



WATER QUALITY REPORT 2019

Robins Air Force Base Water System Permit No. 1530042

Your Drinking Water Meets All State and Federal Regulations

This Water Quality Report summarizes the quality of your drinking water during calendar year 2019. Robins Air Force Base (Robins AFB) met all parameters set by the Georgia Environmental Protection Division (EPD) and the US Environmental Protection Agency (EPA) for 2019.

The purpose of this report is to advise consumers about drinking water quality and heighten awareness of the need to protect precious water resources. The 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 tests the drinking water for safety and quality. This report also provides detailed accounts of the detected water monitoring and testing results gathered from January to December 2019 for the Robins AFB Public Water System. Additionally, details about where your drinking water originates, what it contains and how it compares to standards set by regulatory agencies is included.

To comply with the Consumer Confidence Reporting Rule of the Federal Safe Drinking Water Act, the 78th Medical Group Bioenvironmental Engineering Flight issues this report annually. For additional information about this report or to provide input regarding the Robins AFB drinking water, contact the Bioenvironmental Engineering Flight at 478-327-7555. Base organizations who manage the water system have an open door policy with our residents.



Your Raw Water Source

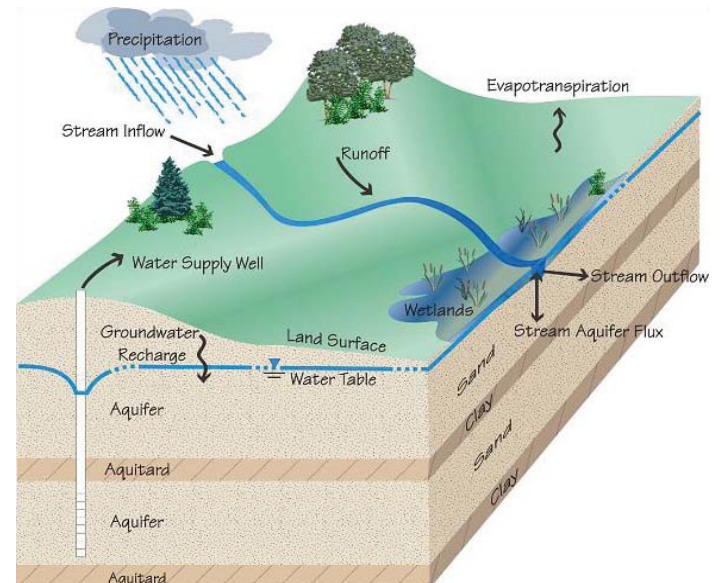
Your drinking water is drawn from the Blufftown Aquifer, one of many groundwater sources in the State. This is a safe and reliable source that provides high-quality water that is free of micro-organisms, such as Giardia and Cryptosporidium that are sometimes found in rivers and lakes.

Rain water percolates (filters) down into the Blufftown Aquifer through layers of soil and sand, which scrubs the water to remove impurities. When the aquifer reaches Robins AFB, it is over 300 feet below the ground surface and is separated from surface water by several thick clay layers. Robins AFB 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. 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. Contact Bioenvironmental Engineering Flight at 478-327-7555 if you have questions regarding the SWAP.

Reduced Monitoring Approved

The Source Water Assessment and Vulnerability Assessment show the Robins AFB water system's raw water is not at risk to pollution. The Georgia Environmental Protection Department (GA EPD) has authorized reduced monitoring requirements for select contaminants to less than once per year because the concentrations of these contaminants have been negligible for several years. Reduced monitoring waivers have been issued to our drinking water system for arsenic, asbestos, cyanide, lead and copper, as well as 31 synthetic organic compounds, effective 1 January 2014 to 31 December 2019. Please contact the Bioenvironmental Engineering Flight at 478-327-7555 if you have questions about drinking water waivers or wish to receive a copy.



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 protect children's teeth. The water treatment operation is staffed by highly trained, state-licensed water treatment plant operators. Our water system has storage capacity of 1.5 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 2019, nearly 523 million gallons of water was distributed to Robins AFB consumers. Our operations staff work diligently 365 days per year to ensure our water is safe, available and is meeting strict standards set by State and Federal agencies.

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, who have undergone organ transplants, 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 (Environmental Protection Agency/Centers for Disease Control) 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.

**Complaints regarding color, taste, or odor?
Please call The 78 Civil Engineer Service Desk at 478-926-5657.**

**If you have questions concerning the contents of this report,
please contact 78 OMRS/SGXB (Bioenvironmental Engineering) at 478-327-7555.**

Information About Total Coliforms

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.

Emerging Contaminants (PFOS/PFOA)

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." Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are two perfluorinated chemicals (PFCs) that have been produced in large quantities in the United States and known to have been present in firefighting foam used on Robins AFB. These organic compounds are persistent in the environment and 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 performed drinking water source monitoring in 2016 and results for all drinking water wells were below detection limits. Additionally, Robins AFB has transitioned from the legacy Aqueous Film Forming Foam used in firefighting vehicles and aircraft hangars to a new type of approved foam (C-6).

Due to concern over PFOS/PFOA, the Department of Defense is mandating that all drinking water wells on all military installations be resampled for PFOS/PFOA during 2020; the results of which will be published in next year's Consumer Confidence Report.

Water Quality Data 2019								
Contaminant	Units	MCL	MCLG	Highest Level Detected	Range Detected	Year Sampled	Violation	Typical Source
Inorganic								
Chlorine	ppm	MRDL=4	MRDLG=4	2	0.51 –2	2019	No	Water additive used to control microbes
Fluoride	ppm	4	4	1.19	0.73-1.19	2019	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Combined Radium (226/228)	pCi/L	5	0	4.42	1.66-4.42	2017	No	Erosion of natural deposits
Nitrate	ppm	10	10	0.70	ND-0.70	2019	No	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits.
Copper	ppm	Action Level = 1.3	1.3	90th Percentile 0.37 ^b	0.013-0.55	2019	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
	One out of 30 samples was found to have copper levels in excess of the Action Level of 1.3 ppm.							
Lead	ppb	Action Level = 15	0	90th Percentile 1.4 ^b	ND-37	2019	No	Corrosion of household plumbing systems Erosion of natural deposits.
	Zero out of 30 samples was found to have copper levels in excess of the Action Level of 15 ppb.							
Volatile Organics								
Tetrachloroethylene	ppb	5	0	0.51	ND-0.51	2019	No	Discharge from metal degreasing sites and other factories
Disinfection By-Products								
Haloacetic Acids (HAA5)	ppb	60	N/A	1.5	ND-1.5	2019	No	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	N/A	2.0	ND-2.0	2019	No	
Microbiological Contaminants								
Total Coliform		1 ^c positive sample per month	0	27 ^d	N/A	2019	No	Naturally present in the environment

a. Reported the annual average of monthly fluoride/chlorine results.

b. Georgia EPD has reduced the monitoring requirements for lead and copper. Sampling was conducted within (30) residences in 2019 and met all applicable standards. These samples represent the 90th percentile for the Robins Air Force Base water system.

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

d. During this time, Bioenvironmental sent their samples a contract laboratory that failed to maintain GA EPD compliance; hence the uncharacteristically high number of positive results. Level 2 Assessments were performed in 2019 (see page 3) and compliance with the GA EPD’s actions ensured Robins drinking water compliance. The 802nd MXSS now performs analysis on all Robins AFB bacteria samples.

Table 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: parts per million

ppb: parts per billion

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

N/A: not applicable

Required Consumer Confidence Report Statement Addressing Lead in Drinking Water

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/safe-water/lead>.

Required Consumer Confidence Report Statement Addressing Persistence of Contaminants

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). Contaminants

Notes About Contaminants

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, naturally occurring radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in any source water BEFORE it is treated include:

- **Microorganisms 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, that 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, or residential uses.
- **Organic chemicals 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, agricultural application, and septic systems.
- **Radioactive contaminants**, which may 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, EPA prescribes regulations which limit the amount 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.

Robins AFB Improves Monitoring Program

During the past year, a total of four Level 2 assessments were required to be completed for our water system in response to repeated total coliform positive sample results (see page 2 footnote d). The GA EPD conducted these Level 2 assessments in order to identify the possible presence of sanitary defects in our distribution system and provide a review to our sampling protocols.

Resulting from the Level 2 assessment reviews by EPD, Robins AFB completed the following actions:

- Evaluated existing contracted private laboratory to ensure procedures and sampling bottles are not contributing to the total coliform positive sample results in the distribution system. As a result, Robins AFB stood up its own certified laboratory for drinking water bacteriological analysis within the 802nd MXSS.
- Conducted sample collection procedures training for all personnel that collect drinking water samples using a third party training provider.
- Evaluated the Sample Site Plan to ensure sample locations are representative of the distribution system.
- Ensured sampling is staggered throughout the month.
- Ensured a free chlorine residual of 0.2 mg/l is in the distribution system at all times.

The Robins AFB final corrective action plan including monitoring program improvements was approved by the EPD in Sept 2019. Robins AFB takes its responsibilities for safe drinking water seriously and we are committed to ensuring an effective monitoring program.

Drinking Water System Improvement Projects

In 2019, Robins AFB initiated three drinking water distribution system improvement projects. The first project was the inspection and cleaning of three potable water wells. In addition, three additional potable water wells are scheduled to be inspected and cleaned in 2020. The second project was the repair and replacement of numerous water valves on the potable water system around the installation. Finally, thousands of linear feet of cement piping used in the distribution of drinking water was replaced base wide.