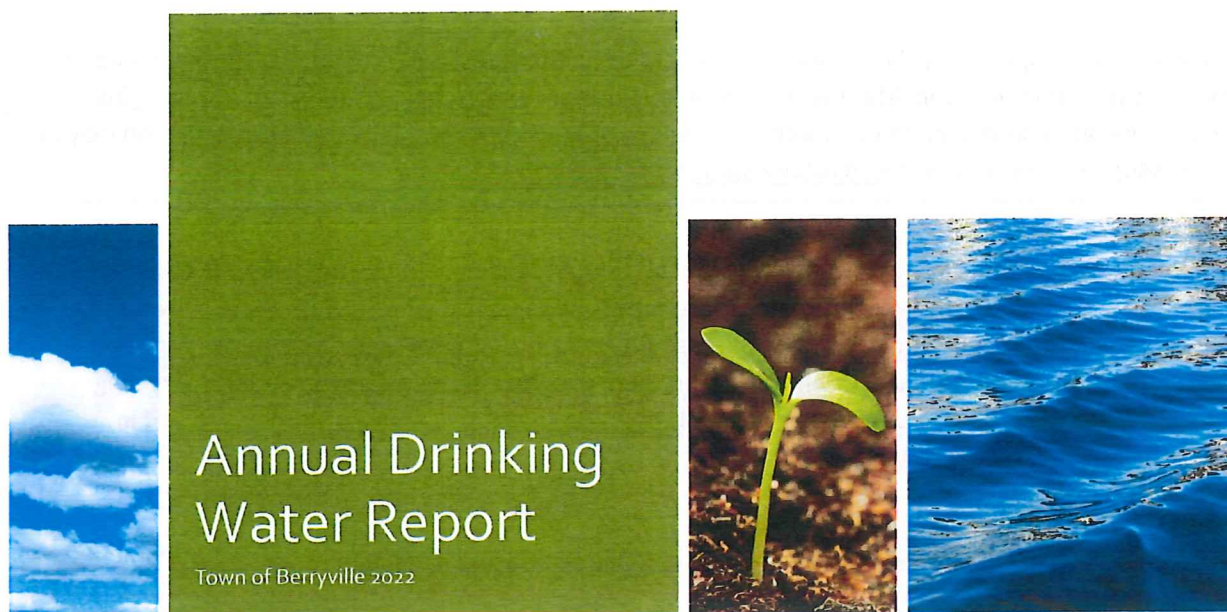




This 2022 Annual Drinking Water Report is designed to provide you with information about your drinking water and the efforts we make to protect your water supply. The quality of your drinking water meets all state and federal requirements administered by the Virginia Department of Health (VDH), Office 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, Chief Plant Operator Ernest Bussert may be reached at (540) 955-1982.

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](tel:8004264791).

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. More specific information may be obtained by calling (540) 955-1982 or emailing dirutilities@berryvilleva.gov.

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 2022. 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

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. We are responsible for providing high-quality drinking water, but we 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 the 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
<i>Microbiological</i>	<i>Bacteria and viruses; presence of coliforms may indicate the presence of other, potentially harmful bacteria</i>						
Total Coliform Bacteria	0	Presence in >1 sample per month	Absent	Presence or Absence	NO	Monthly	Naturally present in the environment
<i>Turbidity</i>	<i>A measure of the cloudiness of the water, this serves as a good indicator of filtration efficacy and water quality</i>						
Turbidity	≤ 0.3 NTU for 95% of samples	1 NTU	0.31 (95% <0.3)	NTU	NO	Monthly	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>						
Nitrate	10	10	1.32	mg/L	NO	1/15/22	Runoff from fertilizer application, septic tank leachate, or erosion of natural deposits
Sodium	n/a	n/a	14.8	mg/L	NO	1/13/22	Erosion of natural deposits
Fluoride	4	4	0.91 (Range 0.58-0.91)	mg/L	NO	6/10/22	Erosion of natural deposits, discharge from fertilizer or aluminum factories; additive which promotes strong 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>						
Total Trihalomethanes (TTHM)	0	80	59 (Range 25-121)	ppb	NO	Quarter	By-product of water chlorination
Haloacetic Acid (HAA5)	0	60	61 (Range 29-91)	ppb	YES	Quarter	By-product of water chlorination
<i>Total Organic Carbon</i>	<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	1.16 (Range 1.0-2.2)	Ratio of actual to required removals	NO	Monthly	Naturally present in the environment
<i>Radiological Contaminants</i>	<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

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Disinfection Residual Contaminants	<i>Some people who use water containing high levels of chlorine may experience eye and nasal irritation or stomach discomfort</i>						
Chlorine	4	4	1.45 (Range 0.25-2.7)	mg/L	NO	Daily	Additive to control microbes

Contaminant	MCLG	AL	Level Found	Unit Measurement	AL Exceeded	Samples ≥ AL	Date of Sample	Typical Source of Contamination
Lead	<i>Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development, including slight deficits in attention span and learning abilities. Adults who drink lead-contaminated water over many years may develop kidney problems or high blood pressure.</i>							
Lead	0	15	2.68	ppb (ug/L)	NO	0	6/16/21	Corrosion of household plumbing systems; erosion of natural deposits
Copper	<1.3	1.3	0.053	ppm (mg/L)	NO	0	6/16/21	

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.

We routinely monitor for the presence of drinking water contaminants. **Testing results we received from the four quarterly compliance periods during the 2022 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 first quarter 2022 through fourth quarter 2022 was 0.061 mg/L.**

You do not need to use an alternative (e.g., bottled) water supply. However, if you have specific health concerns, consult your doctor. This is not an immediate risk. If it had been, you would have been notified immediately. People who drink water containing haloacetic acids in excess of the PMCL over many years may have an increased risk of getting cancer.

* Samples collected during the first quarter of 2023 have brought the annual running average back into compliance. The highest locational Haloacetic Acid level in the first quarter of 2023 was 0.040 mg/L. The highest locational average level of Haloacetic Acids second quarter 2022 through first quarter 2023 was 0.060 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) 955-1982 or email dirutilities@berryvilleva.gov if you have questions.

Signature:  Date: 4/6/2023