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MISSISSIPPI STATE DEPARTMENT OF HEALTH

REPORT OF INSPECTION OF DRINKING WATER SUPPLY

PWS: 0240060 Class: D

An inspection of the NAVAL CONSTRUCTION BATTAL CTR water supply in HARRISON county was made on 02/19/2010. Present at the time of inspection was RICHARD A SOWERS, OPERATOR; GORDON CULPEPPER, OPERATOR; WRITER. Official ROMEO COLEMAN Address 2401 UPPER NIXON AVE CODE 410 GULFPORT MS 39501 W.W. Operator RICHARD A SOWERS Address 100 TIMOTHY LANE OCEAN SPRINGS MS 39564 No. Connections 1117 No. Meters Population Served 2938 Field Chemical Analysis: pH Cl2(free) 1.9 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: N/A
OVERALL CAPACITY RATING: 5.0 / 5.0

1. This inspection serves as the Sanitary Survey as required under the Ground Water Rule. The following aspects of the water system were evaluated: source, treatment, distribution system, finished water storage, pump/pump facilities/controls, monitoring/reporting/data verification, water system management/operation, and operator compliance. No significant deficiencies were observed during the survey.
2. The design capacity calculations attached to this report and the table below give the required minimum chlorine residual near each entry point. Should system officials choose to conduct 4-log virus inactivation to comply with the Groundwater Rule, the free chlorine residual will have to be measured and recorded at least daily at or before the first customer near each entry point and must meet the minimum residuals given below.

Location	Required minimum
Well #02 First Connection	0.2 mg/L
Well #04 First Connection	0.3 mg/L
Well #05 First Connection	2.2 mg/L
3. It is possible to obtain a lower residual for Well #05 by adding a storage tank in the well yard. This will increase contact time and will decrease the required minimum chlorine residual.

4. At the time of inspection, the water system appeared to be well maintained and operating properly.
5. No pressure problems were reported at the time of inspection.
6. The system has a generator at each well to provide water in the event of a power outage.
7. Before any improvements are made on the water system, plans and specifications must be submitted by a Registered Professional Engineer licensed to practice in Mississippi. Plans and specifications must be approved by the Mississippi Department of Health-Bureau of Public Water Supply before any construction can begin.
8. 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.
9. All dead-end water lines should be flushed on a routine schedule to clear the lines of sediment and stagnant water.
10. Whenever system pressure is lost, even for brief periods of time, contaminants may be introduced to the system through back-siphonage and back flow. When this occurs, system officials should notify all customers in the affected area to boil their drinking water until clear bacteriological samples have been obtained.

Completed by Wendy Ferrill, P.E. on 02/22/2010.

Reviewed by Keith Allen on 02/25/2010.

If you have any questions, please call (228)297-5187.

pc:

ROMEO COLEMAN, OFFICIAL
RICHARD A. SOWERS, OPERATOR


**Mississippi Department of Health
Bureau of Public Water Supply**
NON-TRANSIENT, NON-COMMUNITY FORM
FY 2010 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#: 0240060 Class: D Survey Date: 02-19-2010 County: HARRISON
 Public Water System: NAVAL CONSTRUCTION BATTAL CTR Conn: 1117
 Certified Waterworks Operator: RICHARD A SOWERS Pop: 2938

CAPACITY RATING DETERMINATION

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

$$\text{Capacity Rating} = \frac{T+M}{2} = \frac{10}{2} = 5$$

Overall Capacity Rating = 5.0

Completed by Wendy Ferrill, P.E. on 02/22/2010

Reviewed by Keith Allen on 02/25/2010

Comments: _____

Technical Capacity Assessment	Point Scale	Point Award
[T1] 1) Was the water treatment process functioning properly? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N (i.e. Is pH, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at time of survey? (No significant deficiencies/adequacy of security) <input checked="" type="radio"/> Y <input checked="" type="radio"/> N (NOTE: Equipment deficiencies must be identified in survey report.) (NOTE: All YESs or NAs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
[T2] 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? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N <input checked="" type="radio"/> NA	Y - 1pt. N - 0pt.	1
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N 2) Was log book up to date and properly maintained and did it show that MDH Minimum Job Guidelines for W.W. Operators were being met? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N 3) Was water system properly maintained at time of survey? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	1
[T4] 1) Does water system routinely track water production and were acceptable water production records available for review by the regional engineer? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N 2) Is water system overloaded? (i.e. serving customers in excess of MDH approved design capacity)? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? <input checked="" type="radio"/> Y <input checked="" type="radio"/> N (based on operator information, customer complaints, MSDH records, other information) (NOTE: YES for #1 and NOs for #2 & #3 required to receive point)	1) Y - pt. 2) N - pt. 3) N - pt.	1
[T5] Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) <input checked="" type="radio"/> Y <input checked="" type="radio"/> N NOTE: Systems may provide bottled water if included as part of a published emergency plan.	Y - 1pt. N - 0pt.	1
TECHNICAL CAPACITY RATING = [<u>5</u>] (Total Points)		

Management Capacity Assessment	Point Scale	Point Award
[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] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies and procedures available for review during the survey? <input checked="" type="radio"/> Y <input type="radio"/> N	Y - 1pt. N - 0pt.	1
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? <input type="radio"/> Y <input checked="" type="radio"/> N	N - 1pt. Y - 0pt.	1
[M4] Has the water system developed a preventive maintenance schedule and was a copy of this schedule available for review during 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 MDH approved bacti sample site plan and lead and copper sample site plan available for review and do bacti results clearly show this approved plan is being used for all bacti monitoring? <input checked="" type="radio"/> Y <input type="radio"/> N	All Y - 1 pt. Else - 0 pt.	1
MANAGEMENT CAPACITY RATING = [<u>5</u>] (Total Points)		

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

System: NAVAL CONSTRUCTION BATTAL CTR
ID: 0240060 Class: D County: HARRISON

Date Completed: 02/22/2010
Connections - Actual: 1117 Equivalent: 1117
Design Capacity: 5000 Percent Design Capacity: $1117/5000 = 22.3\%$

Design Capacity = Well Capacity + (Elevated Storage / 200)

Well Capacity = 500 + 1000 + 1000
Well Capacity = 2500

Elevated Storage = 500,000 + 200,000
Elevated Storage = 700,000

Design Capacity = 2500 + (700,000 / 200)
Design Capacity = 2500 + 3500
Design Capacity = 6000

NOTE: Design Capacity limited to two times (2X) the Well Capacity.
Design Capacity = 2500 * 2 = 5000

% of Design Capacity = (# of existing connections / design capacity) * 100
% of Design Capacity = (1117 / 5000) * 100
% of Design Capacity = 22

GROUNDWATER RULE CALCULATIONS:

Well #02: T = 68F + 9 = 77F
CT = 2.0 mg*min/L

C = 2.0 mg*min/L / ((142ft*5.9gal/ft)/500GPM + (79ft*2.6gal/ft)/250GPM +
(771ft*2.6gal/ft)/125GPM + (50ft*2.6gal/ft)/63GPM)

C = <0.2 mg/L *Therefore, the minimum residual of free chlorine at the first connection
should be 0.2mg/L in order to comply with the Groundwater Rule and the
Safe Drinking Water Act.

Well #04: T = 68F + 8 = 76F
CT = 2.1mg*min/L

C = 2.1mg*min/L / ((47ft*2.6gal/ft)/1000GPM + (181ft*2.6gal/ft)/500GPM +
(362ft*2.6gal/ft)/250GPM + (94ft*2.6gal/ft)/125GPM)

C = 0.3 mg/L *Therefore, the minimum residual of free chlorine at the first connection
should be 0.3mg/L.

Well #05: T = 68F + 7 = 75F
CT = 2.2mg*min/L

C = 2.2mg*min/L / ((63ft*2.6gal/ft)/1000GPM + (118ft*2.6gal/ft)/500GPM +
(275ft*0.2gal/ft)/250GPM)

C = 2.2 mg/L *Therefore, the minimum residual of free chlorine at the first connection
should be 2.2mg/L.

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

Name of Supply Naval Construction Battalion Center Owner U.S. Navy

County Harrison Class D Date of Last Inspection 02-19-10 Master Meter Yes

PWS ID Number 0240060 Design Capacity 5000 Connections Served 1117(eq)

Supply: Source: Purchase Surface Ground Number of wells Five

Well Data:

<u>Well ID No.</u>	<u>Location</u>	<u>Year Const.</u>	<u>Cap. gpm</u>	<u>Pres.</u>	<u>Casing</u>	<u>Screen</u>	<u>Depth</u>	<u>Cl2 Setting</u>
240060-01	Plant 1	1942	600		10"		1196'	Abandoned
* 02	Plant 2	1942	500		10"		854'	10
03	Plant 3	1943	500		10"		761'	Abandoned
** 04	McKinney Ave.	1978	1000		16"	10"	746'	30
*** 05	Brown Ave	1978	1000		16"	10"	722'	35

* Master meter reading 275 GPM and 482916000 gallons on 02-19-10.

** Master meter reading 60984100 gallons on 02-19-10.

*** Master meter reading 1100 GPM and 436138000 gallons on 02-19-10.

Treatment: Iron Softening Corrosion Chlorine Fluoride

	<u>No.</u>	<u>Type</u>	<u>Capacity</u>	<u>Remarks</u>
<u>Aerator</u>				
<u>Flash Mix</u>				
<u>Flocculator</u>				
<u>Settling</u>				
<u>Gravity Filter</u>		<u>Media</u>		
<u>Pressure Filter</u>		<u>Media</u>		
<u>Chlorinator</u>	3	Advance 200	100 ppd	Switchover
<u>Fluoridator</u>				
<u>Chemical Feeders</u>				

<u>Storage:</u>	<u>Location</u>	<u>Material</u>	<u>Capacity</u>	<u>Remarks</u>
Elevated	Next to Office	Steel	500,000	const. 1985, bottom 97' 10"
Elevated	Well 4	Steel	200,000	const. 2004, OF 134' 6"

<u>Service Pumps:</u>	<u>No.</u>	<u>Location</u>	<u>Capacity gpm</u>	<u>Head</u>	<u>Controls</u>
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<u>Booster Stations:</u>	<u>Location</u>	<u>Collector Tank</u>	<u>Pumps</u>	<u>Storage Tank</u>
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