Frederick County Division of Water and Sewer Utilities

Water Quality Report

2021 Annual Summary Prepared for Customers of Frederick County Water Systems

Contents

The Frederick County Division of Water and Sewer Utilities is pleased to present this year's Annual Water Quality Report. Once a year, we present this report to our customers to demonstrate that our drinking water meets or surpasses all State and Federal drinking water standards. This report includes data collected during calendar year 2021 and contains valuable information that we hope you will find interesting and helpful. We want you to understand the efforts and dedication of our employees who work around the clock to provide the reliable and high quality drinking water that our customers have come to expect.

Sources of Water

Sources of drinking water, both tap and bottled, include rivers, streams, ponds, reservoirs, springs, and wells. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. The majority of the County's water system customers receive treated water from surface water supplies, primarily the Potomac River. The remainder of our customers receive treated ground water from deep well sources.

In 2021, Frederick County produced a total of 2.52 billion gallons of water at 10 treatment plants. Most (91%) was produced at the New Design Road Water Treatment Plant which uses the Potomac River as its source of water. The remainder was produced at numerous treatment plants using groundwater sources.

Source of Water Protection

The Maryland Department of the Environment has completed source-water assessments for each of the County's water supplies. These assessments are used to implement source-water protection plans, which identify and prevent potential sources of contamination from entering your drinking water supply. More information on these assessments can be found on-line at www.frederickcountymd.gov/1284/water-purification-distribution or by contacting our offices at (301) 600-1825.

Frederick County delivers water to over 73,813 customers with our dedicated staff serving you 24 hours a day, seven days a week.

This detailed report contains specific information about your water quality and what the analyses mean. In addition to the test results shown on the enclosed data table, testing has been performed on well over 100 various regulated and unregulated contaminants. These contaminants, which include volatile and synthetic organic chemicals (industrial chemicals and herbicides/pesticides), metals, other inorganic, and radiological compounds are not listed because they were not detected. Specific information on this additional testing may be obtained by contacting the Frederick County Division of Water and Sewer Utilities.

If you have any questions about this report or concerns about your water quality, please contact Joshua Smith, Regulatory Compliance Department Head, at (301) 600-2581, Monday through Friday, between the hours of 7:30 a.m. and 4:30 p.m.

We want our valued customers to be informed about their water utility. Periodically, legislative issues pertaining to your water system may be addressed at regularly scheduled County Council meetings. Meeting schedules with agendas and other pertinent information concerning your water system can be found online at the Frederick County Government website:

www.FrederickCountyMD.gov
Please e-mail your questions to:
wsops@FrederickCountyMD.gov

Testing Requirements

The Frederick County Division of Water and Sewer Utilities and the Maryland Department of the Environment routinely monitor the constituents in your drinking water according to Federal and State laws. This report summarizes the results of our monitoring for the period of January 1, 2021 to December 31, 2021. Some parameters are not monitored each year and will be noted as such in the data table.

Vulnerable Populations

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as individuals 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 from their health care providers about their drinking water.

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. Call (800) 426-4791.

Specific Water Quality Data

The data table that accompanies this pamphlet provides specific water quality information regarding your water supply. It also includes other information that is related to the operation of your community's water supply system. 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 representative, may be more than one year old.

Customers With Multiple Water Sources

Some of our water system customers receive water from multiple sources of supply. This typically occurs when water systems located next to each other share water between their respective distribution systems. Because the flow and movement of water in the distribution system can be non-uniform, it is difficult to accurately identify the proportion of water that comes from each water system.

If your community is supplied by multiple sources of water, you may find data from more than one water source in this report. Your specific water quality can be a combination of the multiple sources. Regardless of how many sources of water the water system uses, each source met or exceeded the standards set by the EPA.

Compliance with Safe Drinking Water Act Requirements

Last year, as in years past, your tap water was regularly tested to determine if it met EPA and State drinking water health standards. Frederick County vigilantly safeguards its water supply by monitoring both source water and treated water. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. These substances can be microbes, inorganic or organic chemicals, or radioactive substances. All 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 indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

To establish a Maximum Contaminant Level (MCL) for a contaminant, EPA first determines how much of a contaminant may be present with no adverse health effects. This establishes what is called the Maximum Contaminant Level Goal (MCLG), which is a non-enforceable public health goal. The legally enforced MCL may be higher than the MCLG because of analytical limitations measuring small quantities of contaminant, a lack of treatment technologies, or if EPA determines that the cost of treatment outweighs the public health benefit of the lower MCL.

Terms, Units & Abbreviations

PPM - Parts per Million - Analogous to one penny in $10,000.

PPB - Parts per Billion - Analogous to one penny in $10,000,000.

PPT - Parts per Trillion - Analogous to one penny in $10,000,000,000.

pCi/L - Picocuries per Liter - A measure of radiation.

TT - Treatment Technique - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

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

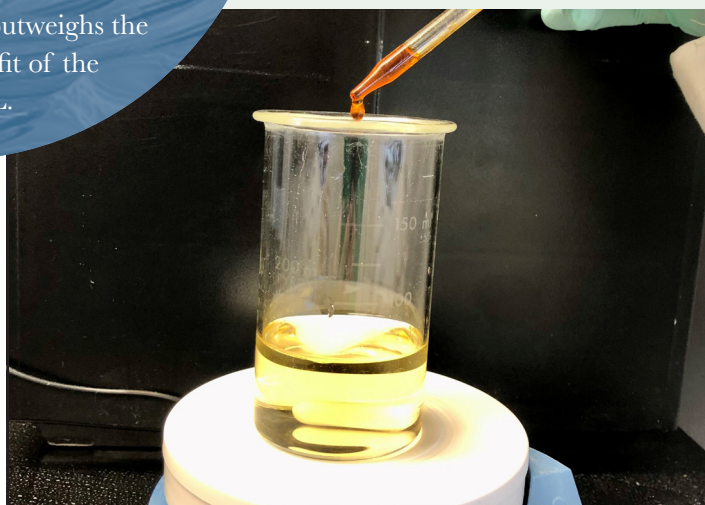
NTU - Nephelometric Turbidity Unit - A measure of the clarity of water.

SDWA - Safe Drinking Water Act - Federal Law which regulates the water quality for public water supplies.

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.

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.

ND - Non-Detected - Means not detectable (at lowest level for which contaminant can be measured).



An Information Statement from the EPA on Lead

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 Division of Water and Sewer Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in 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 drinking 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 or at www.epa.gov/safewater/lead.

Sources of Lead in Drinking Water

Water is lead-free when it leaves the treatment plant, but lead can be released when the water comes in contact with pipes and plumbing fixtures that contain lead.

Lead Solder - This connects the piping. In 1987, lead solder was banned from use in household plumbing. If your home was built prior to 1987, it may contain lead solder.

Brass Faucets, Valves, or Fittings - Almost all faucets, valves, and fittings have brass components. Until 2014, brass faucets and fittings sold in the U.S. and labeled as 'lead free' could contain up to 8% lead.

The Frederick County Division of Water and Sewer Utilities strives to provide our customers with a safe, uninterrupted water supply. We hope that all of our customers recognize the need to protect our most precious resource, our community water supply.

Name Change

The Frederick County Division of Utilities and Solid Waste Management was restructured and is now known as The Frederick County Division of Water and Sewer Utilities (DWSU). The name has changed but customers can still expect the same exceptional water quality and customer service.

Paperless Billing and Payment Due Reminders

The Frederick County Division of Water and Sewer Utilities (DWSU) offers a more convenient way to receive your quarterly water/sewer bill. We can send your bill directly to your email by visiting www.FrederickCountyMD.gov/paperless to sign up. We can also add an email address and/or phone number to your account so that you receive "Payment Due" reminders. Simply contact the billing department at (301) 600-2354.

Payment Options

Visit www.FrederickCountyMD.gov/wspaybill for a list of all payment options, including registering for automatic payments from your checking or savings account. You can register your account to make payments online with a credit/debit card or e-check. If you have questions please contact our billing department at (301) 600-2354.

Additional Information & Resources

For more information on your water supply or the information contained in this report you may want to contact the following agencies:

Frederick County Division of Water and Sewer Utilities
(301) 600-1825

Maryland Department of the Environment
(410) 537-3000 • (800) 633-6101

U. S. Environmental Protection Agency Safe Drinking Water Act Hotline
(800) 426-4791

Division of Water and Sewer Utilities Emergency Telephone Numbers
Monday thru Friday 7:00 AM - 3:30 PM - (301) 600-2187
Weekends, Holidays, and After-Hours - (301) 600-2194

NEW DESIGN WATER QUALITY INFORMATION 2021 PWSID 0100030

Your primary drinking water source is the Potomac River, a surface water supply. The Maryland Department of the Environment (MDE) completed the Source Water Assessment for the New Design Road Water Treatment Plant in 2002. Should you care to obtain a copy of this report, the Frederick County Library has a copy, MDE has several, and the Division of Water and Sewer Utilities placed a copy on the Frederick County website. MDE has identified drinking water contaminants of concern found in the Potomac River as natural organic matter and disinfection by-products precursors, Cryptosporidium oocysts and Giardia cysts, taste and odor causing compounds, ammonia, sediment/turbidity, algae, fecal coliform and dieldrin.

REGULATED CONTAMINANTS - New Design Water Treatment Plant - Testing done annually.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Barium	2 ppm	2 ppm	0.042 ppm		NO	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries
Fluoride	4 ppm	4 ppm	1.0 ppm	0.3 - 1.0 ppm	NO	Water additive which promotes strong teeth
Nitrate	10 ppm	10 ppm	2.0 ppm	0.8 - 2.0 ppm	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Turbidity (TT)	< 0.3 NTU 95% of the time	0 NTU	< 0.3 NTU (100% Overall)		NO	Soil runoff
Turbidity	1 NTU maximum	0 NTU	0.2 NTU	0.02 - 0.2 NTU	NO	Soil runoff
Total Organic Carbon Removal (TT)	N/A	N/A	56% (Average)	39 - 86%	NO	Naturally present in the environment; Indicator of trihalomethanes and other disinfection byproduct precursors
Beta/Photon Emitters	50 pCi/L	0 pCi/L	7.3 pCi/L		NO	Decay of natural and man-made deposits
Combined Radium 226/228	5 pCi/L	0 pCi/L	0.2 pCi/L		NO	Erosion of natural deposits
Gross alpha excluding Radon and Uranium	15 pCi/L	0 pCi/L	2.7 pCi/L		NO	Erosion of natural deposits

UNREGULATED CONTAMINANTS - New Design Water Treatment Plant - Testing done annually.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Manganese 2020	N/A	N/A	0.063 ppm		NO	Erosion of natural deposits; leaching of metals from contact wiith drinking water such as pipes and fittings
Nickel	N/A	N/A	0.001 ppm		NO	Erosion of natural deposits; leaching of metals from contact wiith drinking water such as pipes and fittings
Sodium	N/A	N/A	19.8 ppm		NO	Erosion of natural deposits
Sulfate	N/A	N/A	29.4 ppm		NO	Erosion of natural deposits

NEW DESIGN WATER QUALITY INFORMATION 2021 PWSID 0100030

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Perfluorohexanesulfonic Acid	N/A	N/A	1.0 ppt		NO	Manmade substance found in food, food packaging, consumer products, house dust and drinking water
Perfluorohexanoic Acid	N/A	N/A	1.4 ppt		NO	Manmade substance found in food, food packaging, consumer products, house dust and drinking water
Perfluorooctanesulfonic Acid 2020	N/A	N/A	1.6 ppt		NO	Manmade substance found in food, food packaging, consumer products, house dust and drinking water
HAA5[1] 2020	N/A	N/A	25.1 ppb	14.0 - 25.1 ppb	NO	Byproduct of drinking water chlorination
HAA6Br[2] 2020	N/A	N/A	12.8 ppb	6.0 - 12.8 ppb	NO	Byproduct of drinking water chlorination
HAA9[3] 2020	N/A	N/A	34.7 ppb	19.6 - 34.7 ppb	NO	Byproduct of drinking water chlorination

1 - Sampled under the Fourth Unregulated Contaminant Monitoring Rule (UCMR4). Group contains: Dichloroacetic Acid, Monochloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid and Dibromoacetic Acid.
2 - Sampled under the Fourth Unregulated Contaminant Monitoring Rule (UCMR4). Group contains: Monobromoacetic Acid, Dibromoacetic Acid, Bromochloroacetic Acid, Bromodichloroacetic Acid, Chlorodibromoacetic Acid and Tribromoacetic Acid.
3 - Sampled under the Fourth Unregulated Contaminant Monitoring Rule (UCMR4). Group contains: Dichloroacetic Acid, Monochloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid, Bromochloroacetic Acid, Bromodichloroacetic Acid, Chlorodibromoacetic Acid and Tribromoacetic Acid.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
PFOA + PFOS	N/A	N/A	ND		NO	See Note Below

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 lead 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. MDE anticipates that EPA will establish a 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: https://mde.maryland.gov/programs/Water/water_supply/Pages/PFAS_Home.aspx

LEAD AND COPPER - Tested at customer's taps. Testing is done every 3 years and was last completed in 2019.						
Contaminant	EPA's Action Level	Ideal Goal (EPA's MCLG)	90% of Test Levels Were Less Than	# of Tests With Levels Above EPA's Action Level	Violation	Typical Sources
Lead	90% of homes less than 15 ppb	0 ppb	3 ppb	1	NO	Corrosion of household plumbing
Copper	90% of homes less than 1.3 ppm	1.3 ppm	0.274 ppm	0	NO	Corrosion of household plumbing

NEW DESIGN WATER QUALITY INFORMATION 2021 PWSID 0100030

REGULATED CONTAMINANTS - New Design Distribution System						
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Annual Average	Range of Test Results	Violation	Typical Sources
Chlorine[1]	4 ppm	4 ppm	1.1 ppm	0.2 - 2.7 ppm	NO	Water additive used to control microbes

DISINFECTION BYPRODUCTS - New Design Distribution System						
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest LRAA[2]	Range of Test Results	Violation	Typical Sources
Total Haloacetic Acids	60 ppb	N/A	29.1 ppb	10.9 - 42.7 ppb	NO	Byproduct of drinking water chlorination
Total Trihalomethanes	80 ppb	N/A	63.3 ppb	22.3 - 89.1 ppb	NO	Byproduct of drinking water chlorination

1 - Chlorine Values are based on daily testing.
2 - Compliance is based on the Locational Running Annual Average (LRAA) for each sample site which is calculated quarterly.

BACTERIA IN TAP WATER - New Design Distribution System. Minimum of 60 samples per month.					
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Monthly Percentage of Samples With Total Coliform Present	Violation	Typical Sources
Total Coliform	5% of monthly samples positive for Total Coliform	0	0	NO	Naturally present in the environment

OTHER UNREGULATED CONTAMINANTS DETECTED IN RAW WATER - New Design Potomac River Source						
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Cryptosporidium 2018	oocysts/L	None	0.45	0 - 0.45 oocysts/L	NO	Runoff from farmlands and natural sources.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

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 he 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.

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

Units in the Table: ppm is parts per million (or 1 gallon in 1 million gallons), ppb is parts per billion (or 1 gallon in 1 billion gallons), ppt is parts per trillion (or 1 gallon in 1 trillion gallons)

Health Effects:
None