



2013 Annual Drinking Water Quality Report

Beaufort County Southside

Water System Number: 04-07-040

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 your source(s) of water, 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 because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact The Beaufort County Water Department at **252-975-0720**. This number should also be used for water related emergencies. We want our valued customers to be informed about their water utility.**

When You Turn on Your Tap, Consider the Source

The water for Districts VI & VII customers comes from six ground wells that have been installed into the Castle Hayne and Pee Dee Aquifers. These wells are located along Hwy 33 East 5 to 10 miles east of Chocowinity and along Old Sandhill Road. These wells pump raw water to two water treatment plants, which are also located along Hwy 33 East and Old Sandhill Road. At the treatment plants the water is treated to remove odor, iron, manganese, and hardness. Chlorine and Ammonia (Chloramines) are added as disinfectants to make sure there is no disease causing bacteria present in the treated water supply. A Chloramine residual is also kept in the distribution system in order to prevent bacterial growth. The treated water is stored in three elevated storage tanks and one ground storage tank, which hold five hundred thousand gallons of treated water each.

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 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 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 Beaufort County Southside 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 are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well # 1	Lower	March 2010
Well #2	Lower	March 2010
Castle Hayne 62	Moderate	March 2010
Castle Hayne 64	Moderate	March 2010
Pee Dee 62	Lower	March 2010
Pee Dee 64	Lower	March 2010

The complete SWAP Assessment report for Beaufort Co. Southside may be viewed on the Web at: www.ncwater.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 requests to swap@ncdenr.gov. Please indicate your system name, number, 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 system’s 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. 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 Drinking Water Hotline (800-426-4791).

What is *Cryptosporidium*? *Cryptosporidium* is a microscopic parasite that can be found in surface water (river, lakes, and streams) that has received much national attention; however, since Beaufort County's water supply comes from ground water, the threat of *Cryptosporidium* being found in our water supply is greatly diminished. *Cryptosporidium* can be transmitted in a variety of ways including ingestion of contaminated food and drinking water or through the direct contact with fecal matter of an infected human or animal. *Cryptosporidium* usually only affects people for about two weeks when exposed. However, persons with a compromised immune system would be at much greater risk of complications.

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 Beaufort County Water Department 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.

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.

Water Quality Data Tables 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 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 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.

Extra Note: MCLs 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.

Important Drinking Water Definitions:

Environmental Protection Agency (EPA) – A federal government agency.

Food and Drug Administration (FDA) – A federal government agency.

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 (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

Maximum Residual Disinfection Level Goal (MRDLG) – 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.

Maximum Residual Disinfection Level (MRDL) – 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.

Maximum Contaminant Level (MCL) - 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 (MCLG) - 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.

Running Annual Average (RRA)

Tables of Detected Contaminants

Microbiological Contaminants in the Distribution System - For systems that collect *less than 40* samples per month)

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	1	0	one positive monthly sample	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive)	Human and animal fecal waste

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	06/11/13	N	0.59	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Testing for Inorganic Compounds is required every 3 years. The data presented in this report are from the most recent testing done in accordance with the regulations.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	July 2013	0.256	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	July 2013	4	1	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Testing for Lead and Copper is required every 3 years. The data presented in this report are from the most recent testing done in accordance with the regulations.

Disinfection Byproducts Contaminants

Contaminant (units)	Sample Date	MCL/MRDL Violation Y/N	Your Water RAA (Stage 1)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	7/31/13	N	24	2 to 46	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	7/31/13	N	6.7	0 to 13.4	N/A	60	By-product of drinking water disinfection

Testing for Trihalomethanes and Haloacetic Acids is required every 3 years. The data presented in this report are from the most recent testing done in accordance with the regulations.

Disinfectants

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA	Range Low High	MCLG	MCL	Likely Source of Contamination
Chloramines (ppm)	N	2.14	1 to 3.9	MRDLG = 4	MRDL = 4	Water additive used to control microbes

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water.

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
Sodium (ppm)	6/11/13	107.87	N/A	N/A
pH	6/11/13	7.4	N/A	6.5 to 8.5
Iron (ppm)	6/11/13	0.072	N/A	0.3 mg/L

Additional Monitoring of Other Contaminants

Contaminant (units)	Your Water Average	Range Low/High
Hardness (ppm)	50	30 - 70

Hardness vs. Softness

The question has been asked many times "Why not produce completely soft water?"

The answer is corrosivity. Totally soft water is corrosive to pipes and fixtures. This is bad in itself, but the really big problem is the fact that many plumbing fixtures contain lead and there are countless feet of copper pipe currently in some homes. When totally soft water sets in the pipes, the lead and copper can leach out of the pipes and fixtures and into the water. This can cause problems with high lead and copper levels in the water. As a result the Beaufort County Southside Water System produces water with about 30-70 mg/l of total hardness.

How can we tell if these measures are working? Beaufort County personnel go to predetermined homes with lead and copper pipes to collect water samples to ascertain that these inorganic compounds are not found in the water.

Water Conservation Tips

The North Carolina Department of Environment and Natural Resources Division of Water Resources wants you to be educated about water conservation. Saving water is good for the earth, your community and your wallet. You can save hundreds of dollars a year by being more efficient with the water you use. Saving water is not hard. Here are a few tips: **Check for leaky faucets;** It seems like an insignificant drip, but that leaky faucet could waste 15 to 20 gallons a day. **Check your toilet for silent leaks;** Add a few drops of food coloring in the tank and wait for 30 minutes (Do not use the toilet during this time). If after 30 minutes the color shows up in the bowl, then the toilet is leaking. It is not unusual to lose up to 100 gallons a day from an invisible toilet leak. **Examine and modify your habits;** Turn off the faucet while brushing your teeth or shaving. Don't run your washing machine or dishwasher until it is fully loaded. Don't take long showers or baths. Water your plants during the coolest part of the day to avoid unnecessary evaporation. Making these small changes can save a lot of water and money.

Important Information for New Customers

When new Customers tie their household plumbing into the Beaufort County's water distribution system, they are hooking up to a closed system. As a result, customers may experience periods of high pressure from their hot water heaters. These periods of high pressure may cause a hot water heater to discharge water through the pressure relief valve. Customers can install a small expansion tank on their cold water line as a possible remedy to this problem.