



MISSISSIPPI STATE DEPARTMENT OF HEALTH

**REPORT OF INSPECTION OF DRINKING WATER SUPPLY**

PWS: 0750011 Class: E

An inspection of the YOKENA-JEFF DAVIS WATER DISTRICT INC water supply in WARREN county was made on 07/06/2023. Present at the time of inspection was HENRY W MUIRHEAD III, OPERATOR; WRITER. Official ROBERT GREER Address 4865 JEFF DAVIS ROAD VICKSBURG MS 39180 W.W. Operator HENRY W MUIRHEAD III Address 146 BURNTHOUSE ROAD VICKSBURG MS 39180 No. Connections 866 No. Meters \_\_\_ Population Served 2360 Field Chemical Analysis: pH \_\_\_ Cl2(free) \_\_\_ Cl2(total) \_\_\_ H2S N/A Iron \_\_\_ Fluoride \_\_\_ Point of Sampling DISTRIBUTION Water Rates \_\_\_ This inspection included a sanitary survey for compliance with the Ground Water Rule.

**COMMENTS**

Technical: 5 Managerial: 5 Financial: 5

**OVERALL CAPACITY RATING: 5.0 / 5.0**

1. This inspection served as a sanitary survey under the Ground Water Rule. As a result of this inspection, no significant deficiencies wer identified.
2. The system purchases all of its water from the City of Vicksburg. Under the Ground Water Rule, if Yokena-Jeff Davis obtains a routine positive bacteriological sample, the City of Vicksburg will be required to prove that the plant was achieving 4-log disinfection at the time.
3. At the time of inspection, the free chlorine residual was 1.54 mg/L.
4. System officials and operators should be proud of the way they manage their system. The attention to detail related to every aspect of the water system is highly commendable.
5. Since the last inspection, the elevated tank had been inspected.

GENERAL & REMINDER COMMENTS:

6. As a reminder, sample sites for monthly bacteriological samples should be rotated and the locations of those samples should be identified by their physical addresses. Also when collecting bacteriological samples, the Operator should measure and record free and total chlorine on the sample cards.
7. All steel water storage tanks should be cleaned and inspected on a regular basis and painted if needed. We recommend that steel tanks be inspected both inside and out for paint coating failure, corrosion, rust, and structural integrity at least once every five years. Records of these should be kept on file with the system and be available for review.
8. Whenever system pressure is lost, even for brief periods of time, contaminants may be introduced to the system through back flow or back-siphonage. When this occurs, Officials should notify all customers in the affected area to boil their drinking water until clear bacteriological samples have been obtained.
9. All dead-end water lines should be flushed on a routine schedule to clear the lines of sediment and stagnant water.
10. When repairs are made on the water distribution system, all lines affected should be properly chlorinated and flushed before they are placed back in service.
11. To prevent unauthorized entrance, Officials should ensure that all gates, doors, latches on tanks, etc. are kept locked at all times.

Completed by Colleen Cook on 07/07/2023.

Reviewed by Wendy Ferrill, P.E. on 07/10/2023.

If you have any questions, please call (601) 576-7518.

pc:

ROBERT GREER, OFFICIAL  
HENRY W MUIRHEAD III, OPERATOR

**Mississippi State Department of Health  
Bureau of Public Water Supply**

**FY 2024 Public Water System Capacity Assessment Form**

**NOTE:** This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply

PWS ID#: 0750011 Class: E Survey Date: 07-06-2023 County: WARREN  
 Public Water System: YOKENA-JEFF DAVIS WATER DISTRICT INC Conn: 866  
 Certified Waterworks Operator: HENRY W MUIRHEAD III Pop: 2360

**CAPACITY RATING DETERMINATION**

Technical (T) Capacity Rating: [5] Managerial (M) Capacity Rating [5] Financial (F) Capacity Rating [5]

Capacity Rating =  $\frac{T+M+F}{3} = \frac{15}{3} = 5$

**Overall Capacity Rating = 5.0**

Completed by Colleen Cook on 07/07/2023  
 Reviewed by Wendy Ferrill, P.E. on 07/10/2023

**Comments:** \_\_\_\_\_

Technical Capacity Assessment	Point Scale	Point Award
[T1] Does the water system have any significant deficiencies? [ <u>Y</u> <u>N</u> ]	N - 1 pt. Y - Opt.	1
[T2] 1) Was the water treatment process functioning properly? [ <u>Y</u> <u>N</u> ] (i.e. Is pH, iron, chlorine, fluoride, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? [ <u>Y</u> <u>N</u> ] (NOTE: Equipment deficiencies must be identified in survey report.) 3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [ <u>Y</u> <u>N</u> <u>NA</u> ] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? [ <u>Y</u> <u>N</u> ] 2) Was PWS Operations record up to date and properly maintained? [ <u>Y</u> <u>N</u> ] (Are minimum days being met based on system classification) 3) Was the water system properly maintained at the time of survey? [ <u>Y</u> <u>N</u> ] 4) Did operator/system personnel satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? [ <u>Y</u> <u>N</u> ] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
[T4] 1) Does water system routinely track water loss and were acceptable record available for review? [ <u>Y</u> <u>N</u> ] 2) Is water system overloaded? (i.e. serving customers in excess of MSDH approved design capacity)? [ <u>Y</u> <u>N</u> ] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [ <u>Y</u> <u>N</u> ] (based on operator information, customer complaints, MSDH records, other information) 4) Are well pumping tests performed routinely? [ <u>Y</u> <u>N</u> <u>NA</u> ] (NOTE: YES FOR #1 & YES OR N/A FOR #4 AND NOs FOR #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt. 4)Y - pt.	1
[T5] 1) Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [ <u>Y</u> <u>N</u> ] 2) Does the water system have a usable backup source of water? [ <u>Y</u> <u>N</u> ] (NOTE: Must be documented on survey report)	All Y - 1 pt. Else - 0 pt.	1
<b>TECHNICAL CAPACITY RATING = [<u>5</u>] (Total Points)</b>		

<b>Managerial Capacity Assessment</b>	<b>Point Scale</b>	<b>Point Award</b>
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[M2] 1) Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? <input checked="" type="radio"/> Y <input type="radio"/> N 2) Have all board members (in office more than 12 months) completed Board Member Training? <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> NA 3) Does the Board of Directors meet monthly and were minutes of Board meetings available for review during the survey? (NOTE: Quarterly meetings allowed if system has an officially designated full time manager) <input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/> NA (NOTE: ALL YESs or NAs required to receive point. NA - Not Applicable)	All Y - 1 pt. Else - 0 pt.	1
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? <input checked="" type="radio"/> Y <input type="radio"/> N	N - 1pt. Y - 0pt.	1
[M4] Has the water system developed or is in process of developing its asset management plan to support its long range improvements plan and were these plans available for review during the survey? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[M5] 1) Does the water system have an effective cross connection control program in compliance with MSDH regulations? <input checked="" type="radio"/> Y <input type="radio"/> N 2) Was a copy of the MSDH approved bacti site plan and lead/copper site plan available for review during the survey and do the bacti results clearly show that this approved plan is being followed? <input checked="" type="radio"/> Y <input type="radio"/> N (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
<b>MANAGERIAL CAPACITY RATING = [ <u>5</u> ] (Total Points)</b>		

<b>Financial Capacity Assessment</b>	<b>Point Scale</b>	<b>Point Award</b>
[F1] Has the water system raised water rates in the past 5 years? <input checked="" type="radio"/> Y <input type="radio"/> N (NOTE: Point may be awarded if the water system provides acceptable financial documentation clearly showing that a rate increase is not needed, i.e. revenue has consistently exceeded expenditures by at least 10%, etc.)	Y - 1pt. N - 0pt.	1
[F2] Does the water system have an officially adopted policy requiring that water rates be routinely reviewed and adjusted as appropriate and was this policy available for review during the survey? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[F3] Does the water system have an officially adopted cut-off policy for customers who do not pay their water bills, was a copy of this policy available for review by the regional engineer, and do system records (cut-off lists, etc.) clearly show that the water system effectively implements this cut-off policy? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[F4] Was a copy of the water system's officially adopted annual budget available for review by the regional engineer and does the water system's financial accounting system clearly and accurately track the expenditure and receipt of funds? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[F5 - Municipal Systems] 1) Was a copy of the latest audit report available for review at the time of the survey? <input type="radio"/> Y <input type="radio"/> N 2) Does this audit report clearly show that water and sewer fund account(s) are maintained separately from all other municipal accounts? <input type="radio"/> Y <input type="radio"/> N (NOTE: Yes answer to all questions required to receive point.)	All Y - 1 pt. Else - 0 pt.	
[F5 - Rural Systems] 1) Was the latest financial report / audit report available for review? <input checked="" type="radio"/> Y <input type="radio"/> N 2) Does the latest financial report show that receipts exceeded expenditures? <input checked="" type="radio"/> Y <input type="radio"/> N (NOTE: Yes answer to both questions required to receive point)	All Y - 1 pt. Else - 0 pt.	1
<b>FINANCIAL CAPACITY RATING = [ <u>5</u> ] (Total Points)</b>		



**MISSISSIPPI STATE DEPARTMENT OF HEALTH**

MISSISSIPPI DEPARTMENT OF HEALTH  
BUREAU OF PUBLIC WATER SUPPLY  
DESIGN CAPACITY SHEET

System: YOKENA-JEFF DAVIS WATER DISTRICT INC  
ID: 0750011 Class: E County: WARREN

Date Completed: 07/07/2023  
Connections - Actual: 866 Equivalent: 16089  
Design Capacity: 22005 Percent Design Capacity:  $16089/22005 = 73.1\%$

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BOOSTER STATION DESIGN CAPACITIES:

FAIRVIEW:

This system has a booster station with two 30 GPM VFD pumps and a 300 gallon collector tank. While not typical design of a booster station, engineering and manufacturing materials show that this booster station can adequately support the connections.

Residential Connections = 17  
Is the booster station overloaded? NO  
Booster Credit = 17 connections

REDBONE:

This system has a booster station with two 250 GPM pumps, a 19,000 gallon collector tank, hydraulics showing a flow of 389 GPM into the collector tank, and a 75,000 gallon elevated tank. The maximum number of connections that can be used as booster station credit is:  $(389 \text{ gal/min} + 19,000 \text{ gal}/200 \text{ min} + 75,000/200) = 859$ .

Residential Connections = 316  
Booster Design Capacity = 859  
Is the booster station overloaded?  $316/859 = 0.368$ ; 36.8%; NO  
Booster Credit = 316 connections

Total Booster Station Credit = 17 + 316 = 333 connections

# of actual connections = 866

EQUIVALENT CONNECTIONS = 866

THIS SYSTEM PURCHASES WATER FROM THE CITY OF VICKSBURG. THE CAPACITY IS EQUAL TO THE CITY OF VICKSBURG'S CAPACITY (22,005 CONNECTIONS). A HYDRAULIC ANALYSIS SHOULD BE COMPLETED ON THIS SYSTEM WHEN NEW CONNECTIONS ARE ADDED. THE EQUIVALENT CONNECTIONS FOR THIS SYSTEM IS BEING SET EQUAL TO THE EQUIVALENT CONNECTIONS FOR THE SUPPLYING SYSTEM (16,089 CONNECTIONS) WHICH INCLUDES THE DEMAND REQUIREMENT FOR THIS SYSTEM (866 CONNECTIONS).

THEREFORE THIS SYSTEM IS CURRENTLY AT  $16089/22005 * 100\% = 73\%$  CAPACI

**MISSISSIPPI STATE DEPARTMENT OF HEALTH  
BUREAU OF PUBLIC WATER SUPPLY  
MASTER DATA SHEET**

Name of Supply Yokena-Jeff Davis Water District Owner District  
 County Warren Class E Date of Last Inspection 07/07/2023  
 Master Meter Yes PWS ID Number 0750011  
 Supply Source: Purchase  Surface  Ground  Number of Wells None

Well Data:  
Well ID NO. Location Year Const. Cap. (GPM) Pres. Casing Screen Depth Controls  
 THIS WATER SUPPLY BUYS FROM THE CITY OF VICKSBURG

Treatment: Iron  Softening  Corrosion  Chlorine  Fluoride

	<u>NO.</u>	<u>TYPE</u>	<u>CAPACITY</u>	<u>REMARKS</u>
Aerator				
Flash MIX				
Flocculator				
Settling				
Gravity Filter		Media		
Pressure Filter		Media		
Chlorinator				
Fluoridator				
Chemical Feeder				

<u>Storage:</u>	<u>Location</u>	<u>Material</u>	<u>Capacity</u>	<u>Remarks</u>
Elevated (1981)	Redbone Road	Steel	75,000 gallons	90'-3" to Bot; 110' to OF
*inspected July 2021				

<u>Booster Stations:</u>				
<u>Location</u>	<u>Collector Tank</u>	<u>Pumps</u>	<u>Storage Tank</u>	<u>Served</u>
Fairview Rd	300 gallons	Two 30 GPM VFD @ 85 psi	none	17 conn
Red Bone Rd	19,000 gallons	*Two 250 GPM	Elevated Tank	316 conn
*upgraded to soft start in 2021				

Notes: Diesel Generator on Red Bone Booster, Propane Generator on Fairview Booster