

# BARDSTOWN

## Municipal Water Department PWSID# KY0900017 Water Quality Report for Year 2020

The Bardstown Municipal Water Department is pleased to present this Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. The COVID-19 Pandemic certainly brought new challenges, yet the tireless dedication of City Staff enabled us to provide our customers with safe and dependable drinking water.

### 2020 Water Quality Improvements

We want you to be aware of the continued efforts made to improve our water system and to protect our water resources. The mission of Bardstown's maintenance program is to improve water quality and increase the longevity of the water system. To this end the City completed several projects in 2020. The First was the painting and repair of the million gallon elevated water storage tank located on Withrow Court. This \$616,400 project incorporated the City's new color scheme that will protect the tank from corrosion and help preserve their structural integrity for years to come. In 2020 the City also initiated the first phase of a multi-year utility replacement project in the downtown area. The City invested \$663,200 to install 4,415 linear feet of new 8" and 6" diameter water mains and 9 new fire hydrants to improve water quality and fire protection in an area that covers over 80 customers. Finally, to improve resilience and provide an alternate feed to the Nelson County Industrial Park, the City invested \$238,250 to install a 16" water main under the Bluegrass Parkway connecting water mains from Filiatreau Lane to the south end of Parkway Drive.

Bardstown continues its routine maintenance programs that includes tank inspections and water main flushing to help combat aging infrastructure. All of these efforts allowed Bardstown to maintain DBP compliance in 2020. Thank you for your continued support.

We know that water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system. Please report any suspicious activity that you may see around water storage tanks, fire hydrants, pump stations or Simpson Lake to Law Enforcement Agencies or City Hall employees. Informed consumers are our best allies in maintaining safe drinking water. We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the second and fourth Tuesdays, at the City Annex Building, 116 North Fifth Street at 6:00 P.M.



Bardstown 1 Million Gallon Withrow Court Tank  
*photo courtesy of Brian Dillard (Instagram @bdillard21)*

The staff at the Bardstown Water Treatment Plant work around the clock to provide top quality water to every tap. If you want further information or want to discuss matters included in this report, please contact Jessica Filiatreau at 502-348-5947 or Roni Afable at 502- 348-3064.

### Water Source

Our water comes entirely from surface water sources – Simpson Lake and the Beech Fork River. An 8.8 square mile area of the Buffalo Creek watershed feeds Simpson Lake. A 669 square mile area extending upstream from Bardstown toward Chaplin, Springfield and Lebanon feeds the Beech Fork River Pumping Station.

### Source Water Assessment

A source water assessment of the system's susceptibility to potential sources of contamination has been completed. Following is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Assessment Plan (SWAP). The completed plan is available for inspection at the Lincoln Trail Area Development District, 613 College St. Rd., Elizabethtown, KY 40601, or by telephone at (270) 769-2393. The Bardstown Municipal Water Department withdraws approximately four and a half (4 ½) million gallons per day of raw water from Simpson Lake. Areas of high concern at the intake consist of row crops, bridges and culverts, urban and recreational grasses. These high areas of concern do not represent a danger to the environment. It is the potential for chemical spills, leaks, or hazardous material accidentally spilling into the water source that gives these sites the susceptibility ranking of high. However, when all aspects of the source assessment are analyzed, the overall ranking for Bardstown's water source is moderate.

### For Additional Information Please Contact

220 N. 5th St. Bardstown, KY 40004 (502) 348 5947

<https://www.cityofbardstown.org/government/departments/water>



16" Main under BG Parkway  
(above)  
Downtown Water Replacement  
Project (below)



## Water-Quality Data Tables

The Bardstown Municipal Water Department routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our required monitoring for the period of January 1st to December 31st, 2020.

It is important to remember that the presence of these constituents does not necessarily pose a health risk. The table shows the results of our water-quality analysis. Every regulated contaminant that we detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement.

The data presented in this report is 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. Unless otherwise noted, the report level is the highest level detected.							
	Allowable Levels		Highest Single Measurement	Lowest Monthly %	Compliance Achieved	Likely Source	
Turbidity (NTU) TT	No more than 1 NTU Less than 0.3 NTU in 95% of monthly samples		0.27	100%	Yes	Soil runoff	
REGULATED CONTAMINANT TEST RESULTS							
Contaminant [code] (units)	MCL	MCLG	Level Found	Range of Detection	Date of Sample	Compliance Achieved	Likely Source of Contamination
RADIOACTIVE CONTAMINANTS							
<sup>1</sup> Combined Radium (pCi/L)	5	0	1.4	1.4 to 1.4	June 2019	Yes	Erosion of natural deposits
INORGANIC CONTAMINANTS							
Barium [1010] ppm	2	2	0.010	0.010 - 0.010	Feb 2020	Yes	Discharge of drilling wastes; metal refineries; erosion of natural deposits
Beryllium (ppb)	4	4	0.2	0.2 - 0.2	Feb 2020	Yes	Discharge from metal refineries and coal burning factories; Discharge from electrical, aerospace, and defense industries
<sup>2</sup> Copper [1022] (ppm) (# Sites exceeded the AL)	AL=1.3	1.3	0.154 (90 <sup>th</sup> percentile)	0 - 0.17 0 sites exceed AL	Jun - Sept 2020	Yes	Corrosion of household plumbing systems, erosion of natural deposits; leaching from wood preservatives
Fluoride [1025] (ppm)	4	4	0.65	0.65 - 0.65	Feb 2020	Yes	Water additive which promotes strong teeth
<sup>2</sup> Lead [1030] (ppb) (# site exceeded the AL)	AL= 15	0	14 (90 <sup>th</sup> percentile)	0 – 35 1 site exceeds AL	Jun - Sept 2020	Yes	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (ppm)	10	10	1.9	1.90 - 1.90	Feb 2020	Yes	Runoff from fertilizer use; 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	2.08 (lowest average)	1.32 – 2.95 (monthly ratios)	Jan-Dec 2020	Yes	Naturally present in the environment
* Monthly ratio is the % TOC removal achieved to % TOC removal required. Annual average of the monthly ratio must be 1.00 or greater for compliance							
Chlorine Residual (Chloramines) (ppm)	MRDL 4	MRDLG 4	2.62 (highest average)	1.46 to 3.6	Jan-Dec 2020	Yes	Water additive used to control microbes.
Haloacetic acids or HAA (ppb) Stage2	60	N/A	34 (highest individual LRAA)	24 to 45	Jan-Dec 2020	Yes	By-product of drinking water chlorination
TTHM Stage 2 [total trihalomethanes] Stage2 (ppb)	80	N/A	64 (highest individual LRAA)	25 to 104	Jan-Dec 2020	Yes	By-product of drinking water chlorination

## An Explanation of the Water-Quality Data Table

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It is important to remember that the presence of these constituents does not necessarily pose a health risk. The table shows the results of our water-quality analysis. Every regulated contaminant that we detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement.

The table lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our

drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

***Maximum Contaminant Level (MCL's) are set at very stringent levels. 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.***

### Definitions and Abbreviations

***MCL (Maximum Contaminant Level)*** - 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.

***MCLG (Maximum Contaminant Level Goal)*** - the level of a contaminant in the drinking water below which there is no known or expected risk to health. MCLGs 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 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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

***RTCR Level 1 Assessment*** - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

***RTCR Level 2 Assessment*** - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

***NTU*** - Nephelometric Turbidity Units. NTU is a measure of the cloudiness of water. Low turbidity is an indicator of the effectiveness of the filtration process.

***BDL*** - below detection level

***ppm*** - parts per million, or milligrams per liter (mg/l)

***ppb*** - parts per billion, or micrograms per liter (ug/l)

***pCi/L*** - picocuries per liter (a measure of radioactivity)

***µg/L*** - micrograms per liter

***LRAA*** - locational running annual average

***RTCR*** - Revised Total Coliform Rule

***N/A*** - not applicable

### Regulated Contaminant Information

<sup>1</sup>***Radioactive Contaminants*** - The data presented in this report are from the most recent testing done in accordance with the administrative regulations in 401 KAR Chapter 8:550 Section 1. Samples were taken June 2019 yielded the above results and the next sample needs to be collected from the entry point to the distribution system during any quarter in the 2025 calendar year

<sup>2</sup>***Lead and Copper*** - Bardstown Municipal Water Department had fulfilled Standard Monitoring procedure with the post disinfectant change in December of 2018. The data presented above reflects the most recent sampling event. We have completed the Standard Monitoring period (two (2) six months monitoring with increased samples) and are now on the first step of reduced monitoring.

**(Lead and Copper Cont.)** *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. Bardstown Municipal Water Dept. 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 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>.*

**Barium.** Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

**Beryllium.** Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.

**Nitrate.** Nitrate in drinking water at **levels above 10 ppm** is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

#### **A Message from the EPA**

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 (EPA) 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 and through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in our source water include:

- A. Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of

#### **Unregulated Contaminants Monitoring Rule 4 (UCMR4)**

Bardstown Municipal Water Department tested for UCMR4 (Unregulated Contaminants Monitoring Rule 4). All test for cyanotoxins (AM3) yielded Below Detection Levels (BDL). For more information please visit <https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule>

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.

#### **Disinfectants/Disinfection Byproducts and Precursors.**

Disinfection By-products (DBPs) compliance regulation monitors Total Haloacetic Acids (HAA5s) and Total Trihalomethanes (TTHMs) at designated locations in the water distribution system. These TTHMs and HAA5s are by-products of the chlorine disinfection process. The regulatory annual quarterly average for HAA5 is 0.06 ppm (parts per million) and 0.08 ppm for TTHMs. We have remained in compliance with the regulation but want to further improve water quality for our Bardstown water customers and our wholesale water districts' customers.

industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

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

To ensure that tap water is safe to drink, the U.S. 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 that shall provide the same protection for public health.

#### **Do I need to take special precautions?**

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 (1 -800-426-4791).

#### **Notice of Violations List for 2020**

**The City of Bardstown Water System received no drinking water treatment or distribution violations in 2020.**