



# 2018 Consumer Confidence Report

## Do I need to take special precautions?

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

## Where does my water come from?

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. Our water is supplied by many sources. 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. Ground water 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 that will remove all particles in the water down to .01 microns, which is smaller than the Polio virus. LCWSA is actively looking for additional well sources. Treated water is also pumped from Greenbrier (Horton Spring) and water purchased from Athens Utilities and Decatur Utilities is combined 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>.

## Why are there contaminants in my drinking water?

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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. These may 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 as well as pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses

may also be present. Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may come from gas stations, urban storm water runoff, and septic systems as well, and Radioactive contaminants, which 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## How can I get involved?

LCWSA Board of Directors govern all major decisions. To become more involved, you may sit in on any of the monthly meetings. Meetings are held on the last Thursday of each month, with the exceptions of during the holidays at our Customer Service and Administration Building at 520 S. Jefferson St in Athens. Consult our website at <http://www.lcwsa.com>, and, for further information; see the U.S. Environmental Protection Agency's (EPA's) website for water information at <http://www.epa.gov/safewater>.

## Other Information

2018 has been a continuance of rapid growth in Limestone County, predominantly in the eastern region. LCWSA started working on a new 20 year master plan along with updating the GIS / mapping system and the hydraulic model. The upgrades will assist in planning for the expected high growth rate over the next few years to ensure uninterrupted service to our existing customers. The addition of a new water supply from Decatur was completed and put in use. With this new connection LCWSA added an additional 3 million gallons per day water supply to the southern/eastern portions of the county.

## 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. Copper piping, however, is fairly common in homes and LCWSA has in the past used copper for some service lines.

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. LCWSA 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 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 is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

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 to once every three years. This is based on prior 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.

## Waiver Information

The Environmental Protection Agency (EPA) Safe Drinking Water Act (SDWA) and the State of Alabama Department of

### Table of Contaminants

Contaminant	Violation Y/N	Unit	MCL	MCLG	Detected Level	Likely Source of Contaminant
<b>Microbiological Contaminants</b>						
Total Coli form Bacteria	N	Colonies/100mL	<5%	0	0	Naturally present in the environment
Fecal Coli form and <i>E. Coli</i>	N	Colonies/100mL	0	0	0	Human and animal fecal waste
<b>Inorganic Contaminants (Primary &amp; Secondary)</b>						
pH	N	S.U.	-	N/A	8.02	Erosion of natural deposits
Total Alkalinity	N	mg/L	-	N/A	137	N/A
Total Dissolved Solids	N	mg/L	500	N/A	172	N/A
Corrosivity, Langliers Index	N	-	-	N/A	+0.23	N/A
Hardness, as CaCO <sub>3</sub>	N	mg/L	-	N/A	108	Range: 108 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	0.01	Soil Runoff
Odor	N	mg/L	-	N/A	<1	Natural algae populations; Leaching from vegetation
Chloride	N	mg/L	250	N/A	7.78	Erosion of natural deposits
Nitrate	N	mg/L	10	10	1.02	Range:0.78 to 1.14, Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	N	mg/L	1	1	<0.10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sulfate, as SO <sub>4</sub>	N	mg/L	500	N/A	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 <sub>2</sub>	N	mg/L	-	N/A	1.1	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	<0.050	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; runoff from orchards; runoff from glass and electronic production wastes
Barium	N	mg/L	2	2	<0.050	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; runoff from waste batteries and paint
Calcium	N	mg/L	-	N/A	35.1	Erosion of natural deposits
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	5.04	Erosion of natural deposits
Manganese	N	mg/L	0.05	N/A	0.016	Erosion of natural deposits
Mercury	N	mg/L	0.002	0.002	<0.001	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff 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	1.78	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; runoff from landfills

**Synthetic Organic Contaminants ( including herbicides and pesticides) (2015 results, next testing required in 2017)**

2,4-D	N	ppb	70	70	<1.0	Runoff from herbicide used on row crops
2,4,5-TP (Silves)	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	<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	Runoff 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	Runoff 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	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	N	ppb	7	7	<2.0	Runoff from herbicide used on soybeans and vegetables
Diquat	N	ppb	20	20	<10.0	Herbicide runoff
Endothall	N	ppb	100	100	<50	Herbicide runoff
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 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	Runoff/leaching from insecticide used on cattle, lumber and gardens
Methoxychlor	N	ppb	40	40	<2.0	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa and livestock
Oxamyl (Vydate)	N	ppb	200	200	<20.0	Runoff/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
Picloram	N	ppb	500	0	<2.0	Herbicide runoff
Simazine	N	ppb	500	500	<2.0	Herbicide runoff
Toxaphene	N	ppb	3	0	<1.0	Runoff/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	2.56	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	7.13	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	
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	
Trichlorofluoromethane	<0.50	0.50	N/A	
<b>NO<sub>3</sub>/NO<sub>2</sub></b>	<b>Result, mg/l</b>	<b>MDL</b>	<b>MCL</b>	<b>Comments</b>
Nitrate, mg NO <sub>3</sub> -N/L	4.19	0.10	10	
Nitrite, mg NO <sub>3</sub> -N/L	<0.10	0.10	1	
<b>DBP</b>	<b>Result, ppb</b>	<b>MDL</b>	<b>MCL</b>	<b>Range</b>
TTHM	34.05 Avg.	5.00	80	13.9 – 58.5
HAA <sub>5</sub>	29.95 Avg.	1.00	60	7.3 – 52.3
<b>Total Organic Compounds (TOC)</b>		<b>MDL</b>	<b>MCL</b>	
Total Organic Compounds (TOC)	1.41 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** Phone: 256-233-6445 Ext.125

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