2023 Consumer Confidence Report

Water Sources:

The Limestone County Water and Sewer Authority (LCWSA) serves approximately 30,000 customers within the City of Athens, the City of Ardmore, The City of Madison, East Lauderdale County, Minor Hill, TN, and Giles County, TN. Many sources supply our water. Surface water is 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 is 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 purchases water from Athens Utilities, Decatur Utilities, Huntsville Utilities, and the Madison County Water Department, 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 this 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 regulations that limits the amount of specific contaminants in water provided by public water systems. The 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 healthcare 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 Center for Disease Control website 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:

2023 saw a year of robust 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 updated in the previous year, adjusting as needed based on the reality of what we see in requested developmental demands. Redundant sources throughout the system are connected to ensure future demands are also met. 2024 efforts will continue to focus on projects that will ensure we meet supply and pressure demands throughout our service area and continue several water plant rehabilitation projects to maintain maximum production capacities during peak demand.

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 the 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 at 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 Coliform Bacteria	N	Colonies/ 100mL	<5%	0	0	Naturally present in the environment
Fecal Coliform and *E. Coli*	N	Colonies/ 100mL	0	0	0	Human and animal fecal waste
Inorganic Contaminants (Primary & Secondary)						
pH	N	S.U.	-	N/A	7.4	Range: 6.80 -8.60, Erosion of natural deposits
Total Alkalinity	N	mg/L	-	N/A	125	Range: 63.7 – 137
Total Dissolved Solids	N	mg/L	500	N/A	179	Range: 94 - 179
Corrosivity, Langliers Index	N	-	-	N/A	-1.76	Range: -1.76-+0.23
Hardness, as $CaCO_3$	N	mg/L	-	N/A	143	Range: 115 to 143, Erosion of natural deposits
Color Units	N	-	15	N/A	ND	Leaching from vegetation
MBAS	N	mg/L	0.5	N/A	ND	N/A
Turbidity	N	NTU	-	N/A	0.62	Range: 0.01 – 0.62, Soil Run-off
Odor	N	mg/L	-	N/A	ND	Natural algae populations; Leaching from vegetation
Chloride	N	mg/L	250	N/A	8.72	Range: 7.00 – 11.4, Erosion of natural deposits
Nitrate	N	mg/L	10	10	1.07	Range:0.57 to 3.50, Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	N	mg/L	1	1	ND	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sulfate, as SO_4	N	mg/L	500	N/A	6.73	Range: 3.91 – 11.6, Erosion of natural deposits
Fluoride	N	mg/L	4	4	ND	Erosion of natural deposits; discharge from fertilizer and aluminum factories
CO_2	N	mg/L	-	N/A	ND	Range: ND – 12.3, Naturally present in the environment
Cyanide	N	mg/L	0.2	0.2	ND	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Aluminum	N	mg/L	200	N/A	0.0842	Range:ND-0.0842:Erosion of natural deposits
Antimony	N	mg/L	0.006	0.006	ND	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	N	mg/L	0.01	0	0.000672	Erosion of natural deposits; run-off from orchards; run-off from glass and electronic production wastes
Barium	N	mg/L	2	2	0.0200	Range:ND-0.020; Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Beryllium	N	mg/L	0.004	0.004	ND	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace and defense industries
Cadmium	N	mg/L	0.005	0.005	ND	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	48.6	Erosion of natural deposits
Chromium	N	mg/L	0.10	0.10	ND	Discharge from steel and pulp mills; erosion of natural deposits
Copper	N	mg/L	1.0	N/A	0.000682	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	N	mg/L	0.30	N/A	ND	Erosion of natural deposits; leaching from pipes
Lead	N	mg/L	0.015	0	ND	Corrosion of household plumbing systems; erosion of natural deposits
Magnesium	N	mg/L	-	N/A	5.27	Erosion of natural deposits
Manganese	N	mg/L	0.05	N/A	0.000965	Erosion of natural deposits
Mercury	N	mg/L	0.002	0.002	ND	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	ND	Erosion of natural deposits
Selenium	N	mg/L	0.05	0.05	0.000526	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Silver	N	mg/L	0.1	N/A	ND	Erosion of natural deposits
Sodium	N	mg/L	-	N/A	2.43	Erosion of natural deposits
Thallium	N	mg/L	0.002	0.0005	ND	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Zinc	N	mg/L	5.0	N/A	0.0107	Erosion of natural deposits; discharge from refineries and factories; run-off from landfills
Synthetic Organic Contaminants (including herbicides and pesticides)						
2,4-D	N	ppb	70	70	<1.0	Run-off from herbicide used on row crops
2,4,5-TP (Silvex)	N	ppb	50	50	<0.1	Run-off of banned herbicide
Alachlor	N	ppb	2	0	<0.1	Run-off from herbicide used on row crops
Aldicarb	N	ppb	3	N/A	<2.0	
Aldicarb Sulfone	N	ppb	2	N/A	<2.0	
Aldicarb Sulfoxide	N	ppb	4	N/A	<2.0	
Atrazine	N	ppb	3	3	<1.0	Run-off from herbicide used on row crops
Benzo(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
Dalapon	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	0.2	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 run-off
Endothall	N	ppb	100	100	<50	Herbicide run-off
Endrin	N	ppb	2	2	<0.2	Residue of banned insecticides
Ethylenedibromide	N	ppb	50	0	<0.01	Discharge from petroleum refineries
Glyphosate	N	ppb	700	700	<250	Herbicide run-off
Heptachlor	N	ppb	0.4	0	<0.1	Residue of banned termiticide
Heptachlor Epoxide	N	ppb	0.2	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	2	0	<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	0.5	0	<0.25	Discharge from landfills; discharge of waste chemicals
Picloram	N	ppb	500	500	<2.0	Herbicide run-off
Simazine	N	ppb	4	4	<2.0	Herbicide run-off
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	
1,2,4-Trichlorobenzene	<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	
Carbon Tetrachloride	<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	0.002	
Xylenes	<0.50	0.50	10	
1,1 - Dichloropropene	<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 - Dichloropropene	<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	0.0054	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	0.025	0.50	N/A	
Chloromethane	<0.50	0.50	N/A	
Dibromochloromethane	0.00066	0.50	N/A	
Dibromomethane	<0.50	0.50	N/A	
Dichlorodifluoromethane	<0.50	0.50	N/A	
Hexachlorobutadiene	<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-Chlorotoluene	<0.50	0.50	N/A	
P-Chlorotoluene	<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	
Trichlorfluoromethane	<0.50	0.50	N/A	
NO_3/NO_2	**Result, mg/l**	**MDL**	**MCL**	**Comments**
Nitrate, mg NO_3-N/L	1.07	0.10	10	
Nitrite, mg NO_3-N/L	<0.10	0.10	1	
DBP	**Result, ppb**	**MDL**	**MCL**	**Range**
TTHM	51.6 Avg.	5.00	80	13.9 – 58.5
HAA_5	43.7 Avg.	1.00	60	7.3 – 52.3
Total Organic Carbon (TOC)		**MDL**	**MCL**	
Total Organic Carbon (TOC)	1.01 Avg.	0.50	N/A	0.92 – 2.30

Perfluoroalkyl Substances (PFAS)	**Result, ppt**	**Range**	**Comments**
Perfluorooctanesulfonic acid (PFOS)	10.2 Avg.	9.5 – 12.0	
Perfluorooctanoic acid (PFOA)	7.9 Avg.	5.6 – 10.0	
Perfluorobutanesulfonic acid (PFBS)	10.4 Avg.	8.3 – 12.0	
Perfluorohexanoic acid (PFHxA)	6.9 Avg.	5.2 – 8.6	
Perfluorohexanesulfonic acid (PFHxS)	5.9 Avg.	5.3 – 6.5	

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 healthcare 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.

Monitoring Non-compliance Notice

LIMESTONE COUNTY WATER SYSTEM IS REQUIRED TO MONITOR YOUR DRINKING WATER FOR SPECIFIC CONTAMINANTS ON A REGULAR BASIS. RESULTS OF REGULAR MONITORING ARE INDICATOR OF WHETHER OR NOT YOUR DRINKING WATER MEETS HEALTH STANDARDS. DURING THE DECEMBER 2022 MONITORING PERIOD, WE DID NOT MONITOR FOR TOTAL COLIFORM BACTERIA AND, THEREFORE, CAN NOT BE SURE OF THE QUALITY OF YOUR DRINKING WATER DURING THAT TIME.

WE HERE AT LIMESTONE COUNTY WATER AND SEWER ARE COMMITTED TO PROVIDING CLEAN AND SAFE DRINKING WATER. MOST WATER SYSTEMS IN ALABAMA HAVE TO RELY ON OUTSIDE LABS TO CONDUCT ALL THE NECESSARY TESTS TO ENSURE THE SAFETY OF THE WATER SUPPLY. LIMESTONE COUNTY WATER IS NO EXCEPTION IN DEPENDING ON OUTSIDE LABS. THE LAB UTILIZED ADEM'S WEB PORTAL TO SUBMIT THE SAMPLE RESULTS; UNFORTUNATELY, THE INFORMATION DID NOT UPLOAD IN A TIMELY FASHION. THE SAMPLES MET ALL ADEM STANDARDS AND DID NOT CONTAIN TOTAL COLIFORM BACTERIA. LIMESTONE COUNTY WATER AND SEWER IS PLACING MORE FOLLOW-UP SCRUTINY ON THE WEBSITE SUBMITTAL PROCESS TO PREVENT FURTHER TESTING MISHAPS.

PLEASE SHARE THIS INFORMATION WITH ALL THE OTHER PEOPLE WHO DRINK THIS WATER, ESPECIALLY THOSE WHO MAY NOT HAVE RECEIVED THIS NOTICE DIRECTLY (FOR EXAMPLE, PEOPLE IN APARTMENTS, NURSING HOMES, SCHOOLS, AND BUSINESSES). YOU CAN DO THIS BY POSTING THIS NOTICE IN A PUBLIC PLACE OR DISTRIBUTING COPIES BY HAND OR MAIL.

SHOULD YOU HAVE ANY QUESTIONS CONCERNING THIS NON-COMPLIANCE OR MONITORING REQUIREMENTS, PLEASE CONTACT:

For more information, contact: **Limestone County Water and Sewer Authority**
Nicholas Lowe, Water Quality Manager
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Athens, AL 35611

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LIMESTONE COUNTY WATER AND SEWER AUTHORITY