DIEGO GARCIA

CONSUMER CONFIDENCE REPORT 2020

NAVFAC
Naval Facilities Engineering Systems Command

NAVSUPPFAC DIEGO GARCIA

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CONSUMER CONFIDENCE REPORT 2020

FOREWORD

The U.S. Navy Support Facility (NAVSUPPFAC) Diego Garcia (DG) Consumer Confidence Report (CCR) 2020 provides you with the valuable information about the quality of water produced by the DG water systems. We are committed in bringing to you the latest CCR, also known as the Water Quality Report, which is required to be delivered to you for your awareness about the water you drink and consume.

This is the starting point for you, as consumers, to get a detailed information of your drinking water based on the water systems' current condition. This will keep you updated regarding the results of the water quality analysis that we conducted during calendar year 2020, the levels of contaminants detected in the water and its compliance status with the drinking water standards.

Diego Garcia is dedicated to providing everyone on the island with water that meets the Diego Garcia Final Governing Standards (DGFGS) and Commander, Navy Installations Command (CNIC) Manual 5090.1A drinking water standards and water quality requirements because we know the worth of water, its value to human life and how it serves as the indicator of the health and well-being of a community. We are driven by our aim of giving you the gift of clean, safe and quality water through improving our water treatment process, protecting the water sources and maintaining its distribution system to deliver a dependable supply of fit for human consumption water to all DG consumers.

WADE BLIZZARD
Captain U.S. Navy
Commanding Officer
Navy Support Facility
Diego Garcia

Diego Garcia Overview

Figure 1. Diego Garcia is shaped like a hollow footprint as seen in aerial view.

Diego Garcia is an isolated low-lying coral atoll located approximately 7 degrees south of the equator in the center of the Indian Ocean. It is the largest of over 50 coralline islands that compromise the Chagos Archipelago. The main exposed island mass of Diego Garcia is an approximately 40-mile long, narrow strip, shaped like a hollow footprint (Figure 1) and surrounded by a fringing reef with three small islets delineating the northern boundary of the atolls.

Navy Overseas Drinking Water Program Ashore

Navy policy requires that all U.S. Navy overseas installations operate, maintain, and manage their drinking water systems to protect public health and safety. All U.S. Navy installations are required to meet or exceed U.S. National Primary Drinking Water Regulations (NPDWR) under the Safe Drinking Water Act of 1974, to ensure overseas drinking water systems meet the same water quality as required in the U.S. In this regard, Commander, Navy Installations Command (CNIC), as the Navy Executive Agent (EA) for Drinking Water Ashore, issued CNIC Instruction as a Navy policy guidance for drinking water quality compliance. The most recent version, CNIC Manual 5090.1A (Navy Overseas Drinking Water Program Ashore), was updated on 15 Mar 2021.

Overseas installations are required to continue to meet site-specific Final Governing Standards (FGS) and other applicable requirements, internal agreements, in-theater commander directives, Department of Defense (DoD) and service policies as applicable

Diego Garcia Final Governing Standards (DGFGS)

The Diego Garcia Final Governing Standards (DGFGS) provides the environmental compliance criteria and management practices used by the U.S. Department of Defense installations and activities on Diego Garcia.

These compliance criteria were developed by comparing and adopting the protective criteria of DoD Manual 4715.05 or the Overseas Environment Baseline Guidance Document, applicable environmental laws, regulations, ordinances and international agreements that collectively constitute the Bilateral Agreements on the use of Diego Garcia by both United Kingdom (host nation) and the United States. DGFGS Chapter 3 (Drinking Water) contains the compliance criteria for providing potable water in Diego Garcia. The ongoing DGFGS review and revision will incorporate recent Navy policies on ODW compliance program.

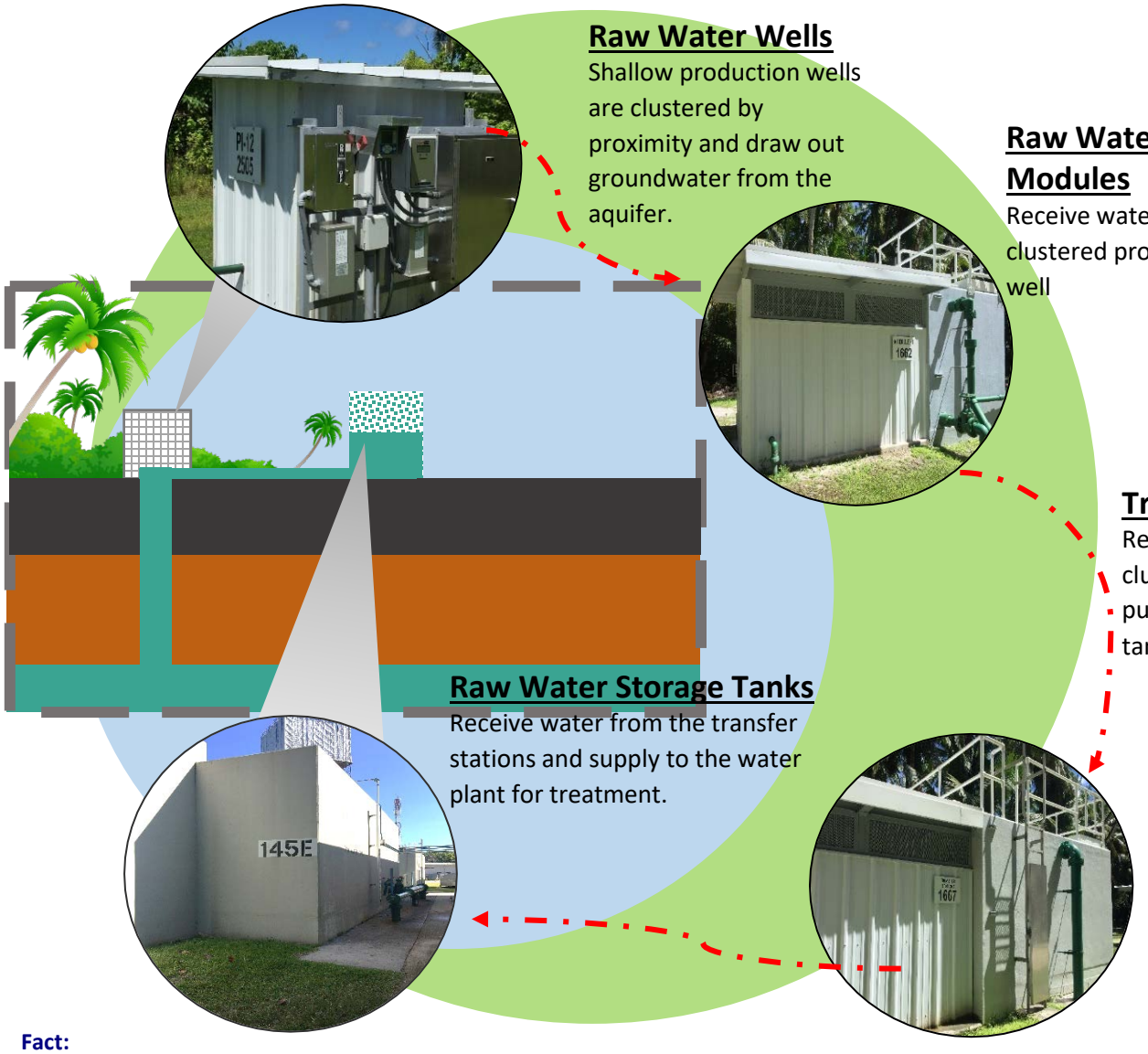
Diego Garcia ODW Program Organization and Oversight

Per Navy policy, NAVSUPPFAC Diego Garcia established the Installation Water Quality Board (IWQB) under the chairmanship of its Commanding Officer (not delegable) in April 2014. IWQB manages the Diego Garcia ODW Program and reports all ODW matters to the Regional Water Quality Board (RWQB) and Water Quality Oversight Council (WQOC). This includes implementing and ensuring the ODW program compliance and communicating to stakeholders.

Navy Region Japan RWQB oversees Diego Garcia's ODW program and ensures compliance and consistency but does not have program primacy. RWQB reports to the WQOC. The Navy WQOC is the overall governing body and reports on a regular basis to the Navy EA for ODW program ashore. CNIC, as the Navy EA for Drinking Water Ashore, provides overall ODW program authorities.

Source of Water

The Diego Garcia Water Systems' source water is ***groundwater under the direct influence of surface water (GWUDISW)***. This is due to the aquifers' shallow nature and susceptibility to contamination from surface runoff percolating through the ground**.** Shallow vertical and horizontal production wells pump water from groundwater sources located at Air Ops and Cantonment areas. A series of well modules, 1,000-gallon capacity reinforced concrete transfer tanks, receives water from the wells and transports the water to one of two transfer stations, then to the raw water storage tanks located at the Main water treatment plant and the Air Ops and Sub Site Water Treatment Plants. It is paramount that we protect our aquifers because of the limited alternatives for water resources on the island. Site surveys and source water assessments identified and characterized the potential sources of contamination and recommended measures to minimize or eliminate contamination from surface activities. The assessment reports are maintained at the Environmental Division Public Works Department, Navy Support Facility Diego Garcia.



Fact:
Diego Garcia's main source water is rainwater percolating into the ground.

Diego Garcia Water Distribution System

The water supplied by Diego Garcia's water systems was declared "fit for human consumption" (FFHC) on 28 February 2018 and 16 October 2018. The Navy ODW program uses the term FFHC vice "potable" for water quality policy matter.

NAVSUPPFAC Diego Garcia was granted a Conditional Certificate to Operate (CTO) for its water systems in February 2018. Full CTO will be granted once all significant deficiencies identified during the latest Sanitary Survey in 2017 are corrected.

Main Water System

Figure 2. Main WTP at Cantonment

The Main Water Treatment Plant (WTP), is located at the downtown area. It was commissioned in Dec 2016. This plant treats water extracted from wells at Cantonment and Air Ops water wellfields, produces and supplies FFHC water to the Cantonment-Air Ops distribution system from Cantonment area to Thunder Cove.

Nanofiltration Hauled Water System

Nanofiltration system produces FFHC water that is used to fill 5-gallon water bottle container delivered to various office buildings and is also trucked to remote sites' storage tank for distribution.

Figure 3. Water delivery truck refills water from nanofiltration system

Sub Site System

Figure 4. Sub Site service line #2 found at the wharf

This system is located at the Air Operations area that supplies FFHC water to the Subsite distribution system at the wharf. The Sub Site system operates intermittently and is only in service when a ship is moored at the wharf. It has one service connection at the wharf containing three service lines where vessels pier side connect for FFHC water support. Water produced from this system was declared FFHC in October 2018.

While water produced and supplied from the Sub Site WTP meets the FFHC standards, water is hauled to the Port Operations area due to detected high levels of Lead at the distribution end point. These are primarily caused by backflow preventers at the wharf area that have parts made of Copper or Lead. Corrective actions were initiated such as materials evaluation survey and replacement of backflow preventers which was completed in 2020. This system will get back in service as soon as a series of test results prove that lead is below the required action levels. Lead and copper monitoring still in progress.

Fact: *"FFHC" is defined as water that is safe for drinking, cooking, bathing, showering, dishwashing and maintaining oral hygiene.*

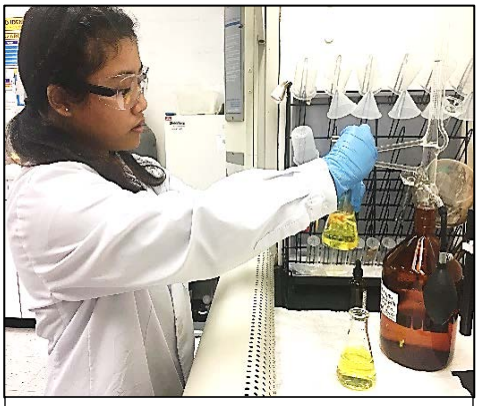
Water Quality Data

Laboratory Testing

Both DGFGS and CNIC 5090.1A require testing of drinking water for contaminants on a regular basis to protect the consumer's public health and safety. Water quality monitoring and reporting are performed by the BOS Contractor and overseen by Navy Public Works Environmental and Production Utilities. These include services for water quality testing for bacteria and residual disinfectant (chlorine) in the FFHC water distribution system. Maintaining a disinfectant residual in the water ensures protection against any microbial contamination. Required water samples for other potential contaminants are sent to the US Army Public Health Center Laboratories in Camp Zama, Japan. The Army Laboratory is accredited by American National Standard Institute American Association for Laboratory Accreditation (A2LA) for ISO/IEC 17025: General requirements for competence of testing and calibration laboratories. Other potential contaminants include inorganic and organic chemical (volatile organics and synthetic organics), radionuclide, disinfection byproduct (DBP), lead and copper.

The Navy Branch Health Clinic also performs regular independent health and sanitation inspections on DG water systems and facilities. Any discrepancies found are immediately reported to PWD and facility operators for immediate investigation, and corrective and preventive actions.

In 2020, over 42,000 tests were conducted to monitor Diego Garcia's water quality. A comprehensive summary of the water quality monitoring results for detected contaminants is provided in Appendix A: "2020 Water Quality Data". Contaminants that were tested for, but not detected are not included in this report.



Chemist testing chlorides in water

Bench Lab testing residual chlorine

Chemist collecting sample for testing

What Should You Know About Certain Contaminants

As water travels over the surface of the land or percolates through the ground, it dissolves naturally-occuring minerals. It can also pick up other substances resulting from the presence of animals or human activity. Diego Garcia water systems may reasonably produce water containing at least trace amounts of some contaminants. However, the presence of these contaminants does not necessarily indicate that water poses a health risk.

Contaminants in Source Water

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Pesticides and Herbicides, which may come from various sources such as agriculture, urban stormwater runoff, and residential uses.

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.

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum refinery, 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.

Contaminants in Drinking Water

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 the 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 www.epa.gov/safewater/lead.

Copper. Copper levels are found naturally in groundwater and surface water. Copper levels in water are generally very low; approximately 4 micrograms of copper in one liter. However, drinking water may contain higher levels of a dissolved form of copper. Increased levels of copper can occur when corrosive water comes in contact with copper plumbing in the water supply system. Cases of copper poisoning have led to anemia and to the disruption of liver and kidney functions. Immediate effects from drinking water with extremely elevated levels of copper include vomiting, diarrhea, stomach cramps and nausea.

Coliforms. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present in drinking water. It is a warning of potential problems if coliforms are found in more water samples than allowed. The presence of bacteria does not mean the water is unsafe to drink. Only disease-causing bacteria, known as pathogens, lead to disease. Total coliform bacteria (without the presence of E. coli) are generally not considered harmful, but their presence indicates a potential pathway for contamination to enter drinking water. Fecal coliforms or E. Coli are a particular type of coliform bacteria. Their presence in drinking water is more serious than other coliform bacteria because they are disease-causing and also indicate that drinking water has been contaminated by sewage or animal wastes that contain other disease-causing microorganisms. This type of contamination can cause severe diarrhea, cramps, and nausea.

Inorganic Contaminants

Barium. Barium is a divalent cation and alkaline earth metal that can be found in naturally-occurring mineral deposits. The health effects of the different barium compounds depend on how well the compound dissolves in water. Barium compounds that do not dissolve well in water are not generally harmful and are often used by doctors for medical purposes. Those barium compounds that dissolve well in water may cause harmful health effect in people. Ingesting high levels of dissolved barium compounds over the short term has resulted in difficulties in breathing,

increased blood pressure, changes in heart rhythm, stomach irritation, brain swelling, muscle weakness, and damage to the liver, kidney, heart, and spleen.

Fluoride. Fluoride is an inorganic ion naturally found in drinking water because of its presence in the earth's crust or from human activities that release fluoride to the environment. Exposure over many years to drinking water with fluoride levels above 4 mg/L may result in cases of crippling skeletal fluorosis, which is serious bone disorder resembling osteoporosis and characterized by extreme density and hardness and abnormal fragility of the bones (sometimes called "marble bones").

Sodium. Sodium is an essential element required for normal body function including nerve impulse transmission, fluid regulation, and muscle contraction and relaxation. However, in excess amounts, sodium increases individual risk of hypertension, heart disease, and stroke. One of the chief sources of sodium is the consumption of salt; therefore, salt restrictions are often recommended as a first-line treatment for individuals suffering from these conditions.

Nitrites and Nitrates. Nitrites and nitrates are nitrogen-oxygen chemical units which combines with various organic and inorganic compounds. Once taken into the body, nitrates are converted into nitrites. Once ingested, conversion of nitrate to nitrite takes place in the saliva of people of all ages, and in the gastrointestinal tract of infants. Nitrites and nitrates have the potential to cause the following effects from a lifetime exposure at levels above the MCL: diuresis, increased starchy deposits and hemorrhaging of the spleen.

Disinfection Byproducts (DBP)

Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). TTHM and HAA5 are groups of chemicals formed when the naturally occurring organic materials in raw water reacts with the chlorine which is added as disinfectant. The highest level allowed (Environmental Protection Agency's maximum contaminant level) for TTHM and HAA5 are 80 and 60 micrograms per liter and parts per billion, respectively. The source of organic materials in raw water is thought to be rainwater percolating through decaying vegetation in the wellfields. Potential health effects from exposure to TTHM and HAA5 depend on various factors, including concentration of the chemicals and duration and frequency of exposure. According to the U.S. Environmental Protection Agency (EPA) (https://www.epa.gov/your-drinking-water/table-regulated-drinking-water-contaminants#Byproducts), some people who drink water containing TTHMs in excess of the MCL over many years may experience liver, kidney, or central nervous system problems and increased risk of cancer.

Per- and Polyflouroalkyl Substances (PFAS)

What are PFAS and where do they come from? These 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 (DoD) PFAS testing and response actions go beyond EPA Safe Drinking Water Act requirements. In 2020 the DoD promulgated a policy to obtain drinking water results for PFAS at all purchased water systems.

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 ppt, water systems should quickly undertake additional sampling to assess the level, scope, and localized source of contamination to inform next steps.

Additional Information about Your Water

Does your Drinking Water Taste or Smell Bad?

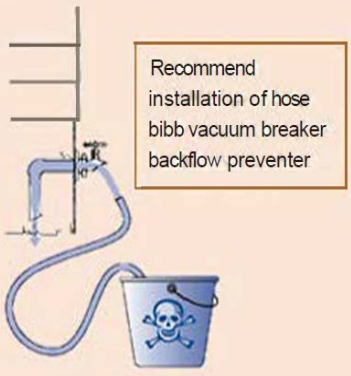
A change in your water's taste, color, or smell is not necessarily a health concern. These effects are caused when some naturally occurring constituents occur at concentrations high enough to be a nuisance. Most nuisance constituents occur naturally. They result from the reaction of groundwater with aquifer rocks and sediments as the water moves underground. However, sometimes a change in smell or taste can be a sign of problems. If you notice a change in your water, call Water Plant at 370-2755 to request investigation.

Small amounts of Contaminants in Drinking Water

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or visit their website: https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations

For Customers with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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 microbiological contaminants are available from the Safe Drinking Water Hotline at



Did you know that any connection between a public drinking water system and a separate source of questionable quality is considered a cross-connection?

For example, an ordinary garden hose submerged in a bucket of water, car radiator, or swimming pool can result in backflow contamination. To protect our water supply, a simple screw-on vacuum breaker must always be attached to the faucet when a garden hose is used.

For inquiries

On how we carry out drinking water requirements:

Ms. MARIVEL CRUZ
Installation Drinking Water Compliance Program Manager
DSN (315) 370-4540
Email: Marivel.Cruz.RP@fe.navy.mil

Ms. LINDA CORPUS
Installation Environmental Program Director
DSN (315) 370-4542
Email: Linda.Corpus.RP@fe.navy.mil

About health effects of potential contaminants in water:

HM2 NIKOLAS GARHATT/ HM2 JOSEPH CRESPO
Installation Preventive Medicine Authority
DSN (315) 370-4219
Email: nikolas.m.garhartt.mil@mail.mil
joseph.d.crespo2.mil@mail.mil

Appendix A:
2020 Water Quality Data

Water samples analyzed using the parameters and methods required by U.S. National Primary Drinking Water Regulations (40 CFR 141) either on-island by BOS Contractor or US Army Public Health Center Laboratories in Camp Zama, Japan

Table 1. WATER QUALITY DATA FOR DETECTED CONTAMINANTS: MAIN WATER SYSTEM

Inorganic Chemicals – Annual and quarterly* sampling and testing						
Contaminant[a]	**Highest Level Allowed (EPA's MCL)**	**Ideal Goal (EPA's MCLG)**	**Highest Result**	**Range of Test Results**	**Violation**	**Typical Sources/Remarks***
Barium	2 ppm	2 ppm	0.180 ppm	0.0048 – 0.180 ppm	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Sodium	N/A	N/A	28 ppm	12-28 ppm	N/A	*No MCL & MCLG established. Monitoring is required so concentration levels can be made available upon request.
Total Nitrates/Nitrites*	10 ppm	10 ppm	0.16 ppm	<0.10 – 0.16 ppm	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits
Volatile Organic Contaminants – Quarterly sampling and testing						
Contaminant[a]	**Highest Level Allowed (EPA's MRDL)**	**Ideal Goal (EPA's MCLRG)**	**Highest Result**	**Range of Test Results**	**Violation**	**Typical Sources**
Total Xylenes	10 ppm	10 ppm	0.0045 ppm	<0.0005 – 0.0045 ppm	No	Discharge from petroleum factories; discharge from chemical factories
Ethylbenzene	0.7 ppm	0.7 ppm	0.0006 ppm	<0.0005 – 0.0006 ppm	No	Discharge from factories; leaching from gas storage tanks and landfills
Disinfectant – Monthly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MRDL)**	**Ideal Goal (EPA's MCLRG)**	**Highest Result**	**Range of Test Results**	**Violation**	**Typical Sources**
Residual Chlorine	4 ppm	4 ppm	2.02 ppm	0.34 – 2.02 ppm	No	Water additive used to control microbes
Disinfection Byproducts – Quarterly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MCL, Quarterly Average)**	**Ideal Goal (EPA's MCLG, Quarterly Average)**	**Highest Result (Quarterly Average)**	**Range of Test Results (Quarterly Average)**	**Violation**	**Typical Sources**
Total Trihalomethane (TTHM)	80 ppb	N/A	10.9 ppb	1.9 – 10.9 ppb	No	Byproduct of drinking water chlorination
Halo-acetic Acid (HAA5)	60 ppb	N/A	7.9 ppb	< 6.0 – 7.9 ppb	No	Byproduct of drinking water chlorination
Bacteria in Tap Water - Monthly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MCL) [b]**	**Ideal Goal (EPA's MCLG)**	**Highest Percentage of Samples with Total Coliform**		**Violation**	**Typical Sources**
Total Coliform (including fecal coliform and E. Coli)	5% of monthly samples are positive	0	3.57 %*		No	Coliforms are naturally present in the environment. Fecal coliforms and E. Coli only come from human and animal fecal waste

* *Percentage is based on the initial total coliform test but immediately resampled the same day and tested negative*

How to read the Water Quality Data Tables

Diego Garcia Final Governing Standards and Navy policy establishes the safe drinking water standards based on National Primary Drinking Water Regulations that limit the amount of contaminants allowed in drinking water. Tables 1, 2 and 3 show the concentrations of detected contaminants or substances in comparison to regulatory limits. Contaminants or substances not detected are not included in the tables.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a 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 contamination.

Units in the table:

ppm – Parts per million (also expressed as milligrams per liter or 1 drop in 1 million gallons)	**ppb –** Parts per billion (also expressed as micrograms per liter or 1 drop in 1 billion gallons)	**<** - symbol meaning "less than" the value next to the symbol (ex: "<5" means "less than 5")	**N/A** – Not applicable; not required or no requirement

Table 2. WATER QUALITY DATA FOR DETECTED CONTAMINANTS: HAULED WATER SYSTEM

Lead and Copper[c]						
Contaminant[a]	**EPA's Action Level (AL)**	**Ideal Goal (EPA's MCGL)**	**90% of Test Levels Were Less than**	**No. of Tests with Levels Above EPA's Action Level**	**Exceedance**	**Typical Sources**
Copper	90% of sampled sites less than 1.3 ppm	1.3 ppm	0.10 ppm	0 of 8	No	Corrosion of household plumbing systems; erosion of natural deposits.
Inorganic Chemicals – Annual and quarterly+ sampling and testing						
Contaminant[a]	**Highest Level Allowed**	**Ideal Goal (EPA's MCGL)**	**Highest Result**	**Range of Test Results**	**Violation**	**Typical Sources/Remarks***
Barium	2 ppm	2 ppm	0.420 ppm	<0.001 – 0.420 ppm	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Sodium	N/A	N/A	9.6 ppm	5.0 -9.6 ppm	N/A	*No MCL & MCLG established. Monitoring is required so concentration levels can be made available upon request.
Fluoride[d]	4 ppm	4 ppm	0.30 ppm	<0.25 - 0.30 ppm	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Total Nitrates/Nitrites+	10 ppm	10 ppm	0.23 ppm	<0.10 – 0.23 ppm	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits
Disinfectant – Monthly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MRDL)**	**Ideal Goal (EPA's MCLRG)**	**Highest Result**	**Range of Test Results**	**Violation**	**Typical Sources**
Residual Chlorine	4 ppm	4 ppm	2.00 ppm	0.45 – 2.00 ppm	No	Water additive used to control microbes
Disinfection Byproducts – Quarterly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MCL, Quarterly Average)**	**Ideal Goal (EPA's MCLG, Quarterly Average)**	**Highest Result (Quarterly Average)**	**Range of Test Results (Quarterly Average)**	**Violation**	**Typical Sources**
Total Trihalomethane (TTHM)	80 ppb	N/A	24.8 ppb	13.1 – 24. 8 ppb	No	Byproduct of drinking water chlorination
Halo-acetic Acid (HAA5)	60 ppb	N/A	17.9 ppb	11.4 – 17.9 ppb	No	Byproduct of drinking water chlorination
Bacteria in Tap Water - Monthly sampling and testing.						
Contaminant[a]	**Highest Level Allowed (EPA's MCL) [b]**	**Ideal Goal (EPA's MCLG)**	**Highest Percentage of Samples with Total Coliform**		**Violation**	**Typical Sources**
Total Coliform (including fecal coliform and E. Coli)	5% of monthly samples are positive	0	0		No	Coliforms are naturally present in the environment. Fecal coliforms and E. Coli only come from human and animal fecal waste

How to read the Water Quality Data Tables

Diego Garcia Final Governing Standards and Navy policy establishes the safe drinking water standards based on National Primary Drinking Water Regulations that limit the amount of contaminants allowed in drinking water. Tables 1, 2 and 3 show the concentrations of detected contaminants or substances in comparison to regulatory limits. Contaminants or substances not detected are not included in the tables.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a 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 contamination.

Units in the table:

ppm – Parts per million (also expressed as milligrams per liter or 1 drop in 1 million gallons)	**ppb –** Parts per billion (also expressed as micrograms per liter or 1 drop in 1 billion gallons)	**<** - symbol meaning "less than" the value next to the symbol (ex: "<5" means "less than 5")	**N/A** – Not applicable; not required or no requirement

Table 3. WATER QUALITY DATA FOR DETECTED CONTAMINANTS: SUB SITE SYSTEM

Lead and Copper[c]

Contaminant[a]	EPA's Action Level (AL)	Ideal Goal (EPA's MCGL)	90% of Test Levels Were Less than	No. of Tests with Levels Above EPA's Action Level	Exceedance	Typical Sources
Lead	90% of sampled sites less than 15 ppb	0 ppb	9.3 ppb	0 of 5	No	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	90% of sampled sites less than 1.3 ppm	1.3 ppm	0.12 ppm	0 of 5	No	Corrosion of household plumbing systems; erosion of natural deposits.

Inorganic Chemicals – Annual sampling and testing

Contaminant[a]	Highest Level Allowed	Ideal Goal (EPA's MCGL)	Test Result	Violation	Typical Sources/Remarks*
Barium	2 ppm	2 ppm	0.240 ppm	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Sodium	N/A	N/A	12 ppm	N/A	*No MCL & MCLG established. Monitoring is required so concentration levels can be made available upon request.

Disinfectant – Monthly sampling and testing.

Contaminant[a]	Highest Level Allowed (EPA's MRDL)	Ideal Goal (EPA's MCLRG)	Highest Result	Range of Test Results	Violation	Typical Sources
Residual Chlorine	4 ppm	4 ppm	1.90 ppm	0.29 – 1.90 ppm	No	Water additive used to control microbes

Disinfection Byproducts – Quarterly sampling and testing.

Contaminant[a]	Highest Level Allowed (EPA's MCL, Quarterly Average)	Ideal Goal (EPA's MCLG, Quarterly Average)	Highest Result (Quarterly Average)	Range of Test Results (Quarterly Average)	Violation	Typical Sources
Total Trihalomethane (TTHM)	80 ppb	N/A	30.5 ppb	16.3 – 30.5 ppb	No	Byproduct of drinking water chlorination
Halo-acetic Acid (HAA5)	60 ppb	N/A	44.8 ppb	28.3 – 44.8 ppb	No	Byproduct of drinking water chlorination

Bacteria in Tap Water - Monthly sampling and testing.

Contaminant[a]	Highest Level Allowed (EPA's MCL) [b]	Ideal Goal (EPA's MCLG)	Highest Percentage of Samples with Total Coliform	Violation	Typical Sources
Total Coliform (including fecal coliform and E. Coli)	5% of monthly samples are positive	0	0	No	Coliforms are naturally present in the environment. Fecal coliforms and E. Coli only come from human and animal fecal waste

How to read the Water Quality Data Tables

Diego Garcia Final Governing Standards and Navy policy establishes the safe drinking water standards based on National Primary Drinking Water Regulations that limit the amount of contaminants allowed in drinking water. Tables 1, 2 and 3 show the concentrations of detected contaminants or substances in comparison to regulatory limits. Contaminants or substances not detected are not included in the tables.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a 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 contamination.

Units in the table:

ppm – Parts per million (also expressed as milligrams per liter or 1 drop in 1 million gallons)	**ppb –** Parts per billion (also expressed as micrograms per liter or 1 drop in 1 billion gallons)	**<** - symbol meaning "less than" the value next to the symbol (ex: "<5" means "less than 5")	**N/A** – Not applicable; not required or no requirement

Table 4. MONITORING FOR PER AND POLYFLUORINATED ALKYL SUBSTANCES (PFAS)[e]

Contaminant	Test Results				Units	U.S. EPA HA[e] levels	MRL	MCLG [e]	Violation
	Main Water	Nanofiltration Hauled		Sub Site					
		Cantonment	Air Ops						
Per- and Perfluoroalkyl Substances (PFAS)									
Perfluorohexanoic acid	ND	ND	17.5	ND	ppt	N/A	1.9	N/A	N/A
Perfluoroheptanoic acid	ND	ND	4..0	ND	ppt	N/A	1.9	N/A	N/A
Perfluorooctanoic acid	ND	ND	ND	ND	ppt	70	1.9	N/A	No
Perfluorononanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluorodecanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluorotridecanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluorotetradecanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluorobutanesulfonic acid	ND	ND	5.4	ND	ppt	N/A	1.9	N/A	N/A
Perfluorohexanesulfonic acid	ND	ND	13.5	4.0	ppt	N/A	1.9	N/A	N/A
Perfluorooctanesulfonic acid	ND	ND	4.0	6.9	ppt	70	1.9	N/A	No
NEtFOSAA	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
NMeFOSAA	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluoroundecanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
Perfluorododecanoic acid	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
HFPODA	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
9Cl-PF3ONS	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
11Cl-PF3OUdS	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A
DONA	ND	ND	ND	ND	ppt	N/A	1.9	N/A	N/A

How to read the PFAS Data Tables
Navy Policy of 14 Sep 2015 required sampling of all overseas drinking water systems for PFAS. While the EPA does not enforce HA levels, Navy policy requires notification, additional testing, and corrective measures if a PFAS sample exceeds the HA level in Navy drinking water systems.

Health Advisory (HA): Develops to provide information on contaminants that can cause health effects and are known or anticipated to occur in drinking water

Method Reporting Limit (MRL): The limit of detection for a specific target analyte for a specific sample after any adjustments have been made

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.

ppt – Parts per trillion or nanograms per liter	**ND**- non-detect or the contaminant has not been detected	**N/A** – Not applicable; not required or no requirement

Main Water and Nanofiltration Hauled Water (Cantonment) - PFAS 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 DG Main and Nanofiltration Hauled Water, both at the Cantonment area.

Nanofiltration Hauled Water and Subsite Water (Air Ops) - Detected but below the HA

We are informing you that 4 of the 18 PFAS compounds covered by the sampling method of the water from Air Ops Hauled Water and Subsite System were detected above the method reporting limit (MRL). PFOA and PFOS were below the EPA HA level. The results are provided in the Table 4. As PFOA and PFOS were below the EPA HA, there is no immediate cause for concern, but we will continue to monitor the drinking water closely to ensure that remains the case. In accordance with DoD policy, Diego Garcia will collect quarterly samples for PFAS for one year and the every two years thereafter as long as the results are below the MRL.

Air Ops Raw Water Wells

Diego Garcia has received approval to perform remediation to reduce the high levels of PFAS in the groundwater from the contaminated Air Ops well showing PFAS above the HA level before they can be brought back into service as sources of drinking water that can be effectively treated by existing water treatment system processes. Table 4 provides some data on PFAS testing for Diego Garcia's FFHC water.

There is yet no recognized techniques for in-situ groundwater remediation for PFAS. The Navy, however, started conducting a technical study on Diego Garcia's PFAS groundwater contamination in 2019 which will include a pilot pre-treatment plant. The purpose is to identify the appropriate pre-treatment process suitable for removing the PFAS contaminants in source water supply at Air Ops wellfields combined with the existing water treatment process.

Notes:
(a) Only substances detected during sampling performed in calendar year 2020.
(b) Values are reported as number of positive samples. MCL is computed using number of positive samples per month.
(c) 90^{th} Percentile values reported.
(d) Second Maximum Contaminant Level (SMCL) Allowed: 2 ppm.
(e) Not applicable at this time, the EPA is currently studying PFAS to determine whether MCLG and MCL are needed. There is currently no established Federal water quality regulation for any PFAS compounds