

2017 Annual Water Quality Report
(Testing Performed January through December 2016)

WETUMPKA WATER WORKS AND SEWER BOARD

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We are pleased to present to you this year's Annual Water Quality Report, covering water quality data from January through December 2016. Our drinking water supply met or surpassed the strict regulations of the Alabama Department of Environmental Management (ADEM) and the U. S. Environmental Protection Agency (EPA), which requires all public water suppliers to prepare and distribute reports like this once every year.

Surface Water Sources	Central Elmore Water	Five Star Water Supply District	Montgomery Water Works *
	(Lake Martin)	(Lake Jordan)	(Tallapoosa River)
Treatment	Filtration and chlorination for disinfection		
Storage	Two tanks with a total capacity of 2,750,000 gallons		
Customers	Approximately 3350		
Employees	Ronnie Windham, General Manager	Water Board Members	John Strickland, Chairman
	Michael Digmon, Water Supt.		Jason Mattox, Vice-Chairman
	Chris Bowar, Wastewater Supt.		Robert Hankins, Treasurer
	Sharon Lewis, Office Mgr/Board Sec.		

* Did not purchase significant amount from Montgomery Water Works (MWW) in 2016; therefore, MWW data not required for this report.

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), Source Water Assessment Plans have been developed by each of the water systems that supply your drinking water. These plans assist in protecting our water sources. The plans provide additional information such as potential sources of contamination and a Susceptibility Analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. Please call our office to find out how to review a copy of any of these Plans, or you may obtain a copy for a minimal reproduction fee.

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

Monitoring Schedule

Wetumpka Water Works and Sewer Board and your source water systems monitor for contaminants according to a schedule assigned by the Alabama Department of Environmental Management (ADEM), using EPA approved methods and a state certified laboratory. The Alabama Department of Environmental Management (ADEM) allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. 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.

Constituent Monitored	Wetumpka	Central Elmore	Five Star
Inorganic Contaminants	--	2016	2016
Microbiological Contaminants	current	current	2016
Lead and Copper	2016	2016	current
Nitrates	--	2016	2016
Radiological Contaminants	--	2008	2016
Synthetic Organic Contaminants (including pesticides and herbicides)	--	2016	2016
Volatile Organic Contaminants	--	2016	2016
Disinfection By-products	2016	2016	2016
Cryptosporidium and Giardia	--	2016	2016

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. *Cryptosporidium* and *Giardia* are microscopic organisms that are relatively widespread in the environment. Surface waters, such as lakes and rivers that contain a high amount of sewage contamination or animal wastes are more susceptible to increased numbers of these parasites. Your water system(s) is taking steps to make sure these organisms do not pose a problem in your drinking water. Current protection measures include chlorination, filtration, and monitoring turbidity levels and particle sizes. Additionally, routine back-washing of the filters helps to eliminate the chances of finding these organisms in treated water. Occasionally, these organisms have been found in the raw (untreated) water, but neither *Cryptosporidium* nor *Giardia* have been found in the finished (treated) water.

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.

Our source water is also tested for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. This language does *not* indicate the presence of cryptosporidium in our drinking water. All test results were well within state and federal standards.

Some people may be more vulnerable to contaminants in drinking water than the general population. People who are immunocompromised 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).

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.

Important 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.

Detected Contaminants

During the past year we have taken all the required samples in order to determine the presence of contaminants in your drinking water. The table below shows only those contaminants that were detected. We are pleased to report that our drinking water meets federal and state requirements.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Wetumpka Water Works and Sewer Board						
Contaminants	Violation	Level Detected	Msmt	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	NO	2 positive samples*	Present or Absent	0	presence in 5% of monthly samples	Naturally present in the environment
Copper	NO	0.054 **	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Total trihalomethanes (TTHM)	NO	LRAA 55.8 Range 32.0-96.6	ppb	0	80	By-product of drinking water chlorination
Total haloacetic acids (HAA5)	NO	LRAA 34.6 Range 8.25-71.2	ppb	0	60	By-product of drinking water chlorination

* One positive sample was detected on 6-1-16 and one on 12-12-16. All follow-up samples were *negative* for coliform bacteria.

** Level Detected = 90th percentile and number of sites above the Action Level (AL) = 0

TABLE OF DETECTED DRINKING WATER CONTAMINANTS							
		Central Elmore	Five Star	Unit of			
Contaminants	Violation	Level Detected		Msmt	MCLG	MCL	Likely Source of Contamination
Turbidity	NO	0.098 100%<0.5	0.08 100%<0.5	NTU	none	TT	Soil runoff (Measure of the cloudiness of the water)
Total Organic Carbon	NO	1.30	1.22-1.75	ppm	none	TT	Soil runoff
Alpha Emitters	NO	ND	2.5±1.3	PCi/l	0	15	Erosion of natural deposits
Arsenic	NO	0.20	ND	ppb	none	50	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	NO	0.01	ND-0.02	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
1,1-Dichloroethylene	NO	ND	ND	ppb	7	7	Discharge from industrial chemical factories
Fluoride	NO	0.67	0.60-0.80	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; factory discharge
Nitrate (as Nitrogen)	NO	ND	ND-0.21	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total trihalomethanes (TTHM)	NO	LRAA 64.0	Range 19.2-44.0	ppb	0	80	By-product of drinking water chlorination
Total haloacetic acids (HAA5)	NO	LRAA 45.0	Range 3.70-35.4	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants							
Chloroform	NO	18.0-63.0	14.2-34.1	ppb	70	none	Naturally occurring in the environment or as a result
Bromodichloromethane	NO	3.00-6.00	3.47-9.05	ppb	none	none	Naturally occurring in the environment or as a result
Chlorodibromomethane	NO	0.30-1.00	0.36-2.66	ppb	60	none	Naturally occurring in the environment or as a result
Secondary Contaminants					(Secondary Standards)		
Chloride	NO	12.0	4.50	ppm	none	250	Naturally occurring or from runoff
Hardness		30.5	65.2	ppm	none	none	Naturally occurring in the environment or as a result of treatment with water additives
Iron	NO	ND	ND	ppm	none	none	Naturally occurring in the environment; erosion of natural deposits; leaching from pipes
Magnesium	NO	1.16	2.70	ppm	none	none	Naturally occurring in the environment; dissolved minerals
Manganese	NO	ND	0.80	ppm	none	0.05	Erosion of natural deposits; leaching from pipes
pH	NO	6.90-8.50	6.91	S.U.	none	8.5	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	ND	3.31	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	17.7	24.7	ppm	none	250	Naturally occurring in the environment; erosion
Total Dissolved Solids	NO	66.0	17.0	ppm	none	500	Naturally occurring or from runoff

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.

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. Different disinfectants produce different types or 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).

Locational Running Annual Average (LRAA)-yearly average of all the DPB results at each specific sampling site in the distribution system. The highest distribution site LRAA is reported in the Table of Detected Contaminants.

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

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.

Non-Detects (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 ($\mu\text{g/l}$)-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.

RAA-Running annual average

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?

If you have any questions about this report or concerning your water utility, please contact **Ronnie Windham, General Manager**, at 334-567-8404. 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 fourth Tuesday of each month at 1:00 p.m. in the Water Works Office at 2909 Elmore Road.**

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).

The following table is a list of *Primary Drinking Water Contaminants*, *Unregulated Contaminants*, and *Secondary Contaminants* for which our water system routinely monitors according to our regulatory schedule. 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/absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present/absent	1,2-Dichloropropane	5	ppb
Fecal Indicators	0	present/absent	Di (2-ethylhexyl)adipate	400	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)phthalate	6	ppb
Cryptosporidium	TT	Calc.organisms/l	Dinoseb	7	ppb
Radiological Contaminants			Dioxin [2,3,7,8-TCDD]	30	ppq
Beta/photon emitters	4	mrem/yr	Diquat	20	ppb
Alpha emitters	15	pCi/l	Endothall	100	ppb
Combined radium	5	pCi/l	Endrin	2	ppb
Uranium	30	pCi/l	Epichlorohydrin	TT	TT
Inorganic Chemicals			Ethylbenzene	700	ppb
Antimony	6	ppb	Ethylene dibromide	50	ppt
Arsenic	10	ppb	Glyphosate	700	ppb
Asbestos	7	MFL	Heptachlor	400	ppt
Barium	2	ppm	Heptachlor epoxide	200	ppt
Beryllium	4	ppb	Hexachlorobenzene	1	ppb
Cadmium	5	ppb	Hexachlorocyclopentadiene	50	ppb
Chromium	100	ppb	Lindane	200	ppt
Copper	AL=1.3	ppm	Methoxychlor	40	ppb
Cyanide	200	ppb	Oxamyl [Vydate]	200	ppb
Fluoride	4	ppm	Polychlorinated biphenyls	0.5	ppb
Lead	AL=15	ppb	Pentachlorophenol	1	ppb
Mercury	2	ppb	Picloram	500	ppb
Nitrate	10	ppm	Simazine	4	ppb
Nitrite	1	ppm	Styrene	100	ppb
Selenium	.05	ppm	Tetrachloroethylene	5	ppb
Thallium	.002	ppm	Toluene	1	ppm
Organic Contaminants			Toxaphene	3	ppb
2,4-D	70	ppb	2,4,5-TP(Silvex)	50	ppb
Acrylamide	TT	TT	1,2,4-Trichlorobenzene	.07	ppm
Alachlor	2	ppb	1,1,1-Trichloroethane	200	ppb
Benzene	5	ppb	1,1,2-Trichloroethane	5	ppb
Benzo(a)pyrene [PAHs]	200	ppt	Trichloroethylene	5	ppb
Carbofuran	40	ppb	Vinyl Chloride	2	ppb
Carbon tetrachloride	5	ppb	Xylenes	10	ppm
Chlordane	2	ppb	Disinfectants & Disinfection Byproducts		
Chlorobenzene	100	ppb	Chlorine	4	ppm
Dalapon	200	ppb	Chlorine Dioxide	800	ppb
Dibromochloropropane	200	ppt	Chloramines	4	ppm
o-Dichlorobenzene	600	ppb	Bromate	10	ppb
p-Dichlorobenzene	75	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
cis-1,2-Dichloroethylene	70	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	Trichlorfluoromethane		
SECONDARY CONTAMINANTS					
Alkalinity, Total (as CA, Co ₃)	Copper	Magnesium	Silver		
Aluminum	Corrosivity	Manganese	Sodium		
Calcium, as Ca	Foaming agents (MBAS)	Odor	Sulfate		
Chloride	Hardness	Nickel	Total Dissolved Solids		
Color	Iron	pH	Zinc		