

BGMU 2015 Water Quality Report

BGMU Water Quality Team

Mark Iverson • General Manager
Mike Gardner • Water - Wastewater Systems Manager
Doug Kimbler • Treatment Plant Superintendent
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BGMU's Water Testing Laboratory

Pictured above is your Water Treatment Plant'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 22,000 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.

Bowling Green Municipal Utilities holds its Board of Directors meetings on the second Monday of each month at City Hall at 7:00 p.m.

Additional copies of this Water Quality Report are available at our main office located at 801 Center Street or by visiting our website at www.bgm.com. If you have any questions, please contact Doug Kimbler, Treatment Plants Superintendent, or John K. Gott, Chief Chemist, at 270-782-1200.

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.

Big Barren River

Our Source Water

The sources of drinking water (both tap 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, 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. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which also provide protection for the public health.

Bowling Green Municipal Utilities 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 the 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. These three surface water bodies are the sources which BGMU treats to provide your drinking water supply.

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 Bowling Green Municipal Utilities 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, these contaminants could potentially reach Bowling Green's intake.

There are also areas of the Barren River that have been classified as impaired, one KPDES permitted discharger, several hazardous generators or transporters, Tier II hazardous chemical users, an inactive landfill, and an underground storage tank located in the immediate area around the intake. 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.

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. Bowling Green Municipal Utilities 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 www.epa.gov/safewater/lead.



2014 Test Results

PWS ID# KY1140038

The data presented in this table is from the most recent testing done in accordance with the State and Federal Public Water Supply Administrative Regulations.

Contaminant	MCL	MCLG	Highest Level Detected	Range	Major Sources in Drinking Water
MICROBIOLOGICAL					
Total Coliform Bacteria	5%	0	<1	NA	Naturally present in the environment.
Total Organic Carbon (ppm)	*TT	n/a	1.73 (Lowest Running Annual Average)	1.00-3.43 (Monthly Ratios)	Naturally present in the environment.
Turbidity (ntu) (%)	TT = 1 ntu TT = 95% of monthly samples < 0.3 ntu	n/a	0.116	0.022-0.116	Soil runoff.
RADIOLOGICAL					
Alpha Emitters (pCi/l) 2007	15	0	2.1	0.11-2.1	Erosion of natural deposits.
Combined Radium (pCi/l) 2007	5	0	1.06 measured as RA-228 + RA-226	0.85-1.06	Erosion of natural deposits.
INORGANIC					
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.5 Annual Average WTP	0.13-2.44	Water additive used to control microbes.
Copper (ppm) 2012	AL = 1.3	0	90th percentile = 0.078 with 0 sites above AL	<0.025 - 0.120	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb) 2012	AL = 15	0	90th percentile = 7 with 2 sites above AL	<2.5 to 31	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate (as Nitrogen) (ppm)	10	10	2.2	2.2	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
VOLATILE ORGANIC					
Haloacetic Acids (ppb) Stage 2	60	n/a	43.55 = Locational Average	32.68-43.55	By-product of drinking water disinfection.
Total Trihalomethanes (ppb) Stage 2	80	n/a	37.15 = Locational Average	24.90-37.15	By-product of drinking water disinfection.

- 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. The annual average concentration of free chlorine in the distribution system in 2014 was 1.07 ppm.
- Turbidity is a measure of the cloudiness of the water. The measurement of turbidity is a good indicator of the water's quality. No violations for turbidity occurred during the 2014 monitoring period.
- Bowling Green's water is tested daily for hardness. The annual average Total Hardness was 134 ppm for 2014.
- Bowling Green's water was tested for sodium in January and July. The sodium levels were 4.9 ppm and 4.8 ppm, respectively.
- Bowling Green's water was tested for aluminum in January. The aluminum level tested at <0.050 ppm.
- 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 total coliforms in 2014.

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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Definition of Terms

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

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

n/a: Not applicable.

ntu (nephelometric turbidity units): Units that measure the cloudiness of water.

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

ppb (parts per billion): Equal to micrograms per liter.

ppm (parts per million): Equal to milligrams per liter.

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: A measure of the cloudiness of the water. The measurement of turbidity is a good indicator of the water's quality.

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

<: Less than.



Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. BGMU tests for Cryptosporidium in our source and finished water. There was no detection in the finished water, however; there was one detection in the source water out of four samples taken in 2014.

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 the finished water. Nevertheless, we will continue testing for the organisms to ensure the 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 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 at 1-800-426-4791.

Another source for information on water quality is the KY Division of Water's website: www.water.ky.gov/dw/