2021 Annual Water Quality Report

(Testing Performed January through December 2020)

WEST LAUDERDALE WATER & FIRE PROTECTION AUTHORITY

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The West Lauderdale Water Authority is pleased to provide you, our customer, our annual Water Quality Report. The West Lauderdale Water Authority is committed to providing the residents of West Lauderdale County with the safest and highest quality drinking water possible. Our water quality meets or exceeds federal and state drinking water standards.

Water Sources	Purchased surface water from the City of Florence Water Department
	(Surface water from the Tennessee River and Cypress Creek)
Storage Capacity	6 tanks with total capacity 1,500,000 gallons
Number of Customers	Approximately 5000
Interconnections	Sell water to Southwest Wayne County, TN
	Emergency connection with Chisholm Heights
Board Members	Leonard Holcomb, Chairman
	Bobby McCormick, Vice Chairman
	Bobby Jones, Secretary

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), The City of Florence Water Department developed a Source Water Assessment plan that assists in protecting our water sources. It includes a susceptibility analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. You may request to review a copy during regular business hours, or you may purchase a copy upon request for a nominal reproduction fee.

West Lauderdale WFPA utilizes a Bacteriological Monitoring Plan. The required chlorine residual is maintained throughout our distribution system to protect your drinking water from possible outside contaminants. We have also established a Cross-Connection Policy to insure safe drinking water for our customers. Please help us make these efforts 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. We ask that all our customers help us protect our valuable water sources, which are the heart of our community, our way of life, and our children's futures.

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 amount 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. 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. People at risk should seek advice about drinking water from their health care providers.

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.

Florence Water Department tests our untreated, raw source water for Cryptosporidium and Giardia. Cryptosporidium and Giardia are microscopic organisms found in surface water throughout the United States. These pathogens can enter the water from animal or human waste. 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/crypto.html or from the Safe Drinking Water Hotline at 800-426-4791. Although filtration can remove Cryptosporidium and Giardia, the most commonly-used filtration methods cannot guarantee 100% removal. Cryptosporidium and Giardia are removed and/or treated at Florence Water Department water treatment plant by effective filtration and disinfection processes. The most recent results from testing the raw, untreated water source are in the table below.

Analysis Results - Cypress Creek		**Analysis Results - Wilson Lake**	
Cryptosporidium	**Giardia**	**Cryptosporidium**	**Giardia**
0.00-0.48 organisms / L	0.19-1.80 organisms / L	0.00-0.98 organisms / L	0.00 organisms / L

Monitoring Schedule and Results

West Lauderdale WFPA and Florence Water Department *routinely* monitor for constituents in your drinking water according to Federal and State laws. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

Constituents Monitored	**West Lauderdale**	**Florence**
Inorganic Contaminants		2020
Lead/Copper	2020	2019
Microbiological Contaminants	current	current
Nitrates		2020
Radioactive Contaminants		2018
Synthetic Organic Contaminants (including herbicides and pesticides)		2020
Volatile Organic Contaminants		2020
Disinfection By-products	2020	2020
Cryptosporidium		2017
DSE Disinfection By-products	2018	2018
Unregulated Contaminants Monitoring Rule 4 (UCMR4)	2020	2020

We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets federal and state requirements.

DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	**Violation Y/N**	**W.Lauderdale Detected**	**Florence Detected**	**Unit Msmt**	**MCLG**	**MCL**	**Likely Source**
Chlorine	NO		0.2-1.6	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Total Organic Carbon	NO		0.5-1.1	ppm	n/a	TT	Soil runoff and naturally present in the environment
Turbidity	NO		0.21 100%<0.5	NTU	n/a	TT	Soil runoff
Alpha emitters	NO	2.5 ± 1.0	ND	PCi/l	0	15	Erosion of natural deposits
Copper (at consumer's tap)	NO	0.084* 0 > AL	0.100* 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO		ND-0.73	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Lead (at consumer's tap)	NO	ND	0.004* 0 > AL	ppm	0	AL=0.015	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	NO		ND-0.73	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM-Total trihalomethanes	NO	LRAA Range 26.5-69.8	LRAA Range 12.0-53.0	ppb	0	80	By-product of drinking water chlorination
HAA5-Total haloacetic acids	NO	LRAA Range 19.0-39.0	LRAA Range 8.90-30.0	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants							
Aluminum	NO		0.07	ppm	none	0.2	Erosion; treatment with water additives
Chloride	NO		45.9	ppm	n/a	250	Naturally occurring in the environment or from runoff
Hardness	NO		70.3	ppm	n/a	n/a	Naturally occurring; treatment with water additives
Manganese	NO		0.01	ppm	n/a	n/a	Naturally occurring; dissolved minerals
pH	NO		7.4	S.U.	n/a	n/a	Erosion; treatment with water additives
Sodium	NO		19.2	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO		10.1	ppm	n/a	250	Naturally occurring in the environment or from runoff
Total Dissolved Solids	NO		146	ppm	n/a	500	Naturally occurring in the environment or from runoff
DSE Disinfection Byproducts							
TTHM-Total trihalomethanes	NO	ND-73.0		ppb			By-product of drinking water chlorination
HAA5-Total haloacetic acids	NO	19.3-115		ppb			By-product of drinking water chlorination

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

UCMR4 Contaminants

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) required 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.

UNREGULATED CONTAMINANT RULE 4 CONTAMINANTS							
Contaminants	**Unit Msmt**	**W.Lauderdale Detected**	**Florence Detected**	**Contaminant**	**Unit Msmt**	**W.Lauderdale Detected**	**Florence Detected**
Germanium	ppb	ND	ND	1-butanol	ppb	ND	ND
Manganese	ppb	ND-1.4	ND-4.0	2-methoxyethanol	ppb	ND	ND
Alpha-hexachlorocyclohexane	ppb	ND	ND	2-propen-1-ol	ppb	ND	ND
Chlorpyrifos	ppb	ND	ND	Butylated hydroxyanisole	ppb	ND	ND
Dimethipin	ppb	ND	ND	O-toluidine	ppb	ND	ND
Ethoprop	ppb	ND	ND	Quinoline	ppb	ND	ND
Oxyfluorfen	ppb	ND	ND	Total organic carbon (TOC)	ppb	ND	2140
Profenofos	ppb	ND	ND	Bromide	ppb	ND	ND-28.5
Tebuconazole	ppb	ND	ND	HAA9	ppb	13.2-57.4	34.4
Total permethrin (cis- & trans-)	ppb	ND	ND	HAA6Br	ppb	2.3-5.6	10.1
Tribufos	ppb	ND	ND	HAA5	ppb	9.5-53.6	32.0

DEFINITIONS

Action Level- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.
Coliform Absent (ca)- Laboratory analysis indicates that the contaminant is not present.
Disinfection byproducts (DBPs)- are formed when disinfectants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water. Different disinfectants produce different types and amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established include trihalomethanes (TTHM), haloacetic acids (HAA5), bromate, and chlorite.
Initial Distribution System Evaluation (IDSE)-a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs).
Level 1 Assessment-a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment-a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level-(mandatory language) The Maximum Allowed (MCL) is 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.
Maximum Contaminant Level Goal-(mandatory language) The Goal (MCLG) 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.
Maximum Residual Disinfectant Level (MRDL)-the highest level of a disinfectant allowed in drinking water
Micrograms per liter (ug/L) – Equivalent to parts per billion (ppb) since one liter of water is equal in weight to one billion micrograms.
Milligrams per liter (mg/L) – Equivalent to parts per million
Millirems per year (mrem/yr)-measure of radiation absorbed by the body.
Nephelometric Turbidity Unit (NTU)-a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Not Detected (ND)- laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.
Not Reported (NR)-laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends secondary standards to water systems but does not require systems to comply.
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 (RAA)-yearly average of all the DPB results at each specific sampling site in the distribution system. The RAA, along with a range, is reported in the Table of Detected Contaminants.
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. Water with less than 6.5 could be acidic, soft, and corrosive. A pH greater than 8.5 could indicate that the water is hard.
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.

Questions?

We will be pleased to answer any questions about this report or our water quality. Call our office at (256) 766-8787 Monday through Friday between the hours of 8:00 a.m. and 4:30 p.m. The Authority Board meets the second Tuesday of each month at 8: 30 a.m. at the water board office.

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).

Following is a list of *Primary Drinking Water Contaminants* and a list of *Unregulated Contaminants* for which our water system routinely monitors. These contaminants were *not* detected in your drinking water unless they are listed in the *Table of Detected Drinking Water Contaminants.*

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	**MCL**	**Unit of Msmt**	**Contaminant**	**MCL**	**Unit of Msmt**
Bacteriological Contaminants			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present or absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calculated organisms/liter	Di (2-ethylhexyl)phthalate	6	ppb
Radiological Contaminants			Dinoseb	7	ppb
Beta/photon emitters	4	mrem/yr	Dioxin [2,3,7,8-TCDD]	30	ppq
Alpha emitters	15	pCi/l	Diquat	20	ppb
Combined radium	5	pCi/l	Endothall	100	ppb
Uranium	30	pCi/l	Endrin	2	ppb
Inorganic Chemicals			Epichlorohydrin	TT	TT
Antimony	6	ppb	Ethylbenzene	700	ppb
Arsenic	10	ppb	Ethylene dibromide	50	ppt
Asbestos	7	MFL	Glyphosate	700	ppb
Barium	2	ppm	Heptachlor	400	ppt
Beryllium	4	ppb	Heptachlor epoxide	200	ppt
Cadmium	5	ppb	Hexachlorobenzene	1	ppb
Chromium	100	ppb	Hexachlorocyclopentadiene	50	ppb
Copper	AL=1.3	ppm	Lindane	200	ppt
Cyanide	200	ppb	Methoxychlor	40	ppb
Fluoride	4	ppm	Oxamyl [Vydate]	200	ppb
Lead	AL=15	ppb	Polychlorinated biphenyls (PCBs)	0.5	ppb
Mercury	2	ppb	Pentachlorophenol	1	ppb
Nitrate	10	ppm	Picloram	500	ppb
Nitrite	1	ppm	Simazine	4	ppb
Selenium	.05	ppm	Styrene	100	ppb
Thallium	.002	ppm	Tetrachloroethylene	5	ppb
Organic Contaminants			Toluene	1	ppm
2,4-D	70	ppb	Toxaphene	3	ppb
Acrylamide	TT	TT	2,4,5-TP(Silvex)	50	ppb
Alachlor	2	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
o-Dichlorobenzene	600	ppb	Chloramines	4	ppm
p-Dichlorobenzene	75	ppb	Bromate	10	ppb
1,2-Dichloroethane	5	ppb	Chlorite	1	ppm
1,1-Dichloroethylene	7	ppb	HAA5 [Total haloacetic acids]	60	ppb
cis-1,2-Dichloroethylene	70	ppb	TTHM [Total trihalomethanes]	80	ppb

UNREGULATED CONTAMINANTS			
1,1 – Dichloropropene	Aldicarb	Chloroform	Metolachlor
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin
1,1,2,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromochloromethane	N - Butylbenzene
1,1-Dichloroethane	Aldrin	Dibromomethane	Naphthalene
1,2,3 - Trichlorobenzene	Bromobenzene	Dicamba	N-Propylbenzene
1,2,3 - Trichloropropane	Bromochloromethane	Dichlorodifluoromethane	O-Chlorotoluene
1,2,4 - Trimethylbenzene	Bromodichloromethane	Dieldrin	P-Chlorotoluene
1,3 – Dichloropropane	Bromoform	Hexachlorobutadiene	P-Isopropyltoluene
1,3 – Dichloropropene	Bromomethane	Isoprpylbenzene	Propachlor
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorfluoromethane