



Army Heliport at Barstow-Daggett 2015 Water Quality Report

Fort Irwin routinely monitors for constituents in the drinking water at the Army Heliport at Barstow-Daggett (AHAB) according to Federal and State laws. This document explains the 2015 monitoring results and provides contact information.

It is important that customers of the water at AHAB be informed about water quality at the facility.

MUY IMPORTANTE

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo 'o hable con alguien que lo entienda bien.

If you have questions concerning this report contact: Water and Wastewater Manager, Fort Irwin DPW, 760-380-4987.

Fort Irwin posts several years of water reports and other environmental information at:
<http://www.irwin.army.mil/Pages/Community/EnviornmentInfo.html>.

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Water Quality Monitoring

It is Fort Irwin's responsibility to provide users of the water system at the Army Heliport at Barstow-Daggett (AHAB) with an annual report. This document covers the requirement for a Consumer Confidence Report (CCR). It is important to keep customers informed about the water quality and services delivered over the past year. Fort Irwin's goal is to provide a safe and dependable supply of drinking water.

In order to ensure that tap water is safe to drink, United States Environmental Protection Agency (USEPA), and the California State Water Resources Control Board, Division of Drinking Water (DDW), prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Last year, we conducted more than 75 tests for 10 different contaminants. This report covers monitoring from 1 January 2015 through 31 December 2015. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data presented in this report, though representative, is more than one year old.

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 the EPA's safe drinking water hotline at 1-800-426-4791 or at their web site www.epa.gov/safewater/.

Army Heliport at Barstow-Daggett (AHAB)'s Water Source

The source of our water is groundwater that comes from Well # 4 on the Barstow-Daggett airport. The water source is the aquifer located under the area surrounding the airfield. These aquifers are very similar to underground lakes bordered by the rising bedrock surrounding each basin and form the hills visible on the surface. AHAB pumped about 1.2 million gallons of water out of the ground last year. AHAB's water system provides water to approximately 125 customers daily.

Should Customers be Concerned?

Microbial contaminants are not a significant concern in AHAB's water. 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, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. USEPA/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 Drinking Water Hotline (1-800-426-4791).

Water Conservation

Conserving water at Fort Irwin and AHAB is as important to the installation as breathing the air. Without water, AHAB will not be able to support the Army's mission. Conserving water is very important for several reasons. The primary being the cost to have water brought in from another water provider would be very expensive. Then we would have to buy our water rather than only pay the cost to pump it from the ground. Fort Irwin and AHAB is very reliant on you, the consumer, to conserve this natural resource. Below are some tips on how to conserve water and help extend our water supply. Other conservation tips can be found at <http://www.bewaterwise.com/>.

Wash only full loads of laundry in your washing machine or full loads of dishes in your dishwasher. You'll not only save our water, but conserve energy as well.

Turn the water off. Minimize faucet use when shaving, brushing teeth and washing dishes. If your faucets or showerheads are leaking, call the housing office to report it.

Shorten your shower time by one minute. Cut back on your shower time and you will save on water use. Limit your showers to 5 minutes. This not only saves water but energy as well.

Don't pre-rinse your dishes. Check to see if your dishwasher can clean dishes without pre-rinsing them. Most newer dishwashers don't require pre-rinsing.

Reuse clean water. Collect all the water that is wasted while waiting for the hot water to reach your faucet or showerhead by filling a plant waterer or jug. Use this water to water your houseplants or outdoor planters. Do the same with water that is used to boil eggs and steam vegetables.

Call in water breaks. If you have a water leak, or notice a water problem, please call the **(760) 386-3539**, High Desert Support Services (HDSS)

Definitions

On the following pages are tables containing summarized results of our monitoring. To understand these terms, Fort Irwin has provided the following definitions:

Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years, or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (µg/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity units are a measure of the clarity of water. Turbidity in excess of 5 NTU is just barely noticeable to the average person.

Regulatory Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS) - MCL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Safe Drinking Water Act (SDWA) - Federal law which sets forth drinking water regulations.

Maximum Residual Disinfectant Level (MRDL) - The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the (USEPA).

Reverse Osmosis (RO) - The process which forces water through a special membrane with very small pores separating salts and other contaminants in a brine solution. When applied to water systems this process is energy intensive (high pressure pumps). At Fort Irwin RO also signifies the potable water distribution system for water treated at the RO plant.

Disinfection Byproducts - Results from adding chlorine to the water to kill or suppress bacteria and other harmful organics. When chlorine is added it reacts with the carbon material forming byproducts that the USEPA and CA DDW believe are harmful.

Sources of Contaminants and Tables of Results

The following tables present the results of our monitoring for the reporting period of 2015. In reading the tables, compare the MCL column to the Average Level Detected column.

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. Contaminants that may be present in source water include:

- 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, that can be naturally occurring or result from urban storm water 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 storm water runoff, and residential uses.
- Organic Chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

Microbial Monitoring

Microbial Monitoring is conducted on a monthly basis. This monitoring uses the coliform bacteria as an indicator for all microbial contaminants. Coliform is used because it is present in the environment, it is more resistant than other bacteria to treatment and it is easy to detect. Table 1 has the results from bacteria monitoring.

Analyte	Unit	Maximum contaminant Level (MCL)	Maximum contaminant Level Goal (MCLG)	Source of Contamination	Highest Number of Positive Results	Number of Months exceeding MCL
Total Coliform Bacteria	Positive Samples per month	0	0	More than 1 positive sample in a month	No Positive	Naturally present in the environment

Lead and Copper

AHAB tests for lead and copper at selected taps in our water system. Results from the lead and copper testing indicate the corrosiveness of AHAB's water. Lead and copper are leached from the plumbing inside the buildings. You can minimize your exposure to lead and copper by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Table 2 contains the result from monitoring of lead and copper. Compare the 90% level to the Action level.

Analyte	Unit	Sites Tested	Sites exceeding the AL	90 % Level*	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
Lead (Pb)	µg/L	10	0	ND	AL** = 15	2	Internal corrosion of household water plumbing systems
Copper (Cu)	mg/L	10	1	0.220	AL** = 1.3	0.17	

All results for lead and copper are from 2016.

*90% or more of the monitoring results were below this result.

**AL or regulatory action level is set by the California DDW. If exceeded preventive treatment is required, equivalent to a MCL.

Regulated and Non-regulated Contaminants:

AHAB is required each year (or other period) to test for Contaminants the EPA and CA DDW are concerned about. We also test our water for indicators of water quality. These indicators of water quality help Fort Irwin provide the best water possible. Table 3 contains the monitoring results from 2015 and previous years.

Table 3: Regulated and Non-regulated Contaminants						
Analyte	Unit	Range Detected	Average	Maximum contaminant Level (MCL)	Maximum contaminant Level Goal (MCLG)	Source of Contamination
EPA and State Regulated						
Boron (B)	µg/L	150 - 170 ¹³	161.7 ¹³		1000	State Regulated, No MCL: Erosion of natural occurring deposits
Chloride (Cl)	mg/L	25 - 27 ¹³	25.83 ¹³	500		Secondary Drinking Water Standard: Erosion of natural occurring deposits
Hexavalent Chromium (Cr), Chromium VI*	µg/L	6.3 - 6.8 ¹³	6.55 ¹³	10	0.02	Erosion of natural deposits
Fluoride (F)	mg/L	0.63 - 0.74 ¹³	0.69 ¹³	2.0	1	Erosion of natural occurring deposits; water additive that promotes strong teeth;
Foaming Agents [MBAS]	µg/L	120 ¹³	120 ¹³	500		Secondary Drinking Water Standard
Gross Alpha	pCi/L	7.94	7.94	15		Erosion of natural occurring deposits
Haloacetic Acids (HAA5)	µg/L	1.5 ¹³	1.5 ¹³	60		Disinfection byproducts
Dibromoacetic Acid	µg/L	ND ¹³	ND ¹³			Part of HAA5
Dichloroacetic Acid	µg/L	1.5 ¹³	1.5 ¹³			Part of HAA5
Monobromoacetic Acid	µg/L	ND ¹³	ND ¹³			Part of HAA5
Monochloroacetic Acid	µg/L	ND ¹³	ND ¹³			Part of HAA5
Trichloroacetic Acid	µg/L	ND ¹³	ND ¹³			Part of HAA5
Nitrate (NO ₃)	mg/L	1.6	1.6	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewer systems; erosion of natural deposits
Specific Conductance	µS/cm	450 - 460 ¹³	456.7 ¹³	1600		Substances that form ions when in water
Sulfate (SO ₄)	mg/L	36 - 38 ¹³	37.3 ¹³	500		Secondary Drinking Water Standard: Erosion of natural occurring deposits
Total Trihalomethanes (TTHM)	µg/L	8.3 - 18.2 ¹³	11.7 ¹³	80		Disinfection byproducts
Bromodi-chloromethane	µg/L	1.2 - 3.6 ¹³	2.24 ¹³			Part of TTHM
Bromoform	µg/L	2.3 - 6.9 ¹³	4.34 ¹³			Part of TTHM
Chloroform	µg/L	1.5 - 1.6 ¹³	1.55 ¹³			Part of TTHM
Dibromo-chloromethane	µg/L	2.1 - 6.5 ¹³	4.06 ¹³			Part of TTHM

* Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.

Italicized numbers indicate the year the data is from i.e (¹³ for 2013, ¹⁴ for 2014). If no number, data is from 2015.

Analyte	Unit	Range Detected	Average	Maximum contaminant Level (MCL)	Maximum contaminant Level Goal (MCLG)	Source of Contamination
Table 3: Regulated and Non-regulated Contaminants (Cont.)						
Turbidity	NTU	0.20 ¹³	0.20 ¹³	5		Secondary Drinking Water Standard: Cloudiness of water. We monitor it because it is a good indicator of the effectiveness of the RO system.
Vanadium (V)	µg/L	7.7 - 8.6 ¹³	8.2 ¹³		50	Erosion of natural occurring deposits
Uranium*	pCi/L	8.41	8.41	20	0.43	Erosion of natural occurring deposits
Water Quality (Not Regulated)						
Calcium (Ca)	mg/L	34 - 39 ¹³	36.5 ¹³			Erosion of natural occurring deposits
Nitrate + Nitrite (as N)	µg/L	430 ¹³	430 ¹³			Runoff and leaching from fertilizer use; leaching from septic tanks and sewer systems; erosion of natural deposits
Magnesium (Mg)	mg/L	5.5 - 6.0 ¹³	5.73 ¹³			Erosion of natural occurring deposits
Potassium (K)	mg/L	1.8 - 2.2 ¹³	2.0 ¹³			Erosion of natural occurring deposits
Sodium (Na)	mg/L	51 - 54 ¹³	52.7 ¹³			"Sodium" refers to the salt present and is generally naturally occurring.

*Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

Italicized numbers indicate the year the data is from i.e (¹³ for 2013, ¹⁴ for 2014). If no number, data is from 2015.