



Mountain Home Air Force Base and Strike Dam Recreational Center

Drinking Water Quality Consumer Confidence Report (CCR) for 2016 Reporting Period

Executive Summary

Mountain Home Air Force Base (MHAFB) is pleased to announce the availability of the annual Drinking Water Consumer Confidence Report (CCR). The base water system produces high quality water and meets Environmental Protection Agency (EPA) standards to ensure all consumers receive safe drinking water. This report is a summary of water quality during the 2016 calendar year. Included are details about where your water comes from, what it contains, and how it compares to EPA and state standards. We are committed to providing you with information because informed citizens are our best allies.

Last year, we conducted more than 817 tests for over 71 contaminants. Two chemicals were detected at levels above EPA Health Advisory or Maximum Contaminant Levels, all others were either not detected or within EPA standards. More information can be found in Section IV, Compliance Violations and Section VI, Level of Detected Contaminants, of this report.

Table of Contents

Section I.	Water System Information	3
Section II.	Water Sources.....	3
Section III.	Potential Sources of Groundwater Contamination.....	4
Section IV.	Compliance Violations	5
Section V.	Definitions	5
Section VI.	Health Information	6
Section VII.	Water Quality Data Tables	8
Section VIII.	Specific Contaminant Requirements	10
Section IX.	Contact Information	10

2016 Consumer Confidence Report (CCR)

I. WATER SYSTEM INFORMATION

Water System Name:	
Mountain Home Air Force Base	PWS ID #: 4200054
Mountain Home AFB Strike Dam Recreational Area	PWS ID #: 4200088
Water System Operator: Mr. Jeffery White , 366 CES/CEOIU	
Water Program Manager: Ms. Danicza Lopez, 366 CES/CEIE	
Health Compliance Office: Bioenvironmental Engineering, 366 AMDS/SGPB	
Address:	
Civil Engineering Utilities/Operations 1030 Liberator Street	Tel #: (208) 828-3391
Civil Engineering Environmental Office, 366 CES/CEIE Tel #: (208) 828-1761 1030 Liberator St, Bldg. 1297	
Bioenvironmental Engineering, 366 AMDS/SGPB 90 Hope Drive, Bldg. 6000	Tel #: (208) 828-7270
City, State, Zip Code: Mountain Home Air Force Base, ID 83648	
Population Served: 6,500	Number of Connections: 1,200
Date of CCR Distribution: 1 July 2017	For Calendar Year: 2016
Regularly Scheduled Meeting(s): Base Drinking Water Working Group meets quarterly. For more information, contact Danicza Lopez, Water Program Manager, 366 CES/CEIE, Mountain Home AFB, ID. Phone: (208) 828-1761.	

II. WATER SOURCES

Groundwater Sources (springs, wells, infiltration galleries): Wells - The MHAFB well field is completed in permeable zones within the Bruneau Formation. MHAFB produces water from these zones.	
Source #: 1	Wells 2/4 Manifold - BPW2/4 Location: Mountain Home AFB
Source #: 2	Well 9 – BPW9 Location: Mountain Home AFB
Source #: 3	Well 10 – BPW10 Location: Mountain Home AFB/ Strike Dam
Source #: 4	Well 12 – BPW12 Location: Mountain Home AFB
Source #: 5	Well 13 – BPW13 Location: Mountain Home AFB

III. POTENTIAL SOURCES OF CONTAMINATION:

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.

A potential point source of contamination is any facility that stores, uses, or produces, as a product or by-product, regulated contaminants. For a potential point source to be included in the potential contaminant source inventory, it must also have a potential for release of contaminants at levels that could pose a concern relative to drinking water sources. It is important to understand that a release may never occur from a potential contamination source if best management practices are being used. Many potential sources of contamination are regulated at the Federal or State level, or both to reduce the risk of release. Therefore, when a business, military building, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, military building or property is in violation of any local, State, or Federal environmental law or regulation. What this means is that the potential for contamination exists due to the nature of the business, military building operation or type of activity on the property.

Sources that could potentially contaminate the drinking water supply for MHAFB include both point and non-point sources of contamination. Point sources of contamination occur at distinct locations. They are often regulated and require permits or registration for facilities that use, store or sell those materials (such as fueling stations with leaking underground storage tanks). Non-point sources of contamination often occur over large areas and can result from normal everyday activities such as lawn chemical or agricultural activities.

Potential Point Sources of Groundwater Contamination

The Idaho Department of Environmental Quality (IDEQ) has performed source water assessments on each of MHAFB's wells. All wells in the MHAFB well field are moderately susceptible to contamination from inorganic chemicals, synthetic organic chemicals, and microbes.

Potential Non-Point Sources of Groundwater Contamination

The general land use surrounding MHAFB is a combination of both agricultural and small business/residential. Non-point sources of contamination associated with these land uses are primarily agricultural chemicals including pesticides (insecticides and herbicides) and fertilizers. Additional potential non-point sources within the MHAFB Drinking Water/Wellhead Protection Zone include incorrect usage and disposal of Aqueous Film Forming Foam (AFFF), hazardous household chemicals such as cleaning solvents, used motor oil, and degreasers. Throughout the MHAFB Drinking Water/Wellhead Protection Zone, pesticides and small fuel storage cans used by military family housing may also pose threats to groundwater quality.

Source Water Assessment or Protection Plan Available

The MHAFB Water Contingency Response Plan was updated and signed in January of 2016. A copy of the MHAFB Water Contingency Response Plan may be obtained from Ms. Danicza Lopez, Water Program Manager, 366 CES/CEIE, Mountain Home AFB, ID, phone: (208) 828-1761.

IV. COMPLIANCE VIOLATIONS

Treatment Techniques: None
Monitoring/Reporting: One/Nitrate MCL Violation for Well 9 – occurred because the level of the completed sampling was higher than the MCL (maximum contaminant level).
Public notification/Record keeping: Yes – A “Do Not Drink Order” was posted
Special monitoring requirements: Additional immediate sampling and quarterly sampling
Administrative or judicial orders: None
Consent orders: None
Notice of Violations (NOV): None

Monitoring and reporting of compliance data violations

MHAFB received a violation in August 2016 for a water sample at Well 9 measuring nitrate levels at 10.8 ppm, which is above the nitrate MCL of 10 ppm. Additional sampling confirmed the exceedance. Well 9 is a stand-alone well that only provides water to personnel working in the Air Traffic Control Tower and does not affect the rest of the base population. Following the violation, bottled water was provided to personnel working in the Tower and a “Do Not Drink Order” was posted. Nitrate sampling frequency was increased from annually to quarterly. October samples measured our highest reading at 11.4 ppm.

In January 2017, Well 9 Nitrate levels dropped to 7.1 ppm, returning to levels below the MCL. The “Do Not Drink” order for nitrates was lifted for the personnel working in the Tower, however, Tower personnel will remain on bottled water due to Well 9’s exceedance of the PFOS/PFOA health advisory. MHAFB will continue our increased monitoring for nitrates on a quarterly basis until further notice.

Health Advisory for PFOS/PFOA

EPA required that all water sources be sampled for PFOS/PFOA. In August 2016, MHAFB sampled all wells at the source. Wells 4 and 9 both came back above the EPA Health Advisory (HA) of 70 ppt.

Well 9 is a stand-alone well that only provides water to personnel working in the Air Traffic Control Tower and does not affect the rest of the base population. Tower personnel were already issued bottled water due to the nitrate levels from Well 9; bottled water will continue to be issued to Tower personnel until a filtration system can be installed to control the PFOS/PFOA levels.

Well 4 results were 440 ppt; Well 4’s water is blended with water from Wells 2 and 12 before entering the distribution system, reducing the at the tap levels to 105 ppt. MHAFB issued a Drinking Water Health Advisory as well as conducting 3 town hall meetings and providing bottled water to base personnel as an interim control while controls were evaluated. MHAFB leadership shut off Well 4, eliminating the source of the PFOS/PFOA. **After Well 4 was shut OFF, sampling was performed and results showed that all locations were free of PFOS/PFOA, except one location, a Civil Engineering Mechanical room. The CE**

Mechanical room had a result of 19.6 ppt, which is well below the HA. Following the results, MHAFB lifted the Drinking Water Health Advisory. MHAFB is currently evaluating options for a water treatment system to remove PFOS/PFOA from Well 4 in the future.

V. DEFINITIONS

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

Initial Distribution System Evaluation (IDSE): IDSE is an important part of the Stage 2 Disinfection By-Products Rule (DBPR). The IDSE is a one-time study conducted by some water systems, providing disinfection or chlorination, to identify distribution system locations with concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems use results from the IDSE, in conjunction with Stage 1 DBPR compliance monitoring data, to select monitoring locations for Stage 2 DBPR. MHAFB completed the IDSE in calendar year 2012.

Environmental Protection Agency Health Advisory (EPA HA): EPA has established health advisories for PFOS and PFOA based on the agency's assessment of the latest peer-reviewed science to provide drinking water system operators, and state, tribal and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals, so they can take the appropriate actions to protect their residents.

Maximum Contamination Level (MCL): 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.

Maximum Contamination Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of 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 contamination.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

VI. HEALTH INFORMATION

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. EPA/Centers for Disease Control and Prevention (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 at 1-800-426-4791 or <https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline>

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or <https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline>

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Your water is treated by disinfection. Disinfection involves the addition of chlorine or other disinfectant to kill dangerous bacteria and microorganisms that may be in the water. Disinfection is considered to be one of the major public health advances of the 20th century.

Contaminants that may be present in source water before we treat it include:

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

Inorganic contaminants, such as salts and metals, which 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.

Perfluorinated Compounds - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), which may come from a variety of sources such as firefighting foam, materials used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which 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.

VII. Water Quality Data Tables

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. 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. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. 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 vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Level of Detected Chemical and Radiological Contaminants and Associated Health Effects Language

Unless otherwise noted, the data presented in this water quality tables below are from testing done between January 1, 2016 - December 31, 2016

Contaminant	Violation (Y/N)	MCL	MCLG	Lowest Level Detected	Highest Level Detected	Date Tested (Mon/yyyy)	Typical Source of Contamination	Health Effects Language
Chromium	No	100 ug/L	100 ug/L	0 ug/L (Sources #13)	2 ug/L (Source # 13)	Sep 2016	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Combined Radium	No	5 pCi/L	0 pCi/L	0.46 pCi/L	1.03 pCi/L	Sep 2013	Erosion of natural deposits	Some people who drink water containing radium-226 or -228 in excess of the MCL over many years may have an increased risk of getting cancer.
Combined Uranium	No	30 ug/L	0 ug/L	1 ug/L	4 ug/L	Sep 2013	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Nitrate	Yes	10 ppm	10 ppm	0.9 ppm	8.6 ppm (all wells, but #9)	Oct 2016	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and methemoglobinemia (blue baby syndrome)
					11.4 ppm * (source #9)			

Trichloroethylene	No	5 ppb	0 ppb	0 ppb	1.48 ppb	May 2016	Discharge from metal degreasing sites and other industrial operations	Some people who drink water with trichloroethylene in excess of the MCL over many years could experience problems with their liver and may increase chance of developing liver cancer
Fluoride	No	4 ppm	4 ppm	0 ppm	1.33 ppm	Sep 2016	Water additive; erosion of natural deposits; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Additional Information for Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of 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, you should ask for advice from your health care provider.

*The sample result of 11.4 ppm only applies to base personnel that consume water from Well 9, which only supplies the Air Traffic Control Tower.

Specific Contaminant Reporting Tables.

Total Trihalomethanes (TTHM) and Total Haloacetic Acids (HAA5)

Contaminant	Violation (Y/N)	MCL	MCLG	Range	Average	Highest Level Detected	Typical Source of Contamination
Total Trihalomethanes	No	80 ppb	N/A	32 - 52 ppb	42 ppb	52 ppb	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	No	60 ppb	N/A	2.4 - 5 ppb	3.7 ppb	5 ppb	By-product of drinking water chlorination

Lead/Copper

Samples for lead and copper were taken in June 2014 for the 3-year monitoring period 2014 - 2016

Contaminant	Action Level	MCLG	Date(s) Collected	90th Percentile	#of sites above Action Level	Violation Y/N	Possible Source of Contamination
Lead (ppb)	15	0	June 2014	<0.005	0	No	Corrosion of household plumbing systems: Erosion of natural deposits.
Copper (ppm)	1.3	1.3	June 2014	0.11	0	No	Corrosion of household plumbing systems: Erosion of natural deposits.
Health Effects Language	Lead	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.					
	Copper	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.					

Additional Information for Lead

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. Mountain Home 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. 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>.

Chlorine Maximum Residual Disinfectant Level

Contaminant	Violation (Y/N)	MRDL	MRDLG	Average	Highest Level Detected	Typical Source of Contamination
Chlorine	No	4 mg/L	4 mg/L	0.57 mg/L	0.57 mg/L	Water additive used to control microbes.

Perfluorooctane Sulfanate (PFOS) and Perfluorooctanoic Acid (PFOA)

Contaminant	HA	Exceeded HA?	Highest Level Detected	Typical Source of Contamination
PFOS/PFOA	70 ppt	Yes	440 ppt	May come from a variety of sources such as firefighting foam, materials used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains

Unit Descriptions

Term	Definition
ug/L	ug/L: Number of micrograms of substance in one liter of water
mg/L	mg/L: Number of milligrams of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
ppt	ppt: parts per trillion, or nanograms per liter (ng/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
positive samples	positive samples/yr: The number of positive samples taken that year
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

VIII. Specific Contaminant Requirements Unless otherwise noted, the data presented in this water quality table is from testing done between January 1, 2016 – December 31, 2016

IX. For more information please contact:

Contact Name: Bioenvironmental Engineering
 Address: 90 Hope Drive Bldg 6000
 Mountain Home AFB, ID 83648
 Phone: (208) 828-7270
 E-Mail: usaf.mountain-home.366-mdg.list.udg-366amds-sgpb-all@mail.mil

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.