



# 2022 *Water Quality* Report

PWS KY 1140038





Pictured above is BGMU's state-certified laboratory where testing is performed as required by the Energy and Environment Cabinet. With over 19,000 water service connections in Bowling Green and over 29,000 Warren County Water District water connections, it is important that your water be constantly sampled and tested. Approximately 1,300,000 water quality tests are performed annually to ensure the quality of your drinking water.

### **BGMU Water Quality Team**

**Mark Iverson**—General Manager

**Mike Gardner**—Water-Wastewater Systems Manager

**Doug Kimbler**—Treatment Plants Superintendent

**Terry Hendrick**—Chief Operator

**Kevin Lockwood**—Maintenance Coordinator

**John Gott**—Chief Chemist

**Amila Mahmutovic**—Assistant Chief Chemist

### **VAZNO**

Ovaj report sadrzi veoma vazne informacije o vodi za pijenje. Prevedi ovaj report ili razgovaraj sa nekim ko razumije dobro podatke iz reporta.

### **ATTENCION**

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien.

***BGMU Board of Directors meet on the second Monday of each month at City Hall at 4:30 p.m.***

***Additional copies of the Water Quality Report are available at our main office located at 801 Center Street or by visiting our website at [www.bgmu.com](http://www.bgmu.com).***

***If you have any questions, please contact Doug Kimbler, Treatment Plants Superintendent, or John K. Gott, Chief Chemist, at 270-782-1200.***

## **Helpful Terms**

### **PPM or Part Per Million**

Ex: 4 drops of ink mixed in a 55 gallon barrel of water is the equivalent of one part per million



### **PPB or Part Per Billion**

Ex: 1 drop of ink mixed in a 9000 gallon fuel tank truck is the equivalent of one part per billion



## Big Barren River Our Source Water

The source of drinking water (both tap and bottled water) includes 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, including some radioactive material. Water is also exposed to substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that shall provide protection for the public health.

BGMU uses the Big Barren River as its source of water. The Big Barren River flows out of the Barren River Reservoir, a flood-control lake designed to help prevent flooding in populated communities west of Allen and Barren counties. Drakes Creek joins the Big Barren River above BGMU's raw water intake. Drakes Creek is fed by Trammel Creek and flows north out of Franklin, Kentucky.

The final source water assessment with the system's susceptibility to potential sources of contamination is available for review at the Barren River Area Development District (B.R.A.D.D.) office located at 177 Graham Avenue. A summary of the susceptibility of the BGMU public water supply to contamination indicates that the susceptibility is generally moderate. There are, however, some areas of concern. There are two bridges located in the area near the intake. Should an accidental release of contaminants occur at either of these sites, contaminants could potentially reach Bowling Green's intake.

In the immediate area around our water intake on the Barren River, there is one KPDES permitted discharger, several hazardous generators or transporters, Tier II hazardous chemical users, an inactive landfill, and underground storage tank facilities. Within the greater watershed, there are numerous permitted operations and activities and other potential contaminant sources that cumulatively increase the potential for the release of contaminants. These potential contaminant sources include several underground storage tanks, oil and gas wells, bridges, agricultural use, hazardous chemical users (one of which is registered with the Toxic Release Inventory System), and Tier II hazardous chemical users. If you have any questions about the source water assessment, including the susceptibility analysis, you may contact the B.R.A.D.D. office at 270-781-2381.



### Contaminants That May Be Present in Source Water

**Microbial Contaminants**, such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**Inorganic Contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

**Radioactive Contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

### 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. BGMU 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>.

BGMU is committed to providing our customers with safe water of the very highest quality. If you have questions about lead in drinking water or wish to obtain information concerning lead, specifically related to the BGMU water distribution system (or our testing program), please call us at 270-782-1200.

The data presented in this table are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by the 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. Definitions can be found on page 4.

Contaminant	MCL	MCLG	Highest Level Detected	Range	Major Sources in Drinking Water
<b>MICROBIOLOGICAL</b>					
<b>Total Organic Carbon (ppm)</b> 2021	TT*	n/a	1.29 (Lowest Running Annual Average)	1.0-2.4 (Monthly Ratios)	Naturally present in the environment.
<b>Turbidity (ntu) (%)</b> 2021	TT = 1 ntu TT = 95% of monthly sam- ples < 0.3 ntu	n/a	0.106	0.015-0.106	Soil runoff.
<b>RADIOLOGICAL</b>					
<b>Alpha Emitters (pCi/l)</b> 2016	15	0	<1.61	n/a	Erosion of natural deposits.
<b>Combined Radium (pCi/l)</b> 2016	5	0	<0.875 Measured as RA-228 + RA-226	n/a	Erosion of natural deposits.
<b>INORGANIC</b>					
<b>Copper (ppm)</b> 2021	AL = 1.3	0	90th percentile < 0.025 with 0 sites above AL	<0.025-0.082	Corrosion of household plumbing systems; erosion of natural deposits.
<b>Lead (ppb)</b> 2021	AL = 15	0	90th percentile = 2.6 with 1 site above AL	<2.5-38	Corrosion of household plumbing systems; erosion of natural deposits.
<b>DISINFECTION BYPRODUCTS</b>					
<b>Haloacetic Acids (ppb)</b> Stage 2 2021	60	n/a	46.8 = Locational Average	11.2-68.0	By-product of drinking water disinfection.
<b>Total Trihalomethanes (ppb)</b> Stage 2 2021	80	n/a	53.7 = Locational Average	9.8-79.8	By-product of drinking water disinfection.
<b>Chlorine (ppm)</b> 2021	MRDL = 4	MRDLG = 4	1.8 Annual Average WTP**	0.89-1.44	Water additive used to control microbes.
<b>SECONDARY CONTAMINANTS</b>					
No contaminants on the Secondary Contaminants list were detected.					
<b>VOLATILE ORGANICS</b>					
No contaminants on the Volatile Organics list were detected.					

BGMU collects and processes 50 distribution samples each month, testing for total coliforms and E. coli. None of our compliance (distribution) samples tested positive for coliforms in 2021.

No violations for turbidity occurred during the 2021 monitoring period.

Bowling Green's water is tested daily for hardness. The annual average for Total Hardness was 133.5 ppm.

Bowling Green's water was tested for sodium in January and August. The sodium levels were 9.6 ppm and 11.0 ppm, respectively.

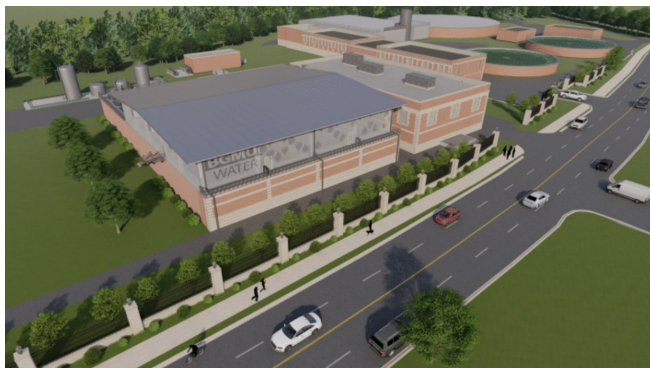
Bowling Green's water was tested for calcium in January. The calcium level tested at 31.0 ppm.

Bowling Green's water was tested for magnesium in January. The magnesium level tested at 4.3 ppm.

(\*) Treatment Technique for TOC is based on the lowest running annual average of the monthly ratios of the % TOC removal achieved to the % TOC removal required. A minimum ratio of 1.00 is required to meet the TT.

(\*\*) The BGMU Water Treatment Plant continuously chlorinates finished water for disinfection purposes. In 2021, the annual average concentration of free chlorine in the distribution system was 1.20 ppm. The range reported for chlorine reflects testing in the distribution system.





**Pictured above is an artist rendering of what our Drinking Water Treatment Plant will look like after completion of its current expansion.**

## ***Cryptosporidium***

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. BGMU tests for Cryptosporidium in our source and finished water. No Cryptosporidium detections were found in the four finished water samples collected in 2021, and no Cryptosporidium detections were found in the four source water samples collected in 2021.

At the present time, there is no Maximum Contaminant Level (MCL) established for Cryptosporidium. Therefore, we are not required to test for these organisms. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of low levels of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. The presence of these organisms does not cause us concern because we have not had any detections in finished water. Nevertheless, we will continue testing for the organisms to ensure public health is protected.

## ***NOTICE: Important Information***

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 for 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).

Another source for information on water quality is the KY Division of Water's website, [www.water.ky.gov/dw/](http://www.water.ky.gov/dw/).

## **Explanation of Expected Contaminants**

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 at 800-426-4791.

Should you wish to obtain information concerning contaminants, specifically related to BGMU water quality or our testing program, please feel free to call us at 270-782-1200.

## **Definitions**

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**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 the addition of a disinfectant is necessary for control of microbial contaminants.

**Not Applicable (n/a):** Does not apply.

**Nephelometric Turbidity Units (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.

**Picocuries per liter (pCi/l):** A measure of radioactivity.

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

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

**Total Coliform Bacteria:** Coliform bacteria are an indication that disease-producing organisms may be present in the water supply. Total coliform bacteria includes bacteria that is found in soil, in water that is on or near the ground, and in human or animal waste.

**Turbidity:** The cloudiness of water.

**Treatment Technique (TT):** A required process intended to reduce the level of contaminants in drinking water.

<: Less than.