



Arkansas Department of Health

4815 West Markham Street • Little Rock, Arkansas 72205-3867 • Telephone (501) 661-2000
Governor Asa Hutchinson
José R. Romero MD, Secretary of Health

Engineering Section, Slot 37 Ph (501) 661-2623 Fax (501) 661-2032
www.healthy.arkansas.gov/eng After Hours Emergency (501) 661-2136

November 20, 2020

Richard Sandvos, Operator
Baxter Marion Rural Water Association
P.O. Box 67
Oakland, AR 72661

RE: Sanitary Survey, July 8, 2020
Public Water System: Baxter Marion Rural Water Association (PWS #1178)

Dear Mr. Sandvos:

Enclosed are a copy of the Sanitary Survey for your system that was conducted recently with your assistance, and a schematic drawing of the system. Please read and review all comments and notes in this survey for actions your system needs to undertake. If there are any questions, or you see corrections that should be made, please contact me by telephone at (501) 661-2623 or by email at: stanley.starling@arkansas.gov.

Your water system is required by Public Law 93-523 to keep a copy of this survey for a minimum of 10 years. This survey should be filed in a central location that will be accessible to the public.

Thank you for your assistance during the survey visit; it was a pleasure to work with you. If I may be of help to you, or if you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Stan Starling".

Stanley F. Starling
Environmental Health Specialist
Division of Engineering

RT:TJJ:SS:ss

Enclosures

Public Water Supply Sanitary Survey

Arkansas Department of Health

Name of System Baxter-Marion Water Association
County Baxter & Marion Counties
Date of Survey July 8, 2020
Survey by Stanley F. Starling
Title Environmental Health Specialist

Public Water Supply Sanitary Survey

Arkansas Department of Health

Name of System: Baxter-Marion Rural Water Association PWS # 1178
 Address: P.O. Box 67, Oakland, Arkansas 72661
 Manager: Rich Sandvos License #: 10337D1 Telephone #: Office 870-431-0050
 Alternate Telephone #: _____ Cell #: 901-497-4667 Fax #: _____ E-mail Address: bmrwal@gmail.com
 Distribution System Supervisor: Rich Sandvos License #: 10337D1 Telephone #: _____
 Number of Licensed Employees: 1 # of Treatment Licenses: 0 # of Distribution Licenses: 1
 Mayor/Chairman/President/Other: Mike Scrima (H) Telephone #: 870-404-9001 (cell)
 Address: P.O. Box 67, Oakland, AR 72661 (bmrwal@gmail.com) (W) Telephone #: 870-404-9001
 # of Services: 163 % Metered: 100 Total Pop. Served: 399 Retail Pop. Served: 399 Consecutive Pop. Served: 0
 # Domestic: 148 # Commercial: 15 # Wholesale: 0 # Industrial: 0 # Irrigation: 0
 Engineering District: 2 County Name: Baxter and Marion County Code #: 3 and 45
 Plumbing Inspector: Kenny Logan License #: PI 03203

Plant Name & ID	Type of Plant	Construction Date	# of Sources	Type(s) of Source
Lakeview Midway MM	NA	2014	1	Purchased

Maximum System Capacity: 0.230 MGD (All Plants)
 Total System Storage: 0.175 MG Useable System Storage: 0.175 MG

2019 Production Figures								
System Segment Plant Name & ID	Capacity (MGD)	Limiting Factor	Code	Maximum Demand		Average Demand		Population Served
				(MGD)	%Cap.	(MGD)	%Cap.	
Baxter-Marion MM (ID #1178101)	0.230	HS pumps	6	.056*	24.3%	.022	9.6%	399
Primary System	0.230	HS pumps	6	.056*	24.3%	.022	9.6%	399
Consecutive Systems		PWS ID #	Status					
none								
Water Pumped in 2019	8,125,300	(Status: P - Primary, E - Emergency, I - Intermittent, O - Other)						
Water Sold in 2019	3,875,028	* Raw Water Pumping; † Hydraulic Capacity; ‡ PC = Purchase Contract; §						
Unmetered in 2019	NA	*Daily Maximum is estimated based on high days not including preceding 3-day weekend, there is also an annual maximum based on contract.						
Unaccounted-for Water	4,250,272							
Percent Unaccounted-for	52.3%							

Estimated Calculated

Identify Significant Deficiencies: None identified.

Give brief evaluation of system condition and operation: Water loss is excessive; System should obtain service for a leak survey. Baxter-Marion system has the potential to connect 273 customers. The system had 163 connected at the time of this sanitary survey. Additional service lines have been run, but potential customers have not requested meter connection. Some potential customers have their own wells and may not sign up until they have problems with their private wells. Many of the residences are seasonal. The commercial customers connected are 9 resorts, 1 café, 2 fire stations, 2 community centers and 1 church.

An inlet/outlet change for the tank seems to have improved mixing, but there are still problems with low chlorine in the distribution system. Customers using wells are being checked individually to ensure they do not have a cross connection with the system. John Selig, Engineer, is currently working with the system to secure funding for some needed projects. The system does not have a way to continuously monitor chlorine levels leaving MM, which is some distance from the tank.

Public Water Supply Sanitary Survey

Arkansas Department of Health

Name of System: Baxter-Marion Rural Water Association PWS # 1178

Purchase Source

Source Entity ID #: 101

Source: (#1 of 1)

PWS Source Name: Lakeview Midway Water

PWS ID #: 027 Maximum Purchase Agreement: 78 million gallons per year.

- | <u>Yes</u> | <u>No</u> | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Are maximum purchase agreements adequate? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Has the system been free from shortages of source in the past? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Does source system have adequate emergency plan? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Is source system's overall operation in accordance with the regulations? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Is master meter read routinely and reading recorded? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. Is connection to source system adequate? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. Is connection to source system provided with adequate backflow prevention? |

Comments: Lakeview Midway Water system owns and maintains the pump station, pumps and master meter providing water to the Baxter Marion Rural Water Association storage tank. The Baxter Marion water system starts at the pump station fence line at the pump station. The telemetry system at the Baxter Marion storage tank belongs to Lakeview Midway as it controls the pumps at the pump station. Lakeview-Midway is responsible for the operation and maintenance of the telemetry system. Daily maximum capacity is based on pumping capacity, with an annual contract maximum of 78 million gallons per year. No booster chlorination is provided.

Public Water Supply Sanitary Survey

Arkansas Department of Health

Name of System: Baxter-Marion Rural Water Association

PWS # 1178

Monitoring, Reporting, and Data Verification

Laboratory Testing & Equipment				
Lab Tests	Frequency	Sample Location	Method	Make & Model #
Chlorine Residual	Daily	Various	DPD	Hach Pocket Colorimeter 2

Calibration Records					
Chlorine Residual Sample Location	Calibration Frequency	Date Last Calibrated	Are Calibration Logs Available	Field Verification	
				ADH DR 900 Results	System Results
Community Center				0.02	0.02
Tank Inlet/Outlet (12:10 PM)				0.02/0.07 F	
Hwy 5 flush valve -pre/post (1:35 PM) 20 min. flushing*				0.27/0.33 F	
Oakland Park (COE) pre/post flushing (3:40 PM)				0.11/0.41 F	
*Call to Lakeview Midway Operator gave 0.88 reading at MM					

- Yes No N/A
- 1. Are laboratory facilities, testing equipment, and procedures, accurate, adequate, and operable?
 - 1.1 Are records of lab tests being maintained?
 - 1.2 Do reagents used have an unexpired shelf life?
 - 1.3 Are continuous turbidimeters and recorders provided on each filter?
 - 1.4 Is continuous chlorine analyzer and recorder provided on plant effluent?
 - 2. Is all routine compliance monitoring up-to-date? (Check monitoring status report.)
 - 2.1 Are the proper numbers of bacti samples being collected? Number required? 3
 - 2.2 For surface systems with conventional treatment, is raw water alkalinity being monitored?
 - 2.3 For systems using chlorine dioxide, are daily entry point analysis for ClO₂ residual and Chlorite being collected and reported?
 - 3. Is the system monitored according to ADH approved methods and sample site plan(s)? Bacti CT Disinfectant Residual THM HAA5 ClO₂ Residual Distribution System Samples (N/A) Chlorite Distribution System Samples (N/A) Other _____
 - 4. Is the system in compliance with the monitoring and reporting requirements of the Lead and Copper Rule as outline in their approved Optimal Corrosion Control and Treatment plan?
 - 5. Are fluoride check samples submitted monthly?
 - 6. Are daily fluoride analyses performed, results recorded, and submitted monthly?
 - 7. Does the system accurately complete Monthly Operational Report forms?
 - 7.1 Has the system submitted Monthly Operational Report forms on time?
 - 7.2 Does the system have the proper records on file and available for review? Sanitary Surveys Bacteriological and Chemical Analysis Reports Source Water Assessment Report Sample Site Plans Optimal Corrosion Control and Treatment Plan for Lead & Copper Rule (N/A) Disinfection Profile and Benchmark Report (N/A) Individual Filter Monitoring Data (N/A) Filter Profile Report (N/A) Filter Self-Assessment Report (N/A) CPE report (N/A) CCR Other _____

Comments: The system began connecting customers and providing water in March, 2015. Locations have been identified within the Oakland Community Building office to file all required reports, plans and correspondence from ADH. Additional colorimeter test kits should be obtained if board members want to keep kits in their possession. All kits should be checked for calibration. Cause of the low chlorine residual leaving the tank should be determined, and an adequate chlorine level maintained throughout the system.

Name of System: Baxter-Marion Rural Water Association

PWS # 1178

Pumping Facilities

Name / Location	Pump Type	Capacity (GPM)	TDH (Ft)	Motor HP	Function	Control System
#1 Pump	CT	160	285	20	Fill Storage Tank	Tank Level telemetry
#2 Pump	CT	160	285	20	Fill Storage Tank	Tank Level telemetry

- | | |
|-------------------------------------|--------------------------|
| <u>Yes</u> | <u>No</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

 1. Pump redundancy, capacity, location, power supply, or controls do not result in negative or repetitive low pressures or water quality problems.
- | | |
|-------------------------------------|----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> * |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

 2. Finished water pump well/clearwell is watertight. Not Applicable
- | | |
|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|

 3. No cross connections exist; i.e.: water sealed pumps utilizes only potable water: heating and cooling water are not returned to the reservoir or distribution system.
- | | |
|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|-------------------------------------|--------------------------|

 4. Pump lubricants other than potable water are NSF 60/61 or FDA listed.

Comments: 2. Water is provided by Lakeview Midway through the master meter at pump station on Highway 5. Pumps are owned by Lakeview-Midway, with two of the four pumps at this facility pumping to Baxter-Marion. Baxter-Maarion has no direct access to real-time chlorine level entering the system.

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Storage Facilities

Name / Location	Total Capacity (Gallons)	Usable Volume (Gallons)	Type of Storage	Overflow Elevation (Ft - MSL)	Control System
#1 Tank	175,000	175,000	Elevated	1190	telemetry
Total:	175,000	175,000	Useable Storage at Average Demand: 190.9 Hours		Total Storage at Average Demand: 190.9 Hours

Tank Inspection

Name	Last Inspection	Last Inside Paint	Last Outside Paint	Overflow location	Comments
#1 Tank	2/16/2018	2014	2014	base	Report on file

- | Yes | No | |
|-------------------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Are the storage tanks in a state of good repair and maintained to ensure water quality and the reliability of the water system? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.1 Are overflow line, air vent, drain line and roof hatch properly constructed, covered or screened? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.2 Do low water levels provide adequate pressures? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.3 The interior tank conditions/coatings do not pose a threat to public health. <input type="checkbox"/> Unknown |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.4 Are instruments and controls adequate, operational and being utilized? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.5 Are sites properly drained and protected from flooding? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.6 Is control valve pit properly drained and protected from flooding? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.7 Are tanks adequately protected against corrosion? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.8 Are sites adequately protected against vandalism? <input checked="" type="checkbox"/> Site fenced and locked <input checked="" type="checkbox"/> Roof hatch locked
<input checked="" type="checkbox"/> Bottom rung of ladder removed <input type="checkbox"/> Other _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.9 Are tanks disinfected after cleaning and/or repairs? |
| | | 1.10 What is the inspection / cleaning frequency for the tanks? <u>Tank constructed 2014 and put into service 2015</u>
<u>Recommend inspection every 2-5 years.</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Can tank be isolated from system and drained? |

Comments: The telemetry system had some initial problems when first started. The Baxter Marion operator now has digital access to the telemetry from the pump station and the storage tank. Lightning later damaged the GFI circuit and created additional problems. Direct readout of MM data not currently available remotely. John Selig reviewed tank operation and made inlet/outlet changes which improved mixing. Inspection by Liquid Engineering on 2/16/2018 made several recommendations, two on an emergency basis, but these two did not directly affect water quality.

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Distribution System

- | <u>Yes</u> | <u>No</u> | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Are pressures in all portions of the system maintained above 20 psi during peak demand?
If no, give reason: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Is a detectable disinfectant residual level maintained in all portions of the system? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Is a sufficient number of valves provided, properly located, and are they accessible? |
| <input type="checkbox"/> | <input type="checkbox"/> | 3.1 Does the system have a valve exercise / replacement program? |
| | | 4. What piping materials are used? (Estimate percentage) <u>0.1% DI:CI</u> <u>99.9% PVC</u> _____ Galvanized
_____ AC Other: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Has the distribution system been free of water quality problems? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. Does the system have an adequate maintenance and flushing program? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. Are mains and appurtenances properly flushed, disinfected and tested after repairs or extensions? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8. Is a licensed plumbing inspector available? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. Does the system have a meter replacement program? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 10. Does the system have a leak detection program? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 11. Is the overall condition of the distribution system acceptable? |

Comments: Measured chlorine levels were rather low on the survey date, as has been found on previous surveys. Frequent flushing seems necessary to maintain chlorine in distribution system. This is an expensive drain on the system's resources, and a better solution is desired.

Cross-Connection Control

- | <u>Yes</u> | <u>No</u> | <u>N/A</u> | |
|-------------------------------------|--------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. Does the system have an active Cross-Connection Control Program? |
| | | <input type="checkbox"/> | 1.1 Who is responsible for the Cross Connection Control Program? <u>Patrick VanAssche</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 1.2 Does the governing body have an ordinance, by-law or written resolution specifically addressing cross connection control? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 1.3 Is the system requiring annual testing of backflow preventers and keeping records of the tests? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 2. Is the system free of high-hazard unprotected cross-connections? <input type="checkbox"/> Treatment Plant
<input type="checkbox"/> Pumping Facilities <input type="checkbox"/> Distribution |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 3. Is a Cross-Connection Control Program being enforced for high-hazard services? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.1 Have all commercial and industrial customers been surveyed? |

Comments: All service connections have a double check valve backflow prevention device on the service line. The service cannot be activated until all backflow prevention requirements are met and it is inspected by the operator

Name of System: Baxter-Marion Rural Water Association

PWS # 1178

System Operations & Management

Identify the management structure of water system.

- Mayor/Council Board of Directors Commission Other _____

MEMBERS NAME	TITLE	TERM EXPIRES
Mike Scrima	President	1 st Thur. in Aug., 2022
Paul Otten	Vice-President	" 2020
Marilyn Strawhun	Secretary	" 2020
Rod Brackett	Member	" 2020
Bret Cruthis	Membe	" 2021
Dave Pearson	Member	" 2021
Roger Haesele	Member	" 2022
Rich Sandvos	Operator/Manager	(Employee)

- | | |
|---|--|
| <p>Yes <input type="checkbox"/></p> <p>No <input checked="" type="checkbox"/></p> | <p>1. Is a current (i.e. less than 10 years old) Long-Range Plan/Master Plan on file with ADH?
 <input type="checkbox"/> Long Range Plan (Date _____) <input type="checkbox"/> Master Plan (Date _____)</p> <p>2. A written emergency plan is on file at the water system. <u>Date: July, 2019</u></p> <p>3. The emergency plan is up to date and contains the proper names, numbers, etc.</p> <p>4. Management provides the necessary budget, personnel, security measures, maintenance or repair parts to meet regulatory requirements and provide for the production of an adequate quantity of safe drinking water.
 <input type="checkbox"/> Adequate budget <input type="checkbox"/> Sufficient / Qualified staff <input type="checkbox"/> Adequate / Sufficient parts inventory
 <input type="checkbox"/> Other _____</p> <p>5. Have all major modifications (since previous survey) been approved by ADH?</p> <p>6. Are the systems records being maintained according with regulatory requirements?
 <input type="checkbox"/> Maintenance and repair records <input type="checkbox"/> System maps <input type="checkbox"/> Operating reports</p> <p>7. Is the maximum demand less than 80 percent of capacity (i.e. source, plant, pumping)? If no, discuss corrective actions.</p> <p>8. If the system has greater than 15% unaccounted for water, are corrective actions being taken? Discuss corrective actions. (<input type="checkbox"/> N/A) <u>Continued leak detection & changes are being discussed to stabilize chlorine levels. It may be necessary to obtain leak detection services.</u></p> <p>9. Has the system been free of any violations since the last survey?
 <input type="checkbox"/> TCR <input type="checkbox"/> MRDL <input type="checkbox"/> IOC <input type="checkbox"/> VOC <input type="checkbox"/> SOC <input type="checkbox"/> Radio-chemicals
 <input type="checkbox"/> THM (<input type="checkbox"/> N/A) <input type="checkbox"/> HAA5 (<input type="checkbox"/> N/A) <input type="checkbox"/> Bromate (<input type="checkbox"/> N/A) <input type="checkbox"/> Chlorite (<input type="checkbox"/> N/A)
 <input type="checkbox"/> Combined filter turbidity (<input type="checkbox"/> N/A) <input type="checkbox"/> Plant Effluent Disinfectant Residual (<input type="checkbox"/> N/A)
 <input type="checkbox"/> CT <input type="checkbox"/> Enhanced Coagulation - TOC removal (<input type="checkbox"/> N/A) <input type="checkbox"/> Other _____</p> <p>10. Is system's Disinfection By-Product levels less than 80% of the MCL and not trending upward significantly since the last survey? <input type="checkbox"/> TTHM <input type="checkbox"/> HAA5 <input type="checkbox"/> Bromate (<input type="checkbox"/> N/A) <input type="checkbox"/> Chlorite (<input type="checkbox"/> N/A)</p> <p>11. What is the required license grade level for this system? Distribution <u>2</u></p> <p>12. Does system have a completed source water assessment? (<input checked="" type="checkbox"/> N/A)</p> <p>13. Is source water assessment report on file and accessible to the public? (<input checked="" type="checkbox"/> N/A)</p> |
|---|--|

Comments: Long Range Plan is needed. discussion with Operator included several planned activities, but a written plan by the Board was not available. Emergency plan is being updated. 8. Since increased flushing has been instituted to maintain chlorine in system, a more complete record of flushing should be kept to better determine water loss. Water loss is excessive; System should obtain service for a leak survey.

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Name of System: Baxter-Marion Rural Water Association

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Operator Certification

- 1. The operator(s) or responsible person(s) in charge of the treatment facility and/or distribution facilities have the required State certification.
- 2. Are all persons making individual judgements that affect water quality properly licensed?
- 3. Does the system have a sufficient number of licensed staff to perform all water quality related duties?
- 4. Are operators provided training in the proper use of safety equipment?

Operator	Title	License #
Rich Sandvos	Manager/Operator	10337D1
Mike Treat	Back-up	Training planned.

Comments: A licensed back-up operator is needed. Part-time help is available, and assistant plans to obtain licensing.

Contact Information

Emergency Contact Person: Rich Sandvos

Emergency Contact Phone Number: 901-497-4667 (cell)

Type Code	Contact Name	Title	Mailing Address	City	State	Zip Code	E-Mail
A, B, I, R, D	Richard Sandvos	Manager/Operator	P.O. Box 67	Oakland	AR	72661	bmrwal@gmail.com
O I	Mike Scrima	Chairman	P.O. Box 100	Oakland	AR	72661	vacation@blackoakresort.com: bmrwal@gmail.com

Type Codes: A - Primary Contact; B - Bacteriological Sample Bottle Mailing; \$ - Billing; O - System Owner / Responsible Party; Z - Administrative Address; F - Fax; M - Mobile Phone; G - Pager; W - World Wide Web Site; I - Internet E-Mail; R - Operator; T - Water Treatment Plant / Facility; D - Distribution Facility; P - Pumping Facility; S - Storage Facility; L - Location; E - Employee; V - Vendor; X - Other

BAXTER - MARION SCHEMATIC

BAXTER-MARION RURAL WATER ASSOCIATION

PWSID #1178

(REV 7/27/2020, by SFS)

MM #1178101
PUMP STATION ON HWY 5 (2
X 160 GPM CT VARIABLE
SPEED 20 HP PUMPS)

Pump station, pumps, master meter and
telemetry system installed on tank is owned and
operated by Lakeview Midway Water.

175,000 GAL
STORAGE TANK

OF 1190' msl
Base elev. 1090'

DISTRIBUTION

PWS #1178

Baxter-Marion PWS

Survey Date: 7/8/2020

Revised: 7/27/2020