                    |                               |                     |           |                            |
|---------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------|---------------------|-----------|----------------------------|
| Turbidity (NTU) TT<br>* Representative samples                            | Allowable<br>Levels                                                | Highest Single<br>Measurement | Lowest<br>Monthly % | Violation | Likely Source of Turbidity |
| Turbidity is a measure of the clarity of the water and not a contaminant. | No more than 1 NTU*<br>Less than 0.3 NTU in 95% of monthly samples | 0.191                         | 100                 | No        | Soil runoff                |

| Unregulated Contaminants (UCMR 5) | average | range (ppb) | date   |
|-----------------------------------|---------|-------------|--------|
| perfluorohexanoic acid (PFHxA)    | 0.001   | 0 to 0.003  | Nov-24 |
| perfluoropentanoic acid (PFPeA)   | 0.003   | 0 to 0.008  | Nov-24 |

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those that EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

| Fluoride (added for dental health) | Average | Range of Detection |
|------------------------------------|---------|--------------------|
|                                    | 0.9     | 0.6 to 1.09        |

| Regulated Contaminant Test Results                          |          |           |                                     | Union County Water District               |                   |           |                                           |
|-------------------------------------------------------------|----------|-----------|-------------------------------------|-------------------------------------------|-------------------|-----------|-------------------------------------------|
| Contaminant<br>[code] (units)                               | MCL      | MCLG      | Report<br>Level                     | Range<br>of Detection                     | Date of<br>Sample | Violation | Likely Source of<br>Contamination         |
| <b>Disinfectants/Disinfection Byproducts and Precursors</b> |          |           |                                     |                                           |                   |           |                                           |
| Chlorine (ppm)                                              | MRDL = 4 | MRDLG = 4 | 1.12 (highest average)              | 0.34 to 1.95                              | 2024              | No        | Water additive used to control microbes.  |
| HAA (ppb) (Stage 2)<br>[Haloacetic acids]                   | 60       | N/A       | 56 (high site average)              | 27.7 to 85.3 (range of individual sites)  | 2024              | No        | Byproduct of drinking water disinfection  |
| TTHM (ppb) (Stage 2)<br>[total trihalomethanes]             | 80       | N/A       | 88 (high site average)              | 59.2 to 114.6 (range of individual sites) | 2024              | YES       | Byproduct of drinking water disinfection. |
| <b>Household Plumbing Contaminants</b>                      |          |           |                                     |                                           |                   |           |                                           |
| Copper (ppm) Round 1<br>sites exceeding action level 0      | AL = 1.3 | 1.3       | 0.017 (90 <sup>th</sup> percentile) | 0 to 0.145                                | Aug-23            | No        | Corrosion of household plumbing systems   |
| Lead (ppb) Round 1<br>sites exceeding action level 0        | AL = 15  | 0         | 6 (90 <sup>th</sup> percentile)     | 0 to 9                                    | Aug-23            | No        | Corrosion of household plumbing systems   |
| TTHM(ppb) Individual Site                                   | Qtr 1    | Qtr 2     | Qtr 3                               | Qtr 4                                     | Violation         |           |                                           |
| SM1                                                         | 78.08    | 81.99     | 78.41                               | 81.66                                     | Yes               |           |                                           |
| SM2                                                         | 83.73    | 88.46     | 80.69                               | 86.61                                     | Yes               |           |                                           |

#### Violations

Testing results showed that our system exceeded the standard, or maximum contaminant level (MCL), for trihalomethanes (THM). The standard for trihalomethanes is 0.080 mg/L. It is determined by averaging all samples at each sampling location for the previous 12 months. Violations for trihalomethanes:

|              |            |                              |
|--------------|------------|------------------------------|
| 2024-9950651 | 0.083 mg/L | 1/1/2024 through 3/31/2024   |
| 2024-9950652 | 0.090 mg/L | 4/1/2024 through 6/30/2024   |
| 2025-9950653 | 0.087 mg/L | 7/1/2024 through 9/30/2024   |
| 2025-9950654 | 0.087 mg/L | 10/1/2024 through 12/31/2024 |

We are working to minimize the formation of trihalomethanes while ensuring we maintain an adequate level of disinfectant. We have taken additional steps to monitor water storage tank levels and water flow patterns within the distribution system. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Public notices were distributed for each quarter we were out of compliance.