Army Heliport at Barstow-Daggett 2023 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 2023 monitoring results and provides contact information. If you have questions concerning this report contact: Fort Irwin, DPW Environmental Division, Water Manager: 760-380-3749.

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.

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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.

This report covers the requirement for a Consumer Confidence Report (CCR). Last year, we conducted more than 450 tests for 46 different contaminants. This report covers monitoring from 1 January 2023 through 31 December 2023. 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.

Should Customers be Concerned?

In order to ensure that tap water is safe to drink, the 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. These limits are called Maximum Contaminant Levels (MCL). MCL's are set at very stringent levels. To understand the risk of possible health effects described for regulated contaminants, customers should know that a person would have to drink 2 liters of water every day at the MCL level during a lifetime to have a one-in-a-million chance of having the described health issues. DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

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/.

Microbial contaminants are not a significant concern in AHAB's groundwater. 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).

On 28 December 2015, under the third Unregulated Contaminant Monitoring Rule (UCMR3), Fort Irwin collected data for chemicals that are suspected contaminants in drinking water. Testing was completed for perfluorinated alkyl substances (PFAS)

which included perflourooctanesulfonic acid (PFOS) and perfluorooctanoic acid(PFOA). All testing results obtained were absent of PFOS/PFAS. On 21 February 2021, the US Army Public Health Center, collected additional data for PFOS and PFOA. All testing results obtained were absent of PFOS/PFAS. Fort Irwin will continue routine monitoring of PFOS/PFAS.

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. The aquifers are very similar to underground lakes or river bordered by the rising bedrock surrounding the basin and form the hills visible on the surface. AHAB pumped about 1.6 million gallons of water out of the ground last year. AHAB's water system provides water to approximately 125 customers daily.

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/.

- **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)
- **Don't pre-rinse your dishes.** Check to see if your dishwasher can clean dishes without pre-rinsing them. Most new 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.
- **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.
- **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.
- **Use a car wash that recycles water.** The car wash on Fort Irwin recycles water. Or if you wash your car at home use a nozzle that shuts off when not in use.
- **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.

Definitions

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

- 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.
- 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.
- 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).
- Non-Detects (ND) - Laboratory analysis indicates that the constituent is not present at or above the minimum detection limit for the analytical method.
- 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.
- 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.
- 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.
- Regulatory Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Sources of Contaminants

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:

- 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.
- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and

wildlife.

- 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.
- Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

Water Quality Sampling Results

The following tables present the results of our monitoring for the calendar year 2023. These results are representative of the water provided today. In reading the tables, compare the MCL column to the Average Level Detected column.

Microbial Monitoring

Microbial Monitoring is conducted monthly. 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. The positive results were resolved.

Table 1 - Microbial Monitoring

Analyte	Unit	Highest Number of Positive Results in a Month	Number of Months Exceeding MCL	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
Total Coliform Bacteria	Positive Samples per Month	3	2*	More than 1 positive sample in a month	0	Naturally present in the environment

Note: *Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms on 03, 09, 10 January and 01, 02 March 2, 2024, at the production well. There was no presence of Coliforms in the distribution system. The operations team cleaned, flushed, and disinfected with NSF approved Sodium Hypochlorite the well casing, pump, and associated piping. After obtaining negative Coliforms results, the groundwater well was placed back in service on 07 March 2024.

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 the monitoring of lead and copper. Compare the 90% level to the Action Level (AL). Analytes did not exceed ALs.

Table 2 - Lead and Copper Monitoring

Analyte	Drinking Water				Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
	Unit	Sites Tested	Sites exceeding the AL	90 % Level*			
Lead (Pb)	µg/L	5	0	ND	AL = 15	2	Internal corrosion of household water plumbing systems
Copper (Cu)	mg/L	5	0	0.12	AL = 1.3	0.17	

Notes:

All results for lead and copper are from 2021.

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

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water 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.

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 2023 and previous years. No analytes exceeded MCLs.

Table 3 - Regulated and Non-regulated Contaminants

Analyte	Unit	Range Detected	Average	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
USEPA and State Regulated						
Barium (Ba)	mg/L	ND[22]	ND[22]	None	1	Erosion of natural occurring deposits
Chloride (Cl)	mg/L	21[16]	21[16]	250	None	Erosion of natural occurring deposits
Chromium (Cr), Total	µg/L	ND[22]	ND[22]	100	100	Erosion of natural occurring deposits
Hexalvent Chromium (Cr), Chromium VI	µg/L	6.1 – 6.4[18]	6.27[18]	10	0.02	Erosion of natural occurring deposits
Fluoride (F)	mg/L	0.4 – 0.6	0.5	4	4	Erosion of natural occurring deposits; water additive that promotes strong teeth.
Gross Alpha	pCi/L	9.42[22]	9.42[22]	15	None	Erosion of natural occurring deposits
Haloacetic Acids (HAA5)	µg/L	ND[22]	ND[22]	60	None	Disinfection byproducts
Dibromoacetic Acid	µg/L	ND[22]	ND[22]	None	None	Part of HAA5
Dichloroacetic Acid	µg/L	1.8[22]	1.8[22]	None	None	Part of HAA5
Monobromoacetic Acid	µg/L	ND[22]	ND[22]	None	None	Part of HAA5
Monochoroacetic Acid	µg/L	ND[22]	ND[22]	None	None	Part of HAA5

Analyte	Unit	Range Detected	Average	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
Trichloroacetic Acid	µg/L	ND[22]	ND[22]	None	None	Part of HAA5
Nitrate (NO_3) as N	mg/L	0.46	0.46	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewer systems;
Sodium (Na)	mg/L	52[19]	52[19]	250	None	"Sodium" refers to the salt present and is generally naturally occurring.
Sulfate (SO_4)	mg/L	36[16]	36[16]	250	None	Erosion of natural occurring deposits
Total Trihalomethanes (TTHM)	µg/L	21[22]	21[22]	80	None	Disinfection byproducts
Bromodi-chloromethane	µg/L	8[22]	8[22]	None	None	Part of TTHM
Bromoform	µg/L	2.3[22]	2.3[22]	None	None	Part of TTHM
Chloroform	µg/L	4.6[22]	4.6[22]	None	None	Part of TTHM
Dibromo-chloromethane	µg/L	6.2[22]	6.2[22]	None	None	Part of TTHM
Total Dissolved Solids	mg/L	250 – 490	310	500	None	Erosion of natural occurring deposits.
Total Radium	µg/L	ND[22]	ND[22]	5	None	Radium is a naturally occurring, silvery white metal formed by decay of uranium and thorium. Multiple isotopes occur at very low levels in virtually all rocks, soil, water, plants and animals.
Turbidity	NTU	0.1 – 0.32	0.17	5	None	Soil Runoff
Uranium*	pCi/L	6.58[22]	6.58[22]	20	0.43	Erosion of natural occurring deposits
Water Quality Indicators (Not Regulated)						
Alkalinity, Total	mg/L as CaCO3	150 – 200	170.8	None	None	Erosion of natural occurring deposits
Bicarbonate (HCO_3)	mg/L as CaCO3	150 – 200	170.8	None	None	Part of Alkalinity
Carbonate (CO_3)	mg/L as CaCO3	ND	ND	None	None	Part of Alkalinity
Calcium (Ca)	mg/L	33 – 60	40.6	None	None	Erosion of natural occurring deposits
Hardness, Total	mg/L as CaCO3	100 – 190	128.3	None	None	The sum of polyvalent cations present, generally magnesium and calcium. The cations are usually

Analyte	Unit	Range Detected	Average	Maximum Contaminant Level (MCL)	Maximum Contaminant Level Goal (MCLG)	Source of Contamination
						naturally occurring.
Nitrate + Nitrite (as N)	µg/L	460	460	None	None	Runoff and leaching from fertilizer use; leaching from septic tanks and sewer systems; erosion of natural deposits
Magnesium (Mg)	mg/L	5.2 – 9.7	6.3	None	None	Erosion of natural occurring deposits
Potassium (K)	mg/L	2*[19]*	2*[19]*	None	None	Erosion of natural occurring deposits

Notes:

*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 of the data (*[13]* for 2013). If no number, the data is from 2023.

For more information, contact:

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