

*Annual Drinking Water Quality Report*  
*2010*  
**Town of Middleburg, Virginia**

## **INTRODUCTION**

This Annual Drinking Water Quality Report for the calendar year **2010** is designed to inform you about your drinking water quality. Our goal is to provide 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 must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, or if you 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:

**Martha M. Semmes**

**Town Administrator, 10 West Marshall Street, P.O. Box 187, Middleburg, VA 20118**

**Telephone: (540) 687-5152**

The times and location of regularly scheduled Town Council meetings are as follows:

**Second Thursday of every month, 6:00 PM, at the Middleburg Town Office**

**10 West Marshall Street, Middleburg, Virginia**

## **GENERAL INFORMATION**

As water travels over the surfaces 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 those 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 previously mentioned Hotline.

## **SOURCES AND TREATMENT OF YOUR DRINKING WATER**

The sources and treatment of your drinking water are described below:

The ground water sources for our drinking water are three active drilled wells, Well #2, Well #3, and Well #4, located near the Town of Middleburg. Wells #2 #3 and #4 are all treated by chlorination. Phosphate is added to prevent oxidation in the distribution system. Well #4, is also softened and treated to remove radiological contaminants.

The Virginia Department of Health conducted a sourcewater assessment of our system. The wells are determined to be highly susceptible to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area an inventory of known land use activities of concern, and documentation of any know contamination within the last 5 years. The report is available by contacting your water system representative at the phone number and address given elsewhere in this drinking water quality report.

## **DEFINITIONS**

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next few pages shows the most recent results of our monitoring. In the tables and elsewhere in this report you will find many terms and abbreviations with which you might not be familiar. The following definitions are provided to help you better understand these terms:

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

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*Parts per million (ppm) – one part per million corresponds to one minute in two years, or a single penny in \$10,000*

*Parts per billion (ppb) – one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.*

*Parts per trillion (ppt) – 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.*

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

*Maximum Residual Disinfectant Level Goal (MRDLG) the level of drinking water disinfectant below which there is no know or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.*

*Nephelometric Turbidity Unit (NTU) – nephelometric turbidity unit is a measure of the clarity of cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.*

*Action Level (AL) – 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 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.*

## **WATER QUALITY RESULTS**

### **1. Microbiological Contaminants – Where there any detections No**

Contaminant	MCLG	MCL	# of Samples Indicating Presence of Bacteria	Violation (Y/N)	Sampling Year	Typical Source Of Contamination
Total Coliform Bacteria	0	Presence in more than 1 sample once a month	0	N	2010	Naturally present in the environment
Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and once is also fecal positive	0	N	2010	Human and animal fecal waste

### **2. Lead and Copper Contaminants – Were there any detections Yes**

Contaminant	Units of Measurement	Action Level	MCLG	Results of the Samples for the 90 <sup>th</sup> Percentile Value	Action Level Exceedance	Sampling Year	# of Samples Exceeding Action Level	Typical Source of Contamination
Lead	ppb	15	0	ND	N	2010	0	Corrosion of household plumbing systems
Copper	ppm	1.3	1.3	0.5	N	2010	0	Corrosion of household plumbing systems

### 3. Other Chemical and Radiological Contaminants – Were there any detections Yes

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation	Range of Detection at Sampling Points	Sampling Year	Typical Source of Contamination
Nitrate plus Nitrite as Nitrogen	ppm	10	10	0.82	N	ND-0.82	2010	Runoff from fertilizer; Leaching from septic tanks, sewage; Erosion from natural deposits
Fluoride	ppm	4	4	0.248	N	ND - 0.248	2010	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium	ppm	2	2	0.1	N	0.01-0.1	2010	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Gross Alpha	pCi/L	0	15	7.5	N	2.6-7.5	2008 2009 2010	Erosion of natural deposits
Gross Beta	pCi/L	0	50	14	N	1.12-2.11	2010	Decay of natural and man-made deposits
Combined Radium	pCi/L	0	5	5.4	N	ND-5.4	2008 2007 2010	Erosion of natural deposits
Uranium	ug/L	0	30	16.4	N	13.1-16.4	2006	Erosion of natural deposits
Chlorine	ppm	MRDLG= 4	MRDL= 4	1.01	N	0.30-1.01	2010	Water additive used to control microbes
TTHM	ppb	N/A	80	5.2	N	2.9-5.2	2008	By-Product of drinking water chlorination
HAA5	ppm	N/A	60	1.1	N	ND-1.1	2008	By-Product of drinking water disinfection

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list 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. The state allows the Town to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Even though some of our data may be more than one year old, it is accurate.

The following are other contaminants that we want to inform you about annually:

Iron: Iron is considered a secondary contaminant, which, in excess of 0.3 ppm, may cause aesthetic but not health problems. Iron may cause a metallic taste to the water, and may cause staining of laundry. Typically iron in the water supply is evidenced by a rusty color and/or sediment. In 2010, levels of iron in Middleburg well #2 measured 0.37 ppm and well #3 measured 0.89 ppm.

Manganese: Manganese is considered a secondary contaminant, which, in excess of 0.05 ppm, may cause aesthetic but not health problems. Iron may affect the taste of the water, and may cause staining of laundry. Typically manganese in the water supply is evidenced by a black to brown color and/or black staining. In 2010, levels on manganese in Middleburg well #2 measured 0.16 ppm.

NOTE: The Town of Middleburg has a water treatment facility on the Plains Road (Well #4) to remove both of these secondary contaminants.

The U.S. Environmental Protection Agency sets MCL's at very stringent levels. In developing the standards, the 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 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**

Your water system did not have any violations for 2010.

## **ADDITIONAL HEALTH INFORMATION**

Although there were detections of contaminants that have potential health effects, the levels detected were extremely small and did not approach the MCLG for the contaminants. By definition, the MCLG (maximum Contaminant Level Goal) is the level of a contaminant in drinking water below which there is no known or expected risk to health. For more information on the health effects of these contaminants, please contact the Middleburg Town Office at (540) 687-5152.

**ADDITIONAL HEALTH INFORMATION Continued**

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 Middleburg 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 of at <http://www.epa.gov/safewater/lead>.

This Drinking Water Quality Report was prepared by:

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