Consumer Confidence Report (CCR)

2023 Water Quality Report
Chibana Military Family Housing
Okinawa, Japan

Introduction

This is an annual report on the quality of tap water delivered to Chibana Military Family Housing, 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, also regulate the quality of drinking water through the Japanese Environmental Governing Standards (JEGS) which apply the EPA standards to our water system.

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).

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 Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight. 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 Chibana Military Family Housing.

Do I need to take special precautions?

Although our water is safe to drink and meets all water quality standards, some people 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?

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's Safe Drinking Water Hotline (1-800-426-4791). 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, 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.

Chibana Water System Information

The Chibana drinking water system is operated and maintained by the 18th Civil Engineer Squadron. The water is pumped from the Ishikawa water treatment plant. The water supply to this treatment plant comes from the West Line River, Taiho River, Henan River, and Genka River as well as the Kanna Dam and Yamashiro Dam.

Monitoring of your drinking water

The 18th Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight is responsible for drinking water monitoring of Air Force owned or managed installations, including military family housing 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 resident's taps. Samples are then shipped to an accredited laboratory where a full spectrum of water quality analyses is performed. The Japan Environmental Governing Standards (JEGS) allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

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:

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2023 Water Quality Table

TABLE 1: REGULATED CONTAMINANTS[1]

This table summarizes the monitoring results for all detected regulated contaminants

Inorganic Contaminants	Violation? Yes/No	Units	Highest Level Detected	Limit (MCL or MRDL)	Goal (MCLG or MRDLG)	Typical Source of Contamination
Barium	No	ppm	0.006	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate	No	ppm	0.1554	10	10	Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits
Nitrate + Nitrite	No	ppm	0.1555	10	10	Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits

Inorganic Contaminants	Violation? Yes/No	Units	90th Percentile Results	Number of Sites Exceeding AL	Action Level	Goal (MCLG)	Typical Source of Contamination
Lead[4]	No	ppb	14	0	15	0	Corrosion from household plumbing systems, erosion of natural deposits
Copper[4]	No	ppm	0.0005	0	1.3	1.3	

Radionuclides[5]	Violation? Yes/No	Units	Results	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Gross Alpha	No	pCi/L	1.01 (ND – 2.25)	15	0	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Radium 226 and 228	No	pCi/L	0.89 (0.7 – 1.44)	5	0	Erosion of natural deposits
Gross Beta/Photon emitters[6]	Yes TABLE 4	pCi/L	0.93 (0.05 – 1.56)	50*	0	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation

Microorganisms	Violation? Yes/No	Units	Highest Level Detected	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Total Coliform Bacteria[2]	No	N/A	0 positive samples	≥ 2 positive samples/month	0 positive samples	Naturally present in the environment

Disinfectant	Violation? Yes/No	Units	Results	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Chlorine	No	ppm	0.15 (0.004 – 0.42)	4	4	Water additive used to control microbes

Disinfection byproduct	Violation? Yes/No	Units	Results	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Total Trihalomethanes (TTHMs)[3]	No	ppb	47 (37.8 – 56)	80	N/A	Byproducts of drinking water disinfection
Halo-Acetic Acids (HAA5)[3]	No	ppb	3.9 (2 – 6.3)	60	N/A	

TABLE 2: UNREGULATED CONTAMINANTS

This table summarizes the monitoring results for unregulated contaminants

Contaminant	Violation? Yes/No	Units	Highest Level Detected	Limit (MCL or MRDL)	Typical Source of Contamination
Sodium	NA	ppm	17	N/A	N/A

TABLE 3: UNDETECTED CONTAMINANTS[1]

This table summarizes the monitoring results for undetected contaminants

Inorganic Contaminants	Arsenic, Antimony, Beryllium, Cadmium, Chromium, Nickel, Selenium, Thallium, Fluoride, Mercury, Cyanide, Nitrite
Synthetic Organic Compounds	Dioxin. Heptachlor epoxide, Di(2-ethylhexyl)adipate, Di (2-ethylhexyl)phthalate, Hexachlorobenzene, Simazine, Alachlor, Atrazine, Propachlor, Metribuzin. Butachlor, Aldrin, Benzo[a]pyrene, Metolachlor, gamma-BHC (Lindane), Dieldrin, Endrin, Methoxychlor, Heptachlor, Hexachlorocyclopentadiene, Diquat, 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane, PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248 PCB-1254, PCB-1260, Chlordane (technical), Toxaphene, Glyphosate, EDB/PCBs/Glyphosate, 2,4,5-TP (Silvex), Dalapon, Dicamba, Dinoseb Pentachlorophenol, Picloram, 2,4-D, Endothall, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Carbaryl, Carbofuran, 3-Hydroxycarbofuran, Methiocarb Methomyl, 1-Naphthol, Oxamyl
Volatile Organic Compounds	Benzene, Carbon tetrachloride, o-Dichlorobenzene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, 1,1-Dichloroethylene, 1,1,1-Trichloroethane 1,2-Dichloroethane, Dichloromethane, 1,1,2-Trichloroethane, 1,2,4-Trichloro-benzene, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, para-Dichlorobenzene, Styrene, Tetrachloroethylene, Trichloroethylene, Toluene, Vinyl chloride, Xylene (total)
Disinfection byproduct	Bromate
Radionuclides	Uranium
Unregulated Contaminants	Perfluorooctanoic Acid (PFOA), Perfluorooctanesulfonic Acid (PFOS), 11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid, 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS), 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS), 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), 4,8-Dioxa-3H-perfluorononanoic acid (ADONA), 9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid, Hexafluoropropylene Oxide Dimer Acid HFPO-DA), Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA), Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA), Perfluoro(4-methoxybutanoic acid), Perfluoro-3,6-dioxaheptanoic acid, Perfluoro-3-methoxypropanoic acid (PFMPA), Perfluorobutanesulfonic acid (PFBS), Perfluorobutanoic acid (PFBA), Perfluorodecanoic acid (PFDA), Perfluorododecanoic acid (PFDoA), Perfluoroheptanesulfonic acid (PFHpS), Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorononanoic acid (PFNA), Perfluoropentanesulfonic acid, (PFPeS) Perfluoropentanoic acid (PFPeA), Perfluoroundecanoic acid (PFUnA), N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA), N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), Perfluorotetradecanoic acid (PFTeDA), and Perfluorotridecanoic acid (PFTrDA)

Notes: 1. Monitoring results for these analytes are based on samples taken in 2023, and synthetic organic compounds were evaluated during 2022.

2. Monitoring for *Cryptosporidium* and disinfectant contact times (i.e. CT values) are not applicable as treated water is purchased from host nation water treatment plants.

3. TTHM and HAA5 results are based on the highest locational annual running average.

4. Lead and Copper Action Level is based on the 90th percentile value – i.e., no more than 10% of all sampled taps should exceed the AL.

5. Radionuclide results are based on the average of 3 quarters tested in 2022 and one in 2023. Represented as an annual average and range of detection from lowest to highest.

6. Includes tritium and strontium-90.

*. The MCL for beta particles is 4mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles. Because the beta particle results were below 50 pCi/L, no testing for individual beta particle constituents was required.

TABLE 4: MONITORING VIOLATION

Monitoring Violation	Explanation	Health Effects	Steps Taken to Correct the Violation
Missed sample for Beta Particle and Photon Radioactivity	One of the quarterly results for Strontium-90, a component of Beta Particle and Photon Radioactivity, was not obtained in 2023 due to a lab error. However, monitoring was accomplished during the three remaining quarters and revealed that the system is in full compliance for these contaminants.	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.	Bioenvironmental Engineering has updated quality control processes to reduce the probability of missing sampling events and documentation in the future. The system is in full compliance, there are no health risks as a result of the missed sample, and no further actions need to be taken by the consumers.

ABBREVIATIONS & DEFINITIONS

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
ND: Not Detected
Maximum Contaminant Level (MCL): 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.
Maximum Contaminant Level Goal (MCLG): 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.
Maximum Residual Disinfectant Level (MRDL): 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.
Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no know or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectant to control microbial contamination.
NA: Not applicable.
ppm: Parts per million or milligrams per liter (one part per million is equivalent to one penny in 10 thousand dollars).
ppb: Parts per billion or micrograms per liter (one part per billion is equivalent to one penny in 10 million dollars).
ppt: Parts per trillion or nanograms per liter (one part per trillion is equivalent to one penny in 10 billion dollars).
pCi/L: picocuries per liter, a common measure of radioactivity.

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 Bioenvironmental Engineering Flight 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 supplied to the water hose is safe, but a garden hose is treated with special chemicals that 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 percent of samples must be below the action level. The water system met this criterion in 2023. The water system will continue to be sampled for lead, and the next samples will be taken between June and September 2026. 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. Chibana Military Family Housing 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 www.epa.gov/safewater/lead.

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 have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires at airfields and in industrial fire suppression processes. PFAS compounds 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?

In May 2016, the Environmental Protection Agency (EPA) established a lifetime health advisory (LHA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both compounds are types of PFAS. On 10 April 2024, the EPA published new drinking water standards for certain PFAS under the Safe Drinking Water Act (SDWA). AF is reviewing the EPA's new rule now and will incorporate these standards into future sampling and analysis efforts.

Out of an abundance of caution, DoD pursued PFAS testing and response actions beyond EPA SDWA requirements. In 2020, the DoD established a policy to monitor drinking water for 17 PFAS compounds at all service owned and operated water systems. If results confirmed the drinking water contained PFOA and PFOS at individual or combined concentrations greater than 70ppt, water systems quickly took action to reduce exposures. While not a SDWA requirement, in 2023, DoD improved upon its 2020 PFAS drinking water monitoring policy by expanding the list of PFAS compounds monitored to 29, implementing continued monitoring of systems with detectable PFAS over the laboratory Method Reporting Limits (MRL), and requiring initial mitigation

planning actions. Similarly in 2020, Japan set a temporary PFOA and PFOS individual or combined target of 50 ppt.

Has Chibana Military Family Housing tested its water for PFAS?

Yes, in Nov 2023 samples were collected from Kadena's point of entry as it is considered a representative point for the installation. We are informing you that PFAS were not detected in your water system. Drinking water testing results were below the Method Detection Limit (MDL) for all 29 PFAS compounds covered by the sampling method, including PFOA and PFOS. In accordance with current DoD policy, the water system will be resampled every two years for your continued protection.

Additionally, the Ishikawa Water Treatment Plants routinely monitor for PFAS and post the results on the Okinawa Prefectural Enterprise Bureau website at http://www.eb.pref.okinawa.jp.e.sa.hp.transer.com/opeb/309/619.

Is a Japanese translation of the CCR available? / CCR の日本語訳は入手可能ですか?

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

このレポートには、飲料水に関する重要な情報が含まれています。

誰かに翻訳してもらうか、理解できる人と話してください

弟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.

How can I get involved?

We encourage consumers to participate in decision-making events regarding source water assessment and protection programs, for more information contact Bioenvironmental Engineering at 634-4752.