WATER QUALITY REPORT 2023

Robins Air Force Base Water System Permit No. 1530042

- *Complaints regarding color, taste or odor? Please call 78 Civil Engineer Service Desk at 478-926-5657 (POC Mr. Lee Glover)*
- *If you have questions about the contents of this report, please contact 78 OMRS/SGXB at 478-327-7555 (POC 1st Lt Nga Thede)*

About Your Drinking Water

This Water Quality Report summarizes the quality of your drinking water during calendar year 2023.

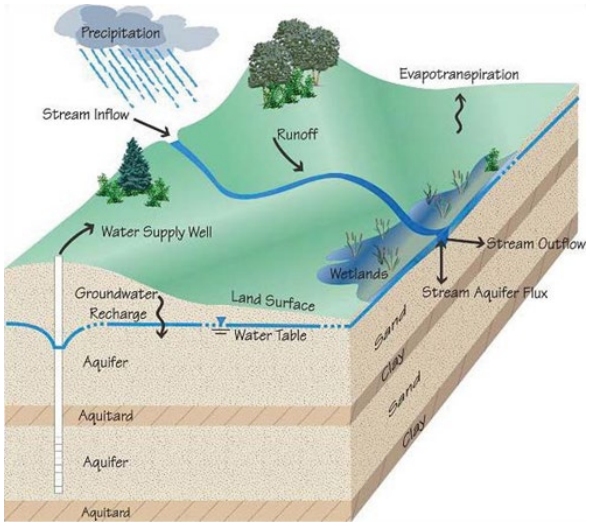
The purpose of this report is to provide our consumers with specific information about the drinking water, how sampling results impact water quality and heighten awareness of the need to protect precious water resources. This report reflects the hard work and dedication of the 78th Civil Engineer Group, who operates and maintains the water distribution and treatment systems, and the 78th Medical Group, who routinely test the drinking water for health impacts and quality. Included in this report are the specific levels of all water monitoring analytes detected during the time frame of January 1 to December 31, 2023, for the RAFB Public Water System. Also included are the most current results for analytes monitored less frequently than on an annual basis. Additionally, this report describes the natural ground water source of our drinking water, what minerals and chemicals our water contains and how it compares to standards set by regulatory agencies.

The 78th Medical Group Bioenvironmental Engineering Flight issues this report annually to comply with the Consumer Confidence Reporting Rule of the Safe Drinking Water Act. For additional information about this report or to provide input regarding the RAFB drinking water, contact the Bioenvironmental Engineering Flight at 478-327-7555. Base organizations who manage the water system are eager to address concerns or answer any questions you may have regarding water quality. The 78 Civil Engineer Service Desk may be contacted at 478-926-5657.

Your Raw Water Source

Your drinking water is drawn from the Blufftown Aquifer, one of many groundwater sources in the State. This is a safe and reliable source that provides high-quality water that is free of micro-organisms, such as Giardia and Cryptosporidium that are sometimes found in rivers and lakes. Rainwater filters down into the Blufftown Aquifer through layers of soil and sand, which scrubs the water to remove impurities. When the aquifer reaches RAFB, it is over 300 feet below the ground surface and is separated from surface water by several thick clay layers. RAFB is permitted to withdraw water through the six water supply wells located throughout the base.

Public water systems are required to develop a Source Water Assessment Plan (SWAP) to identify potential contamination sources and review the controls to mitigate potential impacts to water quality. Management strategies to control current and future potential contamination sources have been identified and implemented. These controls are adequate to protect your drinking water supply. Our SWAP shows the raw ground water used to distribute drinking water to consumers on RAFB is not at risk from pollution.



Your Treatment System

Chlorination disinfection is the primary method used to treat your drinking water. Your drinking water also goes through a softening process by adding a corrosion inhibitor and soda ash. Additionally, your water is mildly fluorinated to promote oral/dental health. Our water system has a storage capacity of 2.0 million gallons, a pumping capacity of 8 million gallons per day, and uses advanced technology to monitor and control drinking water distribution 24 hours per day. During 2023, 539 million gallons of water were distributed to RAFB consumers. Our staff works diligently 365 days per year to ensure our water is safe, available and meets all standards set by State and Federal agencies.

Water Quality Monitoring and Compliance

The Georgia EPD has authorized reduced monitoring requirements for select contaminants to frequencies less than once per year due to consistent analyses resulting in negligible concentrations of these specific contaminants over an extended period. Reduced monitoring applies to our drinking water system for 12 inorganic chemicals, 31 synthetic organic compounds, as well as lead and copper. Please contact the Bioenvironmental Engineering Flight at 478-327-7555 if you have questions about water quality monitoring compliance.

What Should I Expect?

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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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, 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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as individuals 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. USEPA/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 at 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. RAFB 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.

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 compounds 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.

Has Robins AFB tested its water for PFAS?

Yes. In April and October 2023 samples were collected from all six drinking water wells on the installation.

We are pleased to report that drinking water testing results were below the Minimum Reporting Limit (MRL) for all 29 PFAS compounds covered by the sampling methods, 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.

Increased Monitoring for Radionuclides

A single sample of Well 16 for Combined Radium 226/228 exceeded the Maximum Contaminant Level (MCL). Regulations require the sampling frequency for radionuclides for Well 16 to be increased from once every three years to quarterly until sample results are below the MCL for 4 consecutive quarters.

Radionuclides in Drinking Water & Health Effects

Uranium and radium naturally present in underground rocks that serve as aquifers may dissolve and enter groundwater used for drinking water. Most drinking water sources have very low levels of radioactive contaminants ("radionuclides") and are not considered to be a public health concern. 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.

2023 Annual Water Quality Data

Detected Contaminant	Units	MCL	MCLG	Highest Detected	Range Detected	Violation	Typical Source
Inorganic Compounds – sample data from 2022							
Fluoride	ppm	4	4	0.0052	0 - 0.0052	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium	ppm	2	2	0.0048	0.0048 - 0.0048	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Thallium	ppb	2	0.5	0.023	0 - 0.023	No	Discharge from electronics, glass, and leaching from ore processing sites; drug factories
Chromium	ppb	100	100	0.514	0 - 0.514	No	Discharge from steel and pulp mills; erosion of natural deposits
Radionuclides – sample data from 2023							
Gross Alpha Excluding Radon and Uranium	pCi/L	15	0	6.7	1.2 - 6.7	No	Erosion of natural deposits of certain radioactive minerals may emit a form of radiation known as alpha radiation.
Uranium	pCi/L	20	0	0.3	0.3 - 0.3	No	Erosion of natural deposits
Combined Radium (226/228)	pCi/L	5	0	5.3[1]	1.9 - 5.3	No	Erosion of natural deposits
1. *A single sample of well 16 exceeded the MCL by 0.3 pCi/L. Sampling frequency will be increased from once every three years to quarterly.*							
Nitrate/Nitrite – sample data from 2023							
Nitrate-Nitrite	ppm	10	10	0.7	0.0135 – 0.7	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Volatile Organic Compounds – sample data from 2023							
Tetrachloroethylene	ppb	5	0	0.76	0.76 - 0.76	No	Discharge from factories and dry cleaners
Synthetic Organic Compounds – sample data from 2022							
Synthetic Organic Compounds were analyzed from each well during calendar year 2022. Of the 30 Regulated Synthetic Organic Compounds **ZERO** were found above the limit of detection.							

2023 Annual Water Quality Data

Detected Contaminant	Units	MCL	MCLG	Highest Detected	Range Detected	Violation	Typical Source
Disinfection By-Products – sample data from 2023							
Trichloroacetic Acid	ppb	N/A	20	0.324	0.324-0.324	No	Byproduct of drinking water disinfection
Dibromoacetic Acid	ppb	60	N/A	3.2	2.74 - 3.2	No	Byproduct of drinking water disinfection
Total Haloacetic Acids (HAA5)	ppb	60	N/A	3.2	2.7-3.2	No	Byproduct of drinking water disinfection
Total Trihalomethane (TTHM)	ppb	80	N/A	<0.0694	ND-<0.0694	No	Byproduct of drinking water disinfection
Chlorine	ppm	4	4	1	1 - 1	No	Water additive used to control microbes

Microbiological Contaminants – sample data from 2023					
Contaminant	**MCL**	**MCLG**	**Number Positive**	**Violation**	**Typical Source**
Total Coliform[2]	1[3] positive sample per month	0	1	No[4]	Coliforms are naturally present in the environment as well as feces. Fecal coliforms and *E. coli* only come from human and animal fecal waste.

2. *Coliforms are bacteria that are naturally present in the environment and used as an indicator that other, potentially harmful, bacteria may be present. Fecal coliform and E. coli are bacteria whose presence indicates that water may be contaminated by human or animal wastes. Microbes in these wastes can cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.*

The Bioenvironmental Engineering Flight conducts required monthly total coliform sampling which is then analyzed by state certified professionals at the 802nd MXSS analytical laboratory.

3. *The MCL for total coliform bacteria is based on the presence or absence of total coliforms in a sample.*

4. *Our drinking water system collected a single positive Total Coliform sample from the distribution system for the entire year of 2023. GA EPD allows for a single positive sample per month. In accordance with GA EPD, repeat samples were collected, analyzed and results were negative for Total Coliform.*

2023 Annual Water Quality Data

Lead and Copper – sample data from 2022							
Detected Contaminant	**Units**	**AL**	**MCLG**	**90th Percentile**	**Range**	**Violation**	**Typical Source**
Lead[4]	ppb	15	0	0.465	0 - 3.45	No	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 sampling sites were found to have lead levels more than the AL of 15 ppb.						
Copper	ppm	1.3	1.3	0.296	0 - 0.426	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
	Zero out of 30 sampling sites were found to have copper levels more than the AL of 1.3 ppm.						

4. *GA EPD has reduced the monitoring requirements for lead and copper. Sampling was conducted within 30 residences in 2022 and met all applicable standards. These samples represent the 90th percentile for Robins AFB water system.*

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. Robins 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 (1-800-426-4791), or at http://www.epa.gov/safewater/lead

Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) - sample data from 2023[5]				
Name	**UCMR MRLs (ppb)**	**Average**	**Range**	
			Low	**High**
METALS				
Lithium	9	ND	ND	ND
PFAS by EPA 533[6]				
Hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX chemicals)	0.005	ND	ND	ND
Perfluorobutanesulfonic acid (PFBS)	0.003	ND	ND	ND
Perfluorooctanesulfonic acid (PFOS)	0.004	ND	ND	ND
Perfluorooctanoic acid (PFOA)	0.004	ND	ND	ND
Perfluorohexanesulfonic acid (PFHxS)	0.003	ND	ND	ND
Perfluorononanoic acid (PFNA)	0.004	ND	ND	ND
PFAS by EPA 573.1				
N-Ethylperfluorooctanesulfonamidoacetic Acid	0.005	ND	ND	ND
N-Methylperfluorooctanesulfonamidoacetic Acid	0.006	ND	ND	ND
Perfluorotetradecanoic Acid (PFTeA)	0.007	ND	ND	ND
Perfluorotridecanoic Acid (PFTriA)	0.006	ND	ND	ND

5. *The UCMR 5 sample data results from two periods in Apr and Oct 2023 from all drinking water wells at RAFB, except for well 8 in period 2 because the well was out of service and remains, with no scheduled repair date. The monitoring data will help the EPA make determinations about future regulations and other actions to protect public health.*

6. *There are 25 PFAS chemicals that fall under EPA's 533 analytical method. All analytes resulted in ND and below the MRLs.*

Definitions

Maximum Contaminant 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 Contaminant 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 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.

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

Non-Detect (ND): Contaminant concentration below laboratory detection limits.

Minimum Reporting Levels (MRLs): The lowest concentrations reported to the EPA.

ppm: milligrams per liter or parts per million – or one ounce in 7,350 gallons of water

ppb: micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water

pCi/L: picocuries per liter (a measure of radioactivity)

N/A: not applicable