Annual Drinking Water Quality Report
Clarke County Sanitary Authority

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2009 is designed to provide you with valuable information about your drinking water quality. The Clarke County Sanitary Authority is committed to providing you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water meets all state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, want additional information about any aspect of your drinking water, or want to know how to participate in decisions that may affect the quality of your drinking water, please contact:

Mr. Michael Legge, Clarke County Sanitary Authority at (540) 955-5185

You can get additional information by attending the monthly meetings of the Clarke County Sanitary Authority held the third Tuesday of each month at 9:00 A.M. at 101 Chalmers Court, Berryville, VA.

GENERAL INFORMATION

As water travels over the surface of the 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. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater 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 have any treatment.

All drinking water, including bottled drinking 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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, people with HIV/AIDS or other immune system disorders, 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

Your drinking water is surfaced influenced groundwater obtained from the Prospect Hill Spring. Water is distributed throughout Boyce, Millwood, and White Post by a finished water pump station, one booster pump station, three storage tanks and distribution piping consisting of 8-inch, 6-inch, 4-inch, 2-inch, and 1-inch pipe.

All water supplied to Authority customers undergoes treatment. Treatment consists of membrane filtration and chlorination. Water pumped from the spring passes through a basket strainer to pre-treat the water prior to membrane filtration and chlorination. The membrane filtration eliminates turbidity and bacteria from the water while chlorination is used to disinfect the water prior to distribution.

SOURCE WATER ASSESSMENT

A source water assessment for the Clarke County Sanitary Authority was completed by the Virginia Department of Health (VDH) on September 18, 2002. This assessment determined that the Authority's water source, Prospect Hill Spring, may be susceptible to contamination because it is a surface influenced groundwater exposed to a wide array of contaminants at varying concentrations. Changing hydrologic, hydraulic and atmospheric conditions promote migration of contaminants from land use activities of concern within the assessment area. More specific information may be obtained by contacting the water system representative referenced within this report.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The table on the next page shows the results of our monitoring for the period of January 1, 2009 to December 31, 2009.

Most of the results in the table are from testing done in 2009. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

DEFINITIONS

In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

Non-detects (ND) - lab analysis indicates that the contaminant is not present

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.

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 trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

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.

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

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

Maximum Contaminant Level, or MCL - 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 Contaminant Level Goal, or MCLG - 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.

Variances and exemptions - state or EPA permission not to meet an MCL or a treatment technique under certain conditions

WATER QUALITY RESULTS

Microbiological

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Coliform Bacteria	0	Presence of Coliform bacteria in	0	Presence or Absence	No	Monthly	Naturally present in the environment

Turbidity

Contaminant	MCLG	MCL	Highest Single Level Found	Unit Measurement	Lowest Monthly % <0.3 NTU	Violation	Date of Sample	Typical Source of Contamination
Turbidity (1)	NA	TT, ≤0.3 NTU (95% of the time) TT, 1 NTU max	0.24	NTU	100	NO	03/09	Soil Runoff

(1) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Nitrates	10	10	2.37	mg/l	NO	08/09	Runoff from fertilizer use; leaching from septic tanks, sewage

Radiological Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Alpha Emitters	0	15	3.0	pCi/l	NO	08/08	Erosion of natural deposits
Beta Emitters	0	50	3.4	pCi/l	NO	08/08	Decay of natural or man-made deposits
Combined Radium	0	5	0.7	pCi/l	NO	08/08	Erosion of natural deposits

Volatile Organic Contaminants

Contaminant	MCLG	MCL	Highest Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
No Volatile Organic Contaminants detected							08/09

Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Trihalomethanes (TTHM)	0	80	25.0	ppb	NO	08/09	By-product of drinking water chlorination
Haloacetic Acid (HAA5)	0	60	14.0	ppb	NO	08/09	By-product of drinking water chlorination

Disinfection Residual Contaminants

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Chlorine	4	4	1.68 (avg) Range 1.0 - 2.0	mg/l	NO	Monthly	Water additive used to control microbes

Lead and Copper (Most Recent Monitoring Period – August 2008)

Contaminant	MCLG	MCL	Level Found	Unit Measurement	AL Exceeded	Samples > AL	Typical Source of Contamination
Lead **Copper**	0 1.3	AL = 15 AL = 1.3	7.8 0.305	ppb mg/l	NO NO	0 0	Corrosion of household plumbing systems; Erosion of natural deposits

Lead Contaminants
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. Clarke County Sanitary Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in the 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 the 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**.**

WATER QUALITY RESULTS
We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table 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.

Maximum Contaminant Levels (MCL's) are set at very stringent levels by the U.S. Environmental Protection Agency. 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 MCL's at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

VIOLATION INFORMATION

We were in full compliance with all water quality, monitoring and reporting requirements and no violations occurred during the calendar year 2009.

Thank you for allowing us to continue to provide your family with clean, quality water this year. In order to maintain a safe and dependable water supply, we sometimes need to make improvements to benefit all our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

The waterworks owners prepared this Drinking Water Quality Report with the assistance and approval of the Virginia Department of Health (VDH). Please call if you have questions.

Signature: _____

Date: _____