



# Annual Drinking Water Report

Town of Berryville 2024



This 2024 Annual Drinking Water Report is designed to provide you with information about your drinking water and the efforts we make to protect your water supply. The quality of your drinking water meets all state and federal requirements administered by the Virginia Department of Health (VDH), Office of Water Programs.

If you have questions about this report, want additional information, or wish to learn about opportunities to participate in decisions that may affect Town of Berryville drinking water, Deputy Town Manager Jean Petti may be reached at (540) 955-1099.

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 microbiological contaminants are available from the [Safe Drinking Water Hotline at \(800\) 426-4791](#).

## General Information

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and may acquire contaminants from septic systems and discharges from domestic or industrial wastewater treatment, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. All 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.

## Sources and Treatment of Drinking Water

Your drinking water is surface water obtained from the Shenandoah River. Water is distributed throughout the town by pumps at the water treatment plant, one booster pump station, one ground storage tank, and two elevated storage tanks.

Water treatment includes pre-sedimentation, the addition of liquid alum and a polymer for coagulation, carbon for adsorption, potassium permanganate as a pre-oxidant, chlorine as a disinfectant, and sodium fluoride to help prevent dental caries. The water is mixed with the coagulant, contaminants are allowed to settle, and then the water is filtered through two mixed-media filters.

## Source Water Assessments

A source water assessment completed by the Virginia Department of Health (VDH) determined that the Shenandoah River is surface water exposed to an inconsistent array of contaminants at varying concentrations due to changing hydrologic, hydraulic, and atmospheric conditions with land use activities of concern

## Quality of Your Drinking Water

Your drinking water is routinely monitored according to federal and state regulations for contaminants listed in the following table. Most of the results in the table are from testing performed in 2024. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, although accurate, is more than one year old. We perform additional testing beyond what is required and reportable. However the table lists only those contaminants which were present in detectable levels or for which there is a reporting requirement.

## Definitions

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

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

**NA**- Not applicable.

**ND (Not Detected)**- Indicates that the substance was not found by laboratory analysis.

**NTU (Nephelometric Turbidity Units)**- Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

**ppb (parts per billion)**- One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million)**- One part substance per million parts water (or milligrams per liter).

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

## Lead Contaminants

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. A service line inventory for Berryville has been prepared and is available for review at the Town Business Office, 101 Chalmers Ct, Suite A, Berryville, VA 22611. We are responsible for providing high-quality drinking water and removing lead pipes, but we cannot control the variety of materials used in plumbing components. 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 or cooking with tap water, flush your pipes for several minutes by running your tap, taking a shower, or by 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 the Town of Berryville at 540-955-1099 or [tobpublicutilities@berryvilleva.gov](mailto:tobpublicutilities@berryvilleva.gov). 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>.

| Contaminant                                | MCLG   | MCL                             | Level Found               | Unit              | Violation | Date of Sample | Typical Source of Contamination   |
|--|--|---------------------------------|---------------------------|-------------------|-----------|----------------|---|
| <i>Microbiological</i>                     | <i>Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found. During the past year, we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. No additional actions were required related to the Level 1 assessment.</i> |                                 |                           |                   |           |                |   |
| <b>E. Coli</b>                             | 0  | Presence in >1 sample per month | 1                         | Present or Absent | NO        | 8/21/24        | Naturally present in the environment  |
| <i>Turbidity</i>                           | <i>Measures cloudiness of the water; serves as an indicator of filtration efficacy and water quality</i>   |                                 |                           |                   |           |                |   |
| <b>Turbidity</b>                           | ≤ 0.3 NTU for 95% of samples   | 1 NTU                           | 0.13 (95% <0.3)           | NTU               | NO        | 01/03/24       | Soil Runoff   |
| <i>Inorganic Contaminants</i>              | <i>Salts and metals which may be naturally occurring or result from urban water runoff, agricultural activities, etc.</i>  |                                 |                           |                   |           |                |   |
| <b>Nitrate</b>                             | 10   | 10                              | 0.96                      | mg/L              | NO        | 1/03/24        | Runoff from fertilizer application, septic tank leachate, or erosion of natural deposits          |
| <b>Sodium</b>                              | n/a  | n/a                             | 12.3                      | mg/L              | NO        | 1/16/24        | Erosion of natural deposits   |
| <b>Fluoride</b>                            | 4  | 4                               | 0.61                      | mg/L              | NO        | 1/22/24        | Erosion of natural deposits; discharge from fertilizer or factories; additive to strengthen teeth |
| <i>Disinfection Byproduct Contaminants</i> | <i>Individuals who drink water containing Total Trihalomethanes in excess of the MCL over many years could experience problems with their liver, kidneys, or central nervous system and may have increased cancer risk. Individuals drinking water with Haloacetic Acids in excess of the MCL over many years have increased risk of cancer.</i>   |                                 |                           |                   |           |                |   |
| <b>Total Trihalomethanes (TTHM)</b>        | 0  | 0.080                           | 0.066 (Range 0.029-0.129) | mg/L              | NO        | Quarter        | By-product of water chlorination  |
| <b>Haloacetic Acid (HAA5)</b>              | 0  | 0.060                           | 0.068 (Range 0.054-0.092) | mg/L              | YES       | Quarter        | By-product of water chlorination  |
| <b>Total Organic Carbon</b>                | <i>There are no ill health effects of total organic carbon, but it provides a formation medium for disinfection byproducts</i>   |                                 |                           |                   |           |                |   |

|   |   |       |                             |                                      |    |         |  |
|---|---|-------|-----------------------------|--------------------------------------|----|---------|--|
| Total Organic Carbon                      | N/A   | TT    | 1.0 (Range 1.0-2.674)       | Ratio of actual to required removals | NO | Quarter | Naturally present in the environment                                 |
| <b>Radiological Contaminants</b>          | <i>These are sampled every six years</i>  |       |                             |                                      |    |         |  |
| Alpha Emitters                            | 0   | 15    | 0.7                         | pCi/L                                | NO | 1/7/20  | Erosion of natural deposits  |
| Beta Emitters                             | 0   | 50    | 1.7                         | pCi/L                                | NO | 1/7/20  | Decay of natural or manmade deposits                                 |
| Combined Radium                           | 0   | 5     | 0.7                         | pCi/L                                | NO | 1/7/20  | Erosion of natural deposits  |
| <b>Disinfection Residual Contaminants</b> | <i>Some people who use water containing high levels of chlorine may experience eye and nasal irritation or stomach discomfort</i>   |       |                             |                                      |    |         |  |
| Chlorine                                  | 4   | 4     | 2.0 (Range 0.9-2.0)         | mg/L                                 | NO | Daily   | Additive to control microbes   |
| <b>Lead</b>                               | <i>Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.</i> |       |                             |                                      |    |         |  |
| Lead                                      | 0   | 0.015 | 0.006 (range <0.002-0.0132) | mg/L                                 | NO | 9/2024  | Corrosion of household plumbing systems; erosion of natural deposits |
| Copper                                    | <1.3  | 1.3   | 0.063 (range <0.02-0.123)   | mg/L                                 | NO | 9/2024  |  |

### Violation Information

In keeping with National Primary Drinking Water Regulations, we are obliged to inform you that we may be in violation of state regulations because drinking water being served to consumers at the Town of Berryville water system did not comply with the Primary Maximum Contaminant Level for Haloacetic Acids. **Testing results we received from the four quarterly compliance periods during the 2024 calendar year show that our system exceeded the standard, or maximum contaminant level (MCL), for Haloacetic Acids. The standard for Haloacetic Acids is 0.060 mg/L. The average level of Haloacetic Acids for 2024 was 0.068 mg/L.**

### Certification

The waterworks owners prepared this Drinking Water Quality Report with the assistance and approval of the Virginia Department of Health (VDH). Please call (540) 955-1099 or email [tobpublicutilities@berryvilleva.gov](mailto:tobpublicutilities@berryvilleva.gov) if you have questions.

Signature: \_\_\_\_\_



Date: \_\_\_\_\_

05/13/2025