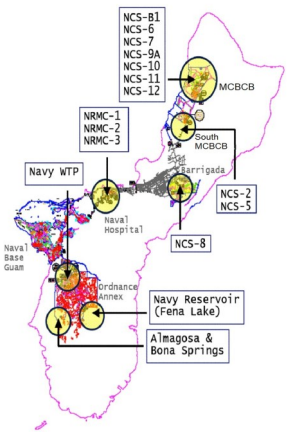
2024 US NAVY WATER SYSTEM WATER QUALITY REPORT

This annual report contains information about the quality of the water supplied by the U.S. Navy Water System during the period of January 1 to December 31, 2024. Included as part of this report is the **"2024 U.S. Navy Water Quality Data"** table detailing the water quality of our system. This report will help you, our customer, understand the relationship between the contaminants found in drinking water, activities that may contaminate the water supply, and their associated health effects.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example people in apartments, nursing homes, schools or businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

U.S. NAVY WATER SYSTEM

The primary source of water for the U.S. Navy Water System is the Navy (Fena) Reservoir. It is supplemented by Almagosa Springs and Bona Springs, and is processed at the Navy Water Treatment Plant prior to distribution to Naval Base Guam and surrounding areas. Groundwater wells at Marine Corps Base Camp Blaz, Naval Computer Telecommunication Station (NCTS) Barrigada, and Naval Hospital further augment our water system supplying these areas and supplementing the surface water-fed areas. U.S. Navy Water System Wells NCS 2, NCS 5, NCS B1, NCS 6, NCS 7, NCS 9A, NCS 10, NCS 11, and NCS 12 are now under Marine Corps Base Camp Blaz real property jurisdiction. During the 2nd quarter of 2023, the entry point to the distribution system for Wells NCS 6,7,11, and 12 were combined prior to treatment. Naval Facilities Engineering Systems Command Marianas operates the U.S. Navy Water System with support provided by our Base Operations Support Contractor DZSP21, LLC.



WHY ARE CONTAMINANTS FOUND IN MY WATER?

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 can pick up substances resulting from the presence of animals or from human activity.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in untreated 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 discharge, 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.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

DRINKING WATER REGULATIONS

In order to ensure that tap water is safe to drink, the EPA created 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 that must provide the same protection for public health.

The **National Primary Drinking Water Regulations** sets limits for contaminants in drinking water and standards for water treatment that primarily safeguard health.

The **Secondary Drinking Water Standards** (**Aesthetic)** are non-enforceable guidelines for limiting the contaminants in drinking water that affect its aesthetic quality (such as taste, smell, appearance, staining properties, etc.). Our drinking water may at times contain various aesthetic parameters above the recommended acceptable levels. While these parameters directly affect the aesthetic quality of your drinking water, they do not pose a health hazard.

MONITORING, REPORTING, AND VIOLATIONS

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. **All drinking water samples from the U.S. Navy Water System met all primary water Maximum Contaminant Levels (MCL) and Treatment Technique requirements in 2024.** We also submitted all of our laboratory reports on time as required by Guam EPA.

HOW CAN YOU OBTAIN ADDITIONAL INFORMATION?

Please contact Naval Hospital Preventative Medicine at (671) 344-9787 for health concerns related to this report. For information about the U.S. Navy Water System, please contact the Naval Facilities Engineering Systems Command Marianas Utilities Department at (671) 333-1321. Additionally, Guam EPA Safe Drinking Water Program may be reached at (671) 300-9026.

HOW CAN YOU REPORT A WATER QUALITY COMPLAINT?

Should you notice that your water is discolored, or if you have any concerns about your drinking water, you are encouraged to call our Regional Call Center Marianas Trouble Desk at (671) 333-2011. Arrangements can be made to have your water sampled and analyzed to ensure that it is safe to drink.

HEALTH PRECAUTIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as cancer patients 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/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 at 1-800-426-4791.

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. The U.S. Navy Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When 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 http://www.epa.gov/safewater/lead.

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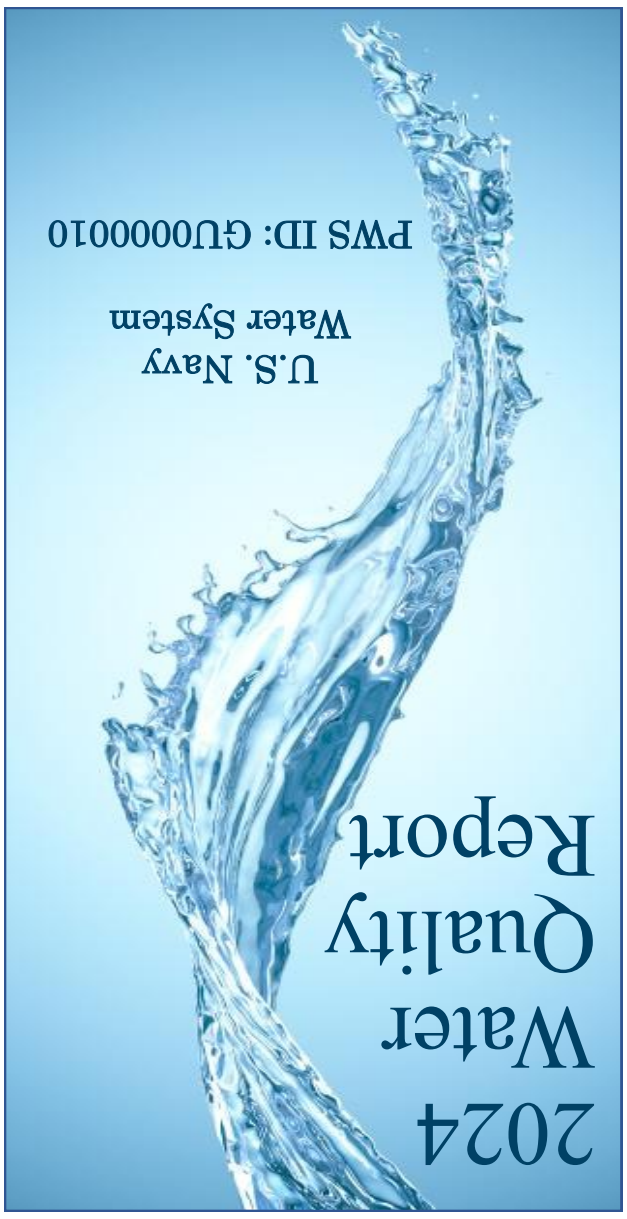

2024 U.S. NAVY WATER SYSTEM WATER QUALITY DATA

The table below presents the 2024 water quality monitoring results of each detected contaminant in comparison with the established drinking water standards. The table also summarizes the monitoring times, the range of detections, whether or not the drinking water standards were met, the major sources of the contaminant, and the locations detected. Monitoring for some contaminants may occur at intervals greater than once per year. This is allowed because the concentrations of these contaminants do not change frequently. Some data, though representative, are more than a year old. For those contaminants, the date of the last sample is shown in the table.

ABBREVIATIONS

ARA - annual running average
IOC - Inorganic Compound
MRL - Minimum Reporting Level
NCS - Naval Communication Station
SOC - Synthetic Organic Compound
NCTS - Naval Computer Telecommunication Station
NRMC - Navy Regional Medical Center
NTU - Nephelometric Turbidity Unit
NWTP - Navy Water Treatment Plant
ND - not detected (above laboratory detection limit)
n/a - not applicable
pCi/L - picoCuries per liter
ppb - parts per billion (or micrograms per liter)
ppm - parts per million (or milligrams per liter)
ppt - parts per trillion (or nanograms per liter)

PRIMARY STANDARDS, Mandatory, Health Related Standards, established by GUAM EPA and US EPA

Contaminants (Units)	Sample Year	MCLG	MCL	Detection Range low	Detection Range high	Violation	Sources of Contamination	Locations Detected
SYNTHETIC ORGANIC COMPOUNDS								
Picloram (ppb)	2024	500	500	ND	0.17	No	Herbicide runoff	Well NCS 8
INORGANIC CHEMICALS								
Fluoride (ppm)	2024	4	4	ND	0.53	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	NWTP Clearwell
Nitrate (ppm)	2024	10	10	0.13	2.2	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	NWTP Clearwell, Wells NCS B1, NCS 8, NCS 9A, NCS 10, Combined Production Well NCS-6,7,11,12
Selenium (ppb)	2024	50	50	ND	4.2	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	NWTP Clearwell, Wells NCS 9A, NCS 10,
RADIONUCLIDES								
Gross Alpha Activity (pCi/L)	2023	0	15	ND	2.3	No	Erosion of natural deposits	Well NCS 10
Radium 226 (pCi/L)	2023	0 *Note 1*	5 *Note 1*	ND	2.0	No	Erosion of natural deposits	Wells NCS B1, NCS 9A,NCS 10, Combined Production Well NCS-6,7,11,12
SPECIAL MONITORING for SODIUM								
Sodium (ppm)	2024	n/a	n/a	16	52	No	Salt water intrusion from aquifer/ salt water interface; sodium hydroxide reaction for pH control in water treatment	NWTP Clearwell, Wells NCS B1, NCS 8, NCS 9A, NCS 10, Combined Well Production NCS-6,7,11,12
DISINFECTION BY PRODUCTS AND DISINFECTANT RESIDUALS								
Five Haloacetic Acids [HAA5] (ppb)	2024	n/a *Note 2*	60	12	20	No	Byproduct of drinking water chlorination	Distribution system
Total Trihalomethanes [TTHM] (ppb)	2024	n/a *Note 2*	80	45	54	No	Byproduct of drinking water chlorination	Distribution system
Control of DBP Precursors [Total Organic Carbon, TOC]	2024	n/a	TT>1.0 *Note 3*	1.2	2.5	No	Naturally present in the environment	Navy Water Treatment Plant
Chlorine (ppm)	2024	4 (MRDLG)	4 (MRDL)	0.01	3.1	No	Water additive used to control microbes	Distribution system, NWTP Clearwell

Contaminants (Units)	Sample Year	AL	MCLG	YOUR WATER	Number of samples exceeding AL	Violation	Sources of Contamination	Locations Detected
LEAD and COPPER								
Lead (ppb)	2024	15 *Note 4*	0	0.44	None	No	Corrosion of household plumbing system, erosion of natural deposits	Distribution system
Copper (ppm)	2024	1.3 *Note 4*	1.3	0.36	None	No	Corrosion of household plumbing system, erosion of natural deposits	Distribution system

Contaminants (Units)	Sample Year	MCLG	MCL	YOUR WATER	Violation	Sources of Contamination	Locations Detected
Turbidity as an Indicator of Filtration Performance							
Turbidity (NTU)	2024	n/a	TT ≤ 0.3 NTU for 95% of samples *Note 5*	100%	No	Soil runoff	Navy Water Treatment Plant
	6/15/2024	n/a	TT = 1 NTU *Note 6*	0.212	No	Soil runoff	Navy Water Treatment Plant

Contaminants (Units)	Sample Year	MCLG	MCL	Highest Reporting Value	Violation	Sources of Contamination	Locations Detected
Total Coliform [TC] (% positive per month)	2024	0%	>5%	2.0%	No	Naturally present in the environment	Distribution system

Contaminants (Units)	Sample Year	MCLG	MCL	YOUR WATER	Violation	Sources of Contamination	Locations Detected
ACRYLAMIDE							
Acrylamide (ppm)	2024	0	*Note 7*	TT ≤ 0.05% dosed at 1 ppm	No	Added to water during treatment	Navy Water Treatment Plant

Contaminants (Units)	Sample Year	MRL	Detection Range low	Detection Range high	Sources of Contamination	Locations Detected
UNREGULATED CONTAMINANTS						
Perfluorohexanesulfonic acid [PFHxS] (ppt)	2024	0.3 *Note 8*	ND	3.1	PFAS are a group of synthetic chemicals used in a wide range of consumer products and industrial applications including: non-stick cookware, food packaging, water-repellent clothing, stain-resistant fabrics and carpets, cosmetics, firefighting foams, electroplating, and products that resist grease, water, and oil.	Wells NCS B1 and NCS 10

NOTES

All contaminants detected as Not Detected (ND were detected below the established regulatory method detection limit.

Note 1: The combined radium (total of radium-226 and radium-228,pCi/L) MCL and MCLG are 5 and 0 respectively.

Note 2: Although there is no collective MCLG for these contaminants, individual MCLGs for some of the contaminants do exist. **HAAs**: Monochloroacetic acid (70 ppb), Dichloroacetic acid (zero), and Trichloroacetic acid (20 ppb). Bromoacetic acid and Dibromoacetic acid do not have MCLGs. **THM**: Bromodichloromethane (zero), Bromoform (zero), Chloroform (70 ppb), Dibromo chloromethane (60 ppb). Compliance with MCL is based on Locational Running Annual Average (LRAA) calculated quarterly (highest reported average).

Note 3: TOC results are calculated quarterly, as the % removal ratio 12-month ARA. The value must be >1.0.

Note 4: The Action Level (AL) is exceeded if the concentration of more than 10 percent of tap water sample collected (the "90th percentile" level) is greater than 1.3 ppm for copper and 15 ppb for lead. In October 2024, the EPA's Lead and Coper Rule Improvements (LCRI) lowered the lead AL from 15 ppb to 10 ppb. Lead sampling results obtained prior to this date were based on the previous AL of 15 ppb. Future sampling will adhere to 10 ppb AL as required by LCRI.

Note 5: TT = At least 95% of monthly filtered water samples must be <0.3 NTU, measured every four hours. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Note 6: TT = No filtered water sample should exceed 1 NTU.

Note 7: TT ≤ 0.05% dosed at 1 ppm. The combination (or product) of dose and monomer level of acrylamide should never exceed 0.05% dosed at 1 ppm (or equivalent).

Note 8: Unregulated contaminants are those that do not have drinking water standards established by U.S. EPA. This monitoring provides a basis to develop future regulatory determinations and assist in the development of national primary drinking water regulations. The fifth Unregulated Contaminant Monitoring Rule (UCMR5) specifies monitoring for 29 per-and polyfluoroalkyl substances (PFAS) and lithium. Lithium and all other PFAS contaminants not included in the table above were not detected during UCMR5 monitoring.

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 known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

SPECIAL MONITORING FOR PER–AND POLYFLUOROALKYL SUBSTANCES (PFAS)

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 federal regulation for PFAS in drinking water?

On April 26, 2024 the United States Environmental Protection Agency (EPA) published a National Primary Drinking Water Regulation (NPDWR) final rule on drinking water standards for six PFAS under the Safe Drinking Water Act (SDWA). The rule established the following maximum contaminant levels (MCLs):

Chemical	Maximum Contaminant Level (ppt)
Perfluorooctanesulfonic acid (PFOS)	4.0
Perfluorooctanoic acid (PFOA)	4.0
hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX)	10
Perfluorononanoic acid (PFNA)	10
Perfluorohexane sulfonic acid (PFHxS)	10
HI MCL for PFHxS, PFNA, perfluorobutane sulfonic acid (PFBS), and GenX	1 (unitless)

Under the NPDWR, regulated public water systems (PWS) are required to complete initial monitoring by April 26, 2027. Beginning April 26, 2027, regulated PWSs will conduct ongoing compliance monitoring in accordance with the frequency dictated by the rule and as determined by the initial compliance monitoring results. Regulated PWSs must demonstrate compliance with the MCLs by April 26, 2029.

In order to provide safe drinking water to all Department of Defense (DoD) personnel, OSD policy extends this requirement to all DoD systems which provide drinking water for human consumption, regardless of size of the drinking water system. In addition to the six regulated compounds, DoD-owned systems are required by DoD policy to monitor for all 25 compounds detected when using EPA Method 533.

Protecting the health of our personnel, their families, and the communities in which we serve is priority for the Department. DoD is committed to complying with requirements of the NPDWR and the continued provision of safe drinking water to those the work and live on DoD installations.

Has Naval Base Guam and the Navy Water System tested its water for PFAS in 2024?

Yes. In November 2024, samples were collected from entry points in the distribution of the US Navy Water System. We are informing you that 10 of the 25 PFAS compounds covered by the sampling method were detected in your water system. The results are provided in the table below. EPA does not have a HA or MCL for all of these compounds at this time. PFOA, PFOS, PFNA, PFHxS, and PFBS were detected.

What is next?

Naval Base Guam and the US Navy Water System will continue to monitor for PFAS in accordance with the EPA regulation and DoD policy. Once required initial monitoring information is available, we will calculate the Running Annual Averages (RAA) for the regulated PFAS and will compare those numbers to the MCL and Hazard Index (HI) trigger levels. This will determine what our continuing monitoring requirements will be beginning in 2027, and if needed, we will plan operational or infrastructure changes to ensure our water complies with the PFAS MCLs and HI by April 2029 in accordance with the SDWA.

SUMMARY OF PER-AND POLYFLUOROALKYL SUBSTANCES RESULTS

Analyte	MCL (ppt)	NCS B1 (ppt)	NCS 8 (ppt)	NCS 9A (ppt)	NCS 10 (ppt)
PFOS	4.0	0.69	0.63	0.47	0.89
PFOA	4.0	0.59	ND	0.40	0.74
PFHxS	10	2.1	0.35	1.5	3.1
Hazard Index	1 (unitless)	0	0	0	0.31
PFBA	n/a	0.63	0.18	0.35	0.69
PFPeA	n/a	1.4	0.34	0.73	1.5
PFHxA	n/a	0.91	0.36	0.54	1.0
PFHpA	n/a	0.53	ND	0.28	0.58
PFBS	n/a	1.1	ND	0.69	1.2
PFPeS	n/a	0.24	ND	ND	0.18
6:2 FTS	n/a	ND	0.20	ND	ND

NOTES and ABBREVIATIONS

PFOS - Perfluorooctanesulfonic acid
PFOA - Perfluorooctanoic acid
PFHxS - Perfluorohexanesulfonic acid
PFBA - Perfluorobutanoic acid
PFPeA - Perfluoropentanoic acid
PFHxA - Perfluorohexanoic acid
PFHpA - Perfluoroheptanoic acid
PFBS - Perfluorobutanesulfonic acid
PFPeS - Perfluoropentanesulfonic acid
6:2 FTS - 6:2-fluorotelomersulfonic acid

Hazard Index : The Hazard Index is a long-established approach that EPA regularly uses to understand health risk from chemical mixture. The HI is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level determined not to have risk of health effects EPA set an HI MCL to control additive health effects for mixtures of two or more PFAS, including PFHxS, PFNA, HFPO-DA, and PFBS. For each EPTDS, the HI is calculated by dividing the detected concentration of each PFAS in (ppt) by the Health Based Water Concentration (HWBC) of the respective PFAS and summing the results. HWBCs for each PFAS are as follows: PFHxS (10 ppt), HFPO-DA (10 ppt), PFNA (10 ppt), and PFBS (2,000 ppt). An individual result less than the EPA PQL for a given PFAS is treated as zero in the calculation.