

2021 Annual Water Quality Report
Testing performed January through December 2020

BAKERHILL WATER AUTHORITY

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Visit us on our website at www.bakerhillwaterauthority.com for information and payment options.

We are pleased to present to you this year's Annual 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.

Water Sources	Five groundwater wells producing from the following aquifers: Clayton Formation, Providence Sand, Ripley Formation, and Tuscaloosa Formation	
Water Treatment	Chlorine for disinfection	
Storage Capacity	1,501,000 gallons	
Number of Customers	Approximately 2369	
Interconnections	For emergency purposes only: Henry County Water, Clayton Water, Eufaula Water, and Blue Springs Water	
Board Members	Paul Hartzog, Chairman	
	Danny Lynn, Vice Chairman	
	Glenn Boyd Jenkins, Secretary-Treasurer	
Staff	Ronald G. Powell, Supt./Certified Operator	Edward Miller, Certified Operator
	Melissa Stinson, Office Manager	David W. Faulk, Maintenance
	Brittany Coker, Customer Service	Charles B. Pittman, Maintenance
	Jennie Forehand, Customer Service	

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), Bakerhill Water Authority 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 to contaminating the water source. All our water sources were classified low, or non-susceptible. 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 during regular business hours, or you may purchase a copy upon request for a nominal reproduction fee. Please help us make this effort 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.

Questions?

If you have any questions about this report or concerning your water utility, please contact Ronald G. Powell. 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 second Monday of every month at the Bakerhill Water Authority office, 1910 Highway 131, at 7:00 p.m. These meetings provide an opportunity for public participation in decisions that may affect the quality of your water.

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).

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. 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 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 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 which limit the levels of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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.

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.

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. The two actions recommended above are very important to the health of your family. They will probably be effective in reducing lead levels because most of the lead in household water usually comes from the plumbing in your house, not from the local water supply. 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.

Monitoring Schedule and Results

Bakerhill Water Authority routinely monitors for constituents in your drinking water according to Federal and State laws. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets or exceeds federal and state requirements. This report shows our water quality and what it means.

Constituents Monitored	Date Monitored
Inorganic Contaminants	2020
Lead/Copper	2020
Microbiological Contaminants	current
Nitrates	2020
Radioactive Contaminants	2020
Synthetic Organic Contaminants (including herbicides and pesticides)	2020
Volatile Organic Contaminants	2020
Disinfection By-products	2020
PFAS Contaminants	2020

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Alpha emitters	NO	3.46	PCi/l	0	15	Erosion of natural deposits
Copper	NO	0.032 * 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	0.47	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO	ND-0.20	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
THM [Total trihalomethanes]	NO	ND-13.0	ppb	0	80	By-product of drinking water chlorination
HAA5 [Haloacetic Acids]	NO	ND-2.60	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	ND-6.00	ppb	70	n/a	Naturally occurring; industrial discharge; agricultural runoff
Bromodichloromethane	NO	ND-8.70	ppb	0	n/a	Naturally occurring; industrial discharge; agricultural runoff
Chlorodibromomethane	NO	ND-6.30	ppb	60	n/a	Naturally occurring; industrial discharge; agricultural runoff
Bromoform	NO	ND-3.60	ppb	0	n/a	Naturally occurring; industrial discharge; agricultural runoff
Secondary Contaminants						
Aluminum	NO	0.02	ppm	n/a	0.2	Erosion; treatment with water additives
Chloride	NO	16.1	ppm	n/a	250	Naturally occurring; industrial discharge; agricultural runoff
pH	NO	9.1	S.U.	n/a	n/a	Naturally occurring or from water treatment
Sodium	NO	91.7	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	5.40	ppm	n/a	250	Naturally occurring; industrial discharge; agricultural runoff
Total Dissolved Solids	NO	226	ppm	n/a	500	Naturally occurring; industrial discharge; agricultural runoff

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

PFAS Contaminants

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 U.S. Environmental Protection Agency (EPA) has not established national primary drinking water regulations for PFAS substances. The lifetime health advisory level for PFOA and PFOS is a combined 70 parts per trillion, or 0.00007 mg/L. Below is a list of PFAS contaminants for which our system monitored in 2020 as required and the results of that monitoring. *PFAS was not detected in our drinking water.*

Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected
11Cl-PF3OUdS (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid)	ppb	ND	Perfluoroheptanoic acid	ppb	ND
9Cl-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 acid)0	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			

Reporting Violation 2020

Bakerhill Water Authority has incurred a reporting violation on Volatile Organic Chemicals (VOC). The non-compliance resulted from a failure to submit the January - March 2020 results to ADEM by the deadline of April 10, 2020. We are required by ADEM regulations to report results to ADEM within the first 10 days following the month in which the result is received or the first 10 days following the end of the required monitoring period, whichever is shortest.

Please note that during this time, none of the monitoring results exceeded any maximum contaminant levels. We have made future arrangements to ensure we report results to ADEM by the deadline. 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.

Should you have any questions concerning this non-compliance or our monitoring requirements, please contact Ronald G. Powell at the Bakerhill Water Authority office, 1910 Highway 131, or by phone at 334-687-6444.

Definitions

Action Level- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

ADEM- Alabama Department of Environmental Management.

Coliform Absent- (ca) indicates that coliform bacteria is not present.

Disinfection byproducts- (DBPs) are formed when disinfectants react with bromide and/or natural organic matter present in the source water. Disinfection byproducts for which we test are trihalomethanes (TTHM), haloacetic acids (HAA5), bromate, and chlorite.

Distribution System Evaluation- (DSE) a four quarter study to identify locations with high concentrations of disinfection byproducts.

EPA- Environmental Protection Agency.

Maximum Contaminant Level- (MCL) is 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

Maximum Residual Disinfectant 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.

Micrograms per liter- (ug/L) Equivalent to parts per billion (ppb) since one liter of water is equal in weight to one billion micrograms.

Milligrams per liter- (mg/L) Equivalent to parts per million

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-Detects- (ND) laboratory analysis indicates that the constituent is not present above the detection limits of lab equipment.

Parts per billion- (ppb) or Micrograms per liter ($\mu\text{g/l}$) 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) running yearly average of results at each specific sampling site.

Standard Units- (S.U.) pH measures the water's balances of acids and bases and is affected by temperature and carbon dioxide gas.

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

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

Below is a table of contaminants for which the Environmental Protection Agency and the Alabama Department of Environmental Management require testing where applicable. These contaminants were not detected in your drinking water unless they are also listed in the Detected Drinking Water Contaminants table elsewhere in this report.

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of Msmt
Bacteriological Contaminants			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present/absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	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
Benzene	5	ppb	1,1,1-Trichloroethane	200	ppb
Benzo(a)pyrene [PAHs]	200	ppt	1,1,2-Trichloroethane	5	ppb
Carbofuran	40	ppb	Trichloroethylene	5	ppb
Carbon tetrachloride	5	ppb	Vinyl Chloride	2	ppb
Chlordane	2	ppb	Xylenes	10	ppm
Chlorobenzene	100	ppb	Disinfectants & Disinfection Byproducts		
Dalapon	200	ppb	Chlorine	4	ppm
Dibromochloropropane	200	ppt	Chlorine Dioxide	800	ppb
1,2-Dichlorobenzene	1000	ppb	Chloramines	4	ppm
1,4-Dichlorobenzene (para)	75	ppb	Bromate	10	ppb
o-Dichlorobenzene	600	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
cis-1,2-Dichloroethylene	70	ppb			
LIST OF SECONDARY CONTAMINANTS					
Alkalinity, Total (as CA, Co ₃)	Copper	Manganese	Specific Conductance		
Aluminum	Corrosivity	Odor	Sulfate		
Calcium, as Ca	Foaming agents (MBAS)	Nickel	Total Dissolved Solids		
Carbon Dioxide	Hardness	pH	Zinc		
Chloride	Iron	Silver			
Color	Magnesium	Sodium			
LIST OF UNREGULATED CONTAMINANTS					
Aldicarb	Chloroethane	Hexachlorobutadiene	Propachlor		
Aldicarb Sulfone	Chloroform	3-Hydroxycarbofuran	N-Propylbenzene		
Aldicarb Sulfoxide	Chloromethane	Isopropylbenzene	Propachlor		
Aldrin	O-Chlorotoluene	p-Isopropyltoluene	1,1,1,2-Tetrachloroethane		
Bromoacetic Acid	P-Chlorotoluene	M-Dichlorobenzene	1,1,2,2-Tetrachloroethane		
Bromobenzene	Dibromochloromethane	Methomyl	Tetrachloroethene		
Bromochloromethane	Dibromomethane	Methomyl	Trichloroacetic Acid		
Bromodichloromethane	1,1-Dichloroethane	Methylene chloride	1,2,3-Trichlorobenzene		
Bromoform	1,3-Dichloropropane	Methyl tert-butyl ether	Trichloroethene		
Bromomethane	2,2-Dichloropropane	Metolachlor	Trichlorofluoromethane		
Butachlor	1,1-Dichloropropene	Metribuzin	1,2,3-Trichloropropane		
N-Butylbenzene	1,3-Dichloropropene	MTBE	1,2,4-Trimethylbenzene		
Sec-Butylbenzene	Dicamba	Naphthalene	1,3,5-Trimethylbenzene		
Tert - Butylbenzene	Dichlorodifluoromethane	1-Naphthol			
Carbaryl	Dieldrin	Paraquat			