

2023 Annual Water Quality Report
(Monitoring Performed January through December 2022)

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 1480 service connections
Treatment	Chlorination
Board Members	Robert Shamburger, Chairman
	Gloria H. Pritchett, Secretary
	Sharon McKinney, Member
Staff Members	Suzanne Drinkard, Office Manager
	Randall Jones, Certified Water Operator
	Robin Schroeder, Asst. Office Manager
	Shannon Stockman, Operations Manager
	Fernando Williams, Maintenance

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.

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.

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 immuno-compromised, 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.

Questions?

If you have any questions about this report or concerning your water utility, please contact Suzanne Drinkard. 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 10:00 a.m. at the South Marengo County Water Office at 245 Duck Pond Road, Linden, AL 36748.

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).

Monitoring Schedule and Results

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		2022	2022	2022
Lead/Copper	2020	2020	2020	2020
Microbiological Contaminants	current	current	current	current
Nitrates		2022	2022	2022
Radioactive Contaminants		2021	2019	2020
Synthetic Organic Contaminants (including pesticides and herbicides)		2022 partial	2021	2021
Volatile Organic Contaminants		2020	2022	2022
Disinfection Byproducts	2022	2022	2022	2022
Cryptosporidium		2020	--	--
DSE Disinfection Byproducts	2018	2018	--	--
PFAS Contaminants		2022	2020	2020

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		1.34-2.70			ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Turbidity	NO		0.173			NTU	n/a	TT	Soil runoff
Total Organic Carbon	NO		1.4-4.3			ppm	n/a	TT	Soil runoff
Barium	NO	ND	ND	0.025	ND	ppm	2	2	Drilling wastes; metal refinery discharge; erosion
Copper	NO	0.200 * 0 >AL	0.012 *	0.380 * 0 >AL	0.042 *	ppm	1.3	AL=1 .3	Corrosion of household plumbing; erosion of natural deposits; leaching from preservatives
Fluoride	NO		0.52	0.65	0.38	ppm	4	4	Erosion; water additive which promotes strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO		0.44	ND	0.22	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	3.50-5.20	LRAA 50.3 (32.0-75.0)	Annual 1.90-11.0	Annual ND-2.90	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	28.0-31.0	LRAA 51.0 (40.0-60.0)	Annual 1.10-2.50	ND	ppb	0	60	By-product of drinking water chlorination
2,4-D	NO	ND	0.23	ND	ND	ppb	70	70	Runoff from herbicide used on row crops
Unregulated Contaminants									
Chloroform	NO		26.0	ND	ND	ppb	n/a	n/a	Naturally occurring or from discharge or runoff
Bromodichloromethane	NO		3.80	ND	ND	ppb	n/a	n/a	Naturally occurring or from discharge or runoff
Secondary Contaminants									
Aluminum	NO		0.02	ND	0.11	ppm	n/a	0.2	Erosion; treatment with water additives
Chloride	NO		7.6	358	4.8	ppm	n/a	250	Naturally occurring or from discharge or runoff
Hardness	NO		46.9	15.8	ND	ppm	n/a	n/a	Naturally occurring or from water treatment
Manganese	NO		ND	0.02	ND	ppm	n/a	0.05	Erosion; leaching from pipes
pH	NO		6.4	7.8	8.3	S.U.	n/a	n/a	Naturally occurring or from water treatment
Sodium	NO		15.5	341	44.8	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO		29.7	ND	4.5	ppm	n/a	250	Naturally occurring or from discharge or runoff
Total Dissolved Solids	NO		104	834	108	ppm	n/a	500	Naturally occurring or from discharge or runoff
Zinc	NO		0.34	ND	ND	ppm	n/a	5	Erosion; refinery discharge; landfill runoff
DSE Disinfection Byproducts – South Marengo Water									
TTHM [Total trihalomethanes]		ND-52.1				ppb			By-product of drinking water chlorination
HAA5 [Total haloacetic acids]		ND-67.7				ppb			By-product of drinking water chlorination

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

Below is a list of PFAS contaminants for which Pine Hill Water monitored in 2022 as required and the results of that monitoring.

PFAS Contaminants (in ppb)					
Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected
11Cl-PF3OUdS (11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid)	ppb	ND	Perfluoroheptanoic acid	ppb	0.0027-0.0030
9Cl-PF3ONS (9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid)	ppb	ND	Perfluorohexanesulfonic acid	ppb	ND
ADONA (4,8-dioxa-3H-perfluorononanoic acid)	ppb	ND	Perfluorononanoic acid	ppb	ND
HFPO-DA (Hexafluoropropylene oxide dimer acidA)	ppb	ND	Perfluorooctanesulfonic acid	ppb	0.0094-0.010
NEtFOSAA (N-ethylperfluorooctanesulfonamidoacetic acid)	ppb	ND	Perfluorooctanoic acid	ppb	0.0070-0.0085
NMeFOSAA (N-methylperfluorooctanesulfonamidoacetic acid)	ppb	ND	Perfluorotetradecanoic acid	ppb	ND
Perfluorobutanesulfonic acid	ppb	0.0065-0.022	Perfluorotridecanoic acid	ppb	ND
Perfluorodecanoic acid	ppb	ND	Perfluoroundecanoic acid	ppb	ND
Perfluorohexanoic acid	ppb	0.0032-0.0088	Total PFAS	ppb	ND-0.052
Perfluorododecanoic acid	ppb	ND			

South Marengo was not required to monitor for PFAS. Thomaston and Linden monitored for PFAS in 2020, and PFAS was not detected.

For more information on PFAS contaminants, please consult www.epa.gov/pfas

Definitions

Action Level- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements

ADEM- Alabama Department of Environmental Management.

Coliform Absent- (ca) indicates that coliform bacteria is not present.

Disinfection byproducts- (DBPs) are formed when disinfectants react with bromide and/or natural organic matter present in the source water. Disinfection byproducts for which we test are trihalomethanes (TTHM), haloacetic acids (HAA5), bromate, and chlorite.

Distribution System Evaluation- (DSE) a four quarter study to identify locations with higher levels of disinfection byproducts.

EPA- Environmental Protection Agency.

Maximum Contaminant Level- (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- (MCLG) 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

Maximum Residual Disinfectant Level Goal- (MRDLG) the level of a drinking water disinfectant below which there is no known or expected risk to health.

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.

Non-Detects- (ND) laboratory analysis indicates that the constituent is not present above the detection limits of lab equipment.

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.

Running Annual Average- (RAA) running yearly average of results at each specific sampling site.

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.

Treatment Technique- (TT) 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.

Below is a table of contaminants for which the Environmental Protection Agency and the Alabama Department of Environmental Management require testing. These contaminants were not detected in your drinking water unless they are also listed in the Detected Drinking Water Contaminants table elsewhere in this report.

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
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	Calc.organisms/l	Di (2-ethylhexyl)phthalate	6	ppb
Radiological Contaminants			Dinoseb	7	ppb
Beta/photon 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	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 & Byproducts		
Dalapon	200	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
1,2-Dichlorobenzene	1000	ppb	Chloramines	4	ppm
1,4-Dichlorobenzene (para)	75	ppb	Bromate	10	ppb
o-Dichlorobenzene	600	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	Total organic carbon	TT	ppm
LIST OF SECONDARY CONTAMINANTS					
Alkalinity, Total (as CA, CO ₃)	Copper		Manganese		Specific Conductance
Aluminum	Corrosivity		Odor		Sulfate
Calcium, as Ca	Foaming agents (MBAS)		Nickel		Total Dissolved Solids
Carbon Dioxide	Hardness		pH		Zinc
Chloride	Iron		Silver		
Color	Magnesium		Sodium		
LIST OF UNREGULATED CONTAMINANTS					
Aldicarb	Chloroethane		Hexachlorobutadiene		Propachlor
Aldicarb Sulfone	Chloroform		3-Hydroxycarbofuran		N-Propylbenzene
Aldicarb Sulfoxide	Chloromethane		Isopropylbenzene		Propachlor
Aldrin	O-Chlorotoluene		p-Isopropyltoluene		1,1,1,2-Tetrachloroethane
Bromoacetic Acid	P-Chlorotoluene		M-Dichlorobenzene		1,1,2,2-Tetrachloroethane
Bromobenzene	Dibromochloromethane		Methomyl		Tetrachloroethene
Bromochloromethane	Dibromomethane		Methomyl		Trichloroacetic Acid
Bromodichloromethane	1,1-Dichloroethane		Methylene chloride		1,2,3-Trichlorobenzene
Bromoform	1,3-Dichloropropane		Methyl tert-butyl ether		Trichloroethene
Bromomethane	2,2-Dichloropropane		Metolachlor		Trichlorofluoromethane
Butachlor	1,1-Dichloropropene		Metribuzin		1,2,3-Trichloropropane
N-Butylbenzene	1,3-Dichloropropene		MTBE		1,2,4-Trimethylbenzene
Sec-Butylbenzene	Dicamba		Naphthalene		1,3,5-Trimethylbenzene
Tert - Butylbenzene	Dichlorodifluoromethane		1-Naphthol		
Carbaryl	Dieldrin		Paraquat		