2017 Annual Drinking Water Quality Report
TOWN OF PINE LEVEL
Water System Number: 03-51-040

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 Ray Stuckey at 919-965-2284. 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 meetings. They are held at the Pine Level Town Hall located at 306 East Brown Street in Pine Level on the second Monday of each month at 7:00 p.m.**

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 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 Pine Level 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 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.

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply Section (PWS), 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 Pine Level was determined by combining the contaminant rating (number and location of PCS's 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
Pine Level - Well # 1	Lower	April, 2017

The complete SWAP Assessment report for Town of Pine Level may be viewed on the Web at: www.ncwater.org/pws/swap. 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 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.

When You Turn on Your Tap, Consider the Source

The water that is used by this system is from one deep well located on Oliver Street and another source from the County of Johnston, where water is purchased, which provides an emergency back-up supply for the Town of Pine Level and also sold to out-of-town customers.

The Town of Pine Level routinely monitors for contaminants in your drinking water. Following is a list of testing frequency requirements and test results that were last conducted for a class of contaminants from January 1, 2017 through December 31, 2017.

2017 Annual Drinking Water Quality Report
TOWN OF PINE LEVEL
PWS# 03-51-040

Contaminant Group	Frequency	Last Sample Date	Results	Next Sample Date	Source of Contamination
Microbiological					
Total Coliform Bacteria Fecal Coliform Bacteria	Twice Monthly	June 2018	Absent	July 2018	Total coliform naturally present in the environment. Fecal Coliform, human and animal Fecal waste.
Disinfectants and Disinfectant Byproducts (D/DBP)Rule (TTHM)Total Trihalomethane (THAA5) Total Habacetic Acids	Annually	August 2016	N/D	August 2018	Byproducts from uses of disinfectants such as chlorine
Volatile Organic Chemicals	Every 3 yrs.	2016	N/D	by 12-31-2019	Discharge from industrial Chemical factories, and Petroleum refineries
Synthetic Organic Chemicals & Pesticides	Every 3 yrs.	2016	N/D	by 12-31-2019	Herbicide run-off Insecticide run-off Chemical discharge from Chemicals, petroleum factories
Nitrate	Annually	April 2015	N/D	by Dec. 2018	Run-off from fertilizer use and Leaching from septic tanks
Asbestos	Every 9 yrs.	1-31-2012	N/D	1-31-2021	Decay of asbestos Cement water mains and Erosion of natural deposits
Inorganic Contaminants	Every 9 yrs.	9-13-2010	N/D	by 12-31-2019	Household plumbing, corrosion, Water main decay, discharges From steel and metal factories Petroleum factories
Lead and Copper	Every 3 yrs.	June-Sept 2015	below action Levels	June-Sept 2018	Corrosion of household systems erosion of natural deposits Leaching from wood Preservatives
Radionudide Monitoring	Initial monitoring 3-10-2003	2013	composite after 4 consecutive Samples	by 12-31-2019	Decay of natural man-made deposits. Erosion of natural deposits
Radioactive Contaminants	Every 4 yrs.	2017	N/D	2021	Decay and erosion of natural And man-made deposits
Synthetic Organic Contaminants	Every 3 yrs.	2016	N/D	2019	Run-off from herbicides and pesticides used from agriculture And industries
Volatile Organic Contaminants	Every 3 yrs.	2016	N/D	2019	Discharge from industrial and chemical factories

IMPORTANT DRINKING WATER DEFINITIONS:
Non-Detects (ND) – Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

2017 ANNUAL DRINKING WATER QUALITY REPORT

JOHNSTON COUNTY WATER LINE CUSTOMERS (FIRETOWER ROAD)
PWS# 40-51-006

The Annual Drinking Water Quality Report for 2017 is below for your review. This yearly report shows the quality of drinking water that the Town of Pine Level Purchases from Johnston County and delivers to you every day. Please review this report and should you have any questions, please contact Ray Stuckey at the Pine Level Town Hall at 919-965-2284.

Contaminant Group	Frequency	Last Sample Date	Results	Next Sample Date	Source of Contamination
Microbiological					
Total Coliform Bacteria Fecal Coliform Bacteria	Once Monthly	June 2018	Absent	July 2018	Total coliform naturally present in the environment Fecal coliform and human And animal fecal waste.
Disinfectants and Disinfectant Byproducts (D/DBP) Rule (TTHM) Total Trihalomethane (THAA5) Total Habacetic Acids	Quarterly	May 2018	N/D	August 2018	Byproducts from use of disinfectants such as chlorine
Nitrate	Annually	April 2015	0.513	by Dec. 2018	Run-off from fertilizer use Leaching from septic tanks
Lead and Copper	Annually	June-Sept 2016	Below Action Level	June-Sept 2018	Corrosion of household plumbing systems, erosion Of natural deposits leaching From wood preservatives.
Asbestos	Every 9 yrs.	1-31-2012	N/D	1-1-2021	

IMPORTANT DRINKING WATER DEFINITIONS:

Non-Detects (ND) – Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used

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

2017 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.

Éste 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 the Johnston East service has free chlorine as a secondary disinfectant since April 2011. Water supplied to the Johnston West service area 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 2017 our water department produced and provided approximately **2.6** 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 Harnett County supply is the Cape Fear River. The 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 2017

The complete SWAP Assessment report for Johnston County Public Utilities may be viewed on the Web at: http://www.ncwater.org/pws/swap. 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, 2017.** 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.

Water Quality Data Table(s) Johnston County WEST PWS# 03-51-070 : 2017

Disinfectant Residuals Summary 2017

Contaminant(units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low	Range High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2017	N	0.49	0.0	2.74	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2017	N	2.78	0.0	3.98	4	4.0	Water additive used to control microbes

Stage 2 Disinfection Byproduct Compliance – Based on Locational Running Annual Average (LRAA) 2017

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		2017	No	Byproduct of drinking water disinfection
B01					22 - 70			
B02					31 - 74			
B03					28 - 75			
B04					20 - 65			
B05					32 - 76			
B06					32 - 68			
B07					31 - 70			
B08					31 - 70			

HAA5	ppb	N/A	60	38		2017	No	Byproduct of drinking water chlorination
B01					15 - 30			
B02					15 - 51			
B03					10 - 31			
B04					13 - 27			
B05					14 - 33			
B06					24 - 30			
B07					20 - 25			
B08					29 - 52			

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 and 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 2017

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	March 2017	N	0.26	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Turbidity* Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.169 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 $\leq$ 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 2017

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Simazine (ppb)	2017	N	0.2	NA		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 (90th percentile)	ppm	July 2015	0.077	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (90th percentile)	ppb	July 2015	0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Radiological Contaminants						
Contaminant (units)	Sample Date	MCL Violation Yes/No	Your Water (RAA)	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	2007	No	0.13	0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	2007	No	1.57	0	50*	Decay of natural and man-made deposits
Combined radium (pCi/L)	2007	No	0.05	0	5	Erosion of natural deposits

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

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.(2017)

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	1.36	1.28 – 1.48	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 2017	39.1	N/A	N/A
pH	March 2017	6.1	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: 2017

Town of Smithfield Water Treatment Plant 2017 Data				
Contaminant	**Units**	**Level Detected**	**Range Low High**	**Sample Date**
Haloacetic Acids (Haa5)	ppb	26.0 (AVG)	24.8 - 51.8	2017
Total Trihalomethanes (TTHMs)	ppb	39.0 (AVG)	24.0 – 65.0	2017
Chloramines	ppm	3.17	0 - 3.4	2017
Chlorine	ppm	1.05	0.98 - 1.55	2017
Fluoride	ppm	<0.01	N/A	2017
Turbidity	NTU	0.265 (highest)	100% of samples below limit	2017
Copper				
Lead				
Sulfate				
pH				
Sodium				
Simazine	ppb	0.1	0.0 – 2.4	2017

Smithfield Water Treatment Plant 2017 Data		
Susceptibility of Sources to Potential Contaminant Sources (PCS		
Source Name	**Susceptibility Rating**	**SWAP Report Date**
Neuse River	Higher	September 2017

Step 1 TOC Removal Requirements (%)	
	Source Water Alkalinity

Town of Smithfield Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2017 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	1.11	1.06 – 1.45	N/A	TT	Naturally present in the environment	Step 1 and Alt.#4

Water Quality Data Table(s) Johnston County East PWS# 40-51-018 : 2017

Stage 2 Disinfectant Byproduct Compliance- Based on Locational Running Average (LRAA) 2017

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	55		2017	No	Byproduct of drinking water disinfection
B01					13 - 69			
B02					34 - 77			
B03					31 - 81			
B04					10 - 97			
HAA5	ppb	N/A	60	32		2017	No	Byproduct of drinking water chlorination
B01					17 - 35			
B02					22 - 44			
B03					28 - 30			
B04					7 - 31			
Inorganic Contaminants								
Fluoride	ppm	4	4	0.18	N/A	2017	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 (90th percentile)	ppm	July 2017	0.14	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (90th percentile)	ppb	July 2017	0	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

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)	2017	N	1.49	0.21 – 3.66	4	4.0	Water additive used to control microbes

Turbidity* Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.206 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	

Alt. 7	Source TOC RAA < 4.0 mg/L and Source Alkalinity > 60 mg/L and THM & HAA RAAs ≤ 1/2 MCL

*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): 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. (2017)

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	1.45	1.21 – 1.64	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 2017	47.5	N/A	N/A
pH	April 2017	7.4	N/A	6.5 to 8.5

Synthetic Organic Chemical (SOC) Contaminants including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Simazine (ppb)	2017	N	0.125	0.09 – 0.16	4	4	Herbicide runoff

Water Quality Data Table(s) Harnett County Water Treatment Plant : 2017

Harnett County Water Treatment Plant 2017 Data

Contaminant	Units	Level Detected	Range Low High	Sample Date
Chloramines	ppm	2.85	1.03 - 3.99	2017
Chlorine(only month of March)	ppm	1.68	0.76 - 3.29	2017
Fluoride	ppm	0.64	N/A	2017
Turbidity	NTU	0.08 (highest)	100% of samples below limit	2017
Copper	ppm	0.155 (90th percentile)	N/A	2016
Lead	ppb	0 (90th percentile)	N/A	2016
Sulfate	ppm	45.4	N/A	2017
pH	N/A	7.0	N/A	2017
Sodium	ppm	34.6	N/A	2017
Chlorite(Distribution)	ppm	0.263	0.14 – 0.30	2017
Chlorine Dioxide	ppb	35	0 - 331	2017

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	Aug 31, 2017
Dunn/Cape Fear River	Higher	Aug 31, 2017

Harnett County Water Treatment Plant Microbiological Contaminants 2017					
Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	4.4%	0	>5% triggers level 1 assessment	Naturally present in the environment
Fecal Coliform or *E. coli* (presence or absence)	N	0%	0	Routine and repeat samples are total coliform positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli Note: if either an original routine sample and/or its repeat sample(s) are E. coli positive, a Tier 1 violation exists.	Human and animal fecal waste

Stage 2 Disinfectant Byproduct Compliance- Based on Locational Running Average (LRAA) Harnett County 2017								
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	55.9		2017	No	Byproduct of drinking water disinfection
B01					22.3 – 77.6			
B02					22.1 – 70.8			
B03					12.5 – 64.9			
B04					26.1 - 87.2			
B05					22.6 – 78.6			
B06					20.3 – 65.4			
B07					18.1 – 91.1			
B08					14.9 – 88.3			
HAA5	ppb	N/A	60	17.7		2017	No	Byproduct of drinking water chlorination
B01					11.7 – 17.8			
B02					11.4 – 15.5			
B03					9.5 – 14.5			
B04					12.5 – 18.8			
B05					11.3 – 19.1			
B06					14.6 – 23.8			
B07					9.9 – 15.2			
B08					9.7 – 17.1			
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 2017, our system performed monthly source water monitoring for *Cryptosporidium* to satisfy the EPA Long Term 2 Enhanced Surface Water Treatment Rule. A level of 0.09 cysts/Liter was found in our source water (prior to treatment) for the month of January 2017.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monthly monitoring indicated the presence of these organisms in our source water in January 2017. Current test

Harnett County Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2017 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	1.29	1.1 – 1.50	N/A	TT	Naturally present in the environment	Step 1

methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, and abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may spread through means other than drinking water.

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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