NSA HAMPTON ROADS HEADQUARTERS COMPLEX
NORFOLK, VIRGINIA
2022 CONSUMER CONFIDENCE REPORT

Inside this issue:

For additional information:

City of Norfolk Division of Water Quality
757-441-5678
http://www.norfolk.gov/utilities/quality/default.asp

Virginia Department of Health
757-683-2000
http://www.vdh.virginia.gov/drinking-water/

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

NSA Hampton Roads Public Works Department Environmental
757-836-1862

The source of NSA HR HQ's drinking water includes eight reservoirs, two rivers, and four deep wells.

Naval Support Activity Hampton Roads Headquarters Complex (NSA HR HQ) is committed to providing you drinking water that is safe and reliable. NSA HR HQ believes that providing you with accurate information about your water is the best way to assure that your water is safe. There were no drinking water violations to report for 2022.

Each year, the Consumer Confidence Report (CCR) is required to be distributed by July 1st of the current year. This CCR is a snapshot of the quality of your drinking water in 2022. 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.

Prior to 2021, NSA HR HQ was regulated under Naval Station Norfolk's VA drinking water permit and previous sampling and reporting was conducted for both installations together. NSA HR HQ began operating under its own permit January 2021 with data reflective in this CCR.

NSA HR HQ SOURCE WATER

NSA HR HQ purchases drinking water from the City of Norfolk. Norfolk's primary water supply comes from eight reservoirs located in Norfolk as well as Suffolk/Isle of Wight County. Additionally, water sources include the Blackwater, and Nottoway Rivers and four deep wells located in Suffolk. From the reservoirs, water is pumped through pipes to the 37th Street Treatment Plant which is located in Norfolk. Water treatment chemicals are added to the water, causing small solid particles to clump together and sink to the bottom of a settling basin. The water is then filtered to remove bacteria, algae, and other impurities. Finally, the water is disinfected with chloramines to kill any remaining bacteria. The 37th Street Water Treatment Plant provides state of the art treatment technology and surpasses all state and federal water quality standards and regulations. In addition to the over 230 substances that are tested at the 37th Street Treatment Plant, NSA HR HQ staff routinely monitors for bacteriological pathogens, disinfection byproducts, lead, and copper in order to meet federal and state regulations and to ensure the highest water quality possible.

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 resulting from the presence of animals or from human activity. Substances (referred to as 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 while groundwater may or may not receive 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 may 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 may come from gas stations, urban storm water runoff, and septic systems.
Radioactive contaminants, which may be naturally occurring, or the result of oil and gas production and mining activities.

In addition to these contaminants, lakes and streams contain algae, which are microscopic plants that can cause taste and odor problems in drinking water. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

ABOUT DRINKING WATER (continued)

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 EPA's 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. Many 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. The primary source of Lead in drinking water is materials and components associated with service lines and home plumbing. NSA HR HQ is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components in buildings. 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 NSA HR Environmental at 757-836-1862. 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 2022. 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 in more than 10 percent of samples collected during any monitoring period, 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.
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.
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 following tables 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 2022. We are required to monitor for certain contaminants less than once per year because the concentrations of these contaminants are less likely to 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.

Table 1. 2022 WATER QUALITY TABLE – City of Norfolk (Water Treatment Plant Samples)

Regulated Substances	Unit	MCLG	MCL	Highest Level	Average Level	Range	Meets EPA Standards	Possible Source of Contamination
Barium	ppm	2	2	0.04	0.03	0.02 – 0.04	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate as Nitrogen	ppm	10	10	0.24	0.11	ND – 0.24	Yes	Erosion of natural deposits; runoff
Fluoride	ppm	4	4	0.9[1]	0.6	0.1 – 0.9	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

[1]Highest monthly average for the calendar year

Substance	Unit	MCLG	MCL	Range	Percent Removal (running annual average)	Meets EPA Standards	Possible Source of Contamination
Total Organic Carbon	%	NA	TT	50-70% removal	56% removal (45% removal is required)	Yes	Occurs naturally in the environment

Turbidity	Unit	MCLG	MCL	Norfolk's Lowest Monthly % of Samples Meeting Limit	Norfolk's Highest Level (NTUs)	Meets EPA Standards	Possible Source of Contamination
Turbidity	NTU	NA	<1.0 maximum; ⩽0.3 95% of the time	100%	0.26	Yes	Soil Runoff

Secondary and Unregulated Monitored Substances	Unit	SMCL	Highest Level	Average Level	Range	Typical Source
Aluminum	ppm	0.20	0.05	0.02	ND-0.05	Erosion of natural deposits; from chemical use at water treatment plant
Boron	ppm	NA	0.06	0.06	ND-0.06	Natural in environment and manmade origins
Chloride	ppm	250	18	16	12-18	Runoff/leaching from natural deposits
Iron	ppm	0.3	0.05	ND	ND-0.5	Naturally occurring
Manganese	ppm	0.050	0.006	ND	ND – 0.006	Naturally occurring
Nickel	ppm	NA	0.003	ND	ND – 0.003	Corrosion of plumbing materials
Sulfate	ppm	250	40	31	17-40	Naturally occurring; from chemical use at water treatment plant
Total Dissolved Solids (TDS)	ppm	500	132	111	85-132	Naturally occurring
pH	pH units	6.5-8.5	7.7[2]	7.7	7.4-8.1	Adjusted during water treatment process
Sodium[3]	ppm	NA	22	14	9-22	Naturally occurring; from use of chemicals at water treatment plant
Zinc	ppm	5	0.29	0.20	0.04-0.29	Naturally occurring; from use of chemicals at water treatment plant

[2]Highest monthly average for calendar year
[3]For physician-prescribed "no salt diets" a limit of 20 ppm is suggested.

Other Regulated Substances	Unit	Average Level	Range	Typical Source
Alkalinity	ppm	34	24-47	Naturally Occurring

Ammonia	Ppm	0.1	ND-0.3	NA
Silica	ppm	6	2-10	Naturally Occurring
Hardness	ppm	49[4]	31-67	NA

*The substances listed above are not regulated by the EPA; however, this information is provided as a service to our customers.
[4] Norfolk's water averages in the range between soft and slightly hard. This means there is enough hardness for soaps and detergents to work properly, yet not too much to interfere with most industrial applications. To find grains per gallon, divide ppm value by 17.

Table 2. 2022 WATER QUALITY TABLE- NSA Hampton Roads Headquarters (Distribution System Samples)

Lead and Copper Monitoring*	Unit	EPA Limits		Your Drinking Water			Description/Typical Sources of Contaminants
		MCLG	AL	Samples Above AL	90th PERCENTILE	Meets EPA Standards	
Lead	ppb	0	15	1 of 20	<0.001	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	ppm	1.3	1.3	0 of 20	0.215	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

* The last Lead and Copper Monitoring event was conducted in 2022. NSA HR HQ is on a triennial monitoring schedule for Lead and Copper, with a frequency of sampling once every three years. The next sampling event will be in 2025.

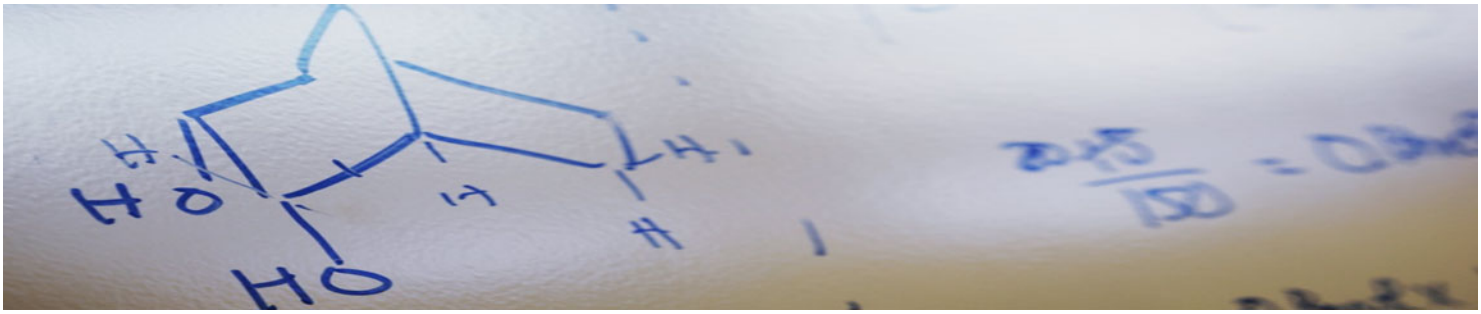
Residual Disinfectants and Disinfection By Products	Unit	MCLG	MCL[1]	Highest Level[2]	Range (Individual Results)[3]	Meets EPA Standards	Possible Source of Contamination
Haloacetic Acids (HAA5)	ppb	NA	60	31	16-26	Yes	Drinking water disinfectant by-product
Trihalomethanes (TTHM)	ppb	NA	80	45	29.9-62.9	Yes	Drinking water disinfectant by-product
Total Chlorine Residual	ppm	4[4]	4[5]	2.5	0.1 – 4.3	Yes	Drinking water disinfectant

[1]MCL is calculated based on locational running annual averages (LRAA) of samples collected from the last four quarters. [2]This number is the highest running annual average of quarterly compliance samples for the 2022 calendar year; for Total Chlorine Residual, the highest running annual average was determined by calculating quarterly values which were based on monthly compliance samples. [3]MCL exceedance is NOT determined based on individual results. [4]MRDLG. [5]MRDL.

Unregulated Contaminant Monitoring Rule 4(UCMR4) [6]	Unit	Reference Concentration	Highest Level	Average Level	Range	Likely Source
Manganese	ppb	300	12.3	7.2	3.8-12.3	Natural in the environment
Bromochloroacetic Acid	ppb	NA	2.91	1.44	ND-2.91	Drinking water disinfectant by-product
Bromodichloroacetic Acid	ppb	NA	5.10	2.00	ND-5.10	Drinking water disinfectant by-product
Chlorodibromoacetic Acid	ppb	NA	0.548	0.29	ND-0.548	Drinking water disinfectant by-product
Dibromoacetic Acid	ppb	60	0.374	0.03	ND-0.374	Drinking water disinfectant by-product
Dichloroacetic Acid	ppb	60	28.0	8.73	ND-28.0	Drinking water disinfectant by-product
Monobromoacetic Acid	ppb	60	0.325	0.03	ND-0.325	Drinking water disinfectant by-product
Monochloroacetic Acid	ppb	60	ND	ND	ND-ND	Drinking water disinfectant by-product
Tribromoacetic Acid	ppb	NA	ND	ND	ND-ND	Drinking water disinfectant by-product
Trichloroacetic Acid	ppb	60	21.8	9.43	ND-21.8	Drinking water disinfectant by-product

[6]UCMR Reference Concentration = The reference concentrations are based on publicly-available health information found in the following EPA resources: 2018 Edition of the Drinking Water Standards and Health Advisories Tables [i.e., Health advisories (HA)], the CCL 4 Contaminant Information Sheets [i.e., Health Reference Levels (HRLs)], and the Human Health Benchmark for Pesticides (i.e., HHBPs). The primary sources of the health information used to derive the guideline values in the resources referenced above are peer-reviewed assessments from EPA or other governmental agencies. The reference concentrations are subject to change as new health assessments are completed. Reference Concentrations are not legally enforceable federal standards.

Unregulated Contaminant Monitoring Rule: EPA uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants and selects no more than 30 for a nationwide drinking water survey to provide occurrence data for potential future regulation. The final sampling for UCMR4 occurred in August 2020, while NSA HR HQ was regulated under Naval Station Norfolk. For more information on the UCMR program, visit EPA online at: https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule



PFAS

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.

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

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Has NSA Hampton Roads Headquarters tested its water for PFAS?

Yes, In January 2020, the City of Norfolk samples were collected from 37th Street Water Treatment Plant.

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.

https://www.cnic.navy.mil/om/base_support/environmental/water_quality/Testing_for_Perfluorochemicals.html

VIOLATIONS AND EXCEEDANCES

There were no drinking water violations to report for 2022.

QUESTIONS

Please contact NSA HR Environmental staff at 757-953-5657 if you have any questions regarding this report. To access this report electronically, please visit the Commander, Navy Region Mid-Atlantic website at:
http://www.cnic.navy.mil/regions/cnrma/om/environmental_support/water_quality_information.html