

Annual Drinking Water Quality Report

Town of Strasburg

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2011 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. Christopher A. Ritenour, Chief Operator, Strasburg Water Treatment Plant at 540-465-3008

You can obtain additional information by attending Town Council meetings held at 7:30 p.m. the second Tuesday 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 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 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. Immune-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 surface water obtained from the North Fork, Shenandoah River. Three booster pump stations, three storage tanks, one storage reservoir and variously sized distribution pipes distribute water throughout the Town.

All water supplied to the Town is undergoes treatment. This treatment is accomplished at the Strasburg water treatment plant prior to distribution and consists of chemical addition, coagulation, flocculation, sedimentation, and filtration to remove turbidity; chlorination to disinfect the water; and fluoridation to aid in reducing tooth decay. Supplemental treatment is provided at the Town's mountain reservoir and consists of chlorination to disinfect the water prior to entering the distribution system.

SOURCE WATER ASSESSMENTS

A source water assessment for the Town of Strasburg was completed by the Virginia Department of Health (VDH) on September 4, 2002. This assessment determined that the Town's raw water source, North Fork, Shenandoah River, may be susceptible to contamination because it is surface water 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, 2011 through December 31, 2011.

Most of the results in the table are from testing done in 2011. 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

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.

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.

Microbiological

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Coliform Bacteria (1)	0	Presence of Coliform bacteria in > 1 sample per month	2	Presence or Absence	Yes	09/11	Naturally present in the environment

(1) Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Total Coliform bacteria were found in more samples than allowed and this was a warning of potential problems.

Cryptosporidium

Cryptosporidium is a microbial pathogen which is found in surface waters throughout the United States and must be ingested to cause disease. If ingested, it may cause an abdominal infection characterized by nausea, diarrhea, and abdominal cramps. *Cryptosporidium* may be spread through means other than drinking water. Most healthy individuals are able to overcome the disease within a few weeks; however, **immune-compromised** people have more difficulty and are at greater risk of developing a potentially life-threatening illness.

In April 2011, the Town completed a two year, 24 sample study to determine the occurrence of *cryptosporidium* in the raw water sources for the water treatment plant. Results of this monitoring indicated the presence of *cryptosporidium* in the Town's raw water. Although present, the levels identified are well within the capability of the water treatment plant to remove. The Town is continually assessing treatment plant performance in every effort to optimize treatment plant unit processes, particularly filtration and disinfection unit processes, to ensure maximum *cryptosporidium* removal possible. EPA/CDC guidelines appropriate means to lessen the risk of infection by cryptosporidium and microbiological contaminants is available from the Safe Drinking Water Hotline (800-426-4791).

Turbidity

Contaminant	MCLG	MCL	Highest Single Level Found	Unit Measurement	Lowest Monthly % <0.3 NTU	Violation	Date of Sample	Typical Source of Contamination
Turbidity (2)	NA	TT (3)	0.087	NTU	100	NO	10/11	Soil Runoff

(2) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration and disinfection processes.

(3) Treatment Technique (TT) MCL: 1 NTU max, ≤ 0.3 NTU in at least 95% of samples tested

Total Organic Carbon

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Organic Carbon (4)	NA	TT	1.61 (Avg.) Range 0.88 -2.24	Ratio of Actual to Required Removals	NO	05/11	Naturally present in the environment

(4) Total Organic Carbon (TOC) has no health effects but provides formation medium for disinfection byproducts. These byproducts include trihalomethanes (TTHM) and haloacetic acids (HAA5).

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Nitrates	10	10	2.23	mg/l	NO	01/11	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Barium	2	2	0.037	mg/l	NO	01/11	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	4	4	0.973 (Avg.) Range 0.36 -1.21	mg./l	NO	01/11	Erosion of natural deposits; Discharge from fertilizer and aluminum factories; Water additive which promotes strong teeth

Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Trihalomethanes (TTHM) (5)	0	80	53.70 (avg.) Range 16.7 - 110.3	ppb	NO	09/11	By-product of drinking water chlorination
Haloacetic Acid (HAA5) (6)	0	60	55.25 (avg.) Range 21.3 - 110.0	ppb	NO	09/11	By-product of drinking water chlorination

(5) Some people who drink water containing Total Trihalomethanes in excess of the MCL over many years could experience problems with their liver, kidneys, or central, nervous systems, and may have increased risk of getting cancer.

(6) Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk of getting cancer.

Disinfection Residual Contaminants

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Chlorine	4	4	1.83 (avg.) Range 0.8 – 2.7	mg/l	NO	Daily	Water additive used to control microbes

Lead and Copper (Most Recent Monitoring Period - August 2009)

Contaminant	MCLG	MCL	Level Found	Unit Measurement	AL Exceeded	Samples > AL	Typical Source of Contamination
Lead	0	AL = 15	< 2	ppb	NO	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	1.3	AL = 1.3	0.126	mg/l	NO	0	

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 Strasburg 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>.

VIOLATION INFORMATION


Monitoring and Reporting:

We were in full compliance with all monitoring and reporting requirements and no violations occurred during the calendar year 2011.

Water Quality:

One water quality violation occurred when total coliform bacteria were detected in two of the twelve bacteriological samples collected in September 2011. The PMCL is exceeded when the presence of total coliform bacteria is indicated in more than one sample per month. The duration of this violation was for one month. The seven samples collected on October 17, 2011 were total coliform absent.

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: April 19, 2012