2020

Water Quality Consumer Confidence Report

BEALE AIR FORCE BASE CALIFORNIA

Table of Contents

Welcome

For more than 50 years, the Bioenvironmental Engineering flight at Beale AFB has worked hard to ensure your drinking water is clean and safe to consume. You can count on our unwavering commitment to meet and exceed all standards, even as the state of California and the Air Force update them over time.

In 2020, we conducted 435 drinking water samples for 25 different constituents.

This annual report is created to publicly provide the results of our sampling. We are proud to confirm that we met every primary and secondary state and federal water quality standard in 2020.

Additionally, we have included information relating to water quality and possible contaminants. We encourage you to read this report, and if you have any questions or concerns we are happy to assist you by phone at (530) 634-2045 or by email at Rebecca.J.Smith175.mil@mail.mil.

We take pride in keeping you and your family happy and healthy.

Sincerely,

Bioenvironmental Engineering Flight, Beale AFB

Source of Drinking Water

Water System Name: Beale AFB #5810700

Type of Water Source in Use: Ground Water

Name and General Location of Source: Beale AFB ground water originates from the Sierra Nevada Mountain range and the water is drawn from 7 deep-water wells.

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, 2020 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse Beale AFB (530) 634-2045 a para asistirlo en español.

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 of the bases 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.

The Drinking Water Working Group meeting is scheduled quarterly and is held in the Bioenvironmental Engineering Conference Room.

Fluoride and Water Hardness

Fluoride

Air Force guidance requires that fluoride be added to the drinking water system. This is a practice that is endorsed by the American Medical Association and American Dental Association to prevent tooth decay.

More information on fluoridation and oral health can be found on the California Water Boards website at:

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html

Water Hardness

Water Hardness is the amount of dissolved calcium and magnesium minerals in water. Water is considered soft if its hardness is below 75 parts per million (ppm), moderately hard at 75 to 150 ppm, hard at 150 to 300 ppm, and very hard at 300 ppm or higher.

Hard water is caused by naturally occurring minerals and is not generally considered a health concern.

PFOS and PFOA

PFOS and PFOA are manmade 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. They are part of a group of chemicals referred to as per- and poly-fluoroalkyl substances (PFAS).

Consumer products and food are a large source of exposure to these chemicals for most people, but drinking water can be an additional source of exposure in areas where these chemicals have contaminated the drinking water.

In 2020, the California Division of Drinking Water (DDW) announced that they are lowering the response levels for PFOS and PFOA to 10 ppt for PFOA, and 40 ppt for PFOS. There is currently no Maximum Contamination Level (MCL) set for these substances by the EPA.

The Air Force understands that these are constituents of emerging concerns. Therefore, proactive testing procedures are being put into place. Bioenvironmental Engineering tested all 7 source wells at Beale AFB on 11 August 2016, and all samples were non-detect. Additional PFOS and PFOA sampling is scheduled to be accomplished in 2021.

Studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants, cancer, liver effects, immune effects, thyroid effects and other effects.

Additional information on PFOS and PFOA can be found on the California DDW website and on the EPA website.

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html

https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf

Possible Contaminants

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.

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.

Substance Sources

DI- Byproduct of drinking water disinfection

DS- Drinking water disinfectant added for treatment

EN- Naturally present in the environment

ER- Erosion of natural deposits

FE- Human and animal waste

FL- Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories

FR- Runoff and leaching from fertilizer use; leaching from septic tanks and sewage

IC- Internal corrosion of household plumbing systems

IM- Discharge from industrial manufacturers.

IN-Runoff/leaching from insecticides used on cotton and cattle

IO- Substances that form ions when in water

IW- Industrial Waste

PH- Inherent characteristic of water

RU- Runoff/Leaching from natural deposits

WD- Leaching from wood preservatives.

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)

2020 Sampling Results

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Highest Monthly		Source
Total coliform (systems with <40 samples/month) (Total Coliform Rule)	2020	Positive Samples	1	0	**Yes**	0		EN
Fecal coliform and E. Coli	2020	Positive Samples	1	0	**Yes**	0		FE
Inorganic	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Range**	**Average**	**Source**
Fluoride	2020	ppm	2	1 (4.0)	**Yes**	0.66-0.9	0.78	ER, FL
Lead and Copper	**Year Tested**	**Unit**	**AL**	**PHG (MCLG)**	**In Compliance**	**90th Percentile**	**Samples >AL**	**Source**
Copper	2018	ppm	1.3	0.3	**Yes**	0.13	0 of 20	IC, ER, WD
Lead	2018	ppb	15	0.2	**Yes**	0	0 of 20	IC, IM, ER
Disinfection Byproducts	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Results**	**Highest Annual**	**Source**
Haloacetic acids	2020	ppb	60	N/A	**Yes**	6	6	DI
Total trihalomethanes	2020	ppb	80	N/A	**Yes**	17	17	DI
Disinfectants	**Year Tested**	**Unit**	**MRDL**	**MRDLG**	**In Compliance**	**Range**	**Average**	**Source**
Chlorine	2019	ppm	4	4	**Yes**	0.00-1.68	0.95	DS

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2020 Sampling Results

Chemical or Constituent	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range of Detections	Source
Sodium	2018	ppm	none	n/a	**Yes**	16-31	ER
Hardness	2018	ppm	n/a	n/a	**Yes**	81-134	ER
VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT.							
N/A-Beale AFB did not have any violations in 2020.							
SPECIAL NOTICE OF FECAL INDICATOR-POSITIVE GROUNDWATER SOURCE SAMPLE							
N/A- No special notices were required for positive fecal indicators in ground water samples in 2020.							
SPECIAL NOTICE FOR UNCORRECTED SIGNIFICANT DEFICIENCIES							
N/A- No special notices were required for uncorrected significant deficiencies in 2020.							
VIOLATION OF GROUNDWATER TT							
N/A- There were no violations of surface water TT in 2020.							

Key Definitions

MAXIMUM CONTAMINANT LEVEL (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs protect public health and are set as close to the PHGs (or MCLGs) as are economically and technologically feasible. Secondary MCLs (SMCLs) relate to the odor, taste, and appearance of drinking water.

IN COMPLIANCE: Does not exceed any applicable MCL, SMCL, or action level, as determined by DDW. For some compounds, compliance is determined by averaging the results for one source over a one-year period.

REGULATORY ACTION LEVEL (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other required action by the water provider.

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 EPA.

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): MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health, along with their monitoring and reporting requirements.

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.

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.

REGULATORY ACTION LEVEL (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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.

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.

Additional Drinking Water Information

All 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.

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

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).

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 AFB 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. 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.

Thank you!

Thank you for taking the time to learn more about your water quality! For more information regarding this report, or samples not listed, feel free to reach out at the number listed below.

6604 B Street Beale AFB, CA 95903 (530) 634-2045