2023 Annual Drinking Water Quality Report
TOWN OF CLARKSVILLE
PWSID NO. 5117310

INTRODUCTION
This Annual Drinking Water Quality Report for calendar year 2023 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 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:

William Leonard Utilities Director at (434) 210-0915 or E-mail director@clarksvilleva.org or on the Web at www.clarksvilleva.org .

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

Third Tuesday of each month at 6:30 PM at the Town Hall Building.

GENERAL INFORMATION
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).**

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 land or through the ground, it can dissolve naturally-occurring minerals and in some cases, radioactive materials, and can pick up substances 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 storm water runoff, industrial or domestic wastewater discharge, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemicals 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.
- 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 (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Turbidity has no health effects. However, turbidity can interfere with disinfection an provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organism. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

VULNERABLE POPULATIONS
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 as described below.

Raw water intake is located in Buggs Island Lake that obtains its water from the Dan and Roanoke (Staunton) Rivers.

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.

VDH conducted a source water assessment of our system in 2002. The reservoir 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 the Town of Clarksville at (434) 374-8177 or www.clarksvilleva.org .

LEAD INFORMATION

If present, elevated level of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and component associated with service lines and home plumbing. Clarksville Water Treatment Plant 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 30 seconds to 2 minutes 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 minimized exposure is available from the **Safe Drinking Water Hotline 1-800-426-4791** or at http://www.epa.gov/safewater/lead.

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 2023. 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:

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

Locational Running Annual Average (LRAA) – the **average** of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

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 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.

Nephelometric Turbidity Unit (NTU) – a measurement of turbidity. Turbidity is the cloudiness of the water and is a good indicator of how well the filtration system is functioning. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not Applicable (N/A) – is not relevant in the particular context.

Non-detect (ND) – lab analysis indicates that the contaminant is not present or below the detection level of the lab equipment.

Parts per Billion (ppb) or Micrograms per Liter (ug/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.

Picocuries per liter (pCi/L) – a measurement of radioactive decay.

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

Trihalomethanes (THM) – a group of four contaminants that are formed, along with other disinfection by products, when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

WATER QUALITY RESULTS

We constantly 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.

Regulated Contaminants							
Contaminant	**MCLG**	**MCL**	**Level Found**	**Range**	**Violation**	**Date Sample**	**Typical Source of contamination**
Microbiological Contaminants							
Total Coliform Bacteria	0	TT (1)	0	N/A	No	Monthly	Naturally present in the environment
Turbidity (NTU)	N/A	TT (2)	MAX = 0.23 100% ≤0.3	0.04 to 0.23	No	Daily	Soil runoff
Radioactive Contaminants							
Gross Alpha (pCi/L)	0	15	<0.33	N/A	No	Sept-21	Erosion of natural deposits
Radium 226 & 228 (pCi/L)	0	5	0.2	N/A	No	Sept-21	Erosion of natural deposits
Inorganic Contaminants							
Barium (ppm)	2	2	0.023	N/A	No	April-23	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	4	4	AVG = 0.62	0.24 to 1.20	No	Daily	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate-Nitrite (ppm)	10	10	0.1	N/A	No	April-23	Runoff from fertilizer use: leaching from septic tanks sewage; erosion of natural deposits
Disinfection By-Products, Precursors, and Residuals							
Total Trihalomethanes (ppb)	N/A	80	Highest LRAA = 0.66	47 to 51	No	Quarterly LRAA	By Product of drinking water disinfection
Total Haloacetic Acids (ppb)	N/A	60	Highest LRAA = 0.16	ND to 36	No	Quarterly LRAA	Byproduct of drinking water disinfections
Chlorine (ppm) (Distribution)	MRDLG = 4	MRDL = 4.0	Highest LRAA = 0.80	0.00 to 1.71	No	Twice per Month	Water additive used to control microbes
Total Organic Carbon (ppm)	N/A	TT (2)	Lowest quarterly average 1.50	1.32 to 1.77	No	Monthly	Naturally present in the environment
Lead and Copper							
Copper (ppm)	1.3	AL = 1.3	90th% = 0.0635	<0.02 to 0.085 (3)	No	Sept-21	Corrosion of household plumbing system; erosion of natural deposits
Lead (ppb)	0	AL = 15	90th% = <2	<2 to 2.04	No	Sept-21	Corrosion of household plumping system; erosion of natural deposits

[1] Presence of coliform in no more than 1 sample per month.
[2] Treatment Technique (TT) – Turbidity must be less than or equal to 0.3 NTU in at least 95 percent of the samples in any month and at no time can turbidity go higher than 1 NTU.
[3] Treatment Technique (TT) – Based on percentage of TOC removed during treatment process. Ratio must be greater than or equal to 1.00 or meet alternate compliance criteria.
[4] 0 of 10 samples exceeded Action Levels.

Most of the results in the table are from testing done in 2023. 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.

The U.S. Environmental Protection Agency (EPA) sets MCL's 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 MCL's 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.

UNREGULATED CONTAMINANTS
The sodium concentration in the treated water was detected at 21.8 ppm in April 2023. EPA's maximum recommended level of sodium is 20 ppm for people on a sodium-restricted diet.

CROSS CONNECTION INFORMATION
A cross connection is any actual or potential link or connection between your drinking water system and any source of contamination. Cross connections can occur due to backpressure or back siphonage, which together are kinds of backflow. Backflow is the reversed flow of contaminated water or other liquids into your drinking water system. Backflow by back siphonage occurs when a partial vacuum causes the water flow to reverse, and contaminants are siphoned or sucked into your drinking water. Backflow by backpressure occurs when contaminants under pressures greater than the pressure in your drinking water are pushed into your drinking water.

A plumbing cross connection is an actual or potential connection between the public water supply and any source of contamination or pollutant. Without proper plumbing precautions, contaminated substances could backflow into the public system and your drinking water supply through this connection. Water travelling through the Town's distribution system is pressurized. If the water system loses pressure, such as during a water main break, system maintenance, or fire hydrant usage, the flow of the water may be reversed. If a customer has made a cross connection with hazardous substances or even non-potable water, these substances can back flow into the public water system and create a risk to public health.

VIOLATION INFORMATION
The Clarksville Water Treatment Plant did not have any violations in 2023.

Please share this information with any others who drink our water. If you have any questions, please contact William Leonard at (434) 210-0915.

This Drinking Water Quality Report was presented by:
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