

# **2010 Annual Drinking Water Quality Report**

## **Towns of South Boston, Halifax and UPA, HCSA - PWSID NO. 5780600**

### **INTRODUCTION**

This Annual Drinking Water Quality Report for 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: Mark Wilkerson, Superintendent of Water at 434-575-4255

### **GENERAL INFORMATION**

The sources of drinking water (both tap 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:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- 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 stormwater runoff, and septic systems.
- 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. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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).

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 Halifax County Service Authority 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 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 or at <http://www.epa.gov/safewater/lead>.

## **SOURCE OF YOUR DRINKING WATER**

The source of your drinking water is surface water with the raw water intake located in the Dan River. Treatment of the raw water consists of chemical addition, coagulation, flocculation, settling, filtration, fluoridation and chlorination. All of these processes work together to remove the physical, chemical, and biological contaminants to make the water safe for drinking.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The Dan River was determined to be of high susceptibility 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 known contamination within the last 5 years. The report is available by contacting your water system representative at the phone number or 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 page shows the results of our monitoring for calendar year 2010. 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 within the detection limits of the instrument used.

*Parts per billion (ppb) or Micrograms per liter (Hg/l)* - one part per billion corresponds to one minute in 2,000 years, or one penny in \$10,000,000.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or one penny in \$ 10,000.

*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 cloudiness of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*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 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 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.  
*Abbreviations:* NA – Not Applicable.

## WATER QUALITY RESULTS

Radiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
Alpha emitters pCi/L	0	15	0.1	No	March 2009	Erosion of natural deposits
Combined Radium pCi/L	0	5	0.3	No	March 2009	Erosion of natural deposits
Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Exceedence	Date of Sample	Typical Source of Contamination
Nitrates ppm	10	10	0.30	No	March 2010	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Lead ppb	0	AL = 1.5	2(90 <sup>th</sup> percentile) Range: ND - 18 Of the 20 samples collected One exceeded the AL.	No	August 2009	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.10(90 <sup>th</sup> percentile) Range: ND to 0.35 Of the 20 samples collected none exceeded the AL.	No	August 2009	Corrosion of household plumbing systems; Erosion of natural deposits
Barium ppm	2	2	0.022	No	March 2010	Discharge of drilling wastes: discharge from metal refineries; erosion of natural deposits
Fluoride ppm	4	4	Average 0.88 Range 0.34-1.15	No	Daily for 2010	Water additive which promotes strong teeth
Microbiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Turbidity / NTU	N/A	1.0 Max TT 0.3 in 95% of monthly samples	0.2 (highest level) 100 % <0.3	No	Daily 2010	Soil Runoff
Total Coliform Bacteria	0	1 positive monthly sample	0	No	Monthly 2010	Naturally present in the environment
Disinfection Byproducts						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Chlorine / ppm	4	4	Avg. 0.97 Range: 0.2 - 2.0	No	Monthly at bacti sample points	Added to water for disinfection purposes
HAA5s (Total Haloacetic Acids) ppb	N/A	60	Avg. 40 Range: 20 to 79	No	Quarterly 2010	By-product of drinking water disinfection
TTHMs (Total Trihalomethanes) ppb	N/A	80	Avg. 74 Range: 29 to 121	No	Quarterly 2010	By-product of drinking water disinfection
Total Organic Carbon (TOC) ppm	N/A	TT-TOC removal ratio greater than or equal to 1.00	Ave. Ratio: 1.24 Range: 1.0 to 1.24	No	Tested quarterly at raw and treated water	Naturally present in the environment

We regularly 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.

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.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

The Town of South Boston received the 2010 Excellence in Waterworks Operations and Performance Award from the Virginia Department of Health.

**VIOLATION INFORMATION**

No violations were recorded in 2010.

This Drinking Water Quality Report was prepared by Mark Wilkerson, Superintendent of Water, Town of South Boston, Halifax County Service Authority, at P. O. Box 640, Halifax, VA 24558