

**AMHERST COUNTY
SERVICE AUTHORITY**

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**2014
WATER QUALITY
REPORT**

Amherst County Service Authority
2014 Drinking Water Quality Report

We are pleased to provide you with this annual Drinking Water Quality Report. The Authority Board and its staff want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide you a safe and dependable supply of drinking water. The quality of our community's water supply must meet stringent State and Federal standards administered by the Virginia Department of Health (VDH). The purpose of this report is to advise you of how we met these standards during 2014.

Amherst County's public drinking water supply originates from two sources, the Graham Creek Reservoir and Harris Creek. Both of the watersheds supplying these water sources are located solely in Amherst County. As with all surface water supply watersheds, surface water sources are classified as highly susceptible to contamination (VDH Source Water Assessment, 2/21/03). This does not mean that our water sources have been, or will be, impacted by contaminants. To assure contamination does not occur, beyond high quality treatment 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 local regulation of land use activities and promotion of best management practices this program has twice received national recognition for preservation and enhancement of the water quality of these sources.

Our water 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 product to four strategically placed water storage tanks and 6,755 individual water connections.

If you have any 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 Dan E. French, at 845-1605. Regularly scheduled meetings of the Authority Board are held at 11:00 o'clock on the first Tuesday of each month, in the Amherst County Administration Building, Amherst, Virginia.

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 (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, 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, and 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.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The Amherst County Service Authority (ACSA) routinely 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 test at our water treatment facilities, **each and every day**. Additionally, over one hundred eighty off-site compliance test are conducted each year by an independent laboratory, operated by the Commonwealth of Virginia.

The table contained in this report shows our monitoring results for the period of January 1 to December 31, 2014. 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

This table lists only those contaminants that had some level of detection. Tests were also run for many other potential contaminants, but they were not present. The members of the Authority Board and their staff take great pride in providing drinking water, which consistently meets State and Federal quality standards. MCL's are set at very stringent levels by the EPA. In developing the standards EPA assumes that the average adult drinks 2 liters of water each day throughout a 70 year life span. EPA 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 EPA 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, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be at risk from infections. These people should seek advice about drinking water from their health care provider. EPA/CDC guidelines on appropriate means to further lessen the risk of infection by Cryptosporidium and other microbiological contaminants for vulnerable individuals are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Lead in the environment is also a concern. But, ACSA's drinking water supply does not contain elevated levels of lead. Yet, lead can leech from private service lines or household plumbing. Of the 2012 thirty lead samples collected only three showed very low but detectable lead concentrations, and none exceeded the EPA action level (AL). Of thirty copper samples collected seven showed detectable levels of copper, all far below the AL. Still you may find the following information useful.

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 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 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>.

Thank you for allowing us to continue providing your family with clean, high quality water this past year. The staff of ACSA works around the clock to maintain this quality and your trust. We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life, and our children's future.

In the following tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allows for a margin of safety.

Maximum Contaminant Level – the "Maximum Allowed" (MCL) is 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.

Maximum Residual Disinfectant Level (MRDL) - the 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) – nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per billion (ppb) or Micrograms per liter - 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 (mg/l)-one part per million corresponds to one minute in two years, or a single penny in \$10,000.

Picocuries per Liter (pCi/l) – picocuries per liter is a measure of radioactivity in water.

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

2014 TEST RESULTS

I. Regulated Contaminants

Contaminant	Violation	Frequency & location	Level Detected	MCLG	MCL	Typical Sources
Turbidity, NTU	No	Continually monitored, at water plant.	<u>0.07, Highest reported</u> <u>5/21/14 & 10/9/14.</u> 100% <0.3	Not Applicable	TT = 1 max. TT = ≤0.3, 95% of the time	Soil runoff
Total Coliform Bacteria (TCB)	No	2/mo. @ 8 sites throughout service area	0	0	Presence in no more than 1 in 15 samples/mo.	Naturally present in environment
Total Organic Carbon, ppm	No	Monthly, at water plant	1.20, highest 4 qtr moving average <u>Range = 1.07 to 1.20</u>	Not Applicable	TT = based on ≤ 2.0 ppm, 4 qtr moving ave.	Naturally present in environment.

II. Inorganic Compounds

Barium, ppm	No	Annually @ water plant	0.017	<2	2	Erosion of natural deposits
Fluoride, ppm	No	3-4/day at water treatment plant	<u>0.82 average</u> Range = 0.68-0.92	4	4	Water additive to promote strong teeth
Lead, ppb	No	1/3 yrs. @ 30 service area locations	<u><2.0, 90th percentile</u> <u>6/27/12</u>	0	AL = 15	Corrosion of household plumbing
Copper, ppm	No	1/3 yrs. @ 30 service area locations	<u><0.03, 90th percentile</u> <u>6/27/12</u>	<1.3	AL=1.3	Corrosion of household plumbing
Nitrate + Nitrite (as Nitrogen), ppm	No	Annually @ water plant	0.25	<10.0	10.0	Soil erosion, fertilizers, septic tanks, & sewage

III. Volatile Organic Compounds (VOCs)

Total Trihalomethanes ppb	No	Quarterly @ 4 locations in service area.	<u>56, highest locational running annual average</u> Range, = 12 to 75	Not applicable	80 4 qtr. locational moving ave.	By-product drinking water disinfection
Haloacetic Acids, ppb	No	Quarterly @ 4 locations in service area.	<u>43, highest locational running annual average</u> Range, = 18 to 52	Not Applicable	60 4 qtr. locational moving ave.	By-product of drinking water disinfection

IV. Disinfectant Residual Level

Chlorine, ppm	No	2/mo. @ 8 locations in service area.	<u>2.3, highest quarterly ave.</u> Range = 1.2 to 3.0	MRDLG = 4	MRDL = 4	Additive to control microbes
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V. Unregulated Compound Test Results

Strontium, ppb	No	1 st Qtr.	Ave = 25 Range = 23-27	No MCLG	No MCL	Naturally present in environment
Vanadium ppb	No	1 st Qtr.	All <0.2	No MCLG	No MCL	Natural in environment
Cr Hexavalent ppb	No	1 st Qtr.	0.04, or less	No MCLG	No MCL	Trace levels natural in environment