

THE WATER WORKS BOARD OF THE CITY OF BREWTON

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DEFINITIONS



Action Level (AL) - 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.

Locational Running Annual Average (LRAA) - yearly average of all the DPB results at each specific sampling site in the distribution system.

Maximum Contaminant Level (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 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

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-Detect (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 (µg/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)-yearly average of all the DPB results.

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.

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



2021 Annual Water Quality Report

(Testing Performed January-December 2020)

WATER WORKS BOARD
OF THE CITY OF BREWTON

1010A Douglas Avenue
Brewton, AL 36426

Phone 251-809-1780
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The Water Works Board of the City of Brewton strives to provide a dependable and safe supply of water to all consumers. Sometimes accidents or natural disasters may hinder our efforts to supply your water; however, regardless of the time or weather, our water works personnel are on call and working diligently to keep your water flowing. We ask that all our customers help us protect our valuable water sources, which are the heart of our community, our way of life, and our children's future.

WATER QUALITY PROTECTION

Protecting the water supply at its source is the first step in achieving our goal of providing safe drinking water to its customers. In compliance with the Alabama Department of Environmental Management (ADEM), The Water Works Board of the City of Brewton developed a Wellhead Protection Plan that assists in protecting our water sources. This plan provides a Susceptibility Analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. A copy of the report is available in our office for review during normal business hours.

The Water Works Board of the City of Brewton routinely monitors our facilities. We regularly complete a water storage facility inspection, we utilize a Bacteriological Monitoring Plan, and we routinely test chlorine residual throughout our system. Please help us make these efforts 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. Taking these precautions can help protect your drinking water quality.

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. Sources of drinking 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, 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, which are

by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run-off, 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. 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. Some people may be more vulnerable to contaminants 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. Guidelines on how to lessen the risk of microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

PUBLIC NOTICE 2020

Our water system violated a drinking water standard in 2020. This was not an emergency, but you have a right to know what happened, what you should do, and what we are doing to correct this situation. We routinely monitor for the presence of drinking water contaminants. Testing results we received in May of 2020 show that our system exceeded the standard or maximum contaminant level (MCL) for fluoride. The standard for fluoride is 4.0 MG/L. the drinking water provided by your community water system Brewton Water Works has a fluoride concentration of 7.1 MG/ l.

This was not an immediate risk. If it had been, you would have been notified by us immediately. However, some people who drink water containing fluoride in excess of the Maximum Contaminant Level (MCL) over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth, before they erupt from the gums. Due to the detection of fluoride above the MCL of 4.0 MG/L on May 26, 2020, monitoring for the Ridge Road Well treatment plant for fluoride is being increased to quarterly. Quarterly monitoring is scheduled to begin with the quarter of July-September 2020 and will continue until a minimum of four consecutive quarters have been completed. The Water Board has approved the purchase of an automated fluoride and chlorine tester to be installed at the well. This will help to ensure the safest quality of water for our customers.

We are pleased to present to you this year's Annual Water Quality Report. This report provides information concerning the source of your drinking water, what tests we perform, the test results, and an explanation of the terms in it.

WATER SOURCES

5 groundwater wells producing from the Lisbon aquifer

WATER TREATMENT

Chlorination and fluoridation

STORAGE CAPACITY

6 storage tanks: 2.275 million gallons

NUMBER OF CUSTOMERS

Approximately 3800

INTERCONNECTIONS

- McCall Water
- East Brewton Water & Sewer

SUPERINTENDENT OF UTILITIES

Ray Madden

WATER OPERATOR

Charles Ray McLellan

WATER BOARD

- Willie R. Nicholson, Chairman
- Richard Lynn, Director
- Leslie G. Brown, Director
- Greg Wiggins, Director
- Beverly Maldonado, Director

QUESTIONS

If you have any questions about this report or concerning your water utility, please contact Mr. Ray Madden at 251-809-1780.

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 Wednesday following the first council meeting of each month, at 9:00 a.m. in the City of Brewton Municipal Complex.

EPA Safe Drinking Water Hotline
1-800-426-4791



MONITORING SCHEDULE AND RESULTS

Our water system monitors for contaminants according to a schedule assigned by the Alabama Department of Environmental Management (ADEM), using EPA approved methods and a State certified laboratory. This report contains results from the most recent monitoring which was performed in accordance with State and Federal regulatory schedule. Note: ADEM allows us to monitor for some contaminants *less than annually* because the concentrations of these contaminants do not change frequently.

Constituents Monitored	Date Monitored
Inorganic Contaminants	2020
Lead/Copper	2020
Microbiological Contaminants	current
Nitrates	2020
Radioactive Contaminants	2020
Synthetic Organic Contaminants	2020
Volatile Organic Contaminants	2020
Disinfection By-products	2020
PFAS	2020

We are pleased to report that our drinking water meets or exceeds Federal and State standards. We have learned through our monitoring and testing that some constituents have been detected. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Maximum Contaminant Levels (MCL) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one-in-a-million chance of having an adverse health effect.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	1.57	PCi/l	0	15	Erosion of natural deposits
Combined radium	NO	5.1	PCi/l	0	5	Erosion of natural deposits
Copper	NO	0.270* 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	YES	0.60-7.10	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	NO	0.002*	ppm	0	AL=0.015	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	NO	ND-0.24	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	3.50-3.60 annual	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	1.10-1.20 annual	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	ND-2.40	ppb	n/a	n/a	Naturally occurring in the environment or as a result of discharge or runoff
Bromodichloromethane	NO	ND-1.20	ppb	n/a	n/a	Naturally occurring in the environment or as a result of discharge or runoff
Secondary Contaminants						
Chloride	NO	6.70	ppm	n/a	250	Naturally occurring in the environment or as a result of discharge or runoff
Hardness	NO	114	ppm	n/a	n/a	Naturally occurring in the environment or as a result of water treatment
Iron	NO	0.14	ppm	n/a	0.30	Naturally occurring; erosion of natural deposits; leaching from pipes
Manganese	NO	0.01	ppm	n/a	0.05	Erosion of natural deposits; leaching from pipes
pH	NO	7.0	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of water treatment
Sodium	NO	12.5	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	7.30	ppm	n/a	250	Naturally occurring in the environment or as a result of water treatment
Total Dissolved Solids	NO	182	ppm	n/a	500	Naturally occurring in the environment or as a result of water treatment

* Figure shown is 90th percentile and # of sites above Action Level (AL) = 0

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that were used in manufacturing and in other industrial and consumer applications. The EPA has not established national primary drinking water regulations for PFAS substances. Below is a list of PFAS contaminants for which our system monitored in 2020 and the results of that monitoring. PFAS contaminants were not detected in our drinking water.

Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected
11CI-PF3OUdS (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid)	ppb	ND	Perfluoroheptanoic acid	ppb	ND
9CI-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	ND
NETFOSAA (N-ethylperfluorooctanesulfonamidoacetic acid)	ppb	ND	Perfluorooctanoic acid	ppb	ND
NMeFOSAA (N-methylperfluorooctanesulfonamidoacetic acid0	ppb	ND	Perfluorotetradecanoic acid	ppb	ND
Perfluorobutanesulfonic acid	ppb	ND	Perfluorotridecanoic acid	ppb	ND
Perfluorodecanoic acid	ppb	ND	Perfluoroundecanoic acid	ppb	ND
Perfluorohexanoic acid	ppb	ND	Total PFAS	ppb	ND
Perfluorododecanoic acid	ppb	ND			

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 likely to contain higher levels of lead.

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.

Information on lead in drinking water and steps you can take to minimize lead exposure is available from the Safe Drinking Water hotline or from www.epa.gov/safewater/lead.



Following 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	MCL	Unit of Msmt
Bacteriological Contaminants			cis-1,2-Dichloroethylene	70	ppb
Total Coliform Bacteria	<5%	present/absent	trans-1,2-Dichloroethylene	100	ppb
Fecal Coliform and E. coli	0	present/absent	Dichloromethane	5	ppb
Fecal Indicators	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
Atrazine	3	ppb	1,1,1-Trichloroethane	200	ppb
Benzene	5	ppb	1,1,2-Trichloroethane	5	ppb
Benzo(a)pyrene [PAHs]	200	ppt	Trichloroethylene	5	ppb
Carbofuran	40	ppb	Vinyl Chloride	2	ppb
Carbon tetrachloride	5	ppb	Xylenes	10	ppm
Chlordane	2	ppb	Disinfectants & Byproducts		
Chlorobenzene	100	ppb	Chlorine	4	ppm
Dalapon	200	ppb	Chlorine Dioxide	800	ppb
Dibromochloropropane	200	ppt	Chloramines	4	ppm
o-Dichlorobenzene	600	ppb	Bromate	10	ppb
p-Dichlorobenzene	75	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
UNREGULATED CONTAMINANTS					
1,1 – Dichloropropene	Aldicarb Sulfone	Chloroform	N - Butylbenzene		
1,1,1,2-Tetrachloroethane	Aldicarb Sulfoxide	Chloromethane	Naphthalene		
1,1,2,2-Tetrachloroethane	Aldrin	Dibromomethane	N-Propylbenzene		
1,1-Dichloroethane	Atrazine	Dicamba	O-Chlorotoluene		
1,2,3 - Trichlorobenzene	Bromobenzene	Dichlorodifluoromethane	P-Chlorotoluene		
1,2,3 - Trichloropropane	Bromochloromethane	Dieldrin	P-Isopropyltoluene		
1,2,4 - Trimethylbenzene	Bromodichloromethane	Hexachlorobutadiene	Propachlor		
1,3 – Dichloropropane	Bromoform	Isoprrylbenzene	Sec - Butylbenzene		
1,3 – Dichloropropene	Bromomethane	M-Dichlorobenzene	Tert - Butylbenzene		
1,3,5 - Trimethylbenzene	Butachlor	Methomyl	Trichlorfluoromethane		
2,2 – Dichloropropane	Carbaryl	MTBE			
3-Hydroxycarbofuran	Chlorodibromomethane	Metolachlor			
Aldicarb	Chloroethane	Metribuzin			

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).