



2021 Annual Consumer Confidence Report

Naval Station Guantanamo Bay

Water Source and Treatment

The 2021 Annual Consumer Confidence Report (CCR) for Naval Station Guantanamo Bay (NSGB) is provided to inform NSGB residents regarding the quality of the drinking water delivered to residents every day. NSGB is responsible for providing all residents a safe and dependable supply of drinking water.

The installation's drinking water source is sea water drawn from Guantanamo Bay through an intake pipe which is then transferred by pumps to the treatment plant where NSGB uses one of the Best Available Technology (BAT), and Treatment Techniques (TT), available in the water industry to provide safe drinking water. NSGB uses a process called Reverse Osmosis (RO) in which seawater is converted into drinking water by forcing the seawater under high pressure through a semi-permeable membrane. The membrane allows the passage of water (solvent) but does not allow the flow of dissolved solids (solutes), including salts. The RO plant is currently capable of producing up to 1.4 million gallons per day (MGD).

Water produced at the RO plant is transferred to water storage tanks before final processing at Water Treatment Plant #3 (WTP3). At WTP3, lime is added to the water to provide calcium and alkalinity, as well as pH adjustment of the finished water. Fluoride and polyphosphates are also added. Chlorine is added at WTP3 to control biological growth. The water then goes into one of several storage tanks located throughout the base before it eventually enters the distribution system and comes out the customer's point of service.

Monitoring Requirements

NSGB continuously monitors the water it produces for contaminants per applicable environmental regulations – the Final Governing Standards (FGS) for Cuba and CNIC Instruction (CNICINST) 5090 Series. Except where indicated otherwise, this report is based on the results of monitoring for the period of January 1 to December 31, 2021. This report shows the 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 the Public Works Department (PWD) Environmental Division at X-5625 or X-5627.

Potential Contaminants

Typical 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 or underground, it dissolves naturally occurring minerals and organic compounds. In some cases, water can pick up radioactive materials and other substances resulting from human and animal activities.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, can be naturally occurring or may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or may be introduced from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides can 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, 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 can be the result of oil and gas production and mining activities.

The United States Environmental Protection Agency (EPA) prescribes regulations which limit certain contaminants in water provided by public water systems to ensure the tap water is safe to drink. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. The FGS and CNICINST 5090 series regulations are modeled after EPA and FDA requirements and result in safe drinking water. NSGB tests the drinking water for the following:

- microorganism,
- disinfection byproducts
- inorganic chemicals
- organic chemicals – synthetic organic chemicals, SOCs and Volatile Organic Compounds (VOCs)
- radionuclides

NSGB is happy to report that no samples have exceeded the contaminants' Maximum Contaminant Level (MCL) during 2021 – the drinking water provided on NSGB is fit for human consumption (FFHC).

Information on Bacteriological Testing

Coliforms are bacteria that are naturally present in the environment are used as indicators 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 facility locations throughout the installation, rotating through a total of 20 separate sampling points. All sampling results indicated no coliforms. NSGB uses chlorine 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/revise-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. If water sits for several hours, you can minimize the potential of 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 and in child care/occupied areas by the Lead in Priority Areas (LIPA) Program.

LIPA sampling was conducted at the new W.T. Sampson Elementary/High School in accordance with CNICINST 5090.6 Navy Sampling and Testing for Lead. The initial sampling of 138 water fixtures, such as hand washing faucets, hydrants, and water fountains, was conducted in December 2020. Eleven (11) of the 138 samples exceeded the recommended 15-part-per-billion (ppb) screening for lead. Additionally, results in nine fixtures could not be determined to be below the 15 ppb screening level. A total of twenty (20) fixtures were then marked and scheduled for follow-up sampling. The resampling was conducted in January 2021 and nine fixtures still tested above the 15 ppb and required additional corrective action and confirmatory sampling. Corrective action included cleaning faucets, aerators, and extensive line/fixture flushing. Retesting of the nine samples was conducted in March 2021 and only one fixture tested above the 15 ppb post-corrective action. That fixture was removed from service at that time (prior to students occupying the school) and was subsequently replaced in November 2021. The fixture was passivated, sampled, and the analytical result came back well below the Action Level (AL). After confirming the fixture was below the AL, the fixture was then put back into service.

VULNERABLE RESIDENTS

Drinking water (including bottled water) can reasonably be expected to contain at least small amounts of contaminants. That does not necessarily indicate the 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 immune-compromised should seek advice about drinking water from their health care providers. EPA, or 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) or visit: <https://www.epa.gov/ground-water-and-drinking-water/forms/contact-us-about-ground-water-and-drinking-water>

2021 Naval Station Guantanamo Bay, Cuba Water Quality Table

Disinfection Byproducts	Violation? Yes/No	Units	Highest Level/Range Detected	MCL	AL	Likely Source of Contamination
Total Trihalomethanes	No	µg/L	13.38 – 52.22	80	NA	By-products of drinking water chlorination
Haloacetic Acid	No	µg/L	2.35 – 13.29	60	NA	By-products of drinking water chlorination
Microbial Contaminants	Violation Yes/No	Units	Highest level/Range Detected	MCL	AL	Likely Source of Contamination
Total Coliform Bacteria	No	N/A	N/A	>1 positive sample month or any repeat sample is positive	N/A	Naturally present in the environment
Turbidity	No	NTU	0.08 - 0.29	<= 0.3 in 95 percent of sample collected	N/A	Breakdown of natural minerals and deposits, soil runoff; indicator of filter efficiency
Synthetic Organic Chemicals*	Violation Yes/No	Units	Highest level Detected	MCL	AL	Likely Source of Contamination
No exceedances in CY 2021						
Volatile Organic Chemicals**	Violation Yes/No	Units	Highest Level Detected	MCL	AL	Likely Source of Contamination
No exceedances in CY 2021						
Radionuclides***	Violation	Units	Highest Level Detected	MCL	AL	Likely Source of Contamination
No exceedances in CY 2021						
Inorganics****	Violation Yes/No	Units	Highest Level Detected	MCL	AL	Likely Source of Contamination
No exceedances in CY 2021						
Residual Disinfectants	Violation Yes/No	Units	Highest Level/Range Detected	MDRL	AL	Likely Source of Contamination
Free chlorine	No	mg/L	0.20 – 2.60	4.0	NA	Water additive use to control microbes
Other Inorganics	Violation Yes/No	Units	Highest Level/range detected	AL		Likely Source of Contamination
Copper	No	mg/L	0.001 – 0.470	1.3		Corrosion of plumbing; erosion of natural deposit
Lead	No	mg/L	0.0005 – 0.00077	0.015		Corrosion of plumbing; erosion of natural deposit
<p>Abbreviation Used: AL: Action Level CY: Calendar Year MCL: Maximum Contaminant Level mg/L: milligrams per liter µg/L: micrograms per liter N/A: not applicable</p> <p>Definitions Used: MCL: Maximum Contaminant Level – the highest level of a contaminant that is allowed in drinking water MRDL: Maximum Residual Disinfectant Level – the highest level of a disinfectant allowed in drinking water AL: Action Level – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow to lower the level. NTU – unit of measurement for turbidity of the water. Turbidity is the physical characteristics of water that makes the water appears cloudy. The condition is caused by the presence of suspended matter.</p> <p>Notes: * – 31 Synthetic Organic Chemicals were monitored in CY 21, but the analytes were not detected. ** - 21 Volatile Organic Chemicals were monitored in CY 21, but the analytes were not detected. *** - 5 Radionuclides were monitored in CY 21, but the analytes were not detected. **** - 13 Metals were monitored in CY 21, but the analytes were not detected.</p>						

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.

Is it okay to drink from a garden hose?

Water that supplies the water hose is safe but the garden hose is treated with chemicals and can contain bacteria and other substances.

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.

Where can I go for additional information?

This CCR will be posted to the NSGB web page at:

https://www.cnic.navy.mil/regions/cnrse/installations/ns_guantanamo_bay/om/environmental_support/LIPA.html



Naval Station Guantanamo Bay
Public Work Department
Environmental Water Program
Comm: 757-458-5625/5627