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Athens Utilities Board 2021 Water Quality Report

(Data Table on Back)

AUB's Water Division provides water in the city of Athens and McMinn County. The water we delivered in 2021 surpassed the strict regulations of the state of Tennessee and the U.S. Environmental Protection Agency. If you have any questions, contact Craig Brymer, AUB Water & Wastewater Superintendent, at (423) 745-4501.

AUB board meetings are held on the fourth Tuesday of each month at 5:00 PM. You can get on the agenda by calling AUB at least one week prior to the meeting.

Where Does AUB's Water Come From?

AUB obtains drinking water from three sources: a spring that has been in use for decades; three wells that tap an aquifer in the Oostanaula Creek basin, and; the Hiwassee River via purchases of treated water from the Hiwassee Utilities Commission (HUC). Water from the spring and wells is pumped

to AUB's filter plant where state-licensed operators work 365 days a year to provide water that surpasses all state and national water-quality standards.

AUB has a Wellhead Protection Plan, available for review at our office, upon request. Further, the Tennessee Department of Environment and Conservation has prepared a Source Water Assessment Program Report for untreated water sources. The report assesses the susceptibility of untreated water sources to potential contamination. To ensure safe drinking water, public water systems treat and routinely test their water. Water sources are rated as reasonably susceptible, moderately susceptible, or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. AUB's rating is reasonably susceptible. For an explanation of the Tennessee Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings, and to see TDEC's report to EPA, go to <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html> or contact AUB to obtain a copy of our assessment.

Information about Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, springs, and wells. As water travels over land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Below are some examples:

- Microbial contaminants, like viruses, bacteria, and cryptosporidium can come from livestock operations or sewage and septic systems.
- Inorganic contaminants, like metals, can occur naturally or result from stormwater runoff or industrial discharges.
- Organic chemicals, like pesticides, herbicides, and petroleum products, can come from household use, agriculture, gas stations, or stormwater runoff.
- Radioactive contaminants can occur naturally or come from oil and gas production or mining.

In order to ensure that tap water is safe to drink, EPA and the Tennessee Department of Environment and Conservation prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish similar limits on contaminants in bottled 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

To ensure top water quality, AUB operators have collected samples and tested your water for a variety of chemicals and contaminants. Those that were detected are listed in the Water Quality Table of this report. The table describes the existing EPA/TDEC maximum contaminant level (MCL), maximum contaminant level goal (MCLG), AUB and HUC results, and potential sources from where the contaminants originated.

Some people may be more vulnerable to contaminants found in drinking water than others. Individuals with weakened immune systems, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS, 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 guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are also available at EPA's hotline telephone number.

Cryptosporidium

Cryptosporidium is a microscopic parasite found in surface water throughout the U.S. and comes from animal waste and runoff. When ingested, it can result in diarrhea, fever and other gastrointestinal symptoms. Cryptosporidium can be eliminated by an effective treatment combination including coagulation, sedimentation, filtration, and disinfection. As part of the Long Term 2 Enhanced Surface Water Treatment Rule, AUB and HUC analyzed their source (untreated) water. AUB's samples resulted in zero detections of cryptosporidium out of twelve samples. HUC's samples resulted in seven detections out of twelve samples of their untreated water. AUB does not purchase any untreated water from HUC, only treated water. For more information on Cryptosporidium, contact the Safe Drinking Water Hotline (800-426-4791).

Athens Utilities Board – 2021 Water Quality Table

Parameter	Units	Year Performed	AUB Result	HUC Result	Regulatory Limit MCL	Goal MCLG	Source
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REGULATED AT THE WATER TREATMENT PLANT

Turbidity	NTU	2021	0.16	0.15	TT	TT	Soil Runoff. We monitor it because it is a good indicator of the effectiveness of our filtration system.
Range			0.02-0.16	0.01-0.15			
Fluoride	ppm	2021	0.53 avg.	0.63	4.0	4.0	Additive that promotes strong teeth; Erosion of natural deposits
Range	ppm		0.49-0.59	0.56-0.68			
Nitrate	ppm	2021	1.28	0.362	10.0	10.0	Fertilizer use, septic tanks, erosion of natural deposits
Total Organic Carbon	ppm	2021	-	0.55	TT	TT	Naturally present in the environment. We met the Treatment Technique requirements for Total Organic Carbon in 2018.
Range			-	0.50-0.53			
Sodium	ppm	2021	4.91	2.28	-	-	Erosion of natural deposits

REGULATED IN DISTRIBUTION SYSTEM AND CUSTOMER TAP

Total Coliform Bacteria (# positive samples)		2021	0	0	5	n/a	Naturally present in the environment
Total Trihalomethanes	ppb	2021	46.3	30.0	80	0	By-product of drinking water chlorination
Range	ppb		22.5-62.2	29.2-30.0			
Haloacetic Acids -5	ppb	2021	33.2	19.2	60	0	By-product of drinking water chlorination
Range	ppb		17.5-43.5	16.6-19.2			
Chlorine	ppm	2021	1.31 avg.	2.1	MRDL=4	MRDL=4	Water additive used to control microbes
Range	ppm		0.6-2.2	1.9-2.2			
Lead (90%)	ppb	2021	<1.0	<2.0	15	0	Corrosion of household plumbing. 0 of the 30 samples tested were above EPA's action level (see special note below)
Copper (90%)	ppm	2021	0.267	0.0086	1.3	1.3	Corrosion of household plumbing. 0 of the 30 samples tested was above EPA's action level

UNREGULATED CONTAMINANT MONITORING

Manganese	ppb	2019	2.75 avg	5.5	-	-	Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. For additional information call the Safe Drinking Water Hotline at (800) 426-4791.
Range	ppb		1.3-3.6	n/a			
Haloacetic Acids -6	ppb	2019	4.34 avg	1.29 avg.	-	-	
Range	ppb		3.6-5.5	n/a			
Haloacetic Acids - 9	ppb	2019	40.8 avg	13.5	-	-	
Range	ppb		21.9-53.9	n/a			

The following definitions and explanations may help you understand more fully the data in this table:

- **MCL** – “Maximum Contaminant Level.” The highest level of a contaminant that is allowed in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.
- **MCLG** – “Maximum Contaminant Level Goal.” The level of a contaminant below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **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 the control of microbial contaminants.
- **MRDLG** – “Maximum Residual Disinfectant Level Goal.” 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.
- **ppb** = parts per billion **ppm** = parts per million **pCi/L**=Picocuries per liter.
- **TT** – “Treatment Technique.” A required process intended to reduce the level of a contaminant in drinking water.
- **NTU** – This stands for “Nephelometric Turbidity Units” and measures the clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The EPA has two requirements: (1) The maximum level found must be less than 1 NTU; and (2) The level must be under 0.3 NTU 95% of the time.
- **HUC** - Hiwassee Utilities Commission – AUB purchases 35% of the water distributed to customers from HUC.
- AUB conducts water quality testing daily and has tested your water for many substances not included in the table such as pesticides, herbicides, metals, and solvents. None of these substances were detected using prescribed EPA analytical methods.

Special Note: 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. Athens Utilities Board is responsible for providing high-quality drinking water, but cannot control the variety of materials used in home 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>.

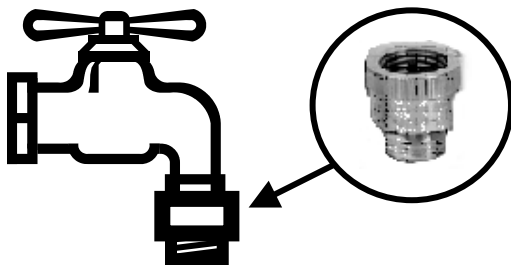
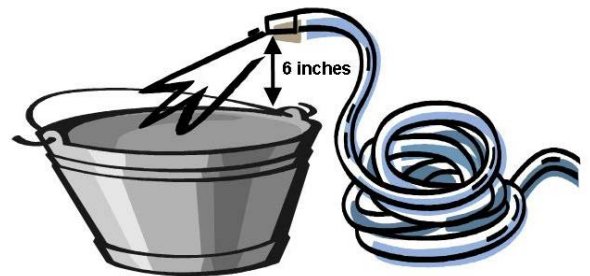
Special Note: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Backflow Prevention

Athens Utilities Board makes every effort to ensure that our customers enjoy a continuous supply of safe drinking water. We also need the help of our customers in this regard, particularly with controlling cross connections.

A cross connection is a link with the public water supply and can cause the water system to become contaminated. An example of a cross connection would be a garden hose submerged in a source of contamination such as a car radiator, swimming pool, or other liquid. Should a water main break occur or a fire pumper use a nearby hydrant while the hose was submerged in a source of contamination, the contaminant could be sucked back into the public water supply. This is called backflow, and it can be prevented easily.

One simple way to avoid backflow is to create an air gap between the end of your hose and any other liquid source. For example, if you're filling a pool, arrange your hose so that the end is at least six inches above the top rim of the pool. The air gap will prevent the contaminant from being sucked back into the water supply.



Another way to prevent backflow with a garden hose is to use a device known as a vacuum breaker. Vacuum breakers are available at hardware and home improvement stores. They are simple, inexpensive, and screw right onto your outside faucet to prevent contaminants from being siphoned back into your plumbing and the public water system.

Cross connections that are more hazardous and that have permanently installed plumbing, such as irrigation systems, require more sophisticated devices known as reduced pressure backflow preventers. These more protective devices must be tested annually to ensure they are operating properly. Any residence with an irrigation system must be equipped with this type of device.

For more information on preventing cross connections, installing backflow devices and protecting your water supply, contact Craig Brymer, Superintendent of Water and Wastewater at 423-745-4501.

REMEMBER: Never submerge your garden hose in anything you would not want to drink!