

Annual Drinking Water Quality Report

January—December 2023

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Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM) drinking water health standards. Your Local Water officials vigilantly safeguard its water supplies and once again we are proud to report that our system has not violated a maximum contaminant level or any other water quality standards.

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is Well #3 where we have one Iron and Manganese removal plant. Also, we purchase water from the 5-star Water District, who treats water from Lake Jordon. Chlorine is added to the water as disinfectant and the required residual is maintained to protect your drinking water from any possible outside contaminants. Aqua Mag is also added to the water for sequestration of Iron and Manganese and used for corrosion control.

Important Drinking Water Definitions:

Disinfection Byproducts – contaminants formed when chlorine is used as a disinfectant.
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 billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
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.
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 one penny in \$10,000,000,000,000.
Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.
Millirems per year (mrem/yr) - measure of radiation absorbed by the body.
Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Variances & Exemptions - ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.
Maximum Contaminant Level Goal or 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 Contaminant Level or MCL - 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 Residual Disinfectant Level Goal or MRDLG - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Maximum Residual Disinfectant Level or MRDL - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Variances and Exemptions - The Department or EPA permission not to meet an MCL or a treatment technique under certain conditions
Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
Action Level - The concentration of a contaminant that triggers treatment or other requirement a water system shall follow.
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

The Marbury Water System, Inc. routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2023. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The Marbury Water System, Inc. utilizes a Bacteriological Monitoring Plan, and a Cross Connection Policy is in place to insure good safe drinking water for our customers. The Marbury Water System, Inc. has completed a Source Water Assessment Plan which is available for review at their office. A Source Water Assessment Plan provides information about potential sources of contamination and is set up to help protect our source.

Any Questions?
Please attend our regularly scheduled meetings!
The 3rd Monday of every quarter at 5:00 p.m. at the Marbury Water Office located at 3056 Hwy 143.
Hope to See You There!

Marbury Water System, Inc.
P.O. Box 180
Marbury, Alabama 36051

A MESSAGE FROM THE BOARD

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding. We at The Marbury

Water System, Inc. work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

John Parks,
President of the Board

General Information

As you can see by the tables, our system had no monitoring violations of allowable limits of contaminants in drinking water. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

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.

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).

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. **The Marbury Water System, Inc.** 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. 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 <http://www.epa.gov/safewater/lead>.

Marbury Water System

Table of Primary Contaminants											
At high levels some primary contaminants are known to pose a health risks to humans. This table provides a quick glance of any primary contaminant detections.											
CONTAMINANT	MCL	Marbury	5-Star	CONTAMINANT	MCL	Marbury	5-Star	CONTAMINANT	MCL	Marbury	5-Star
Bacteriological				Selenium(ppb)	50	ND	ND	Epichlorohydrin	11	ND	ND
Total Coliform Bacteria	<5%	ND	ND	Thallium(ppb)	2	ND	ND	Ethylbenzene(ppb)	700	ND	ND
Turbidity	11	ND	0.08	Organic Chemicals				Ethylene dibromide(ppb)	50	ND	ND
Fecal Coliform & E. coli	0	ND	ND	Acrylamide	11	ND	ND	Glyphosate(ppb)	700	ND	ND
Radicalogical				Alachlor(ppb)	2	ND	ND	Halacetic Acids(ppb)	60	15.00	45.50
Beta/photon emitters (mrem/yr)	4	ND	ND	Atrazine(ppb)	3	ND	ND	Heptachlor(ppb)	400	ND	ND
Alpha emitters (pCi/l)	15	ND	2.30	Ben zene(ppb)	5	ND	ND	Heptachlor epoxide(ppb)	200	ND	ND
Combined radium (pCi/l)	5	0.80	0.70	Ben zo(a)pyrene(PHAs)(ppt)	200	ND	ND	Hexachlorobenzene(ppb)	1	ND	ND
Uranium(pCi/l)	30	ND	ND	Carbofuran(ppb)	40	ND	ND	Hexachlorocyclopentadiene(ppb)	50	ND	ND
Inorganic				Carbon Tetrachloride(ppb)	5	ND	ND	Lin dan(ppb)	200	ND	ND
Antimony (ppb)	6	ND	0.33	Chlordane(ppb)	2	ND	ND	Methoxychlor(ppb)	40	ND	ND
Arsenic (ppb)	10	ND	0.54	Chlorobenzene(ppb)	100	ND	ND	Quamyl(Vydate)(ppb)	200	ND	ND
Asbestos (MFL)	7	ND	ND	2,4-D	70	ND	ND	Pentachlorophenol(ppb)	1	ND	ND
Barium (ppm)	2	ND	0.090	Dalapon(ppb)	200	ND	ND	Picloram(ppb)	500	ND	ND
Beryllium (ppb)	4	ND	ND	Dibromochloropropene(ppb)	200	ND	ND	PCBs(ppb)	500	ND	ND
Bromate(ppb)	10	ND	ND	0-Dichlorobenzene(ppb)	600	ND	ND	Simazine(ppb)	4	ND	ND
Cadmium(ppb)	5	ND	ND	p-Dichlorobenzene(ppb)	75	ND	ND	Styrene(ppb)	100	ND	ND
Chloramines(ppm)	4	ND	ND	1,2-Dichloroethane(ppb)	5	ND	ND	Tetrachloroethylene(ppb)	5	ND	ND
Chlorine(ppm)	4	1.82	2.06	1,1-Dichloroethylene(ppb)	7	ND	ND	Toluene(ppm)	1	ND	ND
Chlorine dioxide(ppb)	800	ND	ND	Cis-1,2-Dichloroethylene(ppb)	70	ND	ND	TOC	11	ND	1.68
Chlorite(ppm)	1	ND	ND	trans-1,2-Dichloroethylene(ppb)	100	ND	ND	1 THM(ppb)	80	25.60	42.40
Chromium(ppb)	100	ND	1.30	Dichloromethane(ppb)	5	ND	ND	Toxaphene(ppb)	3	ND	ND
Copper (ppm)	AL=1.3	ND	0.342	1,2-Dichloropropane(ppb)	5	ND	ND	2,4,5-TP (Silver)(ppb)	50	ND	ND
Cyanide (ppb)	200	ND	ND	Di(2-ethylhexyl)phthalate(ppb)	400	ND	ND	1,24-Trichlorobenzene(ppb)	70	ND	ND
Fluoride (ppm)	4	ND	0.80	Di(2-ethylhexyl)phthalate(ppb)	6	ND	ND	1,1,1-Trichloroethane(ppb)	200	ND	ND
Lead (ppb)	AL=15	ND	0.0010	Dinoseb(ppb)	7	ND	ND	1,1,2-Trichloroethane(ppb)	5	ND	ND
Mercury (ppb)	2	ND	ND	Dioxin(2,3,7,8-TCDD)(ppq)	30	ND	ND	Trichloroethylene(ppb)	5	ND	ND
Nitrate (ppm)	10	0.05	0.113	Diquat(ppb)	20	ND	ND	Vinyl Chloride(ppb)	2	ND	ND
Nitrite (ppm)	1	ND	ND	Endosulf(ppb)	100	ND	ND	Xylenes(ppm)	10	ND	ND
Total Nitrate & Nitrite	10	0.05	0.113	Endrin(ppb)	2	ND	ND				

Table of Secondary and Unregulated Contaminants

Secondary Drinking Water Standards are guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. ADEM has Secondary Drinking Water Standards established in state regulations applicable to water systems required to monitor for the various components. **Unregulated contaminants** are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

CONTAMINANT	MCL	Marbury	5-Star	CONTAMINANT	MCL	Marbury	5-Star	CONTAMINANT	MCL	Marbury	5-Star
Secondary											
Aluminum	0.2	ND	22.10	Foaming Agents	0.5	ND	ND	Silver	7	ND	ND
Chloride	250	3.50	5.53	Iron	0.3	ND	ND	Sulfate	70	ND	20.30
Cobalt(PCU)	15	5.00	ND	Magnesium	75	ND	4.79	Total Dissolved Solids	500	ND	24.70
Copper	1	0.018	8.700	Odor (T.O.N)	5	ND	ND	Zinc	5	ND	0.68
Special											
Calcium	N/A	16.00	24.20	pH(SU)	N/A	ND	6.10	Temperature (°C)	N/A	ND	60.20
Carbon Dioxide	N/A	11.9	49.30	Sodium	N/A	ND	3.76	Total Alkalinity	N/A	ND	56.00
Manganese	0.05	0.012	0.008	Specific Conductance (umhos)	<500	ND	166.00	Total Hardness (as CaCO3)	N/A	ND	79.90
Unregulated											
1,1 - Dichloropropene	N/A	ND	ND	Bromobenzene	N/A	ND	ND	Hexachlorobutadiene	N/A	ND	ND
1,1,2,2-Tetrachloroethane	N/A	ND	ND	Bromochloromethane	N/A	ND	ND	Isopropylbenzene	N/A	ND	ND
1,1-Dichloroethane	N/A	ND	ND	Bromodichloromethane	N/A	ND	9.21	M-Dichlorobenzene	N/A	ND	ND
1,2,3 - Trichlorobenzene	N/A	ND	ND	Bromoform	N/A	ND	ND	Methomyl	N/A	ND	ND
1,2,3 - Trichloropropene	N/A	ND	ND	Bromomethane	N/A	ND	ND	Metalichlor	N/A	ND	ND
1,2,4 - Trimethylbenzene	N/A	ND	ND	Butachlor	N/A	ND	ND	Metribuzin	N/A	ND	ND
1,2,4-Trichlorobenzene	N/A	ND	ND	Carbaryl	N/A	ND	ND	M TBE	N/A	ND	ND
1,3 - Dichloropropene	N/A	ND	ND	Chloroethane	N/A	ND	ND	N - Butylbenzene	N/A	ND	ND
1,3 - Dichloropropene	N/A	ND	ND	Chlorodibromomethane	N/A	ND	ND	Naphthalene	N/A	ND	ND
1,3,5 - Trimethylbenzene	N/A	ND	ND	Chloroform	N/A	ND	53.20	N-Propylbenzene	N/A	ND	ND
2,2 - Dichloropropene	N/A	ND	ND	Chloromethane	N/A	ND	ND	O-Chlorotoluene	N/A	ND	ND
3-Hydroxycarbofuran	N/A	ND	ND	Dibromochloromethane	N/A	ND	1.29	P-Chlorotoluene	N/A	ND	ND
Aldicarb	N/A	ND	ND	Dibromomethane	N/A	ND	ND	P-Isopropyltoluene	N/A	ND	ND
Aldicarb Sulfone	N/A	ND	ND	Dichlorodifluoromethane	N/A	ND	ND	Propachlor	N/A	ND	ND
Aldicarb Sulfoxide	N/A	ND	ND	Dieldrin	N/A	ND	ND	Sec - Butylbenzene	N/A	ND	ND
Aldrin	N/A	ND	ND	Fluorotrichloromethan	N/A	ND	ND	Tert - Butylbenzene	N/A	ND	ND

PFAS Compounds								
CONTAMINANT	RESULTS	UNITS	CONTAMINANT	RESULTS	UNITS	CONTAMINANT	RESULTS	UNITS
11C-PF3OUIS	BMRL	ug/L	Perfluorodecanoic Acid	BMRL	ug/L	Perfluorooctanoic Acid	0.016	ug/L
9C-PF3ONS	BMRL	ug/L	Perfluorohexanoic Acid		0.018 ug/L	Perfluorotetradecanoic Acid	BMRL	ug/L
ADONA	BMRL	ug/L	Perfluorododecanoic Acid	BMRL	ug/L	Perfluorotridecanoic Acid	BMRL	ug/L
HFPO-DA	BMRL	ug/L	Perfluoroheptanoic Acid		0.0054 ug/L	Perfluoroundecanoic Acid	BMRL	ug/L
NEIFOSAA	BMRL	ug/L	Perfluorohexanesulfonic Acid	BMRL	ug/L	Total PFAs	0.092	ug/L
NMeFOSAA	BMRL	ug/L	Perfluorononanoic Acid	BMRL	ug/L			ug/L
Perfluorobutanesulfonic Acid	0.065	ug/L	Perfluorooctanesulfonic Acid		0.022 ug/L			ug/L

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or ADEM requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Table of Detected Drinking Water Contaminants										
CONTAMINANT	MCLG	MCL	Range			Marbury	5-Star	Amount Detected	Likely Source of Contamination	
Bacteriological Contaminants January - December										
Turbidity	0	11				ND	0.01	NTU	Soil runoff	
Radiological Contaminants January - December										
Alpha emitters	0	15				ND	2.50	pCi/L	Erosion of natural deposits	
Combined Radium 226 & 228	0	5				0.80	0.70	pCi/L	Erosion of natural deposits	
Inorganic Contaminants January - December										
Antimony	6	6	ND	-	ND	ND	0.33	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	
Arsenic	0	10	ND	-	ND	ND	0.54	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	
			ND	-	ND	ND	0.03		Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	
Barium	2	2	-	-	-	ND	0.03	ppm		
Chlorine	MRLG 4	MRL 4	1.09	-	1.82	1.82	2.05	ppm	Water additive used to control microbes	
Chromium	100	100	-	-	ND	ND	1.10	ppb	Discharge from steel and pulp mills; erosion of natural deposits	
Copper	1.3	10 Sites AL=1.3	No. of Sites above action level 0			0.20	0.24	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	
			ND	-	ND	ND	0.80		Water additive which promotes strong test; erosion of natural deposits; discharge from fertilizer and aluminum factories	
Fluoride	4	4	-	-	-	-	-	ppm		
Lead	0	10 Sites AL=15	No. of Sites above action level 0			ND	0.00	ppb	Corrosion of household plumbing systems; erosion of natural deposits	
Nitrate (as N)	10	10	ND	-	0.05	0.05	0.11	ppm	Runoff from feedlot use; leaching from septic tanks; sewage; erosion of natural deposits	
Total Nitrate & Nitrite	10	10	ND	-	0.05	0.05	0.11	ppm	Runoff from feedlot use; leaching from septic tanks; sewage; erosion of natural deposits	
Organic Contaminants January - December										
Halacetic Acids (HAA5)	0	60	8.70	-	18.00	15.00	42.40	ppb	By-product of drinking water chlorination	
Total Organic Carbon (TOC)	N/A	11	ND	-	ND	ND	1.68		ppb	Naturally present in the environment
Total trihalomethanes (THM)	0	80	19.00	-	40.00	25.60	45.50			By-product of drinking water chlorination
Secondary Contaminants January - December										
Aluminum	N/A	0.2	ND	-	ND	ND	0.02	ppm	Erosion of natural deposits or as a result of treatment with water additives	
Chloride	N/A	250	ND	-	ND	ND	5.33	ppm	Naturally occurring in the environment or as a result of agricultural runoff	
Copper	N/A	1	ND	-	ND	ND	0.17	ppm	Erosion of natural deposits; leaching from pipes	
Magnesium	N/A	0.05	ND	-	ND	ND	0.01	ppm	Erosion of natural deposits	
Sulfate	N/A	250	ND	-	ND	ND	20.30	ppm	Naturally occurring in the environment	
Total Dissolved Solids	N/A	500	ND	-	ND	ND	24.70	ppm	Erosion of natural deposits	
Zinc	N/A	5	ND	-	ND	ND	0.68	ppm	Erosion of natural deposits	
Special Contaminants January - December										
Calcium	N/A	N/A	ND	-	ND	ND	40.30	ppm	Erosion of natural deposits	
Carbon Dioxide	N/A	N/A	ND	-	ND	ND	49.30	ppm	Erosion of natural deposits	
Manganese	N/A	N/A	ND	-	ND	ND	0.01	ppm	Erosion of natural deposits	
pH	N/A	N/A	ND	-	ND	ND	7.20	SU	Naturally occurring in the environment or as a result of treatment with water additives	
Sodium	N/A	N/A	ND	-	ND	ND	3.60	ppm	Naturally occurring in the environment	
Specific Conductance	N/A	<500	ND	-	ND	ND	166.00	umhos	Naturally occurring in the environment or as a result of treatment with water additives	
Temperature	N/A	N/A	ND	-	ND	ND	60.20	-C	Naturally occurring in the environment	
Total Alkalinity	N/A	N/A	ND	-	ND	ND	56.00	ppm	Erosion of natural deposits	
Total Hardness (as CaCO3)	N/A	N/A	ND	-	ND	ND	79.90	ppm	Naturally occurring in the environment or as a result of treatment with water additives	
Unregulated Contaminants January - December										
Bromodichloromethane	N/A	N/A	ND	-	ND	ND	9.21	ppb	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination	
Chloroform	N/A	N/A	ND	-	ND	ND	53.20	ppb	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination	
Dibromochloromethane	N/A	N/A	ND	-	ND	ND	1.29	ppm	Naturally occurring in the environment	