

**LIMESTONE COUNTY
WATER AND SEWER AUTHORITY**

P.O. Box 110
Athens, AL 35612
www.limestonecountywater.com



Limestone County 2020 Consumer Confidence Report

Informe de confianza del consumidor del Condado de Limestone 2020

**2020
Consumer Confidence Report**

Testing Performed
January - December 2020



**Limestone County
Water and Sewer Authority**

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Athens, AL 35612

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2020 CONSUMER CONFIDENCE REPORT



Water Sources:

The Limestone County Water and Sewer Authority (LCWSA) serves approximately 30,000 customers and routinely provides water to the City of Athens, City of Ardmore, City of Madison, East Lauderdale County, and Giles County, TN. Many sources supply our water. Surface water pumped from the Elk River at the North Limestone Treatment Facility (NLTF), located approximately five miles north of Elkmont. This facility uses a Coagulation-Sedimentation-Filtration treatment process. Groundwater pumped from Lawson and Newby Wells to the Binford Turner Treatment Facility (BTTF) located on Highway 31 South in Tanner. This facility uses a technique known as Ultrafiltration to remove all particles in the water down to .01 microns, smaller than the Poliovirus. LCWSA is actively looking for additional well sources. LCWSA purchases water from Athens Utilities and Decatur Utilities, and Huntsville Utilities, mixing with NLTF and BTTF water to create our final product, the water you receive. A Source Water Assessment is available for viewing on our Website at <http://www.limestonecountywater.com>.

Drinking-Water Information:

The drinking water sources (tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the land's surface or through the ground, it dissolves naturally occurring minerals and radioactive material. It can pick up substances resulting from the presence of animals or human activity.

All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. MCLs, defined in the definitions and abbreviations in the report, 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.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, can be naturally occurring or from urban stormwater run-off, wastewater discharges, oil/gas production, mining, or farming.

Pesticides and herbicides may come from various sources such as agriculture, stormwater run-off, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial and petroleum production, can also come from gas stations, urban stormwater run-off, and septic systems.

Radioactive contaminants 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, the EPA prescribes regulation that limits the amount of specific contaminants in water provided by the public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

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 can be particularly vulnerable to infections. People at risk should seek advice about drinking water from their health care providers.

LCWSA also tests your source water for pathogens, such as Cryptosporidium and Giardia. These pathogens can enter the water from animal or human waste. General information for immunocompromised persons is available on the official Website of the Center for Disease Control at www.cdc.gov/parasites/crypto/gen_gen_info/infect_ic.html or from the Safe Drinking Water Hotline at (800) 426-4791. This language does not indicate the presence of Cryptosporidium in our drinking water.

Other Information:

2020 saw a year of much higher-than-normal growth due to the housing market demands generated from the industrial and commercial growth Limestone County is experiencing. This growth has driven accelerated project schedules to address supply and demand requirements. LCWSA is executing projects according to the 20-year master planning efforts completed in 2019, adjusting as needed based on the reality of what we see in requested developmental demands. Redundant sources throughout the system are being connected to ensure future demands are met as well. 2021 efforts will continue to focus on projects that will ensure we meet supply and pressure demands throughout our service area and continued water plant rehabilitation projects to maintain maximum production capacities during peak demand.

As many businesses faced challenges during the Covid-19 pandemic, so did Limestone County Water and Sewer. During this time, LCWSA faced workers being quarantined. LCWSA took bacteriological samples four and five days early to meet the testing schedules. The test results were normal. However, due to being early, they were removed from ADEM's testing window. Our operators have been re-educated on the rules of testing to prevent this oversight from occurring again. During this same time, LCWSA decided to move to an outside lab instead of an in-house lab. As with many transitions, things slip between the cracks. The TOC results for May 2020 were slow to be reported. This violation was simply a reporting issue and not a water quality issue. We here at Limestone County Water and Sewer are committed to providing clean and safe drinking water.

Information on Lead and Copper

Lead and Copper are metals that have been of concern in drinking water for many years because of their chronic toxicity, especially for young children. In areas of active mining, these metals are often found at high concentrations in surface water. That is not the case in Limestone County. These metals in drinking water here derive from corrosion of lead and copper piping. Lead solder has been banned for several years, and we have vigorously pursued the removal of

all lead piping from our system. However, copper piping is relatively common in homes, and LCWSA has used Copper for some service lines in the past.

If present, elevated lead levels 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. LCWSA is responsible for providing high-quality drinking water but cannot control the various 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 the 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 are available from the Safe Drinking Water

Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Waiver Information

The Environmental Protection Agency (EPA) Safe Drinking Water Act (SDWA) and the State of Alabama Department of Environmental Management (ADEM) regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals (VOCs), lead and Copper, and synthetic organic chemicals (SOCs). LCWSA has been granted a waiver to reduce sampling for lead and Copper once every three years. This is based on previous sampling events not detecting these contaminants. Based on a study conducted by ADEM with EPA approval, a statewide waiver for monitoring of asbestos and dioxin was issued. Therefore, these contaminants were not sampled.

Questions?

LCWSA Board of Directors governs all major decisions. You may sit in on any of the monthly meetings. Meetings are held on the last Thursday of each month, except during the holidays at our Building on 17218 US Hwy 72 W in Athens. Please consult our Website at <http://www.limestonecountywater.com>, for further information, see the U.S. Environmental Protection Agency's (EPA's) Website for water information at <http://www.epa.gov/safewater>.

Table of Contaminants

Contaminant	Violation Y/N	Unit	MCL	MCLG	Detected Level	Likely Source of Contaminant
Microbiological Contaminants						
Total Coli form Bacteria	N	Colonies/100mL	<5%	0	4	Naturally present in the environment
Fecal Coli form and <i>E. Coli</i>	N	Colonies/100mL	0	0	0	Human and animal fecal waste
Inorganic Contaminants (Primary & Secondary)						
pH	N	S.U.	-	N/A	8.60	Range: 7.00 -8.60, Erosion of natural deposits
Total Alkalinity	N	mg/L	-	N/A	86.4	Range: 63.7 – 137
Total Dissolved Solids	N	mg/L	500	N/A	144	Range: 144 - 172
Corrosivity, Langliers Index	N	-	-	N/A	-1.76	Range: -1.76-+0.23
Hardness, as CaCO ₃	N	mg/L	-	N/A	117	Range: 115 to 139, Erosion of natural deposits
Color Units	N	-	15	N/A	5	Leaching from vegetation
MBAS	N	mg/L	0.5	N/A	<0.05	N/A
Turbidity	N	NTU	-	N/A	0.62	Range: 0.01 – 0.62, Soil Runoff
Odor	N	mg/L	-	N/A	<1	Natural algae populations; Leaching from vegetation
Chloride	N	mg/L	250	N/A	9.10	Range: 7.95 – 11.4, Erosion of natural deposits
Nitrate	N	mg/L	10	10	0.89	Range:0.57 to 1.14, Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	N	mg/L	1	1	<0.10	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sulfate, as SO ₄	N	mg/L	500	N/A	6.40	Range: 3.91 – 11.6, Erosion of natural deposits
Fluoride	N	mg/L	4	4	<0.25	Erosion of natural deposits; discharge from fertilizer and aluminum factories
CO ₂	N	mg/L	-	N/A	2.44	Range: 1.1 – 4.9, Naturally present in the environment
Cyanide	N	mg/L	200	200	<0.010	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Aluminum	N	mg/L	200	N/A	0.028	Range:ND-0.028:Erosion of natural deposits
Antimony	N	mg/L	6	6	<0.005	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	N	mg/L	50	N/A	<0.005	Erosion of natural deposits; run-off from orchards; run-off from glass and electronic production wastes
Barium	N	mg/L	2	2	0.015	Range:ND-0.015; Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Beryllium	N	mg/L	0.004	0.004	<0.001	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace and defense industries
Cadmium	N	mg/L	0.005	0.005	<0.001	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; run-off from waste batteries and paint
Calcium	N	mg/L	-	N/A	40.1	Erosion of natural deposits

Table of Contaminants Continued:

Chromium	N	mg/L	0.10	0.10	<0.050	Discharge from steel and pulp mills; erosion of natural deposits
Copper	N	mg/L	1.0	N/A	<0.050	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	N	mg/L	0.30	N/A	<0.050	Erosion of natural deposits; leaching from pipes
Lead	N	mg/L	0.015	0	<0.005	Corrosion of household plumbing systems; erosion of natural deposits
Magnesium	N	mg/L	-	N/A	4.0	Erosion of natural deposits
Manganese	N	mg/L	0.05	N/A	0.021	Erosion of natural deposits
Mercury	N	mg/L	0.002	0.002	<0.001	Erosion of natural deposits; discharge from refineries and factories; run-off from landfills; run-off from crops
Nickel	N	mg/L	0.1	N/A	<0.050	Erosion of natural deposits
Selenium	N	mg/L	0.05	0.05	<0.010	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Silver	N	mg/L	0.1	N/A	<0.050	Erosion of natural deposits
Sodium	N	mg/L	-	N/A	3.41	Erosion of natural deposits
Thallium	N	mg/L	0.002	0.0005	<0.001	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Zinc	N	mg/L	5.0	N/A	<0.050	Erosion of natural deposits; discharge from refineries and factories; run-off from landfills

Synthetic Organic Contaminants (including herbicides and pesticides) (2018 results, next testing required in 2021)

2,4-D	N	ppb	70	70	<1.0	Run-off from herbicide used on row crops
2,4,6-TP (Silvex)	N	ppb	50	50	<0.1	Runoff of banned herbicide
Alachlor	N	ppb	2	0	<0.1	Runoff from herbicide used on row crops
Aldicarb	N	ppb	3	N/A	<0.0	
Aldicarb Sulfonate	N	ppb	2	N/A	<2.0	
Aldicarb Sulfonate	N	ppb	4	N/A	<2.0	
Atrazine	N	ppb	3	3	<1.0	Run-off from herbicide used on row crops
Benz(a)pyrene (PAH)	N	ppb	0.20	0	<0.1	Leaching from lining of water storage tanks and distribution lines
Carbofuran	N	ppb	40	40	<2.0	Leaching of soil fumigant used on rice and alfalfa
Chlordane	N	ppb	2	0	<1.0	Residue of banned termiticide
Delays	N	ppb	200	200	<2.0	Run-off from herbicide used on rights of way
Di(2-ethylhexyl) adipate	N	ppb	400	400	<2.0	Discharge from chemical factories
Di(2-ethylhexyl) phthalate	N	ppb	6	0	<2.0	Discharge from rubber and chemical factories
Dibromochloropropane	N	ppb	200	0	<0.01	Run-off/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	N	ppb	7	7	<2.0	Run-off from herbicide used on soybeans and vegetables
Diquat	N	ppb	20	20	<10.0	Herbicide runoff
Endosulfan	N	ppb	100	100	<50	Herbicide runoff
Endrin	N	ppb	2	0	<0.2	Residue of banned insecticides
Ethylenebisdithionamide	N	ppb	50	0	<0.01	Discharge from petroleum refineries
Glyphosate	N	ppb	700	700	<250	Herbicide runoff
Heptachlor	N	ppb	400	0	<0.1	Residue of banned termiticide
Heptachlor Epoxide	N	ppb	200	0	<0.1	Breakdown of heptachlor
Hexachlorobenzene	N	ppb	1	0	<0.5	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene	N	ppb	50	50	<10	Discharge from chemical factories
Chlordane	N	ppb	200	200	<2.0	Run-off/leaching from insecticide used on cattle, lumber and gardens
Methoxychlor	N	ppb	40	40	<2.0	Run-off/leaching from insecticide used on fruits, vegetables, alfalfa and livestock
Oxamyl (Vydate)	N	ppb	200	200	<20.0	Run-off/leaching from insecticide used on apples, potatoes and tomatoes
PCBs (Polychlorinated Biphenyls)	N	ppb	500	0	<0.25	Discharge from landfills; discharge of waste chemicals
Permethrin	N	ppb	500	0	<2.0	Herbicide runoff
Simazine	N	ppb	500	500	<2.0	Herbicide runoff
Toxaphene	N	ppb	3	0	<1.0	Run-off/leaching from insecticide used on cattle and cotton

Volatile Organic Compounds (VOC)

	Results, ppm	MDL, ppm	MCL, ppm	Comments
1,1,1-Trichloroethane	<0.50	0.50	0.2	
1,1,2-Trichloroethane	<0.50	0.50	0.005	
1,1-Dichloroethylene	<0.50	0.50	0.007	
1,2-Dichloroethane	<0.50	0.50	0.07	
1,2-Dichloroethane	<0.50	0.50	0.005	
1,2-Dichloropropane	<0.50	0.50	0.005	
Benzene	<0.50	0.50	0.005	
Cacbas Tetrahydride	<0.50	0.50	0.005	
Cis-1,2-Dichloroethylene	<0.50	0.50	0.07	
Ethylbenzene	<0.50	0.50	0.7	
Methylene Chloride (Dichloromethane)	<0.50	0.50	0.005	
Monochlorobenzene	<0.50	0.50	0.1	
O-Dichlorobenzene	<0.50	0.50	0.6	
P-Dichlorobenzene	<0.50	0.50	0.075	
Styrene	<0.50	0.50	0.1	
TCE (Trichloroethylene)	<0.50	0.50	0.005	
Tetrachloroethylene	<0.50	0.50	0.005	
Toluene	<0.50	0.50	1	
Trans-1,2-Dichloroethylene	<0.50	0.50	0.1	
Vinyl Chloride	<0.50	0.50	0.009	
Xylenes	<0.50	0.50	10	
1,1 - Dichloropropane	<0.50	0.50	N/A	
1,1,1,2-Tetrachloroethane	<0.50	0.50	N/A	
1,1,2,2-Tetrachloroethane	<0.50	0.50	N/A	
1,1-Dichloroethane	<0.50	0.50	N/A	
1,2,3 - Trichlorobenzene	<0.50	0.50	N/A	
1,2,3 - Trichloropropane	<0.50	0.50	N/A	
1,2,4 - Trimethylbenzene	<0.50	0.50	N/A	
1,3 - Dichloropropane	<0.50	0.50	N/A	
1,3 - Dichloropropane	<0.50	0.50	N/A	
1,3,5 - Trimethylbenzene	<0.50	0.50	N/A	
2,2 - Dichloropropane	<0.50	0.50	N/A	
Bromobenzene	<0.50	0.50	N/A	
Bromochloromethane	<0.50	0.50	N/A	
Bromodichloromethane	0.0011	0.50	N/A	
Bromoform	<0.50	0.50	N/A	
Bromomethane	<0.50	0.50	N/A	
Chloroethane	<0.50	0.50	N/A	
Chloroform	0.021	0.50	N/A	
Chloromethane	<0.50	0.50	N/A	
Dibromochloromethane	<0.50	0.50	N/A	
Dibromomethane	<0.50	0.50	N/A	
Dichlorodifluoromethane	<0.50	0.50	N/A	
Hexachlorocyclopentadiene	<0.50	0.50	N/A	
Isopropyl benzene	<0.50	0.50	N/A	
M-Dichlorobenzene	<0.50	0.50	N/A	
Methyl-Tertiary Butyl Ether (MTBE)	<2.00	2.00	N/A	
N - Butyl benzene	<0.50	0.50	N/A	
Naphthalene	<0.50	0.50	N/A	
N-Propylbenzene	<0.50	0.50	N/A	
O-Chloroethane	<0.50	0.50	N/A	
P-Chloroethane	<0.50	0.50	N/A	
P-Isopropyl toluene	<0.50	0.50	N/A	
Sec - Butyl benzene	<0.50	0.50	N/A	
Tert - Butyl benzene	<0.50	0.50	N/A	
Trichlorofluoromethane	<0.50	0.50	N/A	

NO ₃ -N	Results, mg/l	MDL	MCL	Comments
Nitrate, mg NO ₃ -N/L	2.5	0.10	10	
Nitrite, mg NO ₂ -N/L	<0.10	0.10	1	
DBP	Results, ppb	MDL	MCL	Range
THM	36.5 Avg.	5.00	80	13.9 - 58.5
HAA ₅	38.9 Avg.	1.00	40	7.3 - 52.8
Total Organic Compounds (TOC)		MDL	MCL	
Total Organic Compounds (TOC)	0.96 Avg.	0.50	N/A	0.92 - 2.30

Units Description:

NA: Not applicable ND: Not detected NR: Not reported

MNR: Monitoring not required but recommended.

ppm: parts per million, or milligrams per liter (mg/L)

ppb: parts per billion, or micrograms per liter (µg/L)

of monthly positive samples: Number of samples taken monthly that were found to be positive

Important Drinking Water Definitions:

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.

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.

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

MRDLG: Maximum residual disinfection 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.

MRDL: Maximum residual disinfectant level. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

Other Educational Information

Nitrate [measured as Nitrogen]

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

TTHMs [Total Trihalomethanes]

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

For more information contact:

Limestone County Water and Sewer Authority

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