Bi-annual Consumer Confidence Report (CCR)

CY 2023—June 2024 Water Quality Report
Marine Corps Installations Pacific
Marine Corps Base Camp S.D. Butler, Camp Foster
Okinawa, Japan

Introduction
This is a biannual report on the quality of drinking water delivered to Marine Corps Base (MCB) Camp S.D. Butler, Camp Foster. The purpose of this report is to provide you, our customers, with general information about the quality of water you drink. Biannual reports are required for camps with a population size greater than 10,000 people.

What is a Consumer Confidence Report?
In 1996, Congress amended the Safe Drinking Water Act (SDWA) to require all community water systems in the United States to provide their customers with a brief annual water quality report called a Consumer Confidence Report (CCR). Last year (2023) through June 2024, over 50 different drinking water contaminants were evaluated for compliance. Only contaminants measured in concentrations above their respective analytical methods' detection limits are reported in this CCR.

Safe Drinking Water
Drinking water regulations require that all installation water supply systems are sampled and analyzed for a variety of contaminants in drinking water. Calendar year 2023 through June 2024, your drinking water met health-based water quality standards regulated by the Japan Environmental Governing Standards (JEGS). The primary purpose of the JEGS is to provide environmental compliance criteria and management practices to be used by United States Department of Defense installations in Japan. MCB Camp Butler, G-F, Environmental Affairs Branch (EAB) and Air Force 18th Medical Group, Bioenvironmental (BE) personnel are committed to providing safe drinking water to you and your family. 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 Camp Foster.

Information about Drinking Water Contaminants
All drinking water, including bottled water, may contain small amounts of contaminants dissolved in the water. The presence of trace contaminants 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 human activity. Microbial contaminants, such as viruses and bacteria, may come from municipal wastewater 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. They may also enter the environment 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. In order to ensure that tap water is safe to drink, the JEGS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Do I Need to Take Special Precautions?
Our monitoring program identifies contaminants in drinking water and allows us to avoid potential health impacts if we consume water containing contaminants over long periods of time above the standards set forth in the JEGS. However, some individuals may be more vulnerable to contaminants than the general population. For example, immunocompromised individuals such as persons with cancer undergoing chemotherapy, organ transplant recipients, persons with HIV/AIDS or other immune system disorders, the elderly, and infants can be particularly at risk from contaminants. These individuals or their caretakers should seek medical advice about drinking water from their health care providers if they have questions.

Camp Foster Water System Information
The Camp Foster drinking water system is jointly operated and maintained by G-F Facilities Maintenance Branch and 18th Civil Engineer Squadron. The drinking water is purchased from the neighboring municipalities Kitanakagusuku and Chatan-cho and the drinking water is produced at the Chatan Water Treatment Plant (WTP). The water supply to the treatment plant is a combination of surface waters (reservoirs and rivers), groundwater wells, and a desalination plant fed by the East China Sea. Chatan WTP utilizes both biological and conventional water treatment processes and ozone as its disinfectant. In addition, chlorine residual is maintained in the distribution system for additional protection as water travels to the tap.

Monitoring of Your Drinking Water
G-F EAB is responsible for drinking water monitoring of Marine Corps-owned infrastructure including all non-housing areas on Camp Foster. BE is responsible for maintaining the water quality of Air Force-managed military family housing on Camp Foster. Together, G-F EAB and BE are committed to providing safe drinking water to you. We use only United States (U.S.) Environmental Protection Agency (EPA) and GOJ approved laboratory methods to analyze your drinking water. Trained personnel collect water samples from the distribution system and residential taps. Samples are then shipped to an accredited laboratory where a full spectrum of water quality analyses are performed. BE and contracted personnel collected all required routine monitoring samples in calendar year 2023 through June 2024, none of which were at a level higher than the JEGS Maximum Contaminant Level (MCL).

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 fire hydrant flushing, water main breaks, or other disturbances that result in a change to normal water flow. 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 commode bowl 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, G-F EAB will issue 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 total coliform bacteria are 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 may be treated with chemicals and can contain bacteria and other substances. Drinking from a garden hose is highly discouraged.

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

Most filters improve the taste, smell and appearance of water, but they may not necessarily make the water safer or healthier. If you use filters, please keep in mind that they require regular maintenance and replacement or the filter itself can impact water quality.

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 more 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 JEGS state that 90% of samples must be below the action level, and the water system met that criterion in 2023. 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 to 2 minutes before using the water for drinking or cooking.

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 (aqueous film-forming foam or AFFF) currently used for fighting petroleum fires at airfields and in industrial fire suppression processes. 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 10, 2024, the US EPA established MCLs for a subset of PFAS chemicals (Table 1). EPA requires implementation of sampling in accordance with the new MCLs within three years of the publication date and implementation of any required treatment within five years. These limits did not apply for the 2023 and 2024 calendar years because the MCLs are not in effect yet. However, the DoD proactively promulgated policies to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every two years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 ppt, water systems must take immediate action to reduce exposure to PFOA or PFOS. For levels less than 70 ppt but above the 4 ppt level (draft at the time of policy publication), DoD is committed to planning for implementation of the levels once EPA's published MCLs take effect.

Table 1: New EPA PFAS MCLs.

Chemical	MCL (ppt)
PFOA	4.0
PFOS	4.0
PFNA	10
PFHxS	10
HFPO-DA (GenX)	10
Mixture of two or more: PFNA, PFHxS, HFPO-DA, PFBS	Hazard index of 1

Has Camp Foster tested its water for PFAS in 2023 through June 2024?

We are informing you that 5 of the 29 PFAS compounds covered by the sampling method were detected above the method reporting limits (MRL). The results are provided in the Water Quality summary table. EPA does not have MCLs for all of these compounds at this time. PFOS, PFHxS, PFHxA and PFPeA were detected and below the new EPA MCLs. There is no immediate cause for concern, but we will continue to

monitor the drinking water for these contaminants on a quarterly basis.

Is a Japanese translation of the CCR available?

All sections of the CCR are written in English. Please contact the G-F EAB for a Japanese translation.

CCR の全てが英文の文書です。日本語訳希望者は施設技術部環境保全課までご連絡下さい。
基地内： 645-5197
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Where can I go for additional information?

This CCR will be posted on the MCIPAC web page at https://www.mcipac.marines.mil/News-Center/Consumer-Confidence-Reports/.

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Abbreviations and Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.

CY (Calendar Year): Period of time from January through December. Data reported in the consumer confidence report were for samples collected in the reported calendar year unless otherwise stated.

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

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water.

µg/L (Microgram per liter): Unit of concentration often used to express the concentration of a contaminant in drinking water. Microgram is one millionth of a gram.

mg/L (Milligram per liter): Unit of concentration often used to express the concentration of a contaminant in drinking water. Milligram is one thousandth of a gram.

ND (Non-detect): Concentration of contaminant below the detection limit or reporting limit of analytical method.

ng/L (Nanogram per liter): Unit of concentration often used to express the concentration of a contaminant in drinking water. Nanogram is one billionth of a gram.

N/A (Not Applicable): Not applicable for this contaminant.

PFAS (per- and polyfluoroalkyl substances): A group of manufactured chemicals that have been used in industry and consumer products since the 1940s.

PFAS AL (PFAS Action Level): Per Department of Defense policy issued on 11 July 2023, when the concentration of PFOA, PFOS, or the sum of PFOS and PFOA exceeds 70 parts per trillion (ppt), DoD components will provide alternative drinking water and take actions to lower PFOS and/or PFOA concentrations to below 70 ppt.

PFOA (Perfluorooctanoic acid): A chemical subset of PFAS.

PFOS (Perfluorooctanesulfonic acid): A chemical subset of PFAS.

ppt (parts per trillion): Unit of concentration often used to express the concentration of a contaminant in drinking water. Also expressed as nanograms per liter (ng/L).

RAA (Running Annual Average): Average of all the samples collected calculated within a 12 month period.

CY 2023 -June 2024 Water Quality Table

Camp Foster						
Inorganic Chemicals	**Violation? Yes/No**	**Units**	**Highest Level Detected**	**MCL**	**AL**	**Likely Source of Contamination**
Barium	No	mg/L	0.008	2.0	N/A	Erosion of natural deposits
Selenium	No	mg/L	0.004	0.05		
Sodium	No	mg/L	18	N/A[1]		
Nitrate (as N)	No	mg/L	0.7	10		Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits
Total Nitrate/Nitrite (as N)	No	mg/L	0.7	10		
Microbial Contaminants	**Violation? Yes/No**	**Units**	**Number of Positive Samples**	**MCL[2]**	**AL**	**Likely Source of Contamination**
Total Coliform Bacteria	No	N/A	0	>1 positive sample per month, or any repeat sample is positive	N/A	Naturally present in the environment
Volatile Organic Compounds	**Violation? Yes/No**	**Units**	**Highest Level Detected**	**MCL**	**AL**	**Likely Source of Contamination**
Various	No	µg/L	ND	Various	N/A	Manmade compounds
Radionuclides	**Violation? Yes/No**	**Units**	**Highest Level Detected**	**MCL**	**AL**	**Likely Source of Contamination**
Gross Alpha	No	pCi/L	1.49 ± 0.558	15	N/A	Decay of natural and manmade deposits
Disinfectant/Disinfection Byproducts	**Violation? Yes/No**	**Units**	**Highest RAA**	**Range**	**MRDL[4]/MCL[5]**	**AL**	**Likely Source of Contamination**
Free Chlorine	No	mg/L	0.36	ND-1.2	4.0	N/A	Drinking water disinfectant for treatment
Total Trihalomethanes	No	µg/L	62	24-62	80	N/A	By-products of drinking water chlorination
Haloacetic Acids	No	µg/L	11	ND-13	60		
Lead and Copper	**Violation? Yes/No**	**Units**	**90th Percentile Value**		**Sites Exceeding AL / No. of Sites**	**AL[6]**	**Likely Source of Contamination**
Lead	No	mg/L	0.005		0 / 20	0.015	Corrosion from household plumbing systems
Copper	No	mg/L	0.055		0 / 20	1.3	
PFAS	**Violation? Yes/No**	**Units**	**Highest Level Detected**		**MCL[7]**	**PFAS AL[7]**	**Likely Source of Contamination**
PFOA	No	ng/L	ND		N/A	70	Runoff from industrial processes and fire-retarding foams
PFOS	No	ng/L	2.0			70	
PFOS + PFOA	No	ng/L	2.0 (calculated)			70	
Perfluorohexanesulfonic acid (PFHxS)	No	ng/L	2.2			N/A	
Perfluorobutanoic acid (PFBA)	No	ng/L	2.8				
Perfluorohexanoic acid (PFHxA)	No	ng/L	2.5				
Perfluoropentanoic acid (PFPeA)	No	ng/L	2.6				
Chatan Water Treatment Plant[8]							
Parameter	**Violation? Yes/No**	**Units**	**Highest Level Detected**		**MCL**	**AL**	**Likely Source of Contamination**
Free Chlorine Residual	N/A	mg/L	Range: 0.8 – 0.9		N/A	N/A	Drinking water disinfectant for treatment
Standard Plate Count Bacteria	N/A	#/mL	0		100	N/A	Naturally present in the environment
Turbidity	N/A	degree	< 0.1		2	N/A	Soil runoff

Notes:

1. No MCL established for Sodium. Monitoring is required so concentration levels can be made available upon request.
2. This is the total coliform-related operational evaluation level (OEL). The MCL for *E. coli* is exceeded when routine and repeat samples for total coliform are positive or when a system fails to take repeat samples following positive samples. Some samples were not collected due to operational constraints, and corrective actions have been taken. All other routine samples were negative for total coliform, and the public water system continued to meet all water quality standards.
3. Bacteriological sample was negative for total coliform for the sample with non-detectable free chlorine residual. The location was flushed until a detectable free chlorine residual was established.
4. The MRDL for Free Chlorine is based on a running annual average of monthly averages.
5. The MCLs for Total Trihalomethanes and Haloacetic Acids are based on locational running annual averages of quarterly samples.
6. The AL for Lead and Copper is based on a 90th percentile value – i.e., no exceedance in the AL in more than 10% of all sampled taps.
7. On April 10, 2024, U.S. EPA established new PFAS MCLs but allows 5 years to enter into compliance. PFAS AL is still in effect.
8. Water quality data regarding Chatan Water Treatment Plant obtained from the Okinawa Prefectural Enterprise Bureau website.