2020

Drinking Water Quality Report

Greene

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2020 Drinking Water Quality Report

Rapidan Service Authority (RSA) is pleased to present to you the 2020 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 at RSA's Greene 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 include: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) 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; (iii) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (iv) 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; and (v) radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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.

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. Treatment includes coagulation (using Aluminum Sulfate), 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. In 2021, RSA will begin adding orthophosphate as an additional corrosion inhibitor. For more information on the treatment process, visit rapidan.org/water-treatment-process.

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.**

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. 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						
Contaminant	**Violation**	**Level Detected**	**Unit of Measure**	**MCLG**	**MCL**	**Likely Source of Contamination (if present)**
Microbiological Contaminants						
E-coli Bacteria	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 Emitters	No	0.4	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
Barium	No	0.0108	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta Emitters	No	1.2	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
Combined Radium	No	0.2	pCi/L	0	5	Erosion of natural deposits
Fluoride	No	0.77 (0.23 - 1)	ppm	4	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrites + Nitrates	No	0.17	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium	No	9.07	ppm	n/a	n/a	Erosion of natural deposits.
Turbidity % samples ≤0.3 NTU	No No	0.35 99.9	NTU %	n/a n/a	TT 95%	Soil runoff
Uranium	No	0.2	ppb	0	30	Erosion of natural deposits
Disinfection By-Products, Precursors & Residuals						
Chlorine	No	1.6 (1.1 – 1.85)	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Total Organic Carbon	No	RAA 1.00 (1.00 - 1.00)	Removal Ratio	N/A	TT	Naturally present in the environment
Haloacetic Acids	No	16 (6 - 31)	ppb	n/a	60	By-product from disinfection
Total Trihalomethanes	No	20 (10 - 29)	ppb	n/a	80	By-product from disinfection
Lead & Copper Contaminants	**AL Exceeded?**	**Results of 90th% Value**	**Units**	**MCLG**	**Action Level**	**Likely Source of Contamination**
Copper (0 of 20 samples > AL)	No	0.0691	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (3 of 20 samples > AL)	Yes	17	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Additional Health Information

Cryptosporidium is a microbial pathogen found commonly in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Additionally, current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. RSA conducted 24 monthly tests for Cryptosporidium at RSA's intake in Greene. Due to the relatively low levels detected, the EPA has determined that RSA's existing treatment methods are sufficient.

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

RSA found elevated levels of lead in drinking water in some homes/buildings. If present in your home/building, 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/building plumbing. RSA is not aware of any lead service lines in its water distribution system. To reduce the risk of lead corrosion in your home/building's plumbing, RSA will be re-evaluating and revising its corrosion control strategy in 2021.

RSA is responsible for providing high quality drinking water, but cannot control the types or quality of plumbing materials used in customers' homes/buildings. Fortunately, the lead content of modern household plumbing materials is tightly limited by Federal and State regulations. If you are unsure whether your plumbing contains lead, there are steps you can take to reduce potential exposure. When your water has been sitting for several hours, flush 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.