Annual Drinking Water Quality Report

MD0100018 TOWN OF MIDDLETOWN

Annual Water Quality Report for the period of January 1 to December 31, 2023

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

For more information regarding this report contact:

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Phone 301-371-6171

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

TOWN OF MIDDLETOWN is a Ground Water system.

The Burgess and Commissioners of Middletown are pleased to present to you this annual Water Quality Report. This report is designed to inform you about the quality of our water and services we deliver to you. Our constant goal is to provide you with a safe and dependable supply of drinking water, to continually improve our water treatment process, and to protect our water resources.

The Middletown water system is supplied by twenty-three (23) wells and four (4) major groups of springs located on the west side of the Catoctin Mountain, north of town. The Middletown water system draws from the Catoctin Mountain Aquifer. Raw water sources flow to a 1 million gallon concrete storage reservoir and then directly to our water treatment plant (WTP01). The reservoir and the treatment plant are located just west of Hollow Road about one mile north of the intersection with US Alternate 40. Water treatment consists of adding caustic soda, for pH adjustment, chlorine, as a disinfectant to protect against microbial contaminants. From the plant, the water is pumped to our 400,000 gallon elevated storage tank. Two other sources of raw water are treated by independent water treatment plants and flow directly into the distribution system. Those wells are 15 (WTP 02) and 22 and 23 (WTP 03 – Brookridge). Both facilities remove iron and manganese and disinfect the water for public consumption.
We are pleased to report that Middletown's drinking water is safe and continues to meet all Federal and State requirements. The Maryland Department of the Environment performed a source water assessment for the Town of Middletown in 2005. Copy of this assessment is available upon request. If you have any questions about this report or concerning water quality, please contact Bruce A. Carbaugh, at 31 West Main Street, Middletown, MD 21769 or call 301.371.6171. To learn more about the Town's water and sewer system activities, you are encouraged to attend our monthly Town Meetings at 7:00 PM on the second and fourth Monday's of each month at the Middletown Municipal Center, located at 31 West Main Street, Middletown, MD.

The Middletown water system routinely monitors your drinking water for possible contaminants in accordance with Federal and State laws. Of the 12 regulated and unregulated contaminants for which the Environmental Protection Agency (EPA) has identified a Maximum Contaminant Level (MCL), none were at violation levels. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these does not necessarily pose a health risk. More information about contaminants and potential health risks can be obtained by calling the EPA Safe Drinking Water Hotline at 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 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).

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. 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 the Town of Middletown at 301-371-6171. 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.

Source Water Information

SWA = Source Water Assessment

Source Water Name		Type of Water	Report Status	Location
BROOKRIDGE WELL 22 (B) FR880471	FR880471	GW	Y	NEAR 1 MI W OF MIDDLETOWN APPROX. 1750FT S OF ALT US 40
BROOKRIDGE WELL 23 (A) FR943217	FR943217	GW	Y	W OF MIDDLETOWN APPROX. 1000FT E OF SEWAGE TREATMENT PLANT RD
COXEY BROWN SPRINGS	01-WTP 1 (10 WELLS & 6	GW	Y	
MIDDLETOWN 1 FR738007	FR738007	GW	Y	NEAR 3 MI E OF MIDDLETOWN APPROX. 100 FT W OF HOLLOW RD
MIDDLETOWN 10 FR048794	FR048794	GW	Y	MIDDLETOWN
MIDDLETOWN 11 FR731943	FR731943	GW	Y	NEAR 2 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 12 FR731706	FR731706	GW	Y	NEAR 2 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 13 FR941466	FR941466	GW	Y	T OF MIDDLETOWN APPROX. 200 FT E OF COBLENTZ RD
MIDDLETOWN 14 FR941467	FR941467	GW	Y	T OF MIDDLETOWN APPROX. 200 FT E OF COBLENTZ RD
MIDDLETOWN 15 FR941544	FR941544	GW	Y	T OF MIDDLETOWN APPROX. 1000FT W OF HOLTER ROAD
MIDDLETOWN 16 (CONE BRANCH)	FR943317	GW	Y	T OF MIDDLETOWN APPROX. 1000FT N OF OLD MIDDLETOWN RD
MIDDLETOWN 17 FR944362	FR944362	GW	Y	NEAR 1 T OF MIDDLETOWN APPROX. 60 FT S OF 4 GROFF COURT
MIDDLETOWN 2 FR738006	FR738006	GW	Y	NEAR 3 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 3 FR736400	FR736400	GW	Y	NEAR 3 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 4 FR736399	FR736399	GW	Y	NEAR 3 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 5 FR736398	FR736398	GW	Y	NEAR 3 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD
MIDDLETOWN 6 FR736397	FR736397	GW	Y	NEAR 2 MI NW OF NEW MARKET APPROX. 200 FT W OF YEAGERSTOWN RD
MIDDLETOWN 7 FR650491	FR650491	GW	Y	MIDDLETOWN
MIDDLETOWN 8 NOPERMIT		GW	Y	
MIDDLETOWN 9 FR731944	FR731944	GW	Y	NEAR 2 MI E OF MIDDLETOWN APPROX. 200 FT W OF HOLLOW RD

MIDDLETOWN WELL 19 FR944331	FR944331	GW	Y	T OF MIDDLETOWN APPROX. 350 FT W OF HOLLOW RD
ORIGINAL SPRINGS	01-WTP 1 (10 WELLS & 6)	GW	Y	-

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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

The table below lists all contaminants found in Middletown's drinking water during the 2023 calendar year. Unless otherwise noted, testing was performed January 1 – December 31, 2023. The State requires us to monitor some contaminants less than once per year because their concentrations are not likely to vary significantly from year to year. Therefore, some of the data, though representative of the water quality, is more than one year old.

2023 Regulated Contaminants Detected

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	2023	1.5	1.4 - 1.5	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2023	5	4.9 - 4.9	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2023	14	14.27 - 14.27	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	11/30/2021	0.0671	0.0372 - 0.0671	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate [measured as Nitrogen]	2023	2	0 - 2.41	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	11/30/2021	1.3	0 - 1.3	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	02/24/2021	2.2	2.2 - 2.2	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	02/24/2021	2.2	2.2 - 2.2	0	15	pCi/L	N	Erosion of natural deposits.

To help you better understand these terms we've provided the following definitions:
Parts per million (ppm) - Milligrams per liter or parts per million or one ounce in 7,350 gallons of water.
Parts per billion (ppb) – Micrograms per liter or parts billion or one ounce in 7,350,000 gallons of water.
Maximum residual disinfectant level goal or MRDLG - The level of a drinking water disinfectant below which there is no know 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.
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.
Average (Avg) – Regulatory compliance with some MCLs are based on running annual average of monthly samples.
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.
na: not applicable.
mrem: millirems per year (a measure of radiation absorbed by the body)
Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

LEAD AND COPPER RULE VIOLATION EXPLANATION: The Lead and copper rule requires the Town to solicit 20 residents of specific sampling criteria for sampling the water in their residence. The results from the 20 sampled locations are shown below. Historical results of the Lead and Copper samples have never demonstrated an elevated or level exceeding the action level in the last 20 years.

Substance	Year	Amount Detected (90^{th} percentile)	MCL	MCLG	Violation	Likely Source of Contamination
Copper (ppm)	2023	0.39	1.3	1.3	N	Corrosion of household plumbing systems. Erosion of natural deposits.
Lead (ppb)	2023	ND	15	0	N	Lead service lines. Corrosion of household plumbing system.

PFAS

"PFAS – short for per- and polyfluoroalkyl substances – refers to a large group of more than 4,000 human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams. These uses of PFAS have led to PFAS entering our environment, where they have been measured by several states in soil, surface water, groundwater and seafood. Some PFAS can last a long time in the environment and in the human body and can accumulate in the food chain.
The Maryland Department of the Environment (MDE) conducted a PFAS monitoring program for Community Water Systems from 2020 to 2022. The results are available on MDE's website: https://mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx.

The Environmental Protection Agency (EPA) finalized regulations for 6 PFAS compounds in drinking water in April 2024. The MCLs for PFOA and PFOS are each 4.0 parts per trillion (ppt). The MCLs for PFNA, PFHxS, and HFPO-DA (GenX chemicals) are each 10 ppt. Additionally, a mixture of two or more of the following chemicals (PFNA, PFHxS, HFPO-DA, and PFBS) will be regulated with a Hazard Index of 1 (unitless) to determine if the combined levels of these PFAS pose a risk and require action. The 5th Unregulated Contaminant Monitoring Rule (UCMR5) began testing for 29 PFAS compounds and lithium in 2023, and testing will run through 2025. The UCMR5 should test all community water systems with populations of at least 3300 people. Three randomly selected systems in Maryland with populations less than 3300 people will also be tested under the UCMR5. Detections greater than the minimum reporting levels for each constituent should be reported in the CCR. The Town of Middletown webpage https://www.middletown.md.us/index.asp?SEC=17D422FF-C4B2-4381-82B2-311B0EF2C221&DE=93A9B18D-76DE-4CEB-BA37-10074198C71D&Type=B_BASIC contains additional PFAS information and testing.

PFOA (ppt)	PFOS (ppt)	PFBS (ppt)	PFHxS (ppt)
ND-6.1	ND-7.4	ND-24	ND-3.7

Violations Table

None