



Consumer Confidence Report

Marine Corps Air Station Iwakuni

Main Base, Atago & Monzen Drinking Water System



This report reflects monitoring data collected in July-December 2023 and will be updated biannually.

Marine Corps Air Station (MCAS) Iwakuni is pleased to provide you with this Consumer Confidence Report (CCR) for the Drinking Water System which supports MCAS Iwakuni, Japan. The purpose of this report is to provide information to installation personnel and their dependents about the potable water delivered to MCAS Iwakuni from July-December 2023.

Our goal is to provide safe and dependable drinking water. During this monitoring period, drinking water at MCAS Iwakuni met all Japan Environmental Governing Standards (JEGS) drinking water quality health standards.

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 CCR. Although this law does not apply overseas the 2022 JEGS specifically requires an annual water quality report to be developed and made available to the population served by the water system.

Source of Water

The source of the drinking water at MCAS Iwakuni is the Nishiki River. The raw water is treated at the Nishimi Water Purification Plant, run by the Iwakuni City Waterworks, and then conveyed via pipelines to MCAS Iwakuni. The plant employs full conventional water treatment including chemical coagulation, flocculation, sedimentation, filtration, and disinfection (chlorination). The Nishimi Water Purification Plant provides MCAS Iwakuni data on the raw water processed by the plant, as well as the finished water it sends to the installation for human consumption. Pump stations on the North,

South, Monzen, and Atago areas of the base distribute the water throughout the MCAS Iwakuni distribution system.

Drinking Water Standards

Our drinking water is required to meet the water quality standards established in the JEGS. 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 and their families.

To continually ensure that our water is safe to drink, the JEGS require all installation water supply systems to be sampled and analyzed for a variety of contaminants. Our routine monitoring program, which follows water quality standards and monitoring requirements set forth by the JEGS, enables us to ensure optimal water quality at MCAS Iwakuni.

Possible Source of Contaminants

All drinking water, including bottled water, may contain trace amounts of dissolved contaminants. 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. 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 US Forces, Japan, also regulate the quality of drinking water. Our monitoring program allows us to avoid potential health impacts that may occur if we drink water containing contaminants over long periods of time above the standards set forth in the JEGS.

More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline (800-426-4791) or visiting the

EPA website at:
<https://www.epa.gov/dwstandardsregulations>.

Potential Contaminants in Drinking Water

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring, or be the result of oil and gas production and mining activities.

Other Potential Contaminants (Lead)

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. MCAS Iwakuni routinely monitors and tests the 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 the water for drinking or cooking. If you are concerned about lead in your water, information on lead in drinking water, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

Special Health Considerations

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. EPA / 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 (800-426-4791).

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 Maximum Contaminant Levels (MCL) for a subset of PFAS chemicals.

Compound	Final MCLG	Final MCL (enforceable levels)
PFOA	Zero	4.0 parts per trillion (ppt) (also expressed as ng/L)
PFOS	Zero	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (commonly known as GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index	1 (unitless) Hazard Index

MCLGs - Maximum Contaminant Level Goals

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 calendar year because they had not been published. 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 Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) at individual or combined concentrations greater than the 2016 EPA health advisory (HA) level of 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 committed to planning for implementation of the levels once EPA's published MCLs take effect.

Has MCAS Iwakuni tested its water for PFAS in 2023?

Yes. In Aug 2023 samples were collected from sampling points on the main base, Monzen and Atago housing areas. The results for PFOA and PFOS were non-detect. The results are provided in the Water Quality Table below.

Abbreviations and Definitions:

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

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

HA (Health Advisory): The concentration of an unregulated contaminant in drinking water which, if exceeded over a lifetime, may have associated health risks. These levels are non-enforceable and non-regulatory.

DBP: Disinfection by products are chemicals that can be formed when chlorine is used for disinfecting drinking water to prevent disease.

LHAL: Lifetime Health Advisory Level

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.

MREM: Millirem, or milli roentgen equivalent man. It³s one thousandth of a rem, and is used for the dosages

encountered regarding radiation received from various sources.

MRL (Method Reporting Limit): The smallest concentration of a chemical that can be reported by a laboratory for a given test method.

ND: Not Detected.

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

pCi/L: Picocuries per liter. Radioactivity results are usually shown in picocuries (pCi). A picocurie is one trillionth of a curie. The higher the number, the more radiation released by the material.

ppb: Parts per billion or micrograms per liter. One ppb is the equivalent of one drop of impurity in 500 barrels of water or 1 cent out of \$10 million (Navy PFAS Regulatory Framework).

ppt: Parts per trillion or nanograms per liter. One ppt is the equivalent of one drop of impurity in 500,000 barrels of water (Navy PFAS Regulatory Framework).

ppm: parts per million or milligrams per liter. Analogous to putting four drops of ink in a 55-gallon barrel of water and mixing it thoroughly. This procedure would produce an ink concentration of 1 ppm. (National Oceanic and Atmospheric Administration-NOAA).

RAA: Running Annual Average. A moving average smooths out any irregularities (peaks and valleys) from data to easily recognize trends.

TOC: Total Organic Carbon. Represents the concentration of organic carbon in a sample and is a non-specific indicator of water quality.

Water Quality Data Table

The following table lists all the drinking water contaminants detected at MCAS Iwakuni during this reporting period. The presence of contaminants does not necessarily indicate that the water poses a health risk. All substances detected in MCAS Iwakuni's drinking water meet DoD JEGS requirements.

Inorganic Contaminants ¹	Violation? Yes/No	Units	Highest Level Detected	MCL	AL	Typical Source of Contamination
Arsenic	No	mg/L	0.00051	0.01	N/A	Erosion of Natural Deposits
Barium	No	mg/L	0.0073	2		
Fluoride	No	mg/L	0.11	4		
Sodium	No	mg/L	5.6	N/A ²		
Total Nitrate / Nitrite	No	mg/L	0.3	10		Runoff from fertilizer use; leaching septic tanks/sewage; erosion of natural deposits
Microbial Contaminants	Violation? Yes/No	Units	Highest Level Detected	MCL	AL	Typical Source of Contamination
Total Coliform Bacteria	No	N/A	ND	<1 positive sampled per month, or any repeat sample is positive	N/A	Naturally present in the environment
Radionuclides	Violation? Yes/No	Units	Highest Level Detected	MCL	AL	Typical Source of Contamination
Gross Alpha	No	pCi/L	2.44±0.587	15	N/A	Erosion of Natural Deposits
Radium-226 and Radium-228 (combined)	No	pCi/L	1.54±0.762	5		
Synthetic Organic Chemicals ³	Violation? Yes/No	Units	Highest Level Detected	MCL	AL	Typical Source of Contamination
No exceedances during reporting period.	No	mg/L	ND	Ranges from .00003 - 700	N/A	Byproducts of industrial processes and petroleum production, urban stormwater runoff and septic systems
Residual Disinfectants	Violation? Yes/No	Units	Highest Level Detected	MRDL	AL	Typical Source of Contamination
Free Chlorine	No	mg/L	0.85	4	N/A	Water additive used to control microbes
Disinfectant / Disinfection Byproducts	Violation? Yes/No	Units	Annual Average	MCL ⁴	AL	Typical Source of Contamination
Total Trihalomethanes	No	mg/L	0.0173	0.08	N/A	By-products of drinking water chlorination
Haloacetic Acids (HAA5)	No	mg/L	0.0075	0.06		
DBP Precursor Total Organic Carbon (TOC)	No	mg/L	0.04	N/A		Not a contaminant, TOC may be used as a non-specific indicator of water quality
DBP Precursor Alkalinity	No	mg/L	26	N/A		Not a contaminant, it is the capacity of water to resist acidification
PFAS	Violation? Yes/No	Units	Highest Level Detected	HA	AL	Typical Source of Contamination
PFOS	No	ng/L	ND	70	N/A	Runoff from industrial use (chrome plating, electronic manufacturing and fire suppression) and consumer products.
PFOA	No	ng/L	ND	70		

Notes: Water Quality Table is for DETECTED contaminants only.

- Ten other inorganic contaminants were monitored in 2023, but results were non-detectable.
- No MCL established for Sodium. Monitoring is required so that levels can be made available upon request.
- Twenty one other synthetic organic chemicals were monitored in 2023, but results were non-detectable.
- The MCL for Total Trihalomethanes and Haloacetic Acids is based on an annual average of quarterly samples.

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 a Boil Water Notice will be issued 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?

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.

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 states 90% of water samples must be below the action level. The water system met that criterion in 2021. The water system will continue to be sampled for lead, the next samples will be taken this summer. 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.

WATER QUALITY SAMPLING FREQUENCY

Constituent	Frequency
pH, conductivity, turbidity, chlorine residual, water temperature, and water pressure	Twice daily Monday-Friday by MCAS Iwakuni staff. Twice monthly by contractor.
Turbidity	Daily
Disinfection byproducts (Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5))	Quarterly
Total coliform	Monthly
Inorganic chemicals	Annually
Lead and Copper Rule (housing)	Annually
Lead in Priority Areas (LIPA)	Once every 5 years
Nitrate and Nitrite	Quarterly
Synthetic Organic Chemicals	Four consecutive quarterly samples every 3 years
Volatile Organic Compounds	Annually
PCBs, Herbicides, and Pesticides	Once every 3 years
Radionuclides	Once every 4 years
Asbestos	Once every 9 years
Per- and polyfluoroalkyl substances (PFAS)	Once every 3 years

The table on page five shows constituents detected during July-December 2023 water sampling. Only those constituents detected are listed. The presence of a contaminant does not necessarily indicate the water poses a health risk. As such, MCAS Iwakuni's drinking water is deemed fit for human consumption. For more information on this report or water quality in general, please contact the MCAS Iwakuni Environmental Division, Water Program Manager at 253-5388 or via email at Hoeft.christopher@usmc.mil