

**2017 Annual Water Quality Report
(Covering period January - December 2016)**

SOUTH ALABAMA UTILITIES

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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 are pleased to report that our drinking water meets federal and state requirements.

Water Sources	17 groundwater wells producing from the Pliocene-Miocene aquifer:	
	Well 1 -U.S. Highway 45 Well	Well 16 -Eliza Jordan Well #2
	Well 2 -Jail Well	Well 17 -Georgetown Well
	Well 3 -Willie Street Well	Well 18 -Calvert Well
	Well 4 -5 th Street Well	Well 19 -Fairford Well
	Well 6 -Lott Road Well	Well 20 -Scott Plantation Well (deep)
	Well 7 -Snow Road Well	Well 21 -Scott Plantation Well (shallow)
	Well 9 -Johnson Road Well	Well 22 -Coy Smith well
	Well 13 -Wilmer Town Hall Well	Well 23 -Airport Well
	Well 14 -Eliza Jordan Well #1	Well 25 -Calvert 43 well
	Well 15 -Mary Montgomery Well	
	Number of Customers	Approximately 20,000
Water Treatment	Chlorination and corrosion control	
Storage Capacity	14 storage tanks, for a combined capacity of 8,648,000 gallons	
Additional Connections	Turnerville Water and McIntosh Water for emergency purposes only	
Board Members	Marcus Hobbs, Chairman	Jason Stringer, Director and Mayor
	Al McDonald, Vice-Chairman	Jeff Smith, Director
	Larry Yonge, Secretary-Treasurer	
General Manager	Donnie Cunningham	

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **South Alabama Utilities** has developed a Source Water Assessment that will assist in protecting our water sources. This plan includes a susceptibility analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. Over 75% percent of the potential contaminants sited in our assessment areas were ranked as non-susceptible and medium risk. The report has been completed and approved by ADEM. A copy of the report is available in our office for review, 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.

Monitoring Schedule

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	2014
Microbiological Contaminants	current
Nitrates	2016
Radioactive Contaminants	2015
Synthetic Organic Contaminants (including pesticides and herbicides)	2016
Volatile Organic Contaminants	2016
Disinfection By-products	2016
Unregulated Contaminant Monitoring Rule 3 (UCMR3)	2014

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.

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. 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.

Use *only* water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. The two actions recommended above are very important to the health of your family. They will probably be effective in reducing lead levels because most of the lead in household water usually comes from the plumbing in your house, not from the local water supply. 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.

Questions?

If you have any questions about this report or concerning your water utility, call:

Citronelle, Fairford, & Calvert areas	Phillip Weaver	251-866-2365, ext 125
Semmes, Fairview, Wilmer, and West Mobile areas	James Carley	251-649-4317, ext 215

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 second and fourth Wednesday of each month at South Alabama Utilities office located at 8100 Joy Street, Citronelle, AL at 1:00 P.M.** A board meeting schedule is also available on www.southalabamautilities.net to check for holiday dates and times.

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).

South Alabama Utilities routinely monitors for constituents in your drinking water according to Federal and State laws. As you can see by the Table of Detected Drinking Water Contaminants, our system had no violations. 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.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt.	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	7.8 ± 1.8	PCi/l	0	15	Erosion of natural deposits
Radium 228	Not Required	1.6 ± 0.6	PCi/l	0	5	Erosion of natural deposits
Total Coliform Bacteria	NO	3 positive samples*	Present or Absent	0	presence in 5% of monthly samples	Naturally present in the environment
Copper	NO	0.462** 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching of wood preservatives
Fluoride	NO	ND-0.51	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO	ND-0.72	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	Annual 5.91-6.71	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	Annual 2.56-3.36	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	ND-12.7	ppb	n/a	n/a	Naturally occurring in the environment or result of industrial discharge or agricultural runoff
Bromodichloromethane	NO	ND-9.66	ppb	n/a	n/a	Naturally occurring in the environment or result of industrial discharge or agricultural runoff
Chlorodibromomethane	NO	ND-17.4	ppb	n/a	n/a	Naturally occurring in the environment or result of industrial discharge or agricultural runoff
Bromoform	NO	ND-30.1	ppb	n/a	n/a	Naturally occurring in the environment or result of industrial discharge or agricultural runoff
Secondary Contaminants						
Chloride	NO	4.13-173	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	1.37-6.87	ppm	n/a	n/a	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
pH	NO	7.46-9.21	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Sodium	NO	22.9-151	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	ND-9.56	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	56.0-460	ppm	n/a	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

* Three positive samples were detected in December 2016. All follow up samples were negative for coliform bacteria.

** Amount shown is 90th percentile and # of sites above action level (1.3 ppm) = 0

Unregulated Contaminant Rule 3 (UCMR3) Contaminants Detected

Contaminants	Violation Y/N	Level Detected	Unit Msmt.	Likely Source of Contamination
Chromium	NO	ND-0.30	ppb	Naturally occurring in the environment or as a result of industrial discharge
Molybdenum	NO	ND-1.30	ppb	Naturally occurring in the environment or as a result of runoff from mining or industrial discharge
Strontium	NO	7.00-120	ppb	Naturally occurring in the environment or as a result of discharge
Vanadium	NO	ND-0.30	ppb	Naturally occurring in the environment or as a result of runoff from mining or industrial discharge
Chromium, Hexavalent	NO	ND-0.35	ppb	Naturally occurring in the environment or as a result of industrial discharge
Chlorate	NO	ND-300	ppb	Naturally occurring in the environment or from water treatment techniques

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

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.

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 (ug/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.

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

At the end of this report is a *Table of Primary Drinking Water Contaminants*. These contaminants were *not* detected in your water unless they appear in the *Table of Detected 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/phonon 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	TTTHM [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	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorfluoromethane		

A copy of the annual CCR Report is on our website at www.southalabamautilities.net.