2019

Drinking Water Quality Report

Wilderness

PWSID #6137999

2019 Drinking Water Quality Report

Rapidan Service Authority (RSA) is pleased to present to you the 2019 Annual Water Quality Report. This report is designed to inform you, the customer, about the quality of water and services delivered to you every day. RSA's goal is to always provide you with a safe and dependable supply of drinking water. We want you to understand the efforts made to continually improve the water treatment process and protect our water resources. RSA is committed to ensuring the quality of your water.

Your Drinking Water…

is surface water from the Rapidan River which is treated by the Wilderness Water Treatment Plant. 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 the Rapidan River is treated by RSA to not only meet State and Federal regulations, but also to be aesthetically pleasing for customers.

The intake and treatment facilities are located in the Wilderness Shores subdivision. Treatment includes oxidation (using Sodium Permanganate), coagulation (using Polyaluminum Chloride), flocculation, sedimentation, and filtration. Sodium Fluoride is then added to help promote strong teeth and prevent tooth decay. Next, Sodium Carbonate is used to adjust pH and prevent corrosion in the distribution system. Finally, chlorine is added to disinfect the water before heading to your tap. For more information on the treatment process, visit rapidan.org/water-treatment-process.

A source water assessment of the Rapidan River was completed by the Virginia Department of Health in May 2002 and may be obtained by contacting RSA. While all surface water sources are vulnerable to contamination due to changing atmospheric conditions and land use activities, no known contamination was discovered during the period of review.

Protecting Your Water

Rapidan Service Authority employees are working around the clock to provide top quality water to every tap. We ask that all our customers help us protect and conserve our water sources, which are the heart of our community, our way of life, and our children's future. We also want to remind all of our customers to be aware of possible cross connections to the potable water system. A cross connection is a link between the potable water system and any non-potable source and can affect not only your home, it can affect the entire potable water supply. **If you think you have the possibility of a cross connection, please contact RSA immediately.**

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements, and must be approved by the RSA Board of Members following a public hearing.

RSA wants its valued customers to be informed about their water utility. If you have concerns to share with our Board, you may attend any of our regularly scheduled meetings. They are held, as needed, on the third Thursday of the month at 2:00 P.M. in various locations in the counties we serve - Orange, Madison, and Greene. Visit rapidan.org/calendar-of-events for more details on meeting dates and locations.

If you have any questions about this report or your water utility, please contact **Timothy Clemons at (434) 985-7811.**

RSA routinely monitors for contaminants in the drinking water, in accordance with Federal and State regulations. The table on the next page shows the results of testing for the most recent monitoring period.

In this table you will find terms and abbreviations you might not be familiar with. To help you better understand these terms we have provided the following definitions:

- *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 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.
- *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
- *Nephelometric Turbidity Unit (NTU)*: a measure of the clarity of water. Turbidity in excess of 5 NTUs is just noticeable to the average person.
- *Non-Detects (ND)*: laboratory analysis indicates that the constituent 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 (ug/l)*: 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)*: a measure of radioactivity.
- *Treatment Technique (TT)*: A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Bracketed numbers represent the range of values detected.

WATER QUALITY RESULTS

Detected Contaminant	Sampling Year	Violation	Level Detected/ Range	Units	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
E-coli Bacteria	2019	No	0	Presence or absence	0	Routine and repeat samples are total coliform positive and one is E-coli positive	Human and animal fecal waste
Chemical & Radiological Contaminants							
Alpha Particles	2018	No	0.223	pCi/L	0	15	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Atrazine	2019	No	0.0004	ppm	0.003	0.003	Herbicide runoff
Barium	2019	No	0.0161	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta Particles	2018	No	0.910	pCi/L	0	4 mrem/yr	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Radium (-226 & -228)	2018	No	0.818	pCi/L	0	5	Erosion of natural deposits
Fluoride	2019	No	0.83	ppm	4	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrite + Nitrate	2019	No	0.96	ppm	10	10	Runoff from fertilizer use; leaching from septic systems; erosion of natural deposits
Turbidity % samples ≤0.3 NTU	2019	No No	0.28 100	NTU %	N/A N/A	TT 95%	Soil runoff
Disinfection By-Products, Precursors & Residuals							
Chlorine	2019	No	1.4 (0.7-1.9)	ppm	MRDLG =4	MRDL =4	Water additive used to control microbes
Total Organic Carbon	2019	No	RAA 1.29 (1.00-1.62)	Removal Ratio	N/A	TT	Naturally present in the environment
Haloacetic Acids Site 1 Site 2 Site 3 Site 4	2019	 No No No No	 44 (20-57) 47 (25-57) 39 (20-53) 46 (18-57)	ppb	N/A	60	By-product of disinfection
Total Trihalomethanes Site 1 Site 2 Site 3 Site 4	2019	 No No No No	 37 (16-54) 42 (20-65) 34 (15-53) 43 (15-63)	ppb	N/A	80	By-product of chlorination

Lead & Copper Contaminants	Sampling Year	AL Exceeded?	Results of 90th% Value	Units	MCLG	Action Level	# of Sample Sites Exceed AL	Likely Source of Contamination
Lead	2017	No	8	ppb	0	15	3	Corrosion of household plumbing systems
Copper	2017	No	0.156	ppm	1.3	1.3	0	Corrosion of household plumbing systems

As shown above, all tested contaminants fell below MCL limits. There were no violations for your water system in 2019.

Contaminants in Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the 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 at 1-800-426-4791.

MCL's 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.

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).

Lead Education Statement

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. Rapidan Service Authority 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 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.

Please call our office at (434) 985-7811 if you have questions regarding your water system.