

INTRODUCTION

This Annual Drinking Water Quality Report is presented by the Halifax County Service Authority (HCSA) for calendar year 2024 and is designed to inform you about your drinking water quality. Our goal at HCSA 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). More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791) or visiting www.epa.gov/safewater.

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: William Samples, HCSA Superintendent of Water at 434-579-2564.

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:

- *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 Environmental Protection Agency (EPA) prescribes regulations which limit the concentration of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) 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 Safe Drinking Water Hotline (800-426-4791).

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 *Cryptosporidium* and other microbiological contaminants are available from the EPA Safe Drinking Water Hotline (800-426-4791).

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!

ADDITIONAL INFORMATION FOR LEAD

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. Halifax County Service Authority is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. 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 Halifax County Service Authority personnel noted above. 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>.

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.

There are no lead service lines within the Virgilina distribution system. Service line inventories are stored with the ownership and are maintained by maintenance personnel. You may contact the owners for additional information.

SOURCE(S) AND TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is groundwater drawn from five drilled wells throughout the Town. The groundwater is treated with a sodium hypochlorite solution for continuous disinfection.

A source water assessment of four of the five drilled wells supplying our system was conducted in 2001 by the Virginia Department of Health. The wells 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 your water system owner, Halifax County Service Authority, or William Samples at 434-579-2564

DEFINITIONS

In the table on the next page 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:

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 ($\mu\text{g/l}$) - one part per billion corresponds to one minute in 2,000 years, or one penny in \$10,000,000.

Picocuries per liter (pCi/L) - 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.

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.

Secondary Maximum Contaminant Level (SMCL) – the highest level recommended for a contaminant in drinking water, based on cosmetic (skin or tooth discoloration) and aesthetic (taste, odor or color) considerations.

The U.S. Environmental Protection Agency 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.

WATER QUALITY RESULTS

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

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Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found/ Range	Violation	Date of Sample	Typical Source of Contamination
Nitrate ppm	10	10	Highest: 1.5 Range: ND – 1.5	No	January & December 2024	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Arsenic ppb	N/A	50	Highest: 6 2 -6	No	February 2022 December 2023	Erosion of natural deposits
Barium ppm	2	2	Highest: 0.141 Range: ND to 0.141	No	October & February 2022 December 2023	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride ppm	4	4	Highest: ND	No	October & February 2022 December 2023	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Radiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found/ Range	Violation	Date of Sample	Typical Source of Contamination
Alpha emitters pCi/L excluding uranium	0	15	Highest: 8.7 pCi/L Range: 1.4 to 8.7	No	January December 2023,	Erosion of natural deposits
Combined Radium pCi/L	0	5	Highest: 3.6 pCi/L Range: ND to 3.6	No	August 2021, September 2024	Erosion of natural deposits
Lead and Copper						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Exceedance	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL=15	2.92 (90 th percentile) Range: ND – 3.52 Of the five samples collected none exceeded the AL.	No	September 2023	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.16 (90 th percentile) Range: 0.05 - 0.208 Of the five samples collected none exceeded the AL.	No	September 2023	Corrosion of household plumbing systems; Erosion of natural deposits
Disinfection Byproducts						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
HAA5s Total Haloacetic Acids ppb	N/A	60	4.0	No	August 2023	By-product of drinking water disinfection
TTHMs Total Trihalomethanes ppb	N/A	80	24.1	No	August 2023	By-product of drinking water disinfection

Chlorine ppm	MRDL G =4	MRDL =4.0	Highest Quarterly Average: 0.65 Range: 0.27– 0.65	No	Monthly 2024	Water additive used to control microbes
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Unregulated Contaminants

SODIUM: Highest 44.8 ppm. Range 19.6–44.8 ppm. According to results of the chemical analyses for Metals based on samples collected in February 2022, October 2022 and December 2023, the sodium in the treated water for Entry Points EP002 (Well No. 2), EP004 (Well No. 4), EP005 (Well No. 5), and EP006 (Well No. 6) are 31.4 mg/L; 21.1 mg/L; 44.8 mg/L; 28.6 mg/L and 19.6 mg/L respectively. This is above the EPA recommended optimal level of less than 20 mg/L for sodium in drinking water, which is established for those individuals on a “strict” sodium intake diet.

VIOLATION INFORMATION

We are pleased to report to you that there were no detections of total coliforms or fecal coliforms in the monthly samples collected during calendar year 2024.

This Drinking Water Quality Report was prepared by William Samples, HCSA Superintendent of Water, Halifax County Service Authority, at 2529 Houghton Avenue, South Boston, VA 24592. Should 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 Mr. William Samples, HCSA Superintendent of Water at (434) 579-2564.