

2022 Town of Berlin Annual Drinking Water Quality Report

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Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

The Town of Berlin pumps your drinking water from three separate wells in town, the source of this water is the Pocomoke aquifer, which is ground water drawn from about 125 feet below the earth's surface. An aquifer is somewhat like an underground sponge composed of rocks, sand and of course water. The area between the surface and the water helps to filter and purify the water before it actually reaches the aquifer and pumped into our system.

Source water assessment and its availability

The Town of Berlin has completed its well head protection report and passed an ordinance establishing protection areas and criteria. A copy of the well head protection program and ordinance is available at town hall. *Results of the assessment can be found on the MDE website:*

https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/by_county.aspx

Why are there contaminants in my drinking water?

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 or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity: microbial contaminants, such as viruses and bacteria, that 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 storm water 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; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

We want our valued customers to be informed about their water utility. If you want to learn more, please feel free to contact Jamie Latchum, Superintendent of Water at 410-641-3845 or email him at jlatchum@berlinmd.gov

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to

River” or “Protect Your Water.” Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

Additional Information for Lead

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. Berlin is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. 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 tap water, flush your pipes for several minutes by running your tap, taking a shower, 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 Berlin at 410-641-3845. 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>.

Additional Information for 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 for advice from your health care provider.

PFAS – or per- and polyfluoroalkyl substances – refers to a large group of more than 4,000 human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams. These uses of PFAS have led to PFAS entering our environment, where they have been measured by several states in soil, surface water, groundwater, and seafood. Some PFAS can last a long time in the environment and in the human body and can accumulate in the food chain.

Beginning in 2020, the Maryland Department of the Environment (MDE) initiated a PFAS monitoring program. PFOA and PFOS are two of the most prevalent PFAS compounds. PFOA concentrations from samples taken from our water system in 2022 ranged from 1.98-2.74 parts per trillion (ppt); PFOS concentrations from samples taken from our water system in 2022 ranged from 1.25-1.89 ppt. In March 2023, EPA announced proposed Maximum Contaminant Levels (MCLs) of 4 ppt for PFOA and 4 ppt for PFOS, and a Group Hazard Index for four additional PFAS compounds. Future regulations would require additional monitoring as well as certain actions for systems above the MCLs. EPA will publish the final MCLs and requirements by the end of 2023 or beginning of 2024. Additional information about PFAS can be found on the MDE website: mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx

The Maryland Rural Water Association’s State Circuit Rider assisted with the completion of this report.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limits the amount of contaminants in water provided by public water systems. The table below 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.

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measuremen t	MCLG	MCL	Likely Source of Contamination
Volatile Organic Contaminants						
TTHM (Distribution) (2022)	N	7	ppb	0	80	By-product of drinking water chlorination
HAA5 (Distribution) (2021)	N	1	ppb	0	60	By-product of drinking water chlorination
Inorganic Contaminants						
Nitrate (as Nitrogen) (2022) Highest level detected	N	6.00	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Copper (2021) (Distribution)	N	0.26	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Barium (2021)	N	0.084	ppm	2	2	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
Chromium (2021)	N	3.2	ppb	100	100	Discharge of steel and pulp mills; Erosion of natural deposits
Selenium (2021)	N	1.6	ppb	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Lead (2021) (Distribution)	N	5.5	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Radioactive Contaminants						
Combined Radium 226/228 (2020) Highest level detected	N	0.1-0.9 0.9	pCi/L	0	5	Erosion of natural deposits
Gross alpha excluding radon and uranium (2020)	N	2.1	pCi/L	0	15	Erosion of natural deposits

Disinfectants and disinfection by-products						
Chlorine (2022) (Range) Highest level detected	N	0.7-0.8 0.8	ppm	4	4	Water Additive used to control microbes
Unregulated Contaminants						
Manganese (2020) Range Highest level detected	N	1.8-13.975 9.302	ppb	0	MNR	Erosion of natural deposits
HAA9 (Distribution) (2020) Range Highest level detected	N	3.292-4.7 3.996	ppb	0	MNR	By-product of drinking water chlorination
HAA6Br (Distribution) (2020) Range Highest level detected	N	2.262- 3.838 3.05	ppb	0	MNR	By-product of drinking water chlorination
PFBS (8/2022) Range Highest level detected	N	1.68-1.79 1.79	ppt	N/A	N/A	Human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams.
PFHxS (8/2022) Range Highest level detected	N	1.57-4.31 4.31	ppt	N/A	N/A	Human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams.
PHOS (8/2022) Range Highest level detected	N	1.25-1.89 1.89	ppt	N/A	N/A	Human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams.
PFOA (8/2022) Range Highest level detected	N	1.98-2.74 2.74	ppt	N/A	N/A	Human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams.

Note: Test results are for year 2022 or as otherwise indicated; all contaminants are not required to be tested for annually.

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
ppt	Ppt: parts per trillion, or micrograms per liter (ug/L)
NA	NA: not applicable

ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	Definition
MCLG	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.
MCL	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.
pCi/L	<i>Picocuries per liter (pCi/L)</i> - picocuries per liter is a measure of the radioactivity in water.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection 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.
MRDL	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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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