2023 Columbus AFB Drinking Water Quality Report

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Spanish (Espanol)
Este informe contiene informacion muy importante sobre la calidad de su agua potable. Por favor lea este informe o comuniquese con alguien que pueda traducir la informacion.

Is my water safe?
Yes, our drinking water is safe to drink. Drinking Water on Columbus AFB is routinely monitored for contaminants according to federal and state laws. All samples for the Columbus AFB distribution system are taken by the Bioenvironmental Engineering Flight and analyzed by the Mississippi State Department of Health. Additional sampling is completed by the water provider, Columbus Light and Water Company (CL&W). All results for 2023 are summarized in the Water Quality Data Table at the end of this report.

Do I need to take special precautions?
Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 (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).

Where does my water come from?
The Columbus AFB water supply is treated and distributed by CL&W. The water is drawn from eight wells supplied by the lower Tuscaloosa Aquifer, a groundwater source, and is stored in various places on base, e.g., water towers. No further treatment is done by base personnel.

Source water assessment and its availability
An inspection of the Columbus AFB water supply was completed on 14 July 2023 for compliance with the Ground Water Rule. Columbus AFB water supply received an overall capacity rating of 5.0 out of a possible 5.0 points. For more information, please contact Bioenvironmental Engineering Flight at the phone numbers provided below.

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

Contact Information
The Bioenvironmental Engineering Flight is the primary point of contact for drinking water information on Columbus AFB. They can be reached by phone at 662-434-2284 or 662-434-2285. Additional information can be obtained from the water provider, CL&W, by accessing their 2023 Consumer Confidence Report or by contacting 662-328-7192.

How can I get involved?
Our drinking water working group meets semi-annually. Please feel free to participate in these meetings. Your input is important to us! Please contact the Bioenvironmental Engineering Flight at 662-434-2284 for meeting information.

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. Columbus 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 or at http://www.epa.gov/safewater/lead.

Fluoridation
To comply with the "Regulation Governing Fluoridation of Community Water Supplies", CL&W is required to report certain results pertaining to fluoridation of our water system. The number of months in the previous calendar year in which average fluoride sample results were within the optimal range of 0.6 – 1.2 parts per million (ppm) was **10**. The percentage of fluoride samples collected in the previous calendar year that was within the optimal range of 0.6 - 1.2 ppm was **100%**. The number of months samples were collected and analyzed in the previous calendar year was **10**.

Fluoride Shortage
This system adds fluoride to your drinking water to help prevent and reduce cavities and improve overall oral health. Supply-chain issues have limited or prevented this water system's ability to obtain fluoride on a regular basis. The data presented below only reflects the month's when this water system added fluoride to your drinking water.

Total Coliform
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. If coliforms were found in more samples than allowed, it would indicate a warning of potential problems.

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 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.

Is there a Mississippi regulation for PFAS in drinking water?
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. 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 1) take immediate action to reduce exposure to PFOS or PFOA, 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 Columbus AFB tested its water for PFAS?
Yes. In October 2021 samples were collected from Columbus Air Force Base. We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 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 (October 2024).

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the number of contaminants in water provided by public water systems. The table below lists all the drinking water contaminants that were 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 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 monitoring 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've provided the definitions below the table.

Regulated Contaminants

Contaminants	MCLG	MCL	Your Water	Range Low	Range High	Sample Date (Frequency)	Violation	Typical Source
Disinfectants & Disinfectant By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60	2.24	NA	NA	8 May 23 (Annually)	No	By-product of chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	12.2	NA	NA	8 May 23 (Annually)	No	By-product of disinfection
Chlorine (as Cl2) (mg/L)	4	4	1.7	0.22	1.83	Monthly 23'	No	Water additive for microbial control

Contaminants	MCLG	MCL	Your Water	Sample Date	Violation	Typical Source
Inorganic Contaminants						
Barium (ppm)	2	2	0.0078	27 Sep 22 (Every 3 years)	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Antimony (ppm)	0.006	0.006	<0.0005	27 Sep 22 (Every 3 years)	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppm)	0	0.010	<0.0005	27 Sep 22 (Every 3 years)	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Beryllium (ppm)	0.004	0.004	<0.0005	27 Sep 22 (Every 3 years)	No	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
Cyanide (ppm)	0.2	0.2	<0.015	9 May 22 (Every 3 years)	No	Discharge from steel metal factories; discharge from plastic and fertilizer factories
Cadmium (ppm)	0.005	0.005	<0.0005	27 Sep 22 (Every 3 years)	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints

Chromium (ppm)	0.1	0.1	<0.0005	27 Sep 22 (Every 3 years)	No	Discharge from steel and pulp mills; Erosion of natural deposits
Mercury (ppm)	0.002	0.002	<0.0005	27 Sep 22 (Every 3 years)	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and cropland
Fluoride (ppm)	4	4	0.689	27 Sep 22 (Every 3 years)	No	Water additive which promotes strong teeth, Discharge from fertilizer and aluminum factories
Selenium (ppm)	0.05	0.05	<0.0005	27 Sep 22 (Every 3 years)	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Thallium (ppm)	0.0005	0.002	<0.0005	27 Sep 22 (every 3 years)	No	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
Nitrate (ppm)	10	10	<0.08	3 Mar 23 (Annually)	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	1	1	<0.02	3 Mar 23 (Annually)	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate-Nitrite (ppm)	N/A	10	<0.1	3 Mar 23 (Annually)	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Microbiological Contaminants						
Total Coliform (positive samples/month)	0	0	0	Monthly 22’	No	Naturally present in the environment
Radioactive Contaminants						
Combined Uranium (ppb)	0	30	<0.5	2018 (Every 9 years)	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	<0.4	2019 (Every 9 years)	No	Erosion of natural deposits
Gross Alpha (pCi/L)	0	15	0.76	2019 (Every 9 years)	No	Erosion of natural deposits
Volatile Organic Compounds						
1,2,4-Trichlorobenzene (ppb)	70	70	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from textile factories
cis-1,2-Dichloroethylene (ppb)	70	70	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical factories
Xylenes, Total (ppb)	10000	10000	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from petroleum and chemical factories
Dichloromethane (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from drug and chemical factories
o-Dichlorobenzene (ppb)	600	600	<0.5	27 Jun 22 (Every 6 year)	No	Discharge from chemical factories
p-Dichlorobenzene (ppb)	75	75	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical factories
Vinyl Chloride (ppb)	0	2	<0.5	27 Jun 22 (Every 6 years)	No	Leaching from PVC pipes; Discharge from plastic factory
1,1 Dichloroethylene (ppb)	7	7	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical factories
trans-1,2-Dichloroethylene (ppb)	100	100	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical factories
1,2-Dichloroethane (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical factories
1,1,1-Trichloroethane (ppb)	200	200	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from metal degreasing sites and other factories
Carbon Tetrachloride (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)	No	Discharge from chemical plants and other industrial activities

1,2-Dichloropropane (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from chemical factories
Trichloroethylene (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)	3	5	<0.5	27 Jun 22 (Every 6years)		No	Discharge from chemical factories
Tetrachloroethylene (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from factories and dry cleaners
Chlorobenzene (ppb)	100	100	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from chemical and agricultural chemical factories
Benzene (ppb)	0	5	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from factories; Leaching from gas storage tanks and landfills
Toluene (ppb)	1000	1000	<0.5	27 Jun 22 (Every 6years)		No	Discharge from petroleum factories
Ethylbenzene (ppb)	700	700	<0.5	27 Jun 22 (Every 6years)		No	Discharge from petroleum refineries
Styrene (ppb)	100	100	<0.5	27 Jun 22 (Every 6 years)		No	Discharge from rubber and plastic factories; Leaching from landfills
Contaminants	**MCLG**	**AL**	**Your Water**	**Sample Date (Frequency)**	**# Above AL**	**Violation**	**Source**
Inorganic Contaminants							
Copper (mg/L) (20 samples taken)	0	1.3	0.1	13 Jul 21 (Every 3 years)	0	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (mg/L) (20 samples taken)	0	0.015	0.003	13 Jul 21 (Every 3 years)	0	No	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Contaminants

Contaminants	MCLG	MCL	Your Water	Sample Date (Frequency)	Violation	Typical Source
Per- and polyfluoroalkyl substances (PFAS)						
Perfluorooctanesulfonic Acid (PFOS) (ng/L)	2	2	<2	25 Oct 21 (Every 3 years)	No	Discharge from a group of manmade chemicals used for a variety of residential, commercial, and industrial purposes
Perfluorooctanoic acid (PFOA) (ng/L)	2	2	<2	25 Oct 21 (Every 3 years)	No	Discharge from a group of manmade chemicals used for a variety of residential, commercial, and industrial purposes

Unit Descriptions	
Term	**Definition**
ug/L	ug/L : Number of micrograms 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)
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
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	**Definition**
MCLG	MCLG: Maximum Contaminant Level Goal: 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	MCL: Maximum Contaminant Level: 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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	MRDL: Maximum residual disinfectant level. 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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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