



2017 WATER QUALITY REPORT

Amicks Ferry Water System

SCDHEC System # 3250077



2017 Water Quality Report

Amicks Ferry Water System - DHEC System # 3250077
Town of Chapin, South Carolina

The Town of Chapin is proud to present our annual water quality report covering the period between January 1 and December 31, 2017. In but a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges are many, we feel that by relentlessly investing in customer outreach, education, and service, system upgrades, and training, the payoff is reliable, high-quality drinking water delivered to you and your family.



The Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (DHEC) have established strict standards for all drinking water. These criteria are designed to protect consumers from bacteria and water-borne illnesses. Additionally, EPA requires community water systems to publish an annual report to disclose to its customers important information about the drinking water provided. This report identifies the characteristics and performance of the Amicks Ferry Water System in compliance with the Consumer Confidence Reports Rule of the 1996 Safe Drinking Water Act Amendments.

The Staff of the Chapin Utilities Department hopes that you find this report informative, and comprehensive. We value your input, and are happy to address any concerns our customers may have. Please feel free to contact the Utilities Department with any questions or concerns you may have.

Important Health Information

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 (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or at:

<http://water.epa.gov/drink/hotline>.



Source Water Assessment

The City of Columbia gets its water from the Broad River Diversion Canal and Lake Murray. The Broad River collects water from a large portion of northern South Carolina through the Broad River Basin, while Lake Murray receives water from the Saluda River Basin. The South Carolina Department of Health and Environmental Control (SCDHEC) periodically assess the quality of source water for drinking water systems throughout the state. SCDHEC's Source Water Assessment Report is available and can be reviewed at City of Columbia offices located at 1136 Washington Street, or by calling 803-545-3400



Your Water System

The Town of Chapin owns and operates the Amicks Ferry Water System. Customers of the Amicks Ferry Water System may voice questions and concerns at Town Council meetings, held at Town Hall on the first Tuesday of each month. Additionally, questions concerning daily operations and water quality issues can be directed to Town Hall at (803)345-2444.

Water for the Amicks Ferry Water System is provided through a combination of water purchased from the City of Columbia Water System and seven (7) ground water wells located throughout the water distribution system. The water in the system is a blend of the appropriately 70% City of Columbia water to 30% well water. This blending rate may vary depending on demand and/or location within the system.

The drinking water purchased from the City of Columbia is treated surface water from the Broad River and/or Lake Murray. Drinking water wells are located throughout the Amicks Ferry Water System. Due to SCDHEC regulatory requirements concerning the blending of treated surface water and drinking water from groundwater wells, the well water receives no supplementary treatment once it is extracted from the well.



The following table identifies the location of each well.

Well Name	DHEC Source ID. Number	Location	Treatment Provided
Night Harbor Well #1	G32673	Behind Lot #136	None
Night Harbor Well #2	G32674	Behind Lot #25	None
Night Harbor Well #3	G32675	Behind Lot #30	None
Timberlake Well #1	G32528	Near No. 1 Tee Box	None
Timberlake Well #2	G32529	Near Entrance to Timberlake	None
Timberlake Well #4	G32638	Near Ground Storage Tank	None
Oakbrook Well #2	G32656	Near Ground Storage Tank	None

The operation of the groundwater wells and water distribution system is rigidly maintained and monitored by State Certified Environmental Systems Operators who are thoroughly trained to make routine chemical and physical tests to maintain a high quality drinking water.

Our Source Water Assessment Plan is available for your review at <http://www.scdhec.gov/HomeAndEnvironment/Water/SourceWaterProtection/>

Quality of Your Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The State of South Carolina and EPA require us to test and report on our water quality on a regular basis to ensure its safety. We have always met, and will continue to meet all of these requirements to the absolute best of our ability. We want you to know that we pay attention every detail, and follow all the rules in order to provide the best drinking water possible. The drinking water provided by the Town of Chapin in the Amicks Ferry Water System is considered safe by the South Carolina Department of Health and Environmental Control based upon testing performed by SCDHEC and routine monitoring performed by the Town. The presence of listed contaminants does not necessarily indicate that the water poses a health risk.



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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity.

The City of Columbia has also performed testing of the finished water produced and supplied to the Town of Chapin, with no violations having occurred during the period. The City of Columbia's Water Quality Report may be viewed at Department of Utilities and Engineering offices located at 1136 Washington Street or by calling 803-545-3400.

Substances that may be present in source water include:

Potential Contaminants:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

Health Effects of Contaminants

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilsons Disease should consult their personal doctor.

Fluoride: Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

Lead: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Nitrate: Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. If coliforms were found in more samples than allowed, this would be a warning of potential problems.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Water Quality Report

The Town of Chapin and the City of Columbia constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The tables list only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

The following tables list the drinking water contaminants that were detected during the 2017 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done January 1 – December 31, 2017. The state requires Chapin 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, are more than one year old.

We are pleased to report to you that there were no detections of total coliforms or fecal coliforms in the monthly samples collected during the calendar year 2017.

Town of Chapin

Substance	Highest Level Detected	MCLL	MCLG	Range of Levels Detected	Year	Possible Source of Contaminant	Violation
Inorganic Compounds							
Copper, (ppm)	1.3 ppm		1.3	0.06 (90th percentile)	2015	Corrosion of household Plumbing; Erosion of natural deposits.	None
Cadmium, (ppb)	0.15 ppb	5	5	0.15	2015	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste	None
Fluoride, (ppm)	0.15 ppm	4	4	0.1 ppm	2015	Erosion of natural deposits.	None
Nitrate, (ppm)	1.13 ppm	10	10	0.24-1.13 ppm	2017	Runoff from fertilizer use. Leaching from septic tanks. Erosion of natural deposits.	None
Nitrate, (ppm) 5/8/2013	0.043 ppm	1	10	0-0.043 ppm	2013	Runoff from fertilizer use. Leaching from septic tanks.	None
Barium (ppm)	0.19	2	2	0.0-0.19 ppm	2015	Discharge of drilling waters; discharge from metal	None
HAA5 (ppb)	32.85 ppb	60	No Goal for total	8.54-32.85	2017	By product of drinking water disinfection	None
TTHM (ppb) 2015	28.55 ppb	80	No Goal for total	23.10-28.55	2017	By product of drinking water disinfection	None
Radioactive Contaminants							
Combined Radium 226/228	1.2 pCi/L	5	0	0-1.2 pCi/L	2017	Erosion of natural deposits.	None
Gross alpha excluding radon and uranium	5.8 pCi/L	15	0	0-5.8 pCi/L	2015	Erosion of natural deposits.	None
Uranium	1.2 ug/L	30	0	1.20-1.20 ug/L	2015	Erosion of natural deposits.	None
Volatile Organic Contaminants							
Tetrachloroethylene, (ppb)	1.00	5	0	0.75-0.83 ppb	2017	Discharge from factories and dry cleaners.	None
Disinfectants							
Chlorine (ppm)	1.69 ppm	MRDL G=4		0.04-1.69 ppm	2017	Water additive used to control microbes.	None
Total Coliform	1	0				Naturally present in the environment.	None

City of Columbia

Substance	Highest Detected Level/Range	Detected Level	MCLG	RANGE	Year	Possible Source of Contaminant	Violation
Inorganic Compounds							
Copper (ppm) 2014	1.3 ppm	0.096 ppm (90th%)	0.0	0-0.45 ppm	2017	Corrosion of household plumbing systems and naturally occurring in the environment.	None
Fluoride, (ppm) 2015	4 ppm	0.63	4	0.54-0.75 ppm	2017	Naturally occurring in the environment by erosion of natural deposits and added at the treatment plant as an aid in preventing tooth decay.	None
Nitrate/Nitrite, (ppm) 2015	10 ppm	1.42 ppm	10	0.02-1.42 ppm	2017	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.	None
Chlorite (ppm) 2015	1 ppm	0.862	0.8	0.270-0.862	2017	By-product of drinking water chlorination.	None
Lead (ppb) 2014	15 ppb (Action Level)	0.0 ppb (90%)	0.0	0-13 ppb	2017	Corrosion of household plumbing systems and naturally occurring in the environment. Lead in drinking water is primarily from materials and components associated with service line and home plumbing.	None

Substance	Highest Detected Level/Range	Detected Level	MCLG	MCL	Year	Possible Source of Contaminant	Violation
Organic Compounds							
Total Trihalomethanes (TTHMs) (Chloroform, Bromodichloro-methane, Dibromochloro- nethane, Bromoform), (ppb) 2015	80 (Average) Range 21-30 ppb	25 ppb Locational running annual average (LRAA)	0	80	2017	By-product of drinking water chlorination formed when chlorine reacts with organic matter	None
Haloacetic Acids, ppb (HHA=s) (Monochloroacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid, Dibromoacetic Acid) 2015	60 (Average) Range 31-45 ppb	36 ppb Locational running annual average (LRAA)	0	60	2017	By-product of drinking water chlorination formed when chlorine reacts with organic matter. EPA regulation requires us to monitor this contaminant while EPA considers setting a limit on it.	None
Total Organic Carbon, (ppm) 2015	TT 41%-50.30% removal	45.26% (36.25 % removal required)	None	Not Regulated	2017	Naturally occurring in the environment	None
Microorganisms							
Turbidity NTU 2015	<0.3 NTU	0.09 NTU	Not applicable	<0.3	2017	Naturally occurring in the environment	None
Total Coliform Bacteria	<5% N/A	2.70%	0	0	2017	Naturally occurring in the environment	None
Disinfectants							
Chloramine ppm 2015	4 ppm/ 1.8-2.2	2.5	4	4 ppm	2017	Water additive to control microbial growth.	None
Chlorine Dioxide ppb	800 ppb/ 0-250	203	800 ppb	0-203 ppb	2017	Water additive to control microbial growth.	None

Definitions

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

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. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

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

MRDL (Maximum Residual Disinfectant 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.

MRDLG (Maximum Residual Disinfectant 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: Not applicable.

ND (Not Detected): Not Detected in sample or below detection limits

NTU (Nephelometric Turbidity Unit): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person

pCi/l (Picocuries per liter): The basis for the curie is the radioactivity of one gram of radium. A **picocurie** is one trillionth of a curie.

PDWS (Primary Drinking Water Standard): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter). This is equivalent to 1 drop in 14,000 gallons (average swimming pool)

ppm (parts per million): One part substance per million parts water (or milligrams per liter). This is equivalent to 3 drops in 42 gallons (large bathtub)

RAA (running annual average)

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.