

2014 Annual Drinking Water Quality Report for the Town of Colonial Beach

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year **2014** 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, 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. Robert Murphy at (804) 224-7260.**

GENERAL INFORMATION

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).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, stream, 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: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) 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. (3) Pesticides and herbicides, which may come from a variety of sources such as agricultural, urban stormwater runoff, and residential uses. (4) 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. (5) Radioactive contaminants, which can be naturally occurring or be the results of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided in water 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.

SOURCE and TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is groundwater as described below:

Four wells serve the Town of Colonial Beach: 4th Street well is located at the intersection of 4th Street and Euclid Avenue; Robin Grove well is located off Robin Grove Lane; Castlewood Park well is located off Monroe Bay Avenue at the southern end of Town, and Wilkerson well is located in the Wilkerson Farm area. Chlorination is provided for all four wells to prevent bacteriological growth in the distribution system.

As a first step toward protection of our sources of drinking water, the Virginia Department of Health (VDH) evaluated the susceptibility of Virginia's water supplies to contamination. Contamination sources and pathways were reviewed using maps, known & observed activities, water quality data and information about the water source. Using criteria developed by the State in its EPA-approved Source Water Assessment Program, it was determined that, on a relative basis, our Robin Grove Well and Castlewood Park Well are of high susceptibility to contamination, however our Wilkerson Farm Well and 4th Street Well are of low susceptibility to contamination. This does not mean that your drinking water is currently unsafe. Your current water quality is described in the rest of this report. A copy of the source water assessment report is available by contacting **Mr. Robert Murphy** 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 tables on the next page show the results of our monitoring. In the tables 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.

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 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.

Maximum Residual Disinfectant Level (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.

Maximum Residual Disinfectant Level Goal (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.

WATER QUALITY RESULTS

I. Microbiological Contaminants

Contaminant	MCLG	MCL	No. of Samples Indicating Presence of Bacteria	Violation (Y/N)	Month of Sampling	Typical Source of Contamination
Total Coliform Bacteria	0	Presence of coliform bacteria in more than one sample per month	5	Y	7/14	Naturally present in the environment
Fecal coliform and E.coli	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive	1	Y	7/14	Human and animal fecal waste

II. Lead and Copper Contaminants

Contaminant	Units of Measurement	Action level	MCLG	Results of samples for the 90 th Percentile Value	Action Level Exceedance (Y/N)	Month of Sampling	# of Sampling Sites Exceeding Action level	Typical Source of Contamination
Copper	ppm	1.3	1.3	0.091	N	7/14	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead	ppb	15	0	2.6	N	7/14	1	Corrosion of household plumbing systems; Erosion of natural deposits

Lead Education Statement:

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. Your waterworks 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 cooking or drinking. 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 at <http://www.epa.gov/safewater/lead>.

III. Chemical and Radiological Contaminants

Contaminant	Units of Measurement	MCLG	MCL	Level Detected	Violation (Y/N)	Range of Detection at Sampling Points	Month of Sampling	Typical Source of Contamination
Total Trihalomethanes	ppb	N/A	80	4.6	N	1.2-4.6	7/14	By-product of drinking water chlorination.
Barium	ppm	2	2	0.0225	N	ND – 0.0225	8/14	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	ppm	4	4	0.84	N	ND-0.84	9/14	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Nitrate	ppm	10	10	0.11	N	ND – 0.11	4/14, 8/14, 9/14	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits and fertilizers.
Combined Radium	pCi/l	0	5	1.3	N	ND-1.3	5/10, 8/10, 11/12, 7/14	Erosion of natural deposits
Gross Alpha	pCi/l	0	15	8.7	N	ND-8.7	5/10, 8/10, 11/12, 7/14	Erosion of natural deposits
Gross Beta (1)	pCi/l	0	50	3.9	N	ND-3.9	5/10, 8/10, 11/12, 7/14	Decay of natural and man-made deposits

(1) The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.

IV. Disinfectants

Disinfectant	Units of Measurement	MRDLG	MRDL	Level Detected (Annual Average)	Violation (Y/N)	Range of Detection at Sampling Points	Year Sampled	Typical Source
Chlorine	ppm	4	4	0.56	N	0.20-1.62	2014	Water additive used to control microbes

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.

Some of the water quality results in the tables above are from testing done prior to this calendar year. Because the concentrations of these contaminants do not change frequently, the state allows us to monitor for less than once per year. Therefore, these data, though more than one year old, are accurate.

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 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

Did any monitoring, reporting, or other violations occur during the year? Yes No

If yes, an explanation of the violation, including potential adverse health effects and steps we are taking to correct the violation, is as follows:

We violated a drinking water standard for exceeding the Primary Maximum Contaminant Level (PMCL) for *E. Coli* bacteria during July 2014. The routine bacteriological sample collected on July 8, 2014 was positive for *E. Coli* bacteria. Two of the six repeat samples collected on July 15, 2014 were positive for total coliform bacteria. As stated in 12VAC5-590-380 of the *Waterworks Regulations*, the PMCL for *E. Coli* bacteria has been exceeded when a routine sample and a repeat sample are total coliform positive, and at least one of the samples is also positive for *E. Coli* bacteria.

Customers of Town of Colonial Beach were notified on July 22, 2014 of a problem with our drinking water, and were advised to distribute a Boil Water Notice. These bacteria can make you sick, and are a particular concern for people with weakened immune systems.

The Town of Colonial Beach increased chlorine residual and began flushing the distribution system to draw in the higher level of chlorine into the distribution system. In addition, collection of seven (7) bacteriological samples which were all total coliform absent has resolved the problem. We reported on July 25, 2014 that it was no longer necessary to boil your water.

This Drinking Water Quality Report was prepared by:

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