

*Annual Drinking Water Quality Report*  
*2009*  
**Town of Middleburg, Virginia**  
**PWSID# 6107450**

## **INTRODUCTION**

This Annual Drinking Water Quality Report for the calendar year **2009** 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:

**Mr. Jerry Schiro**

**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**

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 and, 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: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (iii) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (iv) 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 storm water runoff, and septic systems; (v) 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled 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 about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

## 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 to kill harmful bacteria and viruses. At the Well #2 and Well #4 treatment buildings, a corrosion inhibitor (phosphate) is added to prevent oxidation in the distribution system and to help prevent lead from leaching from older household plumbing. The Well #4 is treated with potassium permanganate and a softener to remove iron and manganese, hardness and radioactive 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.

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.

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.

Maximum Residual Disinfectant Level Goal, or 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, or 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.

## 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	2009	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	2009	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	2007	0	Corrosion of household plumbing systems
Copper	ppm	1.3	1.3	0.361	N	2007	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	2.8	N	1.1-2.8	2009	Runoff from fertilizer; Leaching from septic tanks, sewage; Erosion from natural deposits

Fluoride	ppm	4	4	0.248	N	ND-0.248	2007-2008	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium	ppm	2	2	0.010	N	ND-0.010	2007-2008	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Gross Alpha	pCi/L	0	15	5.05	N	3.75-5.05	2008-2009	Erosion of natural deposits
Gross Beta	pCi/L	0	50	12.15	N	5.34-12.15	2008-2009	Decay of natural and man-made deposits
Combined Radium	pCi/L	0	5	4.95	N	1.71-4.95	2008-2009	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	.76	N	0.30-1.80	2009	Water additive used to control microbes
TTHM	ppb	N/A	80	5.15	N	2.85-5.15	2008	By-Product of drinking water chlorination
HAA5	ppb	N/A	60	1.08	N	ND-1.08	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 2007, levels of iron in Middleburg well #2 measured 0.48 ppm and well #3 measured 1.24 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 2007, levels on manganese in Middleburg well #2 measured 0.18 ppm and well #3 measured 0.38 ppm.

NOTE: The Town of Middleburg has a water treatment facility on the Plains Road (Well #4) to remove both of these secondary contaminants. Water from Well #1 (not currently in operation) and Well #3 may eventually be treated at the Well #4 facility.

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 2009

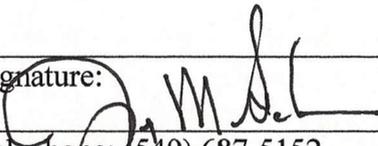
### ADDITIONAL HEALTH INFORMATION

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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**CONSUMER CONFIDENCE REPORT CERTIFICATION**

Waterworks Name     Middleburg Water Plant     PWSID No.     6107450    

I certify that the Consumer Confidence Report for calendar year     2009     has been distributed to customers and that the information contained in the report is correct and consistent with the compliance monitoring results obtained in conformance with state and federal drinking water regulations. The distribution was completed by the following date:     Must fill in date    

Signature \_\_\_\_\_ Date \_\_\_\_\_

Title \_\_\_\_\_ Telephone \_\_\_\_\_

The following information will help us understand how you distributed your CCR. Please check the boxes that apply.

**I. Distribution to customers**

- CCR was distributed to customers by mail.
- CCR was distributed to customers by direct delivery method other than mail. Describe:     Posted on the Pubic Community Bullentin Board inside the building.
- CCR was posted on the Internet (required for systems serving 100,000 or more persons.)
- Good faith effort was used to reach non-bill paying consumers (see Section II).
- Good faith effort does not apply since all consumers receive water bills.
- CCR available to public upon request.
- Other. Describe: \_\_\_\_\_

**II. Good faith effort to reach non-bill paying consumers (applies to all systems)**

- Posted CCR on Internet
- Mailed CCR to postal patrons
- Published CCR in local newspaper
- Delivered CCR to community organizations
- Advertised CCR availability in local news media
- Posted CCR in public places - libraries, schools, community centers
- Delivered multiple copies of CCR to single bill addresses serving multiple people
- Other. Describe: \_\_\_\_\_

SEND COMPLETED FORM TO:

Virginia Department of Health  
Office of Drinking Water  
400 S. Main Street, 2<sup>nd</sup> Floor  
Culpeper, VA 22701