

ANNUAL WATER QUALITY REPORT

Reporting Year 2022



ROCKY MOUNT
WATER RESOURCES
THE CENTER OF IT ALL

Presented By
City of Rocky Mount

PWS ID#: NC0464010



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Water Treatment Process

The treatment process consists of a series of steps. First, raw water is drawn from the Tar River and screened for leaves. The water is then pumped to a mixing tank where ferric sulfate, liquid lime, and polymer coagulant are added. The addition of these substances causes small particles (called floc) to adhere to one another, making them heavy enough to settle into a basin from which sediment is removed. Chlorine in the form of sodium hypochlorite and caustic soda is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller suspended particles are removed, turbidity disappears and clear water emerges.

Hypochlorite is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, sodium hydroxide (adjusts the final pH), fluoride (prevents tooth decay), corrosion inhibitor, and ammonia are added before the water is pumped to sanitized elevated water towers and into your home or business.

Lead in Home Plumbing

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 we 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 two 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 at (800) 426-4791 or www.epa.gov/safewater/lead.



Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection

by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or online at: <http://water.epa.gov/drink/hotline>.



Community Participation

If you want to learn more, please attend any of our regularly scheduled Rocky Mount City Council meetings. The meetings occur on the second and fourth Mondays of the month at 7:00 p.m. and 4:00 p.m., respectively, in the George W. Dudley City Council Chamber on the third floor of the Frederick E. Turnage Municipal Building, 331 South Franklin Street, Rocky Mount.

QUESTIONS?

For more information about this report, please call Jim Connolly, Water Treatment Superintendent, at (252) 972-1336.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Testing for *Cryptosporidium*

Monitoring of source water from 2015 to 2017 indicated the presence of *Cryptosporidium* in raw river water at levels of 0.025 oocyst per liter (oocyst/L). Presence of *Cryptosporidium* at less than 0.075 oocyst/L is classified as Bin 1, which is the lowest level of *Cryptosporidium* hazard for rivers.

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100-percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Where Does My Water Come From?

The source of our water is the Tar River. We treat the water at one of two water treatment facilities before it is introduced into the water distribution system. One facility is located at the Tar River Reservoir, and the other is located across from City Lake. In 2022 we treated and distributed 3.2 billion gallons of water to customers in the City of Rocky Mount and surrounding communities. To learn more about our watershed online, visit U.S. EPA's How's My Waterway at <https://www.epa.gov/waterdata/how-my-waterway>.

“Thousands have lived without love, not one without water.”

—W.H. Auden



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. We are pleased to report that your drinking water meets or exceeds all federal and state requirements.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines (ppm)	2022	[4]	[4]	1.89	ND-4	No	Water additive used to control microbes
Chlorine (ppm)	2022	[4]	[4]	0.75	ND-3.4	No	Water additive used to control microbes
<i>E. coli</i> (# positive samples)	2022	TT	0	0	NA	No	Human and animal fecal waste
Fluoride (ppm)	2022	4	4	0.63	0.55-0.68	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]-Stage 2 (ppb)	2022	60 ¹	NA	28	1-68	No	By-product of drinking water disinfection
Lindane (ppt)	2022	200	200	17.5	ND-70	No	Runoff/leaching from insecticide used on cattle, lumber, gardens
Simazine (ppb)	2022	4	4	0.04	ND-0.16	No	Herbicide runoff
Total Organic Carbon [TOC] (removal ratio)	2022	TT ²	NA	1.52	1.29-1.72	No	Naturally present in the environment
TTHMs [total trihalomethanes]-Stage 2 (ppb)	2022	80 ³	NA	48	25-109	No	By-product of drinking water disinfection
Turbidity⁴ (NTU)	2022	TT = 1 NTU	NA	0.31	0.09-0.31	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2022	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.0954	0/32	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2020	15	0	ND	0/32	No	Lead service lines; corrosion of household plumbing systems, including fittings and fixtures; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.0	NA	0.095	ND-0.145	No	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride (ppm)	2022	2.0	NA	0.63	0.55-0.68	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
pH (units)	2022	6.5-8.5	NA	8.1	6.55-8.98	No	Naturally occurring
Sulfate (ppm)	2022	250	NA	62	52-72.1	No	Runoff/leaching from natural deposits; industrial wastes, water treatment



UNREGULATED SUBSTANCES⁵

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
HAA6Br (ppm)	2019	0.0063	NA	NA
HAA9 (ppm)	2019	0.026	NA	NA
Manganese (ppm)	2019	0.0048	0.0037– 0.0058	Naturally occurring
Perfluorooctanesulfonate Acid [PFOS] (ppt)	2022	8.2	7.16–8.78	Firefighting foam, food packaging, waterproofing
Perfluorooctanoic Acid [PFOA] (ppt)	2022	8.07	7.74–8.58	Firefighting foam, food packaging, waterproofing

Source Water Assessment

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to potential contaminant sources (PCS). The results of the assessment are available in SWAP Assessment Reports that include maps, background information, and a relative susceptibility rating of higher, moderate, or lower.

The relative susceptibility rating of each source was determined by combining the contaminant rating (number and location of PCS within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). It is important to understand that a susceptibility rating of higher does not imply poor water quality, only the system's potential to become contaminated by PCS in the assessment area. The assessment findings are summarized in the table below:

SUSCEPTIBILITY OF SOURCES TO POTENTIAL CONTAMINANT SOURCES (PCS)		
SOURCE NAME	SUSCEPTIBILITY RATING	SWAP REPORT DATE
Tar River Reservoir	Moderate	September 2020
Tar River at Sunset Avenue	Higher	September 2020

The complete SWAP Assessment Report may be viewed at <https://www.ncwater.org/?page=600>. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this Consumer Confidence Report was prepared. If you are unable to access your SWAP report online, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name and number and provide your name, mailing address, and phone number. If you have any questions about the SWAP report, please contact the source water assessment staff at (919) 707-9098.

¹ Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

² Depending on the TOC in our source water, the system must have a certain percentage removal of TOC or achieve alternative compliance criteria. If we do not achieve that percentage removal, there is an alternative percentage removal. If we fail to meet the alternative percentage removal, we are in violation of a treatment technique.

³ 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.

⁴ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

⁵ Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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 contaminants.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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

