

CRAVEN COUNTY WATER QUALITY REPORT FOR 2017
Craven County Water Department PWSID #04-25-055
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Your water is safe to drink

Craven County Water's top priority is to provide the people of Craven County a safe and reliable supply of water. In accordance with requirements of The Safe Drinking Water Act Amendments of 1996 we are pleased to send you our Annual Water Quality Report. The information and test results show the high quality of your drinking water. Craven County water meets all of the stringent testing requirements set by the Environmental Protection Agency (EPA) and the North Carolina Public Water Supply Section of the Department of Environmental and Natural Resources.

Where does the water come from?

Craven County's water supply is groundwater that comes from three different aquifers. Five wells draw water from the Black Creek Aquifer. These wells are located in and serve the northwest portion of Craven County just south of NC Hwy 55, these wells are named for easy identification. We also added five additional wells that draw water from the Pee Dee Aquifer. Each well is equipped with a pump to bring water into a well house where chlorine is added before the water goes into the main lines and smaller pipes that make up the distribution system. On October 10, 2017, we began servicing Townships 5, 6, and 7 with a new Nano-filtration Water Treatment Plant; this plant draws water from the Lower Castle Hayne Aquifer. The water plant and eight wells are located in and around Carolina Pines and Stately Pines.

How to get more information

If you have any questions about this report, or your water, please contact the Customer Service Office of Craven County Water at (252) 636-6615. We want you, our valued customers, to be informed about your water quality, and we want to invite you to attend any of the regularly scheduled meetings of our Board of Commissioners. Meetings are held on the 1st and 3rd Monday of each month. The 1st monthly meeting begins at 7:00 PM; the meeting on the 3rd Monday begins at 8:30 AM.

Water quality testing

Craven County Water, in order to be in compliance with all regulatory agencies, routinely collects samples of water from each of the wells and the distribution system. These samples are then sent to an independent laboratory for testing for more than 120 different contaminants. Craven County Water Plant Operators carefully review each of the tests results to monitor the water contaminants. The table on the next pages show the substances detected in the required test for the period of January 1st to December 31st, 2017.

About drinking water

Drinking water supplies for both tap water and bottled water include oceans, rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the land or underground it may pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

Special Information

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 health care providers. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* is available from the **Safe Drinking Water Hotline (800-426-4791)**.

To ensure that tap water is safe to drink, the EPA establishes regulations which limit the amount of certain contaminants in water provided by public systems. In the table of Craven County's water quality tests results you will find terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

(Over)

- *Action Level (AL)* - the concentration of a contaminant which triggers treatment or other requirements which a water system must follow.
- *Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.
- *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 (µg/L)* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- *Maximum Contaminant Level* - (mandatory language) 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* - (mandatory language) 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.**

Water Conservation

Craven County Water customers are fortunate to have very good quality water. The majority of our water requires no treatment other than a small amount of chlorine for distribution system disinfection. The other portions are services by our Nano-filtration Plant. Unfortunately, nothing can last forever, but we can extend the life of our aquifers for future generations if we all conserve water now. Please visit our website at <https://www.cravencountync.gov/1778/Water-Conservation> for additional information and tips for conserving water.

Attention: Este documento contiene información importante acerca de la calidad del suministro del agua público. Si no lee inglés, favor de encontrar alguien para traducir esta información.

Source Water Assessment Program (SWAP) Results: 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 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 each source for Craven County Water Department was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., Characteristics or existing conditions of the well or watershed and its delineated assessment area.) The assessment findings, as of September 12, 2017, are as follows:

Source Name	Susceptibility Rating
Dover Pee Dee	Moderate
Wintergreen Pee Dee	Lower
Bryan Pee Dee	Lower
Davis Pee Dee	Lower
Well #5 Pee Dee	Lower
Dover Ft Barnwell Well	Lower
Wintergreen Well	Lower
Bryan Well	Lower
Davis Well	Lower
Well #5	Lower

It is important to understand that a susceptibility of "higher" does not imply poor water quality, only the systems' potential to become contaminated by the PCS's in the assessment area.

The complete SWAP Assessment report for Craven County Water Department may be viewed on the WEB at: <http://www.deh.enr.state.nc.us/pws/swap>. 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@ncmail.net. Please indicate your system name (Craven County Water Department, PWSID (04-25-055)), 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 919-715-2633.

Test Results of Water at Source - Well Site

Substance	Violation Y/N	Well #1	Well #2	Well #3	Well #4	Well #5	WTP	MCL	MCLG	Primary Source	Meets Goal
Fluoride (ppm)	N	0.69	0.97	1.30	0.97	1.49	0.14	4.0	4.0	Naturally occurring mineral; also added to drinking water to promote dental health	✓
Manganese (ppm)	N	ND	ND	ND	ND	ND	ND	.05	No MCLG	Erosion	✓

Test Results of Water in Distribution System

Substance	Violation Y/N	Craven County Water	MCL	MCLG	Primary Source	Meets Goal
Copper (ppm)	N	7/1-12/31 2017 90 th % result 0.151ppm 0 results out of 60 are above the action level	AL=1.3	1.3	Copper occurs naturally in soils, but its presence in drinking water is almost entirely due to corrosion of private household plumbing systems	✓
Lead (ppb)	N	7/1-12/31 2017 90 th % result 0.00 ppb 0 results out of 60 are above the action level	AL=15	No MCLG	Lead occurs naturally in soils, but its presence in drinking water is almost entirely due to corrosion of household plumbing systems	✓
TTHM's (ppm)	N	Individual site range from 0.0000(low) to 0.0886(high). Local Running Annual Average (LRAA) 0.0491(low) to 0.0571(high).	.080	.080	By-product of chlorine used to disinfect water	✓
HAA5 (ppm)	N	Individual site range from 0.0000 (low) to 0.0174(high). Local Running Annual Average (LRAA) 0.0096 (low) to 0.0157 (high).	.060	.060	By-product of chlorine used to disinfect water	✓

Regulated Substances Tested

Substance	Violation Y/N	Highest Level Detected	Highest Allowed MCL	Ideal Goal MCLG	Primary Source
Sodium (ppm)	N	179.680 ppm (Well #4)	Not regulated	None set	Mineral naturally occurring in soils
Sulfate (ppm)	N	ND	Not regulated	None set	Element naturally occurring in soil and water

Water Quality Data of Detected Unregulated Contaminants

*Unregulated Contaminant Monitoring Rule 3 (UCMR3)

Contaminant (units)	Sample Date	Reported Level	Range (Low – High)
Vanadium (µg/L)	2014	0.33µg/L	0.11 – 0.33µg/L
Molybdenum (µg/L)	2014	1.4µg/L	0.78 – 1.4µg/L
Strontium (µg/L)	2014	52.0µg/L	13.6 – 52.0µg/L
chromium ³ (µg/L)	2014	0.24µg/L	0.16 – 0.24µg/L
Chromium-6 (µg/L)	2014	0.012µg/L	ND – 0.012µg/L
Chlorate (µg/L)	2014	1740µg/L	294 - 1740µg/L

*The 1996 amendment to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWS). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. These data serve as a primary source of occurrence and exposure information that the agency uses to develop regulatory decisions.

Other Regulated Contaminates

Nitrate/Nitrite Contaminants – 2017 ND

Radiological Contaminants – 2010 ND, 2017 ND at New Water Treatment Plant

Volatile Organic Chemicals (VOC) – 2017. ND on Well #1 in any quarter, ND at new Water Treatment Plant

Pesticides and Synthetic Organic Chemicals (SOC) – 2017 ND

2017 TTHM Violation

In the third quarter of 2017 we exceeded the MCL for Total Trihalomethanes at two of our testing sites, B01 and B03. These sites are in the Township 5 of Craven County. B01 tested at 0.0858mg/L and B03 tested at 0.0886mg/L, the MCL for trihalomethanes is 0.0800mg/L. After these samples were collected we started our new Water Treatment Plant, and the fourth quarter results of 0.0000mg/L at these sites indicated that we should no longer have any problems in that area.

Craven County's New Water Treatment Plant

On October 10, 2017, Craven County opened a new Nano-filtration Water Treatment Plant. This plant was built to help us reduce the amount of water we were drawing out of the Black Creek Aquifer in accordance with CCPCUA (Central Coastal Plains Capacity Use Area). The new plant serves all Craven County Water customers in Township's 5, 6, and 7. Although we were built as a nano-filtration plant, we use low pressure reverse osmosis membranes. This treatment strips all contaminants and minerals, both good and bad, out of the water. With this high rejection it is necessary to re-stabilize the water which we do by running the treated water through calcite stabilization filters. The calcite is crushed limestone and adds back a little hardness, alkalinity, and pH. After the calcite filter the water receives a final pH adjustment (Sodium Hydroxide addition), a corrosion inhibitor (Zinc Orthophosphate), and a residual disinfectant (Sodium Hypochlorite). We have the capability to hold one million gallons of water onsite in a ground storage tank and from here it is pumped into the distribution system. The water that feeds the plant is from eight wells in the Lower Castle Hayne Aquifer surrounding the Carolina Pines area.

Lead Education for our water users.

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. Craven County Water 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>.

