

2018 Annual Drinking Water Quality Report

TOWN OF CLARKSVILLE

PWSID NO. 5117310

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2018 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: **Richard Elliott Public Services Director at (434)374-0169 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 7:30 p.m 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 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 bottle water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves 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 results 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 system.
- 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 by public water systems. Food and Drug Administration regulation 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 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.

The Virginia Department of Health conducted a source water assessment of our system in 2016. 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.

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 2018. 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:

Non-detect (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. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Level Goal or MRDLG - the level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level or 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.

Trihalomethanes (THM) are a group of four chemicals 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.

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

Abbreviations; N/A- Not Applicable

Water Quality Results

Regulated Contaminant	MCLG	MCL	Level Found	Range	Violation	Date Sample	Typical Source of Contamination
Turbidity (NTU) (1)	N/A	TT, 1NTU MAX, 95% <.3NTU	MAX = 0.28 100%≤0.3	.05 to .28	No	Monthly Average	Soil run off
Fluoride (mg/L)	4	4	AVG= 0.61	<.2 to .89	No	Monthly	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum houses.
Copper (PPM) (4)	1.3	AL= 1.3	90 TH % 0.084	<0.02- 0.0854	No	Aug-18	Corrosion of house hold plumbing system; erosion of natural deposits;
Lead (PPB) (4)	0	AL= 15	90 TH % <2UG/L	< 2ug/l	No	Aug-18	Corrosion of house hold plumbing system; erosion of natural deposits;
Gross Alpha (pCi/L)	0	15	0.3	N/A	No	Sept-15	Erosion of natural deposits
Radium 226 & 228	N/A	5 pCi/l	1.6 pCi/l	N/A	No	Sept-15	Erosion of natural deposits
Barium(mg/L)	2	2	.023	N/A	No	April-18	Erosion of natural deposits
Total Haloacetic Acids (PPB)	N/A	60	27 (highest qtr. avg)	3.6-45	No	Annual Average	By Product of drinking water disinfections
Total Trihalomethanes (ppb) (2)	N/A	80	81 (highest qtr. avg)	52-112	Yes	Annual Average	By Product of drinking water disinfection
Total Organics Carbon (mg/L)	N/A	TT (3)	Lowest = 1.000	1.00 to 1.62	No	Monthly	Naturally present in the environment
Chlorine (ppm)	MRDLG= 4	MRDL= 4	Max 2.20	0.20 to 2.20	No	Twice / Month	Water additive used to control microbes
Nitrate- Nitrite (mg/L)	10	10	.16	N/A	No	April-18	Runoff from fertilizer use; Leaching from septic tanks sewage; Erosion of natural deposits

1) Turbidity is a measure of the cloudiness of the water and is used because it is a good indicator of how well the filtration system is functioning.

2) 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 increase risk of getting cancer.

3) Treatment Technique (TT) –Based on % 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.

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.

Most of the results in the table are from testing done in 2018. 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 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.

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 minimize exposure is available from the **Safe Drinking Water Hotline 1-800-426-4791** or at <http://www.epa.gov/safewater/lead>.

VIOLATION INFORMATION

The Clarksville Water Treatment Plant had a violation in the second and third quarter of 2018 of TTHMs that were over the MCL of 80 ppm. An additional violation was also issued in the fourth quarter for a RAA violation of TTHMs over the MCL of 80 ppm.

Please share this information with all the other who drink our water and if you have any questions please contact Richard Elliott at (434) 374-0169

This Drinking Water Quality Report was presented by: Richard Elliott, Director of Operations, Town of Clarksville, P. O. Box 1147, Clarksville, VA 23927 Phone 434-374-8177