2024 Annual Drinking Water Quality Report

Town of Charlestown, Maryland

Public Water System ID: #0070029

Historic Charlestown, Maryland

This report outlines the Town of Charlestown's drinking water quality in 2024, in compliance with federal and state regulations under the Safe Drinking Water Act (SDWA). The Town of Charlestown is pleased to inform residents about the essential information regarding the quality and safety of their drinking water.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it).

WATER SYSTEM INFORMATION- WATER SOURCE:

We are committed to providing safe, reliable drinking water that meets or exceeds all federal and state water quality standards. This report is issued annually as required by law and reflects testing performed between January 1 and December 31, 2024. If you have questions about this report or your water utility, please contact the Town Administrator at **410-287-6173**. We encourage our customers to stay informed about their water quality. An initial Service Line Inventory was submitted to the Maryland Department of the Environment on October 18, 2024. As a result, the Service Line Inventory requirement was fulfilled. The report is available upon request. The source water assessment has been performed by the Maryland Department of the Environment and is accessible on their website at: https://mde.maryland.gov/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/by_county.aspx

WHERE DOES YOUR WATER COME FROM?

The Town of Charlestown is committed to ensuring that its 3,791 residents have continuous access to safe, high-quality drinking water. Your drinking water is sourced from a confined, non-marine Cretaceous aquifer located approximately 200 feet deep. This groundwater supply is naturally protected and filtered through geologic formations, which helps reduce potential contaminants before the water even reaches the treatment stage.

Although Charlestown uses groundwater, other familiar drinking water sources include rivers, lakes, streams, ponds, and reservoirs. As water travels over land or underground, it can pick up a variety of substances, such as microbes, inorganic and organic chemicals, and radioactive materials. To protect public health, the EPA sets strict limits on the amount of these contaminants that can be allowed in public water systems. However, the presence of a contaminant does not automatically indicate a health risk. For more information, please contact the **EPA's Safe Drinking Water Hotline at 1-800-426-4791.**

MONITORING YOUR WATER:

We routinely monitor your drinking water for contaminants under federal and state laws. The following tables show the results of our monitoring for the period of **January 1 to December 31, 2024**. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

DEFINITIONS AND ABBREVIATIONS:

The following tables list the regulated contaminants detected in Charlestown's water system in 2024. All results were within allowable limits unless otherwise noted.

Action Level (AL) - The concentration of a contaminant that, if exceeded, triggers additional treatment or actions.	**Disinfectants and Disinfection Byproduct Rules (DDBPs)** are compounds that form in water when disinfectants, such as chlorine, react with naturally occurring organic matter and other materials present in the source water. Exposure to high levels of some DBPs over time may pose health risks. Common examples include Trihalomethanes (TTHM) and Haloacetic acids (HAA5).	**Entry Point Disinfectant** - refers to the level of disinfectant remaining in the water when it enters the distribution system of a water utility. This residual is a measure of the effectiveness of disinfection, ensuring that the water remains safe for consumption. The minimum acceptable level is typically 0.2 mg/L, as defined by regulations like the EPA's Surface Water Treatment Rule (SWTR).
Lead and Copper Rule (LCR) - a federal regulation implemented by the Environmental Protection Agency (EPA) to protect public health by minimizing the levels of lead and copper in drinking water.	**Maximum Contaminant Level (MCL)** - The highest level of a contaminant allowed in drinking water.	**Maximum Contaminant Level Goal (MCLG)** – A contaminant level at which no known or expected health risk exists.
Maximum Residual Disinfectant Level (MRDL) - the highest level of a disinfectant allowed in drinking water.	**Minimum Residual Disinfectant Level (MinRDL)** – the minimum level of residual disinfectant required at the entry point.	**Microbes (plural for microbe) -** microscopic organisms such as bacteria, viruses, and algae, that may be found in water.
Disinfectant Residual (DR) in drinking water refers to the amount of disinfectant (such as chlorine or chloramine) remaining in the water supply after it has been treated to kill bacteria and other harmful microorganisms.	**Per-Polyfluoralkyl Substances (PFAS)** – a group of artificial chemicals used in various products to make them resistant to grease, oil, water, and heat.	**ppb** = parts per billion, or micrograms per liter (µg/L)

The **Revised Total Coliform Rule (RTCR)** is a federal regulation adopted by the **Maryland Department of the Environment (MDE)** to enhance public health protection by reducing potential pathways for fecal contamination in public water systems.	**Synthetic Organic Chemicals (SOC)** – manufactured organic compounds that can enter the water supply. They are often used in agricultural practices, industrial processes, and as additives in various products.	**Total Coliform Rule (TCR)-** a regulation for drinking water that ensures the safety of public water systems.
Avg: Average - Regulatory compliance with some MCLs is based on the running annual average of monthly samples.	**LRAA:** Locational Running Annual Average	**Mrem:** millirems per year (a measure of radiation absorbed by the body)
ppt: One part per trillion is equivalent to one nanogram (ng/L) per liter. A single drop of food coloring in 18 million gallons of water.	**Picocuries per liter (pCi/L):** Picocuries per liter is a measure of the radioactivity in water.	**na:** not applicable.
Nd: not detectable.	**ppm** = parts per million, or milligrams per liter (mg/L)	

DETECTED CONTAMINATION TABLES:

2024 Chemical Contaminants – Regulated Contaminants

Contaminants	Collected Date	Highest Value	Range	Unit	MCL	MCLG	Violation Y/N	Typical Contamination
COMBINED RADIUM (226 & -228)	7/8/2019	0.9	0.9-0.9	pCi/L	5	0	N	Erosion of natural deposits.
Gross Alpha Exc. Radon & U	7/8/2019	0.9	0.9-0.9	pCi/L	15	0	N	Erosion of natural deposits.

***NOTE:** **HAA5, TTHM, Fluoride, and Nitrates were taken in 2024 but were non-detect; therefore, they are not required to be in the CCR.**

2020-2024 Lead & Copper:

Contaminants Lead and Copper	Year Sample Collected	90th Percentile	Range of Sampled Results	MC LG	MCLG, MRDLG, or AL	Highest Level Detected	Units	# Sites Above Action Level	Violation Y/N	Source of Contamination
Copper, Free	2023-2024	0.4	<.0.005 -0.6	1.3	1.3 (AL)	0.68	ppm	0	**N**	Corrosion of household plumbing.
Lead	2023-2024	2	<0.05 -3	0	15	0.017	ppb	0	**N**	Corrosion of household plumbing.

* Lead and Copper are monitored every three years. The next scheduled sampling period is from June 1, 2027, to September 30, 2027.

2024 Microbial Information

Total Coliform Bacteria Presence & E. Coliform Presence – No positive Coliform Bacteria and E. Coliform were present.

2024 Turbidity Information

Turbidity - Not applicable – Charlestown utilizes a groundwater system, which is exempt from turbidity monitoring requirements unless it is directly influenced by surface water.

2024 Violation Information

Violation 1

Violation Name: LSL Inventory – Initial
Violation Period: 10/17/2024 – 10/18/2024
Violation Type: 2E
Regulation: Lead and Copper Rule Revisions (LCRR)

Explanation:
Missed the deadline for submitting the initial Lead Service Line inventory. **Resolution:** The violation was resolved upon completion and submission of the required LSL inventory on October 18, 2024. The system has since taken steps to ensure future compliance by reviewing regulatory deadlines and implementing calendar tracking for lead-related reporting requirements. **Health Effects Language (if required):** No immediate health effects are associated with this violation.

Violation 2

Violation Name: LSL Reporting – Initial
Violation Period: 10/17/2024 – 10/18/2024
Violation Type: 4G
Regulation: Lead and Copper Rule Revisions (LCRR)

Explanation: This violation occurred due to the late submission of the required initial report. **Resolution:** The violation was returned to compliance once the complete reporting documentation was submitted on October 18, 2024. A submission protocol has been reinforced to ensure timely compliance going forward — health. **Health Effects Language (if required):** No direct health effects linked to this reporting violation.

Violation 3

Violation Name: Lead Consumer Notice (LCR)
Violation Period: 01/01/2024 – 02/13/2024
Violation Type: 66
Regulation: Lead and Copper Rule

Explanation: This violation was issued for the failure to provide timely Consumer Notice of lead sampling results to individual consumers, as required under the Lead and Copper Rule. **Resolution:** The system has since offered the necessary consumer notifications, and the violation was resolved on February 13, 2024. A communication log has been established to track all future sample result notifications, ensuring they are issued within the required timeframe. **Health Effects Language (if needed):** Lead exposure is particularly harmful to pregnant women and young children. Even low levels can affect brain development and learning behavior. If concerned, consider using certified filters or alternative sources, the EPA's Lead in Drinking Water.

Violation Period		Vio			Public Notice	Compliance	
Vio Begin	Vio End	Type	Violation Name	Analyte Name	Received	Status	Vio ID
10/17/2024	10/18/2024	2E	LSL INVENTORY-INITIAL	LEAD AND COPPER RULE REVISIONS	Not Requested	RTC	19
10/17/2024	10/18/2024	4G	LSL REPORTING-INITIAL	LEAD AND COPPER RULE REVISIONS	Not Requested	RTC	20
1/1/2024	2/13/2024	66	LEAD CONSUMER NOTICE (LCR)	LEAD & COPPER RULE	Not Requested	RTC	18

Contaminants that may be present in some water include:

Inorganic contaminants, such as salt and metals, can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater, oil and gas activities, mining, or agricultural practices. **Organic chemicals,** including synthetic and volatile types, originate from various sources, including industrial processes, petroleum production, gas stations, urban runoff, and septic systems. **Radioactive contaminants** can also be naturally occurring or derived from oil and gas production and mining. Pesticides and herbicides originate from agricultural sources, urban runoff, and residential use. **Microbial contaminants**, such as viruses and bacteria, may arise from sewage plants, septic systems, livestock operations, and wildlife.

SPECIAL CONSIDERATION REGARDING CHILDREN, PREGNANT WOMEN, NURSING MOTHERS, AND OTHERS:

Infants and young children are especially vulnerable to contaminants due to their developing systems and lower body weight. Accordingly, drinking water standards often prioritize health outcomes for these sensitive populations. If there is insufficient toxicity information for a chemical, such as a lack of data on reproductive or developmental effects, an additional uncertainty factor may be added to the calculation, making the standard stricter to address these uncertainties.

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 Charlestown is responsible for providing high-quality drinking water and removing lead pipes; however, it cannot control the variety of materials used in plumbing components within 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 Charlestown at (410) 287-6173. 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.

Cryptosporidium is a microscopic parasite that can contaminate water and cause illness. It is a one-celled parasite that resides in the intestines of both animals and humans. When infected individuals or animals release the parasite in their feces, it can contaminate water supplies, particularly surface water sources like rivers and lakes. The Town of Charlestown uses groundwater, and Cryptosporidium has not been detected in our water system.

Arsenic is a naturally occurring element that, at elevated levels, may pose cancer risks. It was not detected in Charlestown's water during this reporting period.

Nitrate is a compound found in fertilizers and other sources, and it can also contaminate water, posing a health risk, particularly to infants.

WATER INFORMATION SOURCES:

Maryland Department of the Environment Drinking Water: https://health.maryland.gov/phpa/oehfp/chs/pages/drinkingwater

Water Quality Association: https://wqa.org

Maryland Clean Water Act: https://cleanwater.org/states/maryland

Maryland Department of the Environment (MDE)- Water Supply Program - https://mde.maryland.gov/programs/water/water_supply

Maryland Public Drinking Water Watch - https://waterwatch.md.gov

EPA Safe Drinking Water Hotline – https://www.epa.gov/sdwa

National Library of Medicine / National Institute of Health – https://www.nlm.nih.gov

Disclaimer: Unless otherwise indicated, the data presented in this report are from the most recent testing done by applicable regulations. The State allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.