

2015 Water Quality Report



The 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 presents the 2015 Water Quality Report, also known as the Consumer Confidence Report.

This report is created to inform the Fort Hunter Liggett community about the quality of the water served during the 2015 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/

US Environmental Protection Agency
www.epa.gov/safewater

Centers for Disease Control
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 2015, 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 December 2015. Test results revealed iron levels for Well 382 was 150ug/L (or ppb). Well 382 has been off-line since 2013 and is going through repairs.

Wells 383 and 22-C Javalyn Ct. have been tested in 2015. Analysis of iron test results revealed ND (not detectable at testing limit).

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 2015 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.

**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.

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

Sampling Results Showing the Detection of Coliform Bacteria

Microbiological Contaminants	Unit	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	ppb	Absent (In a mo.)	None	n/a	0	Naturally present in the Environment
Fecal Coliform or E. coli	ppb	Absent (In the yr.)	None	n/a	0	Human and animal fecal waste

Sampling Results Showing the Detection of Lead and Copper

Lead and Copper	Units	Sample Date	No. of Samples Collected	90th Percentile level Detected	No. sites Exceeding AL	AL	PHG	Major Sources in Drinking Water
Lead	ppb	2014	20	0.6	None	15	0.2	Internal corrosion of household water plumbing systems; discharge from industrial manufacturers; erosion of natural deposits.
Copper	ppm	2014	20	0.193	None	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Groundwater Sources Water Quality

Sampling Results for Sodium and Hardness

Chemical or Constituent	Unit	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium	ppm	2015	37.33	31-48	n/a	None	Salt present in the water and is generally naturally occurring
Hardness	ppm	2015	153.66	119-237	n/a	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

Primary Drinking Water Standards

Detected Contaminants	Units	MCL [MRDL]	PHG (MCLG) [MRDLG]	Sample Date	Annual Average	Range-Low-High	Violation	Major Sources in Drinking Water
Gross alpha particle activity	pCi/L	15	n/a	2015	4.65	4.2-5.09	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	2015	3.82	3.45-4.2	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	2015	0.25	0.2-0.3	No	Soil runoff.
Iron	ug/L	300	n/a	2015	50	ND-150	No	Leaching from natural deposits; industrial wastes.
Manganese	ug/L	50	n/a	2015	ND	ND	No	Leaching from natural deposits.
Total Dissolved Solids	mg/L	1000	n/a	2015	311.4	4.3-650	No	Runoff/Leaching from natural deposits.
Specific Conductance	umhos/cm	1600	n/a	2015	481.33	391-650	No	Substances that form ions when in water; seawater influence.
Chloride	mg/L	500	n/a	2015	26.33	19-41	No	Runoff/Leaching from natural deposits; seawater influence.
Sulfate	mg/L	500	n/a	2015	33.33	23-52	No	Runoff/Leaching from natural deposits; seawater influence.

Unregulated Chemicals—No Drinking Water Standards Notification Level

Vanadium	ug/L	50	n/a	2015	11.5	5-18	No	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.

Additional General Information on Drinking Water

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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/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 Safe Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language for Community Water Systems: 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. 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

For more information, please contact:

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