

TOWN OF AMHERST, VIRGINIA 2011 CONSUMER CONFIDENCE REPORT

INTRODUCTION

This Annual Drinking Water Quality Report for the calendar year 2011 is designed to inform you about your drinking water quality. The Town's goal is to provide you with a safe, dependable and affordable supply of drinking water, and to help you understand its efforts to protect your drinking water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

GENERAL INFORMATION

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up other substances as well, all of which are referred to as contaminants. In source water, these may come from septic tank systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses and many other types of activities. Water from surface sources is treated to make it drinkable, while groundwater may or may not require any treatment.

Various contaminants may be present in source water. They include **microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural or livestock operations and wildlife; **inorganic contaminants**, such as salts and metals, which may be naturally occurring or a result of urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming; **pesticides** and **herbicides**, which may come from a variety of sources, including agricultural operations, urban storm water runoff and residential uses; **organic chemical contaminants**, including synthetic and volatile organic compounds, which are often byproducts of industrial processes and petroleum production and may also come from gas stations, urban runoff and septic systems; and **radioactive contaminants**, which may be naturally occurring or the result of oil and gas productions and mining activities.

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

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. 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, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can all be particularly at risk from infections. These persons should seek advice about drinking water from their health care providers. Information about EPA/CDC guidelines on drinking water contaminant regulations and appropriate means to lessen the risk of cryptosporidium and other microbiological contaminants is available from the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

SOURCE AND TREATMENT OF YOUR DRINKING WATER

The source of the Town's drinking water is the Buffalo River, a surface water source located in the upper middle basin of the James River. In a source water assessment of our system conducted in April 2003 by the Virginia Department of Health, the Buffalo River was determined to be of high susceptibility to contamination based on the criteria developed by the state in its approved Source Water Assessment Program. The assessment consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination. Information regarding the report can be obtained as explained under Contact Information in this report.

QUALITY MONITORING

The Town of Amherst constantly monitors various contaminant levels in the water supply to meet all regulatory requirements. The table included in this report lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Contaminant	MCLG	MCL or PMCL	Level Found	Range	Violation	Date of Samples	Typical Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	0	Presence of coliform bacteria in no more than 1 sample per month	No samples total coliform present	N/A	No	Monthly at six sites	Naturally present in the environment and are used as an indicator that other potentially-harmful bacteria that may be present.
Turbidity, NTU	N/A	TT= Max 1 NTU TT= 95% of monthly samples must be <0.3 NTU	Highest reported value: 0.1	Lowest monthly percentage of samples <0.3- 100%	No	Continuous	Soil runoff
Radioactive Contaminants							
Alpha Emitters, pCi/L	0	15	0	N/A	No	January 2008	Erosion of natural deposits
Beta/Photon emitters*, pCi/L	0	50	1.5	N/A	No	January 2008	Decay of natural and man-made deposits
Radium-228, pCi/L	0	5	0.3	N/A	No	January 2008	Erosion of natural deposits
Copper and Lead							
Copper, ppm	AL = 1.3	AL = 1.3	0.1 (90 th percentile)	0.01-0.08 Of ten samples collected, none exceeded the AL	No	June 2011	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead, ppb	0	AL = 15	1 (90 th percentile)	0.3-2.3 Of ten samples collected, none exceeded the AL	No	June 2011	Corrosion of household plumbing systems; erosion of natural deposits
Inorganic Contaminants							
Fluoride, ppm	4	4	Highest reported value: 1.1	0.5-1.1	No	Daily	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate, ppm	10	10	0.13	N/A	No	April 2011	Runoff from fertilizer use; leaching from septic tank sewage; erosion of natural deposits
Barium, ppm	2	2	0.017	N/A	No	April 2011	Discharge of drilling waste: discharge from metal refineries; erosion of natural deposits
Sodium, ppm	20	N/A	15.5	N/A	No	April 2011	Water additive and erosion of natural deposits.
Disinfection By-Products, Precursors, and Residuals							
Chlorine, ppm	MRDLG 4.0	MRDL 4.0	Highest quarterly average: 1.3	0.5-1.5	No	Monthly at six sites	Water additive used to control microbes
Haloacetic Acids (HAA5), ppb	N/A	60 (running 4 quarter average)	Highest 4 quarter average: 28	0-63	No	Quarterly 2011	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM), ppb	N/A	80 (running 4 quarter average)	Highest 4 quarter average: 47	26-67	No	Quarterly 2011	Byproduct of drinking water chlorination
Total Organic Carbon (TOCs), ppm	N/A	TT- Based on % removed during treatment process; meets when removal ratio ≥ 1.0	Lowest 4 quarter average removal ratio: 1.0	Range of monthly removal- 1.0-1.0	No	Quarterly	Naturally occurring in the environment

* Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing emitters in excess of the MCL over many years may have an increased risk of getting cancer. The PMCL for beta particles is 4 mrem/yr. The EPA considers 50 pCi/L to be the level of concern for beta particles.

CRYPTOSPORIDIUM

Is a pathogen found in surface water throughout the United States. Filtration and disinfection are the best methods for use against them, but 100% removal or inactivation cannot be guaranteed. Cryptosporidiosis is an intestinal illness caused by these microscopic parasites. Symptoms of infection include nausea, diarrhea, and cramps. Most healthy people can overcome the disease within a few weeks. The Town of Amherst took a total of 12 *Cryptosporidium* samples in 2011 representing water originating from the Buffalo River.

Monthly samples were taken from the raw (untreated) water. The presence of Cryptosporidium was detected in the raw water samples taken in April, May, July, and September 2011. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. *However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.*

CONTACT INFORMATION

This Water Quality Report was prepared by the Town's Director of Public Utilities, Thomas W. Fore. If you have questions about this report or would like additional information about any aspect of your drinking water, or would like to know how to participate in the in the

The Town's Water Plant is a conventional surface water filtration plant. At various points in the treatment process, chemicals are added to the water. Aluminum sulfate and soda ash are added to remove contaminants dissolved in the water; chlorine is added for disinfection; fluoride is added to promote strong teeth; carbon is added when necessary to improve the taste and odor of the water; and lime and orthophosphate are added to reduce the corrosivity of the finished water. The water travels through a combination of mixing chambers, then into settling chambers where contaminants and suspended matter settle out. The water is then filtered before being pumped into the distribution system. If you would like to tour the water treatment plant, contact Tom Fore as explained under Contacts Information in this report for an appointment.

Lead and Copper

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. The Town of Amherst 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 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>.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to federal and state regulations. The table on the other side of this page shows the results of the Town's monitoring for the period of January 1st through December 31st, 2011. In the table and elsewhere in this report, you will find many abbreviations that you may not be familiar with. The following definitions are provided to help you understand these terms.

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

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Maximum Residual Disinfectant Level (MRDL): the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants.

Maximum Contaminant Level (MCL): the highest allowable level of a contaminant in drinking water.

Maximum Contaminant Level Goal (MCLG): the level of a contaminant in drinking water, below which there is no known or expected health risk.

Milirems Per Year (mrem/yr): a measure of radiation absorbed by the body.

Nephelometric Turbidity Units (NTU): measurement of the clarity of the water; turbidity in excess of 5 NTU is just noticeable to the average person.

Parts Per Million (ppm): measure of concentration, corresponds to one minute in two years or a single penny in \$10,000.00.

Parts Per Billion (ppb): measure of concentration, corresponds to one minute in twenty years or a single penny in \$10,000,000.00.

PicoCuries Per Liter (pCi/L): a measure of radioactivity.

Running Annual Average (RAA): An annual average based on quarterly results taken during the year.

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

decisions that affect the quality of your drinking water, please contact Mr. Fore at 946-1267. Decisions concerning your drinking water quality are made during the regularly scheduled Town Council meeting held on the second Wednesday of each month at 7:00 p.m. in the Town Hall, located at 186 South Main Street. If you are interested in obtaining a copy of the Town of Amherst's source water assessment, please call 946-1267 or write to: Director of Public Utilities, Town of Amherst, P.O. Box 280, Amherst, VA 24521.

EMPLOYMENT: Employees of the Town and applicants for employment shall be afforded equal opportunity in all aspects of employment without regard to race, color, religion, political affiliation, national origin, disability, marital status, gender or age.

SODIUM: According to results of the chemical analyses for METALS based on a sample collected in April 2011, the SODIUM in the treated water is 15.5 ppm for entry point EP002. This is below the recommended optimal level of less than 20 ppm for SODIUM in drinking water, which is established for those individuals on a "strict" SODIUM intake diet.

The Town of Amherst 2011 CCR is not mailed to the Town's water customers and users of the Town water and the Town's 2011 CCR is available upon request at the Town Hall 186 South Main Street.