

Annual Drinking Water Quality Report for 2024

Duffield – Scott County PSA

PWSID # 1169200

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2024 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 the 2nd Tuesday of each month at 9:00 a.m. in the board room 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 be naturally-occurring 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. In order 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, 2024. 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* 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 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.

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 is a measure of the radioactivity in water.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant 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	34	No	ND - 43	2024	By-product of drinking water disinfection
Haloacetic Acids (ppb)	N.A.	60	28	No	ND – 41	2024	By-product of drinking water disinfection
Nitrate (ppm)	10	10	0.8	No	N/D – 0.8	2024	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium (ppm)	2	2	0.048	No	0.021 – 0.048	2024	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
Alpha Emitters (pCi/L)	0	15	3.9	No	1.3 – 3.9	2020, 2021, + 2024	Erosion of natural deposits
Combined radium (pCi/L)	0	5	1.6	No	0.7 – 1.6	2020, 2021, + 2024	Erosion of natural deposits
Chlorine (ppm)	4.0	4.0	1.4	No	0.2 – 2.0	2024	Water additives to control microbes
Turbidity (NTU)	N.A.	TT, 1 NTU max	0.15	No	0.03 – 0.15	2024	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	N/A	2024	Naturally present in the environment
Fluoride (ppm)	4	4	0.61	No	ND – 0.61	2024	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	Date of Sample	Number of Sample Sites Exceeding Action Level	Typical source of Contamination
Lead (ppb)	0	AL = 15	N/D	2022	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.022	2022	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

WATER QUALITY RESULTS

Duffield Water System

(Continued)

Monitoring Results for Sodium (Unregulated-No Limits Designated)			
Level Detected (unit)	Sample Date	Typical Source	Guidance
7.1 (mg/L) Range 1.7 –7.1 (mg/L)	2024	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.

The water quality results in the above tables are from testing done in 2020, 2021 and 2024. 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.

MCLs 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.

There were no violations requiring public notice in 2024.

ADDITIONAL INFORMATION FOR LEAD

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. Moccasin Gap – Scot County PSA 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 Scott County PSA at 276-386-3401. 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>.

ADDITIONAL INFORMATION ABOUT YOUR WATERWORKS

Service Line Inventory

Duffield has 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 16 Galvanized Lines Requiring Replacement and 169 Unknown materials in the system. These will be included in our replacement plan. We thank you for your help and cooperation. The full inventory is available on the Scott County PSA website via interactive mapping.

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.