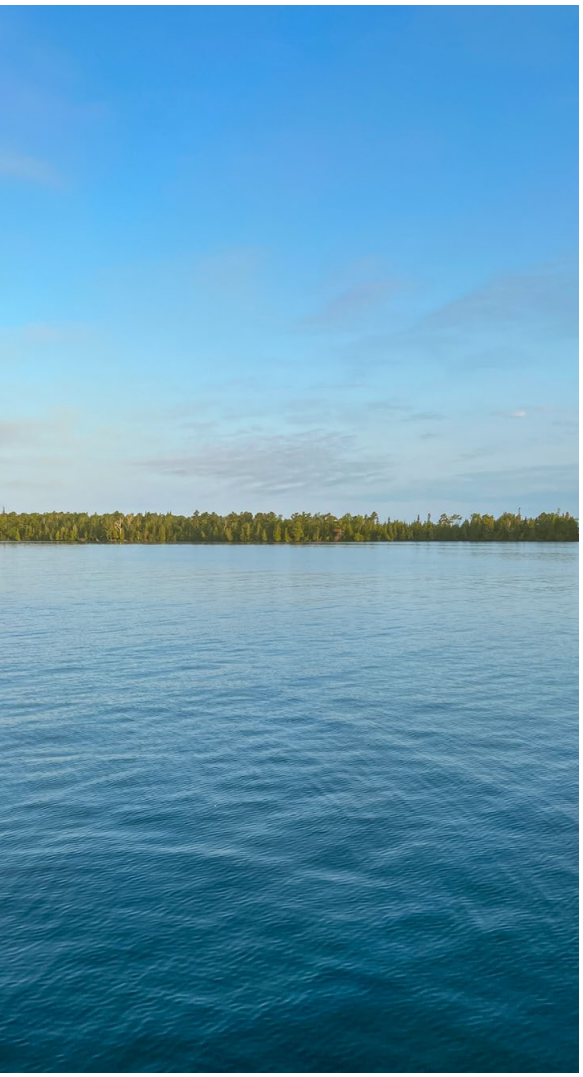
ANNUAL WATER QUALITY REPORT

Reporting Year 2024



Presented By

City of Cambridge
Municipal Util. Comm.

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Our Commitment

We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2024. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Water Treatment Process

Due to the high-quality well water we use, the treatment process consists of just two steps. First, raw water is drawn from our wells and sent to an aeration tray, which allows for oxidation of the low iron levels present. The water then goes to a holding tank. Chlorine is added for disinfection. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, the water is pumped from the pumpage facilities to sanitized water towers and into your home or business. Our certified water production operators monitor samples 365 days a year at different points in the system to ensure the quality of the water.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the SWAP, our water system had a rating of "not susceptible to contaminants originating at the land surface due to the protected nature of confining aquifers." If you would like to review the SWAP, please feel free to contact our office during regular office hours.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (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) or epa.gov/safewater.

Lead in Home Plumbing

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 Water Division of the Public Services Department 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, or 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 and wish to have your water tested, contact the City of Cambridge Department of Public Services at (410) 228-1955. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa. gov/safewater/lead.

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by October 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. The lead service inventory is available at the City of Cambridge Department of Public Services, 1025 Washington Street. Please contact us if you would like more information about the inventory or any lead sampling that has been done.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call James Hurley, Superintendent, at (410) 228-5440.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity. 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 occur naturally in the soil or groundwater or may result from urban stormwater 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 stormwater 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 stormwater runoff, and septic systems.

Radioactive Contaminants, which can occur naturally or as the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, U.S. EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily mean that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline (800-426-4791) or visiting epa.gov/safewater.

Where Does My Water Come From?

City of Cambridge Municipal Utilities Commission customers are fortunate because we enjoy an abundant water supply from 10 wells drawing from three different aquifers. We have six wells pumping from the Piney Point aquifer, two wells in the Magothy aquifer, and two wells drawing from the Patapsco (Raritan) aquifer.

Piney Point Formation

The Piney Point aquifer is used by eight of the nine community water systems in the area. The thickness of the Piney Point Formation is variable and ranges from a few feet to about 160 feet. The formation consists of medium- to coarse-grained, olive-green to black, slightly glauconitic sand with interbedded clayey layers. The top of the Piney Point Formation is about 340 feet below sea level at Cambridge. Transmissivity values in Cambridge range from 25,000 to 45,000 gallons per day (gpd) per foot. The Piney Point aquifer is overlain by the Chesapeake Group Formations, which function as confining and leaky confining beds to this aquifer. The Piney Point aquifer does not outcrop at the ground surface and therefore is not directly recharged by precipitation. Recharge is derived from lateral and vertical leakage through adjacent beds.

Magothy Formation

This formation consists of medium- to coarse-grained, white, yellow, and gray sands with irregular lenses of dark clay containing lignite. The thickness ranges from 30 to 139 feet. The top of the Magothy Formation is at about 900 feet below sea level in Cambridge. Transmissivity values at Cambridge are between 8,000 and 15,000 gpd per foot. The formation is overlain unconformably by the Matawan Formation, which functions as a confining unit in Dorchester County.

Patapsco (Raritan) Formation

The Patapsco Formation consists of fine- to medium-grained, greenish gray sand with layers of mottled, tough clay. The sands occur in four beds ranging in thickness from 15 to 40 feet. The top of the Patapsco Formation ranges from about 1,000 to 1,500 feet below sea level in Dorchester County. Cambridge's wells have a transmissivity of over 16,000 gpd per foot. The Patapsco aquifer is overlain by multiple younger aquifers and confining units of variable thickness. The outcrop area extends from Washington, D.C., to Elkton, Maryland, in a band of varying width. Between Washington and Baltimore, the outcrop area is between 10 and 20 miles wide.

To meet our daily demand, we are currently operating three or four of the wells, with the others in reserve. The wells pump water into ground storage tanks at our four pumping stations located on Stone Boundary Road, Nathans Avenue, Glasgow Street, and Brohawn Avenue. Water is pumped from our pumping stations into the distribution system, which consists of approximately 120 miles of pipe, supported by our elevated storage tanks with a capacity of 1.5 million gallons. We provide our customers with 1.5 million to 4.5 million gallons of good, safe drinking water every day.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2024	10	0	1.5	ND–1.5	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2024	2	2	0.0053	ND–0.0053	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2024	50[1]	0	8.9	8.9–8.9	No	Decay of natural and human-made deposits
Chlorine (ppm)	2024	[4]	[4]	0.4	0.1–1.6	No	Water additive used to control microbes
Chromium (ppm)	2024	2	2	0.0056	0.0043–0.0056	No	Discharge from steel and pulp mills: Erosion of natural deposits
Combined Radium (pCi/L)	2024	5	0	ND	NA	No	Erosion of natural deposits
Fluoride (ppm)	2024	4	4	1.2	1.1–1.2	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2024	60	NA	11	ND–25.2	No	By-product of drinking water disinfection
Nitrate (ppm)	2024	10	10	ND	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes] (ppb)	2024	80	NA	20	9.8–26	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	0.18	NA	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2023	15	0	4.1	NA	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Nickel (ppm)	2024	ND	NA	Naturally occurring
Sodium (ppm)	2021	139	59–139	Naturally occurring

UCMR5[2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Lithium (ppb)	2024	7.43	ND–15.8	Naturally occurring element

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

[1] The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

[2] Per- and polyfluoroalkyl substances (PFAS) are a group of over 4,000 human-made chemicals that have been used since the 1950s in a range of products including stain- and water-resistant fabrics, carpeting, cleaning products, paints, cookware, food packaging, and firefighting foams. These uses 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 U.S. EPA finalized regulations for six PFAS in drinking water in April 2024. The MCL for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) is 4.0 ppt. The MCL for hexafluoropropylene oxide dimer acid (HFPO-DA; GenX), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS) is 10 ppt. Mixtures containing two or more of PFNA, PFHxS, HFPO-DA, and PFBS use a Hazard Index of 1.0 (unitless) to determine if the combined levels of these PFAS pose a risk and require action. Public water systems have four years (by 2029) to be in compliance with these MCLs and implement solutions that reduce these PFAS if monitoring shows that drinking water levels exceed the MCLs. The Maryland Department of the Environment conducted a PFAS monitoring program for community water systems from 2020 through 2022. You can view those results at: mde.maryland.gov/publichealth/pages/PFAS-landing-page.aspx. In 2024 the City of Cambridge conducted testing under the fifth Unregulated Contaminant Monitoring Rule (UCMR5), which includes monitoring for 29 PFAS and lithium. Results were below the method detection levels for all compounds. Lithium results are in the following table.