2012 Annual Drinking Water Quality Report
Town of Appomattox

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2012 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 Mitchell Stone, Water and Wastewater Treatment Supervisor, at our office (434) 352-8268, Monday through Friday during regular office hours (8:30 A.M. – 4:30 P.M.). The Appomattox Town Council meets on the second Monday of each month at 7:30 p.m. and the fourth Tuesday of each month at 7:00 p.m. at the Appomattox Municipal Building, 210 Linden Street, Appomattox, Virginia.

GENERAL INFORMATION

The sources of drinking water (both tap water 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 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 storm water 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 agriculture, urban storm water 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 storm water runoff, and septic systems. (5) 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 which 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 that must provide the same protection for public health.

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 about contaminants and potential health effects 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

The source of your drinking water at the beginning of 2012 was groundwater from four drilled wells. The following table contains the treatment processes for each well:

Well	Treatment
#1	Blended Phosphate to minimize the aesthetic effects of iron and manganese, a dilute chlorine solution for continuous disinfection, and a dilute soda ash solution to adjust pH levels.
#5	Blended Phosphate to minimize the aesthetic effects of iron and manganese and a dilute soda ash solution to adjust pH levels.
#39	Pre-treated with dilute soda ash and chlorine solutions and processed through greensand filters to remove iron and manganese, then treated with blended phosphate for corrosion control.
#41	Blended Phosphate to minimize the aesthetic effects of iron and manganese, a dilute chlorine solution for continuous disinfection, and a dilute soda ash solution to adjust pH levels.

In July 2012, the source of your water was changed and is currently surface water from the Big Otter River which is treated at a conventional surface water treatment plant for the Central Water System owned by the Campbell County Utilities and Service Authority (CCUSA).

A source water assessment of three of the four wells owned by the Town of Appomattox was conducted in 2002 by the Virginia Department of Health. The wells were determined to be of high susceptibility to contamination using the criteria development by the State in its approved Source Water Assessment Program.

A source water assessment of the Central Water System was conducted in 2003 by the Virginia Department of Health. The water sources were determined to be of high susceptibility to contamination using the criteria development by the State in its approved Source Water Assessment Program.

These assessment reports consist of maps showing the source water assessment areas, 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.

Public Education - Lead in drinking water

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 Appomattox 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 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/safe

WATER QUALITY RESULTS

Contaminants in your drinking water are routinely monitored according to federal and state regulations. The tables on pages 4 and 5 of this report show the results of this monitoring for the period of January 1st through December 31st, 2012. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment. The state allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our results, though representative, are more than one year old. In the tables and elsewhere in this report you will find terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms.

DEFINITIONS

n/a – *Not Applicable.*

Non-Detects (ND) – lab analysis indicates the contaminant is not detectable, based on the limits of the analytical equipment used.

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.

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

Picocuries per liter (pCi/l) - picocuries per liter is a measure of the radioactivity in water.

Primary Maximum Contaminant Level (PMCL)- the maximum allowable level of any particular contaminant.

Action Level (AL) - the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

Maximum Contaminant Level Goal (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 (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 Residual Disinfection Goal (MRDLG) – the level of a drinking water disinfectant below which there is no known or expected risk to health.

Maximum Residual Disinfection Level (MRDL) - the highest level of a disinfectant allowed in drinking water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Secondary Maximum Contaminant Level (SMCL) – the highest level recommended for a contaminant in drinking water, based on aesthetic considerations.

Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.

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Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found/Range	Violation	Date of Sample	Typical Source of Contamination
Nitrate ppm	10	10	Highest: 1.05 Range: ND to 1.05	No	August, September, 2012	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium ppm	2	2	Highest: 0.04 Range: ND to 0.04	No	August 2010, September 2011	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Radiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found/Range	Violation	Date of Sample	Typical Source of Contamination
Alpha emitters pCi/L	0	15	Highest: 5.3 Range: 0.6 to 5.3	No	September 2012	Erosion of natural deposits
Combined Radium pCi/L	0	5	Highest: 2.5 Range: 0.8 to 2.5	No	September 2012	Erosion of natural deposits

Lead and Copper						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Exceedance	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL=15	1 (90^{th} percentile) <2 to 2.8 Of the twenty samples collected none exceeded the AL.	No	November, December 2012	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	1.3	AL=1.3	0.02 (90^{th} percentile) Range: <0.02 to 0.05 Of the ten samples collected none exceeded the AL.	No	November, December 2012	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
TTHMs (Total Trihalomethanes) ppb	N/A	80	High:88 Range: 74 to 88	*No	3^{rd} and 4^{th} Qtr. 2012	By-product of drinking water disinfection
HAA5s (Total Haloacetic Acids)ppb	N/A	60	High: 25 Range: 20 to 25	No	3^{rd} and 4^{th} Qtr. 2012	By-product of drinking water disinfection
Chlorine ppm	MRDLG =4	MRDL =4	Average: 0.4 Range: 0.3 to 0.9	No	Monthly 2012	Water additive used to control microbes

*Compliance with state and federal standards for drinking water for TTHMs and HAA5s is based on the average of four consecutive quarterly samples.

We are pleased to report to you that there were no detections of total coliforms, or fecal coliforms in the monthly samples collected during calendar year 2012.

OTTER RIVER WATER TREATMENT PLANT - 2012

Contaminant/ Unit of Measurement	MCLG	AL	90th Percentile Value number of sites exceeding AL	Violation	Typical Source of Contamination
[1] Copper, ppm	1.3	1.3	ND 0 out of 30	NO	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.
[1] Lead, ppb	0	15	1.59 1 out of 30	NO	Corrosion of household plumbing systems and erosion of natural deposits.
Contaminant/ Unit of Measurement	MCLG	MCL	Highest Level and Range	Violation	Typical Source of Contamination
Fluoride, ppm	4	4	1.01 (average) 0.76 -1.15(range)	NO	Erosion of natural deposits; Water additives which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate + Nitrite (as Nitrogen), ppm	10	10	0.27	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Turbidity, NTU	n/a	1.0 Max TT 0.3 in 95% of monthly samples	0.06 (highest level) 100% < 0.3	NO	Soil runoff
Chlorine, ppm	MRDLG = 4	MRDL = 4	3.3 (highest sampled) 1.1 – 3.3 (range)	NO	Water additive to control microbes.
Total Organic Carbon, (TOC)	n/a	TT Ratio ≥ 1.0	1.015 (Avg. removal ratio) .65 - 1.51 (range)	NO	Naturally present in the environment
Trihalomethanes (TTHM), ppb	n/a	80	80 (highest running average) 18 – 111 (range)	NO	By-products of drinking water disinfection.
Haloacetic Acids (HAA), ppb	n/a	60	28 (highest running average) 10– 32 (range)	NO	By-products of drinking water disinfection.
[2] Gross Alpha, pCi/L	0	15	1.3	NO	Erosion of natural deposits
[2] Radium-228, pCi/L	0	5	0.3	NO	Erosion of natural deposits
Barium	2	2	0.013 mg/L	NO	Discharge of drilling wastes: discharge from metal refineries: erosion of natural deposits.

[1] Data from 2012. Next required sampling period in 2015. [2] Data from 2008. Next required sample period 2014.

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