2016 Annual

Water Quality Report

Joint Base Pearl Harbor-Hickam Water System

(Waiawa, Halawa & Red Hill Sources)

This report meets federal and state requirements for Consumer Confidence Reports. It is updated annually and reflects monitoring data collected up to Dec. 31, 2015.

The Navy is pleased to provide you with this year's annual Water Quality Report for the Joint Base Pearl Harbor-Hickam Water System.

This document provides information about the water that has been delivered to you over the past year. It describes where your water comes from, what it contains, and how it compares to standards for safe drinking water.

Our goal is, and always has been, to provide you safe and dependable drinking water.

Water Provider

The Naval Facilities Engineering Command (NAVFAC) Hawaii owns and operates the water system servicing your area. As the Navy water provider in the state, NAVFAC Hawaii primarily supplies water to military housing and installations.

Drinking Water Standards

The Environmental Protection Agency (EPA) and State of Hawaii regulations require us to test your water for contaminants on a regular basis, making sure it is safe to drink, and to report our results accordingly.

To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration does the same for bottled water.

In the latest compliance monitoring period, we conducted tests for over 70 contaminants that have potential for being found in your drinking water. Tables 1-1, 1-2, 1-3, and 1-4 show the levels of concentrations of regulated contaminants found. In all cases, except one, the levels measured met both EPA and State requirements for safe drinking water.

As reported to you in December, our water temporarily exceeded drinking water standards. We took 88 samples to test for the presence of coliform bacteria during the month of November. Although the standard allows for up to five percent, a little less than seven percent of the samples showed a presence. Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Follow-up testing to see if other bacteria of greater concern, such as E. coli, was conducted. We did not find any of these bacteria in our samples and further testing shows that the coliform bacteria problem was resolved.

We are continually working to protect your drinking water from contaminants. The State of Hawaii's Department of Health completed the Source Water Assessment in 2004. This document identifies the susceptibility of your water supply to contamination. The source water assessment is available for review by contacting NAVFAC Hawaii, Public Affairs, at 808-471-7300.

Source of Water

Your drinking water comes from three ground water sources: Waiawa, Halawa, and Red Hill. Ground water is naturally filtered as it travels from the surface to the aquifer below ground. The water is pumped up from the aquifer, disinfected, fluoridated, and piped into the distribution system.

Possible Source of Contaminants

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. It can also pick up other substances resulting

from the presence of animals or human activity. 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 Hotline at 1-800-426-4791.

Potential Contaminants

Contaminants that may be present in your source water include:

Microbial contaminants – such as viruses and bacteria, which 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.

Radionuclide contaminants – which can be naturally-occurring or be the result of oil and gas production and mining activities.

Lead – 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. NAVFAC Hawaii 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 two 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***.

Navy Water Requirements

In accordance with Navy policy, we add chlorine and fluoride to your water supply. These items are added to your drinking water after it is pumped from the ground. We try to maintain the Navy's recommended concentration of approximately 0.2 ppm for chlorine and 0.7 ppm for fluoride throughout the distribution system.

In January 2014, a fuel release from Tank #5 at the Red Hill Bulk Fuel Storage Facility was reported. As a proactive measure, we have been conducting testing at the Red Hill Drinking Water Shaft above what is required by regulation for several years. Table 1-5 shows the levels of concentrations of detected contaminants at Red Hill Drinking Water Shaft for 2015. All concentrations are below applicable EPA and State regulatory and action levels and the drinking water is safe. We will continue to conduct this voluntary testing to ensure the drinking water remains safe. Data will be included in future Water Quality Reports.

Concerns/Additional Copies

NAVFAC Hawaii does not have routine meetings about the water system. For questions or information, please contact the NAVFAC Hawaii Public Affairs Office (808-471-7300).

Note: Additional copies of this report are available from your housing management office, such as (1) Ohana Military Communities (2) Hickam Communities Administration, and (3) Carmel Partners - Kapilina Beach Homes, or (4) NAVFAC Hawaii Public Affairs.

Please share this information with all other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, schools, and businesses).

Owner of Water System

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Water Quality Data Table

The following tables list contaminants which were detected during the latest round of sampling required by EPA and State of Hawaii regulations. The water samples were collected from either the source water or distribution system and analyzed by the State and/or NAVFAC Hawaii. The presence of contaminants does not necessarily indicate that the water poses a health risk. You may obtain more information about contaminants and potential health effects by calling the EPA's Safe Drinking Water Hotline 1-800-426-4791 or the State of Hawaii's Department of Health at 808-586-4258.

Contaminants in the Navy's Source Water — **Table 1-1**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Inorganic Contaminants							
Chromium (total) (ppb)	100	100	2.2	nd – 2.2	2014[1]	Naturally-occurring	No
Fluoride (ppm)	4	4	0.62	nd – 0.62	2015	Erosion of natural deposits; water additive which promotes strong teeth	No
Nitrate (ppm)	10	10	2.1	0.55 – 2.1	2015	Runoff from fertilizer use; Erosion of natural deposits	No
Unregulated Contaminants							
1,4-dioxane (ppb)	n/a[2]	n/a[2]	0.35	nd – 0.35	2013[1]	Synthetic industrial chemical	n/a
Chlorate (ppb)	n/a[2]	n/a[2]	37	nd - 37	2013[1]	Byproduct of drinking water disinfection	n/a
Chromium-6 (ppb)	n/a[2]	n/a[2]	2.3	0.93 – 2.3	2013[1]	Naturally-occurring	n/a
Dieldrin (ppb)	n/a[2]	n/a[2]	0.02	nd – 0.02	2014[1]	Residue of banned insecticide	n/a
Sodium (ppm)	n/a[2]	n/a[2]	55	26 – 55	2014[1]	Naturally-occurring	n/a
Strontium (ppb)	n/a[2]	n/a[2]	260	40 - 260	2013[1]	Naturally-occurring	n/a
Sulfate (ppm)	n/a[2]	n/a[2]	46	nd - 46	2015	Naturally-occurring	n/a
Vanadium (ppb)	n/a[2]	n/a[2]	32	14 – 32	2013[1]	Naturally-occurring	n/a

Contaminants in the Distribution System — **Table 1-2**

Contaminants (units)	Action Level	90th Percentile Value	No. of Samples Above Action Level	Year of Sample	Typical Sources of Contaminants	Violation
Copper (ppm)	1.3	0.089	0	2013[1]	Corrosion of household plumbing systems; erosion of natural deposits	No

Microbial Contaminants — **Table 1-3**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Total Coliform Bacteria	5%	0	6.8%	n/a	2015	Naturally present in the environment	Yes

See "Drinking Water Standards" section on page 1 for details.

Disinfection Agent and Disinfection Byproducts — **Table 1-4**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Average	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Residual Chlorine (ppm)	MRDL=4	MRDLG =4	0.5[3]	0.2 – 0.6	2015	Water additive used to control microbes	No
Total Haloacetic Acids (ppb)	60	n/a	1.0[3]	nd – 1.1	2015	Byproduct of drinking water disinfection	No
Total Trihalomethanes (ppb)	80	n/a	9.9[3]	nd – 14.9	2015	Byproduct of drinking water disinfection	No

Red Hill Drinking Water Shaft – 2015 Voluntary Testing **Table 1-5**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	DOH EAL	Highest Level Detected	Range of Detection	Violation
Bromodichloromethane (ppb)	n/a	n/a		nd	nd	No
Bromoform (ppb)	n/a	n/a	80	nd	nd	No
Dibromochloromethane (ppb)	n/a	n/a		nd	nd	No
Lead (ppb)	AL = 15	0	5.6	0.253	nd – 0.253	No
Naphthalene (ppb)	n/a	n/a	17	nd	nd	No
Toluene (ppb)	1000	1000	40	0.99 Tb	nd – 0.99 Tb	No
TPH-d (ppb)	n/a	n/a	100	17 J	nd - 17 J	No
TPH-g (ppb)	n/a	n/a	100	nd	nd	No

59 additional contaminants were tested periodically in 2015 and were not detected.

Table Definitions:

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

DOH EAL **Department of Health Environmental Action Level.** Risk-based levels published by DOH for compounds that do not have promulgated MCL values.

J Analyte was detected at a concentration below the limit of quantitation and above the detection limit. Reported value is estimated.

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.

Tb Analyte was present in the associated trip blank.

TPH-d Total Petroleum Hydrocarbons as diesel fuel.

TPH-g Total Petroleum Hydrocarbons as gasoline.

Table Abbreviations:

n/a not applicable.

nd not detectable at testing limits.

ppb parts per billion or micrograms per liter.

ppm parts per million or milligrams per liter.

Table Notes:

1. The State and EPA require us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The date of the last sample collected is as indicated.
2. These results are for informational purposes. There are no set standards. EPA will use this data to help determine where certain contaminants occur and whether it needs to regulate these contaminants. At this time, these contaminants do not have MCLs or MCLGs.
3. 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.

Note: 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/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline 1-800-426-4791.