# *Annual Drinking Water Quality Report for 2025*
# Duffield – Scott County PSA
### PWSID # 1169200

**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 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:

Scott County Public Service Authority, Mike Dishman, Executive Director, 156 Legion Street, Weber City, VA 24290; 276-386-3401

The time and location of regularly scheduled PSA board meetings are as follows:

The Scott County PSA Board of Directors meets on the 2nd Tuesday of each month at 9:00 a.m. in the boardroom of the Scott County administrative offices located on the 2nd floor of the Scott County Community Services Building at 190 Beech Street, Gate City, 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: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) Inorganic contaminants, such as salts and metals, which can naturally occur or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (4) 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. (5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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. 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/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 OF YOUR DRINKING WATER

The sources of your drinking water are:

- SCPSA Duffield water treatment plant. The source of supply is North Fork of the Clinch River.
- Town of Gate City water treatment plant. The source of supply is Big Moccasin Creek near Gate City and Weber City.
- SCPSA's Moccasin Gap water treatment plant. The source of supply is also Big Moccasin Creek.
- Fort Blackmore Methodist Camp Well. This groundwater source is located near Fort Blackmore. The well is treated by chlorination for disinfection.

Treatment is by chemical and physical means including filtration to remove particulate matter, chlorination for disinfection, and fluoridation for the promotion of dental health. The Virginia Department of Health conducted a source water assessment of the river source in 2002. The North Fork of the Clinch River and the Big Moccasin Creek were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The report is available by contacting the Scott County PSA.

## 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 1st to December 31st, 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:

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

*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* Primary Maximum Contaminant Level (PMCL) violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

*Maximum Contaminant Level, or MCL* - the highest level of 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.

*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 filtration treatment processes.

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

*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.

*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)* - Picocuries per liter are a measure of the radioactivity in water.

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

## WATER QUALITY RESULTS

## Duffield Water System

### Regulated Contaminants

| Contaminant (units) | MCLG | MCL | Level Detected | Violation? | Range | Date of Sample | Typical Source of Contamination |
|---|---|---|---|---|---|---|---|
| Trihalomethanes (ppb) | N.A. | 80 | 25 | No | ND - 47 | 2025 | By-product of drinking water disinfection |
| Haloacetic Acids (ppb) | N.A. | 60 | 23 | No | ND – 26 | 2025 | By-product of drinking water disinfection |
| Nitrate (ppm) | 10 | 10 | 0.97 | No | N/D – 0.97 | 2025 | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Barium (ppm) | 2 | 2 | 0.048 | No | 0.022 – 0.051 | 2025 | Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits |
| Alpha Emitters (pCi/L) | 0 | 15 | 3.9 | No | N/D – 3.9 | 2020, 2021, + 2024 | Erosion of natural deposits |
| Combined radium (pCi/L) | 0 | 5 | 1.5 | No | N/D – 1.5 | 2020, 2021, + 2024 | Erosion of natural deposits |
| Chlorine (ppm) | 4.0 | 4.0 | 1.4 | No | 0.04 – 2.14 | 2025 | Water additives to control microbes |
| Turbidity (NTU) | N.A. | TT, 1 NTU max | 0.16 | No | 0.02 – 0.16 | 2025 | Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. |
| | | TT, <0.3 NTU 95% of time | 100 % | No | N.A. | | |
| Total Organic Carbon (ppm) | N.A. | TT, MET when > or = 1 | 1.0 | No | 0.5 – 2.1 | 2025 | Naturally present in the environment |
| Fluoride (ppm) | 4 | 4 | 0.58 | No | ND – 0.58 | 2025 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |

### Lead and Copper Contaminants

| Contaminant (units) | MCLG | Action Level | 90$^{th}$ Percentile | Range | Date of Sample | Number of Sample Sites Exceeding Action Level | Typical source of Contamination |
|---|---|---|---|---|---|---|---|
| Lead (ppb) | 0 | AL = 15 | N/D | ND – 0.004 | 2025 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper (ppm) | 1.3 | AL = 1.3 | 0.044 | ND – 0.68 | 2025 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |

**WATER QUALITY RESULTS**

**Duffield Water System**

**(Continued)**

## Unregulated Constituents

| Monitoring Results for Sodium (Unregulated-No Limits Designated) | | | |
|---|---|---|---|
| Level Detected (unit) | Sample Date | Typical Source | Guidance |
| 7.2 (mg/L)<br>Range 5.5 –7.2 (mg/L) | 2025 | Naturally Occuring; Addition of treatment chemicals/processes | For individuals on a very low sodium diet (500 mg/day), EPA recommends that drinking-water sodium not exceed 20 mg/L.<br>Should you have health concerns, contact your health care provider. |

The water quality results in the above tables are from testing done in 2020, 2021, 2024, and 2025. However, the Commonwealth allows us to monitor some contaminants less than once per year because the concentration of these contaminants does not change frequently. Some of our data, though accurate, is more than one year old.

MCLs are set at very stringent levels by the U.S. Environmental Protection Agency. For instance, MCLs are based on a person drinking 2 liters of the same water every day for 70 years. 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.

**There were no violations requiring public notice in 2025.**

## ADDITIONAL INFORMATION FOR LEAD

Lead can cause serious health effects in people of all ages. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. We are responsible for providing high quality drinking water and removing lead pipes, but cannot control the materials used in the plumbing of homes and other buildings. 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 plumbing and taking steps to reduce your risk. If you are concerned about lead in your water and wish to have your water tested, contact us. 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*.

### Service Line Inventory

We completed a Lead Service Line Inventory required by the Commonwealth and submitted the results to VDH. We determined that there are 0 Galvanized Service Lines Requiring Replacement and 169 Service Lines of Unknown Materials. The full inventory is available upon request. The US EPA and VDH only required doing an inventory of the service lines, and not the plumbing inside houses/buildings.

## ADDITIONAL INFORMATION ABOUT LEAD (continued)

### Health Effects Information

Exposure to lead in drinking water can cause serious health effects in all age groups. Young children, infants, and fetuses are particularly vulnerable to lead because the physical and behavioral effects of lead occur at lower exposure levels. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to 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.

### General Information

Lead can enter drinking water when plumbing materials that contain lead corrode, especially where the water has high acidity or low mineral content and is considered corrosive to metal pipes and fixtures. (Fortunately, your water is not considered corrosive because of its low acidity and moderately high alkalinity/mineral content.) Common sources of lead in drinking water are pipes, faucets, and fixtures containing lead or plumbed with lead solder. In homes with lead pipes that connect the home to the water main, also known as lead services lines, these pipes are typically the most significant source of lead in the water. Lead pipes are more likely to be found in older cities and homes built before 1986. Among homes without lead service lines, the most common problem is with brass or chrome-plated brass faucets and plumbing with lead solder. If you are concerned about lead in your drinking water, we recommend taking the following simple steps:

- **Clean your aerator.** Regularly clean your faucet screens (also known as an aerator) because sediment, debris, and lead particles can collect there. If lead particles are caught in the aerator, lead can get into your water.
- **Use cold water.** Use only cold water for drinking, cooking and making baby formula. Boiling water does not remove lead from water.
- **Run your water.** The more time water has been sitting in pipes, the more lead it may contain. Before drinking, flush your pipes by running the tap 10-30 seconds (or longer if you have a service line or plumbing made of lead or old galvanized piping), taking a shower, or doing laundry or dishes.
- **Install a filter.** Filters certified by American National Standards Institute (ANSI) to reduce lead are effective in reducing lead in drinking water.

## CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

Ordinary activities involving a consumer's water supply, like watering the lawn or flowers, filling a swimming pool, or mixing a pesticide in a tank or bucket, can create a dangerous situation known as a ***cross-connection***. Scott County PSA would like our customers to be aware of the risks associated with these activities. An ordinary garden hose, when used improperly, can contaminate a water supply if the end of the hose is submerged in any liquid or attached to certain devices used to spray herbicides or insecticides. A cross-connection occurs whenever a possible source of contamination is directly linked to our public water system. Wherever a cross-connection exists, there is a risk of **backflow** occurring where the contaminated liquid flows backward into the public water system or the consumer's potable water supply piping. For instance, if the end of the water hose is connected to a chemical container, swimming pool, or other contaminant, then the substance can be siphoned back into the water system. Plumbing devices are available to help prevent this from happening, but the best solution is to always be careful about how you use your water hose. Please help provide a safe supply of water to all of our customers by remembering to never place a water hose in anything that is not safe to drink. For more information on cross- connections and how to protect against them, call our office at 276-386-3401.