



2022 Water Quality Report

PWS ID#: MS0250008 and MS0250012

We are pleased to present our 2022 Water Quality Report. We are required to send this report annually, so our customers are informed about the quality of the water you are consuming.

About Your Water

This report is designed to inform you about the quality of water and the services we deliver to you every day. Our goal is to provide you with a safe and dependable supply of drinking water. 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. If you have any questions about this report or concerning your water utility, please contact **JXN Water at 601.500.5200**.

Special Population Advisory

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control guidelines on how to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791.

Drinking Water Sources

Our groundwater sources are from wells drawing from the Sparta System, J. H. Fewell WTP is surface water intake for Pearl River, O.B. Curtis WTP is surface water intake from the Ross Barnett Reservoir. The source water assessment has been completed for our public water system to determine the overall susceptibility of its drinking water supply to identify potential sources of contamination. A report containing detailed information on how the susceptibility determinations were made has been furnished to our public water system and is available for viewing upon request. The wells have received low to moderate susceptibility rankings to contamination.

Public Participation Opportunities

We want our valued customers to be informed about their water utility. If you want to learn more, please visit www.jxnwtr.com.

Contaminants in Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA'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 can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before we treat it 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 runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- *Pesticides & herbicides*, which may come from a variety of sources such as agriculture and residential uses.
- *Radioactive contaminants*, which are naturally occurring or be the result of oil and gas production and mining activities.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff, and septic systems.

To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Lead-Specific Information

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 City of Jackson is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. 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.

If you are concerned about lead in your water, you may wish to have your water tested. The Mississippi Public Health Laboratory offers lead testing. Please contact 601.576.7582 if you wish to have your water tested. Information on lead in drinking water is available from the **Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>**.

Fluoride

To comply with the "Regulation Governing Fluoridation of Community Water Supplies", the City of Jackson is required to report certain results pertaining to fluoridation of our water system. For the surface water system, the number of months in the previous calendar year in which average fluoride sample results were within the optimal range of 0.6 – 1.2 parts per million (ppm) was 12. The percentage of fluoride samples collected in the previous calendar year that was within the optimal range of 0.6 - 1.2 ppm was 100%. The number of months samples were collected and analyzed in the previous calendar year was 12.

For the City of Jackson - Maddox Rd groundwater system, the number of months in the previous calendar year in which average fluoride sample results were within the optimal range of 0.6 – 1.2 parts per million (ppm) was 1. The percentage of fluoride samples collected in the previous calendar year that was within the optimal range of 0.6 - 1.2 ppm was 50%. The number of months samples were collected and analyzed in the previous calendar year was 2.

Water Quality Data

The table in this report lists all the drinking water contaminants we detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2022. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.



CITY OF JACKSON SURFACE WATER SYSTEMS WATER QUALITY DATA TABLE - PWSID# MS0250008

Contaminant	Violation Y/N	Date Collected	Level Detected	Range of Detects	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants								
Total Coliform Bacteria	N	MONTHLY	N/A	N/A			Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment E Coli comes from human and animal fecal waste
Microbiological Contaminants: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.								
Turbidity - NTU	Y	2022	7.7 NTU (MAX)	N/A	NTU	NA	TT = 1 NTU	Soil runoff
			Lowest monthly percent of samples meeting TT: 89%				TT = 95% of samples ≤ 0.3 NTU	
Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system.								
Radioactive Contaminants								
Gross Alpha	N	2019	2.4	0.79 – 2.4	pCi/L	0	15	Erosion of natural deposits
Radium 228	N	2020	1.4	1.4	pCi/L	0	5	Erosion of natural deposits
Inorganic Contaminants								
Arsenic	N	2021	0.7	0.5 – 0.7	ppb	n/a	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	2021	0.025	0.017 – 0.025	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (as free cyanide)	N	2022	0.04	0.02 – 0.09	ppm	0.2	0.2	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Nitrate (as Nitrogen)	N	2022	0.24	0.22 – 0.24	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	N	2022	0.040	0.040	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	N	2022	13.6	4.4 – 18.2	ppm	20	0	Erosion of natural deposit; Leaching
Fluoride								
Fluoride	N	2022	0.5	0.2 – 0.9	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead and Copper at Tap								
Contaminant	Violation Y/N	Date Collected	Level Detected	# of Samples Exceeding AL	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Copper	N	01/01/2022 - 06/30/2022	0.1	0 of 101	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
		07/01/2022 - 12/31/2022	0.1	0 of 100				
Lead	N	01/01/2022 - 06/30/2022	4.0	6 of 101	ppb	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
		07/01/2022 - 12/31/2022	6.0	7 of 100				
Disinfection By-Products								
Contaminant	Violation Y/N	Date Collected	Level Detected	Range of Detects	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Haloacetic acid (HAA5)	N	2022	49 (LRAA)	6 – 74	ppb	0	60	By-Product of drinking water disinfection.
Total Trihalomethane (TTHM)	N	2022	60 (LRAA)	13 – 107	ppb	0	80	By-Product of drinking water disinfection.
Chloramine	N	2022	2.0 (RAA)	0.10 – 3.9	ppm	0	MRDL = 4	Water additive used to control microbes
Total Organic Carbon (TOC)	N	2022	1.2 Removal Ratio (> 1.0 is Required)	All 4 Quarterly RAA were 1.2	NA	NA	TT	Naturally present in the environment

MADDOX ROAD GROUND WATER SYSTEM WATER QUALITY DATA TABLE - PWSID# MS0250012

Contaminant	Violation Y/N	Date Collected	Level Detected	Range of Detects	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants								
Total Coliform Bacteria	N	MONTHLY	NONE	N/A			Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment E Coli comes from human and animal fecal waste
Microbiological Contaminants: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system.								
Radioactive Contaminants								
Radium 226	N	2020	0.85	0.83 – 0.85	pCi/L	0	5	Erosion of natural deposits
Radium 228	N	2020	1.2	1 – 1.2	pCi/L	0	5	Erosion of natural deposits
Inorganic Contaminants								
Barium	N	2021	0.004	0.002 – 0.004	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	N	2021	0.6	0.5 – 0.6	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride								
Fluoride	N	2021	0.9	0.6 – 0.9	ppm	4.0	4.0	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Lead and Copper at Tap								
Contaminant	Violation Y/N	Date Collected	Level Detected	# of Samples Exceeding AL	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Copper	N	2022	0.1	0 – 30	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	N	2022	3.0	1 – 30	ppb	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Volatile Organic Contaminants								
Contaminant	Violation Y/N	Date Collected	Level Detected	Range of Detects	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Carbon Tetrachloride	N	2022	0.57	0.57	ppb	0	5	Discharge from chemical plants and other industrial activities
Disinfection By-Products								
Haloacetic acid (HAA5)	N	2022	58 (LRAA)	18.7 – 83.3	ppb	0	60	By-Product of drinking water disinfection.
Total Trihalomethane (TTHMs)	N	2022	64 (LRAA)	10.9 – 71.6	ppb	0	80	By-Product of drinking water disinfection.
Chlorine	N	2022	1.20 (highest Quarterly RAA)	0.10 – 3.10	ppm	0	MRDL = 4	Water additive used to control microbes

Terms & Abbreviations

AL: Action Level – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
LRAA – Locational Running Annual Average - The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
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.

MCLG: Maximum Contaminant Level Goal – 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.
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 controlling microbial contaminants.
MRDLG: Maximum Residual Disinfectant Level Goal – The level of a drinking water disinfectant below which there is no known or expected risk of health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
N/A: Not Applicable
NTU: Nephelometric Turbidity Units

pCi/L: Picocuries per liter – measure of the radioactivity in water.
ppm: Parts per million or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.
ppb: Parts per billion or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
RAA: Running Annual Average – The level detected is the highest running annual average, computed quarterly, of monthly averages of all samples collected
TT: Treatment Technique – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water. A treatment technique violation occurs when a water system fails to treat its water in the way prescribed by MSDH and the EPA.

Monitoring and Reporting of Compliance Data Violations

During 2022, the City of Jackson Surface Water System PWSID# MS0250008 received the following violations as shown in the table below:

MS0250008 Violations for 2022

VIOLATIONS	Comments	Compliance Period	Corrective Actions	Health Effects Language
Surface Water Treatment Rule (SWTR)				
Treatment Technique: Single Combined Filter Effluent – OBC	Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of your filtration system. Water samples taken 6/27, 6/28 and 7/28/2022 showed turbidity levels greater than 1.0 turbidity units. This was above the standard of 0.30 turbidity units. Due to those high levels, manganese issues at the treatment plants, extremely low storage tank levels, and continuing distribution pressure issues, there was an increased chance that the water may contain disease-causing organisms.	06/01/2022 - 06/30/2022	The water system was placed under a state mandated boil water notice due to the high turbidity levels. On 8/29/2022, local, state, or federal emergency declarations were issued to remediate treatment processes at the water treatment plants. Disinfection was restored, and boil water notice was lifted on 9/15/2022 after two consecutive days of clear sampling.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The symptoms previously listed are not caused only by organisms in drinking water. If you experienced any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice from their health care providers about drinking this water.
		07/01/2022 - 07/31/2022		
Failure to Address Significant Deficiencies	During a Sanitary Survey / Investigation conducted 11/11/2021, MSDH cited the following significant deficiency(s): <i>Capacity of Pumps</i> . We were required to take action to correct this deficiency. However, we failed to take this action by the bilateral compliance agreement deadline established by the MSDH.	06/30/2022 to Current	Although we did not meet our deadline, we completed the needed work to get pump capacity restored to adequate levels by 10/2022. Work is continuing under the new operations and maintenance contract to continually improve our pump capacity at both plants.	N/A
Revised Total Coliform Rule (RTCR)				
Monitoring/ Reporting: Routine, Major	Results of regular monitoring are an indicator of whether our drinking water meets health standards. In August 2022, due to the emergency and distribution challenges, we did not complete routine bacteriological and chlorine sampling.	08/01/2022 - 08/31/2022	120 of 120 routine bacteriological / chlorine samples were collected in September 2022.	N/A
Lead and Copper Rule (LCR)				
WQP Level Non-Compliance	During the monitoring periods of 2018 - 2022, we failed to consistently meet treatment technique requirements for our system which is a violation of the Lead and Copper Rule and a requirement of the City's Optimized Corrosion Control Plan.	01/01/2022 - 06/30/2022	We continuously evaluate and make corrections to our existing corrosion control systems to stabilize the pH in the distribution with increased water quality monitoring at the plants and in distribution continues. The completed corrosion control studies actions are being enacted with completion of optimized corrosion control treatment installation at JHF by 11/2023 and OBC by 06/2024.	Infants and children who drink water containing lead more than the action level could experience delays in their physical or mental development, Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
		07/01/2022 - 12/31/2022		

Significant Deficiencies for System PWSID# MS0250008

During sanitary surveys conducted on 11/18/16, 2/03/2020 and 11/08/2021, the Mississippi State Department of Health cited the following significant deficiency(s):

- Function and Condition of Treatment Facilities (3)
- Condition of Source Facilities (2)
- Capacity of Treatment Facilities
- Capacity of Pumps
- Condition of Water Storage Tanks
- Monitoring Plans and Systems (3)
- Inadequate application of treatment chemicals and techniques
- Inadequate follow up on previous deficiencies
- Water System Staffing
- Significant Deficiency Not otherwise specified (4)

Corrective Actions: The water system is under an Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC) through the EPA. All deficiencies are currently scheduled to be addressed by May 2024 contingent upon current approval by the EPA.