Fort Detrick Drinking Water Quality Report

Calendar Year 2022

We are pleased to provide you with the 2022 Annual Drinking Water Quality Report for Fort Detrick, Maryland. The report is presented to inform the Fort Detrick community on the quality of drinking water delivered to our customers. The Fort Detrick Directorate of Public Works (DPW) is committed to providing our customers with safe and reliable drinking water. Drinking water provided to our customers has once again met or surpassed strict Environmental Protection Agency (EPA) and Maryland Department of the Environment (MDE) standards for water quality. Further, we take pride in returning clean water to the environment resulting from treatment of our sanitary wastes. As required by the "Consumer Confidence Reporting Rule" of the Safe Drinking Water Act (SDWA), community water systems are obligated to provide an annual report on the water quality to the consuming public. This report fulfills the SDWA requirements for the water produced and delivered to the Fort Detrick community. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants.

The Fort Detrick community periodically has discolored “cloudy” drinking water as the result of changes or increased flow conditions, water main breaks and construction activities which can dislodge normal sediment accumulation in the water lines. Our water supply is disinfected with both chlorine and ultraviolet (UV) treatments prior to distribution to our customers. Chlorine is maintained within the drinking water piping system to further ensure water quality. The cloudy water does not impact quality and drinking water is safe to consume. Water filters have been installed in the main drinking water distribution piping to aid in reducing cloudy water. This Drinking Water Quality Report details the quality of water produced at the Fort Detrick WTP (Public Water System ID MD010-0011).

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Source of Your Drinking Water

Fort Detrick is permitted to withdraw water from local resources in accordance with permits regulated by the MDE. The average volume of water consumed at Fort Detrick during calendar year 2022 was 1.399 million gallons per day. Source water provided by Fort Detrick comes from the Monocacy River. In general, sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells.

What's in the Drinking Water?

All sources of drinking water, including bottled water, are subject to potential contamination by sources that are naturally occurring or manmade. 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. Potential sources of contamination for the Potomac River watershed include point and non-point sources, including transportation, agriculture, on-site septic systems and runoff from developed areas. These contaminants can be microbial, inorganic or organic chemicals, pesticides, herbicides and radioactive substances. A susceptibility analysis conducted by the MDE indicates that turbidity, disinfection by-product precursors, and pathogenic (capable of causing disease) microorganisms are the contaminants of most concern. Sampling for microorganisms in the watershed indicates the highest concentrations were found during storm events. Nutrient enrichment, algal blooms and natural organic matter all contribute to the creation of disinfection by-product precursors. Decaying organic matter decreases the availability of oxygen in the river and algae growth increases the total organic carbon in the water. The reaction of organic carbon with disinfectants used in the water treatment process results in the production of disinfection by-products in the treated water. High turbidity levels are associated with erosion and transport of sediment during storm events. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Vulnerable Community Members

Some groups of 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. At risk people should seek advice about drinking water concerns 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 EPA's Safe Drinking Water Hotline at 800-426-4791.

Cryptosporidium (microbial pathogens)

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Monitoring indicates the presence of these organisms in source water. Although filtration removes cryptosporidium, filtration methods cannot guarantee 100 percent removal. Cryptosporidium must be ingested to cause disease, and may be spread through means other than drinking water. There have been no known health concerns at Fort Detrick from microbial pathogen ingestion from drinking water.

Bottled vs. Tap Water

Bottled water comes in glass and plastic containers. If not recycled, these containers are disposed in landfills throughout the world. It takes approximately 1,000 years for one plastic bottle to decompose. It is just as easy, more economical and much more environmentally friendly to buy a reusable water bottle and refill it using tap water.

Monitoring of Your Drinking Water

We are proud to provide safe and dependable drinking water to the Fort Detrick community. In order to ensure that the tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. As shown in the table: "Analyte/Contaminant Groups and Monitoring Frequency", drinking water is continuously monitored for contaminants to ensure quality. Tap water provided to our customers has met all EPA and MDE drinking water health and safety standards.

Only EPA-approved laboratory methods were used to analyze your drinking water. Our personnel collect water samples throughout the distribution system. These samples are then delivered to an accredited laboratory where a full spectrum of water quality analyses is performed. The left column of the following table specifies the contaminant groups that are monitored using EPA-approved methods. The right column of the table specifies the monitoring frequency for these contaminant groups.

Analyte/Contaminant Groups and Monitoring Frequency Table

Analyte/Contaminant Group	Monitoring Frequency
Arsenic	Once yearly
Fluoride	Once yearly
Nitrate	Once yearly (1st quarter)
Metals (Phase II/V)	Once yearly
Atrazine	Once yearly (2nd quarter)
SOC (Phase II/V)[1]	Once yearly Samples taken by MDE.
SOC (Method 525)	Twice yearly (2 quarters yearly)
VOC[2]	Once yearly
Gross Alpha[3]	Every 9 years Samples taken by MDE.
Radium-228	Every 9 years Samples taken by MDE.
Total Haloacetic Acids	Four times yearly (4 quarters yearly)
Total Trihalomethanes	Four times yearly (4 quarters yearly)
Bacteriologic samples	9 per month
Total Organic Carbon	1 set per month
Lead	20 samples were be taken in July-September 2021. (Every 3 years)
Copper	20 samples were be taken in July-September 2021. (Every 3 years)

1 - Synthetic Organic Contaminants (SOC) include Carbofuran, Dalapon and 2,4-D.

2 - Volatile Organic Contaminants (VOC) include Benzene, Styrene and Toluene.

3 - Gross Alpha particles include Combined Radium-226/228, and Uranium.

Definitions of Key Terms/Acronyms Used in this Report

CDC Centers for Disease Control and Prevention; serves as the National focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities.

EPA Environmental Protection Agency; Federal governing agency for the regulation of drinking water quality.

FDA Food & Drug Administration; Federal governing agency which establishes limits for contaminants in food and bottled beverages.

MCL Maximum Contaminant Level; The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the maximum contaminant level goals (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.

MDE Maryland Department of the Environment; State governing agency for the regulation of drinking water quality.

MGD Million gallons per day.

NTU Nephelometric turbidity unit; a measure of turbidity in water.

ppt parts per trillion; a unit of measure equivlent to a single penny in $10,000,000,000. Generally equivalent to nanograms per liter.

ppb parts per billion; a unit of measure equivalent to a single penny in $10,000,000. Generally equivalent to micrograms per liter.

ppm parts per million; a unit of measure equivalent to a single penny in $10,000. Generally equivalent to milligrams per liter.

SDWA Safe Drinking Water Act; Federal law which sets forth drinking water regulations.

Total Haloacetic Acids (HAA) Byproducts of drinking water disinfection. Includes monochloroacetic acid, monobromoacetic acid, dichloroacetic acid, trichloroacetic acid, bromochloroacteic acid and dibromoacetic acid.

Total Trihalomethanes (TTHMs) Byproducts of drinking water chlorination. Includes chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

Notices of Violations

There were no violations associated with the quality of drinking water provided to Fort Detrick customers in 2022.

Public Involvement

For additional information concerning the Fort Detrick Consumer Confidence Report, please contact the Fort Detrick Environmental Management Division at 301-619-3136 or the Environmental Hotline at 301-619-0044.

Water Conservation

It is the responsibility of all Fort Detrick residents and work force to conserve water. Saving water is saving money and a very valuable natural resource. In the event of a drought or infrastructure maintenance and repairs, the Garrison Commander may direct strict water conservation measures for Fort Detrick water customers.

Plumbing Problems and Repairs

Fort Detrick residents should contact Balfour Beatty Communities at 240-379-6410 or https://detrickhomes.securecafe.com for plumbing repairs. Authorized personnel at administrative and industrial facilities should contact the DPW Trouble Desk at 301-619-4357 or armymaintenance.com/arma for plumbing repairs.

Monitoring Results

The following table presents sampling results conducted by Fort Detrick for the 2022 reporting period. In addition to sampling results tabulated below, Fort Detrick tests for over a hundred other contaminants. None of these additional contaminants were detected.

Results Table - Detected Contaminants

Contaminant	MCL[1]	MCLG	Level Found	Range	Sample Date	Within Standards
Chlorine	4.0 ppm	4.0 ppm	1.0 ppm[2]	0.0-2.2 ppm	9 per month	Yes
Barium	2.0 ppm	2.0 ppm	0.023 ppm	NA	February 2022	Yes
Nitrate	10 ppm	10 ppm	3.0 ppm	NA	February 2022	Yes
Fluoride	4.0 ppm	4.0 ppm	0.50 ppm	NA	February 2022	Yes
Dalapon	200 ppb	200 ppb	1.16 ppb	NA	June 2022	Yes
Total Haloacetic Acids	60 ppb[3]	NA	25.1 ppb[3]	10.8-48.7 ppb	2022	Yes
Total Trihalomethanes	80 ppb[3]	NA	75.9 ppb[3]	9.0-127.0 ppb	2022	Yes
Turbidity[4]	0.3 NTU[4]	NA	0.187 NTU[4]	0.024-0.187 NTU	Continuous	Yes
Turbidity[4]	1.0 NTU[4]	NA	0.187 NTU[4]	0.024-0.187 NTU	Every 4 hours	Yes
Total Organic Carbon Removal	NA	NA	45.1% (Average)	39%-59%	Monthly	Yes
Perfluoro-octanesulfonate (PFOS)	4.0 ppt[5]	NA	2.6 ppt	ND-2.6 ppt	April, July & Nov 2022	Yes
Perfluorooctanoic acid (PFOA)	4.0 ppt[5]	NA	2.6 ppt	ND-2.6 ppt	April, July & Nov 2022	Yes
Perfluorohexanoic acid (PFHxA)	NA	NA	2.4 ppt	ND-2.4 ppt	April, July & Nov 2022	Yes
Perfluorobutanesul-fonic acid (PFBS)	NA[5]	NA	2.0 ppt	ND-2.0 ppt	April, July & Nov 2022	Yes
Lead	0.015 ppm	0 ppm	<0.002 ppm[6]	NA	July-Sept 2021	Yes
Copper	1.3 ppm	1.3 ppm	0.020 ppm[6]	<0.005-0.046 ppm	July-Sept 2021	Yes

1. *Applicable State, Local, or Federal MCL, TT, or AL value.*
2. *Running annual average. Chlorine residuals must be detectable in 95% of monthly samples collected in the distribution system. The running annual average cannot exceed 4.0 ppm.*
3. *Disinfection By-Products cannot exceed running annual average of 60 ppb for total haloacetic acids and 80 ppb for total trihalomethanes. The "Level Found" column indicates the maximum running annual average in 2022. The "range" column indicates individual concentrations used to calculate the running annual average.*
4. *The turbidity level of representative samples of the system's filtered water must be less than or equal to 0.3 NTU in at least 95% of the measurements taken each month. Turbidity levels cannot exceed a maximum limit of 1.0 NTU at any time.*
5. *PFOA and PFOS have proposed drinking water regulatory limits of 4.0 ppt. PFBS is included in a Per-and Polyfluoroalkyl Substances (PFAS) mixture of multiple contaminants that has a calculated hazard index. The PFBS hazard index is within regulatory standards.*
6. *90th percentile value for lead and copper.*

Lead and Copper Rule

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. Fort Detrick 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 Fort Detrick DPW. 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.

Common Sources of Contaminants and Potential Health Effects

Contaminant	Potential Health Effects	Common Sources of Contaminant
Chlorine	Chlorine in excess of MCL could cause irritating effects to eyes and nose; stomach discomfort.	Water additive used to control microbes.
Barium	Barium in excess of MCL can cause an increase in blood pressure.	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Nitrate	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may result in death. Symptoms include shortness of breath and blue baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; and erosion of natural deposits.
Fluoride	Fluoride in excess of MCL can cause bone disease, including pain and tenderness of the bones. Increased fluoride may cause mottling of childrens teeth (dental fluorosis).	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Dalapon	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.	Runoff from herbicide used on rights of way.
Total Haloacetic Acids	Total Haloacetic Acids in excess of MCL can cause an increased risk of cancer.	By-product of drinking water disinfection.
Total Trihalomethanes	Total Trihalomethanes in excess of MCL can cause an increase in liver, kidney or central nervous system problems; increased risk of cancer.	By-product of drinking water chlorination.
Turbidity	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.	Soil runoff.
Total Organic Carbon	Total organic carbon has no health effects. Total organic carbon provides a medium for the formation of disinfection byproducts.	Naturally present in the environment.
Perfluoro-octanesulfonate (PFOS); Perfluorooctanoic acid (PFOA); Perfluorohexanoic acid; Perfluorobutanesulfonic acid (PFBS)	PFOS, PFOA, PFBS and Perfluorohexanoic acid are Per-and polyfluoroalkyl substances (PFAS). PFAS exposure in excess of MCL has potential adverse health impacts including liver damage, thyroid disease, decreased fertility, high cholesterol, obesity, hormone suppression and cancer.	PFAS are a group of synthetic (man-made) chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease and water.

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