



NAVAL AUXILIARY LANDING FIELD FENTRESS CHESAPEAKE, VIRGINIA 2020 CONSUMER CONFIDENCE REPORT

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For additional information:

Virginia Department of Health
683-2000
<http://www.vdh.state.va.us/DrinkingWater/>

USEPA Safe Drinking Water Hotline
(800) 426-4791
<http://www.epa.gov/safewater/>

Public Work Division (PWD) Environmental, Drinking Water Program
433-3434



The source of NALFF drinking water is from two groundwater wells that withdraw water from the water table aquifer.

Naval Auxiliary Landing Field Fentress (NALF Fentress) is committed to providing you drinking water that is safe and reliable. NALF Fentress believes that providing you with accurate information about your water is the best way to assure that your water is safe. In 2015, Perfluoroclorinated Compounds (PFCs) were detected above the EPA life-time health advisory (LHA) levels. While PFCs are unregulated contaminants, the Navy performed corrective actions that included upgrades to the water treatment plant to reduce PFC levels below EPA LHAs.

The Consumer Confidence Report (CCR) for your Installation is not required by the Regulation, but we are distributing to provide you information related to the quality of your drinking water in 2019. The purpose of this annual report is to advise consumers of where their water comes from, provide water quality data, advance greater understanding of drinking water, and heighten awareness to conserve water resources.

NALF FENTRESS WATER SOURCE

NAVFAC Mid-Atlantic owns and operates the potable water system at NALF Fentress. The potable water system consists of water supply wells, a water treatment plant, and a small water distribution system. Two groundwater wells withdraw water from the groundwater aquifer. The water treatment plant employs aeration and greensand filtration with continuous potassium permanganate addition for iron and manganese removal, granular activated carbon absorption filters to remove pre- and polyfluoroalkyl substances (PFAS), including perfluorooctanesulfonate (PFOS) and perfluorooctanoic acid (PFOA), disinfection using sodium hypochlorite to destroy bacteria and viruses, and corrosion control using polyphosphate to ensure lead and copper are not released from plumbing materials.

The Virginia Department of Health conducted a Source Water Assessment of the NALF Fentress Field Waterworks in 2019. Well #1 and Well #2 were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities and Potential Conduits to Groundwater Utilized at Land Use Activity sites in Zone 1, Susceptibility Explanation Chart, and Definitions of Key Terms. The report is available by contacting the PWD Environmental staff at 757-433-3434.

ABOUT DRINKING 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 (contaminants) resulting from the presence of animals or from human activity. Contaminants in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

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 storm water 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 storm water 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 come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In addition to these contaminants, all lakes and streams contain algae, which are microscopic plants that can cause taste and odor problems in drinking water.

ABOUT DRINKING WATER (continued)

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 (800-426-4791).

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water, which must provide the same protection for public health.

Who needs to take special precautions?

Some 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 systems 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. EPA/Centers for Disease Control (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).

Kidney dialysis patients should consult with their health care providers or dialysis centers in order to take special precautions when using chloraminated water. Fish owners should be sure chloramines are removed from the water before it is used in aquariums or ponds. Most pet stores sell water conditioners for chloraminated water.

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. NALF Fentress 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** or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you have questions about your water, please contact PWD Environmental at 757-433-3434. 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 <http://www.epa.gov/safewater/lead>.

DEFINITIONS AND ABBREVIATIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the following pages shows the results of monitoring for 2020. In the tables and elsewhere in this report you may find many terms and abbreviations which you are not familiar. The following definitions are provided to help you better understand these terms:

- **Action Level (AL)** - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow. For lead and copper monitoring, compliance is based on the 90th percentile value.
- **Level 1 Assessment** – A Level 1 assessment is a study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in our waterworks.
- **Level 2 Assessment** – A Level 2 assessment is a very detailed study of the waterworks to identify potential problems and determine, if possible, why an *E. Coli* PMCL violation has occurred and why total coliform bacteria have been found in our waterworks on multiple occasions.
- **Longterm Health Advisory (LHA)** - Health advisories provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. EPA's health advisory level for PFOA and PFOS offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.
- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the 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.
- **Maximum Residual Disinfectant Level (MRDL)** - The highest level of a disinfectant allowed in drinking water based on running annual average. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. For chlorine and chloramines, a waterworks is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL.
- **Maximum Residual Disinfectant Level Goal (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 contamination.
- **NA** – Not applicable
- **Nephelometric Turbidity Unit (NTU)** – A measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.
- **Non-detection (ND)** – Laboratory analysis indicates that the contaminant is not present.
- **Picocuries per liter (pCi/L)** - A measure of the radioactivity in water.
- **Parts per million (ppm) or Milligrams per liter (mg/L)** – A measurement of the amount of contaminant per unit of water. A part per million is one cent in \$10,000 or one minute in two years.
- **Parts per billion (ppb) or Micrograms per liter (ug/L)** – A measurement of the amount of contaminant per unit of water. A part per billion is like one cent in \$10,000,000 or one minute in 2,000 years.
- **Parts per trillion (ppt) or Nanograms per liter (ng/l)** - A measurement of the amount of contaminant per unit of water. A part per billion is like one cent in \$10 billion or one minute in 2,million years.
- **Secondary Maximum Contaminant Level (SMCL)** – Non-enforceable standard that is established for aesthetic considerations
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.

WATER QUALITY DATA

The tables below list only those contaminants that were present in your drinking water at levels detectable by laboratory equipment. Unless otherwise noted, the data presented in these tables is from testing done in 2020. We are required to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The EPA sets the Maximum Contaminant Levels (MCLs) and the Maximum Contaminant Level Goals (MCLGs) as listed in the tables. The Regulated Substances Table and the Unregulated Substances Table are provided for your information and as required by the Consumer Confidence Rule.

WATER QUALITY TABLE

Inorganics (2019 data)	Unit	MCLG	MCL	Highest Level	Range	Meets EPA Standards	Possible Source of Contamination
Fluoride	ppm	4.0	4.0	0.16	NA	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Barium	ppm	2	2	0.012	NA	Yes	Erosion of natural deposits

Microbiological Indicators (2020 data)	Unit	MCLG	MCL	Highest Level	Meets EPA Standards	Possible Source of Contamination
<i>E. Coli</i>	# of positive samples	0	*	0	Yes	Human and animal fecal waste
*The Revised Total Coliform Rule established the following Primary Maximum Contamination Level (PMCL): In compliance unless (i) the waterworks has an E. coli-positive repeat sample following a total coliform-positive routine sample; (ii) the waterworks has a total coliform-positive repeat sample following an E. coli-positive routine sample; (iii) the waterworks owner fails to take all required repeat samples following an E. coli-positive routine sample; or (iv) the waterworks owner fails to test for E. coli when any repeat sample tests positive for total coliform.						

Residual Disinfectants & Disinfection By Products (2020 data)	Unit	MCLG	MCL	Highest Level	Meets EPA Standards	Possible Source of Contamination
Haloacetic Acids (HAA5)	ppb	NA	60	<1	Yes	Drinking water disinfectant by-product
Trihalomethanes (TTHM)	ppb	NA	80	2.3	Yes	Drinking water disinfectant by-product
Total Chlorine Residual	ppm	4	4	1.13	Yes	Drinking water disinfectant

¹Total Chlorine Residual, the highest running annual average was determined by calculating quarterly values which were based on monthly compliance samples.

Lead and Copper Monitoring (2020 data)	Unit	MCLG	Action Level	Samples above AL	90 th Percentile	Range	Meets EPA Standards	Possible Source of Contamination
Copper	ppb	1,300	1,300	0	554	270-658	Yes	Corrosion of pipes; Erosion of natural deposits
Lead	ppb	0	15	0	2	<1 - 2	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

Secondary and Unregulated Monitored Substances (2019 data)	Unit	Secondary MCL	Highest Level	Likely Source
Chloride	ppm	250	10	Natural in environment
Iron	ppm	0.3	0.065 ¹	Natural in environment
Manganese	ppm	0.05	ND	Natural in environment
pH	pH Units	6.5 – 8.5	6.3 ¹	Adjusted during water treatment process
Sodium	ppm	NA ²	15	Natural in environment; also from use of chemicals at water treatment plant
Total Dissolved Solids	ppm	500	103	Natural in environment
Orthophosphate	ppm	NA	0.44	Naturally occurring in rocks and other minerals
Sulfate	ppm	250	4.8	Natural in environment
Zinc	ppm	5	0.034	Natural in environment
Alkalinity	ppm	NA	54	Naturally present in the environment
Total Copper	ppm	1.0	0.554	Aesthetic issues associated to metallic taste; blue-green staining above Secondary MCL
Calcium Hardness	ppm	NA	34.6	Naturally present in the environment

¹Average for calendar year.
²For physician-prescribed “no salt diets,” a limit of 20 ppm is suggested.



PER – AND POLYFLUOROALKYL SUBSTANCES

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the United States, since the 1940s. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) used for fighting petroleum fires at airfields and in industrial fire suppression processes because they rapidly extinguish fires, saving lives and protecting property. PFAS chemicals are persistent in the environment and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

Is there a regulation for PFAS in drinking water?

There is currently no established federal water quality regulation for any PFAS compounds. In May 2016, the EPA established a health advisory (HA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS.

Out of an abundance of caution for your safety, the Department of Defense's (DoD) PFAS testing and response actions go beyond EPA Safe Drinking Water Act requirements. In 2020 the DoD promulgated a policy to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years.

The EPA's health advisory states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should quickly undertake additional sampling to assess the level, scope, and localized source of contamination to inform next steps.

Has NALF Fentress tested its water for PFAS?

Yes. In December 2020 samples were collected from Building 100.

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 18 PFAS compounds covered by the sampling method, including PFOA and PFOS. This means that PFAS were not detected in your water system. In accordance with DoD policy, the water system will be resampled every three years for your continued protection.



VIOLATIONS AND EXCEEDANCES

No violations or exceedances were received in 2020.

QUESTIONS

Please contact PWD Environmental staff at 757-433-3434 if you have any questions regarding this report.

To access this report electronically, please visit the Commander, Navy Region Mid-Atlantic website at: https://www.cnrc.navy.mil/regions/cnrma/om/environmental_support/water_quality_information.html

The NALF Fentress Drinking Water website continues to be updated, as new information emerges. For more information: https://www.cnrc.navy.mil/regions/cnrma/om/environmental_support/water_quality_information.html