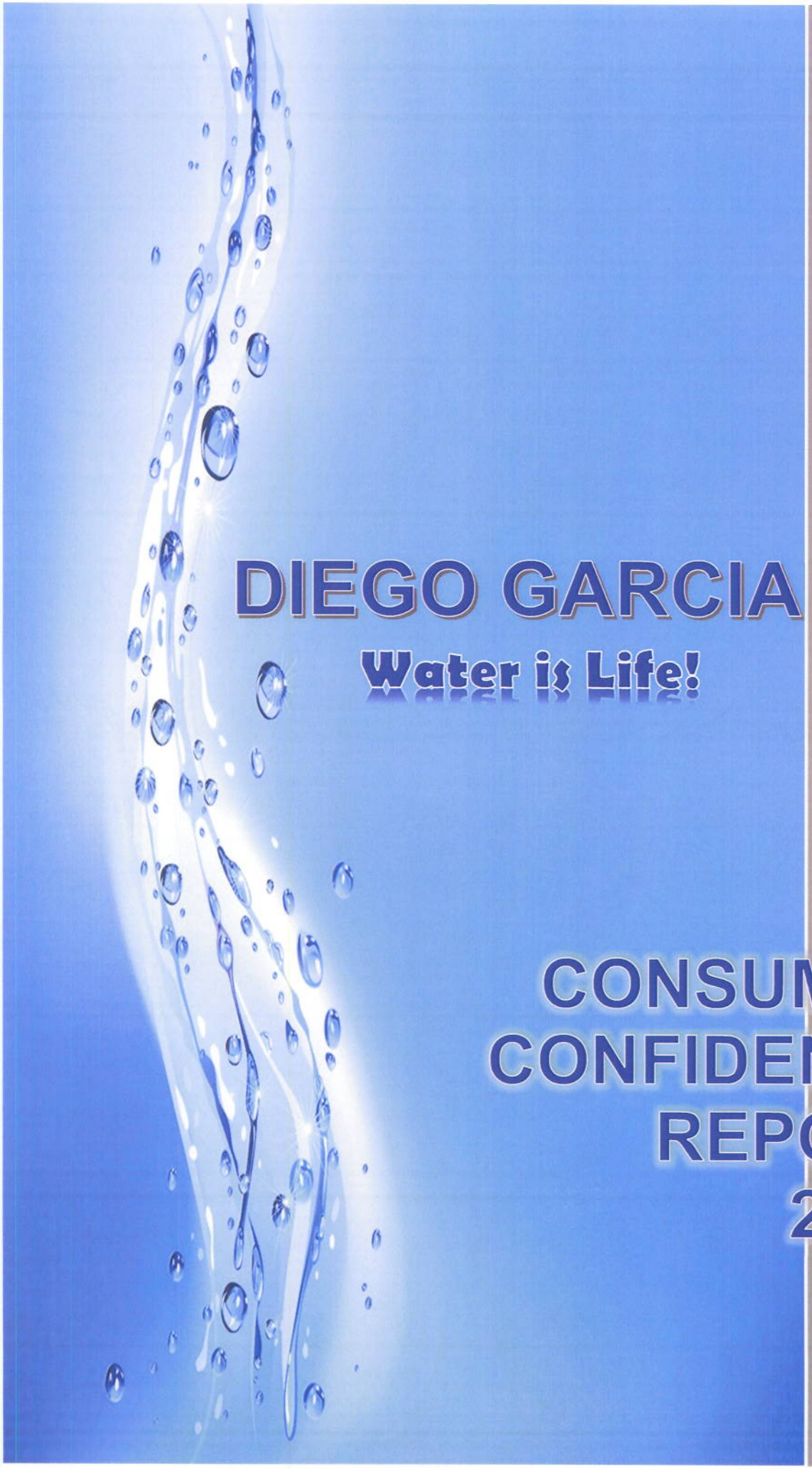

DIEGO GARCIA

Water is Life!

CONSUMER CONFIDENCE REPORT 2018

Consumer Confidence Report 2018

FOREWORD

Each community water system is required by regulatory standards and Navy policy to provide an annual water quality report to its customers. A Water Quality Report is also called a Consumer Confidence Report.

This Consumer Confidence Report 2018 provides important information about the Diego Garcia water systems including the drinking water sources, any monitored contaminants found in the drinking water during 2018 quality monitoring, and whether the Diego Garcia community water system meets the drinking water standards. This is our opportunity to communicate with our consumers, raise awareness about our drinking water source and promote involvement in protecting our drinking water. This Report also provides information that helps you make better choices about your drinking water.

In February 2018, after decades of technical studies and efforts, we (the Navy) in Diego Garcia delightfully declared the water from the tap "fit for human consumption". While we enjoy no longer having to fetch drinking water from the buffalo tanks nearby, do bear in mind that our freshwater resource is highly dependent on rainwater. As rainwater travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. It can also pick up other substances resulting from the presence of animals or human activity. It is for this reason that I personally highly encourage everyone on this island to exercise prudence in protecting our water resource. Do not litter. Pick up trash. Immediately report any hazardous substances spills. Minimize industrial activities especially in the wellfields areas. These are just some of the myriad of things that we can do to help safeguard our water lenses, conserve the natural resource and maintain the pristine island environment; not only for personal health and safety, but also for future generations to come on this island paradise called Diego Garcia.

MICHAEL C. BRATLEY
Captain, U. S. Navy
Commanding Officer
Navy Support Facility
Diego Garcia

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Overview

Diego Garcia is approximately 10.5 square miles in size with an average elevation of 6 to 8 feet above mean sea level.

Location

Diego Garcia is an isolated low-lying coral atoll located approximately 7 degrees south of the equator in the center of the Indian Ocean (Figure 1). It is the largest of over 50 coralline islands that comprise the Chagos Archipelago. The main exposed island mass of Diego Garcia is approximately 40-mile long narrow strip, shaped like a hollow footprint and surrounded by a fringing reef with three small islets delineating the northern boundary of the atoll (Figure 2).

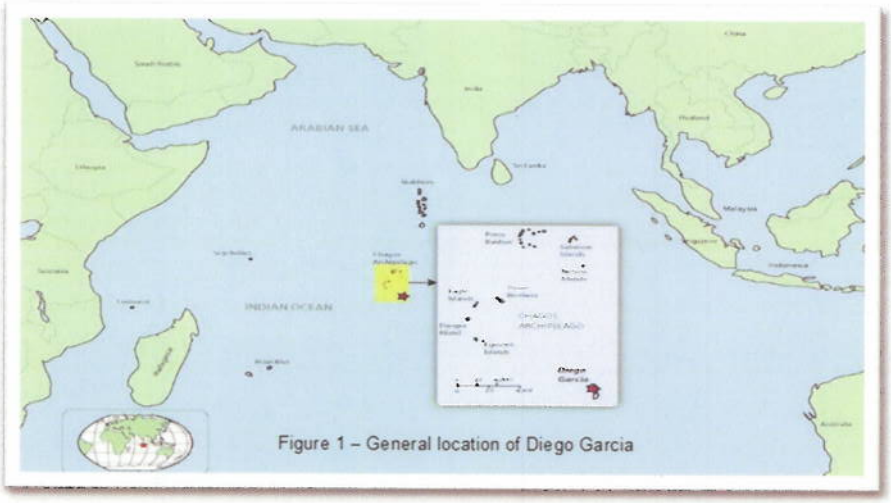


Figure 1 – General location of Diego Garcia

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. Starting on 04 February 2013, all U. S. Navy installations are also 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 5090.1A (Navy Overseas Drinking Water Program Ashore) on 29 June 2018 requiring adherence to the requirements and standards contained therein as the standards for overseas installations to adopt and implement. The U.S. standards listed in this implementing policy do not replace requirements already in place. Overseas installations are required to continue to meet FGS and other applicable requirements, international agreements, in-theater commander directives, Department of Defense (DOD) and service policies as applicable.

Diego Garcia ODW Program

NAVSUPPFAC Diego Garcia Commanding Officer chairs the Installation Water Quality Board.

This designation cannot be re-delegated per Navy ODW policy.

Final Governing Standards

The Diego Garcia Final Governing Standards (DGFGS) provides the environmental compliance criteria and management practices used by 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 4715.05-G or the Overseas Environmental Baseline Guidance Document, applicable environmental laws, regulations and ordinances, and all applicable 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.

Fig. 2 – Plan View of Diego Garcia

Organization and Oversight

Per Navy policy, Diego Garcia's (DG) Installation Water Quality Board (IWQB) was established under the chairmanship of NAVSUPPFAC Diego Garcia 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 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.

"FFHC" is the term used by the Navy Bureau of Medicine and Surgery, defined as water that is safe for drinking, cooking, bathing, showering, dishwashing and maintaining oral hygiene

Drinking Water

The water supplied by NAVSUPPFAC Diego Garcia's Main Water System, Nano Filtration Plants and Deep Draft Wharf water systems were declared "fit for human consumption" (FFHC) on 28 February 2018 and 16 October 2018, respectively. The Navy ODW program uses the term FFHC vice "potable" for water quality policy matters. DGFGS define "potable water" as water that has been examined and treated to meet the drinking water standards as stipulated in the document (DGFGS) and has been approved as potable by the appropriate DOD medical authority.

NAVSUPPFAC Diego Garcia was granted a Conditional Certificate to Operate (CTO) 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. In this regard, NAVSUPPFAC Diego Garcia has been actively executing measures to comply with the new requirements of the Navy's ODW Program which include specific projects which are discussed throughout this Consumer Confidence Report (CCR).

Also discussed in this CCR is the quality and monitoring of Diego Garcia's drinking water supply. Both DGFGS and CNIC Instruction 5090.1A require testing of drinking water for contaminants to protect public health and safety. The requirements reference several subparts of the National Primary Drinking Regulations as outlined in the Safe Drinking Water Act. These are the same U.S. drinking water standards applicable, not only in Diego Garcia, but to U.S. Navy installations overseas and all ODW systems on overseas installations.

Fig. 3 – Diego Garcia ODW Filtration Systems *(clockwise)* Air Ops, Main WTP, DDW and Cantonment Nano filtration systems.

Water Systems

DG's average daily water consumption is 720,000 gallons per day.

Its main source water is rainwater percolating into the ground.

Source of Water

The water source of Diego Garcia's water systems is shallow groundwater, technically termed "groundwater under the direct influence of surface water" (GWUDISW), because of the aquifers' shallow nature and susceptibility to contamination from surface runoff percolating through the ground. Shallow vertical and horizontal production wells pump water from the groundwater lenses located at Air Ops and Cantonment areas. Majority of these wells are clustered together with a well module. The well module is comprised of 1,000 gallon capacity reinforced concrete transfer tank that 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 Air Ops/Deep Draft Wharf Water System. Protection of the aquifers is paramount because of the limited alternatives for water resources on the island. Site surveys and source water assessments have been conducted which included identifying and characterizing the potential sources of contamination. Characterizing the hydrogeological properties by the use of transport modeling, and recommending mitigation measures to minimize if not eliminate contamination from surface activities. The assessment reports are maintained at the Public Works Department, navy Support Facility Diego Garcia.

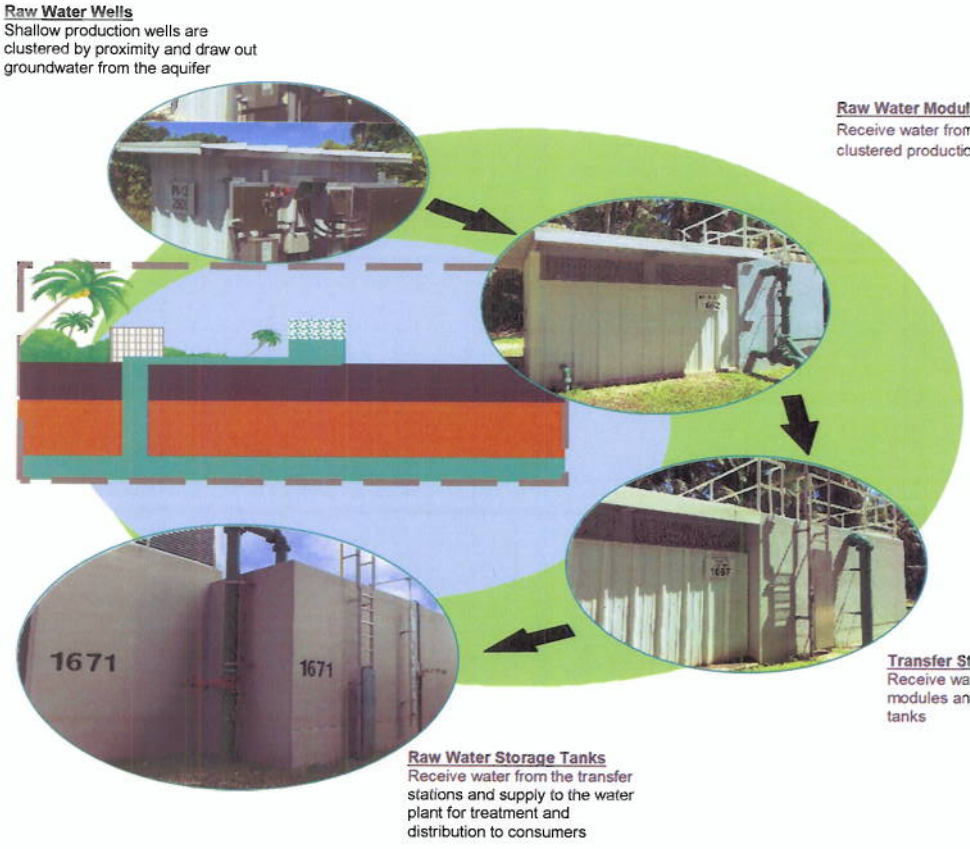


Fig. 4 – DG's Source Water Extraction Process

On 28 February 2018, water supplied by the Main water system has been determined "fit for human consumption" based on the yearlong water quality monitoring performed upon construction completion of the new Main WTP in December 2016.

Water Production and Distribution

Diego Garcia has two water systems, namely: the Main Water System (which include the nano hauled-water system) and the Deep Draft Wharf Water System.

A. Main and Hauled-Water System

The Main Water System is located in the Downtown area and consists of the Cantonment Nano Filtration and Main Water Treatment Plant (WTP). The Main WTP was commissioned in December 2016. This system treats water extracted from wells at Cantonment and Air Ops water wellfields, produces and supplies FFHC water to consumers through the pipelines from Cantonment area to Thunder Cove. Water produced from the Main System is also trucked to hydro-pneumatic tanks at remote sites (i.e., T- Site, I-Site South and GEODSS) and to dining facilities as well, pending connection of these facilities' service lines to the Main distribution system. A project is planned and programmed to make this happen in calendar year 2020. Air Ops Nano Filtration supplements the hauled water delivery to the remote sites.

B. Deep Draft Wharf (DDW) Water System

This system is located at Air Operations area and produces FFHC water. The DDW system FFHC water is intended solely to meet the demand at the Port Operations area. The DDW distribution system has three service lines at the wharf area where vessels pierside connect for FFHC water support. Water produced from this system has been declared FFHC in October 2018.

The Small Boat Basin that services small watercrafts (such as the recreational fishing, utility, tug and crew transport boats) is supplied with FFHC water from the Main water system.

While water produced and supplied from the DDW WTP meets the FFHC standards, water is recently hauled to the Port Operations area due to detected high levels of Lead and Copper at the distribution end point. These are primarily caused by backflow preventers at the wharf area that have parts made of Copper or Lead. Hauling of FFHC water in the affected area will continue until these equipment parts are replaced.

The Navy Branch Health Clinic 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 necessary investigation, and corrective and preventive actions.

Water Quality Data

Laboratory Testing

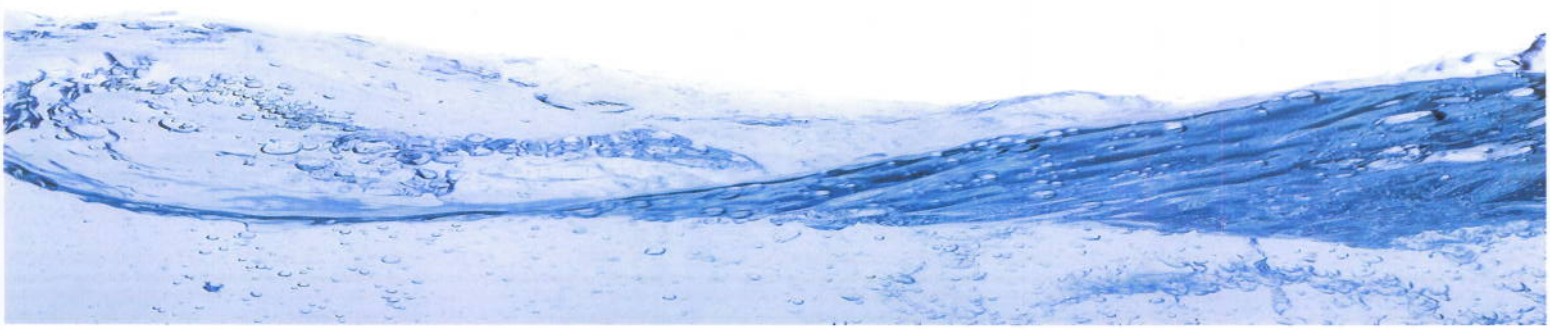
The Water Annex of the Base Operations Support (BOS) Contract include services for water quality testing for bacteria and residual disinfectant (chlorine) in the FFHC water distribution system and maintaining a disinfectant residual in the water protects against any microbial contamination. Required 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 Standards Institute American Association for Laboratory Accreditation (A2LA) for ISO 17025: General requirements for competence of testing and calibration laboratories.

In 2018, over 55,000 tests were conducted to monitor Diego Garcia's water quality. A comprehensive summary of the water quality monitoring results for detected contaminants are presented in Tables 1, 2 and 3 (Water Quality Data) of this report.

What Should You Know About Certain Contaminants?

Lead in Drinking Water. Elevated levels of lead in drinking water can cause serious health problems, especially for pregnant women. Adults who drink water containing lead in excess of the action level over many years could develop kidney problems and high blood pressure. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. When water has been sitting for several hours, potential for lead exposure can be minimized by flushing the tap for 30 seconds to 2 minutes before using water for drinking or cooking. 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 https://www.epa.gov/safewater/lead.

Copper in Drinking Water. All living organisms including humans need copper to survive; therefore, a trace amount of copper in our diet is necessary for good health. However, some forms of copper or excess amounts can also cause health problems. Some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastro-intestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. Information on copper is available at https://safewater.zendesk.com/hc/en-us/sections/202346427-Copper.



Consumer Confidence Report 2018

Pb

Cu

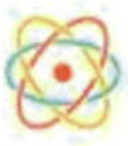


Table 1. Water Quality Data for Detected Contaminants: MAIN and HAULED WATER SYSTEM

LEAD and COPPER

MAIN WATER SYSTEM - Semi-annual sampling and testing

Contaminant	EPA's Action Level (AL)	Ideal Goal (EPA's MCLG)	Frequency of Sampling	90% of Test Levels Were Less Than	No. of Tests With Levels Above EPA's Action Level	Violation	Typical Sources
Lead	90% of sampled sites less than 15 ppb	0 ppb	1st Semi-Annual	7.3 ppb	2 of 77	No	Corrosion of household plumbing systems; erosion of natural deposits
			2nd Semi Annual	5.7 ppb	1 of 77	No	
Copper	90% of sampled sites less than 1.3 ppm	1.3 ppm	1st Semi-Annual	0.34 ppb	0 of 77	No	Corrosion of household plumbing systems; erosion of natural deposits
			2nd Semi Annual	0.13 ppm	0 of 77	No	

NANO FILTRATION HAULED WATER - Annual sampling and testing

Contaminant	EPA's Action Level (AL)	Ideal Goal (EPA's MCLG)	90% of Test Levels Were Less Than	No. of Tests With Levels Above EPA's Action Level	Violation	Typical Sources
Lead	90% of sampled sites less than 15 ppb	0 ppb	2.1	0 of 17	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper	90% of sampled sites less than 1.3 ppm	1.3 ppm	0.23	0 of 17	No	Corrosion of household plumbing systems; erosion of natural deposits

INORGANIC CHEMICALS - Annual sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Barium	2 ppm	2 ppm	0.175 ppm	<0.01 - 0.175 ppm	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits.
Sodium	-	-	32 ppm	21 - 32 ppm	-	No MCL & MCLG established. Monitoring is required so concentration levels can be made available on request.
Fluoride*	4 ppm	4 ppm	<0.25 ppm	<0.25 ppm	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.

* Secondary Maximum Contaminant Level (SMCL) Allowed: 2 ppm

RADIONUCLIDES - Every 4-year sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Gross Alpha	15 pCi/L	0 pCi/L	<0.55 pCi/L	<0.51 - <0.55 pCi/L	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Gross Beta	50 pCi/L	0 pCi/L	<1.1 pCi/L	<1.1 pCi/L	No	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.
Combined Radium 226 and Radium 228	4 pCi/L	0 pCi/L	<0.88 pCi/L	<0.47 - <0.88 pCi/L	No	Erosion of natural deposits.
Uranium	30 ppb	0 ppb	<1.0 ppb	<1.0 ppb	No	Erosion of natural deposits.

DISINFECTANT - Monthly sampling and testing.

Contaminant	Highest Level Allowed (EPA's MRDL)	Ideal Goal (EPA's MRDLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Residual Chlorine	4 ppm	4 ppm	2.2 ppm	0.21 - 2.2 ppm	No	Water additives used to control microbes.

DISINFECTION BYPRODUCTS - Quarterly sampling and testing.

Contaminant	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	21.1 ppb	13.2 - 28.5 ppb	No	By-product of drinking water chlorination.
Halo-acetic Acid (HAA5)	60 ppb	N/A	12.0 ppb	7.7 - 18.6 ppb	No	By-product of drinking water chlorination.

BACTERIA IN TAP WATER - Monthly sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Percentage of Samples with Total Coliform Present	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 establish the safe drinking water standards based on National Primary Drinking Water Regulations that limit the amount of contaminants allowed in drinking water. Tables 1 and 2 show the concentrations of detected contaminants or substances in comparison to regulatory limits. Contaminants or subatances 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 MCLGa as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGa as feasible using the best available treatment

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

Secondary Maximum Contaminant Level (SMCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGa as feasible using the best available treatment technology.

Units in the Table:

ppm - Parts per million (or 1 drop in 1 million gallons)	< - Symbol meaning "less than" the value next to the symbol (example: "<5" means "less than 5")
ppb - Parts per billion (or 1 drop in 1 billion gallons)	
pci/L - Picocurries per liter	**N/A** - Not applicable; not required or no requirement

Consumer Confidence Report 2018

MICROORGANISM

DISINFECTION BYPRODUCT

DISINFECTANT

RADIONUCLIDES

ORGANIC CHEMICAL

Table 2. Water Quality Data for Detected Contaminants : DEEP DRAFT WHARF SYSTEM

LEAD and COPPER

Table 2. Water Quality Data for Detected Contaminants : DEEP DRAFT WHARF SYSTEM

Contaminant	EPA's Action Level (AL)	Ideal Goal (EPA's MCLG)	Frequency of Sampling	90% of Test Levels Were Less Than	No. of Tests With Levels Above EPA's Action Level	Violation	Typical Sources
Lead	90% of sampled sites less than 15 ppb	0 ppb	1st Semi-Annual	51 ppb	3 of 5	YES	Corrosion of household plumbing systems; erosion of natural deposits
			2nd Semi Annual	61 ppb	2 of 5	YES	
Copper	90% of sampled sites less than 1.3 ppm	1.3 ppm	1st Semi-Annual	0.54 ppm	0 of 5	No	Corrosion of household plumbing systems; erosion of natural deposits
			2nd Semi Annual	0 .08 ppm	0 of 5	No	

INORGANIC CHEMICALS - Annual sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Result	Violation	Typical Sources
Barium	2 ppm	2 ppm	0.25 ppm	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits.
Sodium	-	-	18 ppm	-	No MCL & MCLG established. Monitoring is required so concentration levels can be made available on request.
Fluoride*	4 ppm	4 ppm	<0.25 ppm	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories.

* Secondary Maximum Contaminant Level (SMCL) Allowed: 2 ppm

RADIONUCLIDES - Every 4-year sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Violation	Typical Sources
Gross Alpha	15 pCi/L	0 pCi/L	<0.40 pCi/L	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Gross Beta	50 pCi/L	0 pCi/L	<1.10 pCi/L	No	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.
Combined Radium 226 and Radium 228	4 pCi/L	0 pCi/L	<0.70 pCi/L	No	Erosion of natural deposits.
Uranium	30 ppb	0 ppb	<1.0 ppb	No	Erosion of natural deposits.

DISINFECTANT - Monthly sampling and testing.

Contaminant	Highest Level Allowed (EPA's MRDL)	Ideal Goal (EPA's MRDLG)	Highest Result	Range of Test Results	Violation	Typical Sources
Residual Chlorine	4 ppm	4 ppm	0.36 ppm	0.36 - 1.98 ppm	No	Water additives used to control microbes.

DISINFECTION BYPRODUCTS - Quarterly sampling and testing.

Contaminant	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	38.2 ppb	16.7 - 38.2 ppb	No	By-product of drinking water chlorination.
Halo-acetic Acid (HAA5)	60 ppb	N/A	26.4 ppb	7.24 - 26.4 ppb	No	By-product of drinking water chlorination.

BACTERIA IN TAP WATER - Monthly sampling and testing.

Contaminant	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Percentage of Samples with Total Coliform Present	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	
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 MCLGa as feasible using the best available treatment technology.	
Maximum Contaminant Level Goal (MCLG): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGa as feasible using the best available treatment technology.	
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	
Secondary Maximum Contaminant Level (SMCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGa as feasible using the best available treatment technology.	
Units in the Table:	
ppm - Parts per million (or 1 drop in 1 million gallons)	**<** - Symbol meaning "less than" the value next to the symbol (example: "<5" means "less than 5")
ppb - Parts per billion (or 1 drop in 1 billion gallons)	
pci/L - Picocurries per liter	**N/A** - Not applicable; not required or no requirement

Consumer Confidence Report 2018

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.

For more information about contaminants and potential health effects, please visit the U.S. EPA website: https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations.

Inorganic Contaminants.

Barium. Some people who drink water that contains Barium in excess of MCL over many years could experience an increase in their blood pressure.

Fluoride. Some people who drink water that contains Fluoride in excess of MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Radionuclides.

Certain minerals are radioactive and may emit forms of radiation known as **Alpha, Photons, Beta radiation, Radium 226, Radium 228, or Uranium.** Some people who drink water containing any of these radionuclides in excess of MCL over many years may have an increased risk of getting cancer. Exposure to Uranium in drinking water may also result in toxic effects to the kidney.

Total Trihalomethanes (TTHM) and Halo-acetic 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 or 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 THM and HAA5 depend on a variety of 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.

Coliforms in Drinking Water. 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. Information on total coliforms in drinking water is available at https://safewater.zendesk.com/hc/en-us/sections/202366208.

Perfluorochemicals (PFC). Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are perfluorochemicals (PFC), manmade chemicals that are of increasing concern to the EPA and State regulators. These substances are very stable and persistent in the environment and because they are not adsorbed well in soil, they can migrate to drinking water sources. At present, these substances are considered "emerging contaminants" for which there are no SDWA regulatory standards. The EPA has established health advisories for PFOS and PFOA to provide a margin of protection for all consumers throughout their life from adverse health effects resulting from exposure to these fluorinated organic chemicals. The established lifetime health advisory level (LHAL) for combined PFOS and PFOA is 70 parts per trillion (ppt). EPA's health advisories are non-enforceable and non-regulatory. They provide technical information on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.

According to the health risk assessment done by the Navy Marine Corp Public Health Assessment (NMCPHC), the current drinking water treatment process at Diego Garcia, when properly maintained and operated, should be able to provide drinking water with PFOS/PFOA levels below LHAL from the remaining Air Ops active wells.

Table 3. Monitoring for PERFLUOROCHEMICALS (PFC)[1] - Quarterly sampling & testing

Sample Location	Water Type	U.S. EPA LHAL[2]	Combined PFOS and PFOA[3] (Quarterly Average)	Range of Test Results	Current Status
Water Treatment Plants					
Main Water Treatment Plant: Cantonment	FFHC	70 ppt[4]	<1.8 ppt	<1.8 ppt	In Service
Cantonment Nanofiltration WTP	FFHC	70 ppt	<1.8 ppt	<1.8 ppt	In Service
Air Ops Nanofiltration WTP	FFHC	70 ppt	7.6 ppt	4.2 - 12 ppt	In Service
Deep Draft Wharf Nanofiltration WTP	FFHC	70 ppt	<1.7 ppt	<1.7 - 7.33 ppt	In Service
Raw Water Storage Tanks					
F-1671 Raw Water Storage Tank (Cantonment)	Groundwater	N/A	16.1 ppt	9.01 - 24 ppt	In Service
F-107 Raw Water Storage Tank (Cantonment)	Groundwater	N/A	11.3 ppt	6.3 - 15 ppt	In Service
F-145 DG Nano Raw Water Inlet Line	Groundwater	N/A	<1.8 ppt	<1.8 - 7.33 ppt	In Service
F-308A Wet Well Tank (Air Ops)	Groundwater	N/A	60.1 ppt	38 - 70 ppt	In Service
F-307 Raw Water Storage Tank (Air Ops)	Groundwater	N/A	76.9 ppt	40.8 - 159.7 ppt	In Service
F-328 Raw Water Storage Tank (Air Ops)	Groundwater	N/A	89.9 ppt	50.7 - 159.2 ppt	In Service
Air Ops Wells					
AO-12, AO-13, AO-16, AO-17, AO-24	Groundwater	N/A	26.12 ppt	10.6 - 62.1 ppt	In Service
AO-11, AO-14, AO-15, AO-18, AO-20, AO-21	Groundwater	N/A	59.25 ppt	23 - 99.7 ppt	Standby[5]
AO-10, AO-19, AO-23, AO-25, AO-26	Groundwater	N/A	103.4 ppt	12.4 - 227 ppt	Out of Service

[1] Navy Policy of 14 Sep 2015 required sampling of all overseas drinking water systems for PFC. Diego Garcia's sampling and testing documented the presence of PFC in some of its treated water and groundwater sources in 2017. While the EPA does not enforce LHA levels, Navy policy requires notification, additional testing, and corrective measures if a PFC sample exceeds the LHAL in Navy drinking water systems. Monitoring/testing is done for combined PFOS & PFOA. Test results are expressed in ppt (parts per trillion) based on EPA lifetime health advisroy level (LHAL) set standards of 70 ppt . For additional info, visit EPA website: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

[2] **LHAL** - Lifetime Health Advisory Level.

[3] **PFOS** is Perfluorooctane sulfonate and **PFOA** is Perfluorooctanoic acid.

[4] **ppt** - parts per trillion (or 1 drop per 1 trillion gallons)

[5] Standby wells may be used only if needed, i.e. water demand is high.

Studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes). EPA's drinking water health advisories for PFOA and PFOS can be found at: https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos.

Quarterly monitoring of treated water and in-service wells at the Air Ops is done to ensure PFOS/PFOA levels are below the LHAL. Diego Garcia is currently obtaining approval to perform remediation to reduce the high levels of PFOS and PFOA in the groundwater from the contaminated Air Ops wells with PFOS/PFOA above the LHAL 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 3 provides some data on PFC testing for Diego Garcia's source and FFHC water.

Consumer Confidence Report 2018

How can I get involved?

The installation Water Quality Board meets quarterly to discuss issues about the Diego Garcia ODW program and its water systems. Please feel free to participate in these meetings.

Your input is important to us!

POC for the meeting details is Ms. Marivel Cruz.

Other Potential Contaminants. As water travels over the surface of the land or percolates through the ground, it dissolves naturally-occurring 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.

Who should I ask about this Report?

On how we carry out drinking water requirements

Ms. MARIVEL CRUZ
Installation Drinking Water Compliance Program Manager
Tel 370-4540
DSN (315) 370 4540
Marivel.cruz.rp@fe.navy.mil

Ms. LINDA CORPUS
Installation Environmental Program Director
Tel 370-4542
DSN (315) 370-4542
Linda.corpus.rp@fe.navy.mil

About health effects of potential contaminants in water

HM3(FMF) LEV G. HUDSON
Installation Preventive Medicine Authority
Tel 370-4218
DSN (315) 370-4218
UberAznHick93@outlook.com
or lev.g.hudson.mil@mail.mil