



Annual Water Quality Report For 2014

City of Sanford WTP, 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, 2014. 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 7 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:

<u>Source Name</u>	<u>Susceptibility Rating</u>	<u>Report Date</u>
Cape Fear River	Higher	February 2010

The complete SWAP report for the City of Sanford may be viewed on the Web at http://swap.ncwater.org/swap_app/pdfreport/s/0353010_2_19_2010_17_22.pdf. 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 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which

may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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 contaminants 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, 2014.**

CITY OF SANFORD WATER QUALITY TESTING FOR 2014

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	0.08	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 \leq 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	0.72	NA	4	4	Erosion of natural deposits. Water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.	
Chromium (ppb)	No	0.081 (EP)	NA	100	100	Erosion of natural deposits; discharge from steel and pulp mills.	
		0.101 (MR)	NA				
COPPER AND LEAD CONTAMINANTS SAMPLED IN 2013 (Tap water samples were collected for copper and lead analysis from sample sites throughout the community)							
CONTAMINANT (UNIT OF MEASURE)	YOUR WATER	SITES ABOVE AL/TOTAL SITES	MCLG	AL		LIKELY SOURCE OF CONTAMINATION	
Copper (ppm) (90 th percentile)	0.11	0/30	1.3	AL=1.3		Corrosion of household plumbing systems; erosion of natural deposits.	
Lead (ppb) (90 th percentile)	1.1	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	1.13	1.09-1.32	NA	TT	Naturally present in environment	Step 1
STEP 1 TOC REMOVAL REQUIREMENTS							
SOURCE WATER TOC (mg/L)				SOURCE WATER ALKALINITY mg/L as CaCO ₃ (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 AND DISINFECTION BYPRODUCTS						
CONTAMINANT (UNIT OF MEASURE)	MCL/MRDL VIOLATION Y/N	YOUR WATER LRAA	RANGE LOW-HIGH	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
HAA5 (ppb) [Total Haloacetic Acids]	NO	28.43 (Site 1)	20.0-39.7	NA	60	By-product of drinking water disinfection.
TTHM (ppb) [Total Trihalomethanes]	NO	48 (Site 1)	28-70	NA	80	By-product of drinking water disinfection.
Chloramines (ppm)	NO	2.6	1.56-3.83	MRDLG=4	MRDL=4	Water additive used to control microbes.
Chlorine (ppm) [March only]	NO	3.07	2.74-3.23	MRDLG=4	MRDL=4	Water additive used to control microbes.

UNREGULATED CONTAMINANTS (Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.)

CONTAMINANT (UNIT OF MEASURE)	SAMPLING POINT	PQL	YOUR WATER	LIKELY SOURCE OF CONTAMINATION
Chlorate (ppb)	EP	20	32	By-product of drinking water disinfection.
	MR	20	74	
Strontium (ppb)	EP	0.3	46.7	Naturally-occurring element, historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
	MR	0.3	47.7	
Vanadium (ppb)	EP	0.2	0.151	Naturally-occurring element, commercial use of vanadium has been the production of special steel alloys.
	MR	0.2	0.121	
Perfluoroheptanoic acid (ppb)	EP	0.01	0.00941	Commercial use of perfluoroheptanoic acid has been used as water and oil repellent in fabrics and leathers.
Perfluorooctanoic acid (ppb)	EP	0.02	0.0101	Commercial use of perfluorooctanoic acid has been used as water and oil repellent in fabrics and leathers.
1,4-Dioxane (p-Dioxane) (ppb)	EP	0.07	4	Industrial stabilizer for transport in aluminum containers, also used as a solvent in inks and adhesives.
Chromium, Hexavalent (ppb)	MR	0.03	0.053	Commercial use of chromium hexavalent has been used in textile dyes, wood preservatives, and as anti -corrosion and conversion coatings.

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CONTAMINANT (UNIT OF MEASURE)	SAMPLING POINT	PQL	YOUR WATER (AVERAGE)	RANGE	LIKELY SOURCE OF CONTAMINATION
Bromide (ppm)	EP	NA	48.1	35.5-60.7	Naturally-occurring compound present in seawater.
	MR	NA	50.4	38.0-62.8	

CONTAMINANT (UNIT OF MEASURE)	SAMPLING POINT	PQL	YOUR WATER (AVERAGE)	RANGE	LIKELY SOURCE OF CONTAMINATION
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Chlorate (ppb)	EP	20	164	137-142	By-product of drinking water disinfection.
	MR	20	165	142-193	
Chromium (ppb)	EP	0.2	0.257	0.161-0.36	Erosion of natural deposits; discharge from steel and pulp mills.
	MR	0.2	0.287	0.22-0.33	
Chromium, Hexavalent (ppb)	EP	0.03	0.039	0.027-0.055	Commercial use of chromium hexavalent has been used in textile dyes, wood preservatives, and as anti-corrosion and conversion coatings.
	MR	0.03	0.084	0.068-0.11	
Molybdenum (ppb)	EP	1.0	1.1	NA	Naturally-occurring element, commercial use of molybdenum has been the production of special steel alloys.
	MR	1.0	1.04	0.87-1.2	
Strontium (ppb)	EP	0.3	68	65.3-70.6	Naturally-occurring element, historically commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
	MR	0.3	75.2	73.6-76.2	
Vanadium (ppb)	EP	0.2	0.25	0.17-0.34	Naturally-occurring element, commercial use of vanadium has been the production of special steel alloys.
	MR	0.2	0.34	0.21-0.48	
Perfluoroheptanoic acid (ppb)	EP	0.01	0.029	NA	Commercial use of perfluoroheptanoic acid has been used as water and oil repellent in fabrics and leathers.
1,4 Dioxane (p-Dioxane) (ppb)	EP	0.07	6.4	1.8-13.3	Industrial stabilizer for transport in aluminum containers, also used as a solvent in inks and adhesives.

Definitions:

- AI (Action level): The concentration of the contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- EP (Entry Point): The first sample point into the water distribution system.
- I: The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- LRAA (Locational Running Annual Average): Compliance based on a running locational average of quarterly samples.
- 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.
- MR (Maximum Residence Time): The longest residence time in the water distribution system.
- NA: Information not applicable/ not required for that particular water system or for that particular rule.
- ppb (parts per billion): One part substance per billion parts water (or microgram per liter). One ppb is equivalent of half a teaspoon of water in an Olympic sized swimming pool.
- ppm (parts per million): One part substance per million parts water (or milligrams per liter). One ppm is equivalent of one drop of water in sixteen gallons.
- PQL (Practical Quantitative Limit): The lowest quantity of a substance that can be distinguished from the absence of that substance within a stated confidence limit (generally 1%).
- TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.
- Extra Note: 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.