



2024 Consumer Confidence Report

Camp Shields

Drinking Water System

Commander, Fleet Activities, Okinawa



Issued in accordance with Commander, Navy Installation Command Policy Letter 5200, Ser N4/13U84441, 15 Oct 13.

Introduction

Commander, Fleet Activities, Okinawa (CFAO) is pleased to provide our customers with this annual Consumer Confidence Report (CCR) for the CFAO Drinking Water System that supports Camp Shields. The CFAO Camp Shields drinking water system does not include the O'Donnell Garden housing drinking water system. CFAO occupied facilities on Kadena Air Base and the Military Housing are covered by the Air Force CCR. The web site for accessing the Air Force CCR is listed in the "Additional Sources of Information" on page 3.

This report is designed to provide details about where our water comes from, and summarizes the quality of water we received at Camp Shields in 2024. Our goal is to continue providing safe, dependable and clean drinking water. This report is a snapshot of last year's water quality.

Source of Water

The drinking water for Camp Shields comes from the following surface water sources: Fukuji Dam, Arakawa Dam, Aha Dam, Fungawa Dam, Benoki Dam, Taiho Dam, Haneji Dam, Kurashiki Dam, Kin Dam, Kanna Dam, Yamashiro Dam, and rivers that are located in the northern and central areas of the Main Island of Okinawa (Figure 1). Small amounts also come from the ocean and an underground source, the Kadena Wells.

Water from these sources is filtered and disinfected at the Chatan Water Treatment Plant (WTP). The Chatan WTP, then, supplies the treated water to various municipalities. We purchase our drinking water from Okinawa City for Camp Shields.

Water Distribution Systems

The Naval Facilities Engineering Command Far East Public Works Department Okinawa (PWD) operates the water distribution system servicing Camp Shields.

The purchased water is temporarily stored in water tanks before distribution.

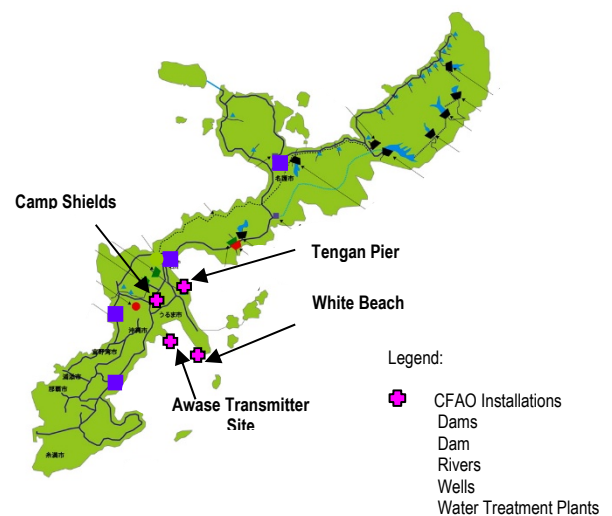


Figure 1 Water Sources and Water Facilities on Main Island of Okinawa

Water Quality

Our drinking water is required to meet the water quality standards established in the Japan Environmental Governing Standards (JEGS) and the U.S. National Primary Drinking Water Regulations (NPDWR). The JEGS are Department of Defense (DoD) governing standards intended to ensure DoD activities and installations in Japan protect human health and the environment and to ensure safe drinking water is provided to all DoD personnel. The U.S. Navy adopted the NPDWR in 2013 for the drinking water provided at overseas U.S. Navy installations to meet U.S. drinking water quality standards. To continually ensure that our water is safe to drink, the JEGS and the NPDWR require us to regularly monitor and test our water for contaminants. In 2020 (revalidated in 2022) CFAO had a Surface Water Treatment Rule (SWTR) study completed which determined our drinking water

sources are in conformance with applicable U.S. Navy Overseas Drinking Water Surface Water Treatment standards.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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. US Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791 or visiting the EPA website at <https://www.epa.gov/dwstandardsregulations/drinking-water-contaminant-human-health-effects-information>.

Possible Source of Contaminants

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals. It can also pick up other contaminants resulting from the presence of animals or human activities. Drinking water, including bottled water, may reasonably be expected to contain trace 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 Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 1-800-426-4791 or visiting the EPA website at <https://www.epa.gov/dwstandardsregulations>.

Potential Contaminants

Lead

Elevated levels of lead can cause adverse health effects, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. When the 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 the water for drinking or cooking. Information on lead in drinking water is available at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

Nitrate/Nitrite

Nitrates are naturally present in soil, water, and food. They are used primarily to make fertilizer. Nitrates themselves are relatively nontoxic. However, when swallowed, they are converted to nitrites that can react with hemoglobin in the blood, creating methemoglobin. This methemoglobin cannot transport oxygen, causing shortness of breath and blue baby syndrome. Information on Nitrate in drinking water is available at <https://www.epa.gov/dwreginfo/chemical-contaminant-rules>

Arsenic

Arsenic is odorless and tasteless. It enters drinking water supplies from natural deposits in the earth or from agricultural and industrial practices. People who over a period of many years drink water contaminated with arsenic in excess of the drinking water standards could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Information on Arsenic in drinking water is available at <https://www.epa.gov/dwreginfo/chemical-contaminant-rules>

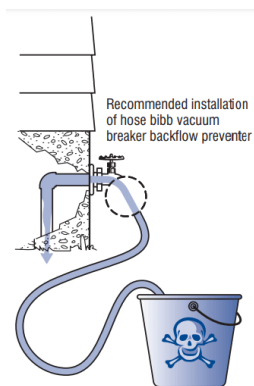
Drinking Water Monitoring

We use Japanese and EPA approved laboratory methods to analyze our drinking water. We monitor our drinking water for the following contaminants at frequencies prescribed by the JEGS and the NPDWR.

Contaminants	Frequency
pH and Chlorine Residual	Daily
Total Coliform	Monthly
Disinfection Byproducts (Bromate)	Quarterly
Lead & Copper	Annually
Inorganic Chemicals (e.g. Nitrate/Nitrite & Arsenic) and other Organic Chemicals and Disinfection Byproducts (Total Trihalo-methanes & Haloacetic Acids 5)	Annually
PCBs, Herbicides and Pesticides	Once every 3 years
Radionuclides	Once every 3 years
Asbestos	Once every 9 years

The table on page 4 lists the results of the analysis performed in 2024. Only those contaminants detected are listed in the table.

Cross-Connection and Backflow Prevention



Did you know that any connection between a public drinking water system and a separate source of questionable quality is considered a cross-connection?

For example, an ordinary garden hose submerged in a bucket of water, car radiator, or swimming pool can result in backflow contamination. To protect our water supply, a simple screw-on vacuum breaker must always be attached to the faucet when a garden hose is used. In addition garden hoses must be detached from faucets when not in use.



Additional Sources of Information

USEPA:

<https://www.epa.gov/ground-water-and-drinking-water> or the Safe Drinking Water Hotline (1-800-426-4791).

Centers for Disease Control and Prevention:

<http://www.cdc.gov/healthywater/drinking/>

Kadena Air Force CCR:

<https://www.kadena.af.mil/About-Us/Consumer-Confidence-Reports/>

The Okinawa Prefectural Enterprise Bureau provides water monitoring results for the Water Treatment Plants (Only in Japanese):

<http://www.eb.pref.okinawa.jp/water/80/181>

Frequently Asked Questions

My water doesn't taste, smell or look good.

What's wrong with it?

Even when water meets standards, it still may have an objectionable taste, smell or appearance. These are aesthetic characteristics that do not pose health risks. Cloudiness is typically caused by air bubbles. A chlorine taste can be improved by letting the water stand exposed to air. Rusty colored water and metallic tastes are due to iron in the water. They are not a health risk and can be improved by running the tap until the water color clears. If you wish to improve the taste, smell or appearance of your water, you can also install a home water filter. Please keep in mind that the filters require regular maintenance and replacement.

Will using a home water filter make the water safer or healthier?

Most filters improve the taste, smell and appearance of water, but they do not necessarily make the water safer or healthier. Please keep in mind that filters require regular maintenance and replacement. If maintenance of water filters is ignored, then water quality problems may occur.

What is a precautionary Boil Water Advisory?

If a problem is detected in the distribution system such as a drop in water pressure or a break in a main water line, PWD puts out a precautionary Boil Water Advisory. It advises that the water must be boiled to kill bacteria potentially present in the water before consumption. After the problem is resolved and water quality verified, PWD lifts the advisory.

What should I do ?

There is nothing you need to do at this time. You may continue to drink the water. If a situation ever arises where the water is no longer safe to drink, you will be notified within no more than 24 hours.

CAMP SHIELDS – DRINKING WATER CONTAMINANTS DETECTED IN 2024

Contaminants	Unit of Measurement	Detected Level		Standard (AL/ MCL/ MRDL)	Violation	Possible Source of Contamination
		High	Low		Yes / No	
DISINFECTANTS & DISINFECTION BYPRODUCTS						
Residual Chlorine	ppm	0.62	0.03	4.0 ¹	No	Water additive used to control microbes
Total Trihalomethanes	ppb	54	29	80	No	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	9	2.1	60	No	By-product of drinking water disinfection
INORGANIC CONTAMINANTS						
Barium	ppm	0.0055	-	2	No	Erosion of natural deposits
Nitrate	ppm	0.31	ND	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Contaminants	# Samples Exceeding AL	Sample Date	90 th Percentile (mg/L)	AL (mg/L)	Violation	Possible Sources of Contamination
Copper	0	January to June 2024	0.22	1.3 ²	No	Corrosion of house hold plumbing systems. Erosion of natural deposits.
Copper	0	July to December 2024	0.31	1.3 ²	No	Corrosion of house hold plumbing systems. Erosion of natural deposits.
Lead	0	January to June 2024	0.003	0.015 ²	No	Corrosion of house hold plumbing systems. Erosion of natural deposits.
Lead	0	July to December 2024	0.005	0.015 ²	No	Corrosion of house hold plumbing systems. Erosion of natural deposits.

CFAO monitors for many contaminants and only those detected by laboratory analysis or at sampling locations are listed above.

Notes:

¹Residual Chlorine - Maximum Residual Disinfectant Level.

²Lead and Copper - The 90th Percentile Action Level is exceeded if more than 10 percent of tap water samples collected during any monitoring period has a concentration greater than 0.015 mg/L for lead and a concentration greater than 1.3 mg/L for copper.

Abbreviations and Definitions:

AL (Action Level): The concentration of a contaminant in water that establishes the appropriate treatment for a water system.

MCL (Maximum Contaminant Level): The highest level of a contaminant allowed in drinking water.

MRDL (Maximum Residual Disinfectant Level): The level of a disinfectant added for water treatment measured at the consumer's tap, which may not be exceeded without the unacceptable possibility of adverse health effects.

MRL (Method Reporting Limit): minimum measured concentration of a substance that can be reported with 99% confidence that measured concentration is distinguishable from method blank results.

ND (Non-Detect) Contaminant not detected and if present below MRL reported.

mg/L: milligrams per liter

ppm: parts per million

ppb: parts per billion

90th percentile: Represents the highest value found out of 90 percent of the samples taken. If the 90th percentile value is greater than the AL, a treatment evaluation and/or mitigation actions must be conducted on the water system.

PFAS

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS are found in many consumer products, as well as in industrial products, like certain firefighting agents called aqueous film forming foam (AFFF). PFAS is also found in essential use applications such as in microelectronics, batteries, and medical equipment. PFAS chemicals are persistent in the environment, and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

Is there a regulation for PFAS in drinking water?

On April 26, 2024, the United States Environmental Protection Agency (EPA) published a National Primary Drinking Water Regulation (NPDWR) final rule on drinking water standards for six PFAS under the Safe Drinking Water Act (SDWA). The rule establishes the following maximum contaminant levels (MCLs):

- perfluorooctane sulfonic acid (PFOS) = 4 ppt
- perfluorooctanoic acid (PFOA) = 4 ppt
- hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX) = 10 ppt
- perfluorononanoic acid (PFNA) = 10 ppt
- perfluorohexane sulfonic acid (PFHxS) = 10 ppt
- HI MCL for PFHxS, PFNA, perfluorobutane sulfonic acid (PFBS), and GenX = 1 (unitless).

Under the NPDWR, regulated public water systems (PWS) are required to complete initial monitoring by April 26, 2027. Beginning April 26, 2027, regulated PWSs will conduct ongoing compliance monitoring in accordance with the frequency dictated by the rule and as determined by the initial compliance monitoring results. Regulated PWSs must demonstrate compliance with the Maximum Contaminant Levels (MCLs) by April 26, 2029.

In order to provide safe drinking water to all Department of Defense (DoD) personnel, OSD policy extends this requirement to all DoD systems which provide drinking water for human consumption, regardless of size of the drinking water system. In addition to the six regulated compounds, DoD-owned systems are required by DoD policy to monitor for all 25 compounds detected when using EPA Method 533. EPA Method 537.1 was also utilized to detect 14 of the 25 compounds detected by EPA Method 533 and to detect an additional 4 compounds not detected by EPA Method 533.

Protecting the health of our personnel, their families, and the communities in which we serve is a priority for the Department. DoD is committed to complying with requirements of the NPDWR and the continued provision of safe drinking water to those that work and live on DoD installations.

Has CFAO tested its water for PFAS in 2024?

Yes. In March 2024, water samples were collected from Camp Shields only. Sampling from Camp Shields was conducted, because the city water source that serves Camp Shields was changed in 2024.

PFAS Detected

We are informing you that 3 of the 29 PFAS covered by the sampling methods were detected in your water system at Camp Shields. The results are provided in the following table. EPA does not have an MCL for all of these compounds at this time. PFOA, PFOS, PFNA, PFBS, and Gen X were not detected. PFHxS was detected. However, the detected level of PFHxS falls below the EPA established MCL.

Per- and Polyfluoroalkyl Substances	# Samples Exceeding MCL	Sample Date	EPA Test Method	Detected Level (ppt)	MCL (ppt)	Violation
Perfluorohexane sulfonic acid (PFHxS)	0	March 2024	EPA 537.1 EPA 533	1.9 ND	10 10	No No
Perfluoro-n-hexanoic acid (PFHxA)	0	March 2024	EPA 537.1 EPA 533	2.2 2.2	N/A N/A	No No
Perfluoropentan-oic acid (PFPeA)	0	March 2024	EPA 537.1 EPA 533	N/A 2.1	N/A N/A	No No

Abbreviations and Definitions:

MCL (Maximum Contaminant Level): The highest level of a contaminant allowed in drinking water.

ND (Non-Detect) Contaminant not detected and if present below MRL reported.

ppt: parts per trillion

What is next?

CFAO will continue to monitor for PFAS in accordance with the EPA regulation and DoD policy. Once required initial monitoring information is available, we will calculate the Running Annual Averages (RAA) for the regulated PFAS and will compare those numbers to the MCL and Hazard Index (HI) trigger levels. This will determine what our continuing monitoring requirements will be beginning in 2027, and if needed, we will plan operational or infrastructure changes to ensure our water complies with the PFAS MCLs and HI by April 2029 in accordance with the SDWA.

For more information on this report or water quality, please contact the Drinking Water Manager, NAVFAC FE PWD Okinawa Environmental Division at 622-1396.

Notice of Failure to Develop Initial Inventory of Drinking Water Service Lines

From: Commander, Fleet Activities Okinawa

To: Drinking Water Consumer

Subj: Notice of Failure to Develop Initial Inventory of Drinking Water Service Lines

1. Our public water system is focused on protecting the health of every person living and working in our facilities and housing (family and unaccompanied) on our installations. This notice contains important information about your drinking water. Please share this information with anyone who consumes water (drinking, showering, bathing, dishwashing, cooking, oral hygiene) at this location. In addition to the people directly served at this property, this should include people in barracks, family housing, military treatment facilities, schools, Child Development Centers, and workplaces.

2. We were required to develop and make publicly available an initial inventory of service lines connected to our distribution system by October 16, 2024. Our system failed to submit this initial inventory of service lines to Commander, Navy Installations Command (CNIC). The inventory must identify the service line materials as galvanized, lead, non-lead or unknown. We are working diligently to identify and ultimately remove lead and galvanized service lines as soon as possible. This is an important way to protect public health.

3. Because your service line material is unknown, there is the potential that some or all of the service line could be made of lead or galvanized pipe that was previously connected to lead.

4. Galvanized service lines that have adsorbed lead can contribute to lead in drinking water.

5. People living in homes with a galvanized service line, that has adsorbed lead, may have an increased risk of exposure to lead from their drinking water.

6. Commander, Fleet Activities Okinawa current water quality is in compliance with U.S. Environmental Protection Agency (EPA) lead and copper rule action levels, but we are committed to further investigation to determine if these lines require replacement.

7. If you have questions concerning any of the information provided in this notice, or if you have information that could help us better describe your service line, contact us via: DSN: 315-634-9628, Off Base: 098-961-9628, E-Mail: Oki-Trouble-Desk@us.navy.mil.

8. **Health effects of lead:** Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or worsen existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have an increased risk of these negative health effects. Adults can have increased risks of heart disease, high blood pressure, and kidney, or nervous system problems.

9. **Steps you can take to reduce lead in drinking water:** Below are recommended actions that you may take, separately or in combination, if you are concerned about lead in your drinking water. The list also includes where you may find more information and is not intended to be a complete list or to imply that all actions equally reduce lead in drinking water.

- a) ***Use your filter properly.*** Using a filter can reduce lead in drinking water. If you use a filter, it should be certified to remove lead. Read any directions provided with the filter to learn how to properly install, maintain, and use your cartridge and when to replace it. Using the cartridge after it has expired can make it less effective at removing lead. Do not run hot water through the filter. For more information on facts and advice on home water filtration systems, visit EPA's website at <https://www.epa.gov/water-research/consumer-tool-identifying-point-use-and-pitcher-filters-certified-reduce-lead>.
- b) ***Clean your aerator.*** Regularly remove and clean your faucet's screen (also known as an aerator). Sediment, debris, and lead particles can collect in your aerator. If lead particles are caught in the aerator, lead can get into your water.
- c) ***Use cold water.*** Do not use hot water from the tap for drinking, cooking, or making baby formula as lead dissolves more easily into hot water. Boiling water does not remove lead from water.
- d) ***Run your water.*** The more time water has been sitting in pipes the more lead it may contain. Before drinking, flush your home's pipes by running the tap, taking a shower, doing laundry, or doing a load of dishes. The amount of time to run the water will depend on whether your home has a lead service line or not, as well as the length and diameter of the service line and the amount of plumbing in your home. It is recommended to flush for at least 3 to 5 minutes before using water for drinking or cooking, especially if the water hasn't been used for several hours. For water that has been sitting overnight, flushing for 5 minutes or longer is advisable.

10. **Get your child tested to determine lead levels in their blood.** If you have any health-related questions or concerns about lead exposure or a blood lead test, you are encouraged to contact your health care provider, or if you are a TRICARE beneficiary, use the REGION Appointment Center to schedule an appointment with your primary care provider at DSN 315-646-9355, Off Base: 098-971-9355.

The Centers for Disease Control and Prevention and the Navy recommend public health actions when the level of lead in a child's blood is 3.5 micrograms per deciliter (µg/dL) or more. For more information and links to the CDC website, please visit <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

11. For more information on reducing lead exposure from your drinking water and the health effects of lead, visit EPA's website at <http://www.epa.gov/lead>.

To learn more about the quality of the drinking water on this installation, visit our Annual Consumer Confidence Water Quality Report at: <https://cnrj.cnmc.navy.mil/Operations-and-Management/Water-Quality-Information/Water-quality-reports/>.