Marine Corps Base Quantico
2014 Annual Drinking Water Quality Report
Camp Upshur Water System PWSID 6153063

Introduction

Marine Corps base Quantico, Installation and Environment Division, is pleased to present the Base's *Camp Upshur* Annual water Quality Report for 2014. 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.

Our water sources for the Camp Upshur distribution system (PWSID No. 6153063) are two deep wells.

Summary

The Camp Upshur water system routinely monitors 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, 2014.**

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 .

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 due to ongoing Base activities. There was no evidence of contamination of the water source in any of our testing.

Office of Drinking Water
Safe Drinking Water for a Healthy Virginia

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 Upshur distribution system.

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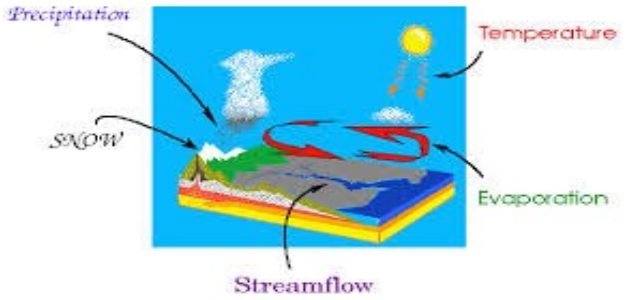
System

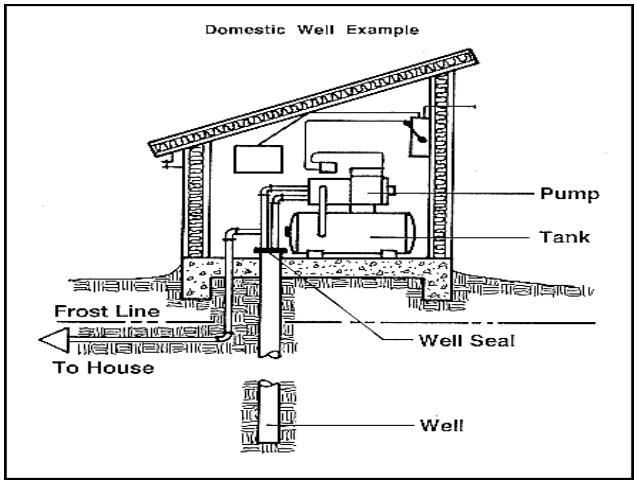
We encourage our customers to contact us to report their observations. At that time, we will visit the site and determine if we need to run additional tests.
If you have any questions about this report or concerning your water



utility, please contact Mr. Thomas Sperlazza, Utilities General Foreman at (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

The lead levels found in samples taken at Upshur are well below regulatory limits.
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*.

Conclusion

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe a 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.

Quantico Marine Corps Base Water Quality Report Camp Upshur 2014

Microbiological Results	MCLG	MCL	Percent less than 5%	Highest no.	Monthly Samples	In Compliance	Major source in drinking water.
Total Coliform Bacteria	0	One positive sample per Month	Positive 0	NA	1	Yes	Naturally present in the environment

We may not exceed one positive sample per month.
We are proud to announce there were no positive samples for 2014 year.

Primary Regulated Contaminants

Metals (units)	MCLG	Action Level	90th Percentile	Number of sites tested	No. of Sites Exceeding action level.	Range Low to Highest	In Compliance	Source
Copper (ppm)	0	1.3ppm	0.026ppm	5	0	Range <20-0.041ppm	Yes	Corrosion of household plumbing systems
Lead (ppb)	0	15ppb	<0.0020 ppb	5	0	Range <0.002-1.2ppb	Yes	Corrosion of household plumbing systems

The Lead and Copper results are from June-September 2014; next test are to be conducted in June-September 2017. All samples are below the EPA Safe Drinking Water Act-Action Level.

Parameter (units)	MCLG	MCL	Average Results	Range Low to High	In Compliance	Source
Nitrate-Nitrite (ppm)	10ppm	10ppm	0.40ppm	0.30-0.50ppm	Yes	Leaching from septic tanks, fertilizer, erosion of natural deposits.
Chlorine (ppm) Results from distribution system.	MRDLG 4ppm	MRDL 4ppm	1.24ppm	0.50-1.8 ppm	Yes	Added to drinking water as a disinfectant.
Barium (ppm) Results from 2012	2	2	0.36 ppm	0.24-0.49 ppm	Yes	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

Secondary Regulated Contaminants-Results from 2012

Parameter (units)	PMCL	SMCL	Average Results	Range Low to High	In Compliance	Source
Chloride (ppm)	NA	250ppm	9.4ppm	8.2-10.5ppm	Yes	Naturally present in environment
Sulfate (ppm)	NA	250ppm	24ppm	11.7-36.2ppm	Yes	Naturally present in the environment; addition of water treatment
Zinc (ppm)	NA	5ppm	0.018ppm	0.011-0.025ppm	Yes	Naturally present in environment
Sodium (ppm)	NRL	NRL	21ppm	18.5-23.4ppm	NA	Naturally present in the environment; addition of water treatment

Physical Quality

Parameter (Units)	PMCL	SMCL	Average Results	Range Low to High	In Compliance	Source
Total Dissolved Solids (ppm) Results from 2012	NA	500ppm	266ppm	260ppm-271ppm	Yes	Naturally present in environment

Non Regulated Contaminants-Monitored-results from 2014

Parameter (units)	MCLG	MCL	Results	Range Low to High	In Compliance	Source
Bromoform (ppb)	NRL	NRL	One test 1.0 ppb samples from entry point.	Only one result from two well test.	NA	By-product of drinking water disinfection.
Bromodichloromethane (ppb)	NRL	NRL	Below current test methods.	ND	NA	By-product of drinking water disinfection.
Chloroform (ppb)	NRL	NRL	Below current test methods.	ND	NA	By-product of drinking water disinfection.

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 Mcg/L	Parts per billion and Micrograms per liter are the same. One part per billion corresponds to one minute in 2000 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.
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.
Action Level AL	Concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.