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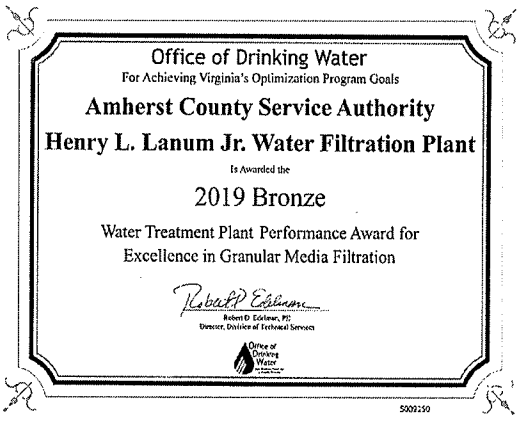
AMHERST COUNTY ACSA
SERVICE AUTHORITY

2019 Water Quality Report


Office of Drinking Water
For Achieving Virginia's Optimization Program Goals
Amherst County Service Authority
Henry L. Lanum Jr. Water Filtration Plant
Is Awarded the
2019 Bronze
Water Treatment Plant Performance Award for
Excellence in Granular Media Filtration
Robert D. Edelman, PE
Director, Division of Technical Services
Office of Drinking Water
5000150

Virginia Dept. of Health Office of Drinking Water
2019 Excellence in Waterworks
Performance and Operations Award

Amherst County Service Authority
2019 Drinking Water Quality Report

Amherst County Service Authority (ACSA) is pleased to send you our 2019 Drinking Water Quality Report. ACSA's Board and staff want to keep you informed regarding the excellent water and services we deliver to you each day. Our mission has always been to provide you a safe and dependable supply of drinking water, meeting stringent State and Federal standards administered by the Virginia Dept. of Health (VDH). The purpose of this report is to inform you of our continued signal success in meeting these standards throughout 2019, as evidenced by ACSA earning an 8th consecutive (and 10th in 12 years) annual Excellence in Operations and Performance Award from VDH.

If you have questions about this report, wish to know more about any aspect of your drinking water, or want to know how to participate in the decisions that may affect water quality, please contact Robert A. Hopkins, PE, Director of Public Utilities, at 434-221-8757. Regularly scheduled meetings of the ACSA Board are held at 1:30 pm the first Tuesday of each month at the Amherst County Administration Building, 153 Washington Street, Amherst, Virginia.

ACSA's public drinking water supply originates from two sources: Graham Creek Reservoir and Harris Creek. The watersheds supplying these sources are located solely in Amherst County. The VDH Source Water Assessment (2/21/03) classifies all surface water supply watershed sources as highly susceptible to contamination (this report is available from ACSA by calling the phone number above). However, this does not mean that either of our water sources has ever been, or will ever be, contaminated beyond the purification capability of ACSA's highly trained operational staff and high quality water filtration plant treatment technology, which consistently earn excellent reviews during VDH inspections. To prevent poor raw water quality, ACSA has one of the nation's most rigorous Water Supply Watershed Protection Programs. As a result of ACSA owning adjacent properties to buffer the water sources, local regulation of land use activities, and promotion of best management practices, ACSA's Program has twice received national recognition for preservation and enhancement of source water quality.

Our treatment facility, the Henry L. Lanum, Jr. Water Filtration Plant, is a conventional rapid sand filtration facility with a production capacity of two million gallons per day. Approximately 170 miles of water distribution mains transport our high quality finished water to 4 strategically located water storage tanks and, as of the end of 2019, 6,938 water service connections.

Sources of drinking water (tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the land surface or through the ground, it dissolves naturally occurring minerals (in some cases, radioactive material) and organic matter, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include:

* Microbial contaminants, such as viruses and bacteria, which may originate from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

* 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;

* Pesticides and herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

* Both naturally occurring and manufactured organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, or can also come from gas stations, urban and roadway stormwater runoff, and septic systems;

* Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) publishes regulations which limit the levels and amounts of certain impurities in water provided by public water systems for human use. U.S. Food and Drug Administration rules establish limits for contaminants in bottled water, which must provide the same public health protection.

ACSA samples and tests for pollutants that could potentially contaminate a water supply. **We conduct over 140 inhouse quality control and compliance tests at the Lanum treatment plant, each and every day.** Additionally, over 180 offsite compliance tests of ACSA's raw and finished water are conducted each year by an independent testing laboratory operated by the Commonwealth of Virginia.

The table contained in this report shows our monitoring results from January 1 to December 31, 2019. All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. It is important to remember that presence of these impurities does not necessarily indicate a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

The table lists only contaminants that had some level of detection. Tests were also run for many other potential contaminants which were shown not to be present. ACSA Board and staff take great pride in providing drinking water which consistently meets or exceeds rigid State and Federal drinking water quality standards.

Maximum Contaminant Levels (MCLs) are set at very stringent levels by USEPA. In developing the standards, USEPA assumes that the average adult drinks 2 liters of water each day during a 70 year life span. USEPA generally sets MCLs at levels that will result in no adverse health effects, or a one-in-ten-thousand to one-in-one-million chance of having the described health effect. **The USEPA has determined that your water is safe at these levels.**

Some people may be more vulnerable to even minimal contaminants in drinking water than the general population. Immuno-compromised individuals, such as persons with cancer that are undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, infants, and some elderly, can be particularly at risk. These persons should seek advice about drinking water from their health care providers. USEPA and the Centers for Disease Control have established guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbiological contaminants for vulnerable persons. This information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Copper and lead in the environment is another concern. **ACSA's drinking water supply does not contain elevated levels of copper or lead.** However, these metals can leach into the water from private service lines or household plumbing. Of 30 ACSA finished water samples collected in 2018, only 1 showed a detectable concentration of lead, and it was far below the USEPA Action Level (AL). Of 30 other similar samples, 14 showed detectable levels of copper, all far below the AL (refer to the table). Still, the following information may be useful.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily originates from materials and components associated with private service lines and home plumbing. ACSA is responsible for providing high quality drinking water, but has no control over the variety of materials used in private plumbing. When your water has been sitting for several hours, you can minimize any potential for lead exposure by flushing your tap for 15 to 30 seconds, or until it becomes cold or reaches a steady temperature, before using it 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, test 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.

Some people who drink water containing trihalomethanes (THMs) in excess of the MCL over many years could experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer. **But ACSA's drinking water supply consistently does not contain elevated levels of THMs.**

Thank you for allowing ACSA to provide clean, high quality water to you and your family in 2019. Our staff works around the clock to maintain this quality and your trust. We ask all our customers to help us protect our water resources, which are the heart of our community, our way of life, and our children's future.

2019 Results	Contaminant	Violation	MCLG	MCL	Level Found and Range	Sample Sites & Frequency	Typical Source(s)
Regulated Contaminants	Total Coliform Bacteria	**NO**	0	Presence in ≤ 1 in 15 samples/mo.	None reported	15 per month throughout service area	Naturally present in environment
	Turbidity (NTU)	**NO**	TT	1 NTU max. & < 0.3 NTU 95% of time	High of 0.30 NTU 10/28/19; 99.7% < 0.3 NTU	Continuously monitored at water plant	Soil runoff
	Total Organic Carbon (PPM = mg/L)	**NO**	TT	4 quarter avg. < 2.0 PPM or RR ≥ 1.0	RR range: 1.12 – 1.31 Min. RR: 1.12	Monthly	Naturally present in environment
Inorganic Contaminants	Barium (PPM = mg/L)	**NO**	2.0	2.0	0.023	Annually at water plant	Natural erosion of soil deposits
	Copper (PPM = mg/L)	**NO**	1.3	AL = 1.3	< 0.081 90th percentile 100% ≤ AL	30 sites thru service area every 3 years	Corrosion of household plumbing
	Lead (PPB = µg/L)	**NO**	0.0	AL = 15	< 2.0 90th percentile 100% ≤ AL	30 sites thru service area every 3 years	Corrosion of household plumbing
	Fluoride (PPM = mg/L)	**NO**	4.0	4.0	Average: 0.71 Range: 0.40–0.88	3 - 4 / day at the water plant	Water additive to promote strong teeth
	Nitrate & Nitrite (PPM = mg/L)	**NO**	10.0	10.0	0.35	Annually at water plant	Septic tanks, soil erosion, sewage, and fertilizers
Disinfection Byproducts, Precursors, & Residuals	Trihalomethane Total (TTHMs) (PPB = µg/L)	**NO**	N/A	4 quarter site running avg. (4qsra) < 80.0	Highest 4qsra: 65 Range: 28-65	Quarterly, at 4 locations in service area	By-product of drinking water disinfection
	Haloacetic Acids (HAA5s) (PPB = µg/L)	**NO**	N/A	4 quarter site running avg. (4qrsa) < 60.0	Highest 4qsra: 38 Range: 22-38	Quarterly, at 4 locations in service area	By-product of drinking water disinfection
	Chlorine (PPM = mg/L)	**NO**	MRDLG ≤ 4.0 & > 2.0	MRDL = 4.0	Highest avg. quarter: 2.2 Range: 1.6-2.2	15 per month throughout service area	Water additive to disinfect to control microbes

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

Maximum Contaminant Level Goal (MCLG): The "Goal"; 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 Contaminant Level (MCL): The "Maximum Allowed"; the highest level of a contaminant allowed in drinking water. MCLs are set as close to MCLGs as feasible, using the best available treatment technology.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Maximum Residual Disinfectant Level (MRDL): Highest level of a disinfectant allowed in drinking water. The addition of a disinfectant is necessary for the control of microbial contaminants.

Nephelometric Turbidity Unit (NTU): Measure of water clarity. Turbidity over 5 NTUs is just noticeable to an average person.

Parts / Billion (PPB) or Micrograms / Liter (µg/L): Corresponds to one minute in 2,000 years or a single penny in $10,000,000.

Parts / Million (PPM) or Milligrams / Liter: Corresponds to one minute in 2 years or a single penny in $10,000.

Removal Ratio (RR): Ratio of actual quantity of a contaminant removed to the required quantity of a contaminant removed.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.