Consumer Confidence Report

Marine Corps Air Station Iwakuni
Main Base, Atago & Monzen Drinking Water System

This report reflects monitoring data collected in 2020 and will be updated annually.

Marine Corps Air Station (MCAS) Iwakuni is pleased to provide you with this annual Consumer Confidence Report (CCR) for the Drinking Water System which supports MCAS Iwakuni, Japan. This report provides information about the water delivered to MCAS Iwakuni in 2020. It describes where your water comes from, what it contains, and how it compares to standards for safe drinking water.

Our goal is to provide safe and dependable drinking water. During 2020, drinking water at MCAS Iwakuni met all Japan Environmental Governing Standards (JEGS) drinking water health standards.

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 Japan Environmental Governing Standards (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.

Nishiki River

To continually ensure that our water is safe to drink, the JEGS require us to regularly monitor and test our water for contaminants. MCAS Iwakuni vigilantly safeguards its water supplies and we are proud to report that our system did not violate any JEGS maximum contaminant levels (MCLs) in 2020.

Possible Source of Contaminants

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791), or visiting the EPA website at https://www.epa.gov/dwstandardsregulations.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

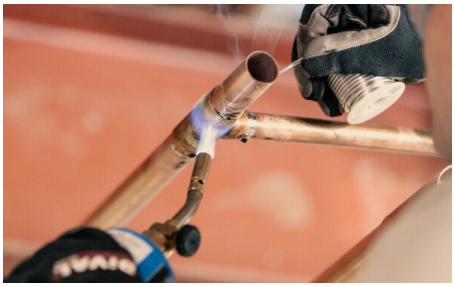
Potential Contaminants in Drinking Water

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 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 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.*



Lead solder can be a source of lead in drinking water

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. Environmental Protection Agency/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 United States, 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) used for fighting petroleum fires at airfields and in industrial fire suppression processes because they rapidly extinguish fires, saving lives and protecting property. 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?

There is currently no established federal water quality regulation for any PFAS compounds. In May 2016, the EPA established a health advisory (HA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS.

Out of an abundance of caution for your safety, the Department of Defense's PFAS testing and response actions go beyond EPA Safe Drinking Water Act requirements. In 2020 the DoD promulgated a policy to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years.

The EPA's health advisory states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should quickly undertake additional sampling to assess the level, scope, and localized source of contamination to inform next steps.

Has MCAS Iwakuni tested its water for PFAS?

Yes. In 2020 samples were collected from Atago, Main, and Monzen Pump Houses.

Below MRL

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 18 PFAS compounds covered by the sampling method, including PFOA and PFOS. This means that PFAS were not detected in your water system. In accordance with DoD policy, the water system will be resampled every three years for your continued protection.

Maintaining Your Water Quality At Home

The Facilities Department performs maintenance, disinfection on water infrastructure, and oversees sampling and analysis through contracted sampling, but there are things you can do to maintain the water quality at your home. The plumbing and fixtures that distribute water throughout your house can sometimes contribute to water quality issues, particularly aesthetic ones, such as discoloration, taste and odor.

The following are some ways that residents can improve the quality of their water:

Flush cold-water faucets before using for cooking, drinking, or making baby formula.
If a faucet has not been used for several hours or longer, run the water for 30 seconds to 2 minutes (or until the water feels cooler) before using the water for cooking or drinking. This will improve water quality by bringing in fresh water, and reduce lead levels if present in your home's plumbing

Clean faucet screens.
At the tip of some faucets you may find an aerator screen. This screen blends air into the water, which cuts down on water use. But it can also trap sediments and metals from your pipes and hot water tank. This can impact water quality and may block water flow. Twist off to remove and clean the aerator.

Do not use hot tap water for cooking, drinking, or making baby formula.
Hot water can help dissolve metals such as lead into your drinking water.
Always start with cold water and heat as necessary.

Water Quality Data Table

The following table lists all of the drinking water contaminants detected at MCAS Iwakuni. 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.

CONTAMINANT (UNITS)	AL MCL	Highest Level Detected	Lowest Level Detected	Year	Possible Source of Contamination	Violation
MICROBIOLOGICAL						
Total Coliform (positive samples/month	N/A	0	0	Monthly 2020	Naturally present in the environment. Used as an indicator that other potentially Harmful bacteria may be present.	No
INORGANIC CHEMICALS / METALS/ VOC's						
Barium (ppm)	2	0.01	.009	2020	Discharge of drilling wastes, manufacturing, and erosion of natural deposits.	No
Fluoride (ppm)	4	0.59	0.10	2020	Water additive which may promote strong teeth. JEGS requires injection, and Atago also began in 2020.	No
Total Nitrite and Nitrate (ppm)	10	0.32	0.20	2020	Runoff from fertilizer use, leaking from septic tanks, sewage, and erosion of natural deposits.	No
Sodium (ppm)	N/A	5.9	5.7	2020	Naturally occurring.	No
Toluene	1.0	0.0027	ND	2020	Common industrial products.	

LEAD & COPPER	AL	AREA	90th Percent Value	SITES EXCEEDING ACTION LEVEL/ # OF SITES	Year	Possible Source of Contamination	
Copper (ppm)	1.3	ATG	0.15	0 / 35	2020	Internal corrosion of household plumbing systems; Erosion of natural deposits	No
		MAIN	0.39	0 / 30			
		MON	0.053	0 / 20			
Lead (ppm)	0.015	ATG	ND	0 / 35	2020	Internal corrosion of household plumbing systems; Erosion of natural deposits	No
		MAIN	ND	0 / 30			
		MON	ND	0 / 20			

CONTAMINANT DISINFECTION BYPRODUCTS	AL/ MCL	RAA	Highest Level Detected	Lowest Level Detected	Year	Possible Source of Contamination	Violation
Residual Chlorine (ppm)	MRDL 4	N/A	0.60	<0.05*	2020	Water additive used to control microbes	No*
Total Trihalomethanes (ppb)	80	21.58	41	12	2020	Byproduct of drinking water disinfection	No
Haloacetic Acids (HAA5) (ppb)	60	8.81	15	4.9	2020	Byproduct of drinking water disinfection	No

CONTAMINANT	EPA HA	Highest Level Detected	Lowest Level Detected	Year	Possible Source of Contamination	Violation
PFAS (ppt)	70	0.82	ND	2020	AFFF, industrial sources, wastewater, landfills	No

CONTAMINANT RADIONUCLIDES	MCL	Highest Level Detected	Lowest Level Detected	Year	Possible Source of Contamination	Violation
Gross Alpha (pCI/L)	15	1.10	0.887	2020	Naturally occurring radioactive elements	No

Summary of Compliance Discrepancies

Discrepancy	Consumer Health Impact	Corrective Action
*Low chlorine residual has been detected at a distant location from the pump house.	None – chlorine is added to drinking water to eliminate bacteria. No bacteria have been detected.	Flushed water pipes to increase the amount of fresh water containing higher levels of chlorine.

Abbreviations and Definitions:

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

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.

ND: Not Detected.

pCi/L: Picocuries per liter, and is equal to one trillionth of a curie.

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.

RAA- Running Annual Average.

Constituent	Frequency
pH, Conductivity, Turbidity, Chlorine Residue, Water Temperature, and Water Pressure	Hourly
Fluoride and Turbidity	Daily
Disinfection byproducts (Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5)	Quarterly
Total Coliform	Monthly
Lead, Copper and Inorganic Chemicals (excluding Nitrate, Nitrite)	Annually
Nitrate and Nitrite	Quarterly
Synthetic Organic Chemicals	Quarterly
PCBs, Herbicides, and Pesticides	Once every 3 years
Radionuclides	Once every 4 years
Asbestos	Once every 9 years

The table on page four lists constituents detected during 2020 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 david.r.campbell1@usmc.mil.