



## **Annual Drinking Water Quality Report Toms Brook-Maurertown Sanitary District**

### **INTRODUCTION**

This Annual Drinking Water Quality Report for calendar year 2022 is designed to provide you with valuable information about your drinking water quality. The Toms Brook-Maurertown Sanitary District is committed to providing 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 meets all 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:

Larry Holler, Toms Brook-Maurertown Water Treatment Plant at (540) 436-8069

### **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. Substances (referred to as contaminants) in source water 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.

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). All reportable data for the water system can be searched in the public Drinking Water Viewer (DWV) database by accessing the portal at <http://www.vdh.virginia.gov/drinking-water/dwv>.

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. 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) and the EPA website at <https://www.epa.gov/environmental-topics/water-topics>.

### **SOURCES AND TREATMENT OF YOUR DRINKING WATER**

Your drinking water is groundwater or surface water influenced water obtained from two wells (Well 1 and Well 3). All water supplied to the district undergoes disinfection treatment. Well 3 treatment is accomplished at the Toms Brook-Maurertown Sanitary District water treatment plant (WTP) prior to distribution and consists of membrane filtration and chlorination. Well 1 source water is chlorine disinfected and enters the distribution system after the WTP.

### **SOURCE WATER ASSESSMENT**

A source water assessment for the Toms Brook-Maurertown WTP was completed by the Virginia Department of Health (VDH). This assessment determined that the WTP's raw water source, Well 3, may be susceptible to contamination because it is surface water influenced and could be exposed to a wide array of contaminants at varying concentrations. Changing hydrologic, hydraulic and atmospheric conditions promote migration of contaminants from land use activities of concern within the assessment area. More specific information may be obtained by contacting the water system representative referenced within this report.

## QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The table on the next page shows the results of our monitoring for the period of January to December 31, 2022.

Most of the results in the table are from testing done in 2022. 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.

### DEFINITIONS

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 (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Level 1 Assessment:** A Level 1 Assessment is 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 Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an E-coli MCL violation has occurred and / or why total coliform bacteria have been found in our water system on multiple occasions.

**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 contamination.

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

**Non-detects (ND):** Lab analysis indicates that the contaminant is not present

**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 a single penny in \$10,000,000.

**Parts per million (ppm) or Milligrams per liter ( $\text{mg/L}$ ):** One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Picocuries per liter (pCi/L):** A measure of the radioactivity in water.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Ultraviolet (UV):** A treatment method to disinfect water using ultraviolet light.

## WATER QUALITY RESULTS

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. Maximum Contaminant Levels (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 MCL's 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.

Turbidity <sup>1</sup>								
Contaminant / Unit of Measurement	MCLG	MCL	Highest Level Found	Lowest Monthly % <0.3 NTU	Violation	Date of Sample		Typical Source of Contamination
Turbidity NTU	NA	TT <sup>2</sup>	0.18	100	No	2022		Soil Runoff
Inorganic Contaminants								
Contaminant / Unit of Measurement	MCLG	MCL	Level Found (Range)		Exceedance	Date of Sample		Typical Source of Contamination
			Well 1	Well 3		Well 1	Well 3	
Barium ppm	2	2	0.110	0.056	No	2021	2022	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride ppm	4	4	ND	ND	No	2021	2022	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate ppm	10	10	3.55	3.51	No	2022	2022	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
*Sodium, ppm	--	--	11.4	33.6	No	2021	2022	Erosion of natural deposits; de-icing salt runoff; water softeners
*Well 1 and Well 3 are blended into the distribution system after the WTP. The combined water sodium level was estimated at 19 mg/L.								
Radiological Contaminants <sup>2</sup>								
Contaminant / Unit of Measurement	MCLG	MCL	Level Found (Range)		Violation	Date of Sample		Typical Source of Contamination
			Well 1	Well 3		Well 1	Well 3	
Alpha emitters pCi/L	0	15	0.4	0.7	No	2021	2022	Erosion of natural deposits
Beta emitters pCi/L	0	50*	1.1	4.5	No	2021	2022	Decay of natural and man-made deposits
Combined Radium pCi/L	0	5	1.0	<0.45	No	2021	2022	Erosion of natural deposits
Lead and Copper								
Contaminant / Unit of Measurement	MCLG	MCL	90 <sup>th</sup> Percentile # Samples > AL		Exceedance	Date of Sample		Typical Source of Contamination
Lead ppb	0	AL=15	3.2 ppb No samples exceeded the AL		No	2020		Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.30 ppb No samples exceeded the AL		No	2020		Corrosion of household plumbing systems; Erosion of natural deposits
Disinfection Byproducts								
Contaminant/Unit of Measurement	MCLG	MCL	Level Found		Violation	Date of Sample		Typical Source of Contamination
Haloacetic Acids (HAA5) ppb	NA	60	12 ppb		No	2022		By-product of drinking water disinfection
Total Trihalomethanes (TTHM) ppb	NA	80	12 ppb		No	2022		By-product of drinking water disinfection
Disinfection Residual								
Disinfectant/Unit of Measurement	MRDLG	MRDL	Level Found (Range)		Violation	Date of Sample		Typical Source of Contamination
Chlorine ppm	4	4	1.49 ppm (1.13 – 2.06)		No	2022		By-product of drinking water chlorination

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of our water quality and the effectiveness of the filtration process. Turbidity TT = 1 NTU Max; ≤ 0.3 NTU in at least 95% of all samples tested.

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

**Microbiological** – At least two bacteriological samples are collected from the distribution system each month.

Contaminant	Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample(s)	Typical Source of Contamination
Total Coliform Bacteria **	presence or absence	0	presence of coliform bacteria in >1 sample per month	0	No	monthly	Naturally present in the environment
**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 waterworks.							

**Sodium:** There is presently no established standard for sodium in drinking water. An EPA advisory recommends water containing 30 to 60 mg/L should not be used as drinking water due to esthetics such as taste and color. Water containing more than 20 mg/L should not be used by persons whose physician has placed them on severely restricted sodium diets.

**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 Town of Woodstock is responsible for providing high quality drinking water, but cannot control the variety of materials used in the 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 the 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**

In second quarter 2022 we failed to collect a source water bacteriological sample. One quarterly sample was required but one was not collected in second quarter 2022. We collected the sample the following quarter and were in full compliance with all water quality parameters, and no violations occurred during the remaining calendar year 2022.

The waterworks owners prepared this Drinking Water Quality Report with the assistance and approval of the Virginia Department of Health (VDH). Please call if you have questions.

Signature: Pat J Felling

Date: May 10, 2023