2025 WATER QUALITY REPORT
UTILITIES BOARD OF MUSCLE SHOALS

OVERVIEW

The Muscle Shoals Utilities Board is pleased to provide you with this year's Water Quality Report for 2025. 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 supply. We are committed to providing our customers with the safest and highest quality drinking water possible. This Water Quality Report is required by the Safe Drinking Water Act and tells you where your water comes from, what tests by independent laboratories show about it, and other information you should know about your drinking water.

The Muscle Shoals Utilities Board Water Treatment Plant is located at 321 River Road and utilizes Wilson Lake on the Tennessee River for its drinking water source. The treatment plant incorporates a process of mixing, flocculation, sedimentation, and filtration in the treatment process. Also, chlorine dioxide & chlorine are used for disinfection, fluoride for dental protection, caustic soda for pH adjustment and a phosphate corrosion inhibitor. The Utilities Board has also performed a source water assessment for the water treatment plant. This information may be viewed at the Utilities Board office between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday. Appointments for reviewing are required.

The Utilities Board is governed by five (5) Board Members. Current Board members are Mr. Waylon Huguley, Mr. Tyrus Mansell, Mrs. Donna Ricks – Vice Chair, Mr. Keith Murphy, and Mr. Joe Underwood - Chairman.

If you have any questions about this report or concerning your water utility, please contact Mr. James Vance, Manager at 256-386-9260 or Mr. Brian Barton, Water Plant Supervisor at 256-386-9263. We want our valued customers to be informed about their water utility. If you want to learn more, please consult our website at www.muscleshoalswater.org or attend any of our regularly scheduled Board meetings. They are held at 5:00 p.m. on the third Thursday of every month at the Utilities Board Office at 2001 Wildwood.

FROM THE MANAGERS DESK…

The Muscle Shoals Utilities Board is pleased to share with you our 2025 Water Quality Report. On March 14, 2023, the EPA announced the proposed National Primary Drinking Water Regulation (NPDWR) to establish legally enforceable levels for six PFAS in drinking water. On April 10, 2024, the EPA finalized its proposed NPDWR, and announced its expectation that "over many years the final rule will prevent PFAS exposure in drinking water for approximately 100 million people, prevent thousands of deaths, and reduce tens of thousands of serious PFAS-attributable illnesses."

The EPA's new regulation provides a window of up to five years for public water systems to reach full compliance. MSUB has already taken action to remove these contaminants from your water. MSUB has been monitoring PFAS, notifying the public of the levels of these PFAS, and undertaking efforts to evaluate how best to reduce the levels of these PFAS in drinking water. Due to the unique chemical properties of PFAS, conventional water treatment plants are incapable of fully removing PFAS from drinking water.

As a result, MSUB is evaluating state-of-the-art water filtration systems to reduce PFAS to non-detectable levels. MSUB has completed a pilot program study of various PFAS treatment technologies and is currently working with our engineers to select the best method of removing PFAS from our water supply. In the interim, MSUB has installed Granular Activated Carbon (GAC) in existing filters at our water plant as a temporary and emergency measure to reduce PFAS from the drinking water supply while permanent and long-term PFAS filtration improvements are evaluated, designed and implemented.

MSUB does not believe that the past, present and future capital costs and increased operational expenses associated with removing PFAS from our water supply should be the responsibility of our ratepayers. For that reason, we engaged and retained outside legal counsel with extensive experience in PFAS litigation to evaluate and litigate claims against those responsible for the PFAS chemicals in our water supply. MSUB filed suit in the Circuit Court of Colbert County, Alabama in February of 2023 and while we cannot comment on pending litigation, our lawsuit against PFAS chemical manufacturers and others responsible for the PFAS contamination is moving forward in the Circuit Court of Colbert County, Alabama. It remains our goal to hold those that contaminated our water supply with PFAS responsible for all past, present, and future costs associated with removing their PFAS contamination from our drinking water. More information regarding PFAS can be found on our website at www.muscleshoalswater.org .

Thank you for the opportunity to share this report with you.

James Vance, Manager

❖COMMUNITY AWARENESS NOTICE❖

- ***Any unauthorized use and/or tampering with Treatment or Storage Facilities and Fire Hydrants is a FEDERAL OFFENSE! If you suspect or are aware of possible illegal activities around these areas, please contact us immediately at 256-386-9260.***
- ***For any water or sewer EMERGENCIES, call 256-386-9260, answered 24 hours/7-days per week.***
- ***For more information, please check our website at www.muscleshoalswater.org.***

Water & Sewer
EMERGENCIES
Call 256-386-9260

The Muscle Shoals Utilities Board monitors contaminants according to a schedule assigned to us by the Alabama Department of Environmental Management (ADEM), using EPA approved methods and a state certified laboratory. The Alabama Department of Environmental Management (ADEM) allows us to monitor some contaminants less than once per year because the concentration of these contaminants do not change frequently.

Constituent Monitored	Date Monitored
Inorganic Contaminants	2024
Microbiological Contaminants	current
Lead and Copper	2024
Nitrates	2024
Radiological Contaminants	2021
Synthetic Organic Contaminants	2023
Volatile Organic Contaminants	2024
Disinfection By-products – Stage II	2024
Cryptosporidium	2024
Per and Polyfluoroalkyl Substances (PFAS)	2024
Unregulated Contaminants Monitoring Rule Contaminants (UCMR5)	2024

The following table is a list of ***Primary Drinking Water Contaminants*****,** ***Unregulated Contaminants****,* and ***Secondary Contaminants*** for which our water system routinely monitors according to our regulatory schedule. These contaminants were ***not*** detected in your drinking water unless they are listed in the ***Table of Detected Drinking Water Contaminants.***

REGULATED CONTAMINANTS			
Bacteriological	Mercury	Dichloromethane	Simazine
Total Coliform Bacteria	Nitrate	1,2-Dichloropropane	Styrene
Fecal Coliform and E. coli	Nitrite	Di (2-ethylhexyl)adipate	Tetrachloroethylene
Fecal Indicators	Selenium	Di (2-ethylhexyl)phthalate	Toluene
Turbidity	Thallium	Dinoseb	Toxaphene
Cryptosporidium	**Organic Contaminants**	Dioxin [2,3,7,8-TCDD]	2,4,5-TP(Silvex)
Radiological	2,4-D	Diquat	1,2,4-Trichlorobenzene
Beta/photon emitters	Acrylamide	Endothall	1,1,1-Trichloroethane
Alpha emitters	Alachlor	Endrin	1,1,2-Trichloroethane
Combined radium	Benzene	Epichlorohydrin	Trichloroethylene
Uranium	Benzo(a)pyrene [PAHs]	Ethylbenzene	Vinyl Chloride
Inorganic Chemicals	Carbofuran	Ethylene dibromide	Xylenes
Antimony	Carbon tetrachloride	Glyphosate	**Disinfection Byproducts**
Arsenic	Chlordane	Heptachlor	Chlorine
Asbestos	Chlorobenzene	Heptachlor epoxide	Chlorine Dioxide
Barium	Dalapon	Hexachlorobenzene	Chloramines
Beryllium	Dibromochloropropane	Hexachlorocyclopentadiene	Bromate
Cadmium	o-Dichlorobenzene	Lindane	Chlorite
Chromium	p-Dichlorobenzene	Methoxychlor	HAA5 [Total haloacetic acids]
Copper	1,2-Dichloroethane	Oxamyl [Vydate]	TTHM [Total trihalomethanes]
Cyanide	1,1-Dichloroethylene	Polychlorinated biphenyls	
Fluoride	cis-1,2-Dichloroethylene	Pentachlorophenol	
Lead	trans-1,2-Dichloroethylene	Picloram	
UNREGULATED CONTAMINANTS			
1,1 – Dichloropropene	Aldicarb	Chloroform	Metolachlor
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin
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	Isoprpylbenzene	Propachlor
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorfluoromethane
SECONDARY CONTAMINANTS			
Alkalinity, Total (as $CaCo_3$)	Copper	Magnesium	Silver
Aluminum	Corrosivity	Manganese	Sodium
Calcium, as Ca	Foaming agents (MBAS)	Odor	Sulfate
Chloride	Hardness	Nickel	Total Dissolved Solids
Color	Iron	pH	Zinc

To help you better understand the terms used in the following table, we've provided the following definitions:

- **ppm, mg/L (parts per million)** - *one part per million corresponds to a single penny in $10,000.*
- **ppb, ug/L (parts per billion) -** *one part per billion corresponds to a single penny in $10,000,000.*
- **ppt (parts per trillion)** – *one part per trillion corresponds to a single penny in $10,000,000,000.*
- **ppq (parts per quadrillion)** – *one part per quadrillion corresponds to a single penny in $10,000,000,000,000.*
- **MFL** – *million fibers per liter*
- **pCi/l** – *Picocuries per liter (a measure of radioactivity)*
- **NTU (Nephelometric Turbidity Unit)** - *nephelometric turbidity unit is the measure of the clarity of water.*
- ***SU****= Standard Units*
- **MCLG (Maximum Contaminant Level Goal)** - *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.*
- **MCL (Maximum Contaminant Level)** - *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.*
- **MRDLG (Maximum Residual Disinfectant Level Goal)** – *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.*
- **MRDL (Maximum Residual Disinfectant Level)** – *The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.*
- **AL (Action Level)** - *The concentration of a contaminant that triggers treatment or other requirement a water system shall follow.*
- **TT (Treatment Technique)** - *A required process intended to reduce the level of a contaminant in drinking water.*
- **Variances and Exemptions** – *ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.*

Table of Detected Contaminants – 2024 Data

This table lists the contaminants detected in your water and also the probable source of the contaminants.

CONTAMINANT	MCLG	MCL	Range		Amount Detected		Likely Source of Contamination
Bacteriological		**(Jan. - Dec. 2024)**					
Turbidity	n/a	TT	-	-	0.10	NTU	Soil runoff
Inorganic Chemicals		**(Jan. - Dec. 2024)**					
Fluoride	4	4	-	-	0.831	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium	2	2	-	-	0.0199	ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Copper	1.3	AL = 1.3	-	-	0.0015	ppm	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Nitrate	10	10	-	-	1.08	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Disinfectants		**(Jan. - Dec. 2024)**					
Chlorine	4	4	1.61	2.20	1.9	ppm	Water additive used to control microbes
Chlorine Dioxide	800	800	0	390	390	ppb	Water additive used to control microbes
Disinfection By-Products		**(Jan. - Dec. 2024)**					
Chlorite	0.8	1	-	-	0.94	ppm	By-product of drinking water disinfection
HAA5 – Stage II	n/a	60	1.0	42.6	23.4	ppb	By-product of drinking water disinfection
TTHM – Stage II	n/a	80	6.0	41.5	22.9	ppb	By-product of drinking water disinfection
Organic Chemicals		**(Jan. - Dec. 2024)**					
TOC	n/a	TT	1.0	1.83	1.34	ppm	Naturally present in the environment
Radiological		**(Jan. - Dec. 2021)**					
Combined Radium	0	5	-	-	0.0308	pCi/l	Erosion of natural deposits
Gross Alpha	0	15	-	-	0.409	pCi/l	Erosion of natural deposits

Table of Detected Secondary Contaminants - 2024 Data

This table lists contaminants that may cause cosmetic or aesthetic effects in drinking water.

CONTAMINANT	MCL	Units	Amount Detected
Alkalinity	-	ppm	55
Calcium	-	ppm	20.8
Carbon Dioxide	-	ppm	2.64
Chloride	250	ppm	12.9
Hardness	-	ppm	68
Selenium		ppm	0.000688
Magnesium	-	ppm	3.88
Manganese		ppm	0.00485
Odor	-	Threshold Odor Number	1.00
pH	-	S.U.	7.2
Sulfate	500	ppm	8.59
Sodium	-	ppm	7.31
Specific Conductance	-	umhos/cm	201
Total Dissolved Solids	500	ppm	129
Aluminum	-	ppm	0.0831
Zinc		ppm	0.00111

Per and Polyfluoroalkyl Substances – 2024 Data

CONTAMINANT	Units	Amount Detected
PFOS	ppt	16.0
PFHxA	ppt	3.7
PFHxS	ppt	2.0
PFOA	ppt	9.2
PFBS	ppt	5.9
PFHpA	ppt	2.4

Unregulated Contaminant Monitoring Rule 5 (UCMR5) – 2024 Data

CONTAMINANT	Units	Amount Detected
PFBA	ppt	12.0
PFHxA	ppt	3.5
PFOA	ppt	6.7
PFBS	ppt	3.0
PFOS	ppt	12

REQUIRED ADDITIONAL HEALTH INFORMATION

- All Drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).
- 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.
- To ensure that tap water is safe to drink, EPA prescribes regulations that limit the number of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.
- The Utilities Board incurred two total coliform positive samples in 2024. All six, repeat total coliform samples were negative.
- 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 Cryptosporidium and other 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.
- 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. The Utilities Board is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your drinking water has been sitting for several hours, you can minimize the potential effects for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking 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 http://www.epa.gov/safewater/lead.