

# 2016 Davis-Monthan Annual Water Quality Report

## IS MY WATER SAFE?

Yes, your water is safe! We are pleased to present the 2016 Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is intended to provide a detailed look at the Davis-Monthan AFB drinking water program and what the Davis-Monthan AFB drinking water team does for you every day to provide safe drinking water.

## WHERE DOES MY WATER COME FROM?

Davis-Monthan AFB supplies drinking water to around 13,800 customers/base residents each day. This water is pulled directly from the Fort Lowell Aquifer via eight groundwater wells located throughout the base, and is monitored by personnel from the 355th Fighter Wing.

## SOURCE WATER ASSESSMENT AND ITS AVAILABILITY

All drinking water is chlorinated for disinfection purposes. Disinfection involves the addition of chlorine to kill bacteria and microorganisms that may be in the water. On a monthly basis, the Bioenvironmental Engineering Flight monitors the base drinking water to ensure chlorination, acidity, and bacteriological contamination levels fall within an acceptable range. Additional sampling is performed on a periodic basis for other contaminants to ensure our drinking water remains compliant with safety regulations set by the Environmental Protection Agency (EPA).

## 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 our drinking water program, please feel free to contact the Davis-Monthan Drinking Water team members and we will be happy to assist you in any way we can.

Bioenvironmental Engineering Flight—520-228-5369  
Civil Engineer Customer Service—520-228-3171  
Soaring Heights—520-748-3339

## WHY ARE THERE CONTAMINANTS IN MY DRINKING WATER?

As water travels across the surface of the land and seeps through the ground, it picks up naturally occurring minerals and, in some cases, naturally occurring radioactive materials. Additionally, it can pick up any number of substances resulting from the presence of animals or human activity. These range from viruses or bacteria found in water treatment plants and septic systems, inorganic and organic compounds, either naturally occurring or occurring as a result of industrial operations, and chemical contaminants such as pesticides and herbicides from farms. The EPA sets safety limits on these contaminants in public water systems in order to ensure safe drinking water is provided to the customer. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants; however, this does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

### **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 individuals with cancer undergoing chemotherapy, individuals 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.

### **WERE THERE ANY MONITORING FAILURES OR VIOLATIONS?**

We received four violations which requires public notification within one year or listed on this Annual Consumer Confidence Report. These violations were not emergencies and were low risk or were administrative errors. They did not have an effect on the quality of our drinking water. As a consumer, you have the right to know what happened and what we did to correct these violations.

### **MONITORING AND REPORTING OF COMPLIANCE DATA VIOLATIONS.**

The Bioenvironmental Engineering Flight did not conduct water sampling for Volatile Organic Compounds (VOCs) at four sites during the triennial period 1 January 2012 through 31 December 2014. This resulted in a violation for our drinking water system. The four sites were sampled for VOCs on 10 December 2015. All results came back negative for all VOCs and the violation was closed. These violations were not posted until 2016, and compliance had already been achieved when they were posted.

### **WERE THERE ANY CONTAMINANTS DETECTED IN MY DRINKING WATER?**

All sources of drinking water contain some naturally occurring contaminants. In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of contaminants allowed in water provided by public water systems. 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. 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 change frequently.

### **WATER QUALITY DATA TABLE**

The Water Quality Data table lists all of the drinking water contaminants that we detected. Unless otherwise noted, the data presented in this table is from testing done within 5 years of the report. A majority of regulated contaminants that were not detected are not included in the table. Thus, only those substances listed below were found in your water.

**Regulated Contaminates Detected**

<b>Disinfectants and Disinfection By-Products</b>							
<u>Contaminant</u>	<u>MRDLG</u>	<u>MRDL</u>	<u>RAA</u>	<u>Range</u>	<u>Sample Year</u>	<u>Violation</u>	<u>Typical Source</u>
Chlorine (ppm)	4	4	1	1 - 1	2016	No	Water additive used to control microbes.

<b>Inorganic Contaminant</b>							
<u>Contaminant</u>	<u>MCLG</u>	<u>MCL</u>	<u>Highest Level Detected</u>	<u>Range</u>	<u>Sample Year</u>	<u>Violation</u>	<u>Typical Source</u>
Arsenic (ppb)	0	10	1.9	1.9 – 1.9	2013	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.068	0.068 – 0.068	2013	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate [measured as Nitrogen] (ppm)	10	10	1	0.96 – 1.1	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

<b>Radioactive Contaminant</b>							
Alpha emitters (pCi/L)	0	15	3.2	0 - 3.2	2012	No	Erosion of natural deposits.
Uranium (ug/L)	0	30	1	0 - 1	2012	No	Erosion of natural deposits.

<b>Lead and Copper</b>						
<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>90<sup>th</sup> percentile</u>	<u># Samples Exceeding AL</u>	<u>Sample Date</u>	<u>Typical Source</u>
Copper (ppm) - action level at consumer taps	1.3	1.3	0.078	0	2015	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead (ppb) - action level at consumer taps	0	15	0.63	0	2015	Corrosion of household plumbing systems; Erosion of natural deposits

<b>Unit Description</b>	
<b>Term</b>	<b>Definition</b>
ppm	Parts Per Million. One ppm equals one milligrams per liter (mg/L) or 1,000 times more than a ppb
ppb	Parts Per Billion. Some constituents in water are measured in very small units. One ppb equals one micrograms per liter ( $\mu\text{g/L}$ )
pCi/L	Picocurie Per Liter. It is defined as the quantity of radioactive material in one liter which produces 2.222 nuclear disintegrations per minute
ug/L	Number of micrograms of substance
NA	Not Applicable
ND	Not detected
NR	NR: Monitoring not required, but recommended.

<b>Important Drinking Water Definitions</b>	
<b>Term</b>	<b>Definition</b>
MRDLG	Maximum Residual Disinfectant Level Goal: The level of drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
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.
RAA	Running Annual Average of the Results
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 MCLGs as feasible using the best available treatment technology.
AL	Action Level. The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

## DETAILED INFORMATION ON CONTAMINANTS

**Chlorine Residual Disinfection** is maintained throughout the distribution system. Chlorine is added to the drinking water supply at well sites to provide assurance that water delivered to customers will remain free of microbiological contamination. This also ensures that the water meets microbiological drinking water standards from the time it is pumped from the ground until it reaches the customer's tap. Chlorine Residual Disinfectant is measured seven days a week from each well and monthly from the sample stations where the bacteriological samples are collected. The annual chlorine residual disinfectant is calculated using the monthly chlorine averages for the past 12 months.

**Disinfection Byproducts** are the unintended reactions of disinfectants with naturally occurring materials in the water (e.g., natural organic matter, bromide, or disinfection by-product precursors).

**Arsenic** is a naturally occurring substance commonly found in groundwater in the southwestern United States. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. USEPA continues to research the health effect of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

**Barium** occurs naturally at very low concentrations in our groundwater.

**Nitrate** is a form of nitrogen and an important plant nutrient. Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in

drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, ask advice from your health care provider.

**Alpha emitters** are a measure of radioactivity due to naturally occurring minerals in groundwater. This excludes the radioactivity contributed by either radon or uranium.

**Uranium** is a metallic element which is highly toxic and radioactive.

**Lead and Copper** are naturally occurring metals which are generally found at very low levels in source waters. 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. The BEF is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If water in your home 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 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

**<http://www.epa.gov/safewater/lead>.**

**Coliform Bacteria** are commonly found in the environment and in the digestive tract of animals. While rarely harmful, coliform bacteria in drinking water are indicators that the water may also contain harmful microorganisms.

**For more information please contact:**

**Contact Name:** SrA Benjamin Kimbrell  
**Unit:** 355 AMDS/SGPB  
**Address:** 4175 S. Alamo Ave Bldg. 417  
Davis Monthan AFB, AZ 85707  
**Phone:** (520) 228-5369, **DSN:** 228-5369