Annual Drinking Water Quality Report

Town of Luray

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2022 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. Joseph Haddock, Superintendent WTP, Town of Luray at 540-743-1974

You can obtain additional information from the Town Council meetings held at 7 p.m. the second Monday 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) and from the EPA website at https://www.epa.gov/environmental-topics/water-topics.

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). All reportable data for the water system can be searched in the public Drinking Water Watch (DWW) database by accessing the portal at http://www.vdh.virginia.gov/drinking-water/dww.

SOURCES AND TREATMENT OF YOUR DRINKING WATER

Your drinking water is groundwater and groundwater under the influence of surface water obtained from two springs and a drilled well. Water is distributed throughout the town by two finished water pump stations, one booster pump station, four storage tanks and variously sized distribution piping. All water supplied to the Town of Luray undergoes treatment. Treatment of Hite Spring and Well No. 6 is accomplished at the Stoney Brook Lane Water Treatment Plant prior to distribution and consists of membrane filtration to remove turbidity, chlorination to disinfect the water, and fluoridation to aid in reducing tooth decay.

The Hudson Spring has not been used since November 2009; however, this spring is maintained as an emergency source and the water would be treated prior to distribution. Treatment would consist of chlorination to disinfect the water and fluoridation to aid in reducing tooth decay.

SOURCE WATER ASSESSMENTS

A source water assessment has been completed by the Virginia Department of Health (VDH). The assessment determined that the springs serving our community may be susceptible to contamination because they are located in an area that promotes migration of contaminants from certain land use activities of concern. More specific information may be obtained by contacting the water system representative referenced within this report.

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 January 1, 2022 through December 31, 2022. Most of the results in the table are from testing done in 2022. 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, are more than one year old.

DEFINITIONS

In this report, you will find many terms and abbreviations, which might be unfamiliar to you. The following definitions are provided to help you better understand these terms:

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 (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 (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 contamination.

Nephelometric Turbidity Unit (NTU) - A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-detects (ND): Lab analysis indicates that the contaminant is not present

Parts per billion (ppb) or Micrograms per liter (µg/L): One part per billion corresponds to one minute in 2,000 years, or a single 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 a single penny in $10,000.

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

Variances and exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

WATER QUALITY RESULTS

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.

Maximum Contaminant Levels (MCLs) 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.

Microbiological

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Total Coliform Bacteria (1)	NA	Presence of Coliform bacteria in > 1 sample per month	0	Presence or Absence	NO	Monthly	Naturally present in the environment

(1) Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

Turbidity

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.

Contaminant	MCLG	MCL	Highest Level	Lowest Monthly % < 0.3 NTU	Violation	Date of Sample	Typical Source
Turbidity (NTU) Stoney Brook Lane	NA	TT (1)	0.08	100	NO	Daily	Soil Runoff

(1) Turbidity Treatment Technique (TT) MCL: 1 NTU max; ≤ 0.3 NTU in at least 95% of all samples tested.

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Sources
Barium (mg/L)						Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Stoney Brook Lane	2	2	0.056	NO	2022	
Hudson Spring	2	2	0.047	NO	2021	
Nitrates (mg/L)						Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Stoney Brook Lane	10	10	1.26	NO	2022	
Hudson Spring	10	10	0.89	NO	2022	
Sodium (mg/L)						Erosion of natural deposits; de-icing salt runoff; water softeners
Stoney Brook Lane	-	-	8.05	NO	2022	
Hudson Spring			3.7	NO	2021	

Fluoride (mg/L) Stoney Brook Lane	4	4	0.65 average 0.27 – 1.19 range	NO	2022	Erosion of natural deposits; Discharge from fertilizer and aluminum factories; Water additive which promotes strong teeth
Hudson Spring	4	4	ND	NO	-	

Disinfection Residual

Disinfectant	MRDLG	MRDL	Level Found (Range)	Violation	Date of Sample	Typical Sources
Chlorine (mg/L)	4	4	0.65 (0.42 – 0.87)	NO	Daily	Water additive to control microbes

Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Level Found (Range)	Violation	Date of Sample	Typical Sources
Total Trihalomethanes (ppb)	NA	80	1.8 – 3.3	NO	2022	By-product of drinking water chlorination
Haloacetic Acid (ppb)	NA	60	ND	NO	2022	By-product of drinking water chlorination

Lead and Copper (Most Recent Monitoring Period – June 2021)

Contaminant	MCLG	MCL	90th Percentile Level Found	AL Exceeded	Date of Sample	Typical Sources
Lead (ppb)	0	AL = 15.0	0.78	NO	06/2021	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.0771	NO	06/2021	

Additional Information:

Sodium: There is presently no established standard for sodium in drinking water. An EPA advisory recommends water containing 30 to 60 mg/L should not be used as drinking water due to esthetics such as taste and color. Water containing more than 20 mg/L should not be used by persons whose physician has placed them on severely restricted sodium diets.

Fluoride: Some people who drink water containing fluoride in excess of the MCL (4.0 mg/L) over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brow staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Lead: 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. We are 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 30 seconds to 2 minutes 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.

Violation Information
We were in full compliance with all monitoring, reporting, water quality requirements and no violations occurred during the calendar year 2022.

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: Joseph L. Haddock

Date: 3/24/2023