

WHITEMAN AIR FORCE BASE

2022 Annual Water Quality Report

(Consumer Confidence Report)

ID# MO1079501

This report is intended to provide you with important information about your drinking water and the efforts made to provide safe drinking water.

Under the Consumer Confidence Reporting Rule of the federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents, and the health risks associated with any contaminants. We continually monitor the drinking water for contaminants. **Our water is safe to drink.**

What is the source of my water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

Your drinking water comes from the Ozark Aquifer pumped from eight groundwater wells located across the base. The 509th Civil Engineer Squadron manages the Whiteman AFB Water Treatment plant where the water is filtered and disinfected with chlorine. The wells and the water distribution system are tested regularly. Results are available from the 509th Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight.

The Department of Natural Resources conducted a source water assessment to determine the susceptibility of our water source to potential contaminants. This process involved the establishment of source water area delineations for each well or surface water intake and then a contaminant inventory was performed within those delineated areas to assess potential threats to each source. Assessment maps and summary information sheets are available on the internet at <https://drinkingwater.missouri.edu/>. The Missouri Source Water Protection and Assessment maps and information sheets provide a foundation upon which a more comprehensive source water protection plan can be developed.

Why are there contaminants in my 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 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 (800-426-4791).

Contaminants that may be present in source water 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.

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.

In order to ensure that tap water is safe to drink, the Department of Natural Resources prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Is our water system meeting other rules that govern our operations?

The Missouri Department of Natural Resources regulates our water system and requires us to test our water on a regular basis to ensure its safety. Our system has been assigned the identification number MO1079501 for the purposes of tracking our test results. Last year, we tested for a variety of contaminants. The detectable results of these tests are on the following pages of this report. Any violations of state requirements or standards will be further explained later in this report.

Terms and Abbreviations

Population: 10,707. This is the equivalent residential population served including non-bill paying customers.

90th percentile: For Lead and Copper testing: 10% of test results are above this level and 90% are below this level.

AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

HAA5: Haloacetic Acids (mono-, di- and tri-chloroacetic acid, and mono- and di-bromoacetic acid) as a group.

LRAA: Locational Running Annual Average, or the locational average of sample analytical results for samples taken during the previous four calendar quarters.

MCLG: Maximum Contaminant Level Goal, or 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.

MCL: Maximum Contaminant Level, or 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.

mg/L: micrograms per liter.

n/a: not applicable.

Nd: not detectable at testing limits.

NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.

ppb: parts per billion or micrograms per liter.

ppm: parts per million or milligrams per liter.

RAA: Running Annual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters.

Range of Results: Shows the lowest and highest levels found during a testing period, if only one sample was taken, then this number equals the Highest Value.

How might I become actively involved?

If you would like to observe the decision-making process that affects drinking water quality or if you have any further questions about your drinking water report, please contact Bioenvironmental Engineering at **660-687-4324** or the Water Treatment Plan at **660-687-1984**.

Do I need to take any special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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/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 (800-426-4791).

SMCL. Secondary Maximum Contaminant Level, or the secondary standards that are non-enforceable guidelines for contaminants and may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply

TT: Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.

TTHM: Total Trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and bromoform) as a group.

Contaminants Report

The state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records with a sample year more than one year old are still considered representative. No data older than 5 years need be included. If more than one sample is collected during the monitoring period, the Range of Sampled Results will show the lowest and highest tested results. The Highest Test Result, Highest LRAA, or Highest Value must be below the maximum contaminant level (MCL) or the contaminant has exceeded the level of health-based standards and a violation is issued to the water system.

Violations and Health Effects Information

Compliance Period	Analyte	Type
7/1/2022 – 11/30/2022	CONSUMER CONFIDENCE RULE	CCR ADEQUACY/AVAILABILITY/CONTENT

Regulated Contaminants

Microbiological	Result	MCL	MCLG	Typical Source
Total Coliform	ND	TT	N/A	Naturally present in the environment

Regulated Contaminants	Collection Date	Highest Value	Unit	MCL	MCLG	Typical Source
Barium	5/19/2020	0.0256	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	5/19/2020	0.62	ppm	4	4	Natural deposits; Water additive which promotes strong teeth
Nitrate-Nitrite	5/10/2022	0.019	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Disinfection Byproducts	Sample Point	Monitoring Period	Highest LRAA	Unit	MCL	MCLG	Typical Source
HAA5	DBPDUAL-01	2022	2	ppb	60	0	Byproduct of drinking water disinfection
TTHM	DBPDUAL-01	2022	13	ppb	80	0	Byproduct of drinking water disinfection
TTHM	DBPDUAL-02	2022	8	ppb	80	0	Byproduct of drinking water disinfection

Lead and Copper	Date	90 th Percentile	Range of Results (low-high)	Unit	AL	Sites Over AL	Typical Source
Copper	2020 – 2022	0.0825	0.00151 – 0.101	ppm	1.3	0	Corrosion of household plumbing systems
Lead	2020 – 2022	ND	ND	ppb	15	0	Corrosion of household plumbing systems

Special Lead and Copper Notice: 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. Whiteman 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 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 (800-426-4791) or at <http://water.epa.gov/drink/info/lead/index.cfm>.

You can also find sample results for all contaminants from both past and present compliance monitoring online at the Missouri DNR Drinking Water Watch website <http://dnr.mo.gov/DWW/indexSearchDNR.jsp>. To find Lead and Copper results for your system, type your water system name in the box titled Water System Name and select *Find Water Systems* at the bottom of the page. The new screen will show you the water system name and number, select and click the Water System Number. At the top of the next page, under the *Help* column find, *Other Chemical Results by Analyte*, select and click on it. Scroll down alphabetically to Lead and click the blue Analyte Code (1030). The Lead and Copper locations will be displayed under the heading *Sample Comments*. Scroll to find your location and click on the *Sample No.* for the results. If your house was selected by the water system and you assisted in taking a Lead and Copper sample from your home but cannot find your location in the list, please contact Whiteman Air Force Base Bioenvironmental Engineering at **660-687-4324** for your results.

Optional Monitoring (not required by EPA)

Optional Contaminants

Monitoring is not required for optional contaminants.

Secondary Contaminants	Collection Date	Your Water System Highest Value	Unit	SMCL
Alkalinity, CaCO ₃ Stability	5/19/2020	203	mg/L	
Aluminum	5/19/2020	0.0552	mg/L	0.05
Calcium	5/19/2020	20.4	mg/L	
Chloride	5/19/2020	33.2	mg/L	250
Hardness, Carbonate	5/19/2020	139	mg/L	
Magnesium	5/19/2020	21.3	mg/L	
pH	5/19/2020	8.41	pH	6.5-8.5

Potassium	5/19/2020	3.56	mg/L	
Sodium	5/19/2020	39.4	mg/L	
Sulfate	5/23/2017	43.9	mg/L	250
TDS	5/23/2017	249	mg/L	500
Zinc	5/23/2017	0.0045	mg/L	5

Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply.

PFAS/PFOS/PFOA

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 industries and consumer products around the globe, including in the U.S., since the 1940s. 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 at airfields and in industrial fire suppression processes because they rapidly extinguish fires, saving lives and protecting property. PFAS chemicals are persistent in the environment, and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

Is there a regulation for PFAS in drinking water?

There is currently no established federal water quality regulation for any PFAS compounds. In May 2016, the EPA established a 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.

Out of an abundance of caution for your safety, the Department of Defense's (DoD) PFAS testing and response actions go beyond EPA Safe Drinking Water Act requirements. In 2020, the DoD promulgated a policy to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA HA level of 70 ppt, water systems would quickly undertake additional sampling to assess the level, scope, and localized source of contamination, and take action to reduce exposure to PFOS or PFAS.

What about the EPA's 2022 interim Health Advisories?

Because the interim Health Advisories for PFOS and PFOA are based on draft analyses that are still undergoing review by EPA's Science Advisory Board, are below quantifiable limits, and are non-regulatory levels, DoD is instead looking to the EPA to promulgate a regulatory drinking water standard, which is anticipated by the end of this year. DoD looks forward to the clarity that a nationwide regulatory standard for PFOS and PFOA in drinking water 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. We remain committed to fulfilling our cleanup responsibilities, operating within the law and authorities provided by the federal cleanup law, and clearly communicating and engaging with our communities.

Has Whiteman AFB tested its water for PFAS?

Yes. In August 2016 and September 2021 samples were collected from Wells # 01, 03, 04, 05, 06, 08, 09, and 10 and Finished Water.

Below MRL

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for 18 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.