WATER QUALITY REPORT 2022

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 Ms. Cynthia Alligood)*

Your Drinking Water Meets All State and Federal Regulations

This Water Quality Report summarizes the quality of your drinking water during calendar year 2022. Robins Air Force Base (RAFB) met all regulatory requirements and limitations established by the Georgia Environmental Protection Division (EPD) and the United States Environmental Protection Agency (USEPA) for 2022.

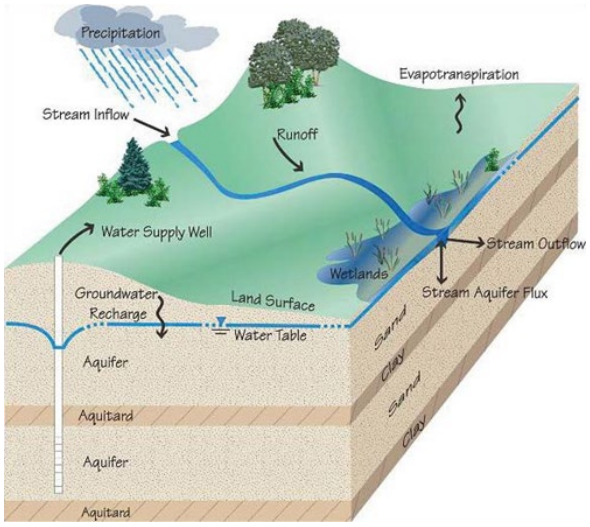
The purpose of this report is to provide our consumers with specific information about the drinking water, how sampling results impact water quality and heighten awareness of the need to protect precious water resources. This report reflects the hard work and dedication of the 78th Civil Engineer Group, 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, 2022, 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 2022, 592 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, 3 radioisotopes, 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.

Emerging Contaminants (PFAS)

Chemicals that are recognized as a potential threat to human health or the environment but lack a published health standard are known as "emerging contaminants". Perfluoroalkyl substances (PFAS) were produced in large quantities in the United States and known to have been present in firefighting foam previously used on RAFB. These organic compounds are persistent in the environment and are resistant to degradation. This means that once introduced in the groundwater, they will not naturally degrade quickly and require active treatment for removal.

The Department of Defense (DoD) performed drinking water source monitoring for PFAS in 2016 and 2020. Results for all drinking water wells at RAFB were below detection limits both years tested. The detection limit for PFOS/PFOA is 2 parts per trillion. To put that in perspective, 1 part per trillion is a single drop of water in an Olympic sized swimming pool. Additionally, firefighting vehicles and aircraft hangars at RAFB have transitioned from the legacy Aqueous Film Forming Foam to a new type of approved foam. New AF policy requires Robins AFB to transition all of its hangars from the new approved foam to water-only suppression systems over the next few years. As of 1 Mar 2023, all hangar foam systems are disabled from activating during transition to the water-only system.

There is currently no established federal water quality regulation for 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. In March 2023, the EPA announced it will establish regulatory limits for PFAS in drinking water by the end of 2023. Out of an abundance of caution for your safety, in 2023 the DoD will publish PFAS testing and response actions that exceed 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 will quickly undertake additional sampling to assess the level, scope, and localized source of contamination, and take action to reduce exposure to PFOS or PFAS.

As part of our continuing effort to improve the monitoring of your drinking water, RAFB began sampling for PFAs in all wells in 2023. These results will be made available in the 2023 CCR.

2022 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 2022							
Combined Radium (226/228)	pCi/L	5	0	1.6	1.6 - 1.6	No	Erosion of natural deposits
Gross Alpha Excluding Radon and Uranium	pCi/L	15	0	2.2	2.2 - 2.2	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 - 0.3	No	Erosion of natural deposits
Nitrate/Nitrite – sample data from 2022							
Nitrate-Nitrite	ppm	10	10	0.71	0.0152 - 0.71	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Volatile Organic Compounds – sample data from 2022							
Tetrachloroethylene	ppb	5	0	0.59	0 - 0.59	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.							

2022 Annual Water Quality Data

Detected Contaminant	Units	MCL	MCLG	Highest Detected	Range Detected	Violation	Typical Source
Disinfection By-Products – sample data from 2022							
Chlorine	ppm	4	4	1	1 - 1	No	Water additive used to control microbes
Dibromoacetic Acid	ppb	60	N/A	0.841	0 - 0.841	No	Byproduct of drinking water disinfection
Chloroform	ppb	N/A	70	4.23	0 – 4.23	No	Byproduct of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	60	N/A	2.3	0.841 - 2.3	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	ppb	80	N/A	6.1	0.73 - 6.1	No	Byproduct of drinking water disinfection
Bromodichloromethane	ppb	N/A	0	1.36	0 - 1.36	No	Byproduct of drinking water disinfection
Dibromochloromethane	ppb	N/A	60	0.51	0 - 0.51	No	Byproduct of drinking water disinfection
Trichloroacetic Acid	ppb	N/A	20	2.32	0 - 2.32	No	Byproduct of drinking water disinfection

Microbiological Contaminants – sample data from 2022				
Contaminant	**MCL**	**MCLG**	**Number Positive**	**Typical Source**
Total Coliform[a]	1[b] positive sample per month	0	0	Coliforms are naturally present in the environment as well as feces. Fecal coliforms and *E. coli* only come from human and animal fecal waste.

a. *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.

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

2022 Annual Water Quality Data

Lead and Copper – sample data from 2022

Detected Contaminant	Units	AL	MCLG	90th Percentile	Range	Violation	Typical Source
Lead[c]	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.						

c. *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

Emerging Contaminants - sample data from 2020[d]

Detected Contaminant	Units	MCL	MCLG	Highest Detected	Violation	Typical Source
Perfluorooctanoic Acid	ppt	N/A[e]	0	ND	No	Formerly found in firefighting foam
Perfluorooctanoic Sulfonate	ppt	N/A[e]	0	ND	No	Formerly found in firefighting foam

d. *The water quality information presented in the table is from the most recent round of testing done.*

e. *Currently there is no legally binding maximum contamination limit for emerging contaminants. EPA is proposing a National Primary Drinking Water Regulation (NPDWR) to establish legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS in drinking water. PFOA and PFOS as individual contaminants, and PFHxS, PFNA, PFBS, and HFPO-DA (commonly referred to as GenX Chemicals) as a PFAS mixture. EPA is also proposing health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these six PFAS.*

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.

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

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

ppt: concentration of contaminant in water measured as parts per trillion

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

N/A: not applicable