Annual Drinking Water Quality Report

Town of Stephens City

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2007 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. Michael Kehoe, Town Manager at 540-869-3087

You can obtain additional information by attending Town Council meetings held at 7:30 p.m. the first 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 purchased from the Frederick County Sanitation Authority (FCSA) and obtained from the quarries located on the west side Stephens City. Water is distributed to the Town from master meter connections to the FCSA system through variously sized distribution pipes. Storage for the Town is provided by the FCSA.

All water supplied to the Town undergoes treatment. This treatment is accomplished at the James H. Diehl water treatment plant prior to entering the distribution system water treatment and consists of chemical addition, flocculation, sedimentation and filtration to remove turbidity, chlorination to disinfect the water and fluoridation

to aid in reducing tooth decay.

SOURCE WATER ASSESSMENT

A source water assessment for the Frederick County Service Authority was completed by the Virginia Department of Health (VDH) on 10 April 2002. This assessment determined that the Authority's Stephens City water source 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 the Frederick County Sanitation Authority at 540-868-1061.

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 January1, 2007 to December 31, 2007

Most of the results in the table are from testing done in 2007. 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.

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) James Diehl WTP James T. Anderson WTP	NA	TT	-- 0.15 0.12	NTU	 100 100	 NO NO	 04/07 05/07	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.

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Nitrate James Diehl WTP James T. Anderson WTP	10	10	-- 1.77 2.72	mg/l	-- NO NO	-- 10/07 07/07	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.
Fluoride James Diehl WTP James T. Anderson WTP	4	4	-- 1.07 (Avg.) Range 0.46 – 1.31 1.06 (Avg.) Range 0.62 – 1.26	mg/l	-- NO NO	-- 08/07 10/07	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)	0	80	--	ppb	--		By-product of drinking water chlorination
Stephens City, Town of			17.75 (avg) Range 11 – 26		NO	03/07	
Frederick County Sanitation Authority			24.07 (avg) Range 9 - 54		NO	01/07	
Haloacetic Acid (HAA5)	0	60	--	ppb	--		By-product of drinking water chlorination
Stephens City, Town of			12.0 (avg.) Range 8 - 18		NO	03/07	
Frederick County Sanitation Authority			16.75 (avg) Range 7 - 33		NO	04/07	

Disinfection Residual Contaminants

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Chlorine	4	4	--	mg/l	--		Water additive to control microbes
Stephens City, Town of			2.55 (avg) Range 1.7 – 3.1		NO	Monthly	
Frederick County Sanitation Authority			2.68 (avg) Range 1.3 – 3.7		NO	Monthly	

Total Organic Carbon

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Organic Carbon (1)	NA	TT	--	Ratio of Actual to Required Removals	--	--	Naturally Present in the environment
James Diehl WTP			1.05 (avg.) Range 1.00 – 1.59		NO	Monthly	
James T. Anderson WTP			1.00 (avg.) Range 1.00 – 1.00		NO	Monthly	

(1) Total Organic Carbon (TOC) has no health effects, but provides formation medium for disinfection by-products. These by-products include Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5).

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
James Deihl WTP			0.8		NO	10/03	
James T. Anderson WTP			0.8		NO	04/07	
Beta Emitters	0	50	--	pCi/l	--	--	Decay of natural or man made deposits
James Deihl WTP			1.6		NO	10/03	
James T. Anderson WTP			2.7		NO	04/07	
Combined Radium	0	5	--	pCi/l	--	--	Erosion of natural deposits
James Deihl WTP			0.3		NO	10/03	
James T. Anderson WTP			0.8		NO	04/07	

Lead and Copper (Most Recent Monitoring Period – Stephens City September 2005/FCSA June 2006)

Contaminant	MCLG	MCL	Level Found	Unit Measurement	AL Exceeded	Samples > AL	Typical Source of Contamination
Lead (1)	0	AL = 15	--	ppb	--	--	Corrosion of household plumbing systems; Erosion of natural deposits
Stephens City, Town of			1		NO	0	
Frederick County Sanitation Authority			7		NO	2	
Copper	1.3	AL = 1.3	--	mg/l	--	--	Corrosion of household plumbing systems; Erosion of natural deposits
Stephens City, Town of			< 0.05		NO	0	
Frederick County Sanitation Authority			0.113		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 over many years could develop kidney problems or high blood pressure

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 calendar year 2007.

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: Michael Kehoe

Date: 6/19/08