

**2019 Annual Water Quality Report**  
**(Testing Performed January - December 2018)**

**BERRY WATER WORKS**

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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. We want you to understand the efforts we make to continually improve water treatment and protect our water resources. We are committed to ensuring the quality of your water.

<b>Water Source</b>	Surface water from Bays Lake
<b>Number of Customers</b>	Approximately 1570
<b>Treatment Techniques</b>	Chlorination, flocculation, sedimentation, sand filtration, and corrosion control
<b>Storage Capacity</b>	3 tanks with a total capacity of 750,000 gallons
<b>Town Council</b>	Jimmy Madison, Mayor
	Troyce Townsel, Mayor Pro Tem
	Clyde Pendley, Council
	Calvin Madison, Council
	Wesley Jacobs, Council
	Christopher Rice, Council

**Source Water Assessment**

In compliance with the Alabama Department of Environmental Management (ADEM), **Berry Water Works** 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 to contaminating the water source. The assessment has been performed, public notification was completed, and the plan has been approved by ADEM. A copy of the report is available in our office for review during normal 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.

**Monitoring Schedule**

This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule

<b>Constituent Monitored</b>	<b>Date Monitored</b>
Inorganic Contaminants	2018
Lead/Copper	2017
Microbiological Contaminants	current
Nitrates	2018
Radioactive Contaminants	2016
Synthetic Organic Contaminants (including pesticides and herbicides)	2016
Volatile Organic Contaminants	2018
Disinfection Byproducts	2018
Cryptosporidium	2015
DSE Disinfection Byproducts	2017

## 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 amount 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. 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.

This water system also tests our source water for pathogens, such as *Cryptosporidium* and *Giardia*. These pathogens can enter the water from animal or human waste. All test results were well within state and federal standards. For people who may be immuno-compromised, a guidance document developed jointly by the Environmental Protection Agency and the Center for Disease Control is available online at [www.epa.gov/safewater/crypto.html](http://www.epa.gov/safewater/crypto.html) or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of cryptosporidium in our drinking 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.

## 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 more likely to cause leaching of lead from plumbing materials. 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.

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](http://www.epa.gov/safewater/lead).

## Questions?

If you have any questions about this report or concerning your water utility, please contact **Marsha Locke** at Berry Water Works at 205-689-4562. 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 first Monday of each month at the Berry Town Hall at 6:00 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).

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.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Chlorine	NO	1.50-2.50	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Turbidity	NO	0.16* 100%<0.5	NTU	n/a	TT	Soil runoff
Total Organic Carbon	NO	1.07-2.22	ppm	n/a	TT	Soil runoff
Copper	NO	0.091* 1 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen)	NO	0.23	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	LRAA 58.0 (26.6-84.1)	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	LRAA 41.1 (28.5-54.3)	ppb	0	60	By-product of drinking water chlorination
<b>Unregulated Contaminants</b>						
Chloroform	NO	12.9	ppb	n/a	n/a	Naturally occurring in environment; discharge or runoff
Bromodichloromethane	NO	2.67	ppb	n/a	n/a	Naturally occurring in environment; discharge or runoff
<b>Secondary Contaminants</b>						
Chloride	NO	3.98	ppm	n/a	250	Naturally occurring in environment; discharge or runoff
Hardness	NO	27.6	ppm	n/a	n/a	Naturally occurring in environment or from water treatment
pH	NO	7.00	S.U.	n/a	n/a	Naturally occurring in environment or from water treatment
Sodium	NO	1.10	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	16.8	ppm	n/a	250	Naturally occurring in environment; discharge or runoff
Total Dissolved Solids	NO	56.0	ppm	n/a	500	Naturally occurring in environment; discharge or runoff
Zinc	NO	0.62	ppm	n/a	5	Naturally occurring in environment; discharge or runoff
<b>DSE Disinfection Byproducts</b>						
TTHM [Total trihalomethanes]	NO	Range 39.0-113	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	Range 28.6-67.7	ppb	0	60	By-product of drinking water chlorination

\* Figure shown is 90<sup>th</sup> percentile and # of sites above action level (1.3 ppm) = 1

#### DEFINITIONS

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

**Coliform Absent (ca)**- laboratory analysis indicates that the contaminant is not present.

**Disinfection byproducts (DBPs)**- formed when disinfectants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water.

**Distribution System Evaluation (DSE)**- a one-time study conducted by water systems to identify distribution system locations with high concentrations of THMs and HAAs.

**Level 1 Assessment**- a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment**- a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Maximum Contaminant Level (MCL)**- 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)**- highest level of a disinfectant allowed in drinking water

**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)**- a 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.

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

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

**Parts per billion (ppb) or Micrograms per liter (ug/l)**- 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)**- corresponds to one minute in two years or a single penny in \$10,000.

**Parts per quadrillion (ppq) or Picograms per liter (picograms/l)**- 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)**- corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Picocuries per liter (pCi/L)**- a measure of the radioactivity in water.

**Running Annual Average (RAA)**- yearly average of all the DPB results at each specific sampling site in the distribution system. The RAA, along with a range, is reported in the Table of Detected Contaminants.

**Standard Units (SU)**- 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.

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

At the end of this report 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	MC	Unit of Msmt
<b>Bacteriological Contaminants</b>			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present or absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloropropane	5	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)adipate	400	ppb
Cryptosporidium	TT	TT	Di (2-ethylhexyl)phthalate	6	ppb
<b>Radiological Contaminants</b>			Dinoseb	7	ppb
Beta/photon emitters	4	mrem/yr	Dioxin [2,3,7,8-TCDD]	30	Picograms/l
Alpha emitters	15	pCi/l	Diquat	20	ppb
Combined radium	5	pCi/l	Endothall	100	ppb
Uranium	30	pCi/l	Endrin	2	ppb
<b>Inorganic Chemicals</b>			Epichlorohydrin	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	Nanograms/l
Beryllium	4	ppb	Heptachlor epoxide	200	Nanograms/l
Cadmium	5	ppb	Hexachlorobenzene	1	ppb
Chromium	100	ppb	Hexachlorocyclopentadiene	50	ppb
Copper	AL=1.3	ppm	Lindane	200	Nanograms/l
Cyanide	200	ppb	Methoxychlor	40	ppb
Fluoride	4	ppm	Oxamyl [Vydate]	200	ppb
Lead	AL=15	ppb	Polychlorinated biphenyls (PCBs)	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
<b>Organic Contaminants</b>			Toluene	1	ppm
2,4-D	70	ppb	Toxaphene	3	ppb
Acrylamide	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
o-Dichlorobenzene	600	ppb	Chloramines	4	ppm
p-Dichlorobenzene	75	ppb	Bromate	10	ppb
1,2-Dichloroethane	5	ppb	Chlorite	1	ppm
1,1-Dichloroethylene	7	ppb	HAA5 [Total haloacetic acids]	60	ppb
cis-1,2-Dichloroethylene	70	ppb	TTHM [Total trihalomethanes]	80	ppb
<b>UNREGULATED CONTAMINANTS</b>					
1,1 – Dichloropropene	Aldicarb	Chloroform	Metolachlor		
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin		
1,1,1,2,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromochloromethane	N - Butylbenzene		
1,1-Dichloroethane	Aldrin	Dibromomethane	Naphthalene		
1,2,3 - Trichlorobenzene	Bromobenzene	Dicamba	N-Propylbenzene		
1,2,3 - Trichloropropane	Bromochloromethane	Dichlorodifluoromethane	O-Chlorotoluene		
1,2,4 - Trimethylbenzene	Bromodichloromethane	Dieldrin	P-Chlorotoluene		
1,3 – Dichloropropane	Bromoform	Hexachlorobutadiene	P-Isopropyltoluene		
1,3 – Dichloropropene	Bromomethane	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		