Annual Drinking Water Quality Report for 2023

Woodland Avenue Extension ***PWS ID No. 5089955***

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INTRODUCTION

This Annual Drinking Water Quality Report for the 2023 calendar year 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, or 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:

Henry County Public Service Authority 2285 Fairystone Park Highway Bassett, VA 24055	Mr. Darrell Campbell Phone: 276.634.2555 Email: dcampbell@henrycountyva.gov

GENERAL INFORMATION

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. Contaminants in source water may be naturally occurring substances, or may come from septic systems, discharges from domestic or industrial wastewater 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.

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 byproducts 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.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (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.

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 EPA's Safe Drinking Water Hotline (800.426.4791) or by visiting www.epa.gov/safewater.

VULNERABLE POPULATIONS

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 C*ryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800.426.4791).

SOURCE(S) AND TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is surface water purchased from the City of Martinsville and distributed to the customers. The City's source of water under normal (non-drought) conditions is the Beaver Creek Reservoir and under emergency and drought conditions are the Leatherwood Creek and/or the Little Beaver Creek. Water is collected and treated by the City of Martinsville Water Treatment Plant. Treatment of the raw surface water includes chemical addition, coagulation, flocculation, settling, filtration, fluoridation, corrosion control, and chlorine disinfection. All of these processes work together to remove the biological, chemical, and physical contaminants to make the water safe for human consumption.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The reservoir and creeks were determined to be of high 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 within the last 5 years. The report is available by contacting: Attn: Water Resources Department, City of Martinsville, 55 West Church St., PO Box 1112, Martinsville, Va. 24114, calling 276.403.5157 or by e-mail: Mmuse@ci.martinsville.va.us

WATER CONSERVATION TIPS

Did you know that the average U.S. household uses approximately 350 gallons of water per day? Luckily, there are many low-cost or no-cost ways to conserve water. Water your lawn at the least sunny times of the day. Fix toilet and faucet leaks. Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath. Turn the faucet off while brushing your teeth and shaving; 3-5 gallons go down the drain per minute. 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!

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 this monitoring for the period of January 1 through December 31, 2023. 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:

Level 1 Assessment – A study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in the waterworks.

Non-detects (ND) - lab analysis indicates that the contaminant is not detectable, based on the limits of the analytical equipment used.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or one penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (μg/l) - one part per billion corresponds to one minute in 2,000 years, or one penny in $10,000,000.

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

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

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.

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 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 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 contaminants.

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.

Variances & exemptions - state \ EPA permission not to meet an MCL or a treatment technique under certain conditions

WATER QUALITY RESULTS

We routinely monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists 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.

Microbiological Contaminants						
Contaminant / Unit of Measurement	*MCLG*	*MCL*	*Level Found*	*Violation*	*Date of Sample*	*Typical Source of Contamination*
Total Coliform Bacteria	0	1 positive monthly sample	**4 (July 2023)**	No	Monthly 2023	Naturally present in the environment
Radioactive Contaminants						
Contaminant / Unit of Measurement	*MCLG*	*MCL*	*Level Found*	*Violation*	*Date of Sample*	*Typical Source of Contamination*
Combined Radium* (pCi/L)	0	5	**0.4**	No	May 2022	Erosion of natural deposits
Inorganic Contaminants						
Contaminant / Unit of Measurement	*MCLG*	*MCL*	*Level Found*	*Violation*	*Date of Sample*	*Typical Source of Contamination*
Barium* (ppm)	2	2	0.017 ppm	No	August 2023	Naturally occurring in the environment
Fluoride* (ppm)	4	4	Avg.: **0.72** Range: 0.35 to 0.89	No	Daily	Erosion of natural deposits; water additive which promotes stronger teeth; discharge from fertilizer and aluminum factories
Total Organic Carbon – TOC* (ppm)	NA	TT-TOC (Removal ratio greater than or equal to 1.0)	Yearly Rolling Avg. Removal Ratio: **1.36** Range: 1.19 to 1.50	No	Monthly 2023	Naturally present in the environment
Turbidity* (NTU)	NA	TT=1.0 NTU max	**0.51** Max	No	Continuous/ every 2 hours	Soil runoff (Turbidity itself is not harmful, but high levels may indicate other treatment problems).
		TT=95% of monthly samples must be <0.3 NTU	Lowest Monthly Percentage of samples < 0.3 NTU = **99%**			
Disinfection By-Products and Residuals						
Contaminant / Unit of Measurement	*MCLG*	*MCL*	*Level Found*	*Violation*	*Date of Sample*	*Typical Source of Contamination*
Total Haloacetic Acids (HAA5) (ppb)	N/A	60	Maximum Rolling Avg.: **49** Range: 22 to 72	No	Quarterly 2023	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	N/A	80	Maximum Rolling Avg.: **57** Range: 52 to 65	No	Quarterly 2023	By-product of drinking water disinfection
Chlorine (ppm)	MRDLG =4	MRDL = 4	Highest Quarterly Avg.- **0.64** Range 0.01 – 0.79	No	Monthly 2023	Water additive used to control microbes
Lead and Copper						
Contaminant / Unit of Measurement	*MCLG*	*MCL*	*Level Found*	*Violation*	*Date of Sample*	*Typical Source of Contamination*
Lead (ppb)	0	15	**<0.001** (90th Percentile) Range: no detects	No	September 2023	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	**0.069** (90th Percentile) Range: 0.001 to 0.12 All five samples were below the respective Action Level	No	September 2023	Corrosion of household plumbing systems; Erosion of natural deposits

***Sampled at the City of Martinsville Water Treatment Plant**

The results in the table are from testing done in 2022 and 2023. 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 results, though representative, are more than one year old.

The EPA sets MCLs at very stringent levels. 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-one-million chance of having the described health effect for other contaminants.

Other drinking water constituents you may be interested in are as follows:

MICROBIOLOGICAL CONTAMINANTS:
Presence of Coliforms: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found.

Activity associated with a Level 1 assessment: During the past year, we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take one corrective action, which we have completed. This corrective action consisted of monitoring chlorine and flushing as necessary. This problem has been resolved and we have had no additional positive samples for total coliforms following this incident.

SODIUM: In the compliance samples collected during August 2023, the sodium content was determined to be **11.3 ppm**, which is below the maximum recommended level of 20 ppm by EPA. The recommended level is established for those individuals on a sodium-restricted diet. If you have any concerns about the sodium level in your drinking water, you may wish to consult with your physician. Sodium is naturally occurring in the environment and can be added to water by some of the treatment chemicals.

Additional Information That You May Be Interested in:
Trihalomethanes (TTHM) and Haloacetic Acids (HAA5) compounds are formed when trace amounts of naturally occurring organic compounds in the raw water source combine with chlorine that is used to disinfect the treated water. This water supply is served directly from the City of Martinsville water supply. Because of the nature of formation of these compounds in the presence of chlorine, increased detention time in the system allows additional formation beyond what is formed in the City's water supply and thus can account for higher levels detected. All locations do not have the same levels of TTHM/HAA5. Higher levels are expected in the areas with highest residence time (generally the furthest points in the system) and during the warmer months of the year. Some people who drink water containing TTHM/HAA5 in excess of the PMCL over many years could experience problems with their liver, kidneys or central nervous system and may have increased risk of getting cancer. This water system will continue to be monitored for TTHM/HAA5. We intend to maintain compliance with the drinking water contaminants.

ADDITIONAL INFORMATION FOR LEAD:
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 Henry County Public Service Authority 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 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 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) or at http://www.epa.gov/safewater/lead.

***VIOLATION INFORMATION*:**
The Woodland Avenue Extension consecutive water system **did not** receive violations during the 2023 calendar year.