



## Consumer Confidence Report (CCR)



### 2017 Water Quality Report Kadena Air Base Okinawa, Japan

#### Introduction

This is an annual report on the quality of tap water delivered to Kadena Air Base, Okinawa, Japan. The purpose of this report is to provide you, our customers, with general information about the quality of water you drink. In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that 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. In Japan, the Government of Japan (GOJ) and the United States Forces Japan (USFJ), also regulate the quality of drinking water.

#### What is a Consumer Confidence Report?

In 1996, Congress amended the Safe Drinking Water Act to require that all community water systems in the United States deliver to their customers a brief annual water quality report called a Consumer Confidence Report (CCR). Although this law does not apply overseas and the Japan Environmental Governing Standards (JEGS) do not specifically require annual water quality reports to be developed for customers, it is Air Force policy to prepare annual water quality reports modeled after the Safe Drinking Water Act CCR.

#### Is my Water Safe?

Our water is safe to drink. No one is interested more in the high quality of our drinking water than the 18th Medical Group, Bioenvironmental Engineering personnel. We are committed to providing safe drinking water to you at all times. Our routine monitoring program, which follows water quality standards and monitoring requirements set forth in the JEGS, enables us to maintain optimal water quality on Kadena Air Base.

#### Do I need to take Special Precautions?

Although our water is safe to drink and meets all water quality standards, some individuals are more susceptible to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer and 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. 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 Safe Drinking Water Hotline (800-426-4791).

#### Are Contaminants in my Drinking Water?

All drinking water, including bottled water, may reasonably be expected to contain small amounts of impurities dissolved in the water. The presence of impurities in the water does not necessarily indicate that the water poses a health risk. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, naturally-occurring radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic contaminants, such as salts and metals, 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 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, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems. Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

#### Kadena Air Base Water System Information

The Kadena Air Base drinking water system is operated and maintained by the 18th Civil Engineer Squadron (CES). The water is distributed from the Chatan Water Treatment Plant and Ishikawa Water Treatment Plant to Kadena AB. The water supplied to these treatment plants are a combination of surface waters (reservoirs and rivers), groundwater wells, and a desalination plant fed by the East China Sea.

#### Monitoring of Your Drinking Water

The 18th Aerospace Medicine Squadron, Bioenvironmental Engineering Flight (BEF), is responsible for drinking water monitoring of Air Force owned or managed installations, including military family housing (MFH) on Okinawa. We are committed to providing safe drinking water to you at all times. We use only EPA and GOJ approved laboratory methods to analyze your drinking water. Trained personnel collect water samples from the distribution system and residents' taps. Samples are then shipped to an accredited laboratory where a full spectrum of water quality analyses is performed. BEF personnel collected 1,029 routine monitoring samples in 2017. In November 2017, there was an isolated Maximum Contaminant Level (MCL) violation of the total coliform bacteria standard. Total coliform bacteria are used as an indicator that other, potentially harmful bacteria may be present. No harmful bacteria were found during this event and the subsequent re-samples. The violation was communicated to affected personnel using AtHoc and posted notices on affected buildings. All remaining samples for 2017 were found to be in compliance with EPA standards. Results from these samples are located in the tables on the following page.

We at the Bioenvironmental Engineering Flight along with the Water and Fuels System Maintenance Flight are proud of the opportunity to provide you with clean drinking water. We work around the clock to provide top quality drinking water to every tap. We ask that all our customers continue to help us protect and conserve our water sources and contact us if you have concerns about the safety or dependability of your drinking water.



For More Information Contact:

18 AMDS/SGPB  
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# 2017 Water Quality Table

**Abbreviations/Definitions Used:**

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.  
**Calendar Year (CY):** January through December.  
**MCL:** Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water  
**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 disinfectant to control microbial contamination.  
**NA:** Not applicable.  
**Parts per Million (PPM) or Milligrams per Liter (mg/L):** a unit of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.  
**Part per Billion (PPB) or Micrograms per Liter (µg/L):** a unit of measure for concentration of a contaminant. A part per billion corresponds to one second in approximately 31.7 years.  
**Part per Trillion (PPT) or Nanograms per Liter (ng/L):** a unit of measure for concentration of a contaminant.  
**Picocuries per Liter (pCi/L):** a common measure of radioactivity.

**TABLE 1: DETECTED PARAMETERS**

*This table summarizes the monitoring results for all detected parameters*

INORGANIC CHEMICALS	VIOLATION? YES/NO	UNITS	HIGHEST LEVEL DETECTED	MCLG	MCL	AL	LIKELY SOURCE OF CONTAMINATION
Sodium	No	mg/L	27	NA	NA	NA	Erosion of natural deposits
Barium	No	mg/L	0.0063	2	2		Erosion of natural deposits
Total Nitrate/Nitrite	No	mg/L	0.7	10	10		Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits
RADIONUCLIDES	VIOLATION? YES/NO	UNITS	HIGHEST LEVEL DETECTED	MCLG	MCL	AL	LIKELY SOURCE OF CONTAMINATION
Uranium (2014)	No	ug/L	<1	0	30	NA	Erosion of natural deposits
Gross Alpha (2014)	No	pCi/L	1.2 ± 0.3	0	15		Erosion of natural deposits
Combined Radium (2014)	No	pCi/L	1.38 ± 0.74	0	5		Erosion of natural deposits
MICROBIAL CONTAMINANTS	VIOLATION? YES/NO	UNITS	HIGHEST LEVEL DETECTED	MCLG	MCL	AL	LIKELY SOURCE OF CONTAMINATION
Total Coliform	Yes See Table 4	N/A	1	0	1 positive per month	NA	Naturally present in the environment
RESIDUAL DISINFECTANTS	VIOLATION? YES/NO	UNITS	HIGHEST LEVEL DETECTED	MRDLG	MRDL	AL	LIKELY SOURCE OF CONTAMINATION
Free Chlorine	NA	ppm	1.7	4	4	NA	Water additive used to control microbes
LEAD AND COPPER	VIOLATION? YES/NO	UNITS	90 <sup>th</sup> Percentile Value	MCLG	Sites Exceeding AL/No. of Sites	AL <sup>1</sup>	LIKELY SOURCE OF CONTAMINATION
Lead	No	mg/L	0.003 0% of total samples above 0.015	0	0/30	0.015	Corrosion from household plumbing systems
Copper	No	mg/L	0.048 0% of total samples above 1.3	1.3	0/30	1.3	Erosion of natural deposits
DISINFECTION BYPRODUCTS	VIOLATION? YES/NO	UNITS	Annual Average	MCLG	MCL <sup>2</sup>	AL	LIKELY SOURCE OF CONTAMINATION
Total Trihalomethanes	No	PPB	30	NA	80	NA	By-products of drinking water chlorination
Halo-Acetic Acids	No	PPB	2	NA	60		By-products of drinking water chlorination

**Notes:**

1. The AL for Lead and Copper is based on a 90<sup>th</sup> percentile value – i.e., no more than 10% of all sampled taps.
2. The MCL for Total Trihalomethanes and Haloacetic Acids is based on an annual average of 4 quarterly samples.

**TABLE 2: NOT-DETECTED PARAMETERS**

*The following parameters were monitored for, but not detected in any sample in 2017*

**INORGANIC CHEMICALS**

Antimony, Arsenic, Beryllium, Cadmium, Chromium, Nickel, Selenium, Cyanide, Fluoride, Thallium, Mercury

**PESTICIDES/PCBS**

Endothal, Diquat, Chlordane, Toxaphene, 2,4-D, Dalapon, Dinoseb, Pentachlorophenol, Picloram, 2,4,5-TP, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Carbofuran, Oxamyl, Glyphosate, 2,3,7,8-Tetrachlorodibenzo-P-Dioxin, 1,2-Dibromo-3-Chloropropane, PCBs (As Decachlorobiphenyls), Alachlor, Atrazine, Benzo[A]Pyrene, Di (2-Ethylhexyl) Adipate, Di (2-Ethylhexyl) Phthalate, Endrin, Ethylene Dibromide (EDB), Heptachlor, Heptachlorepoixide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Simazine

**VOLATILE ORGANIC CHEMICALS**

Benzene, Carbon Tetrachloride, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, Cis-1,2-Dichloroethylene, Trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, Xylenes (Total), Monochlorobenzene, Para-Dichlorobenzene

**TABLE 3: NON REGULATED COMPOUNDS**

*On May 19, 2016, the EPA established lifetime health advisory levels of 70 parts per trillion for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) in drinking water. These two compounds are classified as emerging contaminants due to evolving regulatory standards.*

PERFLUOROALKYL SUBSTANCES	VIOLATION? YES/NO	UNITS	RANGE OF DETECTIONS	EPA Health Advisory	MCL	LIKELY SOURCE OF CONTAMINATION
PFOS/PFOA	No	PPT	15 – 59*	70	NA	Man-made chemical; used in products to make stain, grease, heat and water resistant

\*Sample results from Chatan Water Treatment Plant

**TABLE 4: MONITORING VIOLATIONS**

In November 2017, the system tested positive for total coliform bacteria during two separate sampling events. Coliforms are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. No harmful bacteria were found during this event and the subsequent re-samples. If more than one sample exhibits coliform bacteria in a single month, an MCL violation has occurred. The violation was communicated to affected personnel in the form of ATHoC messages and signs posted on the doors of the affected buildings.

# Frequently Asked Questions

## Why does the water sometimes look rusty?

Rusty or reddish tinted water may occur because of a sudden change in pressure due to flushing of a fire hydrant, etc. Iron causes the discoloration and is not a health risk. The normal flow of water will usually clear the mains within two hours or less. Check your water by flushing a toilet three times every 15 to 20 minutes. If you live on or near the end of a long distribution line, additional flushing may be required. Galvanized iron pipes or fittings within a home or building may also cause discolored water. Running the water will clear the piping system. If the hot water is rusty, the water heater may need to be flushed.

## What is a Boil Water Notice?

Any time a drop in pressure occurs from a water main break or system maintenance, the BEF issues a Boil Water Notice and immediate sampling requirements go into effect. Boil Water Notices in these cases are precautionary and do NOT necessarily mean that contamination has been detected or is suspected. In other cases, if coliform is detected as part of our routine sampling program, a Boil Water notice will also go into effect as a precaution while corrective measures are taken. In this case, resampling continues until the corrective measures are completed.

## Is it okay to drink from a garden hose?

The water that supplies the water hose is safe but a garden hose is treated with special chemicals and can contain bacteria and other substances.

## 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. If you use filters, please keep in mind that they require regular maintenance and replacement. Failure to perform maintenance and replacement can result in unsafe water.

## What can I do to improve the quality of my drinking water?

Running the cold water tap for 30 seconds prior to use helps to flush out small amounts of metals that may leach into water that has been sitting in metal pipes overnight. Water used for consumption should always come from the cold water tap. Hot water has a higher potential to leach metals into the water.

## How will I know if my water is not safe to drink?

Your water supplier must notify you if your water does not meet standards or if there is a waterborne disease emergency. The notice will describe any precautions you need to take, such as boiling your water.

## I don't like the taste/smell/appearance of my tap water? What's wrong with it?

Even when water meets standards, you may still object to its taste, smell, or appearance. Taste, smell and appearance are also known as aesthetic characteristics and do not pose adverse health effects. Common complaints about water aesthetics include: temporary cloudiness (typically caused by air bubbles) or chlorine taste (which can be improved by letting the water stand exposed to the air).

## Does the water system have a lead problem?

The Japan Environmental Governing Standards (JEGS) states 90% of samples must be below the action level. The water system met that criterion in 2017. The water system will continue to be sampled for lead, and the next samples will be taken between June and September 2020. 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. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds before using the water for drinking or cooking.

## Is a Japanese translation of the CCR available?

All sections of the CCR are written in English. Please contact the BEF at 634-4752 for Japanese translation.

第18航空医療中隊、生物環境工学部（BEF）は、沖縄にある空軍所有の施設及びその他の関連施設、更には基地内住宅の水道飲料水のモニタリングを空軍規則により行なっています。BEFはモニタリングの水道水分析結果を消費者信頼度レポート（CCR）で利用者及び関係者に報告しています。

CCRの全てが英文訳の文書です。日本語訳希望者はBEFまでご連絡下さい。基地内：634-4752 基地外から：098-938-1111 ext. 634-4725

## Where can I go for additional information?

This CCR will be posted on the Kadena AB homepage at <https://www.kadena.af.mil>. Select About Us Tab, choose Consumer Confidence Reports.

Customers can address any drinking water concerns during the quarterly Water Quality Working Group meeting. Please contact the number below for more information or to make an appointment to attend the meeting.



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