2024 Annual Drinking Water Quality Report
POTOMAC BAY ESTATES
4133698

Introduction:

This Annual Drinking Water Quality Report for the 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 have questions about this report, 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. Frank Goyette, Water System Coordinator
Potomac Bay Estates Property Owners Association
271 Potomac Drive
Heathsville, Virginia 22473
(804) 724-3393

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 fanning; Pesticides and herbicides, which may come from a variety of sources such as agricultural, 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; and Radioactive contaminants, which can be naturally occurring or be the results 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.

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 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, Immune-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. EP *AICDC* 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).

Source and Treatment of Your Drinking Water:

The source of your drinking water is groundwater. Two wells serve this subdivision. Your drinking water supply is chlorinated to prevent bacteriological growth in the distribution system.

As a first step toward protection of our sources of drinking water, the Virginia Department of Health (VDH) will evaluate the susceptibility of Virginia's water supplies to contamination, in the near future. Contamination sources and pathways will be reviewed using maps, known & observed activities, water quality data and information about the water source. Using criteria developed by the State in its EPA-approved Source Water Assessment Program, it was determined that Well No. 1 and Well No. 3 have a moderate susceptibility to contamination. Your current water quality is described in the rest of this report.

Definitions:

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The tables on the next page show the results of our monitoring. In the tables 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 present.
- **Not Applicable (NA)** - Information not applicable/not required for that particular water system or for that particular rule.
- **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.
- **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 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 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.
- **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.
- **Running Annual Average (RAA)** - The average of sample analytical results for samples taken during the previous four calendar quarters under Stage 2 Disinfectants and Disinfection Byproducts Rule.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list 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.

Some of the water quality results reported in the tables are from testing done prior to this calendar year. Because the concentrations of these contaminants do not change frequently, the state allows us to monitor for some contaminants less than once per year. Some of our data, 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 effects for other contaminants.

Water Quality Results:

Contaminant	Units of Measurement	MCLG	MCL	Level	Violation	Range of Detection	Date	Typical Source of Contamination
Chlorine	Mg/L	4	4	RAA = 0.21	N	0.2 – 0.3	2024	Water additive used to control microbes
Fluoride	ppm	4	4	3.73	N	NA	2024	Erosion of natural deposits; Discharge from fertilizer & Al factories
Gross Beta *	pCi/L	0	50	5.7	N	NA	2024	Decay of natural and man-made deposits
Gross Alpha Combined Radium	pCi/L	0	5	1.4	N	NA	2024	Erosion of natural deposits

Contaminant	Units of Measurements	Action Level	MCLG	90th Percentile Results	Violation	Range of Detection	Date	Sites > AL	Typical Source of Contamination
Lead	ppb	15	0	1.64	N	< 2 - 3.27	2022	0	Corrosion of household plumbing systems
Copper	ppm	1.3	1	0.132	N	< 20- 236	2022	0	Corrosion of household plumbing systems
TTHM	ppb	80	80	ND	N	ND	2024	NA	By-product of drinking water chlorination

*The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Lead Education Statement:

A note about lead in drinking water: 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 Potomac Bay Estates water system is responsible for providing high quality drinking water 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 Potomac Bay Estates and Mr. Frank Goyette, Water System Coordinator (804) 724-3393 .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.

Fluoride Public Notice:

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your water system has a fluoride concentration of 3.73 mg/l.

Dental fluorosis in its moderate or severe forms, may result in brown staining and or pitting of the permanent teeth. This problem occurs only in developing teeth before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/l of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/I because of this cosmetic dental problem. For more information, please call Mr. Frank Goyette, Water System Coordinator, at (804) 580-9108. Some home water treatment units are available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

The **sodium** concentration was **189** ppm in the sample collected in August 2021. Water with a sodium concentration higher than 20 ppm should not be consumed by people on a strict sodium intake diet.

VIOLATION INFORMATION

Did any PMCL or TT violation occur during the year? ( ) Yes (X) No
Did any monitoring, reporting, or other violations occur during the year? (X) Yes ( ) No
In September, we failed to monitor coliform bacteria and residual disinfectant as required by our regular monthly test sampling schedule. The test results for August and November for these items were acceptable. The missed September testing was due to operator inattention.