



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.

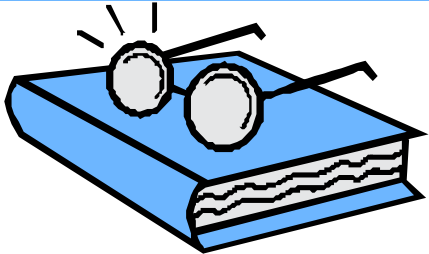
Not Reported (NR)-laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends secondary standards to water systems but does not require systems to comply.

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.

UCMR4 (Unregulated Contaminant Monitoring Rule 4)- unregulated contaminants to be monitored every 5 years by some public water systems, as required by the EPA.

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

Dear Customer,

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, as well as an explanation of the numbers and terms in it.

Butler County Water Authority works diligently to provide high quality water that meets or exceeds State and Federal drinking water standards. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

WATER SOURCES

- Four groundwater wells producing from the Ripley aquifer
- Purchased water from Fort Deposit, Georgiana, and McKenzie (Ripley and Nanafalia aquifers)

INTERCONNECTIONS

- Sell water to Wilcox County Water Authority and to South Crenshaw Water Authority.
- Emergency connection with Pineapple Water Works and with Quint-mar Water Authority.

WATER TREATMENT

Chlorination for disinfection

STORAGE CAPACITY

Seven tanks: total capacity 3.2 million gallons

NUMBER OF CUSTOMERS

Approximately 4600

WATER BOARD

Thelma Mixon, Chairman
Jan Black, Vice-Chairman
Dan Driscoll, Secretary-Treasurer
Tommie Hamilton, Director
Janice McCraney, Director
Patricia Griffin, Director

QUESTIONS

If you have any questions about this report or concerning your water utility, please contact Wesley Bass at 334-382-4281 or at the water office at 1204 E. Commerce Street, Greenville, Alabama. If you want to learn more, please attend one of our regularly scheduled board meetings held on the 4th Monday of each month at 9:30 a.m. at the Trustmark Bank on Commerce Street.

INFORMATION ABOUT LEAD

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. Your water system 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 www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water or by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

2019 Annual Water Quality Report

(Testing Performed January - December 2018)

BUTLER COUNTY WATER AUTHORITY, PWSID AL0001507

Mailing address: P. O. Box 547 • Greenville, AL 36037

Street address: 1204 E. Commerce Street • Greenville, AL 36037

Phone: 334-382-4281 • Fax 334-382-4283

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), Butler County Water Authority has developed a Source Water Assessment plan that will assist in protecting our water sources. It includes a susceptibility analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. The assessment was performed, public notification was completed, and the plan was approved by ADEM. A copy of the report is available in the utilities office for review during regular business hours.

Butler County Water Authority routinely monitors our facilities. We regularly complete a water storage facility inspection, and we utilize a Bacteriological Monitoring Plan. Chlorine residual is routinely tested by our technicians, and results show that the required minimum free chlorine residual level of 0.2 mg/L is maintained. To further ensure safe drinking water for our customers, we have also established a Cross-Connection Policy.

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. 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 futures.

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. 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). 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 runoff, 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 runoff, 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.

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. Thus, monitoring for these contaminants was not required.

Some people may be more vulnerable to contaminants in drinking water 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. 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).

MCL VIOLATION 2018

Butler County Water Authority recently violated a drinking water standard. Although this is not an emergency, as our customers, 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 February of 2019 show that our system exceeded the standard, or maximum contaminant level (MCL), for total trihalomethanes (TTHM). The standard for TTHM is 0.080 mg/l. The chart below lists the location, the disinfectant byproduct contaminant, and the level that exceeded the MCL.

Location	Contaminant	Level (mg/L)
727 Mount Moriah Rd	TTHM	0.106

Although this MCL exceedance occurred one time, the MCL violation will span four consecutive quarters in which the results are used for calculating compliance; therefore, you will receive this notice from us during each of the four quarters. These are the four quarters in which the water system will have a MCL violation:

- October through December 2018
- January through March 2019
- April through June 2019
- July through September 2019

We re-sampled at this sample site on October 31, 2018 after we learned of the MCL violation, and the result for TTHM was significantly lower than the MCL. See the chart below.

Location	Contaminant	Level (mg/L)
727 Mount Moriah Rd	TTHM	0.026

Our next compliance sample event occurred on January 17, 2019, and the result for TTHM was again significantly lower than the MCL. The chart below lists the results of re-sampling.

Location	Contaminant	Level (mg/L)
727 Mount Moriah Rd	TTHM	0.0117

Administrative Consent Order: In January of 2019, Butler County Water Authority entered into an Administrative Consent Order with the Alabama Department of Environmental Management (ADEM), addressing the violation of the Disinfection Byproduct Rule. In response to the Consent Order, Butler County Water Authority, in conjunction with professional engineers, is preparing and will file a Corrective Action Plan with the ADEM outlining an assessment of the situation leading to the MCL violation and identifying actions to reduce the levels of TTHMs.

Likely Causes: Chlorinated drinking water can produce disinfection byproducts as water ages and/or heats up, so we typically flush the system on a regular basis to reduce disinfection byproduct levels and help keep fresh water circulating throughout our distribution system. The water sample that caused this MCL violation was taken while we were also preparing for Hurricane Michael and, due to time constraints we had not adequately flushed the distribution line. Flushing would have been especially helpful at this particular sample location, which was not optimal because of the configuration of the water line the sample tap was on. We believe that this situation was an anomaly and that our corrective actions will prevent it from occurring in the future.

MCL VIOLATION (Cont'd)
Corrective Actions: We are taking several steps to correct this issue. We have renovated the sample site by fitting it with a dedicated sampling station. Our water sampling program will benefit from the permanent sampling stations we installed, since these are designed and engineered specifically for taking quality water samples.

We have improved our system-wide flushing plan. A regular flushing plan is an excellent method of cleaning water distribution pipes to improve water quality. We are also increasing the rate of turnover in the water storage tanks. Increasing the rate of turnover in the water storage tanks will reduce the age of the water.

We are pleased to report that we have implemented all of the recommended actions. We are confident that these changes have resulted in improved water quality, and we are committed to further improvements to the operation and maintenance of Butler County Water Authority.

MONITORING RESULTS

Our water system monitors for contaminants according to a schedule assigned to us 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 the State and Federal regulatory schedule. Note: ADEM allows us to monitor for some contaminants *less than once per year* because the concentrations of these contaminants do not change frequently.



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	Butler County	Fort Deposit	Georgiana	McKenzie	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	1.7 ± 1.6	2.1 ± 1.3	0.6 ± 1.4	<1.5 ± 1.1	PCi/l	0	15	Erosion of natural deposits
Combined radium	NO	ND	ND	0.2 ± 0.7	ND	PCi/l	0	5	Erosion of natural deposits
Antimony	NO	ND	ND	ND	0.23-0.50	ppb	6	6	Discharge from petroleum refineries; fire retardants; electronics; solder
Chromium	ND	ND	ND	0.53-1.20	ND	ppb	100	100	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Copper	NO	0.116 * 0 > AL	0.350 * 0 > AL	0.106 * 0 > AL	0.100 * 0 > AL	ppm	1.3	AL=1.3	Plumbing corrosion; erosion of natural deposits; leaching from wood preserv-atives
Fluoride	NO	0.33-0.60	1.63	1.44	0.27-0.59	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; factory discharge
Nitrate (as Nitrogen)	NO	0.18-0.19	0.32	0.05	ND	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	YES	LRAA Range 41.4-106	Annual 25.6-37.5	Annual 22.3-26.8	Annual 4.60-14.9	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	LRAA Range 3.71-7.26	Annual ND-3.50	Annual ND	Annual ND-1.60	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants									
Bromodichloromethane	NO	ND-0.80	ND	ND	ND-1.03	ppb	n/a	n/a	Naturally occurring or from runoff
Chlorodibromomethane	NO	ND-1.89	ND	0.56	0.55-1.37	ppb	n/a	n/a	Naturally occurring or from runoff
Bromoform	NO	ND-2.24	ND	3.72	ND-0.51	ppb	n/a	n/a	Naturally occurring or from runoff
Secondary Contaminants									
Chloride	NO	60.7-96.7	18.4	79.5	13.1-14.3	ppm	n/a	250	Naturally occurring or from runoff
Hardness	NO	3.07-8.33	107	8.06	30.4-45.1	ppm	n/a	n/a	Naturally occurring or from treatment
pH	NO	8.26-8.54	7.63	8.36	7.71-7.83	S.U.	n/a	n/a	Naturally occurring or from treatment
Sulfate	NO	27.4-41.4	92.9	30.5	65.9-344	ppm	n/a	250	Naturally occurring in the environment; erosion
Total Dissolved Solids	NO	420-512	400	475	43.1-372	ppm	n/a	500	Naturally occurring or from runoff
DSE Disinfection Byproducts									
TTHM [Total trihalomethanes]		3.64-85.3				ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]		ND-12.5				ppb	0	60	By-product of drinking water chlorination
* Amount shown is 90 th percentile and # of sites above action level (1.3 ppm) = 0									

This is not an immediate health concern. If it had been, you would have been notified immediately. However, some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. If you have specific health concerns, consult your doctor.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

If you have any questions about this violation or monitoring requirements, please contact Wesley Bass at the Butler County Water Authority at 1204 E. Commerce Street, Greenville, Alabama 36037 or by phone at 334-382-4281.

UCMR4 Contaminants

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4) requires some systems to monitor for 30 unregulated contaminants during January 2018 through December 2020 on an assigned schedule. The table below shows the results of our monitoring during 2018.

TABLE OF DETECTED UCMR4 CONTAMINANTS — BUTLER COUNTY 2018								
Contaminant	Unit Msmt	Level Detected		Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt
Germanium	ppb	ND-0.66		Tribufos	ppb	ND	Bromochloroacetic acid	ppb
Manganese	ppb	ND-5.90		1-butanol	ppb	ND	Bromodichloroacetic acid	ppb
Alpha-hexachlorocyclohexane	ppb	ND		2-methoxyethanol	ppb	ND	Chlorodibromoacetic acid	ppb
Chlorpyrifos	ppb	ND		2-propen-1-ol	ppb	ND	Dibromoacetic acid	ppb
Dimethipin	ppb	ND		Butylated hydroxyanisole	ppb	ND	Dichloroacetic acid	ppb
Ethoprop	ppb	ND		O-toluidine	ppb	ND	Monobromoacetic acid	ppb
Oxyfluorfen	ppb	ND		Quinoline	ppb	ND-0.14	Monochloroacetic acid	ppb
Profenofos	ppb	ND		Total organic carbon (TOC)	ppb	ND-1640	Tribromoacetic acid	ppb
Tebuconazole	ppb	ND		Bromide	ppb	ND-564	Trichloroacetic acid	ppb
Total permethrin (cis- & trans-)	ppb	ND						

The following table is a list of *Primary Drinking Water Contaminants*, *Unregulated Contaminants*, and *Secondary Contaminants* for which our water system routinely monitors according to our regulatory schedule. 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
Bacteriological Contaminants			trans-1,2-Dichloroethylene	ppb
Total Coliform Bacteria	<5%	present/absent	Dichloromethane	ppb
Fecal Coliform and E. coli	0	present/absent	1,2-Dichloropropane	ppb
Fecal Indicators	0	present/absent	Di (2-ethylhexyl)adipate	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)phthalate	ppb
Cryptosporidium	TT	Calc.organisms/l	Dinoseb	ppb
Radiological Contaminants			Dioxin [2,3,7,8-TCDD]	ppq
Beta/photon emitters	4	mrem/yr	Diquat	ppb
Alpha emitters	15	pCi/l	Endothall	ppb
Combined radium	5	pCi/l	Endrin	ppb
Uranium	30	pCi/l	Epichlorohydrin	TT
Inorganic Chemicals			Ethylbenzene	ppb
Antimony	6	ppb	Ethylene dibromide	ppt
Arsenic	10	ppb	Glyphosate	ppb
Asbestos	7	MFL	Heptachlor	ppt
Barium	2	ppm	Heptachlor epoxide	ppt
Beryllium	4	ppb	Hexachlorobenzene	ppb
Cadmium	5	ppb	Hexachlorocyclopentadiene	ppb
Chromium	100	ppb	Lindane	ppt
Copper	AL=1.3	ppm	Methoxychlor	ppb
Cyanide	200	ppb	Oxamyl [Vydate]	ppb
Fluoride	4	ppm	Polychlorinated biphenyls	ppb
Lead	AL=15	ppb	Pentachlorophenol	ppb
Mercury	2	ppb	Picloram	ppb
Nitrate	10	ppm	Simazine	ppb
Nitrite	1	ppm	Styrene	ppb
Selenium	.05	ppm	Tetrachloroethylene	ppb
Thallium	.002	ppm	Toluene	ppm
Organic Contaminants			Toxaphene	ppb
2,4-D	70	ppb	2,4,5-TP(Silvex)	ppb
Acrylamide	TT	TT	1,2,4-Trichlorobenzene	ppm
Alachlor	2	ppb	1,1,1-Trichloroethane	ppb
Benzene	5	ppb	1,1,2-Trichloroethane	ppb
Benzo(a)pyrene [PAHs]	200	ppt	Trichloroethylene	ppb
Carbofuran	40	ppb	Vinyl Chloride	ppb
Carbon tetrachloride	5	ppb	Xylenes	ppm
Chlordane	2	ppb	Disinfectants & Disinfection Byproducts	
Chlorobenzene	100	ppb	Chlorine	ppm
Dalapon	200	ppb	Chlorine Dioxide	ppb
Dibromochloropropane	200	ppt	Chloramines	ppm
o-Dichlorobenzene	600	ppb	Bromate	ppb
p-Dichlorobenzene	75	ppb	Chlorite	ppm
1,2-Dichloroethane	5	ppb	HAA5 [Total haloacetic acids]	ppb
1,1-Dichloroethylene	7	ppb	TTHM [Total trihalomethanes]	ppb
cis-1,2-Dichloroethylene	70	ppb		