Consumer Confidence Report (CCR)

2024 Water Quality Report
Okuma Recreational Area
Okinawa, Japan

Introduction

This is an annual report on the quality of tap water delivered to Okuma Recreational Area, 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 Okuma Recreational Area.

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.

Okuma Water System Information

The Okuma Recreational Area drinking water system and treatment plant is operated and maintained by the 18th Force Support Squadron, Detachment 1. The water is pumped into the installation water treatment plant from the Hiji River then gravity-fed into the distribution system.

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.

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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2024 Water Quality Table

TABLE 1: REGULATED CONTAMINANTS[4]

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
Nitrate	No	ppm	0.10	10	10	Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits
Nitrite + Nitrate	No	ppm	0.10	10	10	
Barium	No	ppm	0.0037	2	2.0	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Selenium	No	ppb	1.19	50	0.05	Discharge from petroleum and metal refineries; Erosion of natural deposits. Discharge from mines

Inorganic Contaminants	Violation? Yes/No	Units	90th Percentile Results	Number of Sites Exceeding AL	Action Level[3]	Goal (MCLG)	Typical Source of Contamination
Lead[3]	No	ppb	1.5	0	15	0	Corrosion from household plumbing systems, erosion of natural deposits
Copper[3]	No	ppm	0.015	0	1.3	1.3	

Volatile Organic Chemicals	Violation? Yes/No	Units	Highest Level Detected	Limit (MCL or MRDL)	Goal (MCLG or MRDLG)	Typical Source of Contamination
Dichloromethane	YES TABLE 4	ppb	0.8	5	0	Discharge from pharmaceutical and chemical factories

Microorganisms[1]	Violation? Yes/No	Units	Highest Level Detected	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Total Coliform Bacteria	No	N/A	0 positive samples	≥ 2 positive samples/month	0 positive samples	Naturally present in the environment
Turbidity	YES TABLE 4	NTU	0 all samples below 0.3	1 percentage of samples<0.3	0	Soil Runoff

Disinfectant	Violation? Yes/No	Units	Average/Range	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Chlorine	No	ppm	0.60 (0.16 - 1.03)	4	4	Water additive used to control microbes

Disinfection byproduct	Violation? Yes/No	Units	Highest Average/Range	Limit (MCL or MRDL)	Goal (MCLG)	Typical Source of Contamination
Total Trihalomethanes (TTHMs)[2]	No	ppb	57 (22 – 63)	80	N/A	Byproducts of drinking water disinfection
Halo-Acetic Acids (HAA5)[2]	No	ppb	9 (0 – 16)	60	N/A	
Total Organic Carbon	No	ppm	0.52	TT*	N/A	Naturally present in the environment

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	17.74	NA	NA

TABLE 3: UNDETECTED CONTAMINANTS[4]

This table summarizes the monitoring results for undetected contaminants

Inorganic Contaminants	Asbestos, Arsenic, Antimony, Beryllium, Cadmium, Chromium, Cyanide, Nickel, Thallium, Fluoride, Mercury, and 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, 1,1,2-Trichloroethane, 1,2,4-Trichloro-benzene, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, para-Dichlorobenzene, Styrene, Tetrachloroethylene, Trichloroethylene, Toluene, Vinyl chloride, Xylene (total)
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 (PFEES`A), 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 for *Cryptosporidium* and disinfectant contact times (i.e. CT values) is currently being performed and the results will be reported in 2025's CCR.
2. TTHM and HAA5 results are based on the highest locational annual running average.
3. 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. These values date from 2023.
4. Monitoring results for these analytes are based on samples taken in 2024. Lead and Copper sampling was performed in 2023.

*Limit is based off the treatment technique employed. Since the average values of TOC in the water source are well below 2 mg/L, TOCs are within acceptable values.

TABLE 4: VIOLATIONS

Monitoring Violation	Explanation	Health Effects	Steps Taken to Correct the Violation
Failure to monitor for Cryptosporidium	Monitoring for Cryptosporidium, a microscopic parasite, is required as a component of both, the JEGS and the EPA's Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). Monitoring did not occur in 2023 but is now taking place in 2024.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	In partnership with the Marine Corps, initial sampling for cryptosporidium was conducted starting in February 2024, and will be reported as part of 2025's CCR. Consumers do not need to take any further actions.
Failure to monitor for turbidity at specified intervals	Turbidity is monitored, but not at the intervals specified in both, the JEGS and the EPA's Surface Water Treatment Rule. For Public Water Systems with two filters, the combined filter effluent must be recorded at intervals of: (a) every 4 hours; and (b) every 15 minutes. Currently, turbidity is monitored only every 4 hours.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.	The Civil Engineering Squadron (CES) and Force Support Squadron (FSS) units at Okuma are currently working to determine a solution for increasing the frequency of turbidity monitoring to satisfy all requirements. Consumers do not need to take any further actions.
Failure to monitor for Dichloromethane at the specified intervals	Dichloromethane is required to be sampled annually. The results exceeded the trigger level of 0.5 ppb which warrants quarterly monitoring. However, subsequent quarterly monitoring was not conducted. Quarterly monitoring has restarted for CY25.	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.	To prevent future monitoring lapses, Bioenvironmental Engineering has implemented a more rigorous review process. Consumers do not need to take any further actions. Sampling started second quarter of CY25.

ABBREVIATIONS & DEFINITIONS

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
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.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
NTU: Nephelometric Turbidity Unit. A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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. Okuma Recreational Area 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 industrial 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, food packaging, and cookware. They are also contained in some fire-fighting foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires.

Is there a regulation for PFAS in drinking water?

Yes. On April 26, 2024, the Environmental Protection Agency (EPA) published a final National Primary Drinking Water Regulation for certain per- and polyfluoroalkyl substances (PFAS) under the Safe Drinking Water Act (SDWA). This rule went into effect on June 25, 2024 with a compliance deadline of April 26, 2029, five years from the date up publication. While the rule requires routine sampling for certain PFAS by no later than 2027, DoD has been sampling drinking water for PFAS compounds at all DoD-owned and operated water systems since 2017. Under the new rule, the following limits, called Maximum Contaminant Levels (MCL), were established, and DoD water systems will need to meet these levels by April 2029.

PFAS	MCL
PFOA	4.0 ppt
PFOS	4.0 ppt
PFHxS	10 ppt
HFPO-DA (GenX)	10 ppt
PFNA	10 ppt
PFBS	n/a
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS	HI of 1 (unitless)

For systems where DoD provides drinking water, the Department is collecting the necessary sampling information and is taking actions to ensure compliance within the required 5-year timeframe. Currently, the DoD the DoD is finalizing a policy on how to apply the EPA rule OCONUS.

Has Okuma tested its water for PFAS?

Yes. In November 2023, samples were collected at the Okuma water treatment plant. We are informing you that drinking water testing results were below the MCL for all 6 PFAS compounds covered by the EPA drinking water rule, including PFOA and PFOS. The water system will be periodically resampled as required by the pending DoD OCONUS drinking water policy to ensure continued compliance.

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.