

# 2012 Consumer Confidence Report (for water quality in 2011)



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 2011. 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 Navy Wahiawa Deep Well System. The Navy 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 Navy 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) 656-3104.

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.

### Special points of interest:

- A ROUTINE SANITARY SURVEY WAS COMPLETED BY THE STATE OF HAWAII, DEPARTMENT OF HEALTH LAST YEAR. SOME CORRECTIONS ARE STILL PENDING. SEE PAGE 4 FOR MORE DETAILS
- THE FOLLOWING PAGES WILL DESCRIBE THE CONTAMINANTS AND THE RESULTS OF THE DRINKING WATER SAMPLING THAT OCCURRED IN 2011.

### Inside this Report

|                        |   |
|------------------------|---|
| SOURCE OF CONTAMINANTS | 2 |
| CONTAMINANT CATEGORIES | 2 |
| LEAD FACTS             | 2 |
| HEALTH INFORMATION     | 2 |
| WATER QUALITY TABLE    | 3 |
| SUMMARY OF RESULTS     | 4 |
| SANITARY SURVEY        | 4 |

# 2012 Consumer Confidence Report (for water quality in 2011)

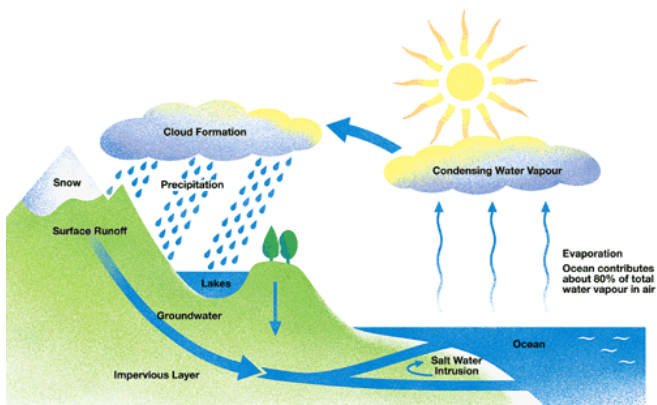
## Where Do Potential Ground Water Quality Problems Come From?

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 Drink-

ing 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 2011 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

| Contaminants in the Distribution System<br>(units of measurement) | MCL    | MCLG    | Schofield, Wheeler, East Range |                                       | NCTAMS                    |                                       | Likely Source of Contaminant   | Violation |
|---|--------|---------|--------------------------------|---------------------------------------|---------------------------|---------------------------------------|--|-----------|
|   |        |         | Average Level Detected         | Range of Detection (multiple samples) | Average Level Detected    | Range of Detection (multiple samples) |  |           |
| <b>Organic</b>  |        |         |                                |                                       |                           |                                       |  |           |
| Residual Chlorine (ppm)   | MRDL=4 | MRDLG=4 | 0.54                           | 0.03-1.0                              | 0.7*                      | 0.2-0.7                               | Water additive used to control microbes                              | NO        |
| Total Trihalomethanes (ppb)                                       | 80     | N/A     | 1.0                            | No Range                              | 2.4                       | 2.4                                   | By-product of drinking water disinfection                            | NO        |
| <b>Inorganic</b>  |        |         |                                |                                       |                           |                                       |  |           |
| Fluoride <sup>1</sup> (ppm)                                       | 4      | 4       | 0.71                           | 0.63-0.77                             | **                        | **                                    | Water additive that promotes strong teeth                            | NO        |
| Copper <sup>2</sup> (ppm)   | AL=1.3 | 1.3     | ND <sup>3</sup> (2010)         | 0 <sup>4</sup> (2010)                 | 0.027 <sup>3</sup> (2009) | 0 <sup>4</sup> (2009)                 | Corrosion of household plumbing systems; erosion of natural deposits | NO        |
| Lead <sup>2</sup> (ppb)   | AL=15  | 0       | ND <sup>3</sup> (2010)         | 1 <sup>4</sup> (2010)                 | ND (2009)                 | ND (2009)                             | Corrosion of household plumbing systems; erosion of natural deposits | NO        |

| Contaminants in the Source Water<br>(units of measurement)   | MCL | MCLG | Schofield, Wheeler, East Range |                                       | NCTAMS                 |                                       | Likely Source of Contaminant   | Violation |
|--|-----|------|--------------------------------|---------------------------------------|------------------------|---------------------------------------|--|-----------|
|  |     |      | Average Level Detected         | Range of Detection (multiple samples) | Average Level Detected | Range of Detection (multiple samples) |  |           |
| <b>Organic</b>   |     |      |                                |                                       |                        |                                       |  |           |
| Trichloroethylene (TCE) (ppb)  | 5   | 0    | 0.6*                           | NQ <sup>5</sup> -0.6                  | ND                     | N/A                                   | Discharge from metal degreasing sites and other factories              | NO        |
| <b>Inorganic</b>   |     |      |                                |                                       |                        |                                       |  |           |
| Chromium (ppb)   | 100 | 100  | ND (2010)                      | ND (2010)                             | 1.3*                   | ND-1.3                                | Erosion of natural deposits  | NO        |
| Fluoride <sup>1,2</sup> (ppm)  | 4   | 4    | 0.50                           | No Range                              | 0.68 (2010)            | N/A                                   | Erosion of natural deposits; water additive that promotes strong teeth | NO        |
| Nitrate as Nitrogen (ppm)  | 10  | 10   | 0.72                           | No Range                              | 0.75                   | N/A                                   | Runoff from fertilizer use   | NO        |
| <b>Radionuclides<sup>6</sup> - data for Schofield Barracks was collected during four consecutive quarters spanning 2006 and 2007</b> |     |      |                                |                                       |                        |                                       |  |           |
| Gross Alpha (pCi/L)  | 15  | 0    | ND (2006/2007)                 | ND - 4.3 (2006/2007)                  | ND (2000)              | N/A                                   | Erosion of natural deposits  | NO        |
| Gross Beta <sup>6</sup> (pCi/L)  | 50  | 0    | ND (2006/2007)                 | ND - 6.1 (2006/2007)                  | Not Analyzed           | N/A                                   | Decay of natural and man-made deposits                                 | NO        |
| <b>Unregulated<sup>7</sup></b>   |     |      |                                |                                       |                        |                                       |  |           |
| Sodium <sup>7</sup> (ppm)  | N/A | N/A  | 15 (2010)                      | No Range (2010)                       | 16 (2008)              | No Range (2008)                       | Naturally-occurring  | N/A       |
| Copper <sup>7</sup> (ppm)  | N/A | N/A  | ND (2010)                      | ND (2010)                             | 0.052 (2010)           | No Range (2010)                       | Erosion of natural deposits  | 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 Heleman. This water is blended with water from Schofield Barracks before it reaches Heleman

### Table Abbreviations:

ppb - parts per billion or micrograms per liter (µg/L)

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

N/A - not applicable

ND - not detected

NQ - not quantifiable

### Table Notes:

- Fluoride is added to the water system to help promote healthy teeth in children. The target level is 0.6-0.8.
- 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.
- The number of samples above the AL.
- The lab results for a TCE sample is NQ if the level is <0.5 ppb and ND if the level is <0.2 ppb.
- The MCL for beta particles is 4mrem/year. EPA considers 50pCi/L to be the level of concern for beta particles.

- 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.

\* Represents the highest level and not the average

\*\* 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.

## Summary of Results

**United States Army  
Garrison – Hawaii**  
DPW Environmental Division  
(IMPC-HI-PWE)  
947 Wright Avenue, Wheeler  
Army Airfield  
Schofield Barracks, HI 96857  
(808) 656-3104

**Tripler Army  
Medical Center**  
Preventive Medicine  
1 Jarrett White Road  
Honolulu, Hawaii 96859-5000  
(808) 433-9938

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 2011. 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/DrinkingWater.aspx>.

---

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 MICHELLE LYMAN, DPW ENVIRONMENTAL DIVISION, AT (808) 656-3104.

## Sanitary Survey

On March 30, 2011, the State of Hawaii, Department of Health (DOH) conducted a routine sanitary survey of the Schofield Barracks Water System. A sanitary survey reviews the water system's facilities, operation and maintenance practices, and records to determine that a water system is operating in an effective and safe manner.

There were 14 significant deficiencies noted during the survey. All deficiencies were corrected in 2011 except for three significant deficiencies, which include:

1. Wahiawa/Booster Pump Station #4 Reservoir: The overflow outlet is submerged. The area surrounding the overflow outlet needs to be re-graded to allow adequate drainage
2. Helemano Elevated Reservoir: The tank was not inspected due to safety concerns. The access hatch needs to be inspected for a gasket.
3. Helemano Elevated Reservoir: Vent insect screen needs to be #24 screen not #12 screen.

Deficiencies at Helemano (#2 and #3) were corrected in January 2012. The Elevated Reservoir was inspected along with the access hatch gasket. The reservoir vent insect screen was replaced with #24 screen. Photos were taken and submitted to the State of Hawaii, DOH.

The deficiency at Wahiawa/Booster Pump Station #4 is in the process of being corrected (#1). DPW determined the project was too big to complete in-house. A work order has been submitted to have the overflow outlet line cut above grade at the tank, and a Tide Flex Series 37 overflow security valve installed. Work should be complete by May 2012.

Note: A Significant Deficiency is a deficiency that may cause, or have the potential to cause the introduction of contamination to finished water

## 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 this helpful tip from the EPA.

### Make It a Full Load!

**Challenge:** The average washing machine uses about 41 gallons of water per load.

**Solution:** 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 at [http://www.epa.gov/watersense/our\\_water/be\\_the\\_change.html#tabs-1](http://www.epa.gov/watersense/our_water/be_the_change.html#tabs-1).