

**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, ( $\mu\text{g/L}$ ). 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.

**Variations & 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.



## *Water Quality Report 2022*

To request a copy call 859-986-9031.



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Meeting location and time:  
207 North Dogwood Drive  
Third Thursday Monthly at 7:00 PM

This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide a safe, clean, and reliable supply of drinking water. We want to assure that we will continue to monitor, improve, and protect the water system and deliver a high quality product.

SMWD purchases water from Berea Municipal Utilities. Berea Municipal Utilities treats surface water from four reservoirs, Upper Silver Creek, Lower Silver Creek, Cowbell and Owsley Fork Lakes. The final source water assessment for our system has been completed and is contained in the Madison County Source Water Assessment & Protection Plan. An analysis of the susceptibility of the Berea water supply to contamination indicates that susceptibility is generally moderate. However, there are some areas of high concern within the protection zones of the Upper and Lower Silver Creek reservoirs, as well as with the protection zone of Cowbell Lake. Forested areas within these protection zones hold the potential to generate runoff that could carry natural contaminants from the forest floor. Within the protection zone for Owsley Fork reservoir, forest areas are also present and are noted as a significant contamination threat to this source. Segments of four major roads (KY 2004, KY 3447, US 421, and KY 21) also occur within this protection zone--each perceived as medium-level threats to the reservoir supply. A copy of the plan is available for review at the Berea Municipal Utilities office, during normal business hours.

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).

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).

### **Information About Lead:**

If present, elevated levels of 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 public water system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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 data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Copies of this report are available upon request by contacting our office during business hours.

**Regulated Contaminant Test Results Berea Municipal Utilities**

| Contaminant [code] (units) | MCL | MCLG | Report Level | Range of Detection | Date of Sample | Violation | Likely Source of Contamination |
|----------------------------|-----|------|--------------|--------------------|----------------|-----------|--------------------------------|
|----------------------------|-----|------|--------------|--------------------|----------------|-----------|--------------------------------|

**Radioactive Contaminants**

|                         |   |   |      |              |        |    |                             |
|-------------------------|---|---|------|--------------|--------|----|-----------------------------|
| Combined radium (pCi/L) | 5 | 0 | 0.42 | 0.42 to 0.42 | May-20 | No | Erosion of natural deposits |
|-------------------------|---|---|------|--------------|--------|----|-----------------------------|

**Inorganic Contaminants**

|                       |    |    |       |                |        |    |  |
|-----------------------|----|----|-------|----------------|--------|----|--|
| Barium [1010] (ppm)   | 2  | 2  | 0.012 | 0.012 to 0.012 | Mar-22 | No | Drilling wastes; metal refineries; erosion of natural deposits                     |
| Fluoride [1025] (ppm) | 4  | 4  | 0.67  | 0.67 to 0.67   | Mar-22 | No | Water additive which promotes strong teeth   |
| Nitrate [1040] (ppm)  | 10 | 10 | 0.215 | 0.215 to 0.215 | Feb-22 | No | Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits |

**Disinfectants/Disinfection Byproducts and Precursors**

|   |     |     |                       |                               |      |    |                                   |
|---|-----|-----|-----------------------|-------------------------------|------|----|-----------------------------------|
| Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio) | TT* | N/A | 1.31 (lowest average) | 1.13 to 2.08 (monthly ratios) | 2022 | 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 Levels   | Highest Single Measurement | Lowest 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 | 0.061                      | 100                       | No        | Soil runoff                |
|   |  | <b>Average</b>             | <b>Range of Detection</b> |           |                            |
| Fluoride (added for dental health)  |  | 0.7                        | 0.53 to 0.84              |           |                            |
| Sodium (EPA guidance level = 20 mg/L)                                     |  | 2.3                        | 2.32 to 2.32              |           |                            |

Secondary contaminants do not have a direct impact on the health of consumers. They are being included to provide additional information about the quality of the water.

| Secondary Contaminant  | Maximum Allowable Level | Report Level | Range of Detection | Date of Sample |
|------------------------|-------------------------|--------------|--------------------|----------------|
| Aluminum               | 0.05 to 0.2 mg/l        | 0.07         | 0.07 to 0.07       | May-22         |
| Chloride               | 250 mg/l                | 6.6          | 6.6 to 6.6         | May-22         |
| Corrosivity            | Noncorrosive            | -1.07        | -1.07 to -1.07     | May-22         |
| Fluoride               | 2.0 mg/l                | 0.66         | 0.66 to 0.66       | May-22         |
| Foaming Agents         | 0.5 mg/l                | 0.1          | 0.1 to 0.1         | May-22         |
| pH                     | 6.5 to 8.5              | 7.02         | 7.02 to 7.02       | May-22         |
| Sulfate                | 250 mg/l                | 8.1          | 8.1 to 8.1         | May-22         |
| Total Dissolved Solids | 500 mg/l                | 300          | 300 to 300         | May-22         |

**Regulated Contaminant Test Results Southern Madison Water District**

| Contaminant [code] (units) | MCL | MCLG | Report Level | Range of Detection | Date of Sample | Violation | Likely Source of Contamination |
|----------------------------|-----|------|--------------|--------------------|----------------|-----------|--------------------------------|
|----------------------------|-----|------|--------------|--------------------|----------------|-----------|--------------------------------|

**Disinfectants/Disinfection Byproducts and Precursors**

|  |          |           |                        |                                       |      |    |   |
|--|----------|-----------|------------------------|---------------------------------------|------|----|---|
| Chlorine (ppm)                               | MRDL = 4 | MRDLG = 4 | 0.98 (highest average) | 0.4 to 1.4                            | 2022 | No | Water additive used to control microbes.  |
| HAA (ppb) (Stage 2) [Haloacetic acids]       | 60       | N/A       | 53 (high site average) | 41 to 90 (range of individual sites)  | 2022 | No | Byproduct of drinking water disinfection  |
| TTHM (ppb) (Stage 2) [total trihalomethanes] | 80       | N/A       | 75 (high site average) | 33 to 132 (range of individual sites) | 2022 | No | Byproduct of drinking water disinfection. |

**Household Plumbing Contaminants**

|  |          |     |                                     |               |        |    |   |
|--|----------|-----|-------------------------------------|---------------|--------|----|---|
| Copper [1022] (ppm) Round 1 sites exceeding action level 1 | AL = 1.3 | 1.3 | 0.075 (90 <sup>th</sup> percentile) | 0.003 to 12.1 | Aug-22 | No | Corrosion of household plumbing systems |
| Lead [1030] (ppb) Round 1 sites exceeding action level 1   | AL = 15  | 0   | 2 (90 <sup>th</sup> percentile)     | 0 to 33       | Aug-22 | No | Corrosion of household plumbing systems |

