Beale Air Force Base 2022 Consumer Confidence Report

Water System Information

Water System Name: Beale Air Force Base (CA5810700)

Report Date: May 3, 2023

Type of Water Source in Use: Groundwater

Name and General Location of Source(s): Beale AFB groundwater originates from the Sierra Nevada Mountain range. Beale AFB has seven deep-water wells that draw water from an underground aquifer.

Drinking Water Source Assessment Information: The California Department of Public Health (CDPH) completed an assessment of our drinking water source in April 2001. In addition, in October 2005, Earth Tech Inc. prepared a “Drinking Water Source Assessment and Protection Plan/Wellhead Protection Plan” for Beale AFB. This assessment is For Official Use Only (FOUO). The Drinking Water Source Assessment Program required permitted sources to be evaluated for susceptibility to various potential contaminating activities. This evaluation was performed for all the base’s seven well water sources in operation at that time. The evaluation indicated that the operation of a military installation ranks the highest among the potential contaminating activities.

Time and Place of Regularly Scheduled Board Meetings for Public Participation: Beale AFB holds semi-annual Drinking Water Working Group meetings in the Bioenvironmental Engineering office.

For More Information, Contact: Beale AFB Bioenvironmental Engineering Flight (530) 634-2045

About This Report

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 to December 31, 2022 and may include earlier monitoring data.

Importance of This Report Statement in Five Non-English Languages (Spanish, Mandarin, Tagalog, Vietnamese, and Hmong)

Language in Spanish: Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse Beale Air Force Base a 6604 B Street Bldg. 26180, Beale AFB, CA 95903 or 530-634-2045 para asistirlo en español.

Language in Mandarin: 这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 以获得中文的帮助: 6604 B Street Bldg. 26180, Beale AFB, CA 95903 or 530-634-2045.

Language in Tagalog: Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa 6604 B Street Bldg. 26180, Beale AFB, CA 95903 o tumawag sa 530-634-2045 para matulungan sa wikang Tagalog.

Language in Vietnamese: Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng liên hệ Beale Air Force Base tại 6604 B Street Bldg. 26180, Beale AFB, CA 95903 or 530-634-2045 để được hỗ trợ giúp bằng tiếng Việt.

Language in Hmong: Tsab ntawv no muaj cov ntsiab lus tseem ceeb txog koj cov dej haus. Thov hu rau Beale Air Force Base ntawm 6604 B Street Bldg. 26180, Beale AFB, CA 95903 or 530-634-2045 rau kev pab hauv lus Askiv.

Terms Used in This Report

Term	Definition
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
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. MCLGs are set by the U.S. Environmental Protection Agency (U.S. EPA).
Maximum Residual Disinfectant Level (MRDL)	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.
Maximum Residual Disinfectant Level Goal (MRDLG)	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.
Primary Drinking Water Standards (PDWS)	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
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.
Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Secondary Drinking Water Standards (SDWS)	MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Variances and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
ND	Not detectable at testing limit.
ppm	parts per million or milligrams per liter (mg/L)
ppb	parts per billion or micrograms per liter (µg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
ppq	parts per quadrillion or picogram per liter (pg/L)
pCi/L	picocuries per liter (a measure of radiation)

Sources of Drinking Water and Contaminants that May Be Present in Source Water

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.

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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that 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, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

Regulation of Drinking Water and Bottled Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

About Your Drinking Water Quality

Drinking Water Contaminants Detected

Tables 1, 2, 3, 4, 5, 6, and 8 list all the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Table 1. Sampling Results Showing the Detection of Coliform Bacteria

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
E. coli	0	N/A	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

Table 1.A. Compliance with Total Coliform MCL between January 1, 2022 and June 30, 2022 (inclusive)

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0	N/A	1 positive monthly sample (a)	0	Naturally present in the environment
Fecal Coliform and *E. coli*	0	N/A	0	None	Human and animal fecal waste

(a) For systems collecting fewer than 40 samples per month: two or more positive monthly samples are a violation of the total coliform MCL.

Table 2. Sampling Results Showing the Detection of Lead and Copper

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	AL (µg/L)	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	Oct 2022	20	0.061	0	15	0.2	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppb)	Oct 2022	20	0	0	1300	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 3. Sampling Results for Sodium and Hardness

Chemical or Constituent (and reporting units)	Sample Date	Level Detected (mg/L)	Range of Detections (mg/L)	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2018	21.6	16-31	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2018	101.43	81-134	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

Table 4. Detection of Contaminants with a Primary Drinking Water Standard

Chemical or Constituent (Reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Fluoride (mg/L)	2022	0.7	0.1-0.8	2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Chlorine (mg/L)	2022	1.01	0.42-1.43	4	4	Some people who use water-containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water-containing chlorine well in excess of the MRDL could experience stomach discomfort.
TTHMs [Total Trihalomethanes] (µg/L)	Dec 2022	19	19	80	N/A	Some people who drink water-containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
HAA5 [Haloacetic Acids] (µg/L)	Dec 2022	12	12	60	N/A	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Table 5. Detection of Contaminants with a Secondary Drinking Water Standard

Beale AFB did not have any violations of a secondary MCL in 2022.

Table 6. Additional Contaminants

If an effort to ensure the safest water possible, the U.S. Air Force has required the monitoring for additional contaminants not required by State regulations. Below are the results:

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	Health Advisory Level	Sources
Perfluorooctanoic Acid (PFOA)	March 2021	ND	N/A	70 ppt	PFOS and PFOA are man-made compounds often used to make carpets, fabrics for furniture, clothing, paper packaging for food, firefighting foam and items resistant to water, grease, fire, and stains.
Perfluorooctanesulfonic Acid (PFOS)	March 2021	ND	N/A	70 ppt	

PFAS Frequently asked Questions

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., for decades. Due to their widespread use and environmental persistence, most people in the United States have been exposed to certain PFAS. 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 foams (aqueous film-forming foam or AFFF) used for fighting petroleum fires.

Is there a federal or California regulation for PFAS in drinking water?
There is currently no federal drinking water standard for any PFAS compounds. In May 2016, the U.S. Environmental Protection Agency (EPA) established a lifetime drinking water 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.

The California Department of Drinking Water has established notification and response levels for different types of PFAS. More information can be found on the California Water Boards website at https://www.waterboards.ca.gov/pfas/drinking_water.html

The Department of Defense (DoD) issued a policy in 2020 to monitor drinking water for PFAS at all DoD owned and operated water systems at a minimum of every three years. This policy states that where State regulations for PFAS are more stringent than the guidance provided in the memorandum, the more stringent regulations apply. That is, if water sampling results confirm levels of PFAS compounds (including PFOS or PFOA) in drinking water above the State standard, water systems would 1) take immediate action to reduce exposure to elevated levels of PFAS compounds, to include providing alternative drinking water; and 2) undertake additional sampling to assess the level, scope, and localized source of contamination.

What about the EPA's 2022 interim Health Advisories or proposed regulations?
EPA issued interim Health Advisories for PFOS and PFOA in 2022. However, these newer levels are below quantifiable limits (i.e., below detection levels). EPA announced a proposed regulation on PFAS drinking water standards for public comment on March 14, 2023. The Department supports EPA taking regulatory actions to address PFAS, including a drinking water standard for PFAS that will apply to all drinking water suppliers once final. DoD respects and values the public comment process on this proposed nationwide drinking water rule and looks forward to the clarity that a final regulatory drinking water standard for PFAS will provide.

In anticipation of this EPA drinking water regulation and to account for emerging science that shows potential health effects of PFOS and PFOA at levels lower than 70 ppt, DoD is evaluating its efforts to address PFAS in drinking water, and what actions we can take to be prepared to incorporate this standard, such as reviewing our current data and collecting additional sampling where necessary. DoD remains committed to communicating and engaging with our communities throughout this process.

Has Beale AFB tested its water for PFAS?
Yes. In March 2021, samples were collected from Main Reservoir, Housing Reservoir, Well 1, Well 2, Well 4, Well 5, Well 6, Well 8 & Well 9.

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 29 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.

Additional General Information on 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 from infections. These people should seek advice about drinking water from their health care providers. U.S. 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 Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language: 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. Beale Air Force Base is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. 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. [Optional: If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] 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 (1-800-426-4791) or at http://www.epa.gov/lead.

State Revised Total Coliform Rule (RTCR): This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2021. These revisions add the requirements of the federal Revised Total Coliform Rule, effective since April 1, 2016, to the existing state Total Coliform Rule. The revised rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system. The state Revised Total Coliform Rule became effective July 1, 2022.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

Violation of a MCL, MRDL, AL, TT or Monitoring Reporting Requirement

Beale AFB received a Notice of Violation (NOV) due to failure to collect a monthly raw bacterial sample for Well 8 in the month of August 2022; there are no associated health risks as the raw water had not yet been treated. No other violations of MCL, MRDL, AL, or TT were reported in 2022.

Summary Information for Fecal Indicator-Positive Groundwater Source Samples, Uncorrected Significant Deficiencies, or Violation of a Groundwater TT

Beale AFB did not have any special notices for positive fecal indicator in groundwater samples, uncorrected significant deficiencies, or violation of groundwater TT in 2022.

Level 1 or Level 2 Assessment Requirement not Due to an *E. coli* MCL Violation

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. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

Beale AFB did not have to conduct any Level 1 or Level 2 Assessments in 2022.