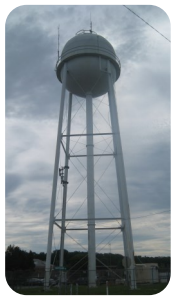
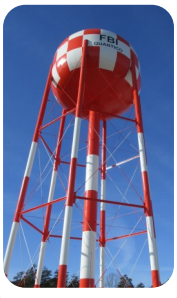
Marine Corps Base Quantico
Camp Barrett Water System [TBS/DOJ/WTBN/RKB]
(PWSID 6153060)



2024 Annual Drinking Water Consumer Confidence Report

"In 2024, drinking water quality from Marine Corps Base Quantico Camp Barrett Water System met or exceeded all federal and state requirements."



Message from the Public Works Officer

Dear Camp Barret Water System Water Consumer,
The Public Works Department (PWD) of Marine Corps Base Quantico (MCBQ) G-F, Installation and Environment Division, is pleased to present the Annual Water Quality Report for the Camp Barrett Water System. This report is designed to inform you about the water quality monitoring results from both our system and Stafford County during calendar year 2024.
The Camp Barrett Water System (PWSID No. 6153060) receives treated water from Stafford County, Virginia (PWSID No. 6179100), which is processed at two of Stafford County's water treatment plants and then distributed through the Camp Barrett water system. The Camp Barrett service area includes The Basic School (TBS), the Department of Justice (DOJ) Complex, the Weapons Training Battalion (WTBN), and the Russell-Knox Building (RKB) Complex.
Our goal is to provide a safe and dependable supply of drinking water, and we are committed to maintaining the highest water quality standards. To support this mission, our Water System Working Group (WSWG)—including personnel from the Water Treatment Plant, Utility Section, Facilities Maintenance Section, Engineering Section, and the Natural Resources & Environmental Affairs Branch—meets regularly to develop and implement process improvements that proactively address water quality concerns.
Some of our recent initiatives include:

- Implementation of the Utilities Infrastructure Condition Assessment Program (UICAP) to strengthen water system infrastructure and asset management.
- Continued success of the Cross-Connection and Backflow Prevention Program, maintained through scheduled inspections and maintenance of all backflow preventers across the distribution system.
- Execution of an annual comprehensive maintenance flushing program, along with targeted spot flushing in problem areas, to maintain high water quality throughout the Camp Barrett distribution system.
- Effective management of our sampling and compliance tracking program, ensuring all required water quality samples were collected on time and in compliance throughout 2024.

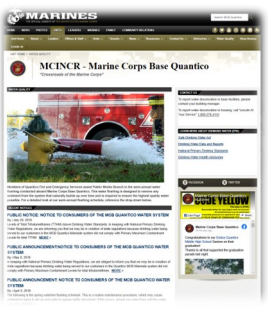
As a result of these ongoing efforts, our team is proud to report that we did not experience any drinking water quality violations, remaining fully compliant with all applicable water quality standards. Our Utilities Team—including our dedicated Utility Shop Maintenance personnel, 24/7 system operators, and support staff—will continue working hard to provide safe, high-quality drinking water to our families and the Quantico community.

CDR Andrew Petralia
Public Works Officer, Marine Corps Base Quantico

We Want To Hear From You

In order to meet increasingly stringent water quality requirements, we are constantly planning and funding projects to address many water-related issues including source water protection, system operation and maintenance improvement, and timely upgrade and replacement of water system infrastructure (pipes, pump stations and tanks) and treatment plant facility. We value your inputs on our water quality and water system related issues. You can call us at 703-432-2466 (PWB Water Commodities Manager) for any water related questions and inputs. To stay informed on important water related public notifications, please visit us on line at

https://www.quantico.marines.mil/water-quality/.



MCBQ Camp Barrett Water System (TBS/DOJ/WTB/RKB)

2024 Consumer Confidence Report

Regarding This Report

Both MCBQ and Stafford County Utilities routinely monitor your drinking water for contaminants in accordance with federal and state regulations. This report summarizes information on all regulated contaminants detected in your drinking water, based on a wide range of water quality tests. An explanation of these results is provided in the data table at the end of this report.

Maximum Contaminant Levels (MCLs) are established by the United States Environmental Protection Agency (USEPA) at very stringent levels. In developing these standards, the USEPA assumes an average adult consumes 2 liters of water per day over a 70-year lifespan. MCLs are generally set to ensure there are no adverse health effects from certain contaminants, or to limit health risks to between a one-in-ten-thousand and a one-in-a-million chance of experiencing the described health effects for other contaminants.

Source Water

Camp Barrett water system receives water from Stafford County processed at two water treatment plants in Stafford County. Smith Lake and Lake Mooney reservoirs are the sources of public water in Stafford County. Most of Camp Barret water is processed and delivered from Smith Lake Water Treatment Plant that utilizes Smith Lake as its source water.

In 2002, the Virginia Department of Health (VDH) conducted an assessment of Stafford County's water reservoir at Smith Lake to determine how susceptible it is to contamination (an assessment of Lake Mooney and the Rappahannock River was completed in early 2019). It was determined that the source water was highly susceptible to contaminants because there are industrial, commercial, agricultural and residential land uses in its watersheds.

We ask for your help to properly dispose of trash, waste oil, antifreeze, and other hazardous materials and minimize application of fertilizer and pesticides so that they do not enter streams, storm drains, and other water bodies. You can report illegal dumping around or in Smith Lake to the Stafford County Sheriff's Office at 540-658-4400.

Potential Sources of Water Contaminants

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. 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 byproducts of industrial processes and petroleum production, and can also 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 order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least a small amount of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about drinking water contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking water Hotline at 1-800-426-4791 or visiting their website at **https://www.epa.gov/ground-water-and-drinking-water**.

Should Some People Take Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune system compromised persons such as persons with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be partially at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

***We strongly recommend that our customers not use water from the hot water tap for consumption*.** Any contaminants found in the water may accumulate in the hot water tank. This would be true anywhere, regardless of the water source. This does not mean that there is anything wrong with our drinking water. All water tests are conducted on water from the cold-water tap. Our concern is that the water quality is unknown when water from the hot-water tap is consumed. We believe you are better served by heating cold-water for this purpose.

MCBQ Camp Barrett Water System (TBS/DOJ/WTB/RKB)

2024 Consumer Confidence Report

Microbial Analysis

Coliforms are bacteria that are present naturally in the environment and are used as an indicator that other, potentially harmful bacteria, may be present. When Coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If the limit is exceeded, the water supplier must notify the public by bulletin boards, emails, social media, newspaper, radio, or television. **We are proud to announce that we did not have any samples test present for E. Coli (no MCL violation) during the 2024 calendar year.**

Disinfection Byproducts

MCBQ Camp Barret Water System collects disinfection byproducts samples (including Total Trihalomethanes and Haloacetic Acids samples) every quarter from 2 different locations selected from the Initial Distribution System Evaluation (IDSE).

During 2024, Camp Barret water system was in compliance with TTHM and HAA5 MCLs: none of the annual running averages from required disinfection byproducts samples exceeded the Total Trihalomethanes (TTHM) MCL (80 ppb) and Haloacetic Acids (HAA5) MCL (60 ppb).

Lead and Copper

During 2022, we completed all required testing for lead and copper and 90 percentiles of the lead and copper test results were less than their action levels (15 ppb for lead and 1.3 ppm for copper). We are proud to announce that none of the 20 required sampling sites exceeded lead action level of 15 ppb and copper action level of 1.3 ppm.

Based on our triennial lead and copper sampling schedule, we are scheduled to conduct next lead and copper testing in 2025. More information about drinking water contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at http://water.epa.gov/drink/index.cfm. 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. Marine Corps Base Quantico 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, until it becomes cold or reaches a steady temperature before using the 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 USEPA's Safe Drinking water Hotline at 1-800-426-4791 or visit https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water.

Marine Corps Base Quantico is conducting a drinking water service line inventory to comply with the 2022 Lead and Copper Rule. Under this rule, we are required to notify building occupants if a service line contains lead or if its composition is unknown.

All inspected service lines within the MCBQ Camp Barrett Water System have been found to contain no lead or lead lining. There are 26 service lines still remaining to be inspected, and we will continue our inventory through 2025 to ensure their safety as well. Our goal is to have all service line materials fully identified by the end of 2026.

Per- and polyfluoroalkyl substances (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 U.S., 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) currently used for fighting petroleum fires at airfields and in industrial fire suppression processes. 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?

On April 10, 2024, the US EPA established MCLs for a subset of PFAS chemicals as shown in the Table below.

EPA requires implementation of sampling in accordance with the new MCLs within three years (2027) of the publication date and implementation of any required treatment within five years (2029).

EPA Final Regulated Constituents	EPA Final Enforceable Maximum Containment Level (MCL)	Camp Barret Water System Point of Entry (Range)
PFOA	4 ng/L	2.0 to 3.1 ng/L
PFOS	4 ng/L	4.0 to 6.2 ng/L
PFNA	10 ng/L	ND*
PFHxS	10 ng/L	2.0 - 2.9 ng/L
HFPO-DA (GenX)	10 ng/L	ND*
PFBS	2000 ng/L **	ND* to 2.9 ng/L
PFBA	NA ***	ND* to 2.8 ng/L
PFHxA	NA	ND* to 2.6 ng/L
PFPeA	NA	ND* to 2.7 ng/L

*ND: Non detect - Tested results were less than the detection limit of the lab method.
** PFBS limit is only included as part of the Hazard Index calculation with PFNA, PFHxS, and PFPO-DA.
*** NA: Not Applicable - EPA has not set a limit for this compound in drinking water.

These limits did not apply for the 2024 calendar year, but the DoD proactively promulgated policies to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every two years.

The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA health advisory (HA) level of 70 ppt, water systems must take immediate action to reduce exposure to PFOS or PFAS. For levels less than 70 ppt but above the 4 ppt level (draft at the time of policy publication), DoD committed to planning for implementation of the levels once EPA's published MCLs take effect.

Has Marine Corps Base Quantico tested its water for PFAS in 2024?

Yes. in Feb 2024 and Sep 2019 PFAS samples were collected from the Camp Barrett point of entry per DoD PFAS Sampling Policy.

We are informing you that seven of the 29 PFAS compounds covered by the sampling method were detected above the method reporting limit (MRL). The results are provided in the Table above. EPA currently does not have a health advisory or MCL for all 29 PFAS compounds covered by this sampling method, other than for PFOA, PFOS, PFNA, PFHxS, PFBS, and Gen X. PFNA, PFHxS, PFBS, and Gen X, which do have established MCLs. PFOS were detected above the new MCLs. The EPA is still researching what effect these almost undetectable levels could have on human health. While scientific research is ongoing, the EPA has set the above listed limits for the six PFAS in the table with a compliance deadline in early 2029. The Stafford County Utilities Department began the long and costly process to upgrade their treatment system before the limits were even finalized. Stafford County will need to significantly upgrade its water system to ensure the delivery of high-quality drinking water that meets these new limits. To learn more about current Stafford county effort (including Stafford's PFAS Pilot Study) to reduce PFAS from water, visit the following Stafford County Website: www.staffordcountyva.gov/PFAS

Unregulated Contaminant Monitoring Rule

The Safe Drinking Water Act (SDWA), as amended in 1996, requires the USEPA to establish criteria for a program to monitor unregulated contaminant and publish a list of contaminants to be monitored every five years.

USEPA published the first set of contaminants in 1999. The fifth Unregulated Contaminant Monitoring Rule (UCMR 5) requires us to collect 30 chemical contaminants (29 PFAS chemicals and lithium) between 2023 and 2025 using analytical methods developed by EPA and consensus organizations. Camp Barret Water System has completed the UCMR 5 sampling in 2023 and PFAS results are included in the table above.

SDWA requirement mandated publishing the next set of unregulated contaminants to be monitored and the requirements for such monitoring. Implementation of this final rule benefits the environment by providing USEPA and other interested parties with scientifically valid data on the occurrence of the contaminants in drinking water; thereby, permitting the assessment of the population potentially being exposed and the levels of exposure. These results are the primary resource of occurrence and provide exposure data for the USEPA to determine whether to regulate these contaminants.

To view fact sheets about the UCMR5 testing, go to:

https://www.epa.gov/system/files/documents/2022-02/ucmr5-factsheet.pdf

Conclusion

Our Utilities Section works tirelessly to provide high-quality water to our families, colleagues, and the Quantico community. To maintain a safe and reliable water supply, we will continue to improve our supply lines and distribution system components for the benefit of all customers.

During our flushing events, water mains and fire hydrants are thoroughly and systematically flushed. This process may occasionally cause temporary water discoloration, which can be resolved by running your tap until the water is clear.

Learn About Your Drinking Water

To stay informed on important water related public notifications, please visit us on line at https://www.quantico.marines.mil/water-quality/.

More information about drinking water contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking water Hotline at 1-800-426-4791 or visiting their website at **https://www.epa.gov/ground-water-and-drinking-water**.

Please visit Virginia Department of Health (VDH) Office of Drinking Water (ODW) website for VDH drinking water compliance information.:

https://www.vdh.virginia.gov/drinking-water/

For any questions about our drinking water, call 703-432-2466 (MCBQ GF-Public Works Branch FMS Utilities and Energy Management Section).

Marine Corps Base Quantico - 2024 Camp Barret Water System Water Quality Report (PWSID 6153060)

Regulated Contaminants - Camp Barrett Water Distributon System (PWSID 6153060)

Microbiological Results	MCLG	MCL	No. of Samples Indicating Presence of Bacteria (during 2024)	Highest total number of positive samples per month	Monthly Samples	Violation	Major source in drinking water.
Total Coliform Bacteria	0	NA*	3	1	10	No	Naturally present in the environment
E. Coli	0	A routine sample & a repeat sample are total coliform positive & one is also E. coli. Positive	0	0		No	Naturally present in the environment

* Two or more total coliform positive samples per month will trigger Level 1 assessments and corrective actions accordingly. ** Any E.coli MCL vilocation triggers Level 2 assessment and corrective actions accordingly.

Primary Regulated Contaminants

Metals (units)	MCLG	Action Level	90th Percentile	Number of sites tested	No. of Sites Exceeding action level.	Range Low to Highest	Violation	Source
Copper (ppm)	0	1.3 ppm	0.066 ppm	20	0	<0.002 to 0.150 ppm	No	Corrosion of household plumbing systems
Lead (ppb)	0	15 ppb	< 2.0 ppb	20	0	<2.0 to 2.0 ppb	No	Corrosion of household plumbing systems

MCB Quatnico Camp Barret Water System is on reduced monitoring for these parameters based upon historical results (as granted by the State). The Lead and Copper results are from Junet to August 2022; next test are to be conducted in 2025.

Disinfectant (units)	MCDLG	MRDL^	Average	Range Low to High	Violation	Source
Chloramines (ppm) Results from distribution system.	4.0 ppm	4.0 ppm	2.04 ppm	0.00 - 4.3 ppm	No	Added to drinking water as a disinfectant.

Disinfection By-Products (units)	MCLG	MCL	Quarterly Running Annual Average (Highest for the year)	Range Low to High	Violation	Source
Haloacetic Acids, HAA5 (ppb)	0	60 ppb	42 ppb	23 to 36 ppb	No	By-product of drinking water disinfection.
Trihalomethane, TTHM (ppb)	0	80 ppb	34 ppb	20 to 41 ppb	No	By-product of drinking water disinfection.

^ MRDL: Maximum Residual Disinfection Level (in mg/L or ppm)

Regulated Contaminants and Treatment Techniques as reported by Stafford County Water System [Smith Lake and Lake Mooney Water Plants]. (PWSID 6179100)

Regulated Contaminants

Parameter (units) - Regulated	MCLG	MCL	Average	Range	Violation	Source
Fluoride (ppm)	4 ppm	4 ppm	0.65 ppm	0.0 to 1.09 ppm	No	Added to the drinking water to promote dental health; erosion of natural deposits; discharge from fertilizer and aluminum factories.
Dalapon (ppb)	0.2 ppm	0.2 ppm	0.001 ppm	< 0.001 to 0.0013 ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.

Treatment Technique (TT) Parameters

Total Organic Carbons (TOC) and Turbidity	MCL or TT	Average	Range	Violation	Source
Total Organic Carbons *	Treatment Technique: Running annual average of quarterly TOC removals ratio must be ≥ 1.0 **	The running annual average of quarterly TOC removal ratios **ranged from 1.3 to 1.43**		No	Naturally present in environment
Turbidity (NTU)***	Treatment Technice (TT) - at least 95% of all samples taken each month must be 0.3 NTU or less; 1 NTU maximum	**Maximum Detected = 0.29 NTU** 100% of all samples taken were 0.3 NTU or less		No	Soil erosion from runoff

* Total Organic Carbon has no health effects. However, it provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes and haloacetic acids. Compliance with the treatment technique reduces the formation of these disinfection byproducts.
** Compliance with Treatment Technique (TT) is a removal ratio of 1.0 and higher (quarterly running annual average) . The ratio of removal is the actual TOC removal between the source water and treated water.

*** Samples taken from filtered water at the treatment plan

Secondary / Unregulated Contaminants

Parameter (units)	MCLG	Secondary MCL	Average	Range	Violation	Source
Sodium (ppm)	N/A	N/A	32.1 ppm	27.5 to 36.6 ppm	No	Erosion of natural deposits
Sulfate (ppm)	N/A	250 ppm	30.4 ppm	26.6 to 34.1 ppm	No	Erosion of natural deposits; fertilizer runoff
Chloride (ppm)	N/A	250 ppm	14.2 ppm	13.5 to 14.8 ppm	No	Erosion of natural deposits
Orthophosphate (ppm)	N/A	N/A	0.48 ppm	0.35 to 0.61 ppm	No	Added as corrosion inhibitor
Nickel (ppm)	NA	NA	0.001 ppm	0.001 to 0.001 ppm	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
Silica (ppm)	N/A	N/A	5.5 ppm	2.1 to 8.9 ppm	No	Erosion of nautral deposits

Key to acronyms and abbreviations.

Non-Detects (ND)	Laboratory analysis indicates that the constituent is below the detection level.
Parts per million (ppm) & Milligrams per liter (mg/L)	Parts per million and milligrams per liter are the same. One part per million corresponds to one minute in two years, or a penny in $10,000.
Parts per billion(ppb) & Micrograms per liter (µg/L)	Parts per billion and Micrograms per liter are the same. One part per billion corresponds to one minute in 1902 years, or a penny in $10,000,000.
Picocuries per liter (pCi/l)	Picocuries per liter is a measure of the radioactivity in the water.
Nephelometric Turbidity Unit (NTU)	Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just visibly cloudy with the naked eye.
Action Level (AL)	Concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.
Treatment Techniques (TT)	A treatment technique is a required process intended to reduce level of contaminant in drinking water
Maximum Contaminant Level (MCL)	The highest level of a contaminate that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology
Maximum Contaminant Level Goal (MCLG)	The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to MCLG's allow for a margin of safety.
Maximum Residual Disinfection Level (MRDL)	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfection is necessary for control of microbial contaminants.
Maximum Residual Disinfection Level Goal (MRDLG)	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG does not reflect the benefits of the use of disinfectants.
No Regulatory Limit (NRL)	A substance or chemical constituent that is of interest but currently does not have a regulatory limit or concentration.