

2019 Annual Drinking Water Quality Report
(Testing Performed January through December 2018)

THE WATER WORKS & SEWER BOARD OF THE CITY OF SELMA
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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. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

Water Sources	Seven (7) groundwater wells producing from the Coker, Eutaw, and Gordo aquifers
Number of Customers	Approximately 7900
Water Treatment	Chlorination, flocculation, pressure and rapid sand filtration, fluoridation, add lime for pH adjustment and potassium permanganate for iron and manganese removal
Storage Capacity	4,400,000 gallons
Additional Connections	N. Dallas Co. WW for contingency purposes: did not sell to them in 2013
Water Superintendent	Mayor Dario Melton
Board Members	Robert Allen, Chairman
	Roderick West, Member
	Michael Johnson, Member
	James Ware, Member

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), The Water Works & Sewer Board of the City of Selma 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. All of the potential contaminants sited in our study area were rated as low or moderately 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.

Questions?

If you have any questions about this report or concerning your water utility, please contact **Robert Bridges**. 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 meetings. They are held on the **third Monday of each month at 9:30 a.m. at the main office, 1600 Selma Avenue.**

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).

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. 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).

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.

Information about Lead

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. Your water system is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. The Environmental Protection Agency (EPA) and the Center for Disease Control (CDC) make the following recommendations:

- Before using any tap water for drinking or cooking, flush your water system by running the kitchen tap (or any other tap you take drinking or cooking water from) on COLD for 1–2 minutes. Flushing can minimize the potential for lead exposure, especially if the water has been sitting undisturbed for several hours, as in overnight.
- *In all situations, especially for making baby formula, drink or cook only with water that comes out of the cold tap. Warm or hot tap water is more likely to cause lead to leach from plumbing materials. Boiling water will NOT reduce the amount of lead in your water.*
- Also, periodically remove the aerator on the tip of the faucet and wash out any debris such as metal particles.

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 at 800-426-4791 and from the CDC website, <http://www.cdc.gov/nceh/lead/tips/water.htm>.

Monitoring Schedule and Results

The Water Works & Sewer Board of the City of Selma *routinely* monitors 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.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2016
Lead/Copper	2018
Microbiological Contaminants	current
Nitrates	2018
Radioactive Contaminants	2010
Synthetic Organic Contaminants (including pesticides and herbicides)	2017
Volatile Organic Contaminants	2018
Disinfection By-products	2018
UMCR3 (Unregulated Contaminant Monitoring Rule)	2013

We have learned through our monitoring and testing that some constituents have been detected. This report shows our water quality and what it means.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	4.9 ± 0.8	PC/I	0	15	Erosion of natural deposits
Barium	NO	0.06-0.47	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	NO	0.052 * 0>AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	ND-0.84	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	NO	<0.005** 2>A	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
TTHM [Total trihalomethanes]	NO	ND-18.5	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	ND-2.60	ppb	0	60	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	3.90-14.0	ppm	n/a	250	Naturally occurring in the environment, industrial discharge, runoff
Color	NO	ND-20	color units	none	15	Naturally occurring in the environment or from water additives
Hardness	NO	71.2-107	ppm	n/a		Naturally occurring in the environment or from water additives
Iron	NO	ND-0.42	ppm	none	0.30	Naturally occurring in the environment; erosion of natural deposits; leaching from pipes
Manganese	NO	ND-0.03	ppm	n/a	0.05	Erosion of natural deposits; leaching from pipes
pH	NO	7.78-7.95	S.U.	n/a	n/a	Naturally occurring in the environment or from water additives
Sodium	NO	2.43-8.10	ppm	NA	none	Naturally occurring in the environment
Sulfate	NO	4.66-9.51	ppm	n/a	250	Naturally occurring in the environment, industrial discharge, runoff
Total Dissolved Solids	NO	104-176	ppm	n/a	500	Naturally occurring in the environment, industrial discharge, runoff

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

** Figure shown is 90th percentile and number of sites above Action Level (AL) = 2

Unregulated Contaminant Rule 3 (UCMR3) Contaminants Detected 2013						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	Likely Source of Contamination		
Chromium	NO	ND-1.70	ppb	Naturally occurring in the environment or as a result of industrial discharge		
Strontium	NO	370-1300	ppb	Naturally occurring in the environment or as a result of discharge		
Vanadium	NO	ND-0.02	ppb	Naturally occurring in the environment or from mining or industrial discharge		
Chromium, Hexavalent	NO	ND-0.10	ppb	Naturally occurring in the environment or as a result of industrial discharge		
1,1-Dichloroethane	NO	ND-0.03	ppb	Industrial discharge; leachate from landfills		

Violation 2018

On August 21, 2018 the Water Works and Sewer Board of the City of Selma received a Notice of Violation of ADEM Administrative Code for failure to conduct proper monitoring of lead and copper during the 2017 monitoring period. We conducted the monitoring in 2018 and will continue to monitor on our assigned compliance schedule.

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.

Detected contaminant: any regulated or unregulated contaminant detected at or above its method detection limit (or reportable limit)

Disinfection byproducts (DBPs): formed when disinfectants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water. Disinfection byproducts for which regulations have been established include trihalomethanes (THM), haloacetic acids (HAA5), bromate, and chlorite.

Distribution System Evaluation (DSE): a one-time study conducted by water systems to identify distribution system locations with high concentrations of THMs and HAAs.

Maximum Contaminant Level (MCL): 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: 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): 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.

Microsiemens per centimeter (µs/cm): unit of measurement for Specific Conductance.

Milligrams per liter (mg/L): equivalent to parts per million

Millirems per year (mrem/yr): a 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.

90th Percentile: The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

Not Detected (ND): laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

NR (Not Reported): laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends that secondary standards be reported but does not require systems to comply.

Parts per billion (ppb) or Micrograms per liter (µg/l): 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): corresponds to one minute in two years or a single penny in \$10,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l): 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): corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Picocuries per liter (pCi/L): a measure of the radioactivity in water.

Regulated Contaminants: contaminants for which the EPA has established drinking water standards.

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.

Unregulated Contaminants: contaminants for which the EPA has not established drinking water standards.

Variances & Exemptions (V&E): State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

The 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			Organic Contaminants		
Total Coliform Bacteria	<5%	present or absent	o-Dichlorobenzene	600	ppb
Fecal Coliform and E. coli	0	present or absent	p-Dichlorobenzene	75	ppb
Turbidity	TT	NTU	1,2-Dichloroethane	5	ppb
Radiological Contaminants			Nitrite	1	ppm
Beta/photon emitters	4	mrem/yr	Total Nitrate and Nitrite	10	ppm
Alpha emitters	15	pCi/l	Selenium	50	ppb
Combined radium	5	pCi/l	Thallium	2	ppb
Uranium	30	pCi/l	Organic Contaminants		
Inorganic Chemicals			2,4-D	70	ppb
Antimony	8	ppb	2,4,5-TP (Silvex)	50	ppb
Arsenic	10	ppb	Acrylamide	TT	
Asbestos	7	MFL	Alachlor	2	ppb
Barium	2	ppm	Benzo(a)pyrene (PAHs)	200	ppt
Beryllium	4	ppb	Carbofuran	40	ppb
Cadmium	5	ppb	Chlordane	2	ppb
Chromium	100	ppb	Dalapon	200	ppb
Copper	AL=1.3	ppm	Di (2-ethylhexyl)adipate	400	ppb
Cyanide	200	ppb	Di (2-ethylhexyl)phthalate	8	ppb
Fluoride	4	ppm	Dinoseb	7	ppb
Lead	AL=15	ppb	Diquat	20	ppb
Mercury	2	ppb	Dioxin [2,3,7,8-TCDD]	30	Picograms/l
Nitrate	10	ppm	Chloramines	4	ppm
Endothall	100	ppb	Chlorite	1	ppm
Endrin	2	ppb	HAA5 (Total haloacetic)	60	ppb
Epichlorohydrin	TT		1,1-Dichloroethylene	7	ppb
Glyphosate	700	ppb	cis-1,2-Dichloroethylene	70	ppb
Heptachlor	400	Nanograms/l	trans-1,2-Dichloroethylene	100	ppb
Heptachlor epoxide	200	Nanograms/l	Dichloromethane	5	ppb
Hexachlorobenzene	1	ppb	1,2-Dichloropropane	5	ppb
Hexachlorocyclopentadiene	50	ppb	Ethylbenzene	700	ppb
Lindane	200	Nanograms/l	Ethylene dibromide	50	ppt
Methoxychlor	40	ppb	Styrene	100	ppb
Oxamyl (Vydate)	200	ppb	Tetrachloroethylene	5	ppb
Oxamyl (Vydate)	200	PCBs	1,1,1-Trichloroethane	200	ppb
Pentachlorophenol	1	ppb	1,1,2-Trichloroethane	5	ppb
Picloram	500	ppb	Trichloroethylene	5	ppb
Simazine	4	ppb	TTHM (Total)	80	ppb
Toxaphene	3	ppb	Toluene	1	ppm
Benzene	5	ppb	Vinyl Chloride	2	ppb
Carbon tetrachloride	5	ppb	Xylenes	10	ppm
Chlorobenzene	100	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
			Bromate	10	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	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 - Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		