ANNUAL DRINKING WATER QUALITY REPORT

TOWN OF MIDDLETOWN PWSID# 2069333

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2024 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. Les Morefield, Superintendent of Public Works, Town of Middletown at 540-869-7731

You can obtain additional information by attending Town Council meetings held at 7:00 p.m. the second 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

Your drinking water is surface water purchased from the City of Winchester and obtained from the North Fork, Shenandoah River. Water is distributed to the town from master meter connections to the City of Winchester system through variously sized distribution pipes. Storage for the town is provided by the City of Winchester.

All water supplied to the Town undergoes treatment. This treatment is accomplished at the Percy D. Miller water treatment plant prior to distribution and consists of chemical addition, flocculation, sedimentation and filtration to remove turbidity; chlorination to disinfect the water; phosphate addition for corrosion control; and fluoridation to aid in reducing tooth decay.

SOURCE WATER ASSESSMENTS

Source water assessments for the City of Winchester were completed by the Virginia Department of Health (VDH) on March 14, 2018. These assessments determined that the City’s primary water source, North Fork Shenandoah River, maybe susceptible to contamination because it is a surface water 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 City of Winchester, Department of Public Utilities at 540-667-1815.

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, 2024. 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.

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

The Town of Middletown and the City of Winchester 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.

TOWN OF MIDDLETOWN MONITORING RESULTS

Lead and Copper						
Contaminant / Unit of Measurement	MCLG	MCL	90th Percentile # Samples > AL (Range)	Exceedance	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL=15	<2.0 No samples exceeded the AL (All ND)	No	August 2023	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.041 No sample exceeded the AL (0.0029-0.045)	No	August 2023	Corrosion of household plumbing systems; Erosion of natural deposits
Disinfection Byproducts						
Contaminant/Unit of Measurement	MCLG	MCL	Level Found (Range)	Violation (uses 4 Quarter Average)	Date of Sample	Typical Source of Contamination
Haloacetic Acids (HAA5) ppb	NA	60	51 (24-92)	No	Quarterly 2024	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) ppb	NA	80	51 (14 --84)	No	Quarterly 2024	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	1.8 (1.0 –2.30)	No	2024 Monthly	By-product of drinking water chlorination
Bacteriological						
Contaminant/Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
E.coli Presence or Absence	0	Routine and repeat samples are total coliform-positive and either is E. coli-positive	0	No	2024 Monthly	Naturally Present in the environment

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 Middletown 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 Town of Middletown, Les Morefield at 540-869-7731. 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.

LEAD SERVICE LINE INVENTORY

The Town of Middletown has completed a service line inventory per VDH. The Town has no lead service lines. The service line inventory can be obtained by contacting the Town Office at 7875 Church St, Middletown Virginia, calling 540-869-2226 or emailing zoning@middletownva.gov.

SOURCE WATER CITY OF WINCHESTER MONITORING RESULTS

Turbidity[1]							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found (Range)	Lowest Monthly % <0.3 NTU	Violation	Date of Sample	Typical Source of Contamination
Turbidity NTU	NA	TT[2]	0.13	100%	No	4/13/2024	Soil Runoff

Total Organic Carbon						
Contaminant	MCLG	MCL	Percent Removal	Violation	Date of Sample	Typical Source of Contamination
Total Organic Carbon	NA	TT	32%	No	Quarterly	Naturally present in the environment

Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Exceedance	Date of Sample	Typical Source of Contamination
Barium ppm	2	2	0.036	No	01/08/2024	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride ppm	4	4	0.54	No	2/14/2024	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate ppm	10	10	1.06	No	01/18/2024	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium ppm	n/a	n/a	13.1	No	01/08/2024	Erosion of natural deposits runoff from road deicing chemicals; industrial sources

Radiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
Alpha Emitter pCi/L	0	15	ND	No	01/12/2023	Erosion of Natural Deposits
Beta Emitter pCi/L	0	50*	1.5	No	01/12/2023	Decay of natural and man-made deposits
Combine Radium pCi/L	0	5	1.0	No	01/12/2023	Erosion of Natural Deposits

[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.

VIOLATION INFORMATION

TT Violation	Explanation	Length	Steps Taken to Correct the Violation	Health Effects Language
Failed to submit the initial lead service line inventory by October 16, 2024	**We were required to develop and make publicly available an initial inventory of service lines connected to our distribution system by October 16, 2024.**	**33 days**	**We worked with VDH on submitted the correct format of the line service inventory on November 18th, 2024.**	**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.**

The Town of Middletown was in full compliance with all water quality and monitoring during the calendar year 2024.

The City of Winchester was in full compliance with all water quality, monitoring, and reporting requirements, and no violations occurred during the calendar year 2024.

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:

Les Morefield

Date: 5/12/2025