

Annual Drinking Water Quality Report

Monitoring Performed January – December 2020

Greenville Water Works & Sewer Board

PO Box 483
Greenville, Alabama 36037
(334) 382-6661

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report). The purpose of this report is to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We want you to understand the efforts made to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Customers: Approximately 3150	Storage Capacity: 4 tanks with a capacity of 2,225,000 gallons
Water Treatment: Chlorine for disinfection	Additional Connections: Sell water to Butler County Water Authority
Water Sources: 6 groundwater wells producing from Ripley Formation. Purchased groundwater from Butler County Water Authority	

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **Greenville Water Works & Sewer Board** has developed a Source Water Assessment plan that will assist in protecting our water sources. This 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 (low) to contaminating the water source. All of the potential contaminants sited in our study area were ranked as low. The assessment has been performed, public notification has been completed, and the plan has been approved by ADEM. A copy of the report is available in our office for review, or you may purchase a copy upon request for a nominal reproduction fee. 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. You can help protect your community's drinking water source in several ways:

- Carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints, and waste oil.
- Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use the EPA's (Environmental Protection Agency) Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

Questions?

Thank you for allowing us to continue providing your family with clean, quality water this year. If you have any questions about this report or concerning your water utility, please contact **Kristopher Findley** at (334) 382-6661.

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 fourth Tuesday of every month at 11:00 a.m. at City Hall, 119 East Commerce Street.

Board Members	Joby Norman, Chairman	James Reeves, Member	Kenny Perdue, Member
	Lionel Ed Rainey, Member	Jimmy Lawson, Member	
Superintendent	Kristopher Findley		

General Information Regarding Drinking Water Contaminants

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. 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, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

General Information Regarding Drinking Water Contaminants *continued*

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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that 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 which must provide the same protection for public health. 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. These people should seek advice about drinking water from their health care providers.

A guidance document has been developed jointly by the EPA and the Center for Disease Control on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants and this is available online at www.epa.gov/safewater or from the Safe Drinking Water Hotline at 800-426-4791.

Monitoring Schedule

Your drinking water is routinely monitored for contaminants according to a schedule determined by Federal and State regulations. ADEM allows monitoring of some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The following table shows the most recent year of monitoring for these contaminant groups.

Constituent Monitored	Greenville Water Works & Sewer Board	Butler County Water Authority
Inorganic Contaminants	2019	2019
Lead/Copper	2020	2019
Microbiological Contaminants	Current	Current
Nitrates	2020	2020
Radioactive Contaminants	2019	2019
Synthetic Organic Contaminants (including pesticides and herbicides)	2019	2019
Volatile Organic Contaminants	2019	2019
Disinfection By-products	2020	2020
Unregulated Contaminant Monitoring Rule 4	Not Required	2018

Variations and Exemptions

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 were not required.

Lead and Copper Monitoring

Greenville Water Works & Sewer Board completed monitoring requirements for lead and copper in 2020. Twenty sites were sampled and one location exceeded the Action Limit for Lead. This site was resampled and the result met in compliance. The system will continue to monitor for lead and copper every three years. The next monitoring period for the system will be the period of June - September 2023. Our monitoring results in 2020 were as follows:

	MCL	90 th Percentile Sample	Range of Levels
Lead	AL = 15	1.1 ppb	ND - 18.3
Copper	AL = 1.3	0.0534 ppm	0.0036 - 0.146

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. **Greenville Water Works & Sewer Board** 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. These recommended actions are very important to the health of your family:

- 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.

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

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 change of having an adverse effect.

Greenville Water Works & Sewer Board is pleased to report that our drinking water meets or exceeds federal and state drinking water requirements. Unless otherwise noted, the data presented in the table below is from testing done in the calendar year of this report and although many more contaminants were tested, only those substances listed below were found in your water.

Table of Detected Contaminants					
Primary Standards - Mandatory standards set by the Safe Drinking Water Act used to protect public health. These apply to all public water systems.					
Microbiological Contaminants	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Greenville Water Works & Sewer Board	Violation	Major Sources
Total Coliform	NA	TT	1 positive sample *	No	Naturally present in the environment
Turbidity (NTU)	TT	NA	0.10 - 0.65 (2019)	No	Soil runoff
* One positive coliform sample occurred on June 3, 2020. All follow up testing was negative. The presence of coliform bacteria in the sample was not a compliance violation. These are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.					
Radioactive Contaminants	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Greenville Water Works & Sewer Board	Violation	Major Sources
Alpha emitters (pCi/L)	15	0	0.14 - 1.46 (2019)	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	5	0	1.05 - 4.27 (2019)	No	Erosion of natural deposits
Inorganic Contaminants	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Greenville Water Works & Sewer Board	Violation	Major Sources
Copper (ppm)	AL = 1.3	1.3	0.534 †	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.3 - 0.63 (2019)	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead (ppb)	AL = 15	0	1.1 ††	No	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate [measured as Nitrogen] NO ₃ (ppm)	10	10	ND - 0.16	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
† Figure shown is 90th percentile. †† Figure shown is 90th percentile of the 20 distribution sites sampled. One site sampled exceeded Action Level (AL). This site was resampled and the result was in compliance - below AL.					
Disinfectants & Disinfection By-Products	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Greenville Water Works & Sewer Board	Violation	Major Sources
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)					
Haloacetic Acids (HAA5) (ppb)	60	0	LRAA Range 4.30 - 4.68	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	80	0	LRAA Range 28.3 - 29.2	No	By-product of drinking water disinfection

Unregulated Contaminants	Range		Major Sources
	Low	High (MD)	
Bromodichloromethane (ppb)	0.54	1.76	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff; by-product of chlorination
Bromoform (ppb)	13.7	33.7	By-product of drinking water disinfection
Chloroform (ppb)	ND	0.40	Naturally occurring or from industrial discharge or agricultural runoff
Dibromochloromethane (ppb)	2.38	8.04	Naturally occurring in the environment

As presented in the table below, **Butler County Water Authority** also reports their drinking water meets or exceeds federal and state drinking water requirements. Unless otherwise noted, the data presented in the table below is from testing done in the calendar year of this report and although many more contaminants were tested, only those substances listed below were found in your water.

Table of Detected Contaminants					
Primary Standards - Mandatory standards set by the Safe Drinking Water Act used to protect public health. These apply to all public water systems.					
Microbiological Contaminants	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Butler County Water Authority	Violation	Major Sources
Total Coliform	NA	TT	2 positive samples *	No	Naturally present in the environment
* Positive samples occurred in August (1) and December (1) 2020. All follow up samples were negative. <i>The presence of coliform bacteria in the sample was not a compliance violation. These are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.</i>					
Inorganic Contaminants	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Butler County Water Authority	Violation	Major Sources
Copper (ppm)	AL = 1.3	1.3	0.135 †	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.32 - 0.62	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] NO3 (ppm)	10	10	0.16 - 0.17	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
† Figure shown is 90th percentile.					
Disinfectants & Disinfection By-Products	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Butler County Water Authority	Violation	Major Sources
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)					
Haloacetic Acids (HAA5) (ppb)	60	0	LRAA Range 4.05 - 8.98	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	80	0	LRAA Range 26.3 - 47.0	No	By-product of drinking water disinfection

Secondary Standards - Non Mandatory standards established as a guideline to assure good aesthetic qualities such as taste, color, and odor.

Contaminant	MCL	Maximum Detected	Contaminant	MCL	Maximum Detected
Chloride (ppm)	250	50.8	Total Dissolved Solids (ppm)	500	413
pH (std units)	6.5 - 8.5	8.5	Hardness (ppm)	NA	9.98
Sulfate (ppm)	250	36.5			

Unregulated Contaminants	Range		Major Sources
	Low	High (MD)	
Bromoform (ppb)	ND	1.90	By-product of drinking water disinfection
Dibromochloromethane (ppb)	ND	1.07	Naturally occurring in the environment

Detected Unregulated Contaminant Monitoring Rule 4 (UCMR4) Contaminants - 2018			
Contaminants	Level Detected	Contaminants	Level Detected
Germanium (ppb)	ND - 0.66	Bromodichloroacetic Acid (ppb)	ND - 0.89
Manganese (ppb)	ND - 5.90	Chlorodibromoacetic Acid (ppb)	0.39 - 1.28
Quinoline (ppb)	ND - 0.14	Dibromoacetic Acid (ppb)	2.33 - 7.27
Total Organic Carbon (ppb)	ND - 1640	Dichloroacetic Acid (ppb)	ND - 1.22
Bromide (ppb)	ND - 564	Monobromoacetic Acid (ppb)	ND - 0.81
Bromochloroacetic Acid (ppb)	1.00 - 2.48	Tribromoacetic Acid (ppb)	ND - 3.93

Greenville Water Works & Sewer Board has chosen to provide our customers with a table of all contaminants (Primary, Secondary, and Unregulated) for which the EPA and ADEM require testing. These contaminants were *not* detected in your drinking water unless they are listed in the *Table of Detected Drinking Water Contaminants* on page 3 or 4 of this report.

TABLE OF PRIMARY CONTAMINANTS								
CONTAMINANT	MCL	UNIT OF MSMT	CONTAMINANT	MCL	UNIT OF MSMT	CONTAMINANT	MCL	UNIT OF MSMT
BACTERIOLOGICAL CONTAMINANTS			ORGANIC CONTAMINANTS			ORGANIC CONTAMINANTS (CONTINUED)		
Total Coliform Bacteria	< 5%	present/absent	1,1,1-Trichloroethane	200	ppb	Glyphosate	700	ppb
Fecal Coliform & E. coli	0	present/absent	1,1,2-Trichloroethane	5	ppb	Heptachlor	400	ppt
Turbidity	TT	NTU	1,1-Dichloroethylene	7	ppb	Heptachlor epoxide	200	ppt
Cryptosporidium	TT	Calculated organisms/liter	1,2,4-Trichlorobenzene	0.07	ppm	Hexachlorobenzene	1	ppb
Total Organic Carbon (TOC)	NA	TT	1,2-Dichloroethane	5	ppb	Hexachlorocyclopentadiene	50	ppb
RADIOLOGICAL CONTAMINANTS			1,2-Dichloropropane	5	ppb	Lindane	200	ppt
Beta/photon emitters	4	mrem/yr	2,4,5-TP(Silvex)	50	ppb	Methoxychlor	40	ppb
Alpha emitters	15	pCi/L	2,4-D	70	ppb	o-Dichlorobenzene	600	ppb
Combined radium	5	pCi/L	Acrylamide	TT		Oxamyl [Vydate]	200	ppb
Uranium	30	pCi/L	Alachlor	2	ppb	p-Dichlorobenzene	75	ppb
INORGANIC CHEMICALS			Benzene	5	ppb	Pentachlorophenol	1	ppb
Antimony	6	ppb	Benzo(a)pyrene [PAHs]	200	ppt	Picloram	500	ppb
Arsenic	10	ppb	Carbofuran	40	ppb	Polychlorinated biphenyls	0.5	ppb
Asbestos	7	MFL	Carbon tetrachloride	5	ppb	Simazine	4	ppb
Barium	2	ppm	Chlordane	2	ppb	Styrene	100	ppb
Beryllium	4	ppb	Chlorobenzene	100	ppb	Tetrachloroethylene	5	ppb
Cadmium	5	ppb	cis-1,2-Dichloroethylene	70	ppb	Toluene	1	ppm
Chromium	100	ppb	Dalapon	200	ppb	Toxaphene	3	ppb
Copper	AL = 1.3	ppm	Di (2-ethylhexyl)adipate	400	ppb	trans-1,2-Dichloroethylene	100	ppb
Cyanide	200	ppb	Di (2-ethylhexyl)phthalate	6	ppb	Trichloroethylene	5	ppb
Fluoride	4	ppm	Dibromochloropropane	200	ppt	Vinyl Chloride	2	ppb
Lead	AL = 15	ppb	Dichloromethane	5	ppb	Xylenes	10	ppm
Mercury	2	ppb	Dinoseb	7	ppb	DISINFECTANTS & DISINFECTION BYPRODUCTS		
Nitrate	10	ppm	Dioxin [2,3,7,8-TCDD]	30	ppq	Bromate	10	ppb
Nitrite	1	ppm	Diquat	20	ppb	Chlorine	4	ppm
Selenium	0.05	ppm	Endothall	100	ppb	Chlorine Dioxide	800	ppb
			Endrin	2	ppb	Chloramines	4	ppm
			Epichlorohydrin	TT		Chlorite	1	ppm
			Ethylbenzene	700	ppb	HAA5 [Total haloacetic acids]	60	ppb
			Ethylene dibromide	50	ppt	TTHM [Total trihalomethanes]	80	ppb

TABLE OF SECONDARY & ADDITIONAL CONTAMINANTS	
Aluminum	Sulfate
Chloride	Total Dissolved Solids
Color	Zinc
Copper	Alkalinity, Total (as CA, Co ₃)
Corrosivity	Calcium, as Ca
Fluoride	Carbon Dioxide
Foaming agents (MBAS)	Hardness
Iron	Magnesium
Manganese	Nickel
Odor	Sodium
pH	Conductivity (umhos)
Silver	Temperature (°C)

TABLE OF UNREGULATED CONTAMINANTS	
1,1 - Dichloropropene	Dieldrin
1,1,1,2-Tetrachloroethane	Hexachlorobutadiene
1,1,2,2-Tetrachloroethane	Isopropylbenzene
1,1-Dichloroethane	M-Dichlorobenzene
1,2,3 - Trichlorobenzene	Methomyl
1,2,3 - Trichloropropane	MTBE
1,2,4 - Trimethylbenzene	Metolachlor
1,3 - Dichloropropane	Metribuzin
1,3 - Dichloropropene	N - Butylbenzene
1,3,5 - Trimethylbenzene	Naphthalene
Bromomethane	N-Propylbenzene
Butachlor	O-Chlorotoluene
Carbaryl	P-Chlorotoluene
Chloroethane	P-Isopropyltoluene
Chloroform	Propachlor
Chloromethane	Sec - Butylbenzene
Dibromochloromethane	Tert - Butylbenzene
Dibromomethane	Trichlorofluoromethane
Dicamba	
Dichlorodifluoromethane	

Abbreviations and Definitions -

Action Level (AL): The concentration of a contaminant that triggers treatment or other requirements which a water system must follow.

Lowest Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

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 Detected (MD)

Maximum Residual Disinfectant Level (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.

Maximum Residual Disinfection Level Goal (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.

Not Applicable (NA)

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not Detected (ND): Laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

pCi/L (picocuries per liter): a measure of Radioactivity

ppb (parts per billion): micrograms per liter (µg/L)

ppm (parts per million): milligrams per liter (mg/L)

Threshold Odor Number (T.O.N.): The greatest dilution of a sample with odor-free water that still yields a just detectable odor.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Variations & Exemptions: ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.