

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

SOUTH MARENGO COUNTY WATER AND FIRE PROTECTION AUTHORITY

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We are pleased to present to you this year's Annual Water Quality Report and happy to report that our drinking water meets or exceeds federal and state requirements. This report shows our water quality and what it means.

Water Sources	Purchased water from Town of Pine Hill Water System (Alabama River)
	Purchased water from Thomaston Water Works (groundwater well)
	Purchased water from Linden Utility Board (groundwater well)
Additional Connection	Myrtlewood Water System for emergency use
Storage Capacity	3 tanks with a total capacity of 400,000 gallons
Number of Customers	Approximately 1966 service connections
Treatment	Chlorination
Board Members	Robert Shamburger, Chairman
	Inez E. Craig, Secretary
	Gloria H. Pritchett, Member
Staff Members	Julia McGilberry, Office Manager
	Roy Stockman, Certified Water Operator
	Robin Schroeder, Part-time Bookkeeper
	Shannon Stockman, Operations Manager

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), Pine Hill Water System and Thomaston Water Works have developed Source Water Assessment plans that will assist in protecting our water sources. A Source Water Assessment 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. The assessments have been performed, public notification was completed, and the programs have been approved by ADEM.

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

South Marengo County Water and Fire Protection Authority 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	S. Marengo	Pine Hill	Thomaston	Linden
Inorganic Contaminants	--	2018	2016	2016
Lead/Copper	2017	2017	2017	2017
Microbiological Contaminants	current	current	current	current
Nitrates	--	2018	2018	2018
Radioactive Contaminants	--	2012	2010	2011
Synthetic Organic Contaminants (including pesticides and herbicides)	--	2017	2018	2018
Volatile Organic Contaminants	--	2017	2018	2018
Disinfection Byproducts	2018	2018	2018	2018
Cryptosporidium	--	2018	--	--
DSE Disinfection Byproducts	2018	2018	--	--

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. 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.

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.

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). 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.

In 2008, Pine Hill Water began testing their source water (a surface water source) for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. For people who may be immunocompromised, 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. This language does *not* indicate the presence of *cryptosporidium* in your drinking water.

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.

We are pleased to announce that our system had no violations. We have learned through our monitoring and testing that some constituents have been detected.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS									
Contaminants	Violation Y/N	S.Marengo Detected	Pine Hill Detected	Thomaston Detected	Linden Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Chlorine	NO		1.11-2.91			ppm	MRDL G= 4	MRDL = 4	Water additive used to control microbes
Turbidity	NO		0.092 100%<0.5			NTU	n/a	TT	Soil runoff
Total Organic Carbon	NO		1.66-2.23			ppm	n/a	TT	ppm
Alpha emitters	NO		0.2 ± 0.6	<3.3 ± 1.2	ND	PCI/l	0	15	Erosion of natural deposits
Copper	NO	0.265 * 0 >AL	0.125 * 0 > AL	0.350 * 0 >AL	0.053 * 0 >AL	ppm	1.3	AL=1 .3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from preservatives
Fluoride	NO		0.40	0.68	0.28	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO		0.32	0.20	0.20	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	LRAA 9.54	LRAA 51.4	Annual 1.70-11.0	Annual 4.80-10.5	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	LRAA 4.86	LRAA 41.4	Annual 7.70-9.40	Annual 9.30-16.2	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants									
Chloroform	NO		17.2	ND	ND	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Bromodichloromethane	NO		4.43	ND	ND	ppb	n/a	n/a	Naturally occurring in the environment or from runoff
Chlorodibromomethane	NO		0.60	ND	ND	ppb	n/a	n/a	Naturally occurring or from discharge or runoff
Secondary Contaminants									
Chloride	NO		10.8	374	4.37	ppm	n/a	250	Naturally occurring in the environment or as a result of agricultural runoff
Hardness	NO		45.1	14.2	ND	ppm	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Manganese	NO		ND	0.02	0.03	ppm	n/a	0.05	Erosion of natural deposits; leaching from pipes
pH	NO		7.71	7.89	7.60	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO		19.9	294	37.3	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO		35.7	2.97	4.26	ppm	n/a	250	Naturally occurring in the environment; erosion of natural deposits
Total Dissolved Solids	NO		112	804	104	ppm	n/a	500	Naturally occurring in the environment or as a result of discharge or agricultural runoff

* Figure shown is 90th percentile, and number of sites above the Action Level (AL) of 1.3 ppm = 0

DSE Disinfection Byproducts - South Marengo Water				
Contaminant	Violation Y/N	Level Detected	Unit Msmt	Likely Source
TTHM [Total trihalomethanes]	Y/N	ND-52.1	ppb	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	ND-67.7	ppb	By-product of drinking water chlorination

Questions?

If you have any questions about this report or concerning your water utility, please contact Julia McGilberry. 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 first Thursday of each month at the South Marengo County Water Office at 10:00 a.m. 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).

Abbreviations and Definitions

AL (Action Level): the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

CA (Coliform Absent): Laboratory analysis indicates that the contaminant is not present.

DBP (Disinfection Byproducts): 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.

IDSE (Initial Distribution System Evaluation): a study conducted by water systems to identify distribution system locations with high concentrations of TTHM and HAA5.

LRAA (Locational Running Annual Average): yearly average of all the DPB results at each specific sampling site

MCL (Maximum Contaminant Level): 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.

MCLG (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.

MRDL (Maximum Residual Disinfectant Level): the highest level of a disinfectant allowed in drinking water

mrem/yr (Millirems per year): measure of radiation absorbed by the body.

n/a (not applicable)

ND (Non-Detect): 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 secondary standards to water systems but does not require systems to comply.

NTU (Nephelometric Turbidity Unit): a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion) or **µg/l** (micrograms per liter): one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

ppm (parts per million) or **mg/l** (milligrams per liter): one part per million corresponds to one minute in two years or a single penny in \$10,000.

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

ppt (parts per trillion) or **nanograms/l** (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.

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

RAA (running annual average): average of DBP results in the water system

S.U. (Standard Units): pH of water measures the water's balances of acids and bases. 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.

TT (Treatment Technique): a required process intended to reduce the level of a contaminant in drinking water.

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

Below 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	MC	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	TT	Di (2-ethylhexyl)phthalate	6	ppb
Radiological Contaminants			Dinoseb	7	ppb
Beta/Photon emitters	4	mrem/yr	Dioxin [2,3,7,8-TCDD]	30	Picograms/l
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	
Antimony	6	ppb	Ethylbenzene	700	ppb
Arsenic	10	ppb	Ethylene dibromide	50	ppt
Asbestos	7	MFL	Glyphosate	700	ppb
Barium	2	ppm	Heptachlor	400	Nanograms/l
Beryllium	4	ppb	Heptachlor epoxide	200	Nanograms/l
Cadmium	5	ppb	Hexachlorobenzene	1	ppb
Chromium	100	ppb	Hexachlorocyclopentadiene	50	ppb
Copper	AL=1.3	ppm	Lindane	200	Nanograms/l
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		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	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 - Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		