

# 2014 Water Quality Report



U. S. Army Garrison Fort Hunter Liggett  
Prepared by: Directorate of Public Works Environmental Division  
State Water System No. 2710702



## OUR COMMITMENT

U.S. Army Garrison Fort Hunter Liggett proudly presents our 2014 Water Quality Report (also known as the Consumer Confidence Report).

This report is created with the goal of informing the Fort Hunter Liggett community about the quality of the water served during the 2014 calendar year.

Fort Hunter Liggett is committed to supplying safe and dependable drinking water to all members of our community.

### Important Health Information:

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 system disorders, and some elderly and infants, can be particularly at risk.

These people should seek advice about drinking water from their health care providers. EPA/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: 1-800-426-4791.

### Water Information Sources

State Water Resources Control Board  
[http://www.waterboards.ca.gov/drinking\\_water/programs/](http://www.waterboards.ca.gov/drinking_water/programs/)

**US Environmental Protection Agency**  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

**Centers for Disease Control**  
[www.cdc.gov](http://www.cdc.gov)

**Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que pueda explicarle la informacion contenida en este reporte.**

## Water Sources

In 2014, the Fort Hunter Liggett drinking water system obtained its water from four main water sources: water wells 236, 382, 383 and 380R. These wells are located in the lower 150-foot, 500-foot, and 600-foot aquifers of the Mission-San Antonio and Jolon-Lockwood Basins.

To ensure healthy and safe drinking water, the groundwater from these wells is disinfected, using federal and state approved levels of chlorine, before it reaches your tap.

## Source Water Assessment

In April 2000, the U.S Army Center for Health Promotion & Preventive Medicine (West), completed a Source Water Assessment for Fort Hunter Liggett. Some of the assessment conclusions are:

\*Well 236 is located in an area with several PCAs (Potential Contaminating Activities). Historical remediation sites and the San Antonio River pose the most significant PCAs.

\*Wells 383 and 382 are located in areas that have very few PCAs within their protection radii. Well 380R was added in 2012 and contains similar amounts of PCAs.

A copy of the complete assessment is available for review at the Fort Hunter Liggett Environmental Division office.

Note: 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 EPA's Safe Drinking Water Hot Line: 1-800-426-4791.

## Iron Results History

In 2004, results for well 382 indicated elevated levels of iron. The iron was traced to a mechanical malfunction. No industrial activities exist within the recharge zone that could have contributed to iron contamination.

Using a weighted average the concentration of iron in the water supplied to the tap was equal to 406 ug/L (or ppb), elevated above the MCL of 300 ppb. Iron, may adversely affect the taste, odor or appearance of drinking water.

Well 382 was most recently tested for iron in February 2011. Test results revealed iron levels for Well 382 were Not Detected (ND). Well 382 has been off-line since 2013 and is pending repairs.

Wells 383 and 236 have been tested in February 2014. Analysis of test results revealed iron levels below the MCL (Maximum Contaminant level).

## Water Quality Analysis

Fort Hunter Liggett's Operation and Maintenance Division and Environmental Division personnel ensure that required water samples are collected and analyzed by our certified lab.

Water analysis results conducted during calendar year 2014 met federal and state standards.

This Water Quality Report summarizes some of the water analysis our water system conducted in order to comply with all the applicable regulations. Samples resulting in non-detectable concentrations of regulated contaminants are not presented in this report.

## Arsenic Regulation

Arsenic in drinking water may result from either natural or human activity. Volcanic activity, erosion of mineral rock, and forest fires are natural sources of arsenic in our environment. In industry, arsenic is primarily used for wood preservation, although it is also an ingredient in paint, drugs, dyes, soaps, metals, and semiconductors. Agriculture, mining, and smelting also contribute to arsenic in the environment.

In January 2001, the U.S. EPA established a lowered arsenic Maximum Contaminant Level (MCL) of 10 ppb in response to research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities were required to implement this new MCL in 2006.

For an in depth discussion visit the U.S. EPA's Arsenic website at [www.epa.gov/safewater/arsenic.html](http://www.epa.gov/safewater/arsenic.html).

\*\*Fort Hunter Liggett is required to test for arsenic every three years and historical sample results have shown no detection (ND).

## Sources of Contaminants

Drinking water sources (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of 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.

- ◆ **Microbial contaminants** — such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ◆ **Inorganic contaminants** — such as salts and metals, 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, that 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, U.S. EPA and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of contaminants in water provided by public water systems. Department regulations establish limits for contaminants in bottled water that provide the same public health protection.

## How to Read the Water Quality Tables

Fort Hunter Liggett conducts weekly water quality monitoring at various sampling points to ensure your water meets all state and federal standards. Most chemical monitoring is conducted every calendar year, although certain chemicals are monitored less than once per year because their levels do not change frequently. The following tables list the results of detected contaminants in the Fort Hunter Liggett water system and groundwater supply wells. The test results are divided into the following sections: Primary Drinking Water Standards, Secondary Drinking Water Standards, Other Constituents, and Unregulated Chemicals.

To read the table, start with the column titled *Detected Contaminants* and read across the row. *Unit* expresses the amount measured. The *MCL* is the highest amount of contaminant allowed. The *PHG/MCLG* is the target amount for that contaminant. *Year Tested* is the most recent sampling year as required by the State. *Annual Average* is the average amount measured or detected. The *90th Percentile Level* means the concentration of the constituent must be less than or equal to the permitted level in at least 90 percent of the samples taken. *Range* is the lowest and highest amounts measured. A "No Violation" indicates regulation requirements were met. *Major Sources in Drinking Water* describes where the contaminant originates.

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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. Fort Hunter Liggett 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 before using 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 Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

## Distribution System Water Quality

### PRIMARY DRINKING WATER STANDARDS—Disinfection Byproducts & Disinfectant Residual

<i>Detected Contaminants</i>	<i>Unit</i>	<i>MCL [MRDL]</i>	<i>PHG (MCLG) [MRDLG]</i>	<i>Year Tested</i>	<i>Annual Average</i>	<i>Range Low—High</i>	<i>Violation</i>	<i>Major Sources in Drinking Water</i>
Total trihalomethanes (TTHM's)	ppb	80	n/a	2014	12.6	12.6	No	Byproduct of drinking water chlorination.
Haloacetic acids (HAA's)	ppb	60	n/a	2014	2.0	2.0	No	Byproduct of drinking water chlorination.
Chlorine Residual	ppm	[4.0]	[4.0]	2014	0.32	<0.05-0.7	No	Drinking waster disinfectant added for treatment.

### PRIMARY DRINKING WATER STANDARDS—Lead & Copper Indoor Tap Samples

<i>Detected Contaminants</i>	<i>Units</i>	<i>Action Level</i>	<i>PHG (MCLG) [MRDLG]</i>	<i>Yar Tested</i>	<i>**90th Percentile Level</i>	<i># of Sites Above Action Level</i>	<i>Violation</i>	<i>Major Sources in Drinking Water</i>
Lead	ppm	.015	0.0002	2014	0.0009	0 of 20	No	Internal corrosion of household water plumbing systems; discharge from industrial manufacturers; erosion of natural deposits.
Copper	ppm	1.3	0.3	2014	0.193	0 of 20	No	Household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

# Groundwater Sources Water Quality

## Primary Drinking Water Standards

Detected Contaminants	Units	MCL [MRDL]	PHG (MCLG) [MRDLG]	Year Tested	Annual Average	Range Low—High	Violation	Major Sources in Drinking Water
Gross alpha particle activity	pCi/L	15	n/a	2014	0.702	0.702	No	Erosion of natural deposits.
Radium 228	pCi/L	5 (combined Radium 226 & 228)	n/a	2008	0.025	0—0.299	No	Erosion of natural deposits.
Nitrate as nitrate (NO3)	ppm	45	45	2014	11.27	4—17.9	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits.

## Secondary Drinking Water Standards

Turbidity	NTU	5	n/a	2012	0.525	0.3—0.9	No	Soil runoff.
Iron	ug/L	300	n/a	2014	65	ND-130	No	Leaching from natural deposits; industrial wastes.
Manganese	ug/L	50	n/a	2014	ND	ND	No	Leaching from natural deposits.
Total Dissolved Solids	mg/L	1000	n/a	2012	303	260—400	No	Runoff/Leaching from natural deposits.
Specific conductance	umhos/cm	1600	n/a	2014	441.5	379-504	No	Substances that form ions when in water; seawater influence.
Chloride	mg/L	500	n/a	2014	26	15—37	No	Runoff/Leaching from natural deposits; seawater influence.
Sulfate	mg/L	500	n/a	2014	42.5	29—56	No	Runoff/Leaching from natural deposits; seawater influence.

## Other Constituents—No Drinking Water Standards

Sodium	ppm	n/a	n/a	2014	25	18—32	N/A	Refers to the salt present in the water and is generally naturally occurring.
Hardness	ppm	n/a	n/a	2014	140.5	114—167	N/A	Is the sum of the polyvalent cations present in the water, generally magnesium and calcium which are naturally occurring.

## Unregulated Chemicals—No Drinking Water Standards

### Notification Level

Vanadium	ug/L	50	n/a	2014	6	5-8	N/A	Erosion of natural deposits.
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## Definitions of Terms Used

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.

**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 are set by the U.S. Environmental Protection Agency.

**Public Health Goal (PHG):** The level of a contaminant in drinking water below, which there is no known or expected risk to health. The PHGs are set by the California Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

### Primary Drinking Water Standard (PDWS):

The MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

**Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

### Secondary Drinking Water Standards (SDWS):

The MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

**N/A:** not applicable

**ppm:** parts per million

**ppb:** parts per billion

**pCi/L:** picocuries per liter (a measure of radiation)

**NTU:** Nephelometric Turbidity Units (measure of clarity)

**ug/L:** micrograms per liter

**mg/L:** milligrams per liter

**umhos/cm:** micromhos per centimeter

### Comparisons:

Parts per million = 1 second in 12 days

Parts per million = 1 inch in 16 miles

Parts per billion = 2 seconds in 32 years

Parts per billion = 2 inches in 16, 000 miles

### Note:

Many contaminants were tested for and not detected in the drinking water. If interested, upon request, all drinking water results are available at the Fort Hunter Liggett Environmental Division office.





## WATER CONSERVATION

Water is not only a resource, it is a life source. We all share the responsibility to ensure a healthy, secure, and sustainable water supply for our communities and environment.

- Turning off the tap water while you brush your teeth can save 8 gallons of water a day (that totals about 230 gallons of water saved per month).
- Turning off a running hose, for washing cars or watering plants, can save 4 gallons of water per minute.
- Fix leaks! A faucet that leaks 1 drip per second wastes 3,000 gallons of water each year.
- Don't water the gutter—position your sprinklers so water lands on the lawn or garden, not on paved areas.
- When doing laundry, match the water level to the size of the load (not doing so can waste 10-15 gallons per wash or thousands of gallons per year).
- Never pour water down the drain when there may be another use for it. Use it to water your indoor plants or garden.
- Choose appliances that are more energy and water efficient.

# Frequently Asked Questions

## Q. How is Fort Hunter Liggett's drinking water treated and brought to the tap?

A. All drinking water is chlorinated according to SWRCB (State Water Resources Control Board) standards for disinfection of drinking water. Chlorination helps kill any bacteria that may be present in the system. Additionally, a phosphate compound is injected to counteract corrosion within the distribution piping. The water is then distributed to holding tanks with a capacity of 1.2 million gallons. From there, water is distributed about the cantonment through the distribution system into buildings and residences.

## Q. Who sets and enforces drinking water standards?

A. The Federal EPA, through the Safe Drinking Water Act of 1974 (revised in 1996), determines drinking water standards and monitoring requirements for all water utilities. The SWRCB (State Water Resources Control Board) is responsible for enforcement. The SWRCB has the option of adopting the federal standards, and in many cases has set even more stringent standards (i.e., demanding even lower levels of contaminants than the Federal government).

## Q. How does Fort Hunter Liggett's water compare to the Drinking Water standards?

A. Fort Hunter Liggett is in full compliance with drinking water standards.

## Q. How has Fort Hunter Liggett responded to concerns about lead in drinking water?

A. Fort Hunter Liggett initiated corrosion control in the drinking water system in December 2000. This involves the injection of a phosphate chemical into the water distribution system at the wellheads. Initial results of testing indicated the treatment has been successful in reducing lead and copper concentrations below Federal and State Action Levels. During the reporting period, zero of twenty samples had positive results for lead.

## Q. What is phosphate, what does it do, and is it safe?

A. Phosphates are EPA approved, non-toxic, colorless, odorless food-grade chemicals used to reduce corrosion problems in drinking water systems. As these chemicals mix with water, they bind with naturally occurring minerals to reduce the corrosive potential of the water and help prevent lead from continuing to leach from the plumbing. It is an effective technology used by numerous large drinking water systems throughout the country. The majority of consumers don't notice any disagreeable characteristics of their water associated with the use of phosphate.



## For more information, please contact:

**O&M (Operation & Maintenance Division) at (831) 386-2514  
OR  
Environmental Division at (831) 386-2219**