FILTERED WATER QUALITY DATA (Non-Regulated)

CONTAMINANT (UNIT OF MEASURE)	YOUR WATER	SMCL	LIKELY SOURCE OF CONTAMINATION
Alkalinity	20	N/A	Water additive, erosion of natural deposits.
Hardness	27	N/A	Erosion of natural deposits.
pH	7.6	6.5-8.5	Measurement of acid or base neutralizing capacities of water.
Sodium	27.180	N/A	Water additive, erosion of natural deposits.
Sulfate	33.7	250 mg/ L	Erosion of natural deposits.

Definitions

- AL (Action level): The concentration of the contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- 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.
- LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfection and Disinfection By-products Rule.
- 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.
- MRDL (Maximum Residual Disinfection Level): The highest level of disinfectant that is allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.
- 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.
- NA: Information not applicable/ not required for that particular water system or for that particular rule.
- Parts per billion (ppb) or Micrograms per liter (ug/ L): One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- Parts per 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.
- RAA (Running Annual Average): Compliance based on a running annual average of quarterly samples.
- SMCL: Secondary Maximum Contaminant Level. Secondary standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects, or aesthetic effects in drinking water.
- TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Annual Water Quality Report For 2018

City of Sanford WFP, PWS ID NC 03-53-010

We are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. This report is developed to keep you informed about your water quality, what it contains, and how it compares to standards set by regulatory agencies. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water customers. Thank you for allowing us to continue providing you and your family with high quality drinking water.

If you have any questions about this report or concerning your water, please contact Scott Christiansen at 919-777-1804. If you are interested in attending a City Council meeting, the Council meets the first and third Tuesdays of each month at 6 p.m. in the Council Chambers in the Municipal Building at 225 East Weatherspoon Street in Sanford. Meetings are open to the public.

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

When You Turn On Your Tap, Consider the Source

The City of Sanford's customers are fortunate because they enjoy an abundant water supply from a single surface water source, the Cape Fear River. The Deep River, Haw River, and Rocky River form the headwaters of the Cape Fear River Basin.

Source Water Assessment

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS), Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to potential contaminant sources (PCSs). The relative susceptibility rating of the water source for the City of Sanford was determined by combining the contaminant rating (number and location of PCSs with the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Source Name	Susceptibility Rating	Report Date
Cape Fear River	Higher	August 2017

The complete SWAP report for the City of Sanford may be viewed on the Web at http://www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this Annual Water Quality Report was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program-Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name (City of Sanford), system number (03-53-010), 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.

What the 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. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. 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 City of Sanford 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.

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.

Water Quality Data of Detected Contaminants

We routinely monitor for over 150 water quality indicators in your drinking water according to Federal and State laws. The table below lists 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 the water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.**

CITY OF SANFORD WATER QUALITY TESTING FOR 2018
FILTERED WATER QUALITY DATA (Regulated)

MICROBIOLOGICAL CONTAMINANTS IN THE DISTRIBUTION SYSTEM

CONTAMINANTS (UNIT OF MEASURE)	MCL VIOLATION	YOUR WATER	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Total Coliform Bacteria (presence or absence)	N/A	N/A	N/A	TT*	Naturally present in the environment.
E. Coli (presence or absence)	No	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.

- If a system collecting 40 or more samples per month finds greater than 5% of monthly samples are positive in one month, an assessment is required.
- Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment(s) to identify problems and to correct any problems that were found during the assessment(s).
- During the past year we were required to conduct a Level 1 assessment. The assessment was completed. Additionally we performed heavy flushing at the site that tested present for total coliform bacteria. The flushing was completed and subsequent testing was absent for total coliform bacteria.

TURBIDITY

CONTAMINANT (UNIT OF MEASURE)	TT VIOLATION Y/N	YOUR WATER	TREATMENT TECHNIQUE (TT) VIOLATION IF:	LIKELY SOURCE OF CONTAMINATION
Turbidity (NTU)-Highest single turbidity measurement	No	0.27	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU)-Lowest monthly percentage (%) of samples meeting turbidity limits	No	100%	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

- Turbidity is a measure of the cloudiness of 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.

INORGANIC CONTAMINANTS

CONTAMINANT (UNIT OF MEASURE)	MCL VIOLATION	YOUR WATER	RANGE LOW-HIGH	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Fluoride (ppm)	No	0.51	NA	4	4	Erosion of natural deposits. Water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

SYNTHETIC ORGANIC CHEMICAL CONTAMINANTS

CONTAMINANT (UNIT OF MEASURE)	MCL VIOLATION	YOUR WATER	RANGE LOW-HIGH	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Atrazine (ppb)	NO	0.36	NA	3	3	Runoff from herbicide used on row crops

COPPER AND LEAD CONTAMINANTS (Tap water samples were collected for copper and lead analysis from sample sites throughout the community in 2016)

CONTAMINANT (UNIT OF MEASURE)	YOUR WATER	SITES ABOVE AL/TOTAL SITES	MCLG	AL	LIKELY SOURCE OF CONTAMINATION
Copper (ppm) (90th percentile)	0.12	0/30	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.
Lead (ppb) (90th percentile)	0	0/30	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.

TOTAL ORGANIC CARBON (TOC)

CONTAMINANT (UNIT OF MEASURE)	TT VIOLATION Y/N	YOUR WATER (RAA Removal Ratio)	RANGE MONTHLY REMOVAL RATIO LOW-HIGH	MCLG	TT	LIKELY SOURCE OF CONTAMINATION	COMPLIANCE METHOD
Total Organic Carbon (removal ratio) (TOC)-TREATED	NO	1.46	0.88-1.46	NA	TT	Naturally present in 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

DISINFECTION

CONTAMINANT (UNIT OF MEASURE)	MCL/MRDL VIOLATION Y/N	YOUR WATER (LRAA)	RANGE LOW-HIGH	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	NO	2.91	1.87-3.86	MRDLG=4	MRDL=4	Water additive used to control microbes.
Chlorine (ppm) [March only]	NO	2.42	2.14-2.75	MRDLG=4	MRDL=4	Water additive used to control microbes.

DISINFECTION BY-PRODUCTS (Stage 2 Disinfection and Disinfection By-Products Rule)

CONTAMINANT (UNIT OF MEASURE)	MCL/MRDL VIOLATION Y/N	YOUR WATER (HIGHEST LRAA)	RANGE LOW-HIGH	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
HAA5 (ppb) [Total Haloacetic Acids]	NO	53 (Location B01—Branch Dr.)		NA	60	Byproduct of drinking water disinfection.
Location B01	NO		33-104	NA	60	
Location B02	NO		30-54	NA	60	
Location B03	NO		<1-43	NA	60	
Location B04	NO		26-50	NA	60	
TTHM (ppb) [Total Trihalomethanes]	NO	54 (Location B04-N. Horner Blvd.)		NA	80	Byproduct of drinking water disinfection.
Location B01	NO		33-74	NA	80	
Location B02	NO		32-77	NA	80	
Location B03	NO		33-67	NA	80	
Location B04	NO		33-84	NA	80	

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

CRYPTOSPORIDIUM

- The City of Sanford monitored for cryptosporidium in both the Cape Fear River and the plant reservoir during 2018. Monitoring detected a level of 0.091 oocysts per liter in the Cape Fear River during February. 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 monitoring indicates the presence of these organisms in our source water. Current test 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, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immune-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immune-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.