

CITY OF ANNAPOLIS

2021 ANNUAL WATER QUALITY REPORT



Reporting Period January 1, 2021 to December 31, 2021

This report is intended to inform you about the quality of water we deliver to you everyday. As regulations and standards change and new challenges face the drinking water industry, we will continue to adopt new and better methods to deliver the best quality drinking water to you in the most cost effective manner.



PFAS information

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.

Currently, there are no federal regulations (i.e. Maximum Contaminant Levels (MCLs)) for PFAS in drinking water. However, the U.S. Environmental Protection Agency (EPA) has issued a Health Advisory Level (HAL) of 70 parts per trillion (ppt) for the sum of PFOA and PFOS concentrations in drinking water. While not an enforceable regulatory standard, when followed, the EPA HAL does provide drinking water customers, even the most sensitive populations, with a margin of protection from lifetime exposure to PFOA and PFOS in drinking water. Beginning in 2020, the Maryland Department of the Environment (MDE) initiated a PFAS monitoring program. The combined PFOA and PFAS concentration from samples taken from our water system was below the detection limit. MDE anticipates that EPA will establish an MCL for PFOA and PFOS in the near future. This would entail additional monitoring. Additional information about PFAS can be found on the MDE website: mde.maryland.gov.

En Español: Este informe contiene información muy importante. Tradúscalo o hable con un amigo quien entienda bien.

WATER QUALITY DATA 2021

The table below shows those contaminants which were present at levels above the minimum detection limit but below the maximum contaminant level (MCL). Annual testing is not conducted for all contaminants, the last testing date where detectable quantities were present is shown below going back 5 years.

Contaminants	Maximum Contaminant Level		Avg	Level Detected	Sample Date	Violation	Sources of Contamination
	MCL	MCLG					
Inorganic							
Flouride (ppm)	4	4	n/a	0.601	May 2017	No	Erosion of natural deposits; water additive which promotes strong teeth.
Barium (ppm)	2	2	n/a	0.0083	April 2017	No	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries.
Lead (ppb)	AL=15	0	n/a	ND	Sep 2020	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3	1.3	n/a	0.0089	Sep 2020	No	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Metals							
Sodium (ppm)	n/a	n/a	n/a	3.18	Apr 2017	No	Naturally present in the environment.
Disinfectant and Disinfection By-Products							
Chlorine (ppm)	MRDL=4	MRDLG=4	1.0	0.8-1.2	Weekly 2021	No	Water additive used to control microbes.
Total Trihalomethanes (ppb) STAGE 2	80	na	7.0	1.1-6.9	Oct 2021	No	By-product of drinking water disinfection.
Bromochloroacetic Acid (ppb)	unregulated		0.430	0.319-0.541	Jan/Jul 2018	No	By-product of chlorinated organic matter.
Dichloroacetic Acid (ppb)	unregulated		n/a	1.100	Oct 2021	No	By-product of chlorinated organic matter.

Maximum Contaminant Level (MCL): Highest level of contaminant allowed in drinking water. MCLs are set as close to MCLGs as possible.

Maximum Contaminant Level Goal (MCLG): Level of 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 goal or 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 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.

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

ppm: Parts per million (equivalent to milligrams per liter).

ppb: Parts per billion (equivalent to micrograms per liter).

pCi/L: Picocuries per liter.

ND: Non-detectable.



Information from EPA

As water travels over the land or underground, it dissolves naturally-occurring minerals and can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled water, may contain at least very small amounts of some of these substances. It is important to remember that the presence of these substances does not necessarily pose a health risk. More information about contaminants and their potential health effects can be obtained via the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1-800-426-4791 or website at <http://www.epa.gov/ogwdw/hotline>.

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 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or the result of oil and gas production and mining activities.

In 2003, the City and Anne Arundel County completed a study of the outcrop areas of the aquifers used in raw water sources for our Treatment Plant. The study concluded that there are no immediate threats to the raw water quality and little chance of any change to this condition in the future.

In 2014 and 2018, the City, like all water agencies, was required by the Environmental Protection Agency to test for 21 (2014) and 28 (2018) additional unregulated contaminants. Two of the substances were detected, and are listed in the Water Quality Table. The substances (strontium and chlorate in 2014 and Bromochloroacetic Acid and Dichloroacetic Acid in 2018) are tested to determine whether there is a need for further testing or regulation.

Vulnerable Populations

Some people are more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people 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 individuals should seek advice about drinking water from their health providers. EPA and the Center for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Cryptosporidium is a microscopic organism that is common in surface water. The organism comes from animal wastes in the watershed and is removed by a well-maintained water treatment process.

Lead and Copper Rule

With the recent water situation in Flint, Michigan, there is significant concern about the presence of lead in drinking water. Lead released into the environment makes its way into the air, soils, and water. Lead can remain in the environment indefinitely. Children and pregnant women are particularly susceptible to the health effects of lead poisoning. Lead can occur in tap water, and when detected, it usually comes from older home plumbing or lead service pipes. Generally, high levels of lead in drinking water are caused by two factors, both of which must be present. The first is the presence of lead pipes as mentioned above. Unlike Flint, lead service pipes are rare in Annapolis. The second factor is the corrosivity of the drinking water. When the City of Flint changed their drinking water source, they did not adequately adjust their water treatment to ensure that the water wasn't corrosive. Corrosive water encourages the dissolving of lead in the pipes, leading to high concentrations of lead in the water. The City's water treatment plant has a proactive corrosion control program to minimize lead leaching from plumbing materials. Every three years, the City of Annapolis takes water samples from 30 representative homes in the City. The sampling and testing is done in accordance with the requirements of EPA's Lead and Copper Rule. The test results are used to determine if the corrosion control program is working. The test results have consistently shown that the corrosion control program keeps lead levels to a minimum. **For 2020, our most recent Lead and Copper Rule sampling and testing, lead was not detected in any of the samples.** Weekly sampling and testing is also performed in the distribution system to determine if adjustments are required at the water treatment plant to prevent the water from being corrosive.

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 City of Annapolis is responsible for providing high quality drinking water, but cannot control the variety of materials used in residential 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 lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.



Customer Service

Billing Questions (including high water bills)	410-263-7953
Emergency Hotline after hours and weekends	410-224-2140
Department of Public Works (8:00 am to 4:30 pm)	410-263-7949

Website

Visit our website at www.annapolis.gov for additional information. A PDF version of this report can be downloaded from our website.

Additional copies of this report may be obtained at the Department of Public Works Office, 145 Gorman Street, 2nd Floor.

Questions about this Report

Please call the Water Plant Superintendent or Assistant Superintendent at 410-260-3433.