Amherst County Service Authority
2017 Drinking Water Quality Report

Amherst County Service Authority (ACSA) is pleased to provide you with our 2017 Drinking Water Quality Report. ACSA's Board and staff want to keep you informed about 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 advise you of our success in meeting these standards throughout 2017, which earned ACSA its sixth consecutive 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 Director of Public Utilities Robert A. Hopkins, PE, at 434-221-8757. Regularly scheduled meetings of the ACSA Board are held at 11:00 am on the first Tuesday of each month, in the Amherst County Administration Building, 153 Washington Street, Amherst, Virginia.

Amherst County's public drinking water supply originates from two sources: Harris Creek and Graham Creek Reservoir. Both watersheds supplying these water 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 by contacting ACSA at the phone number above). However, this does not mean that either of our water sources have been, or will be, impacted by contaminants. To assure contamination does not occur beyond the high quality treatment technology at ACSA's water filtration facility (which consistently receives excellent reviews from VDH inspections), Amherst County 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, our 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 two million gallon per day, conventional rapid sand filtration facility. Approximately one hundred sixty five miles of water distribution mains transport our finished water to four strategically located water storage tanks and 6,867 water 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 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 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 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 that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

ACSA monitors for constituents that could potentially contaminate a water supply. **To this end, we conduct over one hundred forty in-house quality control and compliance tests at our water treatment facility, each and every day.** Additionally, over one hundred eighty off-site compliance tests are conducted each year by an independent laboratory operated by the Commonwealth of Virginia.

The table contained in this report shows our monitoring results from January 1 to December 31, 2017. 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 the presence of these contaminants does not necessarily pose a health risk. Additional 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 not present. The ACSA Board and staff take great pride in providing drinking water which consistently meets State and Federal quality standards. Maximum Contaminant Levels (MCLs) are set at very stringent levels by the USEPA. In developing the standards, USEPA assumes that the average adult drinks two (2) liters of water each day throughout a seventy (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.**

In spite of this, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals, such as persons with cancer 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 from infections. 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.** But they can leach into the water from private service lines or household plumbing. Of 30 samples collected in 2015, only one showed a very low, but detectable, lead concentration, far below the USEPA Action Level (AL). Of 30 other samples, only four 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 cannot control the variety of materials used in private plumbing components. 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 2017. 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.

2017 RESULT	Contaminant	Violation	MCLG	MCL	Level Found & Range	Frequency & Site of Samples	Typical Source
Regulated Contaminants	Total Coliform Bacteria	**NO**	0	Presence in ≤ 1 in 15 samples/mo.	1 report 9/8/17	15 per month throughout service area	Naturally present in the environment
	Turbidity (NTU)	**NO**	TT	1 NTU max. & < 0.3 NTU 95% of time	High of 0.19 NTU 8/26/17; All < 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	Range: 1.22 – 1.40 Min. RR: 1.00	Monthly	Naturally present in the environment
Inorganic Contaminants	Barium (PPM = mg/L)	**NO**	2.0	2.0	0.018	Annually at water plant	Erosion of natural soil deposits
	Copper (PPM = mg/L)	**NO**	1.3	AL = 1.3	< 0.02 90th percentile 100% ≤ AL	30 sites thruout service area every 3 years	Corrosion of household plumbing
	Fluoride (PPM = mg/L)	**NO**	4.0	4.0	Average: 0.69 Range: 0.45 – 1.07	3 - 4 / day at the water plant	Water additive to promote strong teeth
	Lead (PPB = µg/L)	**NO**	0	AL = 15	< 2.0 90th percentile 100% ≤ AL	30 sites thruout service area every 3 years	Corrosion of household plumbing
	Nitrite & Nitrate (PPM = mg/L)	**NO**	10.0	10.0	0.09	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: 59 Range: 20-80	Quarterly, at 4 locations in service area	By-product of drinking water disinfection
	Halocetic Acids (HAA5) (PPB = µg/L)	**NO**	N/A	4 quarter site running avg. (4qrsa) < 60.0	Highest 4qsra: 37 Range: 14-53	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: 2.7 Range: 1.6-3.0	15 per month throughout service area	Water additive to disinfect to control microbes

Acton 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 in excess of 5 NTUs is just noticeable to an average person.

Parts Per Billion (PPB) or Micrograms per Liter (µg/L): One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.

Parts Per Million (PPM) or Milligrams per Liter: One part per million corresponds to one minute in 2 years or a single penny in $10,000.

Removal Ratio (RR): Ratio of the 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.

Amherst County Service Authority
PO Box 100
Madison Heights, VA 24572-0100

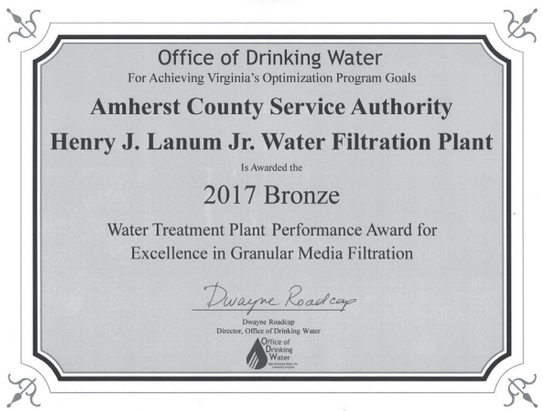
PRSRT STD
US POSTAGE
PAID
MADISON HEIGHTS, VA
PERMIT NO. 75

AMHERST COUNTY SERVICE AUTHORITY

P.O. Box 100
Madison Heights, VA 24572
Phone: (434) 845-1605

AMHERST COUNTY ACSA SERVICE AUTHORITY

2017 Water Quality Report



Virginia Dept. of Health Office of Drinking Water
2017 Excellence in Waterworks
Performance and Operations Award