

Annual Drinking Water Quality Report

Shenandoah Shores Water Authority PWSID# 2187812

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2025 is designed to provide you with valuable information about your drinking water quality. ***Testing for 2026 will be concluded in December and results will be published next year.*** We are committed to providing you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water meets all state and federal requirements administered by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Health (VDH).

(Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien).

If you have questions about this report, want additional information about any aspect of your drinking water, or want to know how to participate in decisions that may affect the quality of your drinking water, please contact:

Ms. Sandra Thomas, Secretary, Shenandoah Shores Water Cooperative Association, at 540-635-6005
or
Mr. Adam Dooley Utility Manager, Shenandoah Shores Water System, at 540-683-1034

GENERAL INFORMATION

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 can pick up substances resulting from the presence of animals or from human activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial waste water treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

All drinking water, including bottled drinking 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

Your drinking water is groundwater obtained from five drilled wells. Water is distributed throughout the community by two booster pump stations, two storage reservoirs, and variously sized distribution pipes.

Treatment is provided for each well. Each well is equipped with a chlorine solution feeder to inject a chlorine solution to disinfect the water prior to distribution.

SOURCE WATER ASSESSMENT

A source water assessment has been completed by the Virginia Department of Health (VDH). The assessment determined that the wells serving our community may be susceptible to contamination because they are located in an area that promotes migration of contaminants from certain land use activities of concern. More specific information may be obtained by contacting the water system representative referenced within this report.

Contaminants that may be present in source water include:

- 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.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The table on the next page shows the results of our monitoring for the period of January to December 31, 2025. 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, though accurate, is more than one year old.

DEFINITIONS

In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

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

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.

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.

Maximum Contaminant Level (MCL): 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.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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 contamination.

Nephelometric Turbidity Unit (NTU) - A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-detects (ND): Lab analysis indicates that the contaminant is not present

Parts per billion (ppb) or Micrograms per liter (µg/L): One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per million (ppm) or Milligrams per liter (mg/L): One part per million corresponds to one minute in two years or a single penny in \$10,000.

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

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

Variances and exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Shenandoah Shores 2025 CCR Data Tables

Disinfection Residual						
Contaminant/ Unit of Measurement	MRDLG	MRDL	Level Found (Range)	Violation	Date of Sample	Typical Source of Contamination
Chlorine ppm	4	4	1.5 (0.2 – 1.5)	No	Monthly	By-product of drinking water chlorination

Disinfection By-products					
Contaminant/Unit of Measurement	MCL	Level Found (Range)	Violation	Date of Sample	Typical Source of Contamination
Haloacetic acids (HAA5) ppb	60	ND	No	8/18/2025	By-product of drinking water chlorination
TTHM's (Total Trihalomethanes) ppb	80	10 (3.3 – 10)	No	8/18/2025	By-product of drinking water chlorination

Lead and Copper								
Contaminant / Unit of Measure ment	MCLG	MCL	Range of all Results	# of results exceed ing Action Level	90 th percentile Value	90 th percenti le exceeds Action Level?	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL=1 5	< 2 – 2.33	0	2.25	No	8/2023	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1. 3	<0.02 – 0.186	0	.155	No	8/2023	Corrosion of household plumbing systems; Erosion of natural deposits

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. Shenandoah Shores is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact Shenandoah Shores (540-635-6005) and/or Adam Dooley (540-683-1034). Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

Regulated Chemical and Radiological Contaminants

Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Barium ppm	2	2	0.13	No	5/3/2023	Discharge of drilling wastes; erosion of natural deposits.
Nitrate ppm	10	10	3.56 (0.49 – 3.56)	No	3/5/2025	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Alpha emitters pCi/L	0	15	1.1 - 4.1	No	11/9/2021	Erosion of natural deposits
Combined Radium pCi/L	0	5	1.1- 2.3	No	11/9/2021	Erosion of natural deposits
*Beta Particles pCi/L	0	5	1.8 - 2.1	No	11/9/2021	Erosion of natural deposits

* The MCL for Beta emitters is 4 mrem/year, which is a unit of total cumulative yearly burden to the human body by Beta emitters. This is not measured directly in the lab like other water samples, so EPA has designated 50 pCi/L as a level of concern. If at least 50 pCi/L Beta is detected, further testing of Beta emitters is required, in order to determine if the level of a consumer's exposure is at risk of exceeding 4 mrem/year.

Secondary and Additional Unregulated Contaminants

Contaminant/Unit of Measurement	MCL	Level Found (Range)	Violation	Date of Sample	Notes
Sodium ppm	N/A	9.32 (5.33 - 9.32)	No	5/3/2023	There is no MCL for Sodium, but this information may be important for individuals following a sodium-restricted diet.

Contaminant	Units of Measure	Level or Range Detected	Date	Typical Source of Contamination	Notes
Hazard Index PFAS (HFPO-DA, PFBS, PFHxS, and PFNA); HFPO-DA (commonly known as GenX chemicals); PFHxS, PFNA, PFOA, PFOS,	ng/L			Discharge from manufacturing and industrial chemical facilities, use of certain consumer products, occupational exposures, and certain firefighting activities.	This contaminant was detected during preliminary sampling in preparation for the new PFAS sampling rule, which goes into effect in April of 2027. The proposed MCL for (ANALYTE) is (LEVEL). It was detected in (UTILITY'S) water at a concentration of (LEVEL).

WATER QUALITY RESULTS

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Maximum Contaminant Levels (MCL's) are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCL's at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

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. Shenandoah Shores is responsible for providing high quality drinking water, but cannot control the variety of materials used in the 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 the 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>.

Shenandoah Shores has prepared an inventory of the materials used in water service lines in our system, as part of compliance with the Lead and Copper Rule Revisions. The utility side of the water system contains no known lead fixtures, as the modern materials used in its construction include PVC, poly, brass and galvanized fittings. The inventory can be viewed by contacting the office by email or at the numbers referenced in this report.