

2021 Annual Water Quality Report

(Testing Performed January through December 2020)

RUSSELL COUNTY WATER AUTHORITY

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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 the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Water Sources	Four groundwater wells producing from the Eutaw and Tuscaloosa aquifers
	Purchased surface water from Phenix City Utilities
Additional Connections	Sell water to Macon County Water Authority and Phenix City Utilities monthly
	Sell water to Hurtsboro Water and Sewer Board as needed
Water Treatment	Chlorination, fluoridation, and corrosion control
Storage Capacity	Seven tanks with a total capacity of 2,517,000 gallons
Number of Customers	Approximately 5660
Board Members	Mark Godwin, Chairman
	Robert Brundidge, Vice Chairman
	Bo Prytula, Member
	Sheppard Dearing, Secretary/Treasurer
Monthly Board Meetings	Third Wednesday of each month at the water office at 2:00 p.m.
General Manager	Sheppard Dearing
Certified Operator	Todd Hodges
Office Manager	Annette Moffett

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **Russell County Water Authority** 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. All of the potential contaminants sited in our study area were rated as non-susceptible or low risk to our water supply. 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 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.

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.

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.

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. 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. People who are immunocompromised 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 *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Phenix City Utilities tests your 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 immunocompromised, 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 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.

Questions?

If you have any questions about this report or concerning your water utility, please contact Sheppard Dearing, General Manager, at the water office. 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 third Wednesday of each month at the water office at 2:00 p.m.

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).

Monitoring Schedule and Results

The state regulatory agency allows some contaminants to be monitored less frequently than annually. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

Constituent Monitored	Russell Co.	Phenix City
Inorganic Contaminants	2018	2020
Lead/Copper	2018	2019
Microbiological Contaminants	Current	Current
Nitrates	2020	2020
Radioactive Contaminants	2020	2016
Synthetic Organic Contaminants (including pesticides and herbicides)	2020	Partial 2020
Volatile Organic Contaminants	2020	2020
Disinfection By-products	2020	2020
Unregulated Contaminants Monitoring Rule 4 (UCMR4)	2019	2019
<i>Cryptosporidium</i>	Not Required	2017
PFAS Contaminants	2020	Not Required

As you can see by the following table, our system had no violations. Although some constituents have been detected, we are pleased to report that our drinking water meets federal and state requirements.

TABLE OF DETECTED DRINKING WATER CONTAMINANTS							
Contaminants	Violation Yes/No	Russell County	Phenix City	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Chlorine	NO	0.5-3.1	0.24-2.06	ppm	4	4	Water additive used to control microbes
Total Organic Carbon	NO		Avg 43.1% removal	ppm	n/a	TT	Soil runoff
Turbidity	NO		Highest 0.202	NTU	n/a	TT	Soil runoff
Alpha emitters	NO	Avg. 0.36 0.09-0.62	0.4 ± 0.6	PCi/l	0	15	Erosion of natural deposits
Radium-228	NO	Avg. 0.44 0.11-0.80	0.3 ± 0.7	PCi/l	0	5	Erosion of natural deposits
Copper	NO	0.137 * 0 > AL	0.463 * 0 > AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from preservatives
Fluoride	NO	ND-0.72	0.72	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories
Nitrate (as Nitrogen)	NO	ND-0.19	0.60	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	31.5-38.3	27.5	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	22.3-26.3	18.8	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants							
Chloroform	NO	ND	1.10	ppb	70	n/a	Naturally occurring in the environment or from runoff
Bromodichloromethane	NO	ND	7.30	ppb	0	n/a	Naturally occurring in the environment or from runoff
Chlorodibromomethane	NO	ND	3.20	ppb	60	n/a	Naturally occurring in the environment or from runoff
Secondary Contaminants							
Aluminum	NO	ND-0.05	0.02	ppm	n/a	0.2	Erosion; treatment with water additives
Chloride	NO	2.80-12.4	9.6	ppm	n/a	250	Naturally occurring in the environment or from runoff
Hardness	NO	ND-74.4	22.3	ppm	n/a	n/a	Naturally occurring; treatment with water additives
pH	NO	7.0-7.7	7.1	S.U.	n/a	n/a	Naturally occurring; treatment with water additives
Sodium	NO	2.60-42.6	19.5	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	0.66-8.20	17.8	ppm	n/a	250	Naturally occurring in the environment or from runoff
Total Dissolved Solids	NO	84.0-95.0	59.0	ppm	n/a	500	Naturally occurring in the environment or from runoff
Zinc	NO	ND	0.41	ppm	none	5	Erosion; discharge from factories; runoff from landfills

* Figure shown is 90th percentile and # of sites above action level (1.3 ppm) = 0

PFAS - Russell County Water

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals for which the 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 (ppt), or 0.07 parts per billion (ppb). Below is a list of PFAS contaminants for which our water sources were monitored in 2020 and the results of that monitoring. *PFAS was not detected in our drinking water.*

PFAS (Livingston)						
Contaminant	Unit Msmt	Level Detected	Contaminant	Unit Msmt	Level Detected	
11CI-PF3OUdS (11-chloroeicosafuoro-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 acid)	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				

Phenix City - Reporting Violation 2020

In 2020 the Phenix City Microbiology Laboratory incurred a reporting violation for failing to report the results of a bacteriological test in March 2020. The test was conducted as required but due to administrative error was not submitted with the monthly report. Once notified of the error, the lab immediately reported the required data to ADEM. The file used to upload the data to ADEM has been corrected so as to prevent any further violations.

UCMR4 – Russell County Water

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 contaminants we were required to monitor and the results of the monitoring in 2018 and 2019.

UCMR4 Contaminants					
Contaminants	Unit Msmt	Level Detected	Contaminants	Unit Msmt	Level Detected
Germanium	ppb	ND	Total permethrin (cis- & trans-)	ppb	ND
Manganese	ppb	ND-38.1	Tribufos	ppb	ND
Alpha-hexachlorocyclohexane	ppb	ND	1-butanol	ppb	ND
Chlorpyrifos	ppb	ND	2-methoxyethanol	ppb	ND
Dimethipin	ppb	ND	2-propen-1-ol	ppb	ND
Ethoprop	ppb	ND	Butylated hydroxyanisole	ppb	ND
Oxyfluorfen	ppb	ND	O-toluidine	ppb	ND
Profenofos	ppb	ND	Quinoline	ppb	ND-0.05
Tebuconazole	ppb	ND			
Cyanotoxins			Cyanotoxins		
Anatoxin-A	ppb	ND	Microcystin-LY	ppb	ND
Cylindrospermopsin	ppb	ND	Microcystin-RR	ppb	ND
Microcystin-LA	ppb	ND	Microcystin-YR	ppb	ND
Microcystin-LF	ppb	ND	Nodularin	ppb	ND
Microcystin-LR	ppb	ND	Total Microcystins	ppb	ND
Distribution Samples			Distribution Samples		
HAA5	ppb	ND-32.2	Total organic carbon (TOC)	ppb	ND-1020
HAA6Br	ppb	ND-11.5	Bromide	ppb	ND-25.7
HAA9	ppb	ND-31.7			

Microbiological Contaminants – Phenix City

Microbiological Contaminants	Level Detected	Unit of Msmt	Explanation
Cryptosporidium	ND-0.09	Oocysts/L	Cryptosporidium was detected in 1 raw water sample in January 2017. Cryptosporidium was not detected in other samples.
Giardia	ND-0.09	Oocysts/L	Giardia was detected in 1 raw sample in January 2017. Giardia was not detected in other samples.

DEFINITIONS

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

ADEM- Alabama Department of Environmental Management.

AWPCA- Alabama Water and Pollution Control Association.

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 present in the source water. Disinfection byproducts for which regulations have been established include trihalomethanes (THM), haloacetic acids (HAA5), bromate, and chlorite.

Distribution System Evaluation (DSE)-a four quarter study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs).

EPA- Environmental Protection Agency.

Maximum Contaminant Level-(mandatory language) The Maximum Allowed (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-(mandatory language) The Goal (MCLG) is 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 detection limits of lab equipment.

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.

RAA–Running annual average

Running Annual Average (RAA)-yearly average of results at each specific sampling site.

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.

The following table is a list of drinking water contaminants for which your drinking water is routinely monitored. These contaminants were *not* detected in your water unless they are listed in the *Detected Drinking Water Contaminants* table 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	Total organic carbon	TT	ppm
LIST OF SECONDARY CONTAMINANTS					
Alkalinity, Total (as CA, Co ₃)	Alkalinity, Total (as CA, Co ₃)	Alkalinity, Total (as CA, Co ₃)	Alkalinity, Total (as CA, Co ₃)	Alkalinity, Total (as CA, Co ₃)	Alkalinity, Total (as CA, Co ₃)
Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Calcium, as Ca	Calcium, as Ca	Calcium, as Ca	Calcium, as Ca	Calcium, as Ca	Calcium, as Ca
Chloride	Chloride	Chloride	Chloride	Chloride	Chloride
Color	Color	Color	Color	Color	Color
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			