2024 Consumer Confidence Report (CCR)

Annual Water Quality Report
RAF Croughton
United Kingdom

Introduction

We are pleased to deliver our 2024 Consumer Confidence Report, which shows your water meets or exceeds all of the Final Governing Standards for UK (FGS-UK) and United States Environmental Protection Agency (US EPA) health standards and all drinking water requirements outlined by USAF standards. The Bioenvironmental Engineering Flight tests the drinking water quality for many constituents as required by federal and United Kingdom regulations. This report shows the results of our monitoring for the period of 1 January – 31 December 2024.

Department of the Air Force Instruction 48-144, *Drinking Water Surveillance Program*, and the US EPA require all community water systems to provide their consumers an annual water quality report. This 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 Croughton drinking water system draws water from one source that is purchased through a local supplier, Anglian Water. Sodium Hypochlorite is added to the water supply by the 422d Civil Engineering Squadron for disinfection purposes and prevents bacteriological growth in the distribution system.

The water received from the Anglian Water is supplied in finished drinking water quality form (this water line serves other Anglian Water customers of the local community). The Anglian Water supply is primarily from a surface water source (either a river or reservoir). As a water wholesaler, the Anglian Water published an annual report, which is located at http://www.anglianwater.co.uk/about-us/annual-reports/.
RAF Croughton's post code is NN13 5NQ.

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 by the US EPA'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, 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 U.S. Environmental Protection Agency (US EPA) and the Final Governing Standard for United Kingdom (FGS-UK) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

Tables 1 – 7 list all of the primary and secondary drinking water standard contaminants that were detected during the most recent sampling for the constituent. 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 because the concentrations of these contaminants are not expected to vary significantly from year to year.

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

Table 1:
Detection of Coliform Bacteria
1 January – 31 December 2024

Parameters and Units of Measure	Highest No. of Detection	MCL	PHG (MCLG)	Typical source of Bacteria
Coliform, Total	0	No more than 1 positive monthly sample	0	Naturally present in the environment
Coliform, Fecal or *E.Coli*	0	A routine sample and repeat sample are total coliform positive and one of these is also fecal coliform or *E. Coli* positive	0	Human and animal fecal waste

Table 2:
Inorganic Contaminants
1 January– 31 December 2024

Parameter and Units of Measure	Highest Level Detected	Range of Levels Detected	MCL	PHG MCLG	Major Sources in Drinking Water
Antimony (ppb)	0.39	0 - 0.39	5	5	Discharge from petroleum refineries; fire retardants; ceramics; electronics and solder
Arsenic (ppb)	0.42	0 - 0.42	10	0	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	0.014	0 - 0.014	2	2	Released from rocks and soils through weathering
Boron (ppm)	0.071	0 - 0.071	10	N/A	Released from rocks and soils through weathering

Table 2 continued: Inorganic Contaminant 1 January– 31 December 2024					
Parameter and Units of Measure	**Highest No. of Detec-tion**	**Range of Levels Detected**	**MCL**	**PHG MCLG**	**Major Sources in Drinking Water**
Bromate (ppb)	ND	ND	10	0	By-product of drinking water disinfection
Cadmium (ppb)	ND	ND	5	5	Corrosion of galvanized pipes; ero-sion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	0.61	0.61	50	50	Discharge from steel and pulp mills; erosion of natural deposits
Copper (mg/L)	0.002	0 - 0.002	2	2	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	0.21	0 - 0.21	1.5	1.5	Erosion of natural deposits; water additive; discharge from fertilizer and aluminum plants
Mercury (ppb)	ND	ND	1	51	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel (ppb)	2	0 - 2	10	10	Erosion of natural deposits, corrosion of pipes or fittings.
Nitrate (as N) (mg/ L)	4.3	0 - 4.3	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite (as N) (mg/ L)	ND	ND	0.15	0.15	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	ND	ND	10	10	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Uranium (ppb)	0.61	0 - 0.61	30	30	Naturally occurring in some geologi-cal formations; may enter through erosion of rocks and soils.

Table 3:
Volatile Organic Compounds
1 January – 31 December 2024

Parameters and Units of Measure	Highest No. of Detection	Range of Levels Detected	MCL	PHG (MCLG)	Major Sources in Drinking Water
Benzene (ppb)	ND	ND	1	0	Discharge from factories; leaching from gas storage tanks and landfills
1-2-Dichloroethane (ppb)	ND	ND	3	0	Discharge from industrial chemical factories
TTHMs [Total trihalomethanes] (ppb)	45	45	80	N/A	By-product of drinking water disinfection (2018)
HAA5 [Haloacetic acids] (ppb)	5	5	60	60	By-product of drinking water disinfection (2018)

Table 4:
Radioactive Contaminants
1 January – 31 December 2024

Parameters and Units of Measure	Highest No. of Detection	Range of Levels Detected	MCL	PHG (MCLG)	Major Sources in Drinking Water
Gross Alpha (Bq/L)	ND	ND	0.555	0	Erosion of natural deposits
Gross Beta (Bq/L)	0.35	0 - 0.35	1.85	0	Erosion of natural deposits
Radon (pCi/L)	153	0 - 153	2700	0	Naturally occurring radioactive gas from decay of uranium in soil and rock.

Table 5:
Synthetic Organic Compounds
1 January – 31 December 2024

Parameters and Units of Measure	Highest No. of Detection	Range of Levels Detected	MCL	PHG (MCLG)	Major Sources in Drinking Water
Benzo(a)pyrene (ppb)	ND	ND	0.01	0	Leaching from linings of water storage tanks and distribution lines
Pesticides, total (calculated) (ppb)	0.00	0.00	0.5	0	Leeching from farm land

Table 6:
Secondary Drinking Water Standards
1 January – 31 December 2024

Parameters and Units of Measure	Highest No. of Detection	Range of Levels Detected	MCL	PHG (MCLG)	Major Sources in Drinking Water
Chloride (ppm)	53	0 - 53	250	N/A	Runoff/leaching from natural deposits; seawater influence
Color (ppm)	ND	ND	20	N/A	Naturally-occurring organic materials
Manganese (ppb)	ND	ND	50	N/A	Leaching from natural deposits; industrial wastes
Odor	Acceptable to Consumers and no Abnormal Change				Naturally-occurring organic materials
Sulfate (ppm)	110	0 - 110	250	N/A	Runoff/leaching from natural deposits; industrial wastes
Taste	Acceptable to Consumers and no Abnormal Change				Naturally-occurring organic materials
Turbidity (NTU)	ND	ND	4	N/A	Soil runoff

Additional Information

Nitrate

Although the level of nitrate (refer to table 3 on water quality data, p. 4) is consistently below the health effect level, the 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 6 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.”

Table 7:
Per– and Polyfluoroalkyl Substances
1 January– 31 December 2024

Parameter and Units of Measure	Highest No. of Detection	MCL	Major Sources in Drinking Water
Perfluorooctanoic Acid (PFOA) (ppt)	< 0.98	4	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.
Perfluorooctanesulfonic Acid (PFOS) (ppt)	4	4	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.
Perfluorohexanesulfonic acid (PFHxS) (ppt)	2.7	10	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.
Perfluorononanoic Acid (PFNA) (ppt)	< 0.97	10	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.
Hexafluoropropylene Oxide Dimer Acid (HFPO DA) (ppt)	< 0.97	10	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.
Perfluoroheptanoic Acid (PFBS) (ppt)	3.5	N/A	Man-made chemicals used in various products and contained in foams for fighting petroleum fires.

Additional Information

Per- and polyfluoroalkyl Substances

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 such as aqueous film-forming foam, or AFFF, used for fighting petroleum fires at airfields and in industrial fire suppression processes. 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 RAF Croughton tested its water for PFAS?

Yes, in July 2024, samples were collected from bldg. 94. We are informing you that drinking water testing results were below the MCL for all 6 PFAS compounds covered by the EPA drinking water rule, including PFOA and PFOS. Reference Table 5. for sampling results. The water system will be periodically resampled by Bioenvironmental Engineering as required by the pending DoD OCONUS drinking water policy to ensure continued compliance. Updates will be provided through 501csw.usafe.af.mil.

Customers with Special Health Concerns

Some members may be more vulnerable to contaminants in drinking water than others. Immuno-compromised 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 from the Safe Drinking Water Hotline or on the US EPA's website, http://www.epa.gov.

Copies of this report can be requested via mail by sending a self-addressed stamped envelope to:

ATTN: 2024 RAF Croughton Water Quality Report

422 MDS/SGOJ, Unit 4628

APO, AE 09494

For more information please contact the 422d Medical Squadron, Bioenvironmental Engineering at DSN 314-236-8838/8083 or by email at usaf.croughton.422-abg.mbx.sgoj@health.mil.

TERMS USED IN THIS REPORT

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the United States Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

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 are set by the U.S. Environmental Protection Agency (USEPA).

ND: not detectable at testing limit

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

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

Bq/L: Becquerel per liter

pCi/L: picocuries per liter

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

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

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

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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.

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

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

mg/L: milligrams per liters

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

Health Advisory (HA): USEPA limit that establishes when actions should be taken to reduce exposure.