

# **2025 Annual Drinking Water Quality Report**

Town of Appalachia PWSID 1195050

## **INTRODUCTION**

This Annual Drinking Water Quality Report for calendar year 2025 is designed to inform you about your drinking water quality. Our goal is to provide 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 must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, please contact: Mark Quillin, Appalachia WTP (276) 565-3903 or Fred Luntsford, Town Manager (276) 565-3900

If you 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: Mark Quillin or Fred Luntsford.

## **How can I get involved?**

**Date:** the 3<sup>rd</sup> Thursday of each month.      **Time:** 6:00 pm.      **Location:** Town Hall, 508 West Main Street, Appalachia, Virginia

## **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, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) 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; (iii) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (iv) organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; (v) 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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 (800-426-4791).

## **Where does my water come from?**

The source of your drinking water is surface water. The source of the Town's water supply is Ben's Branch Reservoir containing 100 million gallons.

Your drinking water supply is treated in the following way. Treatment of the raw water consists of chemical addition, coagulation, flocculation, settling, filtration and chlorination. All of these processes work together to remove the physical, chemical, and biological contaminants to make the water safe for drinking.

### **Source Water Assessment and its Availability**

The Virginia Department of Health conducted a source water assessment of our system during 2020. The Towns reservoir was determined to be of moderate susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination. The report is available by contacting Mark Quillin or Fred Luntsford at the phone number or address given elsewhere in this drinking water quality report.

### **DEFINITIONS**

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next page shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2025. 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:

*Maximum Contaminant Level, or 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, or 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 Goal or MRDLG*: the level of 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.

*Maximum Residual Disinfectant Level or 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.

*Non-detects (ND)* - lab analysis indicates that the contaminant is not present

*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.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

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

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

*Level 1 assessment* - 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 very detailed study of the waterworks to identify potential problems and determine (if possible) why an *E. coli* PMCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

### WATER QUALITY RESULTS

#### Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Range	Date of Sample	Typical Source of Contamination
Nitrate (ppm)	10	10	0.06	N	NA	2025	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	1.12	N	NA	2025	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium (ppm)	2	2	0.024	N	NA	2025	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
Alpha Emitters (pCi/l)	0	15	ND	N	NA	2020	Erosion of Natural Deposits
Combined Radium (pCi/l)	0	5	0.1	N	NA	2020	Erosion of Natural Deposits
Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.04	N	0.73 – 1.47	2025	Water additive used to control microbes
Haloacetic Acids (ppb)	NA	60	45	N	30-60	2025	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	NA	80	40	N	21-58	2025	By-product of drinking water disinfection
Total Organic Carbon (Ratio must be $\geq 1.0$ )	NA	TT	1.038	NA	1.00 – 1.09	2025	Naturally present in the environment
Turbidity	NA	TT, 1 NTU Max	0.0483	N	0.04 – 0.07	2025	Soil runoff
		TT, $\leq 0.3$ NTU 95% of the time	100%	N			

#### Lead and Copper Contaminants

Contaminant (units)	MCLG	Action Level	90 <sup>th</sup> Percentile	Range	Date of Sampling	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Lead (ppb)	0	AL = 15	Below Detection Limit	0 – 2.62	2025	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.456	0 – 0.568	2025	0	Corrosion of household plumbing systems; Erosion of natural deposits

#### Monitoring Results for Sodium (Unregulated-No Limits Designated)

Level Detected (unit)	Sample Date	Typical Source	Guidance
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12.5 (mg/L)	2025	Naturally Occuring; Addition of treatment chemicals/processes	For individuals on a <u>very</u> low sodium diet (500 mg/day), EPA recommends that drinking-water sodium not exceed 20 mg/L. Should you have a health concern, contact your health care provider.
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**PFAS, Per- and polyfluoroalkyl substances (PFAS)**

In December 2025, our water system completed the 1st of 4 Quarters of the Required Quarterly PFAS (Per- and polyfluoroalkyl substances) sampling and submitted the results to the Virginia Department of Health Office of Drinking Water. None of the Compounds involved in the sampling were found at a measurable amount, and all values were found to be below the EPA Reporting Limit. We will continue to monitor the required quarterly sampling for PFAS in March, June, and September of 2026.

These chemicals are a large, complex group of man-made synthetic chemicals that include PFOA, PFOS, Gen X, and many other chemicals that have been used in consumer products around the world since about the 1950's. They are ingredients in various everyday products. Examples of where PFAS can be found include cleaners, textiles, leather, paper and paints, fire-fighting foams, and wire insulation.

<b>TEST RESULTS - Semi volatile Organics - PFAS - PIA (Unregulated Contaminant)</b>								
Contaminant	Violation (Y/N)	Result	Unit	Qualifier	MR L	MD L	Typical Source of Contamination	Analyzed
PFBA	NO	< 1.9	ng/L		2.0	0	Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that include PFOA, PFOS, Gen X, and many other chemicals. Examples of where PFAS can be found include cleaners, textiles, leather, paper and paints, fire-fighting foams, and wire insulation.	12/17/2025
PFMPA	NO	< 1.9	ng/L		2.0	0	See Above Explanation	12/17/2025
PFPeA	NO	< 1.9	ng/L		2.0	0	See Above Explanation	12/17/2025
PFBS	NO	< 1.9	ng/L	x	3.0	0	See Above Explanation	12/17/2025
PFMBA	NO	< 1.9	ng/L		2.0	0	See Above Explanation	12/17/2025
PFEESA	NO	< 1.9	ng/L		2.0	0	See Above Explanation	12/17/2025
HFPO-DA	NO	< 1.9	ng/L	x	5.0	0	See Above Explanation	12/17/2025
NFDHA	NO	< 1.9	ng/L		2.0	0	See Above Explanation	12/17/2025

4:2 FTS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFHxS	NO	< 1.9	ng/ L	x	5.0	0	See Above Explanation	12/17/202 5
PFHpA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFHxA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
ADONA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFPeS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
6:2 FTS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFOA	NO	< 1.9	ng/ L	x	2.0	0	See Above Explanation	12/17/202 5
PFHpS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFOS	NO	< 1.9	ng/ L	x	2.0	0	See Above Explanation	12/17/202 5
PFNA	NO	< 1.9	ng/ L	x	5.0	0	See Above Explanation	12/17/202 5
9CI-PF3ONS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
8:2 FTS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFDA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFUnA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
11CI-PF3OUDS	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5
PFDaA	NO	< 1.9	ng/ L		2.0	0	See Above Explanation	12/17/202 5

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 presented in the above tables, though accurate, is more than one year old.

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 MCLs 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.

**VIOLATION INFORMATION** – Did any PMCL or TT violation occur during the year?      ( ) Yes      (X) No  
If yes, an explanation of the violation, including length, potential health effects, and actions being taken to correct the violation.

**VIOLATION INFORMATION** – Did any monitoring, reporting, or other violations occur during the year?      ( ) Yes      (X) No  
If yes, an explanation of the violation, including potential health effects, and actions we are taking to correct the violation, is as follows:

### **Water Conservation Tips**

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
  - Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
  - Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
  - Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill! Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

### **Cross Connection Control Survey**

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included) • Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included) • Additional source(s) of water on the property
- Decorative pond
- Watering trough

### **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.

**Other Information - Sodium** There is presently no established standard for sodium in drinking water. Water containing more than 270 ppm of sodium should not be used as drinking water by those persons whose physician has placed them on a moderately restricted sodium diet. Water containing more than 20 ppm should not be used as drinking water by those persons whose physician has placed them on a severely restricted sodium diet. For informational purposes, we wish to point out that the results of our most recent sampling (2025) indicate that your water has a sodium content range of 12.5 ppm.

## **ADDITIONAL HEALTH INFORMATION**

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. The Town of Appalachia 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 lead exposure by flushing your tap for 30 seconds to two 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 (800-426-4791). 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 Appalachia 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 ABOUT YOUR WATERWORKS**

### **Lead Service Line Inventory**

The Town of Appalachia completed the required Lead Service Line Inventory and submitted the results to the Virginia Department of Health Office of Drinking Water. Based on customer self-identification, historical records and field investigation, we have determined that there are non-lead service lines in the system, 7 Galvanized Service Lines needing replacement and 5 unknown materials in the system. This will be included in our replacement plan. We thank you for your help and cooperation. The hard copy full inventory is available at the Water Office.

### **Health Effects Information**

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.