

Annual Drinking Water Quality Report

PWSID 1071665 – Town of Pembroke

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: **Stanley Lucas at (540) 626-7191**

The times and location of regularly scheduled board meetings are as follows: **first Monday of each month at 7:00pm at the Town Hall.**

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).

SOURCE(S) and TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is groundwater under the direct influence of surface water and groundwater as described below:

Drinking water is purchased from the Giles County PSA. The PSA obtains its water from two wells located in the Town of Pearisburg.

Is there any treatment of your drinking water supply? (X) Yes () No

The Virginia Department of Health conducted a source water assessment of our system during 2002. The two 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. The report is available by contacting Mr. Kevin Belcher, Giles County Public Service Authority at (540) 921-2525.

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:

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.

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 | 2.0 | N | 0.82 – 2.0 | 2024 | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Fluoride (ppm) | 4 | 4 | 0.95 | N | 0.44 – 1.27 | 2024 | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Barium (ppm) | 2 | 2 | .033 | N | ND – 0.0313 | 2024 | Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits |
| Alpha Emitters (pCi/l) | 0 | 15 | ND | N | NA | 2023 | Erosion of Natural Deposits |
| Beta/photon Emitters (pCi/l) | 0 | 50 | 0.855 +/-0.42 | N | ND - 0.855 +/-0.42 | 2023 | Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for Beta particles. |
| Combined Radium (pCi/l) | 0 | 5 | ND | N | NA | 2023 | Erosion of Natural Deposits |
| Chlorine (ppm) | MRDLG = 4 | MRDL = 4 | 0.54 | N | 0.06 – 2.5 | 2024 | Water additive used to control microbes |
| Haloacetic Acids (ppb) | NA | 60 | 11 | N | 7 - 17 | 2024 | By-product of drinking water disinfection |
| Total Trihalomethanes (ppb) | NA | 80 | 17 | N | 5 – 25 | 2024 | By-product of drinking water disinfection |
| Turbidity | NA | TT,1 NTU Max | 0.06 | N | 0.036 – 0.06 | 2024 | Soil runoff |
| | | TT, ≤ 0.3 NTU 95% of the time | 100% | N | NA | Daily | |

Lead and Copper Contaminants

| Contaminant (units) | MCLG | Action Level | 90 th Percentile | Range | Date of Sampling | # of Sampling Sites Exceeding Action Level | Typical Source of Contamination |
|---------------------|------|--------------|-----------------------------|---------------|------------------|--|--|
| Lead (ppb) | 0 | AL = 15 | 1.2 | 0.11 – 24.1 | 2024 | 1 | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper (ppm) | 1.3 | AL = 1.3 | 0.152 | 0.0141 – 0.18 | 2024 | 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 |
|--|-------------|--|--|
| 9.44 (mg/L) Range: 2.23 – 9.44 mg/L | 2024 | Naturally Occurring; 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. Should you have a health concern, contact your health care provider. |

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.

Service Line Inventory

The Town of Pembroke has completed the required Lead Service Line Inventory. A lead service line inventory was completed for this system and submitted to VDH- Office of Drinking Water. We have determined that this system is comprised of non-lead service lines along with unknown materials. If you are served by a lead status unknown service line, your service line material is unknown, but may be lead. If your service line is unknown, you have already been notified or will be notified. The inventory is accessible as a hard copy in the office by contacting **Stanley Lucas at (540) 626-7607**

Health Effects

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.

Additional Health Information

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 Pembroke 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 The Town of Pembroke **at (540) 626-7607**. 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>.

VIOLATION INFORMATION – Did any PMCL or TT violation occur during the year? ☐ Yes ☒ No
During the past year we failed to conduct the required Level 1 assessment.

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

A copy of one of the consumer notices and certification form for Lead and Copper samples collected in 2024 was due to be delivered to the Virginia Department of Health by December 31, 2024. A copy of one of the consumer notices and certification form for the Lead and Copper samples was delivered to VDH-ODW on January 13, 2025.