Annual Drinking Water Quality Report

Town of New Market

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2019 is designed to provide you with valuable information about your drinking water quality. We are 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:

Mr. John Griggs, Chief Operator, Town of New Market, 540-740-9576

You can obtain additional information by attending Town Council meetings held at 6:30 p.m. the third Monday of each month in the Town Council Chambers.

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).

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).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

For calendar year 2019, your drinking water came from groundwater and groundwater under the influence of surface water obtained from six drilled wells. Water is distributed throughout Town by a booster pump station, one storage tank and variously sized distribution piping.

Treatment of Wells 1 and 6 consists of chlorination. As water is pumped from the wells, a chlorine solution is injected into a combined well discharge line to disinfect the water prior to distribution.

Treatment of Wells 2, 4, 8, and the Shenandoah Valley Academy (SVA) Well consist of membrane filtration and chlorination. Water pumped from the wells passes through a basket strainer to pretreat the water prior to membrane filtration and chlorination. The membrane filtration eliminates turbidity and bacteria from the water while chlorination is used to disinfect the water prior to distribution.

SOURCE WATER ASSESSMENTS

A source water assessment for the Town of New Market was completed by the Virginia Department of Health. This assessment determined that the Town's water sources may be susceptible to contamination because they are groundwater or surface influenced groundwater 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 OUR 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 1 to December 31, 2019.

Most of the results in the table are from testing done in 2019. 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 (µg/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 (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.

Variances and exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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[1]

Contaminant/Unit of Measurement	MCLG	MCL	Highest Level Found	Lowers Monthly % <0.3 NTU	Violation	Date of Sample	Typical Source of Contamination
Turbidity NTU	NA	TT[2]	0.1	100%	No	Daily	Soil Runoff

Inorganic Contaminants

Contaminant/ Unit of Measurement	MCLG	MCL	Level Found		Violation	Date of Sample		Typical Source of Contamination
			Rt. 211 Plant	Well 1/6		Rt. 211 Plant	Well 1/6	
Barium ppm	2	2	0.027	0.024	No	2/2019	2/2019	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate ppm	10	10	3.48	3.63	No	2/2019	11/2019	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radiological Contaminants

Contaminant/Unit of Measurement	MCLG	MCL	Level Found		Violation	Date of Sample		Typical Source of Contamination
			Rt. 211 Plant	Well 1/6		Rt. 211 Plant	Well 1/6	
Beta emitters PCi/L	0	50*	2.2	1.6	No	02/2016	01/2017	Decay of natural and man-made deposits
Alpha emitters pCi/L	0	15	<0.39	<0.44	No	02/2016	1/2017	Erosion of natural matter
Combined	0	5	0.2	0.9	No	02/2016	1/2017	Erosion of natural matter

Lead and Copper

Contaminant/Unit of Measurement	MCLG	MCL	90th Percentile; # of Samples > AL	Exceedance	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL=15	ND No samples exceeded the AL	No	2017	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.11 No samples exceeded the AL.	No	2017	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
Haloacetic Acids (HAA5) ppb	NA	60	1.1 – 9.0	No	Quarterly 2019	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) ppb	NA	80	6.4 - 21	No	Quarterly 2019	By-product of drinking water disinfection

Disinfection Residual

Contaminant/Unit of Measurement	MRDLG	MRDL	Level Found (Range)	Violation	Date of Sample	Typical Source of Contamination
Chlorine ppm	4	4	1.14 (.94 – 1.29)	No	Monthly	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.
[2]Turbidity TT = 1 NTU Max; ≤ 0.3 NTU in at least 95% of all samples tested.
*The MCL for beta particles is 4 mrem/yr. EPA considers 50 pCi/L to be the level of concern for beta particles.

Lead Contaminants

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 New Market 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 or at http://www.epa.gov/safewater/lead.

VIOLATION INFORMATION

We are in full compliance with all water quality, monitoring, and reporting requirements, and no violations occurred during the calendar year 2019.

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: _____ Date: 4/22/20