

# Sheffield Utilities Annual Water Quality Report

## 2022

We are pleased to bring you this year's Water Quality Report. This report is designed to keep you informed about the quality of water and the services we deliver to you every day. We want you to understand the efforts we are making to improve treatment processes and protect our water supply. We are committed to the quality of your drinking water.

Please take a few moments to look over this important report concerning your drinking water. We have tried to assemble a report that paints a brief but accurate picture of the quality of water you get every day from your tap. Please direct any questions regarding this report to Charlie Cummings at: (256) 412-9252.

### General Information about Drinking Water Contaminants

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 derived from the presence of animals or from human activities.

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 for infections. These people should seek advice about drinking water from their health care providers. EPA (Environmental Protection Agency)/ CDC (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-427-4791).

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember the presence of these contaminants does not necessarily pose a health risk.

In the following tables you will find many terms and abbreviations that may not be familiar to you. To help you better understand these terms we've provided the following definitions.

- 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 billion (ppb) or micrograms per liter  
One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- Nephelometric Turbidity Unit (ntu)  
Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 ntu is just noticeable to the average person.
- ND- Not detected.
- Maximum Contaminant Level Goal or 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 Contaminant Level (MCL)  
The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Action Level (AL)  
The concentration of a contaminant that triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT)  
A required process intended to reduce the level of a contaminant 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. MRDLs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Variance and Exemptions  
ADEM or EPA permission not to meet a MCL or a treatment technique under certain conditions.

### Water Source & Treatment Technique

Raw water for the Sheffield Water Treatment Plant is taken from the Pickwick Lake Reservoir of the Tennessee River. The water treatment plant is located at 919 Alabama Avenue, Sheffield, Alabama. At the surface water treatment plant, a polymer is added to the raw water for coagulation and flocculation of solids. This is followed by sedimentation of unwanted solids in the settling basin. After sedimentation, chlorine is added (pre-chlorination stage). This is done for disinfection and algae control. Next, the water is filtered and chlorinated again for final disinfection. Caustic soda is added for pH control and fluoride is added to promote dental health.

### Variance & Waivers

Sheffield Utilities, in conjunction with TVA, has produced a Source Water Assessment Report. This Source Water Assessment Report is available at the main office of Sheffield Utilities at 300 North Nashville Avenue, Sheffield, Alabama and can be seen Monday - Friday between the hours of 8:00 a.m. and 5:00 p.m.

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 is not required. Radiological samples were required in 2021.

In 2022 Sheffield Utilities in conjunction with Sheffield City Schools completed lead and copper monitoring without exceeding any lead or copper action levels. We will continue monitoring lead and copper every three years according to Alabama Department of Environmental Management (ADEM) regulations. The next monitoring period will be June through September 2025.

### PFAS/PFOS

PFAS (per- and polyfluoroalkyl substances) are a large and diverse group of man-made compounds used in a variety of products like cookware, food packaging, makeup, stain repellents, and firefighting foams. Sheffield Utilities has tested for PFAS in our drinking water sources and throughout our distribution system since 2018. In all those years of testing, these compounds have never been found close to EPA issued health advisory levels of 70 ppt.

### Board Members

The Sheffield Utilities Board has regularly scheduled meetings on the first Tuesday of each month in the main conference room at Sheffield Utilities' main office building at 300 N. Nashville Avenue, Sheffield, Alabama.

Current Board Members are Kermit Campbell, Chairman; Rea Phyfer, Vice-Chair; Brian Young; Heath Colcock; Frances Allen and Carl Cassidy.

Standard List of Primary Drinking Water Contaminants

Contaminant	MCL	Amount Detected	Contaminant	MCL	Amount Detected
<b>Bacteriological</b>			Acrylamide	TT	-
Total Coliform Bacteria	<5%	0	Endothall	100 ppb	ND
Turbidity	TT	0.10 ntu	Endrin	2 ppb	ND
Fecal Coliform and <i>E.Coli</i>	0	0	Epichlorohydrin	TT	ND
<b>Radiological*</b>			Glyphosate	700 ppb	ND
Beta/photon Emitters (mrem/yr)	4	-	Heptachlor	400 ppt	ND
Alpha emitters (pCi/l)	15	0.0+/-0.9	Heptachlor epoxide	200 ppt	ND
Combined radium (pCi/l)	5	0.0+/-0.4	Hexachlorobenzene	1 ppb	ND
Uranium	30ppb	-	Lindane	200 ppt	-
<b>Inorganic Chemicals</b>			Methoxychlor	40 ppb	ND
Antimony	6ppb	ND	Oxamyl [Vydate]	200 ppb	ND
Arsenic	10ppb	ND	PCBs	500 ppt	ND
Asbestos (MFL)	7	-	Pentachlorophenol	1 ppb	ND
Barium	2ppm	.019 ppm	Picloram	500 ppb	ND
Beryllium	4ppb	ND	Simazine	4 ppb	ND

Cadmium	5ppb	ND	Toxaphene	3 ppb	ND
Chromium	100ppb	ND	Benzene	5 ppb	ND
Copper	Al=1.3ppm	.0013 ppm	Carbon tetrachloride	5 ppb	ND
Cyanide	200ppb	ND	Chlorobenzene	100 ppb	ND
Fluoride	4ppm	0.66 ppm	Dibromochloropropane	200 ppt	-
Lead	Al=15ppb	ND	1,2-Dichlorobenzene	600 ppb	ND
Mercury	2ppb	ND	1,4-Dichlorobenzene	75 ppb	ND
Nitrate	10ppm	0.57 ppm	1,1 -Dichloroethane	5 ppb	ND
Nitrite	1ppm	ND	1,1-Dichloroethylene	7ppb	ND
Selenium	50ppb	ND	Cis-1,2- Dichloroethylene	70 ppb	ND
Thallium	2ppb	ND	trans-1,2- Dichloroethylene	100 ppb	ND
<b>Organic Chemicals</b>			Dichloromethane	5 ppb	-
2,4-D	70ppb	ND	1,3-Dichloropropane	5 ppb	ND
2,4,5-Tp(Silvex)	50ppb	ND	Styrene	100 ppb	ND
Ethylbenzene	700 ppb	ND	Tetrachloroethylene	5 ppb	ND
Ethylene dibromide	50 ppt	-	1,2,4-Trichlorobenzene	70 ppb	ND
Alachlor	2 ppb	ND	1,1,1-Trichloroethane	200 ppb	ND
Atrazine	3 ppb	ND	1,1,2-Trichloroethane	5 ppb	ND
Benzo(a)yprene [PAHs]	200 ppt	92	Trichloroethylene	5 ppb	ND
Carbofuran	40 ppb	ND	TTHM	80 ppb	54.7 ppb
Chlordane	2 ppb	ND	HAA5	60 ppb	38.8 ppb
Dalzpou	200 ppb	ND	Vinyl Chloride	2 ppb	ND
Di (2-ethylhexyl) adipate	400 ppb	ND	Xylenes	10 ppm	ND
Di (2-ethylhexyl) phthlate	6 ppb	ND	TOC	TT	1.10 ppm
Dinoseb	7 ppb	ND	Chlorine	4 ppm	1.6 ppm
Diquat	20 ppb	ND	Chlorine dioxide	800 ppb	-
Dioxin [2,3,7,8-TCDD]	30 ppb	-	Bromate	10 ppb	-
Chloramines	4 ppm	-	Toulene	1	ND
Chlorite	1 ppm	-			

\*Sample result from February 13, 2020 Sample frequency 1 sample per 9Y- every 9 years.

**Table of Detected Contaminants**

CONTAMINANT	MCLG	MCL	AVG Range	MAX Amount Detected	Violation	Likely Source of Contamination
<b>Bacteriological Jan - Dec 2022</b>						
Total Coliform Bacteria	0	<5%	0	0	NO	Human and animal fecal waste
Turbidity	0	0.3 ntu	.020-.104 ntu	0.221	NO	Soil runoff
<b>Inorganic Chemicals</b>						
Copper	1.3	1.3 ppm	.0086-.14ppm	.140 ppm	NO	Corrosion of household plumbing system; erosion of natural deposits; leaching from wood preservatives
Fluoride	4 ppm	4 ppm	.57 - .85 ppm	1.0 ppm	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	10 ppm	10 ppm	ND - .57 ppm	.57 ppm	NO	Runoff from fertilizer use; leaching from septic tanks, erosion of natural deposits
<b>Organic Chemicals</b>						
HAA5	0	Yearly Avg 60 ppb	29.5 - 48 ppb	86 ppb	NO	By-product of drinking water disinfection
TTHM	0	Yearly Avg 80 ppb	36 - 70.5 ppb	120 ppb	NO	By-product of drinking water chlorination
TOC	n/a	TT	1.09 - 1.41ppb	1.41ppb	NO	Found naturally in water
<b>PFAS</b>						
P FOS	0	PROPOSED 4.0 ppt	8.9 - 28 ppt	28 ppt	NO	Forever chemicals manufactured by humans
PFOA	0	PROPOSED 4.0 ppt	4.8 - 16 ppt	16 ppt	NO	
Gen X	1	PROPOSED 5.0 ppt	ND ppt	ND ppt	NO	
P FBS	1	PROPOSED 3.0 ppt	2.8 - 5.7 ppt	5.7 ppt	NO	
Finished Water Alkalinity Min 60 ppm CaCO3 & Max 73 ppm CaCO3						

**Unregulated Contaminants**

Contaminant	Average	Range
Bromodichloromethane	9.7 ppb	1.4 – 18.0 ppb
Chloroform	47 ppb	1.7 - 94.0 ppb
Dibromochloromethane	3.4 ppb	1.2 – 5.6 ppb

As you can see by these tables, our system had no violations of allowable limits of contaminants in the drinking water we distribute. We are proud that your drinking water meets and exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water is SAFE at these levels. Furthermore, Sheffield Utilities will be conducting continuous testing for Unregulated Contaminant Monitoring Rule 5 (UCMR5) in the years 2023-2025.

## CYANOTOXINS

In 2020 Sheffield tested for cyanotoxins under UCMR 4. Cyanotoxins are toxins produced by bacteria called cyanobacteria. These toxins can be harmful to humans and animals. Eight samples were taken between June and September. In all eight samples, the levels of cyanotoxins were under the detection level. 2023-2025 will bring continued testing under UCMR 5.

## Cryptosporidium/ Giardia

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. 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. All test results were well within state and federal standards.

Source Water	Result	Limit
Cryptosporidium	1*	0
Giardia	0*	0

\*Cryptosporidium and Giardia were detected in 1 source water sample in December 2017.

## Sheffield Utilities 2018 UCMR 4 DATA

<b>Unregulated Contaminant Monitoring Rule 4 (UCMR4) Contaminants</b>			
Contaminants	Level Detected (Range)	Unit Msmt.	Likely Source of Contamination
Germanium	ND - <0.300	ppb	Naturally found in the environment or as a result of industrial discharge
Manganese	ND -0.400	ppb	Naturally occurring in the environment
Alpha-Hexachlorocyclohexane	ND- <0.0100	ppb	Soil runoff, used in insecticides
Chloropyrifos	ND- <0.0300	ppb	Soil runoff , used used in agriculture
Dimethipin	ND-<0.200	ppb	Soil runoff, pesticide
Ethoprop	ND- <0.0300	ppb	Soil runoff, insecticide
Oxyfluorfen	ND- <0.0500	ppb	Soil runoff , herbicide
Profenofos	ND-<0.300	ppb	Soil runoff , insecticide
Tebuconazole	ND-<0.200	ppb	Soil runoff ,fungicide
Permethrin,cis and trans	ND- <0.0400	ppb	Used in veterinary medicine
Tribufos	ND-<0.700	ppb	Soil runoff , defoliant used in agriculture
Butylated hydroxyanisole	ND- <0.0300	ppb	Antioxidant used to preserve foods,medicinal drugs, and cosmetics; Industrial discharge
e-toludine	ND- <0.00700	ppb	Soil runoff, used in herbicides
Quinoline	ND- <0.0200	ppb	Industrial discharge
1-Butanol	ND-<2.00	ppb	Industrial discharge
2-Methoxyethanol	ND-<0.400	ppb	Industrial discharge
2-Propen-1-01	ND-<0.500	ppb	Industrial discharge
Bromide	25.6-28.3	ppb	Industrial discharge
TOC	1960-2350	ppb	Naturally occurring in the environment
Bromochloroacetic acid	.815 – 7.64	ppb	Occur from the disinfection process of drinking water
Bromodichloroacetic acid	ND – 6.02	ppb	Occur from the disinfection process of drinking water
Chlorodiromoacetic acid	ND – 1.03	ppb	Occur from the disinfection process of drinking water
Dibromoacetic acid	ND – 1.08	ppb	Occur from the disinfection process of drinking water
Dichloroacetic acid	3.41 – 27.2	ppb	Occur from the disinfection process of drinking water
Monobromoacetic acid	ND - .348	ppb	Occur from the disinfection process of drinking water
Monochloroacetic acid	ND – 2.72	ppb	Occur from the disinfection process of drinking water
Tribromoacetic acid	ND	ppb	Occur from the disinfection process of drinking water
Trichloroacetic acid	10.9 – 22.4	ppb	Occur from the disinfection process of drinking water