

Annual Drinking Water Quality Report January—December 2021

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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.

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.

*Bill Newsome,
 President of the Board*

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, 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.

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. The EPA has determined that your water IS SAFE at these levels.

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

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.
- Variations & 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.
- Variations 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, 2021. 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!

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											
Total Coliform Bacteria	< 5%	ND	ND	Selenium(ppb)	50	0.19	ND	Epichlorohydrin	TT	ND	ND
Turbidity	TT	0.10	0.17	Thallium(ppb)	2	ND	ND	Ethylbenzene(ppb)	700	ND	ND
Fecal Coliform & E. coli	0	ND	ND	Organic Chemicals				Ethylene dibromide(ppb)	50	ND	ND
Radiological											
Alachlor(ppb)				Acrylamide	TT	ND	ND	Glyphosate(ppb)	700	ND	ND
Beta/phon emitters (mrem/yr)	4	ND	ND	Alachlor(ppb)	2	ND	ND	Halooacetic Acids(ppb)	60	11.40	35.20
Alpha emitters (pci/l)	15	ND	2.50	Atrazine(ppb)	3	ND	ND	Heptachlor(ppb)	400	ND	ND
Combined radium (pci/l)	5	0.80	0.70	Benzo(a)pyrene[PHAs](ppt)	200	ND	ND	Heptachlor epoxide(ppb)	200	ND	ND
Uranium(pci/l)	30	ND	ND	Carbofuran(ppb)	40	ND	ND	Hexachlorobenzene(ppb)	1	ND	ND
Inorganic											
Antimony (ppb)	6	ND	0.33	Carbon Tetrachloride(ppb)	5	ND	ND	Hexachlorocyclopentadiene(ppb)	50	ND	ND
Arsenic (ppb)	10	ND	0.38	Chlorobenzene(ppb)	100	ND	ND	Lindane(ppb)	200	ND	ND
Asbestos (MFL)	7	ND	ND	Chlorobenzene(ppb)	100	ND	ND	Methoxychlor(ppb)	40	ND	ND
Barium (ppm)	2	0.082	0.032	2,4-D	70	ND	ND	Oxamyl [Vydate](ppb)	200	ND	ND
Beryllium (ppb)	4	ND	ND	Dalapon(ppb)	200	ND	ND	Pentachlorophenol(ppb)	1	ND	ND
Bromate(ppb)	10	ND	ND	Dibromochloropropane(ppt)	200	ND	ND	Picloram(ppb)	500	ND	ND
Cadmium (ppb)	5	0.08	ND	0-Dichlorobenzene(ppb)	600	ND	ND	PCBs(ppb)	500	ND	ND
Chloramines(ppm)	4	ND	ND	p-Dichlorobenzene(ppb)	75	ND	ND	Simazine(ppb)	4	ND	ND
Chlorine(ppm)	4	1.30	2.11	1,2-Dichloroethane(ppb)	5	ND	ND	Styrene(ppb)	100	ND	ND
Chlorine dioxide(ppb)	800	ND	ND	1,1-Dichloroethylene(ppb)	7	ND	ND	Tetrachloroethylene(ppb)	5	ND	ND
Chlorite(ppm)	1	ND	ND	Cis-1,2-Dichloroethylene(ppb)	70	ND	ND	Toluene(ppm)	1	ND	ND
Chromium (ppb)	100	ND	0.67	trans-1,2-Dichloroethylene(ppb)	100	ND	ND	TOC	TT	1.82	1.61
Copper (ppm)	AL=1.3	0.201	0.238	Dichloromethane(ppb)	5	ND	ND	TTHM(ppb)	80	16.00	63.60
Cyanide (ppb)	200	0.30	ND	1,2-Dichloropropane(ppb)	5	ND	ND	Toxaphene(ppb)	3	ND	ND
Fluoride (ppm)	4	0.88	0.56	Di(2-ethylhexyl)adipate(ppb)	400	ND	ND	2,4,5-TP (Silvex)(ppb)	50	ND	ND
Lead (ppb)	AL=15	ND	0.4000	Dioxin[2,3,7,8-TCDD](ppq)	30	ND	ND	1,2,4-Trichlorobenzene(ppb)	70	ND	ND
Nitrate (ppm)	10	0.10	0.309	Di(2-ethylhexyl)phthalates(ppb)	6	ND	ND	1,1,1-Trichloroethane(ppb)	200	ND	ND
Nitrite (ppm)	1	ND	ND	Dinoseb(ppb)	7	ND	ND	1,1,2-Trichloroethane(ppb)	5	ND	ND
Total Nitrate & Nitrite	10	0.10	0.309	Mercury (ppb)	2	0.88	ND	Trichloroethylene(ppb)	5	ND	ND
				Nitrate (ppm)	10	0.10	0.309	Vinyl Chloride(ppb)	2	ND	ND
				Nitrite (ppm)	1	ND	ND	Xylenes(ppm)	10	ND	ND
				Total Nitrate & Nitrite	10	0.10	0.309	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	0.85	Foaming Agents	0.5	ND	ND	Silver	7	ND	ND
Chloride	250	3.50	8.02	Iron	0.3	0.21	0.02	Sulfate	70	6.6	13.20
Color (PCU)	15	5.00	6.00	Magnesium	75	0.90	4.79	Total Dissolved Solids	500	103	106.00
Copper	1	0.018	0.238	Odor (T.O.N.)	5	1.00	ND	Zinc	5	ND	ND
Special											
Calcium	N/A	16.00	27.60	pH (SU)	N/A	7.60	7.90	Temperature (*C)	N/A	40.80	ND
Carbon Dioxide	N/A	11.9	49.00	Sodium	N/A	12.10	12.30	Total Alkalinity	N/A	63.10	55.90
Manganese	0.05	0.012	0.008	Specific Conductance (umhos)	<500	157.00	215.00	Total Hardness (as CaCO3)	N/A	43.80	83.50
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 - Trichloropropane	N/A	ND	ND	Bromomethane	N/A	ND	ND	Metolachlor	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	MTBE	N/A	ND	ND
1,3 - Dichloropropane	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 - Dichloropropane	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
11Cl-PF3OUds	ND	ug/L	Perfluorodecanoic Acid	2.5	ug/L	Perfluorooctanoic Acid	19	ug/L
9Cl-PF3ONS	ND	ug/L	Perfluorohexanoic Acid	24	ug/L	Perfluorotetradecanoic Acid	ND	ug/L
ADONA	ND	ug/L	Perfluorododecanoic Acid	ND	ug/L	Perfluorotridecanoic Acid	ND	ug/L
HFPO-DA	ND	ug/L	Perfluoroheptanoic Acid	6	ug/L	Perfluoroundecanoic Acid	ND	ug/L
NEIFOSAA	ND	ug/L	Perfluorohexanesulfonic Acid	3	ug/L	Total PFAs	ND	ug/L
NMeFOSAA	ND	ug/L	Perfluorononanoic Acid	2	ug/L			ug/L
Perfluorobutanesulfonic Acid	65	ug/L	Perfluorooctanesulfonic Acid	23	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	TT		0.10	0.15	NTU	Soil runoff		
Radiological Contaminants January - December									
Combined Radium 226 & 228	0	5		0.80	0.70	pCi/L	Erosion of natural deposits		
Inorganic Contaminants January - December									
Arsenic	0	10	-	ND	ND	0.38	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes		
Barium	2	2	ND	0.08	0.08	0.03	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	
Chlorine	MRDLG 4	MRDL 4	0.90	-	1.30	1.30	2.11	ppm	Water additive used to control microbes
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
Cyanide	200	200	ND	-	ND	ND	ND	ppb	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	4	4	ND	-	ND	ND	0.56	ppm	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead	0	10 Sites AL=15	No. of Sites above action level		0	ND	0.4000	ppb	Corrosion of household plumbing systems, erosion of natural deposits
Mercury	2	2	ND	-	ND	ND	ND	ppb	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as N)	10	10	ND	-	0.10	0.10	0.31	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Nitrate & Nitrite	10	10	ND	-	0.10	0.10	0.31	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	ND	-	ND	ND	ND	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Organic Contaminants January - December									
Haloacetic Acids (HAA5)	0	60	4.30	-	22.00	11.4avg	35.20	ppb	By-product of drinking water chlorination
Total Organic Carbon (TOC)	N/A	TT	ND	-	1.82	1.82	1.61	TT	Naturally present in the environment
Total trihalomethanes (TTHM)	0	80	5.90	-	32.00	16.0avg	63.60	ppb	By-product of drinking water chlorination
Secondary Contaminants January - December									
Chloride	N/A	250	ND	-	3.50	3.50	8.02	ppm	Naturally occurring in the environment or as a result of agricultural runoff
Color	N/A	15	ND	-	5.00	5.00	6.00	PCU	Naturally occurring in the environment or as a result of treatment with water additives
Copper	N/A	1	ND	-	0.02	0.02	0.24	ppm	Erosion of natural deposits; leaching from pipes
Iron	N/A	0.3	ND	-	0.21	0.21	0.02	ppm	Erosion of natural deposits
Magnesium	N/A	0.05	ND	-	0.90	0.90	ND	ppm	Erosion of natural deposits
Odor	N/A	3	ND	-	1.00	1.00	ND	T.O.N.	Naturally occurring in the environment or as a result of treatment with water additives
Sulfate	N/A	250	ND	-	6.60	6.60	13.20	ppm	Naturally occurring in the environment
Total Dissolved Solids	N/A	500	ND	-	103.00	103.00	106.00	ppm	Erosion of natural deposits
Special Contaminants January - December									
Aluminum	N/A	0.2	ND	-	ND	ND	0.03	ppm	Erosion of natural deposits or as a result of treatment with water additives
Calcium	N/A	N/A	ND	-	16.00	16.00	27.60	ppm	Erosion of natural deposits
Carbon Dioxide	N/A	N/A	1.40	-	11.90	11.90	49.00	ppm	Erosion of natural deposits
Manganese	N/A	N/A	ND	-	0.01	0.01	ND	ppm	Erosion of natural deposits
pH	N/A	N/A	6.30	-	7.60	7.60	7.90	SU	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	N/A	N/A	6.74	-	12.10	12.10	12.30	ppm	Naturally occurring in the environment
Specific Conductance	N/A	<500	123.00	-	157.00	157.00	215.00	umhos	Naturally occurring in the environment or as a result of treatment with water additives
Total Alkalinity	N/A	N/A	53.60	-	63.10	63.10	55.90	ppm	Erosion of natural deposits
Total Hardness (as CaCO3)	N/A	N/A	3.65	-	43.80	43.80	83.50	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