Annual Drinking Water Quality Report

Town of New Market

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2010 is designed to provide you with valuable information about your drinking water quality. We are 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. Steve Long, Chief Water Plant Operator at 540-740-9576
or
Mr. Michael Ritchie, Director of Public Works at 540-740-3432

You can obtain additional information by attending Town Council meetings held at 7:30 p.m. the third Monday of each month in the Town Council Chambers.

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

For calendar year 2010 your drinking water came from groundwater and groundwater under the influence of surface water obtained from six drilled wells. Water is distributed throughout Town by a booster pump station, one storage tank and distribution piping consisting of 24 inch, 12 inch, 10 inch, 8 inch, 6 inch, 4 inch and 2 inch water lines.

Treatment of Wells 1 and 6 consists of chlorination. As water is pumped from the wells, a chlorine solution is injected into combined well discharge line prior to the flow entering the 939-foot section of water line that serves as the chlorine contact tank to disinfect the water prior to distribution.

Treatment of Wells 2, 4, 8, and the Shenandoah Valley Academy (SVA) Well consist of membrane filtration and chlorination. Water pumped from the wells is delivered to the 91,000-gallon raw water tank. From the tank, the raw water is pumped to the Route 211 (Memcor) Water Filtration Plant where it is treated. The raw water passes through a basket strainer to pretreat 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.

Some additional information concerning the water sources is as follows:

Source	Rated Capacity
Well No 1/No 6	725 gpm
Route 211 Water Filtration Plant	720 gpm

Based on actual operating data, the average water production for the year 2008 was 622,348 gallons per day (gpd) or 432 gallons per minute (gpm).

SOURCE WATER ASSESSMENTS

A source water assessment for the Town of New Market was completed by the ENSAT Corporation in cooperation with the County of Shenandoah and Shenandoah County Water Resources Advisory Committee. This assessment determined that the Town's water sources maybe susceptible to contamination because they are groundwater or 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 1st to December 31st, 2010.

Most of the results in the table are from testing done in 2010. 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.

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

Entry Point (EP) – place where water from the source or sources after the application of any treatment is delivered to the distribution system

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 >1 sample per month	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)(2) Route 211 WTP EP	NA	TT	-- 0.077	NTU	100	NO	05/10	Soil Runoff

(1) Turbidity is measure of the cloudiness of the water. We monitor it because it is a good indicator of our water quality and the effectiveness of filtration process.
(2) Treatment Technique (TT) MCL – 1 NTU max, <0.3 NTU in at least 95% of samples tested

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Nitrates (1)	10	10	--	mg/l	--	--	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Route 211 WTP EP			5.06		NO	02/10	
Well 1/6 EP			3.72		NO	02/10	
Barium	2	2	0.031	mg/l			Drilling wastes; discharge from metal refineries

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
No Synthetic Organic Contaminants were Detected						08/06	

Volatile Organic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
No regulated contaminants were detected						03/08	

Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Trihalomethanes (TTHM)	0	80	1.3	ppb	NO	07/10	By-product of drinking water chlorination
Haloacetic Acid (HAA5)	0	60	< 1.0	ppb	NO	07/10	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	0.94(avg) Range 0.84-1.09	mg/l	NO	Monthly	Water additive used to control microbes

Radiological Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Alpha Emitters	0	15	--	pCi/l	--	--	Erosion of natural deposits
Route 211 WTP EP			1.1		NO	03/10	
Well 1/6 EP			0.3		NO	01/02	
Beta Emitters			--		--	--	Decay of natural & man-made deposits
Route 211 WTP EP	0	50	2.6	pCi/l	NO	03/10	
Well 1/6 EP			1.5		NO	01/02	
Combined Radium	0	5	--	pCi/l	--	--	Erosion of natural deposits
Route 211 WTP EP			0.4		NO	03/10	
Well 1/6 EP			0.3		NO	01/02	

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 (1)	0	AL = 15	11.5	ppb	NO	1	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	1.3	AL = 1.3	0.158	mg/l	NO	0	

(1) Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water many years could develop kidney problems or high blood pressure.

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. The Town Of New Market is responsible for providing high quality drinking water, but cannot control the variety of materials used in private household 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.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that have 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. Protection Agency. 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 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 are in full compliance with all water quality, monitoring and reporting requirements and no violations occurred during calendar year 2010. 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: Steven W. Long, CHIEF OPERATOR

Date: 5/13/11