



CAMP LEMONNIER, DJIBOUTI (CLDJ) 2021 DRINKING WATER CONSUMER CONFIDENCE REPORT



01 July 2022

Is our water safe to drink?

Yes! The Camp Lemonnier, Djibouti (CLDJ) drinking water system continues to provide water that is safe and Fit for Human Consumption (potable), as determined by the CLDJ Commanding Officer's Record of Decision dated 05 November 2013 and as routinely confirmed by laboratory sampling results (received monthly, quarterly, and yearly). We are proud to support the Navy's commitment to provide safe and reliable drinking water to our service members and their families. This annual Consumer Confidence Report (CCR) for calendar year 2021 includes general and mandatory information to educate everyone about our water sources, treatment processes, standard requirements, and other details to help assure you that our water is safe to drink.

The managing of CLDJ's drinking water fully complies with the safe drinking water criteria specified in the DoD Overseas Environmental Baseline Guidance Document (OEBGD), which is derived from the U.S. Environmental Protection Agency (EPA) drinking water standards. When any OEBGD and U.S. standards differ, the *most protective* requirement is adopted. A detailed list of constituents found in our drinking water is included in this report, along with a comparison to the maximum levels considered safe for the general public by these standards. The CNIC M-5090.1A, Navy Overseas Drinking Water Program Ashore Manual, reflecting this stateside requirement, mandates that all overseas installations operating drinking water systems produce a CCR.

Where does our water come from and how is it treated?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. The CLDJ water supply is provided by groundwater pumped from aquifers underlying the Camp through wells located on site. An aquifer is a body of sub-surface saturated rock that is both permeable and porous allowing water to move through it. Groundwater has to migrate through the pore spaces of rock and sediment to move through an aquifer. There are two aquifers underlying CLDJ: a shallow (15-meter to 49-meter thick) unconsolidated aquifer with total dissolved solids (TDS) concentrations less than 10,000 mg/L, which receives water recharge from the surface water of the Wadi Ambouli located immediately west of Camp, and a deeper aquifer with TDS near 35,000 mg/L. The amount of water in storage in an aquifer is reflected by the elevation of its water table and can vary from season to season and year to year. Currently, drinking water is sourced from six groundwater wells at Camp Lemonnier and the groundwater pumped from these wells is piped to an on-site treatment plant.

At CLDJ, pumped groundwater enters a treatment process consisting of several different technologies: filtration, ultraviolet (UV) disinfection, reverse osmosis (RO) and chemical disinfection. The treatment plant, which is called a Reverse Osmosis Water Purification Unit (ROWPU), consists of eight multimedia filters, eight granular activated carbon filters, eight cartridge filters and four parallel RO treatment trains to ensure that CLDJ's tap water meets all aforementioned regulatory requirements throughout the water distribution system.

Why are there contaminants in drinking water?

Drinking water, including bottled water, may contain small amounts of contaminants. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, or may pick up other substances resulting from the presence of animals or from human activity. As a result, some contaminants may be present in source drinking water. Contaminants may include -

- **Microbial contaminants**, such as viruses and bacteria, that may come from wildlife, sewage treatment plants, septic systems, and livestock;
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;



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(CLDJ)
2021 DRINKING WATER
CONSUMER CONFIDENCE REPORT**



01 July 2022

- **Inorganic contaminants**, naturally occurring such as salts and metals, which can be naturally occurring or result from urban storm water 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 production, and can also come from gas stations, urban storm water runoff, and septic systems; and
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, regulations limit the amount of certain contaminants in water provided by public water systems. Regular sampling is conducted to detect the level of contaminants in the water system. If the results are above regulatory limits, you will be notified by e-mail and Public Notification. You can learn more about contaminants and any potential health effects by visiting the EPA's Drinking Water Standards web site:

<https://www.epa.gov/sites/production/files/2018-03/documents/dwtable2018.pdf>

Water System Assessments

In September 2021, the Naval Facilities Engineering Command (NAVFAC) conducted a comprehensive Sanitary Survey of the Camp Lemonnier's drinking water system. Sanitary Surveys are conducted every three years, and provides an evaluation of the adequacy of the drinking water source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. NAVFAC is continually improving the drinking water system based on the recommendations in the report.

Some people must use special precautions

There are people who may be more sensitive to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons 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. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water website <http://www.epa.gov/safewater>.

Additional information for 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. CLDJ Public Works is responsible for providing high-quality drinking water at CLDJ and has direct control over the materials used in plumbing components on the facility. This ensures that no lead service lines or components are used on the drinking water system. As a general safety practice, whenever - and wherever - you plan to use tap water for drinking or cooking, you can minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes prior to use. Information on lead in drinking water and steps you can take to minimize exposure is available from the USEPA Safe Drinking Water webpage www.epa.gov/safewater/lead.



**CAMP LEMONNIER, DJIBOUTI
(CLDJ)
2021 DRINKING WATER
CONSUMER CONFIDENCE REPORT**



01 July 2022

Drinking Water Monitoring

CLDJ's drinking water is monitored for and analyzed (analyzing agency shown in italics) for the following constituents at the frequencies shown below:

Daily (*BOSC*) – pH, Turbidity, Residual Chlorine, Temperature, and Conductivity

Monthly (*BOSC*) – Total Coliform

Quarterly (*Offsite Contracted Lab*) – Inorganic Chemicals, Nitrate/Nitrite, PCBs, Herbicides, Pesticides, Organic Chemicals, Radionuclides, Disinfection By-Products (TTHM and HAA5)

Semi-annually (*Offsite Contracted Lab*) – Lead and Copper

Annually (*Offsite Contracted Lab*) – Corrosion Control

The water samples are collected from water faucets and fountains located throughout CLDJ. The following table provides the results of the above testing for calendar year 2021 (unless otherwise noted). CLDJ samples for many more chemicals than are found in this table. Only those contaminants detected in the water are presented in the table. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. For those contaminants that are not sampled annually, sample results in this table are the most recent required by the applicable regulations.

Water Quality Data Table Note *: Lowest and Highest Sample Reading collected in 2021.

Contaminant		Typical Sources	Unit of Measure	Regulatory Criteria – OEBGD & CNICINST 5090.1		Laboratory Results		
				MCLG or MRDLG	MCL, TT or MRDL	Result*		Violation
Inorganics	Heavy Metals	Erosion of natural deposits	mg/L	0.0005 to 2.0	0.002 to 2.0	N/A	N/A	No
	Total Nitrite & Nitrate	Run off from fertilizer use	mg/L	Nitrate 10.0 Nitrite 1.0	Nitrate 10.0 Nitrite 1.0	N/A EHT	N/A EHT	No
Microbiological	Total Coliform Bacteria	Naturally present in the environment	NA	0	No more than one positive sample per month	negative	negative	No
Disinfectant Byproducts	Total Trihalomethanes	By product of drinking water disinfection	mg/L	0.08	0.08	0.005	0.24	No



**CAMP LEMONNIER, DJIBOUTI
(CLDJ)
2021 DRINKING WATER
CONSUMER CONFIDENCE REPORT**



01 July 2022

Contaminant	Typical Sources	Unit of Measure	Regulatory Criteria – OEGBD & CNICINST 5090.1		Laboratory Results*		Violation
			MCLG	AL			
Copper	Corrosion of household plumbing systems; erosion of natural deposits.	mg/L	1.3	1.3 based on 90 th percentile results exceeding AL	0.005	0.065	No

Data Table Key: Unit Descriptions

mg/L	mg/L: number of milligrams of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
ND	ND: not detected

Important Drinking Water Definitions

MCLG	Maximum Contaminant Level Goal: 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.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water systems must follow.
MRDLG	Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health (4 mg/L of chlorine). MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water (4 mg/L of chlorine). There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.



**CAMP LEMONNIER, DJIBOUTI
(CLDJ)
2021 DRINKING WATER
CONSUMER CONFIDENCE REPORT**



01 July 2022

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 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 foam (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?ⁱ

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 monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years.

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

Has CLDJ tested its water for PFAS?

Yes. In December 2020 samples were collected from the ROWPU pump house.

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 your water system. In accordance with DoD policy, the water system will be resampled every three years for your continued protection.

https://www.cnic.navy.mil/om/base_support/environmental/water_quality/Testing_for_Perfluorochemicals.html

Violations and Exceedances:

There were no Maximum Contaminant Level (MCL) exceedances during CY 2021 for all Compliance drinking water tastings conducted.



**CAMP LEMONNIER, DJIBOUTI
(CLDJ)
2021 DRINKING WATER
CONSUMER CONFIDENCE REPORT**



01 July 2022

CLDJ Water Conservation is Everyone's Responsibility



Lastly, in a desert environment that we live and work in, it is imperative to practice water conservation, saving water is simple and inexpensive. Practicing a few of the following tips can make a difference in conserving our planets most precious resource:

- For repair of any water leaks anywhere and at any time; e.g., faucets and toilets, water line breaks. Call DSN: 824-2653 – the Base Operations Control Center (OCC) immediately!
- Take shorter showers - a 3-minute shower uses 7-8 gallons of water versus a 10-minute shower which uses 25 gallons.
- Shut off water while brushing your teeth, washing your hair and shaving can save up to 500 gallons a month.
- Run the clothes washer on a full load. No extra rinse is needed at CLDJ.
- Visit www.epa.gov/watersense for more information.

Points of Contact

If you have any questions and concerns regarding this report or about the drinking water processes, please contact any of the following CLDJ Installation Water Quality Board (IWQB) members below:

Public Works Officer
DSN: 311-824-4064

Installation Environmental Program Director
311-824-5523

Environmental Health Officer/Industrial Hygiene Officer
DSN: 311-824-4526