

Sheffield Utilities Annual Water Quality Report

2021

We are pleased to bring you this year's Water Quality Report. This report is designed to keep you informed about the quality water and services we deliver to you every day. We want you to understand the efforts we make to improve treatment processes and protect our 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. If you have any questions regarding this report, contact 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 resulting 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 a 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 on 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 thru 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 this year.

In 2019 Sheffield Utilities completed lead and copper monitoring without exceeding any lead or copper action levels. We will continue monitoring for lead and copper every three years according to Alabama Department of Environmental Management (ADEM) regulations. The next monitoring period will be June through September 2022.

Board Members

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

Current Board Members are Kermit Campbell – Chairman; Bryan Young - Vice-Chair; Carl Cassidy; Heath Colcock and Rea Phyfer.

Standard List of Primary Drinking Water Contaminants					
Contaminant	MCL	Amount Detected	Contaminant	MCL	Amount Detected
Bacteriological			Acrylamide	TT	-
Total Coliform Bacteria	<5%	0	Endothall	100 ppb	ND
Turbidity	TT	0.10 ntu	Endrin	2 ppb	ND

Standard List of Primary Drinking Water Contaminants					
Fecal Coliform and <i>E. Coli</i>	0	0	Epichlorohydrin	TT	ND
Radiological*			Glyphosate	700 ppb	ND
Beta/Photon Emitters (mrem/yr)	4	-	Heptachlor	400 ppt	ND
Alpha emitters (pCi/l)	15	.58+/- .895	Heptachlor epoxide	200 ppt	ND
Combined radium (pCi/l)	5	.12+/- .342	Hexachlorobenzene	1 ppb	ND
Uranium	30ppb	-	Lindane	200 ppt	-
Inorganic Chemicals			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	.021 ppm	Picloram	500 ppb	ND
Beryllium	4ppb	ND	Simazine	4 ppb	ND

Standard List of Primary Drinking Water Contaminants cont.

Cadmium	5ppb	ND	Toxaphene	3 ppb	ND
Chromium	100ppb	ND	Benzene	5 ppb	ND
Copper	Al=1.3ppm	.0016 ppm	Carbon tetrachloride	5 ppb	ND
Cyanide	200ppb	ND	Chlorobenzene	100 ppb	ND
Fluoride	4ppm	0.64 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	0.29 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
Organic Chemicals			Dichloromethane	5 ppb	-
2,4-D	70ppb	.00014 ppm	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)pyrene [PAHs]	200 ppt	ND	Trichloroethylene	5 ppb	ND
Carbofuran	40 ppb	ND	TTHM	80 ppb	46.2 ppb
Chlordane	2 ppb	ND	HAA5	60 ppb	31.4 ppb
Dalzpon	200 ppb	ND	Vinyl Chloride	2 ppb	ND
Di (2-ethylhexyl) adipate	400 ppb	ND	Xylenes	10 ppm	ND
Di (2-ethylhexyl) phthalate	6 ppb	ND	TOC	TT	1.52 ppm
Dinoseb	7 ppb	ND	Chlorine	4 ppm	1.7 ppm
Diquat	20 ppb	ND	Chlorine dioxide	800 ppb	-
Dioxin [2,3,7,8-TCDD]	30 ppq	-	Bromate	10 ppb	-
Chlorimines	4 ppm	-	Toulene	1	ND
Chlorite	1 ppm	-			

* Sample result from May 11, 2021. Sample frequency 1 sample per 9Y – every 9 years.

Table of Detected Contaminants					
CONTAMINANT	MCLG	MCL	Avg Range	MAX Amount Detected	Likely Source of Contamination
Bacteriological January-December 2010					
Total Coliform Bacteria	0	<5%	0	0	Human and animal fecal waste
Turbidity	0	0.3 ntu	.010 - .082 ntu	.105 ntu	Soil runoff
Inorganics Chemicals					
Copper	1.3	Al = 1.3 ppm	0.026 – 0.088 ppm	0.160 ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	4 ppm	4 ppm	.53 - .76 ppm	.83 ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	10 ppm	10 ppm	ND - .64	0.64 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits.
Organic Chemicals					
HAA5	0	60 ppb	23.50 – 43.5 ppb	64.0 ppb	By-product of drinking water disinfection.
TTHM	0	80 ppb	31.5 - 61.5ppb	75.0 ppb	By-product of drinking water chlorination
TOC	n/a	TT	.99 – 1.50 ppb	1.50 ppb	Found naturally in water
Finished Water Alkalinity Minimum 51 ppm CaCO3 Maximum 77 ppm CaCO3					

Unregulated Contaminants

Contaminant	Average	Range
Bromodichloromethane	8.47 ppb	3.4 – 13 ppb
Chloroform	31.8 ppb	8.2 – 60.0 ppb
Dibromochloromethane	2.34 ppb	ND – 3.2 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 or 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.

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.

Sheffield Utilities 2018 UCMR 4 DATA

Unregulated Contaminant Monitoring Rule 4 (UCMR4) Contaminants			
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

Sheffield Utilities 2018 UCMR 4 DATA

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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

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 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	2*	0

*Cryptosporidium and Giardia was detected in 1 source water sample in December 2016. Giardia was detected in one other sample during the 2016 testing period.