

2025 Consumer Confidence Report (CCR)



Annual Water Quality Report RAF Mildenhall United Kingdom



Introduction

This is an annual report detailing with aspects of the water quality delivered to Royal Air Force (RAF) Mildenhall. The 48th Medical Group Bioenvironmental Engineering Flight tests the drinking water quality for 74 different contaminants as well as Per- and Polyfluoroalkyl substances as required by the U.S. Department of War Environmental Final Governing Standards for the United Kingdom and U.S. Department of War directives. This report shows the results of our monitoring for the period of 1 January 2025 through 31 December 2025. Department Air Force Instruction 48-144, *Drinking Water Surveillance Program* and the U.S. Environmental Protection Agency require all community water systems to provide their consumers an annual water quality report. This following report will help you understand where your drinking water comes from and what is in it. It will also help you to make informed choices that affect your family's health and help you understand the importance of protecting our drinking water sources.

Where does our water come from?

The RAF Mildenhall drinking water system draws water from one source, an on-base groundwater borehole (well), that is filled with groundwater obtained from the Chalk aquifer. RAF Mildenhall's water supply is prepared for use using a Granular Activated Carbon system with natural salt and air strippers. Additionally, the water supply is treated with chlorination using a sodium hypochlorite solution for disinfection purposes and prevents bacteriological growth in the distribution system. The RAF Mildenhall postcode is IP28 8NT.



U.S. AIR FORCE



Drinking Water Sources

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained through the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791) and Drinking Water Regulations page:

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>

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 human activity.

Contaminants which may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that 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 resulting from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides** that may come from a variety of sources such as agriculture, urban storm water runoff, and septic systems.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals that are byproducts 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 resulting from oil and gas production and mining activities.

Water Monitoring Results Summary

In order to ensure that tap water is safe to drink, the Final Governing Standard for United Kingdom (FGS-UK), prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

Tables 1 – 6 list all of the primary drinking water standard contaminants that were detected during the most recent sampling events. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The FGS-UK requires us to monitor certain contaminants less than once per year due to the belief the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

NOTE: Terms and abbreviations used in this report are located on the final page of this report.

Table 1
Inorganic Contaminants

Parameter and Units of Measure	Highest Level Detected	Range of Levels Detected	Maximum Contamination Level (MCL)	Maximum Contamination Level Goal (MCLG)	Major Sources in Drinking Water
Aluminum (ppb)	20	17 - 20	200	0	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium (ppm)	0.02	0.015 - 0.02	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits in soil
Boron (ppm)	0.034	0.05	1	1	Discharge from coal burning factories; erosion of natural deposits in soil
Chromium (ppb)	2	0.57 - 2	50	100	Discharge from steel and pulp mills; erosion of natural deposits in soil
Fluoride (ppm)	0.15	0.15	1.5	4	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits in soil
Nickel (ppb)	1.1	1.1	20	20	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits in soil
Nitrate as N (ppm)	5.6	5.2 - 5.6	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrate Nitrite (as N) (ppm)	5.8	5.2 - 5.8	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite as N (ppb)	220	220	500	1000	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Sodium (ppm)	27	26 - 27	200	N/A	Erosion of natural deposits, road de-icing, leaching from septic tanks and sewage

<u>Table 2</u> <u>Disinfection By-Product Compounds</u>				
Parameter and Units of Measure	Highest Level Detected and range of constituents	MCL	MCLG	Major Sources in Drinking Water
Total trihalomethanes (TTHMs) (ppb)	2.6	80	N/A	By-product of drinking water disinfection

<u>Table 3</u> <u>Radioactive Contaminants</u>				
Parameter and Units of Measure	Highest Level Detected	MCL	MCLG	Major Sources in Drinking Water
Gross Alpha (pCi/L)	3.08	15	0	Erosion of natural deposits in soil
Gross Beta (pCi/L)	2.36	27	0	Erosion of natural deposits in soil
Radon 222 (pCi/L)	38.8	2700	N/A	Natural decay product gas that readily mixes with water
Uranium (µg/L)	0.24	30	0	Erosion of natural deposits in soil

<u>Table 4</u> <u>Other Indicator Parameters</u>				
Parameter and Units of Measure	Highest Level Detected and range of constituents	MCL	MCLG	Major Sources in Drinking Water
Chloride (ppm)	46 - 51	250	N/A	Erosion of natural deposits in soil, runoff from common fertilizers in agriculture use

Table 5
Lead and Copper—Housing

Parameter and Units of Measure	Samples Collected	90 th %	Range	AL	MCLG	Typical Source of Contaminant
Lead (ppb)	44	1.8	0.35 - 6	10	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits in soil
Copper (ppm)	44	0.15	0.013 - 0.52	2	1.3	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits in soil

Table 6
Unregulated Contaminants: Per and Polyfluoroalkyl Substances (PFAS)

Parameter and Units of Measure	Highest Level Detected	MCL	Major Sources in Drinking Water
Perfluorooctanoic Acid (PFOA) (ppt)	0	4.0	Aqueous Film-Forming Foam (AFFF)
Perfluorooctane Sulfonate (PFOS) (ppt)	0	4.0	Aqueous Film-Forming Foam (AFFF)
Perfluorohexanesulfonic acid (PFHxS) (ppt)	0	10	Aqueous Film-Forming Foam (AFFF)
Hexafluoropropylene oxide dimer acid (HFPO DA) (ppt)	0	10	Aqueous Film-Forming Foam (AFFF)
Perfluorononanoic acid (PFNA) (ppt)	0	10	Aqueous Film-Forming Foam (AFFF)
Perfluorobutanesulfonic acid (PFBS) (ppt)	0	N/A	Aqueous Film-Forming Foam (AFFF)
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS (Hazard Index of 1)	0	1	This is a combination of multiple PFA substances that when combined together must maintain a ratio less than 1.

Additional Information

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 industrial 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, food packaging, and cookware. They are also contained in some fire-fighting foams such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires.

Is there a federal regulation for PFAS in drinking water?

Yes. On April 26, 2024, the Environmental Protection Agency (EPA) published a final National Primary Drinking Water Regulation for certain per- and polyfluoroalkyl substances (PFAS) under the Safe Drinking Water Act (SDWA). This rule went into effect on June 25, 2024 with a compliance deadline of April 26, 2029, five years from the date of publication. While the rule requires routine sampling for certain PFAS by no later than 2027, DoW has been sampling drinking water for PFAS compounds at all DoW-owned and operated water systems since 2017. Under the new rule, the following limits, called Maximum Contaminant Levels (MCL), were established, and DoW water systems will need to meet these levels by April 2029.

For systems where DoW provides drinking water, the Department is collecting the necessary sampling information and is taking actions to ensure compliance within the required 5-year timeframe. In May 2025, EPA announced the intent to rescind the regulations for some PFAS chemicals. Currently, DoW is finalizing a policy on how to apply the rule OCONUS.

Substance	MCL
PFOA	4.0 ppt
PFOS	4.0 ppt
PFHxS	10 ppt
HFPO-DA (GenX)	10 ppt
PFNA	10 ppt
PFBA	n/a
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS	HI of 1 (Unitless)

Mixture of PFA Substances.

The sampling point is above the Hazard Index (HI) MCL if the HI exceeds the MCL and if two or more Hazard Index analytes had an observed sample result at or above the Practical Quantitation Limit (PQL) in any of the samples.

Has RAF Mildenhall tested its water for PFAS?

In May 2025, RAF Mildenhall conducted base-wide drinking water sampling for PFAS, in accordance with DoW policy, “Policy for Monitoring and Treatment of Per- and Polyfluoroalkyl Substances in Department of Defense Drinking Water Systems outside the United States, 28 September 2025.” Table 6 contains the results of the regulated PFAS detected. For additional guidance on PFAS, use the following link:

<https://www.acq.osd.mil/eie/eer/ecc/pfas/pfas101/index.html>

Additional Information

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. 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. Lead and Copper sampling is conducted every 3 years by regulation. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at: 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Nitrate

Although the level of nitrate (refer to the Table 2) is consistently not above the health effect level, the US EPA requires the following information be included in this report: "Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider."

Drinking Water Violations

Enterococci sampling was not conducted during calendar year 2025, resulting in an unmet FGS-UK requirement. While previous guidance interpretation suggested that Coliform testing provided sufficient coverage for this mandate, the United States Air Forces in Europe Major Command Bioenvironmental Engineer has since clarified that this was not the case. Enterococci is a bacterial opportunistic pathogen that poses a health risk to individuals with weakened immune systems; however, Bioenvironmental Engineering cannot confirm its presence or absence during this period due to the missed sampling. To rectify this deficiency and ensure full compliance with FGS requirements moving forward, Bioenvironmental Engineering has officially incorporated Enterococci monitoring into the sampling plan and will conduct semi-annual sampling and analysis across all tri-base installations.

Customers with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those 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. The EPA and Center for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available on the Safe Drinking Water Hotline or on the U.S. EPA's website, <http://www.epa.gov>.

This report is available online at: <http://www.mildenhall.af.mil/>. For more information or questions about this CCR please contact the 48th Operational Medical Readiness Squadron, Bioenvironmental Engineering Flight at 01638-545423. For more information regarding the water system, please contact the 100th Water and Fuel Systems Maintenance Flight at 01638-547265.



Terms Used in This Report

90th Percentile Level: The level of lead and copper at which 90% of drinking water samples taken in a system are below. This level is compared with the MCL for lead and copper to determine system compliance.

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

Environmental Protection Agency (EPA): Federal regulatory authority that sets the health-based standards for drinking water quality.

Final Governing Standards for the United Kingdom (FGS-UK): The governing environmental regulation for US military bases in the UK..

Level Detected: Laboratory analytical result for a contaminant; this value is evaluated against an MCL or AL to determine compliance.

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.

Method Detection Limit (MDL): refers to the lowest concentration of a substance that can be reliably detected by a specific analytical method.

Nephelometric Turbidity Units (NTU): A unit used to describe the clarity of water. Higher numbers relates to more cloudy water.

OCONUS: Outside Continental United States.

pCi/L: picocuries per liter

ppb: parts per billion or micrograms per liter (µg/L)

ppm: parts per million or milligrams per liter (mg/L)

ppt: parts per trillion or nanogram per liter (ng/L)

Practical Quantitation Limit (PQL): Represents the lowest concentration of a substance that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Range: The range of the highest and lowest analytical values of a reported contaminant.

Safe Drinking Water Act (SDWA): Federal law that authorizes the EPA to establish and enforce national health-based standards to protect against both naturally occurring and man-made contaminants in public drinking water.

TT: Treatment Technique– required procedure or level of technological performance set when there is no reliable method to measure a contaminant at very low levels.