

# ANNUAL DRINKING WATER QUALITY REPORT

Liberty-Chesnee-Fingerville Water District (4220010) April, 2021 P. O. Box 400, Chesnee, S.C. 29323

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

**The source of drinking water used by the Liberty-Chesnee- Water District is surface water.**

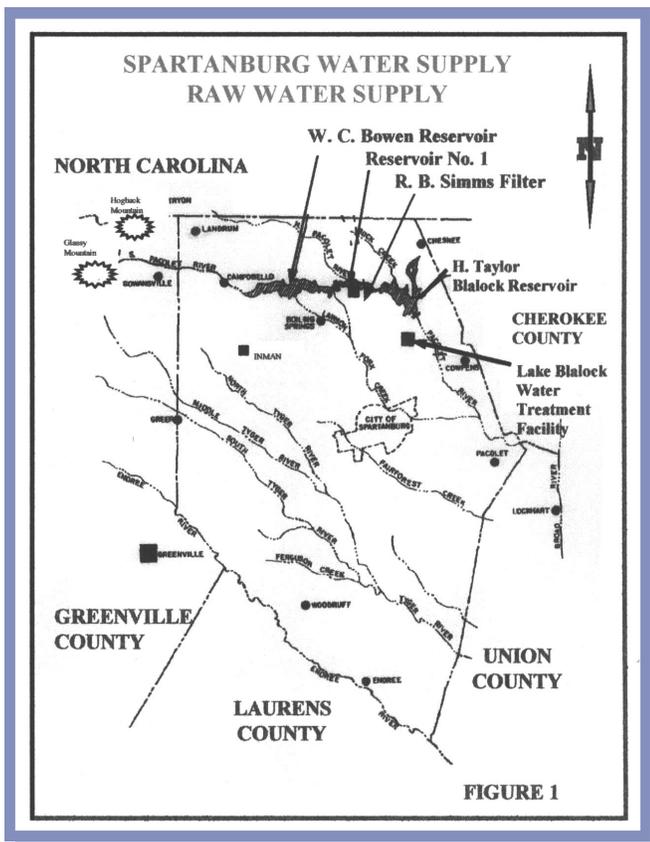
Este informe contiene informacion muy importante. Traduscalo o hable con alguien que lo entienda bien.

## CONSUMER CONFIDENCE REPORT

On August 6, 1998, the Environmental Protection Agency promulgated the Consumer Confidence Report regulation. This rule requires public water systems to publish an annual report for distribution to their customers and other water consumers which gives detailed information about water sources, water treatment, water quality and regulatory compliance. The sixteenth of these annual reports, covering the calendar year 2020, must be prepared and distributed by July 1, 2021.

## SOURCE WATER INFORMATION

Liberty-Chesnee-Fingerville Water District purchases water from the Spartanburg Water System (SWS) for distribution to residential, commercial and industrial customers. Spartanburg Water System uses surface water from three lakes within Spartanburg County: Lake William C. Bowen, Municipal Reservoir #1, and Lake Taylor H. Blalock (Figure 1).



Lake Bowen is a man-made lake formed by the waters of the South Pacolet River and its tributaries. Water flows from Lake Bowen into Municipal Reservoir #1, another man-made lake. The entire watershed for these lakes lies within the state of South Carolina, in Spartanburg and eastern Greenville Counties. Water from these lakes is treated at the R. B. Simms Water Treatment Plant. Lake Blalock is also a man-made lake formed by the combining of surplus water from the Bowen/Reservoir #1 system with the North Pacolet River and its tributaries. Part of the Blalock watershed is in South Carolina and part is in North Carolina. Water from Lake Blalock is treated at the Miles W. Whitlock Water Treatment Facility.

The South Carolina Department of Health and Environmental Control (SCDHEC) is required by the Safe Drinking Water Act Amendments of 1996 to perform a delineation and assessment of each watershed in South Carolina which is used as a drinking water source. Additional information about SCDHEC's Source Water Assessment Program and the specific Assessments are no longer on the SCHEC website but may be found through the following website. [www.scdhec.gov/homeandenvironment/water/sourcewaterprotection/](http://www.scdhec.gov/homeandenvironment/water/sourcewaterprotection/)

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## TREATMENT PROCESS

Conventional water treatment is used at both the R.B. Simms and Whitlock treatment plants. “Raw” water from the reservoir is first passed through a screen to remove large objects, and then treated with chlorine and chlorine dioxide. These treatment chemicals aid in removal of iron and manganese, two natural substances in the water which would stain clothing and plumbing fixtures if not removed. They also act as a disinfectant, destroying bacteria, viruses, algae, and other organisms, some of which could cause illness. Alum, poly-aluminum chloride, lime, and polymer are then added. In a process called coagulation, these substances combine with each other and with fine particles in the water to form a substance called “floc” which is heavier than water. Powdered activated carbon is added at this stage as needed to help remove unpleasant tastes or odors. The water then passes through large basins where the floc settles to the bottom and is removed, taking unwanted substances with it. Clear “settled” water is skimmed from the top of the basins and filtered to remove still more unwanted material. Additional chlorine disinfectant and lime are added as needed to meet state requirements. A corrosion inhibitor containing zinc and phosphate is added to preserve distribution piping and prevent lead and copper contamination. Finally, fluoride is added to prevent tooth decay.

Each step of the treatment process represents a barrier which prevents chemical contaminants and disease organisms from passing through the treatment plant into the drinking water. EPA has established standards for the performance of each of these barriers.

The effectiveness of coagulation, sedimentation and filtration in removing particles from the water is determined by measuring the turbidity of the water as it leaves the filters. Turbidity is a measure of the quantity of finely divided particles suspended in the water, and is reported in units called NTU. The EPA standard for the turbidity of filtered water states that turbidity may not exceed 0.3 NTU in more than 5% of all the measurements taken, and must never exceed 1 NTU. 1 NTU turbidity cannot be seen by the human eye.

Turbidity measurement is required every 4 hours. SWS was in full compliance with this requirement in 2020.

## SOURCE OF DRINKING WATER

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 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 can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

## CHEMICAL MONITORING

Public water systems are required to monitor their drinking water for a large number of chemical contaminants. These include inorganic chemicals, synthetic organic chemicals, volatile organic chemicals, disinfection byproducts, and radioactive contaminants. For some of these contaminants, EPA has established and SCDHEC has adopted maximum contaminant levels and maximum contaminant level goals. These contaminants are referred to as regulated contaminants. Unregulated contaminants are those that do not have a drinking water standard set by EPA. EPA is required by the Safe Drinking Water Act to identify every five years a list of potential contaminants, make a rule for water systems to test for them, and then make a decision whether regulation is necessary. As part of the Unregulated Contaminant Monitoring Rule 3 (UCMR3), DHEC recently tested Spartanburg Water’s water for 28 unregulated contaminants. Twenty-three of the contaminants under review were not detected, but five were detected. The levels measured are included in this report. If you have any questions about these results or are interested in the full list of contaminants that were monitored, please contact Chad Lawson at 864-580-5693. For other contaminants, EPA and SCDHEC require monitoring as a means of building a base of occurrence data, but there are not at this time any enforceable limits on the concentration of these contaminants. These are referred to as unregulated contaminants. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 microbiological contaminants are available from the **Safe Drinking Water Hotline 1-800-426-4791**.

We are required to report only those contaminants which have been detected during the calendar year 2020, or in the most recent sample taken for parameters measured less frequently than once per year. The information must include the contaminant name, the MCLG and MCL, the highest level found (or the average for substances subject to secondary MCL’s) and the range of measurements if multiple samples were taken, the date samples were taken, and the typical source or sources of the contaminants detected. Since no MCL’s were exceeded, no health effects language is required.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 the 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 at 1-800-426-4791**.

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. Liberty Chesnee Fingerville Water District 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>. MCL’s 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 for a lifetime at the MCL level to have a one-in-a-million chance of having the described health effect.

Liberty-Chesnee-Fingerville Water District, Spartanburg Water System & the South Carolina Department of Health & Environmental Control routinely monitor for 81 contaminants in your drinking water according to federal and state laws.

The tables below show the results of monitoring for contaminants which have been detected during the period of January 1st to December 31st, 2020.

**SPARTANBURG WATER SYSTEM MONITORING—REGULATED**

Substance	MCLG	MCL	Highest Level	Range of Levels	Year Sampled	MCL exceeded ?	Typical Source
Fluoride* R. B. Simms	4.0 ppm	4.0 ppm	0.78 ppm	NA*	2020	NO	Erosion of natural deposit. Water additive which promotes strong teeth
Nitrate	10 ppm	10 ppm	0.11 ppm	NA	2020	No	Naturally occurring and fertilizer runoff
Total Organic Carbon	NA	TT = removal ratio of 1 or greater	Removal Ratio Avg. = 1.15	1.00—1.44	2020	No	Naturally occurring
Turbidity	N/A	TT = 1 NTU	0.14 NTU	0.01—0.14	2020	No	Soil Runoff
		TT = Percentage of samples equal to or below 0.3 NTU	100%	NA			

\* Only fluoride results from samples taken by DHEC are given in the table. Average fluoride level detected by SWS's certified laboratory during 2020 was 0.71 ppm for RB Simms.

### Unregulated Contaminants

Unregulated contaminants are those that do not have a drinking water standard set by EPA. EPA is required by the Safe Water Drinking Act to identify every five years a list of potential contaminants, make a rule for water systems to test for them, and then make a decision whether regulations is necessary. As part of the Unregulated Contaminant Monitoring Rule 4 (UCMR4), SCDHEC performed testing on Spartanburg Water System for 10 Cyanotoxins and 20 additional contaminates. SCDHEC began testing in 2019 and completed UCMR4 testing in 2020. Assessment Monitoring detected no Cyanotoxins. Seventeen of the contaminants under review were not detected, but three were detected in 2020 and are reported in the table. The Total Organic Carbon (TOC) as measured within the source water has been provided in the table as well. The average levels measured as well as the range of the levels found are included in this report. If you have any questions about these results or are interested in the full list of contaminants that were monitored, please contact Bryan Bates at 864-580-5691.

### SPARTANBURG WATER SYSTEM MONITORING—UNREGULATED CONTAMINANTS MONITORING RULE 4

Substance	Location	Average	Range Of Levels Found	Date of Sample	Typical Source
HAA5	Distribution	19 ppb	14-23 ppb	2020	By-product of disinfection
HAA6Br	Distribution	4 ppb	3-4.6 ppb	2020	By-product of disinfection
HAA9	Distribution	23 ppb	17-27 ppb	2020	By-product of disinfection
Total Organic Carbon (TOC)	Source Water	2 ppm	N/A	2020	Naturally Occurring

### SPARTANBURG WATER SYSTEM MONITORING—UNREGULATED

Substance	MCLG	Secondary MCL	Level Found	Range Of Level	Year Sampled	MCL Exceeded?	Typical Source
Sodium	N/A	N/A	8.8 ppm	N/A	2020	No	Naturally Occurring
Nickel	N/A	N/A	0.068 ppm	N/A	2020	No	Erosion of natural deposits

### Lead and Copper

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. Spartanburg 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may want to consider having your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Water Hotline (1-800-426-4791) or at [www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water](http://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water).

### LEAD AND COPPER MEASURED IN DISTRIBUTION SYSTEM (REQUIRED EVERY 3 YEARS) SPARTANBURG WATER SYSTEM MONITORING

Contaminant	Action Level (90%)	Number over Action Level	Typical Source
Copper	1.3 ppm	0	Corrosion of household plumbing and erosion of natural deposits; Leaching from wood preservatives.
Lead	15 ppb	1	Corrosion of household plumbing and erosion of natural deposits.

The violation table below is related to the Lead and Copper Rule for water purchased from Spartanburg Water. **The LEAD AND COPPER RULE (LCR)** Protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and Copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Violation Type	Violation Begin	Violation End	Violation Explanation
Water Quality Parameter (WQP) Level Non-Compliance (LCR)	01/01/2020	12/31/2020	Water samples showed that pH levels in certain parts of our distribution system fell below optimum water quality parameters used to consistently control the natural corrosivity of our drinking water for the period indicated. Optimal water quality parameters are utilized to minimize the potential for lead and copper in our drinking water.

\* Spartanburg Water System is currently taking steps to ensure that pH is maintained within optimal ranges. These steps will include more frequent measurement at additional locations within the water transmission system and enhanced water distribution system monitoring and flushing.

**LIBERTY-CHESNEE-FINGERVILLE WATER DISTRICT LEAD AND COPPER RULE**

Contaminant	Action Level (AL)	MCLG	90th Percentile	Sites Over AL	Year Sampled	Violation	Likely Source of Contamination
Copper	1.3 ppm	1.3 ppm	0.193 ppm	0	2019	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	15 ppb	0	0 ppb	0	2019	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

**LIBERTY-CHESNEE-FINGERVILLE WATER DISTRICT - DISINFECTANTS AND DISINFECTION BY-PRODUCTS**

Substance	MCLG	MCL	Highest Level	Range of Levels	Year Sampled	Violation	Typical Source
Chlorine	4 ppm	4 ppm	0.90 ppm	0.80-0.90 ppm	2020	No	Water Additive to control microbes
Haloacetic Acids (HAA5)	No Goal for Total	60 ppb	27 ppb	18.1-37.6 ppb	2020	No	By-product of disinfection
Total Thrialomethanes (TTHM)	No Goal for Total	80 ppb	39 ppb	20.1-60 ppb	2020	No	By-product of disinfection

**What do all those symbols mean?**

**Non-Detects (ND)**-laboratory analysis indicates that the constituent is not present.

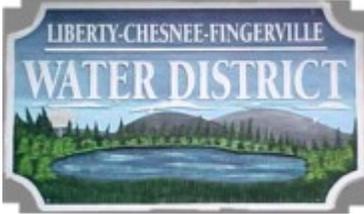
**Parts per million (ppm) or Milligrams per liter (mg/l)**-one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter**-one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

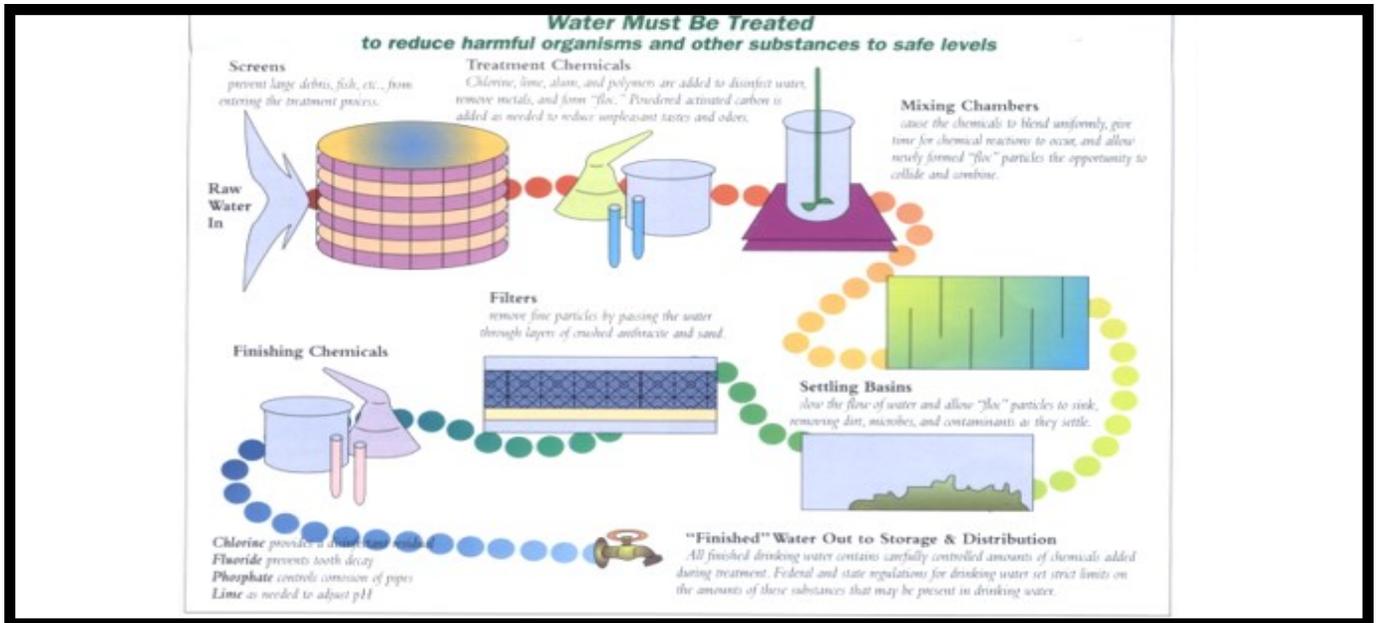
**Action Level**-the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Maximum Contaminant Level (MCL)**-The **“Maximum Allowed”** is the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG)**-The **“Goal”** 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.



**Liberty-Chesnee-Fingerville Water District**  
**P. O. Box 400**  
**Chesnee, S.C. 29323**



If you have questions about this report, please call our office at 864-461-2231. Our District is governed by a Board of Commissioners who meet on the last Thursday of each month at 5:00 p.m.