

West Morgan-East Lawrence Water and Sewer Authority 2019 Annual Water Quality Report

To better communicate with you our customer we have prepared this Consumer Confidence Report as authorized by the Environmental Protection Agency through amendments to the Safe Drinking Act. This report is designed to inform you of the good quality water and system services provided to you during 2019. The West Morgan-East Lawrence Water System had **no violations** of the Alabama Safe Drinking Water Law during 2019. We are committed to ensuring the quality of your water.

General Information about Drinking Water Contaminants

The sources of drinking water (both tap 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, in some cases radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- (A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or the result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- (D) **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.
- (E) **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to insure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

The 1996 Amendments

The 1996 Amendments to the Safe Drinking Water Act created the need for showing consumers detected amounts of contaminants and the plain language definitions on the following page. The amendments recognized that some people might be more vulnerable to contaminants in drinking water than the general population. These are people who are immune-compromised, such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or individuals with other immune system disorders. Particularly the elderly as well as infants can be at risk from infection. Those at risk should seek advice about drinking water from their health care provider. EPA/CDC guidelines on appropriate measures to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Variances and Wavers

In 1998 the West Morgan-East Lawrence Water Authority completed lead and copper monitoring without exceeding any action level. The W.M.E.L. Water Authority will continue to monitor for lead and copper every three years.

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 is not required.

Board Members

Barry Stevens, Chairman * Mark Clark, Vice Chairman * Keith Russell, Secretary
Hal Lee, Member * Edward Kirby, Member

Don Sims, General Manager

Contacts

For information concerning this report or water quality, or for information about our office or daily operations, please contact Assistant General Manager Jeaniece Slater at (256) 355-3746 ext. 5108

Board Meeting Time

The regularly scheduled meeting of the West Morgan-East Lawrence Water and Sewer Authority is held on the first Thursday of the month, at 8:00 am in the Authority Office Board Room, at 2547 Kirby Bridge Road.

P.O. Box 2254 Decatur, Alabama 35609
(256) 355-3746
Office Hours: 7:30 a.m. – 4:30 p.m. Mon.-Fri.

Plain Language Definitions

MCL - *Maximum Contaminant Level* - the highest level of a contaminant that is allowed in drinking water

MCLG - *Maximum Contaminant Level Goal* - the level of a contaminant in drinking water below which there is no known or expected health risk

MRDLG - *Maximum Residual Disinfectant Level Goal* - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MDRL - *Maximum Residual Disinfectant Level Goal* - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

AL - *Action Level* - the concentration of a contaminant which if exceeded triggers treatment or other requirements, which the water system must follow

TT - *Treatment Technique* - a required process intended to reduce the level of a contaminant in drinking water

Variations and Exemptions - State permission not to meet a MCL or a treatment technique under certain conditions

PPM - *parts per million or milligrams per liter* - one part per million corresponds to one minute in 2 years or a single penny in \$10,000

PPB - *parts per billion or micrograms per liter* - one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000

PPT - *parts per trillion or nanograms per liter* - One part per trillion corresponds to one minute in 2,000,000 years or a single penny in \$10,000,000,000

NR - *Not required* - laboratory analysis not required due to waiver

ND - *Non Detects* - laboratory analysis indicates the constituent is not present

NTU - *Nephelometric Turbidity Unit* - a measurement of the clarity of water, Turbidity in excess of

5 NTU is just noticeable to the average person

pCi/L - *Picocuries per Liter* - Picocuries per liter is a measure of radioactivity in water

Mrem/yr - *Millirems per Year* - measure of radiation absorbed by the body

Water Source

Our water source is surface water from the Wheeler Lake Reservoir on the Tennessee River, which is processed at the **JD Sims-RM Hames Water Treatment Facility**, located at Lock A, near Hillsboro in Lawrence County. We also have connections with Decatur Utilities for an emergency supply if needed.

We have completed our source water protection plan as required by EPA. This plan provides information about potential sources of contamination in our source water area and is available in our office.

Treatment Techniques

Our raw water is treated with Chlorine Dioxide, Lime, and Alum in the process of removing contaminants by causing them to stick together and settle out in the settling basins. The water is then filtered through Ultra Membrane Filters and Granulated Activated Carbon filters. Then Sodium Hypochlorite is added for disinfection, and Lime to adjust the pH.

2019 Table of Detected Contaminants

CONTAMINANT	MCLG	MCL	RANGE		DETECTED	UNIT	CONTAMINATION SOURCE	
Turbidity	0	TT			.033	NTU	Soil runoff	
INORGANIC CHEMICALS (June-September 2019)								
Nitrate As NO3-N	1.45	10	ND	-	.24	.24	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Barium	2	2	ND	-	.021	.021	ppm	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Sulfate		500	ND	-	26.6	26.6	ppm	Dissolved component of rain; Naturally occurring soil and rock minerals
VOLATILE ORGANIC CHEMICALS								
1,2 - Dichloroethane	0	5	0	-	1.1	.367	ppm	Discharge from industrial chemical factories
DISINFECTION BY PRODUCTS								
HAA5's Feb. -Nov. 2019	0	60	0	-	7.40	3.2	ppb	By-product of drinking water chlorination
TTHM Feb. -Nov. 2019	0	80	0	-	28.0	12.4	ppb	By-product of drinking water chlorination
Chlorite		1.0	0	-	.29	.29	ppm	Water additive used to control microbes
DISINFECTANTS								
Chlorine	MDRL 4	MDRL 4	1.01	-	1.83	1.83	ppm	Water additive used to control microbes
Chlorine Dioxide		0.8	0	-	.13	.13	ppm	Water additive used to control microbes
UNREGULATED CONTAMINANTS								
CONTAMINANT	AVERAGE		RANGE		UNIT MEASUREMENT			
PFOA	3.5		0 - 4		ppt			
PFBS	10		0 - 10		ppt			
Total Organic Carbons 2019	.64		0 - 1.75		ppm			
Bromochloroacetic Acid	2.53		1.41 - 4.21		ppb			
Bromodichloroacetic Acid	1.55		.994 - 2.41		ppb			
Chlorodibromoacetic Acid	.972		.491 - 1.50		ppb			
SECONDARY CONTAMINANTS								
CONTAMINANT	AMOUNT DETECTED	MCL	UNIT MEASUREMENT					
Aluminum	.028	0.2	PPM					
Chloride	13.2	250	PPM					
Iron	.017	0.3	PPM					
MBAS	.055	.5	PPM					
Manganese	.014	0.05	PPM					
Total Dissolved Solids	96.0	500	PPM					
Copper	.015	AL = 1.3	PPM					
CORROSIVITY CHARACTERISTICS MONITORING								
CONTAMINANT	DETECTED	MCL	UNIT MEASUREMENT					
Sodium	6.4	N/A	PPM					
Calcium	22.3	N/A	PPM					
Magnesium	4.0	N/A	PPM					
PH	7.1 - 8.1	N/A						
Total Hardness (as CaCO3)	46 - 100	N/A	PPM					
Specific Conductance	195	N/A	Umhos/cm					
Langelier Index	-34	NA	PPM					

2019 Table of Non-Detect Contaminants

MICROBIOLOGICAL CONTAMINANTS

CONTAMINANT	VIOLATION Y/N	DETECTED	UNIT	MCLG	MCL	CONTAMINATION SOURCE
1. Total Coliform Bacteria	No	ND	Total Coliform Present CP	0	Presence of Coliform bacteria in 5% of monthly samples	Naturally present in the environment
2. Fecal coliform and <i>E. coli</i>	No	N/D	E.coli Absent ECA	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	Human and animal fecal waste

RADIOACTIVE CONTAMINANTS (June 23 2011)

3. Beta/positron emitters	No	Waived	mrem/yr	0	4	Decay of natural and man-made deposits
4. Alpha emitters	No	N/D	PCI/L	0	15	Erosion of natural deposits
5. Radium-228	No	N/D	mCi/L	0	5	Erosion of natural deposits

INORGANIC CONTAMINANTS

6. Antimony	No	N/D	ppb	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
7. Lead June 20, 2019	No	N/D	ppb	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits
8. Arsenic	No	N/D	ppb	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
9. Asbestos	No	waiver	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
10. Beryllium	No	N/D	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
11. Cadmium	No	N/D	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
12. Chromium	No	N/D	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
13. Cyanide	No	N/D	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
14. Mercury (inorganic)	No	N/D	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
15. Nitrogen, Nitrite, as NO ₂ -N	No	N/D	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
16. Selenium	No	N/D	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
17. Thallium	No	N/D	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
18. Nickel	No	N/D	ppm		.1	Pipe and fitting leaching
19. Fluoride	No	N/D	ppm		4	Rock released into soil, water, and air

SYNTHETIC ORGANIC CONTAMINANTS

20. 2,4-D	No	N/D	Ug/L	70	70	Runoff from herbicide used on row crops
21. 2,4,5-TP (Silvex)	No	N/D	ppb	50	50	Residue of banned herbicide
22. Acrylamide	No	N/A		0	TT	Added to water during sewage/wastewater treatment
23. Alachlor	No	N/D	ppb	0	2	Runoff from herbicide used on row crops
24. Atrazine	No	N/D	ppb	3	3	Runoff from herbicide used on row crops
25. Benzo(a)pyrene (PAH)	No	N/D	nanograms/l	0	200	Leaching from linings of water storage tanks and distribution lines
26. Carbofuran	No	N/D	ppb	40	40	Leaching of soil fumigant used on rice and alfalfa
27. Chlordane	No	N/D	ppb	0	2	Residue of banned termiticide
28. Dalapon	No	N/D	ppb	200	200	Runoff from herbicide used on rights of way
29. Bis(2-ethylhexyl) adipate	No	N/D	ppb	400	400	Discharge from chemical factories
30. Bis(2-ethylhexyl) phthalate	No	N/D	ppb	0	6	Discharge from rubber and chemical factories
31. Dibromochloropropane	No	N/D	nanograms/l	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
32. Dinoseb	No	N/D	ppb	7	7	Runoff from herbicide used on soybeans and vegetables
33. Diquat	No	N/D	ppb	20	20	Runoff from herbicide use
34. Dioxin [2,3,7,8-TCDD]	No	N/D	picograms/l	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories
35. Endothall	No	N/D	ppb	100	100	Runoff from herbicide use
36. Endrin	No	N/D	ppb	2	2	Residue of banned insecticide
37. Epichlorohydrin	No	N/A		0	TT	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
38. Ethylene dibromide	No	N/D	nanograms/l	0	50	Discharge from petroleum refineries
39. Glyphosate	No	N/D	ppb	700	700	Runoff from herbicide use
40. Heptachlor	No	N/D	nanograms/l	0	400	Residue of banned termiticide
41. Heptachlor epoxide	No	N/D	nanograms/l	0	200	Breakdown of heptachlor
42. Hexachlorobenzene	No	N/D	ppb	0	1	Discharge from metal refineries and agricultural chemical factories
43. Hexachlorocyclopentadiene	No	N/D	ppb	50	50	Discharge from chemical factories
44. Lindane	No	N/D	nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
45. Methoxychlor	No	N/D	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
46. Oxamyl [Vydate]	No	N/D	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
47. PCBs	No	N/D	nanograms/l	0	500	Runoff from landfills; discharge of waste chemicals
48. Pentachlorophenol	No	N/D	ppb	0	1	Discharge from wood preserving factories
49. Picloram	No	N/D	ppb	500	500	Herbicide runoff
50. Simazine	No	N/D	ppb	4	4	Herbicide runoff
51. Toxaphene	No	N/D	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle

VOLATILE ORGANIC CONTAMINANTS

52. Benzene	No	N/D	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
53. Carbon tetrachloride	No	N/D	ppb	0	5	Discharge from chemical plants and other industrial activities
54. Chlorobenzene	No	N/D	ppb	100	100	Discharge from chemical and agricultural chemical factories
55. O-Dichlorobenzene	No	N/D	ppb	600	600	Discharge from industrial chemical factories
56. P-Dichlorobenzene	No	N/D	ppb	75	75	Discharge from industrial chemical factories
57. 1,1-Dichloroethylene	No	N/D	ppb	7	7	Discharge from industrial chemical factories
58. cis-1,2-Dichloroethene	No	N/D	ppb	70	70	Discharge from industrial chemical factories
59. trans - 1,2 - Dichloroethane	No	N/D	ppb	100	100	Discharge from industrial chemical factories
60. Dichloromethane	No	N/D	ppb	0	5	Discharge from pharmaceutical and chemical factories
61. 1,2-Dichloropropane	No	N/D	ppb	0	5	Discharge from industrial chemical factories
62. Ethylbenzene	No	N/D	ppb	700	700	Discharge from petroleum refineries
63. Styrene	No	N/D	ppb	100	100	Discharge from rubber and plastic factories; leaching from landfills
64. Tetrachloroethylene	No	N/D	ppb	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
65. 1,2,4 -Trichlorobenzene	No	N/D	ppb	70	70	Discharge from textile-finishing factories
66. 1,1,1 - Trichloroethane	No	N/D	ppb	200	200	Discharge from metal degreasing sites and other factories
67. 1,1,2 -Trichloroethane	No	N/D	ppb	3	5	Discharge from industrial chemical factories
68. Trichloroethylene	No	N/D	ppb	0	5	Discharge from metal degreasing sites and other factories
69. Toluene	No	N/D	ppm	1	1	Discharge from petroleum factories
70. Vinyl Chloride	No	N/D	ppb	0	2	Leaching from PVC piping; discharge from plastics factories
71. Xylene	No	N/D	ppm	10	10	Discharge from petroleum factories; discharge from chemical factories

SECONDARY CONTAMINANTS

72. Silver	No	N/D	PPM		.1	Photographic processing plant effluent
73. Zinc	No	N/D	PPM	N.A.	5	By products of steel production/coal-fired power stations
74. Carbon Dioxide	No	N/D	PPM	N.A.	N.A.	Dissolves into water from atmosphere; Chemical/biological processes
75. Color	No	N/D	PPM	N.A.	15	Natural organic matter from decaying vegetation; Inorganic minerals
76. Odor	No	N/D	PPM	N.A.	3	Algae; Decaying organic matter; Thermal stratification

NONDETECT UNREGULATED CONTAMINANT TABLE

4-Chlorotoluene	Alpha-Hexachlorocyclohexane	Perfluorododecanoic acid	Quinoline	Bromobenzene	n-Propylbenzene
Sec - Butylbenzene	Dimethipin	Perfluorononanoic acid	2-Methoxyethanol	Bromomethane	n - Butylbenzene
Tert - Butylbenzene	Oxyfluorfen	Perfluoropentanoic acid	Monochloroacetic Acid	Bromochloromethane	2-Chlorotoluene
Trichlorfluoromethane	Tebuconazole	Perfluorotetradecanoic acid	1,1 - Dichloropropene	Chlormethane	Chlorodifluoromethane
Chromium (total)	Tribufos	Perfluorotetradecanoic acid	1,1,1,2-Tetrachloroethane	Chloromethane	PFHPA
Cobalt	O-Toluidine	Cylindrospermopsin	1,1,2,2-Tetrachloroethane	Chloroethane	Perfluorodecanoic acid
Molybdenum	1-Butanol	PFOS	1,1-Dichloroethane	Dibromomethane	Butylated hydroxyanisole
1,3Butadiene	2-Propen-1-ol	PFHXS	1,2,3 - Trichlorobenzene	Dicamba	2,2 - Dichloropropane
Perfluorotridecanoic Acid	Tribromoacetic Acid	Germanium	1,2,3 - Trichloropropane	Dichlorodifluoromethane	Naphthalene
Perfluoroundecanoic acid	Bromochloromethane	Chlorpyrifos	1,2,4 - Trimethylbenzene	Dieldrin	M-Dichlorobenzene
Anatoxin-A	Chlorodifluoromethane	Ethoprop	1,3 - Dichloropropane	Hexachlorobutadiene	Permethrin, cis & trans
Total Microcystins & Nodularins	Perfluorobutanoic acid	Profenofos	1,3 - Dichloropropene	Isoprpylbenzene	Perfluorodecane sulfonate
PFNA			1,3,5 - Trimethylbenzene		

Non-Compliance	Microbiological			Long Term 2 Enhanced Surface Water Treatment Rule		Likely Source of Contamination
	MCLG	MCL	Range	Amount Detected	Unit	
Cryptosporidium	0	TT	0 - 3	3	oocysts/L	Wildlife and / or human activity
Giardia	0	TT	0 - 5	5	Cysts/L	Wildlife and / or human activity

MCLs 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.

Total Coliform: The total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found special follow-up test are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.

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. West Morgan-East Lawrence Water and Sewer 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 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 or at <http://www.epa.gov/safewater/lead>.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all our customers. These improvements are sometimes reflected as structure adjustments. Thank you for understanding.

We at the West Morgan – East Lawrence Water and Sewer Authority work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If you have any questions please call our office at (256) 637-2969.

Dennie Robinson

Plant Manager