

2016 Annual Water Quality Report (for water quality in 2015)



U.S. ARMY GARRISON—HAWAII

Schofield Barracks



Serving

Schofield Barracks

Wheeler Army Airfield

Helemano Military Reservation

The Safe Drinking Water Act requires all community water systems to provide an annual Consumer Confidence Report (CCR) to their customers. CCRs provide drinking water quality information, including information on the origin of the drinking water and any detected contaminants.

U.S. Army Garrison-Hawaii is providing this report as a service to the community in conjunction with this requirement.

How does the CCR work? An essential part of the CCR is the water quality table on page 3 showing the level of each substance detected during 2015. There are three columns on the table which should be given special attention: the maximum contaminant level (MCL), the level detected, and whether a violation occurred. The Environmental Protection Agency

(EPA) set MCLs for a number of substances which may be found in drinking water. All of the substances listed in the table are below the MCLs set by the EPA. U.S. Army Garrison-Hawaii continues to provide some of the cleanest and safest drinking water available in Hawaii.

What is the source of the water? Drinking water is obtained from four deep wells located under the Schofield Barracks Water Treatment Plant. Water from the plant is distributed to three military installations: Schofield Barracks (including the East Range), Wheeler Army Airfield, and Helemano Military Reservation. Trichloroethylene (TCE) and minor amounts of tetrachloroethylene (PCE) are removed from the ground water by an air stripping treatment. The water is chlorinated before treatment and chlorine and fluoride are added after treatment. Both additives are required under Army standards. Chlorine is used as a disinfectant and fluoride is used to promote strong teeth in children.

Drinking water at Helemano Military Reservation is a combination of water from the Schofield Barracks Water System and the Naval Computer Telecommunications Area Master Station

(NCTAMS) Water System. The NCTAMS water is pumped up from an aquifer. It is disinfected and fluoridated, combined with water from Schofield and then piped to Helemano's distribution system. A separate column for the NCTAMS Water System's water quality is depicted for Helemano residents.

The susceptibility of the Schofield Barracks Water System to contamination has been evaluated under the Hawaii Source Water Assessment Program. The results of the Assessment, dated March 2004, are available for review by contacting the Directorate of Public Works, Environmental Division, at (808) 656-7221.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

THE FOLLOWING PAGES WILL DESCRIBE THE CONTAMINANTS AND THE RESULTS OF THE DRINKING WATER SAMPLING THAT OCCURRED IN 2015.

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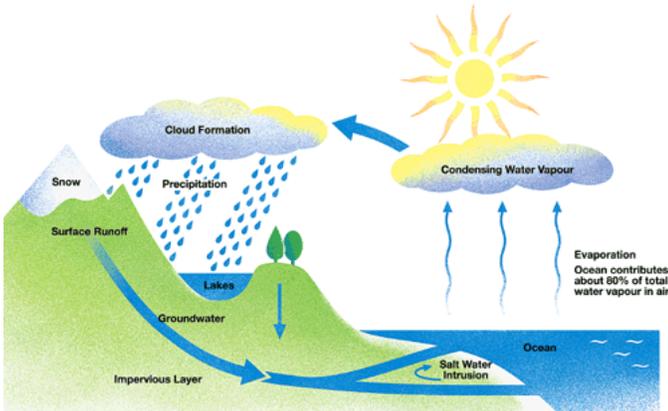
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Where Do Potential Ground Water Quality Problems Come From?

As water percolates through the ground, it dissolves naturally-occurring minerals. Substances resulting from the presence

of animal or human activity can also be introduced to the ground water or the distribution system. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (1-800-426-4791).

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 as indicated in the contaminant summary below.



<http://www.sawater.com.au/SAWater/Education/OurWaterSystems/The+Water+Cycle.htm>

Contaminant Categories

Microbial contaminants, such as viruses and bacteria, that 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 stormwater 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 stormwater runoff, and residential uses

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities

Lead Facts

Note: 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. The Schofield Barracks water system 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>.

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, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control 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). Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses.) You can do this by posting this notice in a public place or distributing copies by hand or mail.

Water Quality Table for Schofield Barracks

The tables below list all of the drinking water contaminants detected during calendar year 2015 unless otherwise indicated. Results of samples in the tables below identify low levels of contaminants detected below EPA limits. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

Contaminants in the Distribution System (units of measurement)	MCL	MCLG	Schofield, Wheeler, East Range		NCTAMS		Likely Source of Contaminant	Violation
			Average Level Detected	Range of Detection (multiple samples)	Highest Level Detected	Range of Detection (multiple samples)		
Microbial								
Total Coliform	5%	0	2.5% ^{1,2}	N/A	ND	N/A	Naturally present in the environment	NO
Disinfectant & Disinfection Byproducts								
Residual Chlorine (ppm)	MRDL =4	MRDLG=4	0.60	0.2-1.50	0.5 ³	0.4-0.5	Water additive used to control microbes	NO
Inorganic								
Copper (ppm) ⁴	AL=1.3	1.3	ND ⁵ (2013)	0 ⁶	0.064 ⁵	0 ⁶	Corrosion of household plumbing systems; Erosion of natural deposits	NO
Fluoride ⁷ (ppm)	4	4	0.70	0.52-0.98	*	*	Erosion of natural deposits; Water additive that promotes strong teeth	NO
Unregulated⁹								
Chlorate (ppb)	N/A	N/A	94.5 (2014)	49-140	N/A ¹⁰	N/A	Disinfection byproduct	N/A
Chromium-6 (ppb)	N/A	N/A	0.70 (2014)	0.66-0.73	N/A ¹⁰	N/A	Naturally-occurring	N/A
Chromium (total) (ppb)	N/A	N/A	0.65 (2014)	0.60-0.70	N/A ¹⁰	N/A	Naturally-occurring	N/A
Strontium (ppb)	N/A	N/A	56 (2014)	No Range	N/A ¹⁰	N/A	Naturally-occurring	N/A
Vanadium (ppb)	N/A	N/A	27.5 (2014)	25-30	N/A ¹⁰	N/A	Naturally-occurring	N/A

Contaminants in the Source Water (units of measurement)	MCL	MCLG	Schofield, Wheeler, East Range		NCTAMS		Likely Source of Contaminant	Violation
			Average Level Detected	Range of Detection (multiple samples)	Highest Level Detected	Range of Detection (multiple samples)		
Organic								
Trichloroethylene (TCE) (ppb)	5	0	0.8	ND ⁸ -0.8	ND	ND	Discharge from metal degreasing sites and other factories	NO
Inorganic								
Chromium (total) (ppb)	N/A	N/A	0.65 (2014)	0.6-0.70	ND	ND	Naturally-occurring	NO
Fluoride ⁶ (ppm)	4	4	0.6	No Range	0.58	No Range	Erosion of natural deposits; Water additive that promotes strong teeth	NO
Nitrate as Nitrogen (ppm)	10	10	0.77	No Range	0.82	No Range	Runoff from fertilizer use	NO
Unregulated⁹								
Sodium (ppm)	N/A	N/A	14	No Range	15 (2014)	No Range	Naturally-occurring	N/A
Chlorate (ppb)	N/A	N/A	77.5 (2014)	65-90	N/A ¹⁰	N/A	Disinfection byproduct	N/A
Chromium-6 (ppb)	N/A	N/A	0.69 (2014)	0.68-0.7	N/A ¹⁰	N/A	Naturally-occurring	N/A
Strontium (ppb)	N/A	N/A	54.5 (2014)	54-55	N/A ¹⁰	N/A	Naturally-occurring	N/A
Vanadium (ppb)	N/A	N/A	27 (2014)	No Range	N/A ¹⁰	N/A	Naturally-occurring	N/A

Table Definitions, Abbreviations, and Notes

Table Definitions:

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

MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG - Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL - Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant 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 to control microbial contamination.

NCTAMS - Naval Computer Telecommunication Area Master Station supplies water to Helemano. This water is blended with water from Schofield Barracks before it reaches Helemano.

Table Abbreviations:

ppb - parts per billion or micrograms per liter ($\mu\text{g/L}$)

ppm - parts per million or milligrams per liter (mg/L)

N/A - not applicable

ND - not detected

Table Notes:

- Highest monthly percentage of positive samples.
- All repeat tests were negative.
- After each quarter, a running average is calculated using the preceding 12 months of data. The posted amount is the highest running average for the year.
- The state and EPA require water systems to monitor certain contaminants less than once per year because the concentration is not expected to vary significantly from year to year. The date of the last sample collected is as indicated.
- In accordance with EPA and State regulations, this number represents the 90th percentile value of the samples collected.
- Number of samples above the action level.
- Fluoride is added to the water

system to help promote healthy teeth in children. The target level is 0.6-0.8 ppm.

8. The lab result for a TCE sample is NQ if the level is between 0.2 ppb and 0.5 ppb, and ND if the level is <0.2 ppb.

9. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

10. NCTAMS water system was not required to conduct monitoring of these contaminants.

* The Navy takes fluoride samples throughout the distribution system as an internal check. Reporting this information is not required by the EPA or the State and therefore this data was not required to be provided to the Army.

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Summary of Results

Many different water samples are collected and analyzed for various contaminants throughout the year. The number and frequency of sampling events depends upon federal and state requirements. The water quality table on page 3 lists all of the drinking water contaminants detected during calendar year 2015. All of the substances listed in the table are below the MCLs set by the EPA. Contaminants not present in the drinking water or analyzed below detection limits are not included in this table. Remember, the presence of contaminants does not necessarily indicate that the water poses a health risk.

This CCR is posted on the web at:

<http://www.garrison.hawaii.army.mil/sustainability/Documents/DW/SB.pdf>

THE DIRECTORATE OF PUBLIC WORKS DOES NOT HAVE ROUTINE PUBLIC MEETINGS ABOUT THE WATER SYSTEM. IF YOU HAVE QUESTIONS REGARDING THE WATER SYSTEM OR WATER QUALITY PLEASE CONTACT THE DPW ENVIRONMENTAL DIVISION, SAFE DRINKING WATER PROGRAM AT (808) 656-7221.

Water Conservation

As the population in Hawaii grows, more and more freshwater is used for everyday activities like drinking, taking showers, washing clothes, etc. Help us conserve the island's fresh water resource for future generations by following some of these helpful tips from the EPA.

Beat the Heat!

The best time to water your yard is in the early morning or late evening when it's cool outside. Watering when it's hot and sunny is wasteful because most of the water evaporates before the plants have time to drink it.

Shower Power!

Taking a shower uses much less water than filling up a bathtub. A shower only uses 10 to 25 gallons, while a bath takes up to 70 gallons! If you do take a bath, be sure to plug the drain right away and adjust the temperature as you fill the tub.

Make It a Full Load!

The average washing machine uses about 41 gallons of water per load. High-efficiency washing machines use less than 28 gallons of water per load. To achieve even greater savings, wash only full loads of laundry or use the appropriate load size selection on the washing machine.

To See other helpful tips visit the EPA's website: <http://www.epa.gov/watersense/>