2015 Annual Drinking Water Quality Report

Town of Farmville

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2015 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:

Kathy Gagen, Water Plant Supervisor or Gerald J. Spates, Town Manager	
434-392-8774	434-392-5686

The times and location of regularly scheduled council meetings are as follows:

2nd Wednesday of each month at 7:00 PM – Town Hall, Farmville, VA

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 in source water may be naturally occurring substances or may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater runoff, residential uses, and many other types of activities. 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 agriculture, 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 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 which 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 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).

SOURCE AND TREATMENT OF YOUR DRINKING WATER
The source of your drinking water is surface water from the Appomattox River.

Treatment of the raw water consists of chemical addition, coagulation, flocculation, settling, filtration, fluoridation, chlorination and corrosion control. 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 for the Town of Farmville water supply was conducted during 2002 by the Virginia Department of Health. The river source was determined to have a high susceptibility to contamination using 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 / operator at the phone number or address provided with this drinking water quality report.

DEFINITIONS
Contaminants in your drinking water are routinely monitored according to federal and state regulations. The table below shows the results of this monitoring for the period of January 1st through December 31st, 2015. In the table 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:

Non-detects (ND) - lab analysis indicates that the contaminant is not present, 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 - 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.

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.

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 (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 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.

Maximum Residual Disinfectant Level Goal (MRDL) - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control microbial contaminants.

Not Applicable (NA)

WATER QUALITY RESULTS

We routinely monitor for various contaminants in the water supply to meet all regulatory requirements. The table below 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.

Microbiological Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Total Coliform Bacteria	0	Presence of coliform bacteria in no more than 1 sample per month	None Detected	No	9 per month 2015	Naturally present in the environment
Inorganic Contaminants						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Turbidity NTU	NA	TT= Max 1 NTU	Maximum - 0.10	No	Continuous & Every 2 hours in lab	Soil runoff
		TT=95% of monthly samples must be <0.3 NTU	Lowest monthly percentage of samples <0.3 - 100%			
Fluoride ppm	4	4	0.7 Range: 0.6-0.9	No	Daily	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate ppm	10	10	0.15	No	October 2015	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium ppm	2	2	0.02	No	October 2015	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries;
Total Organic Carbon (TOCs) ppm	N/A	TT- Based on % removed during treatment process; meets when removal ratio ≥ 1.0	Lowest 4 quarter ave removal ratio- 1.18 Range of monthly removal- 1.0 - 1.61	No	Quarterly	Naturally occurring in the environment
Lead and Copper						
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination
Lead ppb	0	AL = 15	<2 (90th percentile) *Range: <2-6.9 of twenty collected, none exceeded the AL*	No	July/August 2013	Corrosion of household plumbing systems; Erosion of natural deposits
Copper ppm	AL = 1.3	AL = 1.3	0.16 (90th percentile) Range: <0.02 – 0.91 *Of twenty samples collected, none exceeded the AL*	No	July/August 2013	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Organic Contaminants						
Contaminant/Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
HAA5s (Total Haloacetic Acids) ppb	N/A	60 (running 4 quarter ave)	Highest 4 Qtr Ave: 31 Range: 16 - 40	No	Quarterly 2015	By-product of drinking water disinfection
TTHM's (Total Trihalomethanes) ppb	N/A	80 (running 4 quarter ave)	Highest 4 Qtr Ave: 30 Range: 12 - 39	No	Quarterly 2015	By-product of drinking water disinfection
Chlorine-ppm	MRDLG=4	MRDL=4	Highest Quarterly Average-1.3 mg/L Range: 0.2 – 2.2 mg/L	No	Monthly at nine sites	Water additive used to control microbes
Radiological Contaminants						
Contaminant/Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source of Contamination
Beta Emitters pCi/L	0	50	2.7	No	October 2015	Decay of natural and man-made deposits

The results in the table are from testing done in 2013 through 2015. 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 representative, is more than one year old.

The U.S. Environmental Protection Agency sets MCLs at very stringent levels. 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-one-million chance of having the described health effect for other contaminants.

OTHER DRINKING WATER CONSTITUENTS

In the compliance samples collected during October 2015, the sodium content was determined to be 9.0 ppm, which is below the maximum recommended level of 20 ppm by EPA. The recommended level is established for those individuals on a sodium-restricted diet. If you have any concerns about the sodium level in your drinking water, you may wish to consult with your physician. Aluminum was below the detectable limit of 0.05 ppm and so is within EPA's Secondary Maximum Contaminant Level (SMCL) range of 0.05 – 0.2 ppm. This limit is established to minimize potential aesthetic (color) affects associated with aluminum above the recommended limit. The manganese concentration was determined to be 0.02 ppm which is below the Secondary Maximum Contaminant Level of 0.05 ppm. Manganese is a naturally occurring mineral in many surface and ground water sources and in soils that may erode into these waters. This mineral is not considered a health concern; however, its presence above the Secondary Maximum Contaminant Level can result in aesthetic problems affecting the clarity and taste of the water as well as staining of plumbing fixtures.

Information about 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 Farmville 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 (Tel # 1-800-426-4791) or at http://www.epa.gov/safewater/lead.

The Town is happy to report this water supply had no drinking water related violations to report for 2015.