

TOWN OF FOUR OAKS

2016 ANNUAL DRINKING WATER QUALITY REPORT

We are pleased to present the Annual Drinking Water Quality Report for 2016. This report is designed to inform you about the water quality and services provided to you every day. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Our 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 monitor the water provided.

**For more information on the Town of Four Oaks' drinking water, please contact Barry Stanley, Public Works Director at 919-963-3112. There is a regularly scheduled meeting of the Four Oaks Town Board of Commissioners held on the second Monday evening of each month at 7:00 p.m. in the Town Hall Boardroom located at 304 N. Main Street, Four Oaks, North Carolina. You may also contact Chandra Coats, Director of Utilities at 919-989-5075 for information from the Johnston County Public Utility Department concerning the water we purchase from them.

The Town of Four Oaks purchased water from Johnston County East water service area in 2016. Johnston County is divided into two (2) service areas-Johnston County East and Johnston County West. Johnston County relies on surface water from the Neuse River for its principal source of water. The water intake and treatment facility are located one-half mile east of Wilson's Mills, North Carolina. **ATTACHED IS THE COMPLETE 2016 ANNUAL DRINKING WATER QUALITY REPORT FOR JOHNSTON COUNTY PUBLIC UTILITIES- EAST &**

WEST SERVICE AREAS. The report contains service area descriptions. As a purchaser of the Johnston County system, the information presented by them is *important* for you to read and understand. You will find important information concerning the Source Water Assessment Program (SWAP) pertaining to susceptibility of drinking water sources to Potential Contaminant Sources. As a purchaser, the town's susceptibility rating will be the same as Johnston County (which is rated as higher [July 2015]-for both service areas). You will also find information concerning any violations that Johnston County received during 2016. **Please read the attached Johnston County report carefully.**

The Town of Four Oaks water system did receive a violation for 2016. Total Trihalomethanes (TTHM) and Haloacetic Acid (HAA5) continue to be monitored in dual samples at two designated locations. A violation for Total Trihalomethanes occurred after testing of the 4th quarter samples (November 2016). Violations occur if the Location site Running Annual Average (LRAA) exceeds .080 mg/L, meaning four quarters for each site are averaged to determine compliance. Results for each site for November 2016 were within acceptable limits but when averaged with results for the three prior quarters, the high average made the result non-compliant with the set standards. Continued steps are being taken to address the compliance issues the town has had with TTHM's, and are working on ways to reduce the high values. Flushing and other methods and equipment are being investigated for feasibility to incorporate into the system to bring the values within the standards set by the Division of Water Quality. Violation notices were sent to customers concerning the high reads for November. Copy attached.

Water Quality Data Table of Detected Contaminants

The Town of Four Oaks (as does Johnston County) routinely monitors for contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that the Town of Four Oaks detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that the water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2016.** The EPA or the State requires 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.

Important Drinking Water Definitions:

Not-Applicable (N/A) - Information not applicable/not required for that particular water system or for that particular Rule.

Non-Detected (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.

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

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

Location Running Annual Average (LRAA)-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.

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

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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 - The "Goal"(MCLG) is 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.

Required Reporting Limit (RRL) - Level at which a contaminant must be reported

Extra Note: MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Microbiological Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	ND	0	One Positive Sample/month*	Naturally present in the environment

*If a system collecting fewer than 40 samples per month has two or more positive samples in one month, the system has a MCL violation

Asbestos Contaminant

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	2/9/2011 *	N	<.17	0.2(RRL)	7	7	Decay of asbestos cement water mains; erosion of natural deposits

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Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	June **2014	None Detected	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90 th percentile)	June **2014	None Detected	0	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

*The state requires monitoring for certain contaminants less than once per year because the concentration of these contaminants does not frequently change. Some data is more than one year old.

**Reduced Monitoring for Copper & Lead. Next testing due in June-September 2017. Samples taken for lead were from customer homes as required by the Safe Drinking Water Act. The source for detected lead is from household plumbing.

LEAD: 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 Four Oaks 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 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Disinfection By-Products Reporting (Dual Samples Required) 2016

Black Creek Road Location

Contaminant	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Sample Date	MCL/ MRDL Violation (Yes / No)	Likely Source of Contamination
Stage 2 Disinfection Byproduct Compliance – Based on Locational Running Annual Average (LRAA)								
Total Haloacetic Acids (HAA5)	ppb	N/A	60	30.8	22.1-40.1	2016	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	ppb	N/A	80	79.5	58-113.6	2016	No	Byproduct of drinking water chlorination

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.

Lakeview Drive Extension Location

Contaminant	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Sample Date	MCL/ MRDL Violation (Yes / No)	Likely Source of Contamination
Stage 2 Disinfection Byproduct Compliance – Based on Locational Running Annual Average (LRAA)								
Total Haloacetic Acids (HAA5)	ppb	N/A	60	31.6	22.5-41.4	2016	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	ppb	N/A	80	86.7	55-133.2	2016	Yes	Byproduct of drinking water chlorination

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.

*Dual Samples (sample for TTHM and HAA5) taken for testing locations. The Location Running Annual Average for TTHM's and HAA5 is within range.

IMPORTANT NOTES: PLEASE CONTINUE READING CAREFULLY-JOHNSTON COUNTY WATER QUALITY REPORTS FOR 2016 FOLLOWS:



2016 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 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.

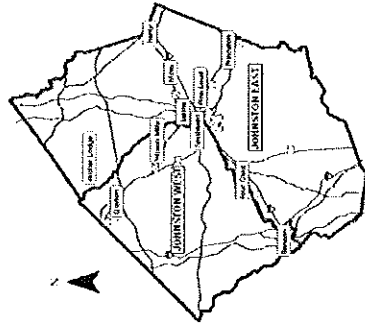
We provide service for communities, towns and cities throughout our county including most unincorporated parts of the county and the towns of Archer Lodge, Four Oaks, Princeton, Kenly, Clayton, and Wilson's Mills. The County system also supplements the towns of Micro, Benson, Pine Level, Smithfield,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

In 2016 our water department produced and provided approximately 2.7 billion gallons of water to our customers. Our water source is surface water from the Neuse River, which flows 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 system on a bulk basis. The source of the Smithfield supply is the Neuse River and the treatment processes are similar to the county's. Water purchased from Smithfield 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 PCSs in the assessment area. The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)	
Source Name	SWAP Report Date
Neuse River	July 2015
	Higher

The complete SWAP Assessment report for Johnston County Public Utilities may be viewed on the Web at: <http://www.nowater.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 PCSs in the assessment area. If you have any questions about this report or concerning your water utility, please contact Chandra Coats, 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.johnstonnc.com.

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) – Pico-curies 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.

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, 2016. 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 :

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)	2016	N	0.62	0.0 – 3.3	4	4.0	Water additive used to control microbes
Chloramines (ppm)	2016	N	2.71	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)

Disinfection Byproduct	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Year Sampled	MCL Violation (Yes / No)	Likely Source of Contamination
HAA5	ppb	N/A	60	42		2016	No	Byproduct of drinking water disinfection
JCW-MAX2					13 – 52			
JCW-MAX3					11 – 20			
JCW-MAX1					32 – 46			
DS-3					28 – 59			
TTHM	ppb	N/A	80	57		2016	No	Byproduct of drinking water chlorination
JCW-MAX2					17 - 77			
JCW-MAX3					18 - 40			
JCW-MAX1					40 - 67			
DS-3					39 - 75			

For THM: 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 HAAs: 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

contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	March 2016	N	0.27	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	0.229 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.

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 2015	0.077	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 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.

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	1.56	1.38 - 1.68	N/A	TT	Naturally present in the environment	Step 1

Water Characteristics Contaminants: Secondary Contaminants

required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants 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 2016	35.2	N/A	N/A
pH	March 2016	7.0	N/A	6.5 to 8.5

Step 1 TOC Removal Requirements (%)

Source Water TOC (mg/L)	Mg/L as CaCO3 (in percentages)
> 2.0 - 4.0	0 - 60
> 4.0 - 8.0	> 60 - 120
> 8.0	> 120

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

Town of Smithfield Water Treatment Plant 2016 Data						
Contaminant	Units	Level Detected	Range Low	Range High	Sample Date	
Halocetic Acids (Haa5)	ppb	53.0 (AVG)	24.8 - 51.8		2016	
Total Trihalomethanes (TTHMs)	ppb	49.0 (AVG)	24.0 - 65.0		2016	
Chloramines	ppm	2.71	0 - 3.4		2016	
Chlorine	ppm	0.98	0.98 - 1.55		2016	
Fluoride	ppm	0.48	N/A		2016	
Turbidity	NTU	0.17 (highest)	100% of samples below limit		2016	
Copper	ppm	0.1088 (90 th percentile)	N/A		2016	
Lead	ppb	.004 (90 th percentile)	N/A		2016	
Sulfate	ppm	44.0	N/A		2016	
pH	N/A	7.60	N/A		2016	
Sodium	ppm	54.02	N/A		2016	
Simazine	ppb	0.2	0.0 - 2.4		2016	

Smithfield Water Treatment Plant 2016 Data		
Susceptibility of Sources to Potential Contaminant Sources (PCS)		
Source Name	Susceptibility Rating	SWAP Report Date
Neuse River	Higher	June 2014

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

Town of Smithfield Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2016 Data						
Contaminant (units)	TT Violation Yes/No	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination
Total Organic Carbon (removal ratio) (TOC)-TREATED	No	1.16	1.06 - 1.45	N/A	TT	Naturally present in the environment

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

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

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

Disinfection Byproduct	Units	MCLG	MCL	Your Water (highest LRAA)	Range Low High	Year Sampled	MCL Violation (Yes / No)	Likely Source of Contamination
HAA5	ppb	N/A	60	38		2016	No	Byproduct of drinking water disinfection
HAA-2E					10 - 36			
JCE-03					33 - 47			
JCE-08					30 - 37			
JCE-MAX1					12 - 40			
TTHM	ppb	N/A	80	71		2016	No	Byproduct of drinking water chlorination
HAA-2E					23 - 45			
JCE-03					42 - 115			
JCE-08					29 - 101			
JCE-MAX1					16 - 67			

Inorganic Contaminants

Contaminant	Units	MCLG	MCL	Your Water	Range Low High	Year Sampled	MCL Violation (Yes / No)	Likely Source of Contamination
Fluoride	ppm	4	4	0.42	N/A	2016	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 HAAs: 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 2013	0.077	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 2013	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		MRDLG	MRDL	Likely Source of Contamination
				Low	High			
Chlorine (ppm)	2016	N	1.45	0.21	3.02	4	4.0	Water additive used to control microbes

Turbidity*

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	MCLG	Treatment Technique Violation If:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	0.177 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.

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.

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	No	1.78	1.43 - 2.22	N/A	TT	Naturally present in the environment	Step 1

Step 1 TOC Removal Requirements (%)

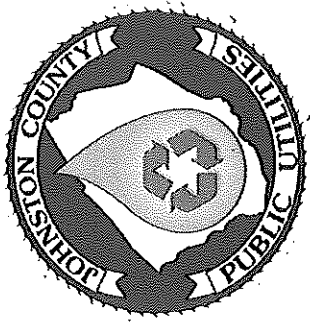
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)
> 2.0 - 4.0	0 - 60
> 4.0 - 8.0	> 60 - 120
> 8.0	> 120

Water Characteristics Contaminants: Secondary Contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants 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 2016	53.7	N/A	N/A
pH	April 2016	6.6	N/A	6.5 to 8.5

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.



This institution is an equal opportunity provider and employer. Discrimination is prohibited by Federal Law. To file a complaint of discrimination, write USDA, Assistant Secretary for Civil Rights, 1400 Independence Avenue SW, Stop 9410, Washington, DC 20250-9410 or call toll-free at (866) 632-9992 (English) or (800) 877-8339 (TDD) or (866) 377-8642 (English Federal-relay) or (800) 845-6136 (Spanish Federal-relay).



NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

TOWN OF FOUR OAKS (03-51-035) TOTAL TRIHALOMETHANES EXCEED DRINKING WATER STANDARDS

Our water system recently violated a drinking water standard. Although this is not an emergency, as a customer, you are receiving this notification as to what happened, what you should do, and what is being done to correct the situation.

We routinely monitor for the presence of drinking water contaminants. Testing results for samples taken during the time period ending November 2016 show that our system exceeds the standard, or maximum contaminant level (MCL), for TOTAL TRIHALOMETHANES. The standard for TOTAL TRIHALOMETHANES is .080 milligrams per liter (mg/L). The location running annual average (Loc RAA) level for TOTAL TRIHALOMETHANES for test site B01 (1091 Black Creek Road hydrant) was .080 mg/L. The location running annual average (Loc RAA) level for TOTAL TRIHALOMETHANES for test site B02 (205 Lakeview Drive Extension hydrant) was .086 mg/L. However, 4th quarter testing results for each site were below .080mg/L; but the resulting Location Running Annual Average exceeded the standard.

What should I do? You do not need to use an alternative (i.e. bottled) water supply. However, if you have specific health concerns, consult your doctor.

What does this mean? This is not an immediate risk. If it had been, you would have been notified immediately. However, some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What happened? What is being done? When will the problem be corrected? The Town of Four Oaks received laboratory results on December 16, 2016 that indicated the Location Running Annual Average of the Total Trihalomethanes for the time period described above was high (calculation is a result of 4 quarters of testing averaged for a particular location- thus Location Running Annual Average or LRAA). The town purchases water from Johnston County Public Utilities and continues to work with Johnston County on problem solutions so test results can quickly be brought into compliance. The town is continuing a rigorous flushing schedule monthly and is investigating the feasibility of installing a hydrant apparatus for periodic flushing as well as other equipment that may assist in dispelling the high Trihalomethanes.

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, businesses, or others that have several locations serviced by one bulk meter). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact:

Charles B. "Barry" Stanley, PWD	System Name: Town of Four Oaks	304 N. Main Street
Phone #: 919-963-3112	System ID #: NC0351035	Four Oaks NC 27524

Notice of Violation/ Administrative Order Date: December 16, 2016 (Receipt date of laboratory results)

Date Notice Distributed: January 27, 2017 Method of Distribution: Mailed to Customers

PUBLIC NOTIFICATION CERTIFICATION:

The public water system named above hereby affirms that public notification has been provided to its consumers in accordance with all delivery, content, format and deadline requirements specified in 15A NCAC 18C.1523.

Owner/Operator: *Charles B. Stanley*

Date: *01-24-2017*

P.O. Box 610 • 304 N. Main Street • Four Oaks, NC 27524

Office 919-963-3112 • Fax 919-963-3113

www.fouroaks-nc.com