



# 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. This report is updated annually and reflects monitoring data collected up to **Dec. 31, 2019**.

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 pamphlet 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 operates the water system servicing your area. As the Navy water provider in the state, we primarily supply water to military installations and housing.

### 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, 1-4, 1-5, 1-6, and 1-7 show the levels of concentrations of regulated contaminants found in your water. In all cases, the levels measured met both EPA and State requirements for safe drinking water.

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.

For a limited time during 2019:

- The Radford Terrace Eastern Housing area was supplemented with water from the Honolulu Board of Water Supply's (BWS) Kalauao Wells and Punanani Wells.
- The Manana housing area was supplemented with water from the Honolulu Board of Water Supply's (BWS) Pearl City Shaft and Well 1.

### 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 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water 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 at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Navy Water Requirements

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

## 2019 Testing at Red Hill Shaft

In January 2014, a fuel release from Tank #5 at the Red Hill Underground Fuel Storage Facility was reported. As a proactive measure and in accordance with the 2014 Transition Plan executed between the Navy and the State Department of Health, we have been conducting testing at the Red Hill Drinking Water Shaft above what is required by drinking water regulation for several years which includes volatile organic compound (VOC), semi-volatile organic

compound (SVOC), lead, and total petroleum hydrocarbon-diesel (TPH-d). Table 1-7 shows the only contaminant detected at the Red Hill Drinking Water Shaft in 2019. We will continue to conduct this testing and include the test results in the future Water Quality Reports.

## Concerns/Additional Copies

NAVFAC Hawaii does not have routine meetings about the water system. For questions and/or information, please contact NAVFAC Hawaii Public Affairs at 808-471-7300. For additional copies of this and other Navy water reports, go to:

- [www.cnrc.navy.mil/regions/cnrh/om/environmental/water\\_quality\\_information.html](http://www.cnrc.navy.mil/regions/cnrh/om/environmental/water_quality_information.html)
- [www.navfac.navy.mil/navfac\\_worldwide/pacific/fecs/hawaii/about\\_us/hawaii\\_documents/Reports.html](http://www.navfac.navy.mil/navfac_worldwide/pacific/fecs/hawaii/about_us/hawaii_documents/Reports.html)

*Please share this information with all other people who drink this water, especially those who may not have received this notice.*

## Official Address

Naval Facilities Engineering Command, Hawaii  
400 Marshall Road, JBPHH, HI 96860-3139

**Printed June 2020**

# 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, BWS 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
<b>Inorganic Contaminants</b>							
Barium (ppm)	2	2	0.02	nd – 0.02	2017 <sup>1</sup>	Erosion of natural deposits	No
Chromium (total) (ppb)	100	100	2.1	nd – 2.1	2017 <sup>1</sup>	Naturally-occurring	No
Fluoride (ppm)	4	4	2.0	nd – 2.0	2019	Erosion of natural deposits; Water additive which promotes strong teeth	No
Lead (ppb)	15	0	10.1	nd – 10.1	2019	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder	No
Nitrate (ppm)	10	10	1.8	0.54 – 1.8	2019	Runoff from fertilizer use; Erosion of natural deposits	No
<b>Organic Contaminants</b>							
Chlordane (ppb)	2	0	0.36	nd – 0.36	2017 <sup>1</sup>	Residue of banned termiticide	No
Heptachlor epoxide (ppt)	200	0	20	nd – 20	2017 <sup>1</sup>	Breakdown of heptachlor (banned pesticide)	No
<b>Unregulated Contaminants<sup>2</sup></b>							
Bromide (ppb)	n/a	n/a	765	124 - 765	2018	Naturally-occurring	n/a
Chloride (ppm)	250 <sup>3</sup>	n/a	240	35 – 240	2019	Naturally-occurring	n/a
Dieldrin (ppb)	n/a	n/a	0.05	nd – 0.05	2017	Residue of banned insecticide	n/a
Manganese (ppb)	n/a	n/a	1.20	nd – 1.20	2018	Naturally-occurring	n/a
Sodium (ppm)	n/a	n/a	124	26 – 124	2017	Naturally-occurring	n/a
Sulfate (ppm)	250 <sup>3</sup>	n/a	47	nd - 47	2019	Naturally-occurring	n/a

**Contaminants in the Navy's Source Water (continued)**

**Table 1-1**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
<b>Unregulated Contaminants<sup>2</sup></b>							
Bromide (ppb)	n/a	n/a	765	124 - 765	2018	Naturally-occurring	n/a
Chloride (ppm)	250 <sup>3</sup>	n/a	240	35 – 240	2019	Naturally-occurring	n/a
Dieldrin (ppb)	n/a	n/a	0.05	nd – 0.05	2017	Residue of banned insecticide	n/a
Manganese (ppb)	n/a	n/a	1.20	nd – 1.20	2018	Naturally-occurring	n/a
Sodium (ppm)	n/a	n/a	124	26 – 124	2017	Naturally-occurring	n/a
Sulfate (ppm)	250 <sup>3</sup>	n/a	47	nd - 47	2019	Naturally-occurring	n/a

**Contaminants in the BWS' Source Water (serving Radford Terrace)**

**Table 1-2**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
<b>Regulated Contaminants</b>							
Barium (ppm)	2	2	0.011	0.009 – 0.011	2017 <sup>1</sup>	Erosion of natural deposits	No
Chromium (ppb)	100	100	1.5	1.1 – 1.6	2017 <sup>1</sup>	Naturally-occurring	No
Fluoride (ppm)	4	4	0.059	0.059 – 0.059	2017 <sup>1</sup>	Erosion of natural deposits; Water additive which promotes strong teeth	No
Nitrate (ppm)	10	10	0.395	0.320 – 0.470	2019	Runoff from fertilizer use; Erosion of natural deposits	No
<b>Unregulated Contaminants<sup>2</sup></b>							
Chlorate (ppb)	n/a	n/a	40	37 - 40	2017	Byproduct of the disinfection process	n/a
Chloride (ppm)	250 <sup>3</sup>	n/a	90	80 - 100	2019	Naturally-occurring	n/a
Chromium, Hexavalent (ppb)	n/a	n/a	1.5	1.3 – 1.5	2017	Naturally-occurring	n/a
Manganese (ppb)	n/a	n/a	0.640	0.470 – 0.810	2018	Naturally-occurring	n/a
Sodium (ppm)	n/a	n/a	34	33 – 34	2017	Naturally-occurring	n/a
Strontium (ppb)	n/a	n/a	140	140 – 140	2017	Naturally-occurring	n/a
Sulfate (ppm)	250 <sup>3</sup>	n/a	12.5	11 – 14	2019	Naturally-occurring	n/a
Vanadium (ppb)	n/a	n/a	12	10 – 12	2017	Naturally-occurring	n/a

**Contaminants in the BWS' Source Water (Serving Manana Housing)**

**Table 1-3**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
<b>Regulated Contaminants</b>							
1,2,3-Trichloropropane (ppb)	0.6	0	0.051	0.049 – 0.053	2019	Fumigant previously used in agriculture	No
Barium (ppm)	2	2	0.004	0.004 – 0.004	2017 <sup>1</sup>	Erosion of natural deposits	No
Chromium (ppb)	100	100	1.35	1.2 – 1.5	2017 <sup>1</sup>	Naturally-occurring	No
Fluoride (ppm)	4	4	0.065	0.060 – 0.070	2019	Erosion of natural deposits; Water additive which promotes strong teeth	No
Nitrate (ppm)	10	10	0.825	0.710 – 0.940	2019	Runoff from fertilizer use; Erosion of natural deposits	No
<b>Unregulated Contaminants<sup>2</sup></b>							
Chlorate (ppb)	n/a	n/a	33	22 – 33	2017	Byproduct of the disinfection process	n/a
Chloride (ppm)	250 <sup>3</sup>	n/a	48.5	36 – 61	2019	Naturally-occurring	n/a
Chromium, hexavalent (ppb)	n/a	n/a	1.3	1.2 – 1.3	2017	Naturally-occurring	n/a
Dieldrin (ppb)	n/a	n/a	0.0147	0.013 – 0.016	2019	Residue of banned pesticide	n/a
Sodium (ppm)	n/a	n/a	40	40 – 40	2017	Naturally-occurring	n/a
Strontium (ppb)	n/a	n/a	85	58 – 85	2017	Naturally-occurring	n/a
Sulfate (ppm)	250 <sup>3</sup>	n/a	11.6	9.2 – 14	2019	Naturally-occurring	n/a
Vanadium (ppb)	n/a	n/a	15	14 - 15	2017	Naturally-occurring	n/a

**Contaminants in the Distribution System**

**Table 1-4**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Copper (ppm)	AL = 1.3	1.3	0.09 <sup>4</sup>	0 <sup>5</sup>	2019	Corrosion of household plumbing systems; Erosion of natural deposits	No
Fluoride (ppm)	4	4	0.86	nd – 0.86	2019	Erosion of natural deposits; Water additive which promotes strong teeth	No

**Disinfection Agent****Table 1-5**

Contaminants (units)	MRDL (Allowed)	MRDLG (Goal)	Highest Average	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Residual Chlorine (ppm)	4	4	0.4 <sup>6</sup>	0.2 – 0.6	2019	Water additive used to control microbes	No

**Disinfection Byproducts****Table 1-6**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	Highest Level Detected	Range of Detection	Year of Sample	Typical Sources of Contaminants	Violation
Total Trihalomethanes (ppb)	80	n/a	7.6	nd – 7.6	2019	By-product of drinking water disinfection	No

**2019 Testing – Red Hill Shaft****Table 1-7**

Contaminants (units)	MCL (Allowed)	MCLG (Goal)	DOH EAL	Highest Level Detected	Range of Detection	Violation
Lead (ppb)	AL = 15	0	15	18 <sup>7</sup>	nd – 18	No

**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**       Estimated Value
- 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.
- TPH-d**    Total Petroleum Hydrocarbons as diesel fuel.

**Table Abbreviations:**

- n/a** not applicable.                                     **ppb** parts per billion or micrograms per liter.                                     **ppt** parts per trillion or nanograms per liter.
- nd** not detectable at testing limits.               **ppm** parts per million or milligrams per liter.

**Table Notes:**

- 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 oldest sample collected is as indicated.
- 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.
- These are Secondary Maximum Contaminant Levels not enforced by EPA.
- 90<sup>th</sup> percentile value of the samples collected.
- Number of samples above the action level.
- 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.
- There was an unconfirmed lead exceedance in June 2019. Hawaii Department of Health (HDOH) was notified of the incident and provided guidance for additional testing which included water samples collected up and downstream of the regular sample point. Multiple confirmation samples were taken and all samples analyzed were below the AL. HDOH was informed of the results and concluded that the initial exceedance was not confirmed. As recommended by HDOH, piping assembly for the sample point was replaced to avoid similar occurrence in the future.

**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.