

# Marine Corps Base Quantico 2011 Annual Drinking Water Quality Report Camp Barrett Water System [TBS/DOJ/WTBN/MDIA] PWSID 6153060, 6179100



## Introduction

Marine Corps base Quantico, Installation and Environment Division, is pleased to present the Base's *Camp Barrett* Annual water Quality Report for 2011. This report is designed to inform you about the quality of water and services we deliver to you every day.

Our constant goal is to provide you, the consumer, with a safe and dependable supply of drinking water.

We are committed to ensuring the quality of your water. To help us meet this goal, we have established a water quality response team. Personnel from the Base Naval Health Clinic join with our Water Quality Assurance Technician, to respond to customer concerns and water quality questions. Together, they have the resources to test the chemical and bacteriological quality at the consumers tap.

Camp Barrett (PWSID No. 6153675) water is processed at a water treatment plant in Stafford County, VA (PWSID No. 6179100). This service area includes The Basic School, the Department of Justice Complex, Weapons Training Battalion, and the Military Department Investigative Agencies.

## Summary

Both Stafford County and MCB Quantico Utilities routinely monitor for constituents in your drinking water according to State and Federal laws. This report shows the results of our monitoring for the period **January 1 through December 31, 2011**.

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.

### Contaminants that may be present in source water include:

- i. *microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ii. *inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- iii. *pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- iv. *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 stormwater runoff, and septic systems.
- v. *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 which provide the same protection for public health.

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 <http://water.epa.gov/drink/index.cfm>.

## The Facts

This report contains information on all regulated contaminants found in your drinking water. Additionally, over 85 water tests are performed for a variety of contaminant not found in the water delivered to the Base. *An explanation of the results is included in a data table at the end of this report.*

Maximum Contaminant Levels (MCL's) are set at very stringent levels by the USEPA. In developing the standards USEPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. USEPA generally sets MCL's at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

The VDH conducted a source water assessment in 2002. The purpose was to determine the relative susceptibility of the source water to activities in the watershed. The source water was calculated to have a high susceptibility to contamination.

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## Microbial Analysis

Total Coliform: *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 newspaper, radio, or television. ***We are pleased to report there were no positive bacteriological samples taken from the Camp Barrett distribution system.***

## Systems

We have three different sources of water at Marine Corps Base Quantico, depending geographically where you are located. We encourage our customers to contact us to report their observations. At that time, we will visit the site and determine if we need to run additional tests.

If you have any questions about this report or concerning your water utility, please contact Mr. Larry Weedon, Utility Supervisor at (703) 784-2246 or (703) 432-0698.

## 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 constantly monitor the water supply for various contaminants.

***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.

## Lead and Copper

In August 2010, the Base completed testing for Lead and Copper in the distribution system. Samples from twenty sites were tested according to an approved sampling plan. We are in compliance with the USEPA Action level. Two samples indicated elevated Lead levels. Retesting showed results were non-detectable. As a result, the next sample event for Lead and Copper is scheduled in 2013.

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 15 to 30 seconds, 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 <http://water.epa.gov/safewater/lead>.

## Additional Tests and Monitoring

### Individual Distribution System Evaluation (IDSE)

In March 2010 USEPA and VDH approved the Base IDSE plan. The sampling is scheduled to begin in October 2013. This evaluation of the distribution system will allow the Base to better monitor disinfection byproducts in the distribution system. Once this information has been obtained and evaluated, the Base will know where to make necessary changes in the distribution system or treatment process.

## Conclusion

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that benefit all of our customers.

As announced in the Base newspaper, The Quantico Sentry, water mains and fire hydrants are flushed twice a year. This may cause temporary water discoloration. We apologize for any inconvenience. Our goal is to provide water of excellent quality to every customer. We in the Utilities Section, work around the clock to provide top quality water to every tap.

Our customers can help protect themselves and our water system by careful use of this resource, which is the heart of our community, our way of life and our children's future.

# 2011 MCB Quantico Annual Drinking Water Quality Report Camp Barrett Water System (TBS/DOJ/WTB/MDIA) (PWSID #6153060, 6179100)

2011 CAMP BARRETT WATER QUALITY REPORT									
<b>Microbiological Contaminates</b>	<b>MCLG</b>	<b>MCL</b>	<b>Percent Positive</b>	<b>Highest number positive</b>	<b>Monthly Samples</b>	<b>In Compliance</b>	<b>Source</b>		
Total Coliform Bacteria	0	One Sample per Month	0	0	6	Yes	Naturally present in the environment		
We may not exceed one positive sample a month.									
We are proud to report there were no positive samples for 2011.									
REGULATED CONTAMINANTS									
METALS									
<b>PARAMETER</b>	<b>Units</b>	<b>MCLG</b>	<b>Action Level</b>	<b>90th. Percentile</b>	<b>No. of sites tested</b>	<b>No. of Sites Exceeding AL</b>	<b>Range</b>	<b>In Compliance</b>	<b>Source</b>
Copper**	ppm	0	1.3ppm	0.068 ppm	20	0	<0.20 - 0.239 ppm	Yes	Corrosion of household plumbing systems
Lead**	ppb	0	15ppb	9.84 ppb	20	2	<2.0 - 63.8 ppb	Yes	Corrosion of household plumbing systems
The Lead and Copper results are from August 2010. The two non compliance results were an anomaly, the repeat samples were collected were all negative. Next test to be conducted in June 2013.									
CHLORINE (Cl2)									
<b>Parameter</b>	<b>Units</b>	<b>MRDL</b>	<b>MRDLG</b>	<b>Highest</b>	<b>Range</b>	<b>Average</b>	<b>In Compliance</b>	<b>Source</b>	<b>Samples taken from distribution system.</b>
Chloramines	ppm	4	4	3.70	0.20-3.7	2.42	Yes	Used for disinfection	
THM ( Trihalomethanes )									
<b>PARAMETER</b>	<b>Units</b>	<b>MCLG</b>	<b>MCL</b>	<b>Highest</b>	<b>Range</b>	<b>Average</b>	<b>In Compliance</b>	<b>Source</b>	
TTHM	ppb	n/a	80	52	26-52	35	Yes	By-product of drinking water disinfection.	
Compliance is based on a 4 quarter running average, that value was 35 ppb.									
HAA5 ( Halo, Acidic Acids Group 5 )									
<b>PARAMETER</b>	<b>Units</b>	<b>MCLG</b>	<b>MCL</b>	<b>Highest</b>	<b>Range</b>	<b>Average</b>	<b>In Compliance</b>	<b>Source</b>	
HAA5	ppb	n/a	60	37	15-37	26	Yes	By-product of drinking water disinfection.	
HAA5 compliance is based on a 4 quarter running average, that value was 26 ppb.									
Regulated Contaminants as reported by Stafford County Smith Lake Water Plant (PWSID 6179100)									
Fluoride									
<b>PARAMETER</b>	<b>Units</b>	<b>MCGL</b>	<b>MCL</b>	<b>Average</b>	<b>Range</b>	<b>In Compliance</b>	<b>Source</b>	<b>Samples results from Stafford County distribution</b>	
Fluoride	ppm	4	4	0.82	0.53 - 1.16	Yes	Water additive which promotes strong teeth.		
RADIOLOGICAL									
<b>Parameter</b>	<b>Units</b>	<b>MCLG</b>	<b>MCL</b>	<b>Highest</b>	<b>Range</b>	<b>Results from 2002.</b>	<b>In Compliance</b>	<b>Source</b>	
Gross Alpha	pCi/L	0	15	0.1	one test	one test	Yes	Erosion of natural deposits.	
NITRATE+NITRITE									
<b>Parameter</b>	<b>Units</b>	<b>MCLG</b>	<b>MCL</b>	<b>RESULTS</b>	<b>Average</b>	<b>In Compliance</b>	<b>Source</b>		
NITRATE+NITRITE	ppm	10	10	0.10	1 Test Performed	Yes	Erosion of natural deposits, fertilizer runoff.		
Barium	ppm	2	2	0.015	one test	Yes	Naturally present in the environment	Samples taken from distribution system.	
NONREGULATED CONTAMINANTS AS REPORTED FROM STAFFORD COUNTY									
<b>Parameter</b>	<b>Units</b>	<b>MCLG</b>	<b>MCL</b>	<b>RESULTS</b>	<b>Average</b>	<b>In Compliance</b>	<b>Source</b>		
Chloride	ppm	na	250	14	one test	Yes	Naturally present in the environment	Samples taken from distribution system.	
Sodium	ppm	na	none	26.5	one test	Yes	Naturally present in the environment	Samples taken from distribution system.	
Sulfate	ppm	na	250	34.5	one test	Yes	Naturally present in the environment	Samples taken from distribution system.	
TOTAL ORGANIC CARBONS ( TOC )									
<b>Parameter</b>	<b>Units</b>	<b>Treatment Technique, % of removal.</b>	<b>Range</b>	<b>TT: Running annual average of quarterly samples the % of removal must-or = 1.0</b>	<b>In Compliance</b>	<b>Source</b>			
TOC	N/A		1.25 to 1.35		Yes	Naturally present in the environment			
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.									
WATER QUALITY ( Key to Abbreviations )									
<b>Non-Detects (ND)</b>	Laboratory analysis indicates that the constituent is below the detection level.								
<b>Parts per million, (PPM)</b>	One part per million corresponds to one minute in two years, or a penny in \$10,000.								
<b>Milligrams per liter (MGL)</b>	Milligrams per liter is the same as parts per million.								
<b>Parts per billion (ppb)</b>	One part per billion corresponds to one minute in 2000 years, or a penny in \$10,000,000.								
<b>Micrograms per liter</b>	Micrograms per liter is the same as parts per billion.								
<b>Picocuries per liter (pCi/l)</b>	Picocuries per liter is a measure of the radioactivity in the water.								
<b>( NTU ) Nephelometric</b>	Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just								
<b>Action Level</b>	Concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.								
<b>( TT ) Treatment Techniques</b>	A treatment technique is a required process intended to reduce level of contaminant in drinking water								
<b>Maximum Contaminant Level</b>	The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water.								
<b>Maximum Contaminant Level Goal</b>	MCL's are set as close to the MCLG's as feasible using the best available treatment technology								
<b>Maximum Contaminant Level Goal</b>	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.								
<b>MRDL</b>	Maximum Residual Disinfection Level: 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.								
<b>MRDLG</b>	Maximum Residual Disinfection Level Goal: 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								