Monitoring and Reporting of Compliance Data Violations

Significant Deficiencies & Violations

During a sanitary survey conducted on November 18, 2016, the Mississippi State Department of Health cited the following significant deficiency(s): Inadequate application of treatment chemicals and techniques.

Additionally, during the compliance periods of January 2018 to June 2018 and July 2018 to December 2018, we were cited for Non-Compliance of Water Quality Parameter requirements of our Optimized Corrosion Control Treatment plan. Testing results showed an excessive number of testing locations with a pH below 8.6 for these periods.

Corrective Actions:

The system is currently under a Compliance Plan that requires a Corrosion Control Study, which was submitted on June 7, 2017. The study established new criteria for optimizing corrosion control. Following approval of the Study by the Mississippi State Department of Health, the city will have until December 29, 2019 to complete the improvements necessary to address the Significant Deficiency and optimize corrosion control.

Currently, the City of Jackson is doing the following:

- We have evaluated and made corrective actions to our existing corrosion control system in an effort to stabilize the pH in the distribution system. This evaluation and the corrective actions are an ongoing process.
- We have increased monitoring of water quality parameters in the distribution system and at the treatment plants.
- We contracted with a consulting engineer who performed a Corrosion Control Study for the water treatment plants. The data from this Study was compiled in a report with the recommended optimized corrosion control, which was submitted to the MS Department of Health on June 7, 2017.
- The corrosion control treatment recommended by the study for the O. B. Curtis WTP is being optimized and full implementation is ongoing.
- Due to the age of the plant and the need for equipment retrofitting, the corrosion control treatment recommended by the Study for the J.H. Fewell WTP is currently scheduled for installation by December 11, 2019.

Where Your Money Goes

Your water use charge is:

- $3.21/100 cubic feet if you are within the City Limits,
- $6.42/100 cubic feet if you are outside the City Limits but within 1 mile of the City Limits, and
- $2.48/100 cubic feet if you are more than 1 mile outside of the City Limits.

65% of this charge is used for operations and maintenance of the water system.
35% of this charge is used for debt retirement.

City of Jackson, Mississippi
Division of Water/ Sewer Administration
200 South President Street
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2018 Annual Drinking Water Quality Report

City of Jackson Water System

Public Water Supply Identification Number MS0250008

Issued June 28, 2019

We are pleased to present the 2018 Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant 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.

Our water sources for this great city are the Ross Barnett Reservoir and the Pearl River (surface water) and are treated and provided to you through our two (2) state of the art Class “A” drinking water facilities: O. B. Curtis and J. H. Fewell Water Treatment Plants.

In August 2014, the City of Jackson Maddox Road Well system was taken offline and made inactive. Due to unavoidable equipment malfunctions and water main pressure issues, the wells were placed back in-service in July 2015 in emergency back-up status. The City of Jackson’s emergency back-up well system is comprised of six (6) groundwater wells located along the Hwy 18 corridor: Wiggins Rd Well, TV Road Well, Maddox Rd Well, Hwy 18 Well, Willowood Well, and Siwell Road Well.

Our mission is to provide clean, safe drinking water that meets Federal and State regulations, in adequate amounts and at the lowest possible cost.

2018 Water Quality Data

The Mississippi Department of Environmental Quality has completed their source water assessment report which is available for review by appointment at the Water / Sewer Utilities Division Office, 200 S. President Street, Rm 405, between the hours of 8:00 AM and 5:00 PM Monday through Friday. Call 601-960-2090 for appointment.

If you have any questions about this report or concerning your water utility, please contact Mary Carter, Deputy Director of Water Operations at 601.960.2091. We want our valued customers to be informed about their water utility. To participate in decisions that may affect the quality of the water, please attend any of our regularly scheduled City Council meetings. They are held every other Tuesday at either 6:00 PM or 10:00 AM within City Hall.

In order to ensure that your tap water is safe to drink, the City of Jackson Water System routinely monitors for constituents in your drinking water according to Federal and State laws. These laws limit the amount of certain contaminants in your drinking water. This report contains one table that shows the results of our monitoring for the period of January 1, 2018 to December 31, 2018.

Information about Your Water

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and 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, wildlife, and other sources.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, 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.

For more information about contaminants and potential health effects, contact the EPA’s Safe Drinking Water Hotline at 1-800-426-4791.

The Water Treatment Process

Your water is treated in a series of processes applied in sequence that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals called coagulants to form tiny sticky particles called “floc”, which attract the dirt particles. Flocculation is the formation of larger flocs from smaller flocs and is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand, gravel, and anthracite to remove even smaller particles. Ultraviolet light with a small amount of chlorine and ammonia is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community. *For the emergency backup wells, the water was treated by disinfection only.*

Fluoridation and Your Drinking Water

To comply with the "Regulation Governing Fluoridation of Community Water Supplies", CITY OF JACKSON is required to report certain results pertaining to fluoridation of our 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 to 1.2 ppm was 12. The percentage of fluoride samples collected in the previous calendar year that was within the optimal range was 91%.

Additional Information and Recommendations for Lead

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 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 one to two minutes before using water for drinking or cooking.

Although the majority of home-lead testing performed identified no lead, or lead below the action level set by the EPA, the Mississippi State Department of Health and the City of Jackson are issuing these recommendations as a special precaution, especially for households with young children or pregnant women. These precautions should remain in place at least six months while the City makes the necessary changes required to stabilize the pH levels in its water system.

- Before using tap water for drinking or cooking, run your cold tap for one to two minutes. For details, see http://www.cdc.gov/nceh/lead/tips/water.htm.
- Households should never use hot water for drinking or cooking.
- Residents should clean out their faucet aerators on a regular basis by unscrewing the aerator at the tip of the faucet, and removing any sediment or particles that have collected in the filter screen.
- Any child five years of age or younger and any pregnant woman should use filtered water (NSF53 certified filter – http://info.nsf.org/Certified/DWTU) or bottled water for drinking and cooking.
- Baby formula should be "ready-to-feed" or prepared using only filtered or bottled water.
- Parents with children five years or younger should contact their child's pediatrician or primary care provider to make sure that adequate lead screening and blood testing have been performed.

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 http://www.epa.gov/safewater/lead or www.HealthyMS.com/Jackson. The Mississippi State Department of Health Public Health Laboratory offers lead testing for $15 per sample. **Please contact 601-576-7582 if you want to have your water tested**.

TEST RESULTS

Contaminant	Violation Yes/No	Sample Date	Level Detected	Range of Detects or # of Samples Exceeding AL	MCLG	MCL , TT, AL	Likely Source of Contamination
Microbiological Contaminants							
Total Organic Carbon (% removal)	No	2018	1.32 *average*	45% - 50%	N/A	TT based on untreated water TOC	Naturally present in the environment
Turbidity (NTU)	No	2018	0.57	Lowest monthly % below 0.3 NTU = 95.0	N/A	TT for conventional filtration	Soil runoff
Inorganic Contaminants							
Arsenic (ppb)	No	2018	0.9	ND - 0.9	0	10	Erosion of natural deposits; Runoff from orchards; Runoff from glass & electronics production wastes
Barium (ppm)	No	2018	0.031	0.002 - 0.025	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	No	2018	5.4	0.8 - 5.4	100	100	Discharge from steel & pulp mills; erosion of natural deposits
Copper (ppm) - consumer taps level; 90th percentile	No	2018	0.1	0 of 102 exceeding	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide (ppb)	No	2018	46	ND - 46	200	200	Discharge from steel/metal factories; Discharge from plastic & fertilizer factories
Fluoride (ppm)*	No	2018	1.28	ND - 1.28	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories
Lead (ppb) - consumer taps level; 90th percentile	No	2018	8	8 of 102 exceeding	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (ppm)	No	2018	0.11	ND - 0.11	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	No	2018	0.03	ND - 0.03	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radioactive Contaminants							
Alpha emitters (pCi/L)	No	2018	6.6	ND - 6.6	0	15	Erosion of natural deposits
Combined Radium	No	2018	0.17	ND - 0.17	0	5	Erosion of natural deposits
Disinfection Byproducts							
Chloramines (ppm)	No	2018	1.90	0.04 - 3.90	4	4	Water additive used to control microbes
Chlorine Dioxide (ppb)	No	2018	450	2 - 450	800	800	Water additive used to control microbes
Chlorite (ppb)	No	2018	0.19	0 - 0.2	0.8	1	Byproduct of drinking water disinfection
Haloacetic Acids (ppb)	No	2018	54	7 - 45	N/A	60	Byproduct of drinking water disinfection
Total Trihalomethanes (ppb)	No	2018	58	8.14 - 68	N/A	80	Byproduct of drinking water disinfection

**Fluoride level is routinely adjusted to the MS State Department of Health's recommended level of 0.6 - 1.2 $^{mg}/_{L}$.*

ABBREVIATIONS & DEFINITIONS
These definitions have been provided to help you better understand the table above.

Non-Detects (ND): laboratory analysis indicates that the constituent is not present.
Parts per million (ppm): one part per million corresponds to one minute in two years or a single penny in $10,000.
Parts per billion (ppb): one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Picocuries per liter (pCi/L): picocuries per liter is a measure of the radioactivity in water.
Millirems per year (mrem/yr): measure of radiation absorbed by the body.
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.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Treatment Technique (TT): A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
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.
Maximum Contaminant Level Goal (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.

For Customers with Special Health Concerns

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 from infections. These people 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).

Special Notice Concerning Cryptosporidium and Giardia

We constantly monitor the water supply for various constituents. We have detected Cryptosporidium and Giardia in the City of Jackson source water. We detected the constituent Cryptosporidium in 2 out of 22 samples tested and Giardia in 4 out of 22 samples tested. Cryptosporidium and Giardia are microbial parasites found in surface water throughout the United States. Although Cryptosporidium and Giardia can be removed by filtration, the most commonly used filtration cannot guarantee 100% removal. Our monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if these organisms are dead or alive. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy persons are able to overcome the disease within a few weeks. However, immune-compromised people (such as those with AIDS, undergoing chemotherapy or recent organ transplant recipients) are at greater risk of developing a severe, life-threatening illness. Immune-compromised persons should contact their doctor to learn about appropriate precautions to prevent infection. Cryptosporidium and Giardia must be taken in through the mouth to cause disease and they may be passed by other means than drinking water.

Get Involved

We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill. There are a few suggestions:

- Conservation measures you can use inside your home include:
  - ✓ Fix leaking faucets, pipes, toilets, etc.
  - ✓ Replace old fixtures; install water-saving devices in faucets, toilets & appliances.
  - ✓ Wash only full loads of laundry.
  - ✓ Do not use the toilet for trash disposal.
  - ✓ Take shorter showers.
  - ✓ Do not let the water run while shaving or brushing teeth.
  - ✓ Soak dishes before washing.
  - ✓ Run the dishwasher only when full.
- You can conserve outdoors as well:
  - ✓ Water the lawn and garden in the early morning or evening.
  - ✓ Use mulch around plants and shrubs.
  - ✓ Repair leaks in faucets and hoses.
  - ✓ Use water from a bucket to wash your car; save the hose for rinsing.

Information on other ways you can help conserve water can be found on the EPA's website at http://www.epa.gov/safewater/publicoutreach