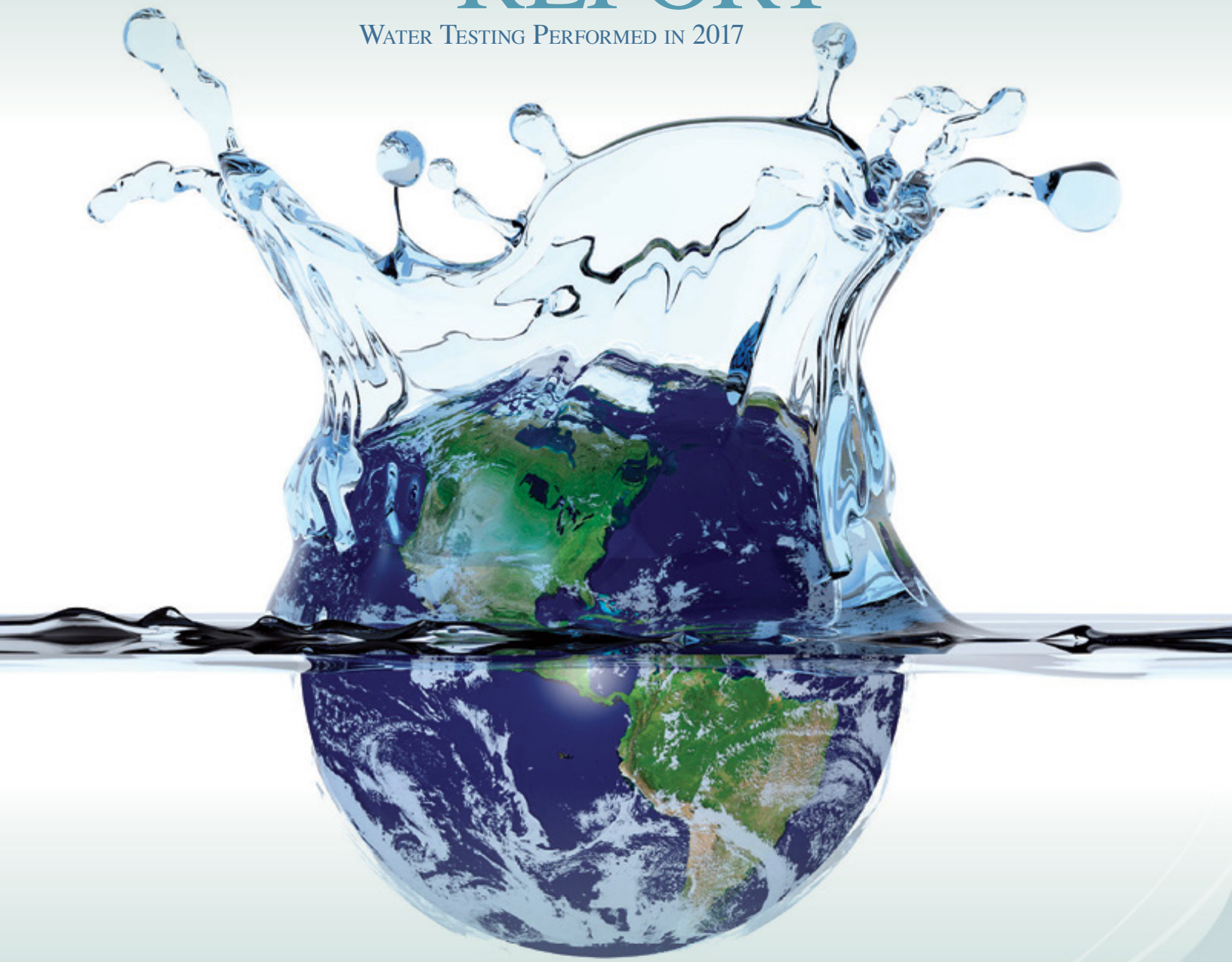
ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By

Palmetto State
Utility Services, Inc.
A Subsidiary of American States Utility Services, Inc

PWS ID#: 4010501

Quality First

Once again we are pleased to present our annual water quality report covering the period between January 1 to December 31, 2017. As in years past, we are committed to delivering the best-quality drinking water possible. Our professional staff works hard each day to deliver the highest quality drinking water without interruption. Our staff is on call 24 hours a day, seven days a week for our customers. Thank you for allowing us the opportunity to serve you and your family.

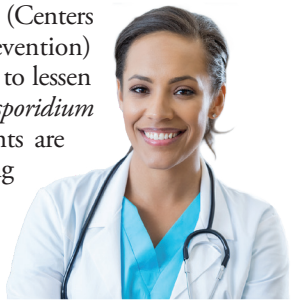
We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Source Water Assessment

Columbia gets its water from the Broad River Diversion Canal (Canal) and Lake Murray (Lake). 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 assesses 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 1136 Washington Street, or by calling (803) 545-3400.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 http://water.epa.gov/drink/hotline.



Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Where Does My Water Come From?

Fort Jackson purchases drinking water from the City of Columbia. The City treats surface water from the Broad River and Lake Murray. The Installation of Fort Jackson is divided into two separate areas: Cantonment and Training. The Cantonment area receives its water from the Canal Water Treatment Plant. The range areas are serviced by nine wells and a connection to the City of Columbia's Lake Murray Water Treatment Plant.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/lead.

Substances That Could Be in 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 that 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 presence of these 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. Substances that may be present in source water include:

> "Water treatment is a complex, time-consuming process."

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 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 may also come from gas stations, urban stormwater runoff, and septic systems;

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

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

FOG (Fats, Oils, and Grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products including nonbiodegradable wipes.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Frankie Jones, Assistant Utility Manager, Palmetto State Utility Services, Inc., at (803) 790-7288.

Level 1 Assessment Update

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 one or more assessments to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to increase flushing throughout our system and will continue these corrective actions.

BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

34 BILLION

1 MILLION The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

135 BILLION

300 MILLION The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

2 BILLION

Test Results

Palmetto State Utilities and City of Columbia constantly monitor for various contaminants in the water supply to ensure all regulatory requirements are met. The tables below 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 from January 1 through December 31, 2017.

The state requires Palmetto State Utilities to monitor for certain contaminants less often 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 thus more than a year old.

Palmetto State Utilities was notified in 2017 that we took only 28 of the required 30 Lead and Copper samples for the 2016 period. From the samples taken, Palmetto State Utilities do not believe the missing data had any impact on the public health and safety of our customers. During the 2019 sample period, all 30 samples will be taken, and this oversight will not be repeated.

REGULATED SUBSTANCES

				Palmetto State Utility Services, Inc.		City of Columbia			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloramines (ppm)	2017	[4]	[4]	NA	NA	2.5	1.8–2.8	No	Water additive used to control microbes
Chlorine Dioxide (ppb)	2017	[800]	[800]	NA	NA	203	0–203	No	Water additive used to control microbes
Chlorine (ppm)	2017	[4]	[4]	2.1	2.00–2.20	NA	NA	No	Water additive used to control microbes
Chlorite (ppm)	2017	1	0.8	NA	NA	0.86	0.27–0.86	No	By-product of drinking water disinfection
Fluoride (ppm)	2017	4	4	NA	NA	0.63	0.58–0.63	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]	2017	60	NA	50.5	8.0–59	36	31–45	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	NA	NA	0.2	0.08–0.32	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes (ppb)	2017	80	NA	30.4	16–33	25	21–30	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2017	TT	NA	NA	NA	2.7	NA	No	Naturally present in the environment
Total Coliform Bacteria (# positive samples)	2017	TT	NA	3	NA	NA	NA	No	Naturally present in the environment
Total Organic Carbon (% removal)	2017	TT	NA	NA	NA	44.9	34.7–60.7	No	Naturally present in the environment
Turbidity[1] (NTU)	2017	TT	NA	NA	NA	0.75	0.09–0.75	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2017	TT	NA	NA	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	1.3	0.16	0/28	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2016	15	0	5.0	1/28	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES (PALMETTO STATE UTILITY SERVICES, INC.)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppm)	2017	0.009	0.004–0.009	Disinfection by-product
Bromoform (ppm)	2017	0.001	0–0.001	Disinfection by-product
Chloroform (ppm)	2017	0.020	0.01–0.03	Disinfection by-product
Dibromochloromethane (ppm)	2017	0.002	0.001–0.003	Disinfection by-product
Monobromoacetic Acid (ppm)	2017	0.01	0.0–0.01	Disinfection by-product
Trichloroacetic Acid (ppm)	2017	0.025	0.003–0.03	Disinfection by-product

[1] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Definitions

AL (Action Level): The concentration of a contaminant that, 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. Amount Detected values for TTHMs and HAAs are reported as the highest 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 margin of safety.

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

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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