



NS Guantanamo Bay, Cuba 2023 Annual Consumer Confidence Report (CCR)

We are pleased to provide you with the 2023 Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. NSGB's goal is to provide you a safe and dependable supply of drinking water. We are proud to inform base residents that our water is very safe and fit for human consumption!

WATER SOURCE AND TREATMENT



- Our drinking water source is sea water drawn from Guantanamo Bay, approximately 220 feet out into the bay from the seawater holding tank.
- The surface water is turned into drinking water through a process called **reverse osmosis (RO)** — the application of pressure to a concentrated solution that causes the passage of a liquid from the concentrated solution to a weaker solution across a semi-permeable membrane. The membrane allows the passage of water (solvent), but does not allow the passage of the dissolved solids (solutes), including salts.
- The RO plant is currently capable of producing approximately 1.5 million gallons per day. Water produced from the RO plant is transferred to water storage tanks before being processed through the water treatment plant (WTP3).
- WTP3 adds lime to make the water less corrosive and adds necessary minerals (calcium) to the water. WTP3 also adds fluoride which has been shown clinically to reduce tooth decay. Corrosion Inhibitor is also used to minimize degradation within the distribution system. Lastly, Chlorine is injected for inactivation of viruses and to maintain disinfectant residual in the finished water. At the treatment plant, water is held in large storage tanks before entering the distribution system to the customer's tap.

MONITORING REQUIREMENTS

NSGB routinely monitors for contaminants in your drinking water according to the Environmental Final Governing Standards for Cuba (FGS) and CNICINST 5090 Series. Except where indicated otherwise, this report is based on the monitoring results for the period of January 1 to December 31, 2023. This report shows our water quality results and what they mean. If you have any questions about the quality of water at NSGB or would like more information on the Overseas Drinking Water Program, please contact Public Works Department, Environmental Division at 5625.



POTENTIAL CONTAMINANTS

The sources of drinking water (both tap water and bottled water) include oceans, 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.

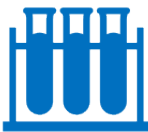


Contaminants that may be present in source water include:



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 stormwater 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 stormwater 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 stormwater runoff, and septic systems.



Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the United States Environmental Protection Agency (EPA) prescribes regulations, which limit certain contaminants in water provided by public water systems. The FGS and CNICINST 5090 series regulations are modeled after the EPA's regulations and result in safe drinking water. NSGB tests drinking water for the following:

- Microorganisms
- Disinfection Byproducts
- Inorganic chemicals
- Organic Chemicals (SOCs/VOCs)
- Radionuclides

No samples have exceeded the contaminants' Maximum Contaminant Level (MCL) during calendar year 2023 – the drinking water provided in NSGB is fit for human consumption.

VULNERABLE RESIDENTS



Drinking water (including bottled water) may reasonably be expected to contain at least small amounts of contaminants. Their presence does not necessarily indicate that water poses a health risk. 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. People who are immuno-compromised should seek advice about drinking water from their health care providers, EPA, the Center for Disease Control and Prevention (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).



INFORMATION ON BACTERIOLOGICAL TESTING

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.

NSGB collects 10 routine coliform samples each month (120 tests/year) at designated housing and facilities throughout the installation. Chlorine is used to effectively prevent bacteriological contamination throughout the water system.

For more information on coliform testing, please visit the following EPA website: <https://www.epa.gov/dwreginfo/revised-total-coliform-rule-and-total-coliform-rule>.



INFORMATION ON 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. 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. Routine sampling for lead is conducted in accordance with the Lead and Copper Rule.



WATER QUALITY TABLE

Table 1: Detected NPDWR (Enforceable) Contaminants

LEAD AND COPPER - Tested at customer's taps annually.						
Contaminant	EPA's Action Level	Ideal Goal (EPA's MCLG)	90% of Test Levels Were Less Than ¹	# of Tests With Levels Above EPA's Action Level	Violation	Typical Sources
Lead	90% of homes less than 15 ppb	0 ppb	1.8 ppb	0 out of 20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	90% of homes less than 1.3 ppm	1.3 ppm	0.12 ppm	0 out of 20	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹90th percentile values are reported.

RESIDUAL DISINFECTANT - At Water Plant 3 (Point-of-Entry)						
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Free Chlorine (as Cl ₂)	MRDL = 4 ppm	MRDLG = 4 ppm	2.60 ppm	2.00 - 2.60 ppm	No	Water additive used to control microbes

DISINFECTION BYPRODUCTS - Quarterly monitoring in representative distribution points.						
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Total Trihalomethane (TTHM)	80 ppb	n/a	33.53 ppb	6.37 - 33.53 ppb	No	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	60 ppb	n/a	10.87 ppb	2.12 - 10.87 ppb	No	By-product of drinking water disinfection

INORGANIC CHEMICALS - Annual² and Quarterly Monitoring at Water Plant 3 Point-of-Entry (WTP3 POE)						
Contaminant ³	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Fluoride ⁴	2 ppm	2 ppm	0.91 ppm	0.078 - 0.91 ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (as N)	10 ppm	10 ppm	0.22 ppm	0.057 - 0.22 ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

²Contaminants monitored annually are not detected.

³Detected contaminants monitored quarterly.

⁴EPA's MCL and MCLG is 4 ppm, but NSGB has set a lower MCL and MCLG which improves public health protection.

BACTERIA IN TAP WATER					
Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Monthly Number of Samples Detected	Violation	Typical Sources
Total Coliform (for systems that collect <40 samples/month)	1 positive monthly sample	0	1 ^a	No	Naturally present in the environment
E. coli	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or E. coli positive	0	1 ^{a*}	No	Human and animal fecal waste.

^aResampling done immediately and came out negative for both total coliform and E. coli.

*Although E. coli was detected, the water system is not in violation of the E. coli MCL.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Turbidity (at WTP3 POE)	TT (must be less than or equal to 0.3 NTUs in at least 95 percent of the samples in any month; at no time be higher than 1 NTU)	n/a	0.30 NTU	<0.118 - 0.30 NTU	No	Soil runoff

Table 2: Detected NSDWR (Recommended/Non-Enforceable) Contaminants

Contaminant	Highest Level Allowed (EPA's MCL)	Highest Result	Range of Test Results	Violation	Typical Sources
Sodium	n/a	110 ppm	78 - 110	n/a	breakdown of natural minerals and deposits
Sulfate	250 ppm	4.0 ppm	2.2 - 4.0 ppm	No	run-off from fertilizer use; erosion of natural deposits
Chloride	250 ppm	220 ppm	140 - 220 ppm	No	breakdown of natural minerals & deposits

REMARKS:

- 14 other Inorganic Chemicals were monitored, but no analytes were detected.
- 33 Synthetic Organic Chemicals were monitored, but no analytes were detected.
- 21 Volatile Organic Chemicals were monitored, but no analytes were detected.
- 5 Radionuclides were monitored, but no analytes were detected.

CY2024 Consumer Confidence Report (CCR) Language Regarding 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 regulation for PFAS in drinking water?

On April 10, 2024, the US EPA established MCLs for a subset of PFAS chemicals.

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

The 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 PFOA and 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 PFOS or PFAS. 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 NSGB tested its water for PFAS in 2023? Yes. In September 2023 samples were collected from Water Plant #3.

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 29 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 two years for your continued protection.

How to Read the Water Quality Data Table:

EPA establishes the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to regulatory limits. Substances not detected are not included in the table.

Units in the Table: ppm is parts per million (or 1 drop in 1 million gallons); ppb is parts per billion (or 1 drop in 1 billion gallons); NTU is Nephelometric Turbidity Units (a measure of water clarity); pCi/L is picocuries per liter (a measure of radioactivity); "<" is "less than" (means contaminant was not detected, or was detected at a level below the minimum reporting level); U is a data qualifier (means compound was analyzed but not detected).

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.

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

NPDWR: National Primary Drinking Water Regulations: legally enforceable standards that apply to public water supply systems. Primary standards aim at protecting drinking water quality by setting limits on the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in public water systems.

NSDWR: National Secondary Drinking Water Regulations: non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply.

Total coliforms: a group of related bacteria that are naturally present in the environment and are not harmful to humans (with few exceptions). EPA considers total coliforms a useful indicator of other pathogens for drinking water. Total coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system.

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.



Frequently Asked Questions

Why does the water sometimes look rusty?

Rusty or reddish water may occur because of a sudden change in pressure due to fire hydrant flushing, water main breaks, or other disturbances that result in change to normal water flow. Iron causes the discoloration and is not a health risk. The normal flow of water will usually clear up 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, PWD Environmental or Utilities and Energy Management (UEM) will issue a Precautionary Boil Water Notice (PBWN) as 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 suspected. In other cases, if total coliform bacteria 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 completed.

I don't like the taste/smell /appearance of my tap water – what's wrong with it?

Even when water meets standards, individuals may still object to its taste, smell, or appearance. Taste, smell, and appearance are 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).

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 amount 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 higher potential for leaching metals into the water.

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

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

For additional information, you may contact:

Environmental Division
Public Works Department
Naval Station Guantanamo Bay, Cuba
757-458-5625 or 757-458-5627

Preventive Medicine
NH Guantanamo Bay
757-458-2998, Opt 1. ext 72087