**TOWN OF FOUR OAKS** **PWS ID #03-51-035**
**2013 ANNUAL DRINKING WATER QUALTIY REPORT** **APRIL9, 2014**

We are pleased to present the Annual Drinking Water Quality Report for 2013. 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 Charles Hardee, 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 7:30 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 2013. 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 2013 ANNUAL DRINKING WATER QUALITY REPORT FOR JOHNSTON COUNTY PUBLIC UTILTIES- 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 [Feb. 19,2010]-for both service areas). You will also find information concerning any violations that Johnston County received during 2013. ***Please read the attached Johnston County report carefully.***

**The Town of Four Oaks water system had a violation in 2013 {November 2013}.** This was for failure to submit Bacteriological samples for testing for that month. {Violation Awareness Date: March 7, 2014—See attached notice}. Water testing requirements are monthly testing of 3 sample sites. The water technician collecting the samples confirmed he did collect the sample and delivered them to the lab collection site, but the laboratory could not confirm a sample was picked up, and with no procedures in place at the time to confirm collection, there was no confirmation the sample was collected. New administrative procedures have been initiated to monitor collection and results received from the laboratory. All other monitoring test performed by the town showed that your drinking water met or exceeded all Federal and State requirements. Every effort is made to provide safe drinking water to you. Please help protect our most valuable resource by handling pesticides, herbicides, paints, oils and gas products in the proper way. Our future supply of water depends on everyone's cooperation on protection of our water resources.

**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, 2013.** 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-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*** - 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.
***Treatment Technique (TT)*** - A treatment technique is a 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.


**Continued on Reverse Side**

**Microbiological Contaminants**

| Contaminant (units) | MCL Violation Y/N | Your Water | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|
| Total Coliform Bacteria (presence or absence) | Y*** | ND | 0 | one monthly positive | Naturally present in the environment |

**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 |

**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) | July **2011 | 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) | July **2011 | 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 2014. 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.

***Violation for failure to sample in November 2013. All other annual samples were negative (Jan.-Oct & December 2013). See attached notice concerning violation.

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-Product Contaminants**

| Contaminant (units) | MCL/MRDL Violation Y/N | Your Water (AVG) | Range Low High | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|
| TTHM (ppb) [Total Trihalomethanes] | N | 76ppb (2013 avg) | 23-143ppb | N/A | 80 | By-product of drinking water chlorination |
| HAA5 (ppb) [Total Haloacetic Acids] | N | 20.2 (2013 Avg) | 13.3-29.8 ppb | N/A | 60 | By-product of drinking water disinfection |

**IMPORTANT NOTES:**

## PLEASE CONTINUE READING CAREFULLY- NOTICE TO THE PUBLIC CONCERNING NOVEMBER 2013 MONITORING AND REPORTING VIOLATION ATTACHED

## PLEASE CONTINUE READING CAREFULLY-JOHNSTON COUNTY WATER QUALITY REPORTS FOR 2013 FOLLOWS

FOUR OAKS
North Carolina

# NOTICE TO THE PUBLIC
# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

## TOWN OF FOUR OAKS (NC0351035)HAS NOT MET MONITORING REQUIREMENTS

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

| Contaminant Group | Facility ID No./Sample Point | Compliance Period Begin Date | Number of Samples/Sampling Frequency | When samples were or will be taken |
|---|---|---|---|---|
| Total Coliform & Disinfectant Residual | D01/ D01 | November 1, 2013 | 3 routine | December 11, 2013 |

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

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

**What is being done?** We resumed normally scheduled testing in December. We initiated procedures immediately upon discovering the sample was not received by the laboratory, which includes procedures by the Water Department technician that delivers the samples to the collection site. Procedures include maintaining copies of the paperwork submitted with the samples, and monitoring the receipt of the results in an appropriate time. All samples tested in the month prior and after the month we failed to monitor showed that sample results met monitoring requirements.

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

**For more information, please contact:**

| | | |
|---|---|---|
| Responsible Person:<br>Charles Hardee, Public Works Dir. | System Name:<br>Town of Four Oaks | System Address (Street)<br>304 North Main Street |
| Phone Number:<br>919-963-3112-office/919-868-9666-cell | System Number:<br>NC0351035 | System Address (City/State/Zip)<br>Four Oaks, NC 27524 |

**Violation Awareness Date:** March 7, 2014

**Date Notice Distributed:** April 30, 2014 **Method of Distribution:** Annual CCR notification

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**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 N. Hardee (Signature) Charles N. Hardee (Print Name) 4-2-14 (Date)

P.O. Box 610 ◆ 304 N. Main Street ◆ Four Oaks, NC 27524
Office 919-963-3112 ◆ Fax 919-963-3113
www.fouroaks-nc.com

## Contaminant Group List

(AS) Asbestos - includes testing for Chrysotile, Amphibole and Total Asbestos.
(BA) Total Coliform Bacteria – includes testing for Total Coliform bacteria and Fecal/*E.coli* bacteria. Testing for Fecal/*E.coli* bacteria is required if total coliform is present in the sample.
(BB) Bromate/Bromide – includes testing for Bromate and/or Bromide.
(CD) Chlorine Dioxide/Chlorite – includes testing for Chlorine Dioxide and/or Chlorite.
(DI) Disinfectant Residual must be tested with the collection of each compliance bacteriological sample, at the same time and site.
Fecal Indicators – includes *E.coli*, enterococci or coliphage.
(HAA5)- Haloacetic Acids - include Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid.
(IOC) Inorganic chemicals - include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Iron, Manganese, Mercury, Nickel, pH, Selenium, Sodium, Sulfate, and Thallium.
(LC) Lead and Copper are tested by collecting the required number of samples and testing each of the samples for both lead and copper.
(NT) Nitrate/ (NI) Nitrite – includes testing for nitrate and/or nitrite.
(RA) Radionuclides - includes Gross Alpha, Radon, Uranium, Combined Radium, Radium 226, Radium 228, Potassium 40 (Total), Gross Beta, Tritium, Strontium 89, Strontium 90, Iodine 131, and Cesium 134.
(SOC) – Synthetic Organic Chemicals/Pesticides – include 2,4-D, 2,4,5-TP (Silvex), Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane (DBCP), Dinoseb, Endrin, Ethylene dibromide (EDB), Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl(vydate), PCBs, Pentachlorophenol, Picloram, Simazine, Toxaphene.
(TOC) - Total Organic Carbon - includes testing for Alkalinity, Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC) and Ultraviolet Absorption 254 (UV254). Source water samples must be tested for both TOC and Alkalinity. Treated water samples must be tested for TOC. Source water samples and treated water samples must be collected on the same day.
(TTHM) - Total Trihalomethanes - include Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.
(VOC) - Volatile Organic Chemicals - include 1,2,4-Trichlorobenzene, Cis-1,2-Dichloroethylene, Xylenes (Total), Dichloromethane, o-Dichlorobenzene, p-Dichlorobenzene, Vinyl Chloride, 1,1,-Dichloroethylene, Trans-1,2,-Dichloroethylene, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, Trichloroethylene, 1,1,2-Trichloroethane, Tetrachloroethylene, Chlorobenzene, Benzene, Toluene, Ethylbenzene, and Styrene.
(WQP) Water Quality Parameters (for Lead and Copper Rule) - includes Calcium, Orthophosphate (as $PO_4$), Silica, Conductivity, pH, Alkalinity and Water Temperature.

# 2013 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.

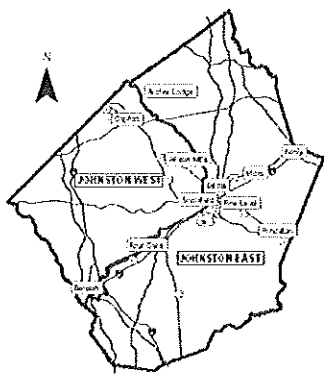
Éste informe contiene información muy importante sobre la calidad de su agua potable. Una copia de este reporte en español está disponible en la Oficina de Servicio Público en el Centro de Land Use.

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 2013 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 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 an assessment of the drinking water sources across North Carolina. The purpose of the assessment 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 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 | February 19, 2010 |

The complete SWAP Assessment report for Johnston County Public Utilities may be viewed on the Web at: http://www.ncwater.org/pws/swap. Please 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. To obtain a printed copy of this report, please mail a written request 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 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)** – 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.

We routinely monitor for over 150 possible 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 the 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, 2013. 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.

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

| Contaminant | Units | MCLG | MCL | Your Water | Range Low High | Sample Date | Violation (Yes / No) | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| **Disinfectants & Disinfection By-Products Contaminants** | | | | | | | | |
| Total Haloacetic Acids (HAA5) | ppb | N/A | 60 | 35 (RAA) | 15.3 - 81.5 | 2013 | No | Byproduct of drinking water chlorination |
| Total Trihalomethanes (TTHM) | ppb | N/A | 80 | 48 (RAA) | 12.4 - 97 | 2013 | No | Byproduct of drinking water chlorination |
| Chlorine | ppm | MRDLG=4 | MRDL=4 | 3.21 (Average) | 0.26 – 3.62 | 2013 | No | Water additive used to control microbes |
| Chloramine | ppm | MRDLG=4 | MRDL=4 | 2.83 (RAA) | 0.89 – 3.84 | 2013 | No | Water additive used to control microbes |
| **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.<br>**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** | | | | | | | | |
| Mercury (Inorganic) | ppb | 2 | 2 | 1 | N/A | March 2013 | No | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland. |
| Fluoride | ppm | 4 | 4 | 0.59 | N/A | March 2013 | No | Erosion of natural deposits; Water additive which promote strong teeth; discharge from fertilizer and aluminum factories |

| Turbidity* Contaminant (units) | Treatment Technique (TT) Violation Y/N | Your Water | Treatment Technique (TT) Violation if: | Likely Source of Contamination |
|---|---|---|---|---|
| Turbidity (NTU) - Highest single turbidity measurement | N | 0.167 NTU | Turbidity > 1 NTU | Soil runoff |
| Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits | N | 100 % | 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

**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 2012 | 0.088 | 0 | 1.3 | AL=1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (90th percentile) | ppb | July 2012 | 0 | 0 | 0 | AL=15 | Corrosion of household plumbing systems; erosion of natural deposits |

**Radioactive 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 | 1.34 | 1.16 – 1.49 | N/A | TT | Naturally present in the environment | Step 1 |

**Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides**

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range Low | Range High | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| Simazine (ppb) | 2013 | N | 0.375 | 0.24 – 0.51 | | 4 | 4 | Herbicide runoff. |

**Volatile Organic Chemical (VOC) Contaminants**

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range Low | Range High | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| Toluene (ppm) | March 2013 | N | 0.0008 | ND – 0.0008 | | 1 | 1 | Discharge from factories. |

**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 2013 | 29.3 | N/A | N/A |
| pH | March 2013 | 6.8 | 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:

| Town of Smithfield Water Treatment Plant 2013 Data | | | | |
|---|---|---|---|---|
| Contaminant | Units | Level Detected | Range Low High | Sample Date |
| Haloacetic Acids (Haa5) | ppb | 49.8 (AVG) | 22 - 66 | 2013 |
| Total Trihalomethanes (TTHMs) | ppb | 58.9 (AVG) | 22 - 96 | 2013 |
| Chloramine | ppm | 2.83 | 1.1 - 4.0 | 2013 |
| Chlorine | ppm | 1.60 | 0.06 - 1.83 | 2013 |
| Fluoride | ppm | 0.63 | N/A | 2013 |
| Turbidity | NTU | 0.30 (highest) | 100% of samples below limit | 2013 |
| Copper | ppm | 0.135 (90th percentile) | N/A | 2013 |
| Lead | ppb | 2.3 (90th percentile) | N/A | 2013 |
| Sulfate | ppm | 61.7 | N/A | 2013 |
| pH | N/A | 7.4 | N/A | 2013 |
| Sodium | ppm | 59.58 | N/A | 2013 |

| 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 |

| Smithfield Water Treatment Plant 2013 Data | | |
|---|---|---|
| Susceptibility of Sources to Potential Contaminant Sources (PCSs) | | |
| Source Name | Susceptibility Rating | SWAP Report Date |
| Neuse River | Higher | February 2010 |

| Town of Smithfield Water Treatment Plant Disinfection Byproduct Precursors Contaminants 2013 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 | 1.07 | 0.90 – 1.20 | N/A | TT | Naturally present in the environment | Step 1 and ACC#4 |

Alternative Compliance Criteria (ACC)

| | |
|---|---|
| Alt. 1 | Source Water SUVA $\leq$ 2.0 L/mg-m |
| Alt. 2 | Treated Water TOC <2.0 mg/L |
| Alt. 3 | Source Water SUVA $\leq$ 2.0 L/mg-m |
| Alt. 4 | Treated Water SUVA $\leq$ 2.0 L/mg-m |
| Alt. 5 | Treated Water Alkalinity < 60 mg/L (for softening systems only) |
| Alt. 6 | THM & HAA RAA's $\leq$ 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 $\leq$ 1/2 MCL |

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

| Contaminant | Units | MCLG | MCL | Your Water | Range Low High | Sample Date | Violation (Yes / No) | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| **Disinfectants & Disinfection By-Products** | | | | | | | | |
| Total Haloacetic Acids (Haa5) | ppb | N/A | 60 | 21 (RAA) | 3.0- 34.9 | 2013 | No | Byproduct of drinking water chlorination |
| Total Trihalomethanes (TTHMs) | ppb | N/A | 80 | 54 (RAA) | 5 - 82 | 2013 | No | Byproduct of drinking water chlorination |
| Chlorine | ppm | MRDLG=4 | MRDL=4 | 1.32 (Average) | 0.21 – 2.55 | 2013 | No | Water additive used to control microbes |
| **Inorganic Contaminants** | | | | | | | | |
| Fluoride | ppm | 4 | 4 | 0.18 | N/A | April 2013 | 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.

| **Turbidity*** Contaminant (units) | Treatment Technique (TT) Violation Y/N | Your Water | Treatment Technique (TT) Violation if: | Likely Source of Contamination |
|---|---|---|---|---|
| Turbidity (NTU) - Highest single turbidity measurement | N | 0.26 NTU | Turbidity > 1 NTU | Soil runoff |
| Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits | N | 100 % | 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.

**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 2013 | 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 2013 | 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.

| 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 | 1.71 | 1.62 – 1.84 | N/A | TT | Naturally present in the environment | Step 1 |

**Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides**

| Contaminant (units) | Sample Date | MCL Violation Y/N | Your Water | Range Low | Range High | MCLG | MCL | Likely Source of Contamination |
|---|---|---|---|---|---|---|---|---|
| Simazine (ppb) | 2013 | N | 0.32 | 0.19 | 0.45 | 4 | 4 | Herbicide runoff |

| 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:** 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 2013 | 44.2 | N/A | N/A |
| pH | April 2013 | 7.5 | 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.