

2021 Annual Drinking Water Quality Report
Smithfield South Water District
Water System Number: 40-51-007



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 call 919-934-2661. We want our valued customers to be informed about their water utility.**

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 (800-4264791).

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 (800426-4791).

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. Old North State Water Company 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 amounts 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 Smithfield South Water District is provided by Johnston County Utilities.



Source Water Assessment Program (SWAP) Results

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 Smithfield South Water District 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:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Neuse River	Higher	September 2020

The complete SWAP Assessment report for Smithfield South Water District may be viewed on the Web at: <https://www.ncwater.org>. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site 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@ncdenr.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.

Violations that Your Water System Received for the Report Year

NOTICE TO THE PUBLIC

We received no violations during the 2021 reporting year.

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, 2021.** 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.

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.

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.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of the radioactivity in water.

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

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.

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.

Asbestos Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Asbestos (MFL)	2013	N	0	0-0.0		7	7	Discharge from petroleum factories; Discharge from chemical factories

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	2019	0	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppm) (90 th percentile)	2019	0	0	.015	.015	Corrosion of household plumbing systems; erosion of natural deposits

THM Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
THM (ppm) RRA	2021	N	55.4	0-80		80	80	Disinfection byproduct of the overuse of chlorine

Disinfectant Residuals:

- Monitoring for chlorine
- System size: 625 people
- Samples: 1 time per week
- Chlorine MRDL: 4 ppm
- MRDL in CCR units: 4 ppm

2021 Results:

Samples (ppm)	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept	Oct.	Nov.	Dec.
Monthly Average	1.06	1.21	1.12	1.25	1.12	1.08	1.01	1.06	1.32	1.23	1.09	1.26
Quarterly RA	1.13			1.15			1.13			1.19		

Disinfectant Residuals Summary

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
				Low	High			
Chlorine (ppm)	2021	N	1.15	1.01-1.32		4	4.0	Water additive used to control microbes



2021 Annual Drinking Water Quality Report

Johnston County Public Utilities

PWS # 40-51-018 EAST
PWS # 03-51-070 WEST



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 from where your water comes, 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.

Este informe contiene información muy importante sobre la calidad de su agua potable. Una copia de este reporte en español está disponible en la Oficina de Servicio Público en el Centro de Land Use.

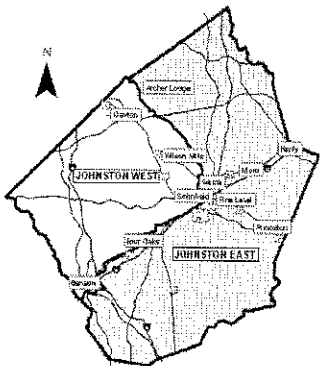
The Johnston County water system has two service areas called **Johnston East** and **Johnston West**. The Johnston East service area is generally described as the area east of the Neuse River and south of I-95. The Johnston West service area is the area west of the Neuse River and north of I-95. Please refer to the map. Water supplied to Johnston East has free chlorine as a secondary disinfectant. Water supplied to Johnston West has chloramines (a combination of chlorine and ammonia) as a secondary disinfectant. The quality data for both service areas are provided to all customers.

We provide service for communities, towns and cities throughout our county including most unincorporated parts of the county and the towns of Archer Lodge, Four Oaks, Princeton, Kenly, Clayton, and Wilson's Mills. The County system also supplements the towns of Micro, Benson, Pine Level, Smithfield, Selma, and Fuquay Varina with additional water.

In 2021, our water department produced and provided approximately 3.1 billion gallons of water to our customers. Our water source is surface water from the Neuse River, which forms just above Durham where the Eno and Flat Rivers converge. The Neuse River flows approximately 190 miles through eastern North Carolina to the Pamlico Sound. Our intake and treatment facility are located one half mile east of Wilson's Mills, N.C. There are two reservoirs on site. Each reservoir contains 35 million gallons. The treatment system has five main steps to remove or reduce harmful contaminants: presedimentation, coagulation, clarification, filtration by multimedia high rate filters, and disinfection. Once treatment is complete, water is pumped into elevated storage tanks for distribution throughout the water system. Johnston County also purchases water from the Town of Smithfield and Harnett County on a bulk basis. The source of the Smithfield supply is the Neuse River and the Harnett County supply is the Cape Fear River. Their treatment processes are similar to the County's. Water purchased from Smithfield and Harnett County mixes with water produced by the County in the distribution system.

The U.S. Environmental Protection Agency (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 (EPA) Safe Drinking Water Hotline (800-426-4791). 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 that 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 storm water 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 storm water 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 storm water 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.



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 Water Drinking 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. Johnston County Public Utilities 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 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 assessments 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 the source for Johnston County Public Utilities was determined by combining the contaminant rating (number and location of PCSs within watershed) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the 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 systems' potential to become contaminated by PCS's in the assessment area. The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)		
Source Name	Susceptibility Rating	SWAP Report Date
Neuse River	Higher	September 2020

The complete SWAP Assessment report for Johnston County Public Utilities 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 web site 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 request to swap@ncdenr.gov. Please indicate the system name of Johnston County, PWS# 03-51-070, 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 systems’ potential to become contaminated by PCS’s in the assessment area. If you have any questions about this report or concerning your water utility, please contact Chandra Farmer, P.E., Director of Utilities and Engineering, by calling (919) 209-8333 or by writing to this address: Johnston County Utility Dept. PO Box 2263, Smithfield, North Carolina 27577. We want our valued customers to be informed about their water utility. You can attend Board of Commissioners meetings on the first Monday of each month, at 10:00 a.m., in the Johnston County Courthouse, at 212 Market Street, Smithfield, NC. Find out more on the internet at www.jcutil.com/ccr.

Definitions:

- 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.
- MRDLG - Maximum Residual Disinfection 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.
- MRDL - Maximum Residual Disinfection 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.
- 90th Percentile – 90% of samples are equal to or less than the number in the chart.
- ND – Non-Detects – Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
- NTU – Nephelometric Turbidity Units – A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- N/A – Not-applicable – Information not applicable/not required for that particular water system or for that particular rule.
- Picocuries per liter (pCi/L) – Picocuries per liter is a measure of the radioactivity in the water.
- ppb – parts per billion – 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.
- ppm – parts per million – milligrams per liter (mg/l) – One part per million corresponds to one minute in two years or a single penny in \$10,000.
- RAA – Running annual average
- TT – Treatment Technique – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- LRAA – 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.
- 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.

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 analyses completed from January 1 through December 31, 2021.** 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. Unregulated contaminants are those for which the 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.

Water Quality Data Table(s) Johnston County WEST PWS# 03-51-070: 2021

Disinfectant Residuals Summary 2021

Contaminant(units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
				Low	High			
Chlorine (ppm)	2021	N	0.62	0.013	3.77	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2021	N	2.52	0.0	3.95	4	4.0	Water additive used to control microbes

Stage 2 Disinfection Byproduct Compliance – Based on Locational Running Annual Average (LRAA) 2021

Disinfection Byproduct	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Year Sampled	MCL Violation (Yes / No)	Likely Source of Contamination
TTHM	ppb	N/A	80	31		2021	No	Byproduct of drinking water disinfection
B01					21 - 36			
B02					17 - 37			
B03					24 - 38			
B04					15 - 36			
B05					15 - 38			
B06					16 - 39			

B07					15 - 45			
B08					24 - 46			
HAA5	ppb	N/A	60	21		2021	No	Byproduct of drinking water chlorination
B01					8 - 24			
B02					13 - 26			
B03					15 - 29			
B04					9 - 22			
B05					7 - 21			
B06					8 - 21			
B07					7 - 22			
B08					12 - 27			

For TTHM: 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.

For HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased chance of getting cancer.

Inorganic Contaminants 2021

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	March 2021	N	0.22	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity* 2021 Turbidity (NTU) - Highest single turbidity measurement	N	0.101 NTU	N/A	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100 %	N/A	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

*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.

Synthetic Organic Chemical (SOC) Contaminants including Pesticides and Herbicides 2021

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Simazine (ppb)	2021	N	0.05	0.0	0.14	4	4	Herbicide runoff

Lead and Copper Contaminants: Pregnant women, infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Contaminant	Units	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (90 th percentile)	ppm	July 2021	0.141	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (90 th percentile)	ppb	July 2021	0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Total Organic Carbon (TOC): Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % removal, we are in violation of a Treatment Technique. (2021)

Contaminant (units)	TT Violation Yes/No	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC#_)
Total Organic Carbon (removal ratio) (TOC)-TREATED	No	1.31	1.17 - 1.61	N/A	TT	Naturally present in the environment	Step 1

Water Characteristics Contaminants: The PWS section requires monitoring of other misc contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic 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.

Contaminant (units)	Sample Date	Your Water	Range Low High	Secondary MCL
Sodium (ppm)	March 2021	24.8	N/A	N/A
pH	March 2021	7.0	N/A	6.5 to 8.5

Step 1 TOC Removal Requirements (%)

Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	> 60 - 120	> 120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Water Quality Data Table(s) Town of Smithfield Water Treatment Plant: 2020 (Purchased)

Town of Smithfield Water Treatment Plant 2020 Data

Contaminant	Units	Level Detected	Range Low High	Sample Date
Haloacetic Acids (Haa5)	ppb	37.0 (AVG)	24.8 - 51.8	2020
Total Trihalomethanes (TTHMs)	ppb	34.0 (AVG)	24.0 - 65.0	2020
Chloramines	ppm	3.42	0 - 3.4	2020
Chlorine	ppm	1.46	0.98 - 1.55	2020
Fluoride	ppm	<0.01	N/A	2020
Turbidity	NTU	0.221 (highest)	100% of samples below limit	2020
Copper	ppm	0.122 (90 th percentile)	N/A	2019
Lead	ppb	0.008 (90 th percentile)	N/A	2019
Sulfate	ppm	37.0	N/A	2020
pH	N/A	7.9	N/A	2020
Sodium	ppm	27.23	N/A	2020
Simazine	ppb	0.1	0.0 - 2.4	2020

Smithfield Water Treatment Plant 2020 Data

Susceptibility of Sources to Potential Contaminant Sources (PCS)

Source Name	Susceptibility Rating	SWAP Report Date
Neuse River	Higher	September 2020

Step 1 TOC Removal Requirements (%)

Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	> 60 - 120	> 120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Town of Smithfield Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2020 Data

Contaminant (units)	TT Violation Yes/No	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC#_)
Total Organic Carbon (removal ratio) (TOC)-TREATED	No	1.19	1.06 - 1.45	N/A	TT	Naturally present in the environment	Step 1 and Alt.#4

Alternative Compliance Criteria (ACC)

Alt. 1	Source Water TOC < 2.0 mg/L
Alt. 2	Treated Water TOC < 2.0 mg/L
Alt. 3	Source Water SUVA ≤ 2.0 L/mg-m
Alt. 4	Treated Water SUVA ≤ 2.0 L/mg-m
Alt. 5	Treated Water Alkalinity < 60 mg/L (for softening systems only)
Alt. 6	THM & HAA RAA's ≤ 1/2 MCL & uses only chlorine
Alt. 7	Source TOC RAA < 4.0 mg/L and Source Alkalinity > 60 mg/L and THM & HAA RAA's ≤ 1/2 MCL

Water Quality Data Table(s) Johnston County East PWS# 40-51-018: 2021

Stage 2 Disinfectant Byproduct Compliance- Based on Locational Running Average (LRAA) 2021								
Disinfection Byproduct	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Year Sampled	MCL/ Violation (Yes / No)	Likely Source of Contamination
TTHM	ppb	N/A	80	56		2021	No	Byproduct of drinking water disinfection
B01					22 - 64			
B02					34 - 82			
B03					36 - 89			
B04					5 - 52			
HAA5	ppb	N/A	60	31		2021	No	Byproduct of drinking water chlorination
B01					12 - 35			
B02					25 - 36			
B03					17 - 38			
B04					3 - 26			

Inorganic Contaminants								
Fluoride	ppm	4	4	0.31	N/A	2021	No	Erosion of natural deposits; Water additive which promote strong teeth; discharge from fertilizer and aluminum factories

For TTHM: 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.

For HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased chance of getting cancer.

Lead and Copper Contaminants							
Pregnant women, infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).							
Contaminant	Units	Sample Date	Your Water	Number of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (90 th percentile)	ppm	July 2020	0.113	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (90 th percentile)	ppb	July 2020	0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Turbidity* 2021		Treatment Technique (TT) Violation Y/N	Your Water	MCL G	Treatment Technique (TT) Violation If:	Likely Source of Contamination
Contaminant (units)						
Turbidity (NTU) - Highest single turbidity measurement		N	0.114 NTU	N/A	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits		N	100 %	N/A	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

*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.

Disinfectant Residuals Summary							
Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2021	N	1.45	0.22 - 2.95	4	4.0	Water additive used to control microbes

Total Organic Carbon (TOC): Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % removal, we are in violation of a Treatment Technique. (2021)

Contaminant (units)	TT Violation Yes/No	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC#...)
Total Organic Carbon (removal ratio) (TOC)-TREATED	No	1.35	1.17 - 1.63	N/A	TT	Naturally present in the environment	Step 1

Step 1 TOC Removal Requirements (%)			
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	> 60 - 120	> 120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Water Characteristics Contaminants: The PWS section requires monitoring of other misc contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic 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.

Contaminant (units)	Sample Date	Your Water	Range Low - High	Secondary MCL
Sodium (ppm)	April 2021	37.3	N/A	N/A
pH	April 2021	6.8	N/A	6.5 to 8.5

Synthetic Organic Chemical (SOC) Contaminants including Pesticides and Herbicides 2021

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Simazine (ppb)	2021	N	0.12	0.0	0.25	4	4	Herbicide runoff

Water Quality Data Table(s) Harnett County Water Treatment Plant: 2020 (Purchased)

Harnett County Water Treatment Plant 2020 Data				
Contaminant	Units	Level Detected	Range Low High	Sample Date
Chloramines	ppm	2.85	1.10 - 4.50	2020
Chlorine (only month of March)	ppm	1.75	0.2 - 2.90	2020
Fluoride	ppm	0.75	N/A	2020
Turbidity	NTU	0.04 (highest)	100% of samples below limit	2020
Copper	ppm	0.097 (90 th percentile)	N/A	2019
Lead	ppb	ND (90 th percentile)	N/A	2019
Sulfate	ppm	44.1	N/A	2020
pH	N/A	7.6	N/A	2020
Sodium	ppm	22.69	N/A	2020
Chlorite (Distribution)	ppm	0.402	0.347 - 0.450	2020
Chlorine Dioxide	ppb	22.0	0 - 237	2020

Step 1 TOC Removal Requirements (%)			
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	> 60 - 120	> 120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Source Name	Susceptibility Rating	Swap Report Date
Cape Fear River	Moderate	Sept. 10 2020
Dunn/Cape Fear River	Higher	Sept. 10 2020

Harnett County Water Treatment Plant Microbiological Contaminants 2020					
Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	3.0%	0	>5% triggers level 1 assessment	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	0%	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 sample(s) are <i>E. coli</i> positive, a Tier 1 violation exists.	Human and animal fecal waste

Harnett County Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2020 Data							
Contaminant (units)	TT Violation Yes/No	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC#)
Total Organic Carbon (removal ratio) (TOC)-TREATED	No	1.44	1.20 - 1.64	N/A	TT	Naturally present in the environment	Step 1

Stage 2 Disinfectant Byproduct Compliance- Based on Locational Running Average (LRAA) Harnett County 2020								
Disinfection Byproduct	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Year Sampled	MCL/ Violation (Yes / No)	Likely Source of Contamination
TTHM	ppb	N/A	80	38.2		2020	No	Byproduct of drinking water disinfection
B01					19.9 - 39.6			
B02					21.4 - 40.8			
B03					17.1 - 28.6			
B04					15.7 - 48.7			
B05					22.2 - 42.6			
B06					21.5 - 40.6			
B07					20.0 - 37.4			
B08					20.3 - 43.9			
HAA5	ppb	N/A	60	23.7		2020	No	Byproduct of drinking water chlorination
B01					13.8 - 22.7			
B02					17.4 - 28.6			
B03					12.9 - 19.1			
B04					17.7 - 30.2			
B05					14.1 - 19.3			
B06					14.0 - 17.6			
B07					12.6 - 19.6			
B08					14.3 - 23.7			

For TTHM: 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.

For HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased chance of getting cancer.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in the 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. Our staff in the Johnston County Utility Department work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

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