

Drinking Water Quality Report - Calendar Year 2021

U.S. Army Garrison Aberdeen Proving Ground South

Your water is safe to drink.

This report summarizes the 2021 water quality information and shows that the U.S. Army Garrison Aberdeen Proving Ground South (APG South) met all regulatory requirements. We are pleased to present this year's annual water quality report as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Where does my water come from?

The water provided to APG South customers comes from multiple sources. Until 2018, the Van Bibber water treatment plant (WTP) in Edgewood, Maryland produced water for APG South (Water System MD 012-0010). Water was pumped from Winters Run (a surface water source), treated at the Van Bibber WTP and delivered to APG South customers. However, the WTP stopped producing water in August 2018 and since then APG South has purchased water from the Harford County Department of Public Works system. Harford County's water comes from a combination of sources, including Loch Raven Reservoir, Susquehanna River, and wells.

Source water assessment and its availability

Maryland Department of Environment (MDE) completed a source water assessment in 2008 for Harford County's source water. Potential sources of contamination for the wells are agricultural land use, underground storage tanks, ground water contamination sites, and commercial/industrial sites. Potential sources of contamination for the Susquehanna River are agricultural land use, urban/residential development, boating activities, sewage effluent, major transportation corridors (highways, railroads) and nuclear power generating plants. Potential sources of contamination for Loch Raven Reservoir are public & private sewage systems, storm runoff from agricultural and developed areas, and spillage of hazardous materials. Source water assessment reports are available from

https://mde.maryland.gov/programs/water/water_supply/Source_Water_Assessment_Program/Pages/ha.aspx

Why are there contaminants in my drinking water?

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (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: 1) microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; 2) 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; 3) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; 4) organic chemical 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 stormwater runoff, and septic systems; and 5) radioactive contaminants, which can 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 that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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. The EPA/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 Water Drinking Hotline (800-426-4791).

Discolored Water

Discolored water can be a common complaint in water distribution systems with aging water pipe lines, such as APG South, and is usually due to iron and/or manganese particles being released from the pipes. Although it is aesthetically unpleasant, it is not harmful to drink. Disturbances in water lines can cause discolored water. For example, if water crews have rerouted water to repair a water main or shutoff water lines in a nearby area, are conducting water main flushing, or there is increased usage from firefighting activities, this may cause a reddish/brown/yellow tinge to the water. If discolored water is evident, flush taps until the water is clear. Depending on the size of the building, this may be a lengthy flush (20 – 30 minutes).



How can I get involved?

Other means of communication and community outreach regarding APG drinking water are as follows:

- Public Works Service Desk (410-306-1400)
- Military Housing, Corvias (410-305-1076)
- DPW Environmental Water Program Team Water Quality Hotline (410-417-3794)
- Installation Website (<https://home.army.mil/apg/>) with various links under 'Connect with us' to APG on Facebook
- Twitter
- DoD's Interactive Customer Evaluation (ICE), etc.)
- Installation Town Hall Briefings (held at APG Post Theater and regularly scheduled as announced on APG's website under 'Community')

Additional Information for 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. APG South 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>.

Water Quality Data Table

In order to ensure that tap water is safe to drink, The EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our

drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to certain types of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

APG SOUTH WATER QUALITY DATA

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Violation	Typical Source
				Low	High		
Disinfectants & Disinfection By-Products							
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)							
Chlorine (as Cl ₂) (ppm)	4	4	0.5	0.4	0.5	No	Water additive used to control microbes
Haloacetic Acids (HAA5s) (ppb)	NA	60	15 ¹	3.6 ²	22.1 ²	No	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb)	NA	80	33 ¹	12.9 ²	36.5 ²	No	By-product of drinking water disinfection
¹ The maximum Locational Running Annual Average (LRAA) of analytical results for samples at a particular monitoring location during the previous 4 calendar quarters. ² The minimum/maximum individual analytical results from 2021.							
Total Organic Carbon (TOC) (compliance ratio)	NA	TT	NA	1	2.2	No	Naturally present in the environment
TOC was last sampled in 2018. Due to the 2018 WTP shutdown a year's worth of data was not available for this calculation and a RAA ("detect in your water") was not calculated for TOC.							

Contaminants	MCLG or MRDLG	MCL, TT or MRDL	Detect in Your Water	Range		Violation	Typical Sources
				Low	High		
Inorganic Contaminants							
Barium (ppb) (2018)	2000	2000	27	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate [measured as Nitrogen] (ppm) (2018)	10	10	1.6	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	# Samples Exceeding AL	Violation	Typical Source
Copper - action level at consumer taps (ppb) (2021)	1300	1300	448	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb) (2021)	0	15	3.1	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Violation	Typical Source
				Low	High		
Microbiological Contaminants							
Total Coliform (TCR) (positive samples/month)	0	1	0	NA	NA	No	Naturally present in the environment. Zero positive samples of 120 collected.
Turbidity (NTU) (2018)	NA	0.3	100%	0.01	0.29	No	Soil runoff
100% of the samples were below the TT level of 0.3 NTU. 95% of tested samples must be \leq 0.3 NTU. The highest single measurement was 0.29 NTU. Any measurement in excess of 1 is a violation unless otherwise approved by the state.							

In an effort to ensure the safest water possible the U.S. Installation Management Command has required us to monitor some unregulated contaminants. The Army has reviewed available data regarding potential exposures to per- and polyfluoroalkyl substances (PFAS) and believes it is appropriate to take action where PFAS may have impacted installation drinking water supplies. PFAS are manmade fluorinated chemicals that may appear in drinking water but are not currently regulated by state or federal authorities. The most common military use of PFAS was in aqueous film-forming foam (AFFF) used for fire-fighting and in training to extinguish petroleum fires. The military now has a newer AFFF formulation, however, that does not contain PFAS. Results below are from 2018 and are expressed as parts per trillion (ppt).

Additional Contaminants	State MCL	EPA Health Advisory	Your Water		Violation	Explanation and Comment
			Low	High		
Perfluorobutanesulfonic acid (PFBS)	NA	NA	2.6	3.5	No	Firefighting foams, industrial waste sites
Perfluorohexanesulfonic acid (PFHxS)	NA	NA	2.4	4.0	No	Firefighting foams, industrial waste sites
Perfluorohexanoic acid (PFHxA)	NA	NA	ND	2.1	No	Firefighting foams, industrial waste sites
Perfluorooctane sulfonate (PFOS)	NA	70 ppt (PFOS/PFOA combined)	2.5	3.4	No	Firefighting foams, industrial waste sites
Perfluorooctanoic acid (PFOA)	NA		2.0	2.9	No	Firefighting foams, industrial waste sites

HARFORD COUNTY WATER QUALITY DATA

We are required to provide you with water quality data for all sources of your drinking water. The table below lists the contaminants that were detected in Harford County drinking water during Calendar Year 2021. Harford County's annual Water Quality Reports are posted at www.harfordcountymd.gov.

Disinfectants & Disinfection By-Products	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Violation	Typical Source
				Low	High		
Chlorine (as Cl ₂) (ppm)	4	4	1.4	1.4	1.4	No	Water additive used to control microbes. Avg = 1.54.
HAA5s (ppb)	NA	60	15 ¹	6.28 ²	22.8 ²	No	By-product of drinking water chlorination.
TTHMs (ppb)	NA	80	25 ¹	3.2 ²	41.7 ²	No	By-product of drinking water disinfection.
Total Organic Carbon	NA	TT	Compliance level % removal ranges from 0.78 – 2.83		No	Naturally present in the environment.	

¹ The maximum Locational Running Annual Average (LRAA) of analytical results for samples at a particular monitoring location during the previous four calendar quarters.

² The minimum/maximum individual analytical results from 2021.

Lead and Copper	MCLG	AL	Your Water	# Samples Exceeding AL	Violation	Typical Source
Copper – action level at consumer taps (ppm) (2020)	1.3	1.3	0.25	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead – action level at consumer taps (ppb) (2020)	0	15	<1.0	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Inorganic Contaminants	MCLG	MCL	Range			Violation	Typical Source
			Your Water	Low	High		
Barium (ppm)	2	2	0.12	0.3	0.12	No	Discharge of drilling wastes or metal refineries. Erosion of natural deposits.
Beryllium (ppb)	100	100	1.00	ND	1.00	No	Discharge from metal refineries, electrical, aerospace, or defense industries.
Fluoride (ppm)	4	4	2.96	ND	2.96	No	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories. Avg. = 0.59.
Nitrate (ppm as Nitrogen)	10	10	6.40*	0.60	6.40	No	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits.
Selenium (ppb as Nitrogen)	50	50	3.00	ND	3.00	No	Discharge from petroleum refineries, mines. Erosion of natural deposits.

* 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 for advice from your health care provider.

Microbiological Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Violation	Typical Source
				Low	High		
Total Coliform (TCR) (positive samples/month)	0	5%	0	NA	NA	No	Naturally present in the environment (zero positive out of 1440 samples collected).
Turbidity (NTU)	NA	TT	100%	0.011	0.166	No	Soil runoff. Avg = 0.039 NTU.

100% of the turbidity samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation. Any measurement in excess of 1 is a violation unless otherwise approved by the state.

Radioactive Contaminants	MCLG	MCL	Range			Violation	Typical Source
			Your Water	Low	High		
Combined Radium (226&228) (pCi/L) (2020)	0	5	3.2	3.2	3.2	No	Erosion of natural deposits.
Gross Alpha (pCi/L) (2020)	0	15	4.3	4.3	4.3	No	Erosion of natural deposits.

EPA considers 50 pCi/L to be the level of concern for beta particles.

Unregulated Contaminants	State MCL	Avg	Your Water		Violation	Explanation and Comment
			Low	High		
Iron (ppm)	NA	0.07	ND	0.146	No	Erosion of natural deposits.
Manganese (ppm)	NA	0.013	ND	0.035	No	Erosion of natural deposits.
PFOA + PFOS (ppt)	NA	2.7	ND	6.0	No	Firefighting foams, industrial waste sites.
Sodium (ppm)	NA	32.5	11.7	74.6	No	Erosion of natural deposits; Sodium salts used in water treatment.

RAW Water Contaminants	MCLG	MCL	Your Water		Violation	Explanation and Comment
			Low	High		
Cryptosporidium (ocyst/liter)	0	TT	ND	ND	No	Human and animal fecal waste.
Giardia (cyst/liter)	0	TT	0.0	0.2	No	Human and animal fecal waste.

Important Drinking Water Definitions	
AL	Action level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL	Maximum contaminant level: 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.
MRDL	Maximum residual disinfectant level. 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.
MRDLG	Maximum residual disinfection level goal: level of a disinfectant below which there is no known risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
NA	Not applicable
ND	Not detected

Important Drinking Water Definitions

NTU	Nephelometric turbidity units. Turbidity is a measure of the cloudiness of the water. It is a good indicator of the effectiveness of our filtration system.
pCi/L	Picocurie per liter
ppb	Parts per billion, or micrograms per liter ($\mu\text{g/L}$)
ppm	Parts per million, or milligrams per liter (mg/L)
ppt	Parts per trillion, or nanograms per liter (ng/L)
TT	Treatment technique: A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total trihalomethanes

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