



2023 Annual Drinking Water Quality Report

Town of Ellerbe

Water System Number: NC 03-77-020

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact Wendell Robinson at (910) 652-6251. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled Council meetings. They are held at the Ellerbe Town Hall (108 West Page Street) on the first Monday of every month at 7pm.**

What EPA Wants You to Know

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 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).

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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. The Town of Ellerbe 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>.

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 and, in some cases, radioactive material, and can pick up substances resulting 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 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 can also come from gas stations, urban stormwater runoff, and septic systems; and 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is purchased from Richmond County Water System (NC 03-77-109). Information about Richmond County's source water quality is in their Drinking Water Quality Report included beginning on page 6 of this report.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environmental Quality (DEQ), 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 (PCSs). 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 for the Town of Ellerbe (Richmond County) was determined by combining the contaminant rating (number and location of PCSs 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). The assessment findings are summarized in the table below:

Source Name	Susceptibility Rating	SWAP Report Date
Pee Dee River (Richmond County)	Moderate	September 10, 2020

The complete SWAP Assessment report for Ellerbe (Richmond County Water System) may be viewed on the Web 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 CCR was prepared. If you are unable to access your SWAP report on the web, 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@deq.nc.gov. Please indicate your system name, 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 by phone at (919) 707-9098.

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 PCSs in the assessment area.

Help Protect Your Source Water

Protection of drinking water is everyone’s responsibility. You can help protect your community’s drinking water source(s) by disposing of chemicals properly; taking used motor oil to a recycling center, volunteering in your community to participate in group efforts to protect your water sources, etc.

Violations that Your Water System Received for the Report Year

During 2023 the Town of Ellerbe received a monitoring violation for TTHM & HAA5. The samples were collected in December of 2023 outside of the required sampling time frame. See the public notice on page 5 of this report for more information.

Important Drinking Water Definitions:

- **Not-Applicable (N/A)** – Information not applicable/not required for that particular water system or for that particular rule.
- **Non-Detects (ND)** - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
- **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.

Important Drinking Water Definitions:

- **Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **Maximum Residual Disinfection 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 Disinfection Level Goal (MRDLG)** – 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.
- **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 under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
- **Running Annual Average (RAA)** – The average of sample analytical results for samples taken 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.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2023.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Richmond County Water System contaminants that pertain to the Town of Ellerbe water quality are surrounded by a red rectangle in the Richmond County Annual Drinking Water Quality Report. (Pages 6 - 21)

Town of Ellerbe Detection Results

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water (90 th Percentile)	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	August 2022	0.053 ppm	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	August 2022	0 ppb	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Disinfectant Residuals Summary

	MRDL Violation Y/N	Your Water (RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
			Low	High			
Chlorine (ppm)	N	1.42 ppm	1.1	1.7	4	4.0	Water additive used to control microbes

Total Trihalomethanes (TTHM) and Haloacetic Acids (five) (HAA5)

Contaminant (units)	Year Sampled	MCL Violation Y/N	Your Water (highest LRAA)	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
TTHM (ppb)	2023	N				N/A	80	Byproduct of drinking water disinfection
B01			56 ppb	44 - 56				
B02			56 ppb	45 - 56				
HAA5 (ppb)	2023	N				N/A	60	Byproduct of drinking water disinfection
B01			45 ppb	44 - 45				
B02			46 ppb	39 - 46				

NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

ELLERBE TOWN OF

Has Not Met Monitoring Requirements

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period(s) specified in the table below, we did not complete all monitoring within the required timeframe for the contaminants listed and therefore cannot be sure of the quality of your drinking water during that time.

CONTAMINANT GROUP**	FACILITY ID NO. / SAMPLE POINT ID	COMPLIANCE PERIOD BEGIN DATE	NO. OF SAMPLES / SAMPLING FREQUENCY	WHEN SAMPLES WERE TAKEN (Returned to Compliance)
TTHM and HAA5	D01	10/1/2023	2 / QT	December 20, 2023

** See back of this notice for further information on contaminants

What should I do? There is nothing you need to do at this time.

What is being done? Samples were required to be taken in November of 2023, but were taken late in December of 2023 instead. This caused a violation to be issued for collecting the samples outside of the compliance monitoring period. The Town will review the monitoring schedule monthly to make sure this does not inadvertently happen again.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact: **Violation Awareness Date:** December 14, 2023

Responsible Person WENDELL ROBINSON	System Name ELLERBE TOWN OF	System Address (Street) PO BOX 310
Phone Number 910-652-6251	System Number NC0377020	System Address (City/State/Zip) ELLERBE NC 28338

Contaminant Group List

(AS) Asbestos - includes testing for Total Asbestos.

(BA) Total Coliform Bacteria - includes testing for Total Coliform bacteria and *E.coli* bacteria. Testing for *E.coli* bacteria is required if total coliform is present in the sample.

(B) Bromate - includes testing for Bromate.

(CD) Chlorine Dioxide/Chlorite - includes testing for Chlorine Dioxide and/or Chlorite.

(DI) Disinfectant Residual must be tested with the collection of each compliance bacteriological sample, at the same time and site.

Fecal Indicators - includes *E.coli*, enterococci or coliphage.

(HAA5)- Haloacetic Acids - includes Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid.

(IOC) Inorganic chemicals - includes Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Iron, Manganese, Mercury, Nickel, pH, Selenium, Sodium, Sulfate, and Thallium.

(LC) Lead and Copper are tested by collecting the required number of samples and testing each of the samples for both lead and copper.

(NT) Nitrate/ (NI) Nitrite - includes testing for nitrate and/or nitrite.

(RA) Radionuclides - includes Gross Alpha, Radon, Uranium, Combined Radium, Radium 226, Radium 228, Potassium 40 (Total), Gross Beta, Tritium, Strontium 89, Strontium 90, Iodine 131, and Cesium 134.

(SOC) - Synthetic Organic Chemicals/Pesticides - includes 2,4-D, 2,4,5-TP (Silvex), Alachlor (Lasso), Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane (DBCP), Dinoseb, Endrin, Ethylene dibromide (EDB), Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane (BHC-Gamma), Methoxychlor, Oxamyl (Vydate), PCBs, Pentachlorophenol, Picloram, Simazine and Toxaphene.

(TOC) - Total Organic Carbon - includes testing for Alkalinity, Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC) and Ultraviolet Absorption 254 (UV254). Source water samples must be tested for both TOC and Alkalinity. Treated water samples must be tested for TOC. Source water samples and treated water samples must be collected on the same day.

(TTHM) - Total Trihalomethanes - includes Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.

(VOC) - Volatile Organic Chemicals - includes 1,2,4-Trichlorobenzene, Cis-1,2-Dichloroethylene, Xylenes (Total), Dichloromethane, o-Dichlorobenzene, p-Dichlorobenzene, Vinyl Chloride, 1,1-Dichloroethylene, Trans-1,2-Dichloroethylene, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, Trichloroethylene, 1,1,2-Trichloroethane, Tetrachloroethylene, Chlorobenzene, Benzene, Toluene, Ethylbenzene, and Styrene.

(WQP) Water Quality Parameters (for Lead and Copper Rule) - includes Calcium, Orthophosphate (as PO4), Silica, Conductivity, pH, Alkalinity and Water temperature.



ANNUAL DRINKING WATER QUALITY REPORT

RICHMOND COUNTY WATER SYSTEM 2023

Mission Statement

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies.

RICHMOND COUNTY WATER SYSTEM

Website: www.richmondnc.com

Tel: 910-997-8338

PO Box 504, Rockingham
NC 28380



What The EPA Wants You To Know

Drinking water, including bottled water,

Richmond County Water System
PO Box 504 ROCKINGHAM, NC 28380
910-997-8338



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)**.

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 microbial

contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

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. The Richmond County Water System 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>**.

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 and, in some cases,

radioactive material, and can pick up substances resulting 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 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 can also come from gas stations, urban stormwater runoff, and septic systems; and 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health

WHAT IS THE SOURCE OF YOUR DRINKING WATER?

Everyone wants clean, safe drinking water and we assume this natural resource will always be available to us. However, drinking water sources can be threatened by many potential contaminant sources, including underground storage tanks for gasoline, permitted wastewater discharges and other waste disposal sites, improper handling of hazardous materials, urban storm water runoff, or other types of non-point source contamination such as runoff produced by agricultural activities and land clearing for development. Your drinking water source(s) is listed in Table 1. Protecting your drinking water from becoming contaminated is a wise investment in public health and your community's future.

Table 1. Public Water Supply System Information

System Name	RICHMOND COUNTY WATER SYSTEM
City	ROCKINGHAM
PWS ID	NC0377109
Source Name	PEE DEE RIVER

In addition to the sources listed in Table 1 above, this water supply system has interconnections to allow for the purchase of water from the following water system(s) or "Seller" system(s):

**ANSON COUNTY WATER SYSTEM
HAMLET WATER SYSTEM**

Source Water Assessment Program Report for RICHMOND COUNTY WATER SYSTEM Community Water System

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 (PCSs). 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 for Richmond County Water System was determined by combining the contaminant rating (number and location of PCSs 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.). The assessment findings are summarized in the table below:

Table 2. SWAP Results Summary

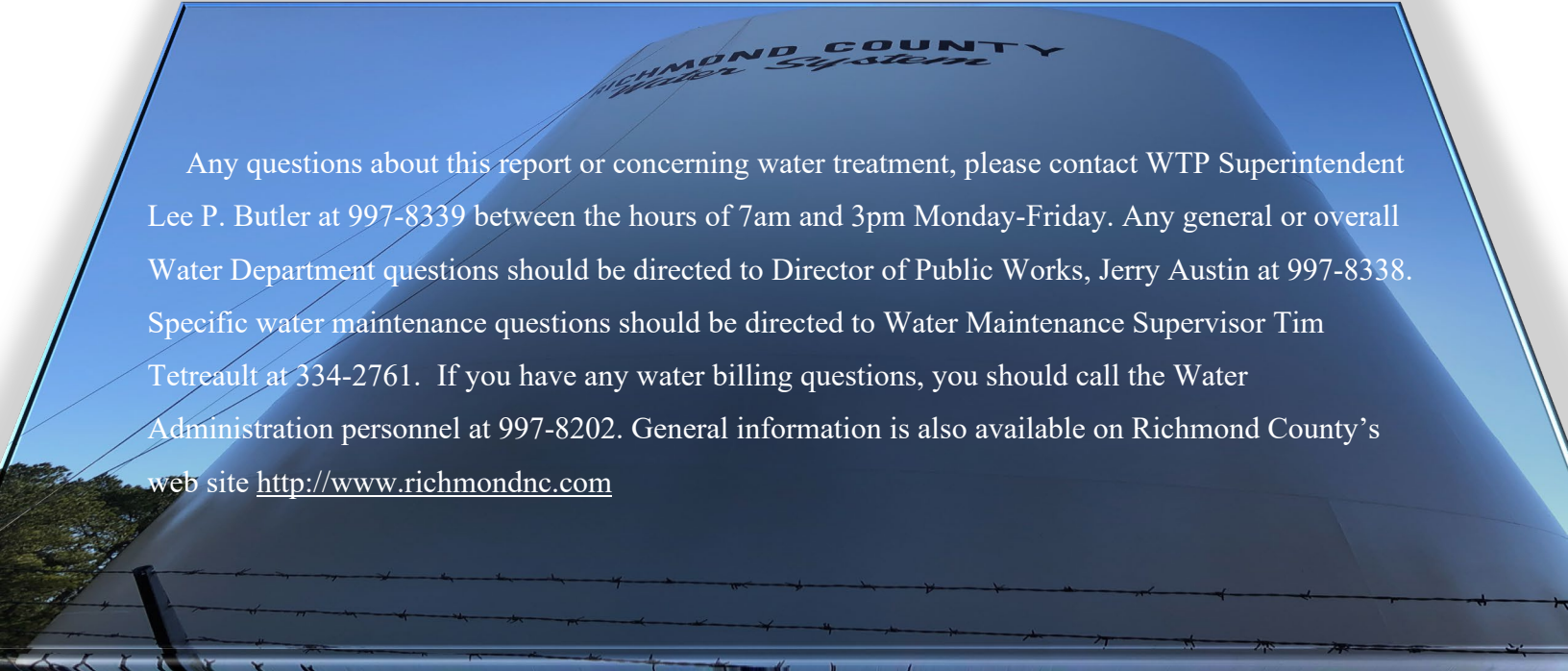
Source Name	Inherent Vulnerability Rating	Contaminant Rating	Susceptibility Rating
Pee Dee River	Moderate	Moderate	Moderate

Table 3. Surface Water Source - Information

Source Name	Watershed Classification	Source Location
Pee Dee River	WS-IV	Class 3

The complete SWAP Assessment report may be viewed on the Web 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 CCR was prepared. If you are unable to access your SWAP report on the web, 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@deq.nc.gov. Please indicate your system name, 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 by phone at (919) 707-9098.

What If I Have Any Questions or Would Like to Become More Involved?



Any questions about this report or concerning water treatment, please contact WTP Superintendent Lee P. Butler at 997-8339 between the hours of 7am and 3pm Monday-Friday. Any general or overall Water Department questions should be directed to Director of Public Works, Jerry Austin at 997-8338. Specific water maintenance questions should be directed to Water Maintenance Supervisor Tim Tetreault at 334-2761. If you have any water billing questions, you should call the Water Administration personnel at 997-8202. General information is also available on Richmond County's web site <http://www.richmondnc.com>

VIOLATIONS THAT YOUR WATER SYSTEM RECEIVED FOR THE REPORT YEAR

Richmond County had no violations for 2023.

IMPORTANT DRINKING WATER DEFINITIONS

- **Not-Applicable (N/A)** – Information not applicable/not required for that particular water system or for that particular rule.
- **Non-Detects (ND)** - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
- **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.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/L)** - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **Nephelometric Turbidity Unit (NTU)** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Variances and Exceptions** – State or EPA permission not to meet an MCL or Treatment Technique under certain conditions.
- **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 Residual Disinfection 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 Disinfection Level Goal (MRDLG)** – 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.
- **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 under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
- **Running Annual Average (RAA)** – The average of sample analytical results for samples taken during the previous four calendar quarters.
- **Level 1 Assessment** - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment** - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **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.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2023.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation (Y/N)	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (Presence or absence)	N	0	TT*	Naturally present in the environment
<i>E. Coli</i> (Presence or absence)	N	0	Routine and repeat samples are total coliform-positive and either is <i>E. coli</i> -positive, or system fails to take repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i> Note: If either an original routine sample and/or its repeat samples(s) are <i>E. coli</i> positive, a Tier 1 violation exists.	Human and animal fecal waste

* If a system collecting fewer than 40 samples per month has two or more positive samples in one month, an assessment is required.

E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

Turbidity* - Systems with population >10,000

Contaminant (units)	Treatment Technique (TT) Violation (Y/N)	Richmond County	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.1 NTU	N/A	Turbidity > 1 NTU	Soil Runoff
Turbidity (%) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100	N/A	Less than 95% of monthly turbidity measurements are < 0.3 NTU	Soil Runoff

* 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.

Total Organic Carbon (TOC)

Contaminant (units)	Treatment Technique (TT) Violation (Y/N)	Richmond County (Lowest RAA)	Range Monthly Removal Ratio Low - High	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Total Organic Carbon (TOC) Removal Ratio (no units)	N	1.1	1.27 - 2.86	N/A	Removal Ratio RAA <1.00 and alternative compliance criteria was not met	Naturally present in the environment

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Richmond County (90th Percentile)	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90th percentile)	2021	.237	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90th percentile)	2021	.005	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits

Disinfection Residuals Summary

(units)	MRDL Violation (Y/N)	Richmond County (RAA)	Range Low - High	MRDLG	Likely Source of Contamination
Chlorine (ppm)	N	1.2	.2 - 2.2	4	Water additive used to control microbes

Nitrate/Nitrite

Contaminant (units)	Sample Date	Richmond County	MCL Violation Y/N	Range Low - High	MCLG/ MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	March 2023	ND	N	N/A	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	March 2023	NA	N/A	N/A	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Radiological

Contaminant (units)	Sample Date	Richmond County (RAA)	MCL Violation Y/N	Range Low - High	MCLG/ MCL	Likely Source of Contamination
Alpha emitters (pCi/L) (Gross Alpha Excluding Radon and Uranium)	April 2019	ND	N	N/A	0/15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	April 2019	ND	N	N/A	0/50*	Decay of natural and man-made deposits
Combined radium (pCi/L)	April 2019	<1.0	N	N/A	0/5	Erosion of natural deposits
Uranium (pCi/L)	April 2019	ND	N	N/A	0/20.1	Erosion of natural deposits

* Note: The MCL for beta/photon emitters is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Inorganic Contaminants

Contaminant (units)	Sample Date	Richmond County	MCL Violation Y/N	Range Low - High	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	March 2023	ND	N	N/A	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	March 2023	ND	N	N/A	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	March 2023	ND	N	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	March 2023	ND	N	N/A	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	March 2023	ND	N	N/A	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	March 2023	ND	N	N/A	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	March 2023	ND	N	N/A	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	March 2023	.73	N	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (ppb)	March 2023	ND	N	N/A	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Selenium (ppb)	March 2023	ND	N	N/A	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	March 2023	ND	N	N/A	.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories



Asbestos

Contaminant (units)	Sample Date	Richmond County	MCL Violation Y/N	Range Low - High	MCLG/ MCL	Likely Source of Contamination
Total Asbestos (MFL)	NA	NA	N	N/A	7	Decay of asbestos cement water mains; erosion of natural deposits



Miscellaneous Contaminants

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water.

"The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water."

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Richmond County	Range Low - High	SMCL
Iron (mg/l)	March 2023	ND	NA	.03
Manganese (mg/l)	March 2023	ND	NA	.005
Nickel (mg/l)	March 2023	ND	NA	N/A
Sodium (mg/l)	March 2023	7.7	NA	N/A
Sulfate (mg/l)	March 2023	27.4	NA	250
pH	March 2023	6.7	NA	6.5 to 8.5

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

Unregulated Contaminants (UCMR)

Contaminant (units)	Sample Date	Your Water (average)	Practical Quantitation Limit	Range Low - High
Lithium (ugl)	Sept. 2023	7.5U	22.5	7.5U
NEtFOSAA (ugl)	Sept. 2023	0.0015U	0.0055	0.0015U
NMeFOSAA (ugl)	Sept. 2023	0.0018U	0.0055	0.0018U
Perfluorotetradecanoic acid (ugl)	Sept. 2023	0.0025U	0.0074	0.0025U
Perfluorotridecanoic acid (ugl)	Sept. 2023	0.0022U	0.0065	0.0022U



Disinfection Byproducts

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

Locational Running Annual Averages

Disinfection Byproduct	Sample Year	MCL Violation Y/N	Richmond County (Highest LRAA)	Range Low - High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)	2023	N			N/A	80	Byproduct of drinking water disinfection
BO1 County Home Rd			44	27 - 76			
BO2 Saron Church Rd			29	22 - 37			
BO3 Cordova			35	24 - 48			
BO4 Hoffman US1			32	22 - 45			

Disinfection Byproduct	Sample Year	MCL Violation Y/N	Richmond County (Highest LRAA)	Range Low - High	MCLG	MCL	Likely Source of Contamination
HAA5 (ppb)	2023	N			N/A	60	Byproduct of drinking water disinfection
BO1 County Home Rd			40	40 - 51			
BO2 Saron Church Road			29	22 - 37			
BO3 Cordova			37	24 - 47			
BO4 Hoffman US1			34	22 - 44			

Synthetic Organic Contaminants Including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Richmond County	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
2,4-D (ppb)	March 2023	N	NA			70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	March 2023	N	NA			50	50	Residue of banned herbicide
Alachlor (ppb)	March 2023	N	NA			0	2	Runoff from herbicide used on row crops
Atrazine (ppb)	March 2023	N	NA			3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)(ppt)	March 2023	N	NA			0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	March 2023	N	NA			40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	March 2023	N	NA			0	2	Residue of banned termiticide
Dalapon (ppb)	March 2023	N	NA			200	200	Runoff from herbicide used on rights of way
Di (2ethylhexy l)adipate (ppb)	March 2023	N	NA			400	400	Discharge from chemical factories
Di (2ethylhexy l)phthalate (ppb)	March 2023	N	NA			0	0	Discharge from rubber and chemical factories
DBCP[Dibromochloropropane](ppt)	March 2023	N	NA			0	200	leaching from soil fumigant on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	March 2023	N	NA			7	7	Runoff from herbicide used on soybeans and vegetables
Endrin (ppb)	March 2023	N	NA			2	2	Residue of banned herbicide
EDB [Ethylenedibromide] (ppt)	March 2023	N	NA			0	50	Residue of banned insecticide
Heptachlor (ppt)	March 2023	N	NA			0	400	Discharge from petroleum refineries
Heptachlor epoxide (ppt)	March 2023	N	NA			0	200	Residue of banned pesticide
Hexachlorobenzene (ppb)	March 2023	N	NA			0	1	Breakdown of heptachlor
Hexachlorocyclopentadiene (ppb)	March 2023	N	NA			50	50	Discharge from metal refineries and agricultural chemical factories
Lindane (ppt)	March 2023	N	NA			200	200	Discharge from chemical factories
Methoxychlor (ppb)	March 2023	N	NA			40	40	Runoff/leaching from insecticide used on cattle, lumber, gardens
Oxamyl [Vydate] (ppb)	March 2023	N	NA			200	200	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
PCBs[Polychlorinatedbiphenyls](ppt)	March 2023	N	NA			0	500	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Pentachlorophenol (ppb)	March 2023	N	NA			0	1	Runoff from landfills; discharge of waste
Picloram (ppb)	March 2023	N	NA			500	500	Discharge from wood preserving factories
Simazine (ppb)	March 2023	N	NA			4	4	Herbicide runoff
Toxaphene (ppb)	March 2023	N	NA			0	3	Herbicide runoff

Volatile Organic Chemical Contaminants

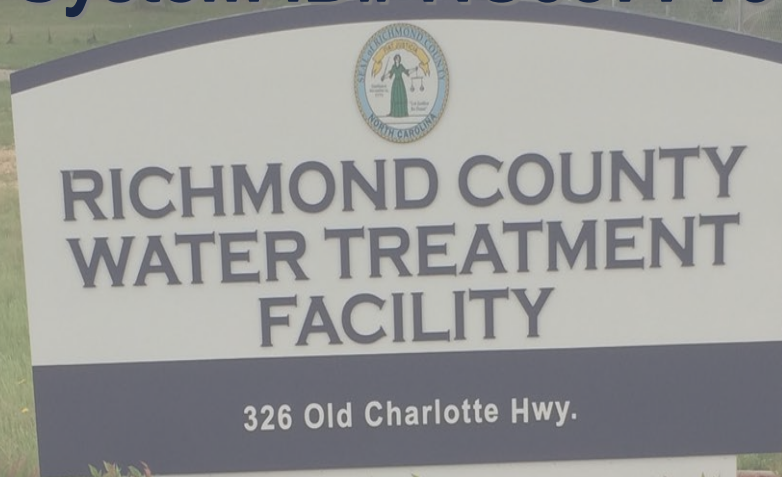
Contaminant (units)	Sample Date	MCL Violation Y/N	Richmond County	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Benzene (ppb)	March 2023	N	NA			0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	March 2023	N	NA			0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	March 2023	N	NA			100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	March 2023	N	NA			600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	March 2023	N	NA			75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane (ppb)	March 2023	N	NA			0	5	Discharge from industrial chemical factories
1,1 – Dichloroethylene (ppb)	March 2023	N	NA			7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	March 2023	N	NA			70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	March 2023	N	NA			100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	March 2023	N	NA			0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	March 2023	N	NA			0	5	Discharge from industrial chemical factories
Ethylbenzene (ppb)	March 2023	N	NA			700	700	Discharge from petroleum refineries
Styrene (ppb)	March 2023	N	NA			100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	March 2023	N	NA			0	5	Discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene (ppb)	March 2023	N	NA			70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane (ppb)	March 2023	N	NA			200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane (ppb)	March 2023	N	NA			3	5	Discharge from industrial chemical factories
Trichloroethylene (ppb)	March 2023	N	NA			0	5	Discharge from metal degreasing sites and other factories
Toluene (ppm)	March 2023	N	NA			1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	March 2023	N	NA			0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes (Total) (ppm)	March 2023	N	NA			10	10	Discharge from petroleum factories; discharge from chemical factories

For More Information, Please Contact:

Richmond County Water System

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System ID# NC0377109



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