

Davis-Monthan AFB Annual Water Quality Report for Calendar Year 2024

Spanish (Español)

Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúscalo o hable con alguien que lo entienda bien.

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. By keeping our base residents, service members, and employees informed, we empower our entire community to recognize, report, and help resolve water quality concerns for the well-being of all who live and work on Davis-Monthan. In accordance with EPA standards, the drinking water on Davis-Monthan is safe for human consumption.

Do I need to take special precautions?

Some people may be more vulnerable 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 persons, 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 Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

Davis-Monthan Air Force Base (DMAFB) is located within the Tucson basin, a northwest trending alluvial valley. The Santa Cruz River flows northwesterly and provides the main drainage for the Tucson basin and is located approximately 4.6 miles west of the base. DMAFB is located in the Sonoran Desert which has an arid climate with a low precipitation rate of 3 to 20 inches per year and a high evaporation rate of 80 – 160 inches per year.

Groundwater occurs within the unconsolidated alluvial deposits consisting of interfingering sand, gravel, silt, and clay. The saturated thickness of these sediments is extremely variable, being thin (less than 200 feet) toward the mountains and thickening (greater than 5,000 feet) toward the center of the basin. These deposits were distributed laterally over time by a constantly changing stream course.

In the vicinity of DMAFB, the Pantano Formation, Tinaja Beds, and Fort Lowell Formation are the primary water bearing units. Groundwater is encountered at approximately 350 feet below ground surface near DMAFB, and groundwater generally flows in a northwest direction.

Source water assessment and its availability

All drinking water is chlorinated for disinfection purposes. Disinfection involves the addition of chlorine to kill bacteria and microbes that may be present in the water. Throughout each month, the Bioenvironmental Engineering Flight monitors the base drinking water to ensure chlorination and acidity levels are within an acceptable range and that bacteriological contamination is non-existent. Additional sampling is performed on a periodic basis for other contaminants to ensure our drinking water remains compliant with safety regulations set by the EPA and Arizona Department of Environmental Quality (ADEQ).

Based on the information currently available on the hydrogeological settings and the adjacent land uses that are in the specified proximity of the drinking water source(s) of this public water system, ADEQ has given a high-risk designation for the degree to which this public water system drinking water source(s) are protected. A designation of high risk indicates there may be additional source water protection measures which can be implemented on the local level. This does not imply that the source water is contaminated, nor does it mean that contamination is imminent. Rather, it simply states that land use activities or hydrogeological conditions exist that make the source water susceptible to possible future contamination. Further source water assessment documentation can be obtained by contacting ADEQ.

Why are there contaminants in my 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity, including microbial contaminants, such as viruses and bacteria, that may

come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

We would like you to understand the efforts we make to continually improve the water treatment process and protect our water resources. If you would like additional information concerning this report, or if you have any questions about the drinking water program, please feel free to contact the Davis-Monthan Drinking Water team and we will be happy to assist you in any way we can.

Bioenvironmental Engineering Flight: 520-228-5369
Soaring Heights: 520-748-3339

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank

and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.

- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

Additional Information for Lead

The water system inventory does not include lead service lines.

Davis-Monthan AFB has recently completed a Lead Service Line Inventory on the 1,717 water service lines in the community water system in accordance with the Environmental Protection Agency's Safe Drinking Water Act Lead and Copper Rule Revision. We are pleased to report that we have identified all service line materials, and no lead service lines were found in our drinking water distribution system. In making this determination water system records, including historical and current installation-wide utility maps as well as construction and plumbing codes were reviewed. In addition, visual inspections of service lines were conducted. For information on water quality please contact the Bioenvironmental Engineering office at 520-228-5369. For more information on the service line inventory, please contact the Utilities AMP Manager at 520-228-5206.

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. DMAFB is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact DMAFB (Public Water System Id: AZ0420549) by calling 520-228-5369 or emailing dominick.a.moscarelli.mil@health.mil. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Additional Information for Per- and Polyfluoroalkyl Substances (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 industrial and consumer products around the globe, including in the U.S., since the 1940s. PFAS have been used to make coatings and products that

are used as oil and water repellents for carpets, clothing, food packaging, and cookware. They are also contained in some fire-fighting foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires.

Is there a federal regulation for PFAS in drinking water?¹

Yes. On April 26, 2024, the Environmental Protection Agency (EPA) published a final National Primary Drinking Water Regulation for certain per- and polyfluoroalkyl substances (PFAS) under the Safe Drinking Water Act (SDWA). This rule went into effect on June 25, 2024, with a compliance deadline of April 26, 2029, five years from the date of publication. While the rule requires routine sampling for certain PFAS by no later than 2027, DoD has been sampling drinking water for PFAS compounds at all DoD-owned and operated water systems since 2017. Under the new rule, the following limits, called Maximum Contaminant Levels (MCL), were established, and DoD water systems will need to meet these levels by April 2029.

PFAS	MCL
Perfluorooctanoic acid (PFOA)	4.0 ppt
Perfluorooctane sulfonic acid (PFOS)	4.0 ppt
Perfluorononanoic acid (PFHxS)	10 ppt
HFPO-DA (GenX)	10 ppt
Perfluorononanoic acid (PFNA)	10 ppt
PFBS	n/a
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS ²	HI of 1 (unitless)

For systems where DoD provides drinking water, the Department is collecting the necessary sampling information and is taking actions to ensure compliance within the required 5-year timeframe.

Has Davis-Monthan AFB tested its water for PFAS?

Yes. In the months of April, October, and December 2023 and June 2024 samples were collected from 5 entry points to the distribution system.

Was the water tested below MCL?

Yes. We are informing you that drinking water testing results were below the MCL for all 6 PFAS compounds covered by the EPA drinking water rule, including PFOA and PFOS. The water system will be periodically resampled as required by the EPA PFAS drinking water rule to ensure continued compliance.

¹ https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulation-certain-per-and-polyfluoroalkyl-substances-pfas

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl ₂) (ppm)	4	4	1.32	0.83	2.59	2024	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	NA	80	15	4.7	15	2024	No	By-product of drinking water disinfection
Inorganic Contaminants								
Arsenic (ppb)	0	10	3.5	1.2	3.5	2023	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.08	0.0084	.08	2023	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	1.6	NA	16	2023	No	Discharge from steel and pulp mills; Erosion of natural deposits
Nitrate [measured as Nitrogen] (ppm)	10	10	1.1	0.74	1.1	2024	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source	
				Low	High				
Sodium (optional) (ppm)	NA	NA	33	NA	33	2023	No	Erosion of natural deposits; Leaching	
Radioactive Contaminants									
Alpha emitters (pCi/L)	0	15	3.2	1.2	3.2	2024	No	Erosion of natural deposits	
Uranium (ug/L)	0	30	2.1	0.8	2.1	2024	No	Erosion of natural deposits	
Contaminants	MCLG	AL	Your Water	Range		# Samples Exceeding AL	Sample Date	Exceeds AL	Typical Source
				Low	High				
Inorganic Contaminants									
Copper - action level at consumer taps (ppm)	1.3	1.3	0.11	0.0053	0.13	0	2024	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	ND	NA	0.7	0	2024	No	Corrosion of household plumbing systems; Erosion of natural deposits
Contaminants	MCLG	MCL	Your Water	Range		Sample Date	Violation	Typical Source	
				Low	High				
Organic Contaminants									
PFOA (ppt)	NA	4.0	ND	ND	ND	2024	No	Thousands of man-made chemicals, which make fire-fighting foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires. This is also used in other various products.	
PFOS (ppt)	NA	4.0	ND	ND	ND	2024	No		
PFNA (ppt)	NA	10	ND	ND	ND	2024	No		
PFHxS (ppt)	NA	10	ND	ND	ND	2024	No		
HFPO (ppt)	NA	10	ND	ND	ND	2024	No		

Additional Contaminants

In an effort to ensure the safest water possible, the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

Contaminants	HBSL	Your Water	Violation	Explanation and Comment
Lithium	ND	14 ug/L	No	Lithium is an emerging contaminant. An Emerging contaminant is commonly defined as chemicals, or materials, which may enter the environment via a release pathway and potentially present an unacceptable risk to human or environmental health.

Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Violation	Typical Source
Haloacetic Acids (HAA5) (ppb)	NA	60	ND	No	By-product of drinking water chlorination

Unit Descriptions	
Term	Definition
ug/L	ug/L : Number of micrograms of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
ppt	ppt: part per trillion, or nanogram per liter (ng/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	Definition
HBSL	HBSL: Health Based Screening Limit. A non-enforceable water-quality benchmark developed by the U.S. Geological Survey in collaboration with the U.S. Environmental Protection Agency (USEPA). HBSLs are used to supplement existing federal drinking water standards and guidelines, providing a way to assess the potential human health impact of contaminants in water.
MCLG	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	MCL: Maximum Contaminant Level: 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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. 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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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