2021 Annual Drinking Water Quality Report
(Testing Performed January through December 2020)

LINCOLN WATER WORKS
33 Municipal Complex Drive
Lincoln, AL 35096

Phone 205-763-7777
Fax 205-763-7394

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Number of Customers	Approximately 3400 service connections	
Primary Water Sources	Two (2) groundwater wells producing from the Knox Group aquifer	
	Purchased water from Oxford Water Works	
Back-up Source	Purchased water from City of Talladega Water and Sewer	
Water Treatment	Chlorination	
Storage Capacity	Four (4) storage tanks with a total capacity of 4,300,000 gallons	
Council Members	Carroll Lew Watson, Mayor	Billy Pearson, Council
	Brandon Tate, Council	Jennie Jones, Council
	Sadie Britt, Council	Joey Callahan, Council

SOURCE WATER ASSESSMENT

In compliance with the Alabama Department of Environmental Management (ADEM), Lincoln Water Works has developed a Source Water Assessment plan that will assist in protecting our water sources. This plan provides additional information such as potential sources of contamination. It includes a susceptibility analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. The assessment has been performed, public notification has been completed, and the plan has been approved by ADEM. A copy of the report is available in our office for review during normal business hours, or you may purchase a copy upon request for a nominal reproduction fee.

Please help us make this effort worthwhile by protecting our source water. Carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints and waste oil.

INFORMATION ABOUT LEAD

Lead in drinking water is rarely found in source water but is primarily from materials and components associated with service lines and home plumbing. Your water system is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Use *only* water from the cold-water tap for drinking, cooking, and *especially for making baby formula*. Hot water is more likely to cause leaching of lead from plumbing materials. 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. These recommended actions are very important to the health of your family. Lead levels in your drinking water are likely to be higher if:

- Your home or water system has lead pipes, or
- Your home has faucets or fittings made of brass which contains some lead, or
- Your home has copper pipes with lead solder and you have naturally soft water, and
- Water often sits in the pipes for several hours.

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/safewater/lead.

GENERAL INFORMATION

All drinking water, including bottled drinking 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. MCL's, defined in a List of Definitions 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.

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 radioactive material, and it 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 run-off, 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, storm water run-off, 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the levels of certain contaminants in water provided by 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. People who are immuno-compromised such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or other immune system disorders, some elderly, and infants can be particularly at risk from infections. People at risk 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 (800-426-4791).

Your source water is also tested for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. All test results were well within state and federal standards. For people who may be immuno-compromised, a guidance document developed jointly by the Environmental Protection Agency and the Center for Disease Control is available online at www.epa.gov/safewater or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of cryptosporidium in our drinking water. Based on a study conducted by ADEM with the approval of the EPA a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

QUESTIONS?

If you have any questions about this report or concerning your water utility, please contact Danny Groce at City Hall. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled City Council meetings. They are held on the 2nd and 4th Tuesday of each month at City Hall at 6:00 p.m.

More information about contaminants to drinking water and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).

MONITORING SCHEDULE

Lincoln Water Works and Oxford Water Works *routinely* monitor for constituents in your drinking water according to Federal and State laws on an assigned schedule. This report shows the results of the *most recent* monitoring in accordance with regulations governing drinking water. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets or exceeds federal and state requirements.

Constituent Monitored	**Lincoln**	**Oxford**
Inorganic Contaminants	2019	2020
Lead/Copper	2017	2019
Microbiological Contaminants	current	current
Nitrates	2019	2020
Radioactive Contaminants	2019	2020
Synthetic Organic Contaminants (including pesticides and herbicides)	2019	2020
Volatile Organic Contaminants	2019	2020
Disinfection By-products	2019	2020
Unregulated Contaminants Monitoring Rule 4 (UCMR4) Contaminants	--	2020
PFAS Contaminants	2020	--

MONITORING RESULTS – LINCOLN WATER WORKS

TABLE OF DETECTED DRINKING WATER CONTAMINANTS Lincoln Water Works						
Contaminants	**Violation Y/N**	**Lincoln Detected**	**Unit Msmt**	**MCLG**	**MCL**	**Likely Source of Contamination**
Alpha emitters	NO	ND-1.63	PCi/l	0	15	Erosion of natural deposits
Radium 228	NO	1.83	PCi/l	0	5	Erosion of natural deposits
Barium	NO	ND-0.02	ppm	2	2	Discharge of drilling wastes; discharge from refineries; erosion of natural deposits
Copper	NO	0.140 *	ppm	0	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	NO	0.004 *	ppm	0	AL=0.015	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	NO	0.53-0.92	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion
TTHM [Total trihalomethanes]	NO	Highest LRAA 2.10 (ND-3.60)	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	Highest LRAA 2.00 (ND-5.20)	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	2.40-3.40	ppm	n/a	250	Naturally occurring or from runoff
Hardness	NO	131-201	ppm	n/a	n/a	Naturally occurring or from water treatment
pH	NO	7.70-7.90	S.U.	n/a	n/a	Naturally occurring or from water treatment
Sodium	NO	ND	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	1.110-3.70	ppm	n/a	250	Naturally occurring or from discharge or runoff
Total Dissolved Solids	NO	110-200	ppm	n/a	500	Naturally occurring or from discharge or runoff

* Figure shown is 90th percentile and # of sites above the Action Level (AL) = 0

PFAS Contaminants – Lincoln Water Works

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that were used in the manufacture of nonstick cookware, stain-resistant carpet and textiles, firefighting foams, food wrappers, and other industrial and consumer applications. The U.S. Environmental Protection Agency (EPA) has not established national primary drinking water regulations for PFAS substances. The lifetime health advisory level for PFOA and PFOS is a combined 70 parts per trillion (ppt), or 0.07 parts per billion (ppb). Below is a list of PFAS contaminants for which our water sources were monitored in 2020 and the results of that monitoring.

Contaminant	**Unit Msmt**	**Level Detected**		**Contaminant**	**Unit Msmt**	**Level Detected**
11Cl-PF3OUdS (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid)	ppb	ND		Perfluoroheptanoic acid	ppb	ND
9Cl-PF3ONS (9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid)	ppb	ND		Perfluorohexanesulfonic acid	ppb	ND
ADONA (4,8-dioxa-3H-perfluorononanoic acid)	ppb	ND		Perfluorononanoic acid	ppb	ND
HFPO-DA (Hexafluoropropylene oxide dimer acidA)	ppb	ND		Perfluorooctanesulfonic acid	ppb	ND-0.004
NEtFOSAA (N-ethylperfluorooctanesulfonamidoacetic acid)	ppb	ND		Perfluorooctanoic acid	ppb	ND
NMeFOSAA (N-methylperfluorooctanesulfonamidoacetic acid0	ppb	ND		Perfluorotetradecanoic acid	ppb	ND
Perfluorobutanesulfonic acid	ppb	ND		Perfluorotridecanoic acid	ppb	ND
Perfluorodecanoic acid	ppb	ND		Perfluoroundecanoic acid	ppb	ND
Perfluorohexanoic acid	ppb	ND		Total PFAS	ppb	ND-0.004
Perfluorododecanoic acid	ppb	ND				

For more information on PFAS contaminants, please consult www.epa.gov/pfas/pfas-fact-sheets-and-infographics

MONITORING RESULTS – OXFORD WATER WORKS

TABLE OF DETECTED DRINKING WATER CONTAMINANTS Oxford Water Works						
Contaminants	**Violation Y/N**	**Level Detected**	**Unit Msmt**	**MCLG**	**MCL**	**Likely Source of Contamination**
Chlorine	NO	1.00-1.94	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Total Organic Carbon	NO	0.67-1.20	ppm	n/a	TT	Soil runoff
Turbidity	NO	Highest 0.047 100%<0.5	NTU	n/a	TT	Soil runoff
Copper (customer tap)	NO	0.110 * 0>AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen)	NO	0.34-1.00	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Trichloroethylene	NO	Avg. 1.01 (ND-2.00)	ppb	0	5	Discharge from metal degreasing sites and other factories
TTHM [Total trihalomethanes]	NO	LRAA Range ND—0.80	ppb	0	80	By-product of drinking water chlorination
HAA5 [Haloacetic Acids]	NO	LRAA Range ND—0.35	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	ND-5.70	ppb	n/a	n/a	Naturally occurring or from discharge or runoff
Secondary Contaminants						
Chloride	NO	7.50	ppm	n/a	250	Naturally occurring or from discharge or runoff
Hardness	NO	134	ppm	n/a	n/a	Naturally occurring or from water additives
pH	NO	8.0	S.U.	n/a	n/a	Naturally occurring or from water additives
Sodium	NO	4.10	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	2.50	ppm	n/a	250	Naturally occurring or from discharge or runoff
Total Dissolved Solids	NO	136	ppm	n/a	500	Naturally occurring or from discharge or runoff

* Figure shown is 90th percentile and # of sites above the Action Level (AL) = 0

UCMR4 Contaminants – Oxford Water Works

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) requires some systems to monitor for 30 unregulated contaminants during January 2018 through December 2020 on an assigned schedule. The table below shows the results of our monitoring during 2019 and 2020.

Unregulated Contaminant Rule 4 (UCMR4) Contaminants					
Contaminants	**Unit Msmt**	**Level Detected**	**Contaminant**	**Unit Msmt**	**Level Detected**
Germanium	ppb	ND	1-butanol	ppb	ND
Manganese	ppb	ND-48.8	2-methoxyethanol	ppb	ND
Alpha-hexachlorocyclohexane	ppb	ND	2-propen-1-ol	ppb	ND
Chlorpyrifos	ppb	ND	Butylated hydroxyanisole	ppb	ND
Dimethipin	ppb	ND	O-toluidine	ppb	ND
Ethoprop	ppb	ND	Quinoline	ppb	ND
Oxyfluorfen	ppb	ND	Total organic carbon (TOC)	ppb	1090-1120
Profenofos	ppb	ND	Bromide	ppb	ND
Tebuconazole	ppb	ND	HAA9	ppb	ND-2.10
Total permethrin (cis- & trans-)	ppb	ND	HAA6Br	ppb	ND
Tribufos	ppb	ND	HAA5	ppb	ND

Definitions

Action Level- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.
Coliform Absent (ca)- Laboratory analysis indicates that the contaminant is not present.
Cryptosporidium- a microscopic parasite that can cause disease, mainly diarrhea, if swallowed.
Disinfection byproducts (DBPs)- are formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water.
Distribution System Evaluation (DSE)-a 4-quarter study to identify distribution system locations with high concentrations of DBPs.
Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water.
Maximum Contaminant Level Goal (MCLG)- 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.
Maximum Residual Disinfectant Level (MRDL)- the highest level of a disinfectant allowed in drinking water
Maximum Residual Disinfectant Level Goal- (MRDLG) 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.
Millirems per year (mrem/yr)-measure of radiation absorbed by the body.
Nephelometric Turbidity Unit (NTU)-a measure of the clarity of water.
Non-Detect (ND)- laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.
Parts per billion (ppb) or Micrograms per liter (µg/l)-one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
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 quadrillion (ppq) or Picograms per liter (picograms/l)-one part per quadrillion corresponds to one minute in 2,000,000,000 years, or a single penny in $10,000,000,000,000.
Parts per trillion (ppt) or Nanograms per liter (nanograms/l)-one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
Picocuries per liter (pCi/L)-picocuries per liter is a measure of the radioactivity in water.
Running Annual Average (LRAA)-yearly average of all the DPB results at each specific sampling site in the distribution system.
Standard Units (S.U.)-pH of water measures the water's balances of acids and bases and is affected by temperature and carbon dioxide gas.
Treatment Technique (TT)- a required process intended to reduce the level of a contaminant in drinking water.
Variances & Exemptions (V&E)-State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Below is a table of contaminants for which the Environmental Protection Agency and the Alabama Department of Environmental Management require testing where applicable. These contaminants were not detected in your drinking water unless they are also listed in the Detected Drinking Water Contaminants table elsewhere in this report.

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS

Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of Msmt
Bacteriological Contaminants			cis-1,2-Dichloroethylene	70	ppb
Total Coliform Bacteria	<5%	present/absent	trans-1,2-Dichloroethylene	100	ppb
Fecal Coliform and E. coli	0	present/absent	Dichloromethane	5	ppb
Turbidity	TT	NTU	1,2-Dichloropropane	5	ppb
Cryptosporidium	TT	Calc.organisms/l	Di (2-ethylhexyl)adipate	400	ppb
Radiological Contaminants			Di (2-ethylhexyl)phthalate	6	ppb
Beta/photon emitters	4	mrem/yr	Dinoseb	7	ppb
Alpha emitters	15	pCi/l	Dioxin [2,3,7,8-TCDD]	30	ppq
Combined radium	5	pCi/l	Diquat	20	ppb
Uranium	30	pCi/l	Endothall	100	ppb
Inorganic Chemicals			Endrin	2	ppb
Antimony	6	ppb	Epichlorohydrin	TT	TT
Arsenic	10	ppb	Ethylbenzene	700	ppb
Asbestos	7	MFL	Ethylene dibromide	50	ppt
Barium	2	ppm	Glyphosate	700	ppb
Beryllium	4	ppb	Heptachlor	400	ppt
Cadmium	5	ppb	Heptachlor epoxide	200	ppt
Chromium	100	ppb	Hexachlorobenzene	1	ppb
Copper	AL=1.3	ppm	Hexachlorocyclopentadiene	50	ppb
Cyanide	200	ppb	Lindane	200	ppt
Fluoride	4	ppm	Methoxychlor	40	ppb
Lead	AL=15	ppb	Oxamyl [Vydate]	200	ppb
Mercury	2	ppb	Polychlorinated biphenyls	0.5	ppb
Nitrate	10	ppm	Pentachlorophenol	1	ppb
Nitrite	1	ppm	Picloram	500	ppb
Selenium	.05	ppm	Simazine	4	ppb
Thallium	.002	ppm	Styrene	100	ppb
Organic Contaminants			Tetrachloroethylene	5	ppb
2,4-D	70	ppb	Toluene	1	ppm
Acrylamide	TT	TT	Toxaphene	3	ppb
Alachlor	2	ppb	2,4,5-TP(Silvex)	50	ppb
Atrazine	3	ppb	1,2,4-Trichlorobenzene	.07	ppm
Benzene	5	ppb	1,1,1-Trichloroethane	200	ppb
Benzo(a)pyrene [PAHs]	200	ppt	1,1,2-Trichloroethane	5	ppb
Carbofuran	40	ppb	Trichloroethylene	5	ppb
Carbon tetrachloride	5	ppb	Vinyl Chloride	2	ppb
Chlordane	2	ppb	Xylenes	10	ppm
Chlorobenzene	100	ppb	**Disinfectants & Disinfection Byproducts**		
Dalapon	200	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
1,2-Dichlorobenzene	1000	ppb	Chloramines	4	ppm
1,4-Dichlorobenzene (para)	75	ppb	Bromate	10	ppb
o-Dichlorobenzene	600	ppb	Chlorite	1	ppm
1,2-Dichloroethane	5	ppb	HAA5 [Total haloacetic acids]	60	ppb
1,1-Dichloroethylene	7	ppb	TTHM [Total trihalomethanes]	80	ppb

LIST OF SECONDARY CONTAMINANTS

Alkalinity, Total (as CA, Co_3)	Copper	Manganese	Specific Conductance
Aluminum	Corrosivity	Odor	Sulfate
Calcium, as Ca	Foaming agents (MBAS)	Nickel	Total Dissolved Solids
Carbon Dioxide	Hardness	pH	Zinc
Chloride	Iron	Silver	
Color	Magnesium	Sodium	

LIST OF UNREGULATED CONTAMINANTS

Aldicarb	Chloroethane	Dieldrin	Propachlor
Aldicarb Sulfone	Chloroform	Hexachlorobutadiene	N-Propylbenzene
Aldicarb Sulfoxide	Chloromethane	3-Hydroxycarbofuran	Propachlor
Aldrin	O-Chlorotoluene	Isoprpylbenzene	1,1,1,2-Tetrachloroethane
Bromoacetic Acid	P-Chlorotoluene	p-Isopropyltoluene	1,1,2,2-Tetrachloroethane
Bromobenzene	Dibromochloromethane	M-Dichlorobenzene	Tetrachloroethene
Bromochloromethane	1,2-Dibromoethane	Methomyl	Trichloroacetic Acid
Bromodichloromethane	Dibromomethane	Methylene chloride	1,2,3-Trichlorobenzene
Bromoform	1,1-Dichloroethane	Methyl tert-butyl ether	Trichloroethene
Bromomethane	1,3-Dichloropropane	Metolachlor	Trichlorofluoromethane
Butachlor	2,2-Dichloropropane	Metribuzin	1,2,3-Trichloropropane
N-Butylbenzene	1,1-Dichloropropene	MTBE	1,2,4-Trimethylbenzene
Sec-Butylbenzene	1,3-Dichloropropene	Naphthalene	1,3,5-Trimethylbenzene
Tert - Butylbenzene	Dicamba	1-Naphthol	
Carbaryl	Dichlorodifluoromethane	Paraquat	