EPA United States Environmental Protection Agency

Region 6 - Enforcement & Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	06/27/2023	
Media Program:	Water	
Regulatory Program(s)	AWIA/SDWA	
Facility Name:	**Arkadelphia Waterworks**	
Facility Physical Location:	700 Clay St	
(city, state, zip code)	Arkadelphia, AR 71923	
Mailing address:	Arkadelphia Waterworks P.O. Box 495	
(city, state, zip code)	Arkadelphia, AR 71958	
County/Parish:	Clark County	
Facility Phone Number	870-246-2321	
Facility Contact:	Dale Box	Arkadelphia Water System Manager
	dbox@cityofarkadelphia.com	
FRS Number:	N/A	
Identification/Permit Number:	AR0000085	
Media Identifier Number:	N/A	
NAICS:	N/A	
SIC:	N/A	

Personnel participating in inspection:		
Dale Box	Arkadelphia Waterworks	System Manager
David Green*	Arkadelphia Waterworks	Utilities Manager
Jake Okun	PG Environmental	EPA Contract Inspector
Mike McFadden	ERG	EPA Contract Inspector
Austin Benning	Arkansas Department of Health	District Engineer

EPA Lead Inspector: Jake Okun Signature/Date		8/17/2023
	Jake Okun (PG Environmental)	Date

* David Green participated in the inspection via a phone call that took place at approximately 12:00 p.m. on June 27 2023.

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

On June 27, 2023, U.S Environmental Protection Agency (EPA) Region 6 contract inspectors from PG Environmental and Environmental Research Group (ERG) (hereinafter, the EPA Inspection Team) conducted an announced American Water Infrastructure Act (AWIA) Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) program/document inspection of Arkadelphia Waterworks (System), ID No. AR0000085. The inspection process began at approximately 9:00 a.m. on June 27, 2023 and finished at approximately 12:30 p.m. Austin Benning, a District Engineer from the Arkansas Department of Health (ADH), was also present for the inspection.

Jake Okun of PG Environmental presented his SDWA inspector credential to the System representative upon arrival. He informed him that this was an inspection to observe compliance with the Safe Drinking Water Act (SDWA) Section 1433(a) and (b), which requires community water systems that serve more than 3,300 people to complete a RRA and develop an ERP. To facilitate the inspection process, a checklist outlining the requirements of SDWA Section 1433(a) and (b) was used during the document review (refer to Appendix 1, Safe Drinking Water Act (SDWA) Sections 1433(a) and (b) Checklist). The EPA Inspection Team met with Dale Box, the System Manager, for the opening conference.

As a component of the RRA and ERP document review, the following field assets were also observed:

Water Treatment Plants

- Arkadelphia Water Treatment Plant #01

Clearwells:

- Clearwell (Front, 1,000,000 gallons)
- Clearwell (Back, 1,000,000 gallons)

Finished Water Storage Tanks

- 26th St. Water Storage Tank (1,000,000 gallons)
- 16th St. Water Storage Tank (300,000 gallons)

Pump Stations

- 26th St. Pump Station

SYSTEM DESCRIPTION

The Arkadelphia Waterworks System is a surface water treatment system that maintains and operates a water treatment plant (WTP #01). The water is sourced from the Ouachita River via an intake structure located adjacent to the WTP. The general treatment process includes influent pumping via four raw water pumps, inline mixing, coagulation, clarification, filtration (using multi-media filters), and chemical addition of caustic, fluoride, zinc orthophosphate, and sodium hypochlorite. Following treatment, treated water is sent to two, 1,000,000-gallon onsite clear wells to achieve contact time prior to being

pumped into the distribution system via three high service pumps. The System serves a population of approximately 15,800 people.

There are four consecutive systems associated with Arkadelphia Waterworks, including Gum Springs, Caddo Valley, Country Water, and River Valley. The WTP is staffed seven days a week, from 7:00 a.m. to 4:30 p.m. Staff members are not onsite during off hours. During the evening hours, an auto-dialer is used to notify the operators of an alarm in one of the WTPs or the distribution system.

ASSET WALKTHROUGH

Water Treatment Plant #01

The System asset walkthrough began at WTP #01. The plant and its associated assets were surrounded by a perimeter fence with barbed wire. [redacted] The WTP intake was located in the Ouachita River (refer to Appendix 2, Photograph 3). There was no buoy or marker indicating the intake point in the river. System representatives stated that the intake was screened. There were four raw water pumps positioned next to the river (refer to Appendix 2, Photograph 4). Following the intake, a chemical addition manhole was observed (refer to Appendix 2, Photograph 5). The manhole led to the influent line, and System representatives stated that coagulant and sodium permanganate were added at this point.

The chemical delivery ports into the WTP were observed outside of the chemical storage area (refer to Appendix 2, Photograph 6). The ports were labeled, and System representatives stated that chemicals were sampled prior to being unloaded. The chemical ports were positioned over a drainage grate (refer to Appendix 2, Photograph 7). The System Manager stated that if a chemical spill occurred there, the chemicals would drain to the backwash pond located adjacent to the WTP. It is unknown if this chemical drainage presents a concern for the plant's National Pollutant Elimination System-permitted (NPDES-permitted) discharge.

The backup generators associated with WTP #01 were observed prior to entering the treatment building. There were three backup generators, and the System Manager stated that all three generators were necessary to run the full load of the treatment system. He also stated that the largest generator was the only generator that would turn on automatically in the event of a power outage (refer to Appendix 2, Photograph 8). The other two generators needed to be turned on manually if an outage occurred (refer to Appendix 2, Photographs 9 and 10). Therefore, if an outage occurred during off hours a System representative would need to come to the treatment plant to manually turn the generators on before treatment could resume. An automatic switch gear that could be used to turn on one of the generators was in place, but the System Manager stated that it was not in use (refer to Appendix 2, Photograph 11). A standard operating procedure (SOP) was positioned next to one of the generators to

inform operators of the steps needed to turn on the generator (refer to Appendix 2, Photograph 12). In addition to these mounted generators, the System Manager stated that they had access to a portable generator that could be used in the event of a power outage in the distribution system.

Inside the treatment plant, the chemical storage area was observed. There was a caustic tank, a sodium hypochlorite tank, and a coagulant tank in the storage area (refer to Appendix 2, Photograph 13). The line leading to the caustic tank was experiencing a leak and there was crystallized caustic on the ground surrounding the line (refer to Appendix 2, Photograph 14). The System Manager stated that this happened often, and vinegar was poured on the leak to neutralize it.

The chemical day tanks were also observed. The System Manager stated that the chemical drains in the day tank room also led to the onsite backwash pond. The raw water turbidity meter was present in the day tank room. At the time of the inspection, the raw water turbidimeter was reading 9.13 NTU, and an alarm was on (refer to Appendix 2, Photograph 15). System representatives were unsure what was causing the alarm, but they assumed that the alarm was a result of a clogged raw water line leading to the turbidimeter. To attempt to deactivate the alarm, a System representative pulled the line out of the turbidimeter and reattached it. This caused the raw water turbidity to rise to 19.8 NTU, and the alarm continued (refer to Appendix 2, Photograph 16).

Next, the two treatment trains were observed. Each train contained an inline mixer, but the System Manager stated that the mixers were not in use because they achieved the necessary mixing without running the mixers. The pre-coagulation mixers for each train were observed, followed by the sand pump and coagulation mixers (refer to Appendix 2, Photograph 17). The System Manager stated that sand was used to facilitate coagulation. After flowing through a clarification tank, the water flows over a set of weirs and is sent to filtration. There were six multi-media filters, with Filter No. 5 being out of service. System representatives stated that individual filter turbidity was monitored, but there were no individual filter turbidity alarms tied into the supervisory control and data acquisition (SCADA) system.

Outside of the treatment building, the backwash water holding tank and backwash pump for Filters Nos. 3, 4, 5, and 6 were observed (refer to Appendix 2, Photograph 20). The System Manager stated that the water used for backwashing Filter Nos. 3-6 was filtered but not chlorinated. He stated that when the level in the backwash holding tank became too high, the extra water was chlorinated and sent to one of the onsite clearwells as treated water. A separate backwash pump was used for Filter Nos. 1 and 2, and it was located next to the WTP high service pumps (refer to Appendix 2, Photograph 22). The System Manager stated that backwash water from Filter Nos. 1 and 2 was taken from one of the clearwells.

Lastly, the two, onsite 1,000,000-gallon clear wells were observed. The System Manager identified the clear wells as the “Front” and “Back” clear wells. The Front clear well was observed first. There was a hatchway with a lid on top of the clear well, and it was locked when the EPA Inspection Team arrived (refer to Appendix 2, Photograph 23). The hatchway opening was elevated, and the lid was a shoebox lid which fit around the outside of the hatch (refer to Appendix 2, Photograph 24). The Back clear well was observed next. The lid of a hatchway to the Back clear well was elevated, and the rim beneath the lid

contained drainage (refer to Appendix 2, Photograph 26). There was a line extending from the Back clear well that went below grade. The System Manager stated that the line could be used to empty the Back clear well and fill the Front clear well.

26th St. Water Storage Tank and Pump Station

The 26th St. Water Storage Tank, a 1,000,000-gallon standpipe tank was observed. The bottom rungs of the tank ladder were removed, and there was a locked security shield covering the lower rungs (refer to Appendix 2, Photograph 32). The tank and pump station were surrounded by a locked perimeter fence with barbed wire, but there were no security signs displaying critical information about the System or a number to call in case of an emergency. The property shares a border with an apartment complex, and the System Manager stated that the apartments were college housing. He stated that there had been challenges with residents of the apartments trespassing inside fence line before.

The 26th St. Pump Station was also observed inside fence line (refer to Appendix 2, Photograph 33). The System Manager stated that the 26th St. Water Storage Tank was filled by gravity, and that this pump station was used to send water to the Malone Water Storage Tank. He also explained that the System portable generator could be quickly connected at this pump station in the event of a power outage. There was some rust/corrosion on the pump infrastructure at the pump station (refer to Appendix 2, Photograph 34).

Next, the 300,000 gallon elevated 16th St. Water Storage Tank was observed (refer to Appendix 2, Photograph 35). The tank was surrounded by a locked perimeter fence, and the area inside fence line was shared with other Arkadelphia Waterworks buildings, as well as multiple telecommunication buildings. [redacted] The end of the tank's overflow pipe was covered by a mesh screen (refer to Appendix 2, Photograph 38).

SYSTEM SECURITY AND MONITORING

The System utilizes a SCADA system to monitor tank levels, alerts, and other activity in the distribution system. An auto-dialer system is programmed to call operators during off hours in the event of an alert on the SCADA system. [redacted] In terms of physical security, the water storage assets are surrounded by locked perimeter fences with barbed wire. [redacted]

RRA AND ERP GENERATION

The System Manager stated that the RRA and ERP documents were not completed. He stated that David Green, the Arkadelphia Water Utilities Manager, was in the process of completing the documents at the Arkadelphia Waterworks main office. The EPA Inspection Team spoke to the Water Utilities Manager on the phone during the inspection, and he stated that the System had requested assistance from Arkansas Rural water and purchased their SEMS software to complete the documents. However, he stated that he had not started the documents yet at the time of the inspection. Therefore, the RRA and ERP were not available for review during the inspection.

Note, Arkadelphia Waterworks was put under an Administrative Order (Docket #: SDWA-06-2022-1301) on July 13, 2022, because they failed to conduct and certify the system's RRA and ERP by EPA's Certification Deadlines. . David Green was listed as the certifying official for both the RRA and ERP, and he submitted certifications for both of these documents to EPA on July 27, 2022 (two weeks following the Order they received), despite the documents having never been completed.

RISK AND EMERGENCY RESPONSE EXAMPLES

As a component of the RRA and ERP document review, and to provide an example of emergency response and risk assessment, the EPA Inspection Team asked System representatives to describe their response to three specific challenges that many/all of the systems in Arkansas have faced within the last few years:

The "deep freeze" event of February, 2021 which impacted much of the American southern region. During this event, temperatures were below freezing for a prolonged period of time causing water related infrastructure to freeze. Arkadelphia did not have a specific response to prolonged freezing temperature events like the one that occurred in February 2021, but the System Manager stated that exposed lines in the distribution system were heat wrapped to help prevent freezing. The System Manager also stated that during the February 2021 event, line breaks were occurring throughout the distribution system. The System field crews were deployed to repair the line breaks. The System Manager stated that Arkadelphia had a procedure to repair line breaks, but that it wasn't formally written down anywhere in the form of an SOP.

Tornados, which are a common occurrence in Arkansas. The Arkadelphia System did not have a formal written response to tornados, but System representatives stated that they were a threat to their treatment system. They said that they would remotely shut the system down using SCADA if a potentially damaging tornado was coming.

The transfer of knowledge from experienced System representatives to new staff members after experienced staff members are no longer employed by the System. Arkadelphia did not have formal SOPs written to respond to unusual activity at the WTP and in the distribution system. There was one SOP written to manually turn the generators on in the event of a power outage and it was positioned next to one of the generators.

Section II - OBSERVATIONS

The following observations pertain to the SDWA Section 1433(a), Risk and Resilience Assessments.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(i), states that "Risk and resilience assessments shall include an assessment of the risk to the system from malevolent acts and natural hazards."

Observation 1. The System had not developed an RRA or assessed the risk to the system from malevolent acts and hazards. However, the System Manager stated that System representatives would shut the water treatment plant down remotely in response to a terrorist attack or tornado to prevent unsafe drinking water to enter the distribution system.

The System Manager stated that flooding was not a common occurrence where the water treatment plant was located. He did say that occasional (but rare) freezing temperatures occurred, and that many of the System's exposed water lines were wrapped with insulation to prevent freezing and line breaks.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(ii), states that "Risk and resilience assessments shall include the resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized by the system."

Observation 2. The resilience of specific assets in the distribution system was not addressed by the System. In terms of security, the System Manager stated that their assets were protected by locked fences with barbed wire. He also stated that when an employee retires or leaves, they collect the employee's keys, and change the keypad to access the water treatment plant.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(iii), states that "Risk and resilience assessments shall include an assessment of the monitoring practices of the system."

Observation 3. The System utilizes a SCADA system to monitor and track activity at the water treatment plant and the distribution system. The System Manager stated that their SCADA system had high and low level alarms, pump activity alarms, power outage alarms, and chemical level alarms. An auto-dialer is tied into the SCADA system, and it is programmed to call the System Manager if any of the alarms are triggered during off hours.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(iv), states that "Risk and resilience assessments shall include an assessment of the financial infrastructure of the system."

Observation 4. The impact to the financial infrastructure of the System in the event of a malevolent act or natural hazard was not addressed by the System.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(v), states that "Risk and resilience assessments shall include an assessment of the use, storage, or handling of various chemicals by the system."

Observation 5. The System Manager stated that chemicals are stored in a closed, secure room [redacted] The chemicals are in double walled containers for extra security. During chemical deliveries, chemicals are sampled to make sure the correct chemical is being delivered to the correct location.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(vi), states that "Risk and resilience assessments shall include an assessment of the operation and maintenance of the system."

Observation 6. The impact of operation and maintenance of the system in the event of a malevolent act or natural hazard was not addressed by the System. Any changes in operation are not formally documented in the form of SOPs. However, there was a written SOP that was posted on one of the two generator rooms at the water treatment plant, The SOP outlined the steps required to turn on the generators in the event of a power outage.

The following observations pertain to the SDWA Section 1433(b), Emergency Response Plan.

The Safe Drinking Water Act, Section 1433(b)(4), states that "The emergency response plan shall include strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system."

Observation 7. The System had not developed an ERP or addressed strategies that could be used to aid in the detection of malevolent acts or natural hazards.

The Safe Drinking Water Act, Section 1433(b)(3), states that "The emergency response plan shall include actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes, and construction of flood protection barriers."

Observation 8. Actions which can prevent or mitigate the impact of a malevolent act or natural hazard on the safety and supply of drinking water were not addressed by the System. The System Manager stated that they could possibly use trucks to haul water from another system if needed, but this procedure was not formally documented anywhere.

The Safe Drinking Water Act, Section 1433(b)(2), states that "The emergency response plan shall include plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water."

Observation 9. Plans and procedures, personnel required, and equipment available to respond to a malevolent act or natural hazard were not addressed by the System.

The Safe Drinking Water Act, Section 1433(c), Coordination, states that "Community water systems shall, to the extent possible, coordinate with existing local emergency planning committees established pursuant to the Emergency Planning and Community Right-To-Know Act of 1986 (42 U.S.C. 11001 et seq.) when preparing or revising an assessment or emergency response plan under this section."

Observation 10. Coordination with emergency services was not addressed by the System.

The Safe Drinking Water Act, Section 1433(b)(1), states that "The emergency response plan shall include strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system."

Observation 11. Strategies to improve the resilience of the System (physical and cybersecurity) were not directly addressed by the System. However, the System Manager stated that assets were surrounded by locked perimeter fences with barbed wire. [redacted]

The System Manager stated that their SCADA system was password protected, and that only select personnel had access to the SCADA system. [redacted]

The following observations pertain to the field assets that were observed during the walkthrough component of the review.

Observation 12. [redacted]

Observation 13. System representatives stated that the drainage under their chemical delivery ports led to a backwash pond located near the WTP (refer to Appendix 2, Photograph 7). They also stated that the drainage in the chemical day tank room led to the backwash pond. While this does not present a SDWA concern, it is unknown if this chemical drainage presents a concern for the plant's NPDES permit.

Observation 14. Only one of the three mounted backup generators at WTP #01 has the ability to switch on automatically in the event of a power outage, but all three generators are needed to support the full load of the plant. If a power outage were to occur during off hours (4:30 p.m. to 7:30 a.m. daily) an on call operator would have to drive onsite to turn on two of the generators for the WTP to function at full capacity.

Observation 15. A line leading to the caustic tank inside of the treatment building at WTP #01 had experienced a leak, causing crystalized caustic to be on the line and on the floor surrounding the line (refer to Appendix 2, Photograph 14). The System Manager stated that this was a frequent occurrence, and that he had poured vinegar on the caustic to neutralize it.

Observation 16. System representatives stated that their combined filter effluent turbidity readings were stored in their SCADA system, but that the readings were not analyzed at 15-minute intervals. High combined filter effluent turbidity alarms were tied into the SCADA system, but 15-minute turbidity meter readings were not being trended to monitor spikes. The System Manger stated that individual effluent turbidity was monitored, but there were no SCADA alarms for spikes in individual filter turbidity.

Additionally, the raw water turbidity meter was displaying an alarm during the inspection. The turbidity meter was displaying a value of 9.13 NTU, and when System representatives pulled the water line to try to fix the alarm the turbidity jumped to 19.8 NTU (refer to Appendix 2, Photographs 15 and 16).

Observation 17. There was a buildup of foam on the surface of Filter Nos. 1 and 2 during the inspection, and System representatives stated that they may have been over feeding coagulant (refer to Appendix 2, Photographs 18 and 19).

Observation 18. There were hatchways with lids to the backwash water holding tank (refer to Appendix 2, Photograph 21). The lids were loosely fitted over the hatchways, and there were no gaskets around the rims of the hatches.

Observation 19. There was wiring for a clear well level transducer positioned next to the hatchway of the Front clear well, and the port for the wiring was not screened or covered (refer to Appendix 2, Photograph 25). [redacted]

Observation 20. There was a threaded hose tap without backflow prevention on the line that extended from the Back clear well to the Front clear well (refer to Appendix 2, Photograph 28). The System Manager stated that the line was used to empty the Back clear well and fill the Front clear well.

Observation 21. [redacted] This property contained the 26th St. Water Storage Tank as well as the 26th St. Pump Station. [redacted]

Observation 22. [redacted]

Observation 23. The 16th St. Water Storage Tank contained an overflow pipe that terminated approximately nine inches above a concrete pad, which appeared to be less than double the pipe diameter (refer to Appendix 2, Photograph 37).

Section IV – CLOSING CONFERENCE

On June 27, 2023, the EPA Inspection Team met with the System Manager and the Utilities Manager over the phone for a closing conference at approximately 12:15 p.m. Jake Okun and Mike McFadden reviewed observations with the System representatives and explained that all observations were preliminary and did not constitute any formal compliance determination.

Section V – FOLLOW UP

No additional information was received by EPA after exiting the Facility on June 27, 2023.

Section VI – LIST OF APPENDICES

Appendix 1 – Safe Drinking Water Act (SDWA) Sections 1433(a) and (b) Checklist
Appendix 2 – Photograph Log

Appendix 2

Photograph Log

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

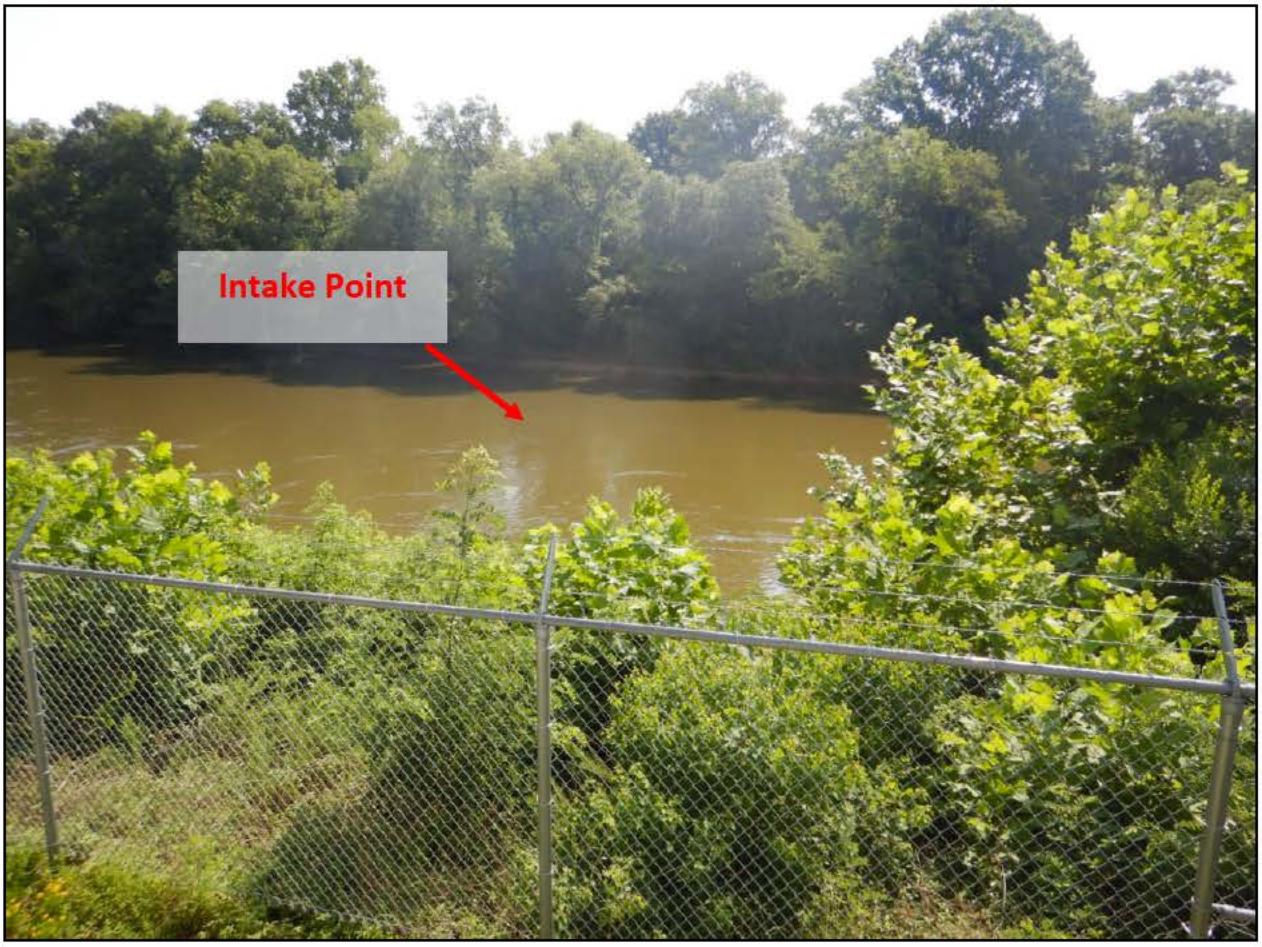
Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas



Photograph 3. Raw Water Intake, WTP #01 View of the raw water intake point for WTP #01 within the Ouachita River. There were no markers or buoys to identify the intake point.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 4. Raw Water Intake Pumps, WTP #01 View of the vault containing the four, raw water intake pumps next to the Ouachita River at WTP #01.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 5. Chemical Addition Manhole, WTP #01 View of the chemical addition manhole located outside of WTP #1. The manhole leads to the raw water influent pump line. The System Manager stated that coagulant and sodium permanganate were added at this point.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 6. Chemical Delivery Ports, WTP #01 View of the chemical delivery ports for coagulant, sodium hypochlorite, and caustic located on the exterior of the chemical storage area at WTP #01. System representatives stated that chemicals were sampled prior to being unloaded.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 7. Chemical Delivery Port Drain, WTP #01 View of the drain positioned below the chemical delivery ports at WTP #01. The System Manager stated that the drain led to an onsite backwash pond. It is unclear if this presents a concern for the plant's NPDES permit.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 8. Mounted Generator, WTP #01 View of one of three mounted backup generators at WTP #01. The System Manager stated that this was the only generator that would turn on in the event of a power outage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 9. Mounted Generator, WTP #01 View of one of the three onsite mounted generators at WTP #01. This was one of two generators that need to be turned on manually in the event of a power outage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 10. Mounted Generator, WTP #01 View of one of the three onsite mounted generators at WTP #01. This was one of two generators that need to be turned on manually in the event of a power outage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

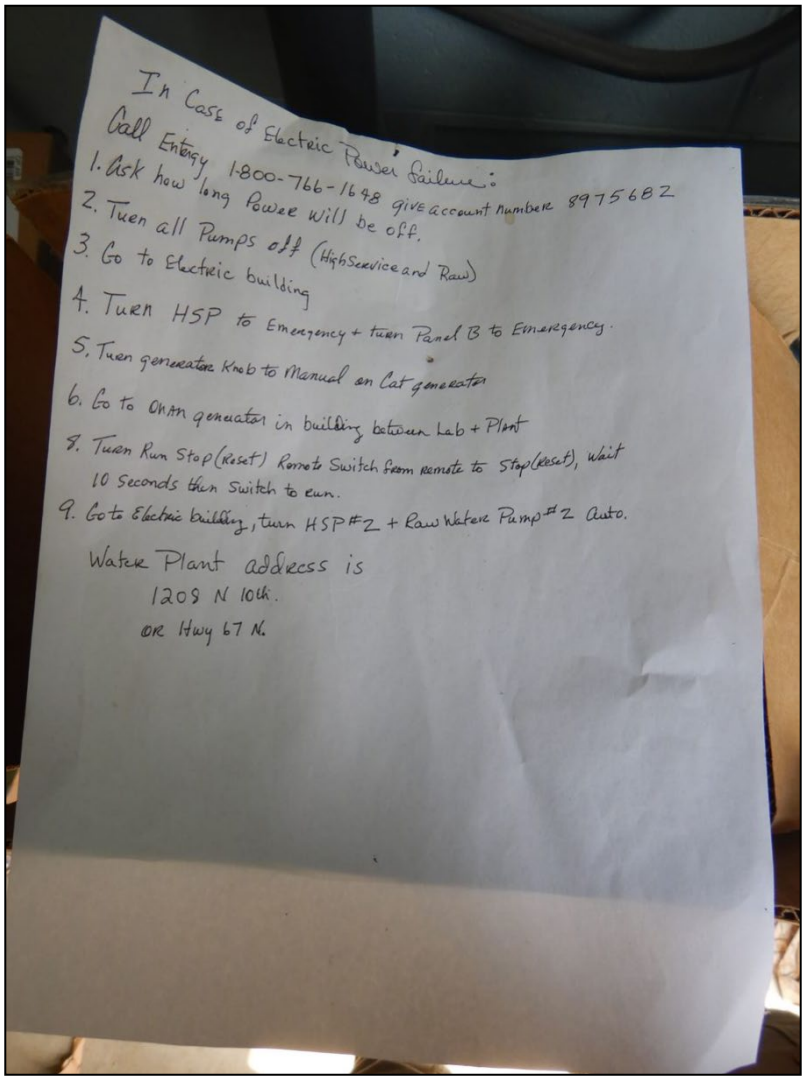
Photograph 11. Switch Gear Box View of an offline switch gear box associated with one of the two manual start up generators. The System Manager stated that this was not in use, but if it was functional could be used to turn on the backup generator automatically in the event of a power outage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas



Photograph 12. SOP, Manual Generator View of an SOP for manually turning on the backup generators onsite at WTP #01. The SOP was positioned next to one of the manual generators.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 13. Chemical Storage Tanks, WTP #01 View of the caustic tank, a sodium hypochlorite tank, and a coagulant tank in the storage area at WTP #01. The tanks were labeled.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 14. Caustic Line, WTP #01 View of the line leading to the caustic tank. The line was experiencing a leak and there was crystallized caustic on the ground surrounding the line. The System Manager stated that this happened often, and vinegar was poured on the leak to neutralize it.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 15. Turbidity Meter, WTP #01 View of the raw water turbidimeter reading that was displaying 9.13 NTU with an alarm during the inspection. System representatives were unsure what was causing the alarm, but they assumed that the alarm was a result of a clogged raw water line leading to the turbidimeter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 16. Turbidity Meter, WTP #01 View of the raw water turbidimeter after the System Manager tried to fix the influent raw water line. The meter was reading 19.8 NTU, and an alarm was still being displayed.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 17. Treatment Train, WTP #01 View of one of the two parallel treatment trains at WTP #01. Visible in this image are the pre-coagulation mixers, the sand pump, and the coagulation mixers.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 18. Filter No. 1, WTP #01 View of the surface of the water in Filter No. 1 at WTP #01. There was a buildup of foam on the surface of the water, and System representatives stated that they may have been over feeding coagulant.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 19. Filter No. 2, WTP #01 View of the surface of the water in Filter No. 2 at WTP #01. There was a buildup of foam on the surface of the water, and System representatives stated that they may have been over feeding coagulant.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 20. Backwash Pump, WTP #01 View of the backwash pump and backwash holding tank that is used to send filtered (but not chlorinated) water through Filter Nos. 3-6. A separate backwash pump is used to send finished water from an onsite clear well through Filter Nos. 1 and 2.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 21. Backwash Water Holding Tank, WTP #01 View of the hatchways and lids leading to the backwash water holding tank. This tank stores water that is filtered but not chlorinated, and the water is used for backwashing Filter Nos. 3-6. The lids were loosely fitted over the hatchways, and there were no gaskets in the hatchways.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 22. Backwash Pump and High Service Pumps, WTP #01 View of the backwash pump used to send water from the clear well through Filter Nos. 1 and 2 during a backwash. Also visible are the three high service pumps used to send finished water into the distribution system.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 23. Front Clearwell, WTP #01 View of the hatchway and lid on top of the Front clear well at WTP #01. The hatchway was locked when the EPA Inspection Team arrived, and this picture was taken after the operator unlocked the lid.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

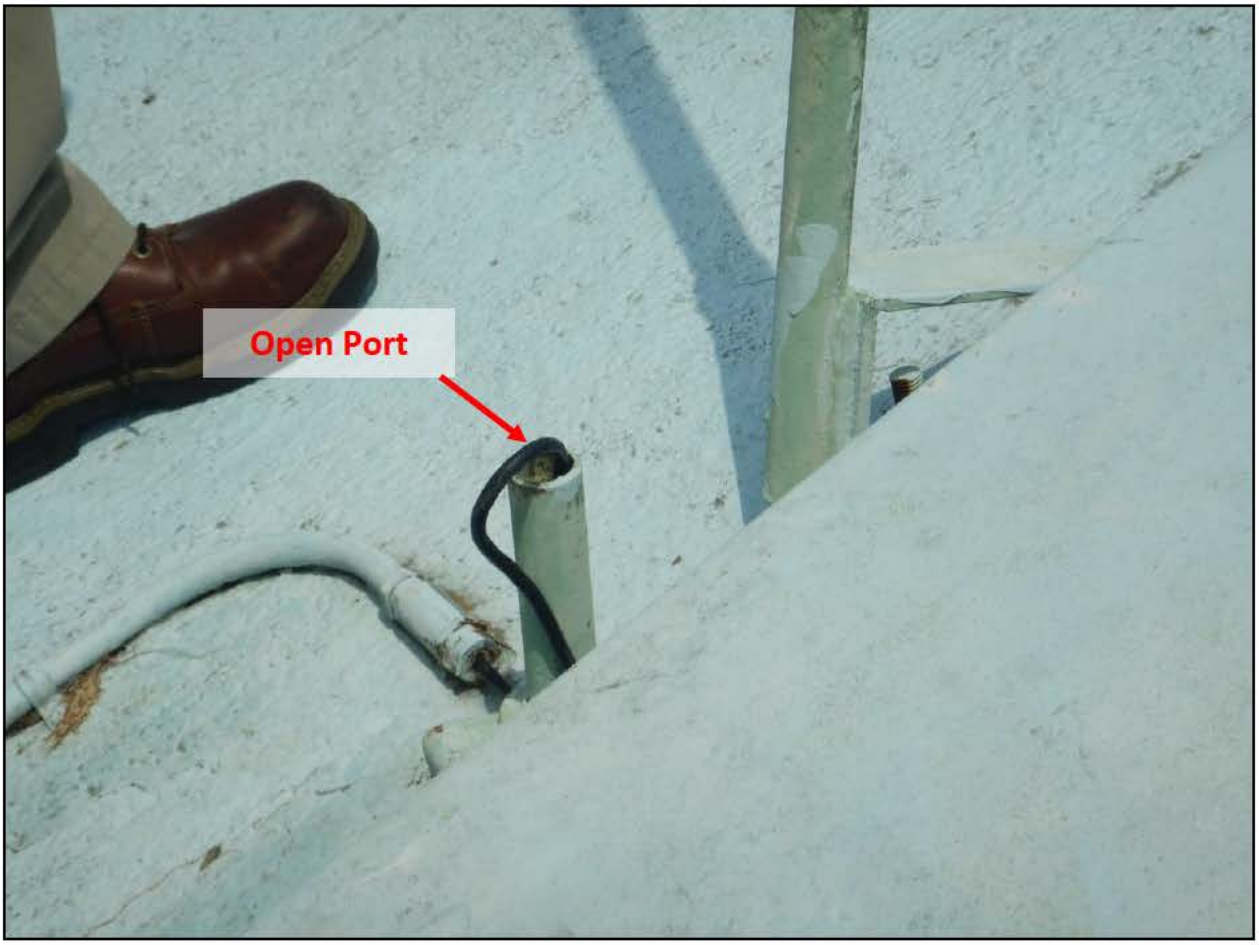
Photograph 24. Front Clearwell, WTP #01 View of inside of the hatchway on top of the Front clear well. The hatchway opening was elevated, and the lid was a shoebox lid which fit around the outside of the hatch.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas



Photograph 25. Front Clearwell, WTP #1 View of an open port used for a level transducer wire. The opening of the port was not screened, providing open access into the Front clear well.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 26. Back Clearwell, WTP #1 View of the hatchway leading to the Back clear well. The hatchway was elevated, and the rim beneath the lid contained drainage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 27

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

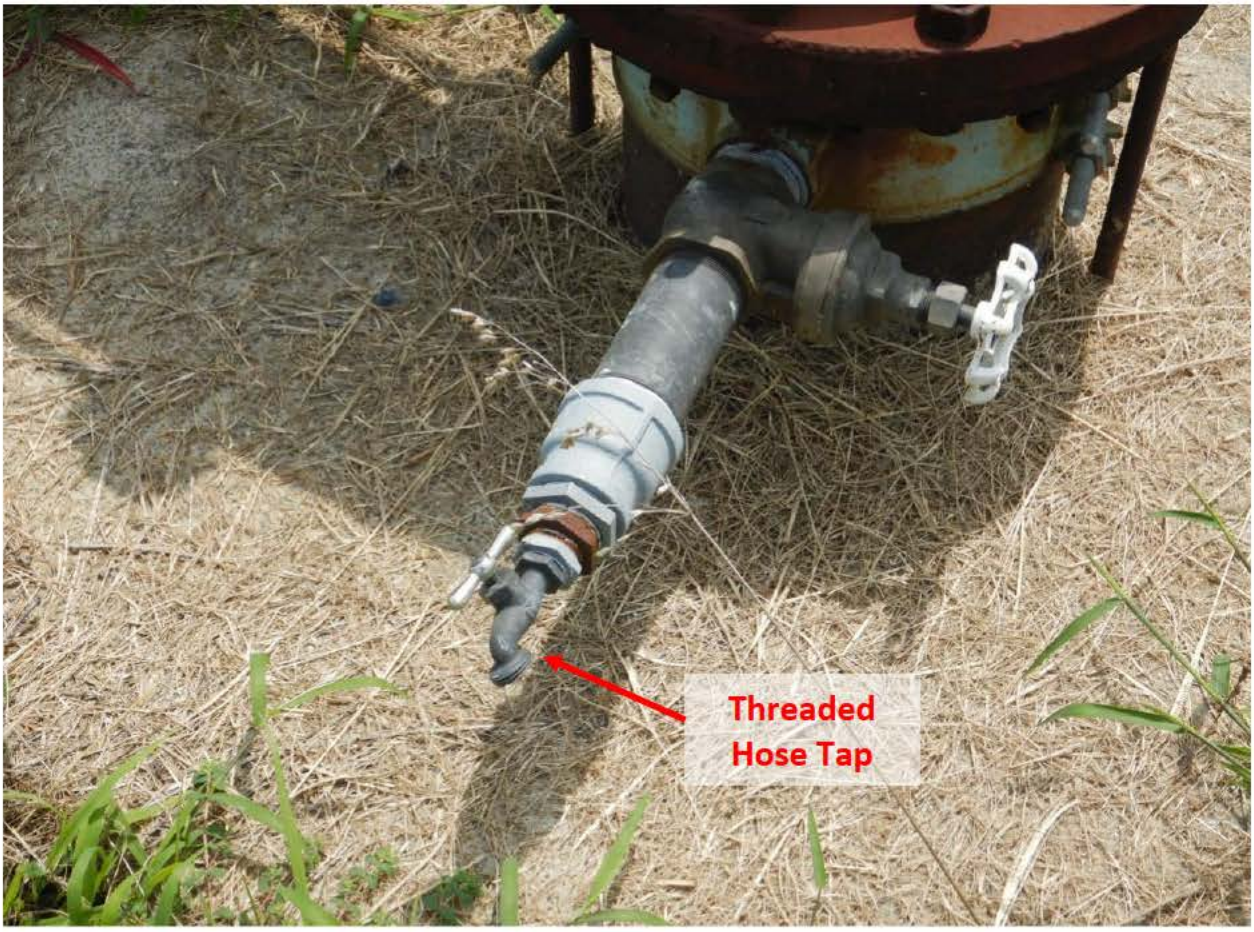
Photograph 27. Back Clearwell, WTP #1 View of the closed hatchway leading to the Back clear well.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 28

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas



Photograph 28. Threaded Hose Tap, Clearwell Line View of a threaded hose tap that came off of a line extending from the Back clear well to the Front clear well. The System Manager stated that the line was used to empty one clear well and fill the other. The hose tap did not have backflow prevention.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 29

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 30

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 31

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 32

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 32. 26th St. Water Storage Tank View of the 1,000,000-gallon 26th St. Water Storage Tank. The bottom rungs of the tank ladder were removed, and there was a locked security shield covering the lower rungs.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 33

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 33. 26th St. Pump Station View of the inside of the 26th St. Pump Station. The System Manager stated that the 26th St. Water Storage Tank was filled by gravity, and that this pump station was used to send water to the Malone Water Storage Tank.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 34

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 34. 26th St. Pump Station View of one of the pump mounts inside of the 26th St. Pump Station that was experiencing corrosion/metal loss.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 35

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

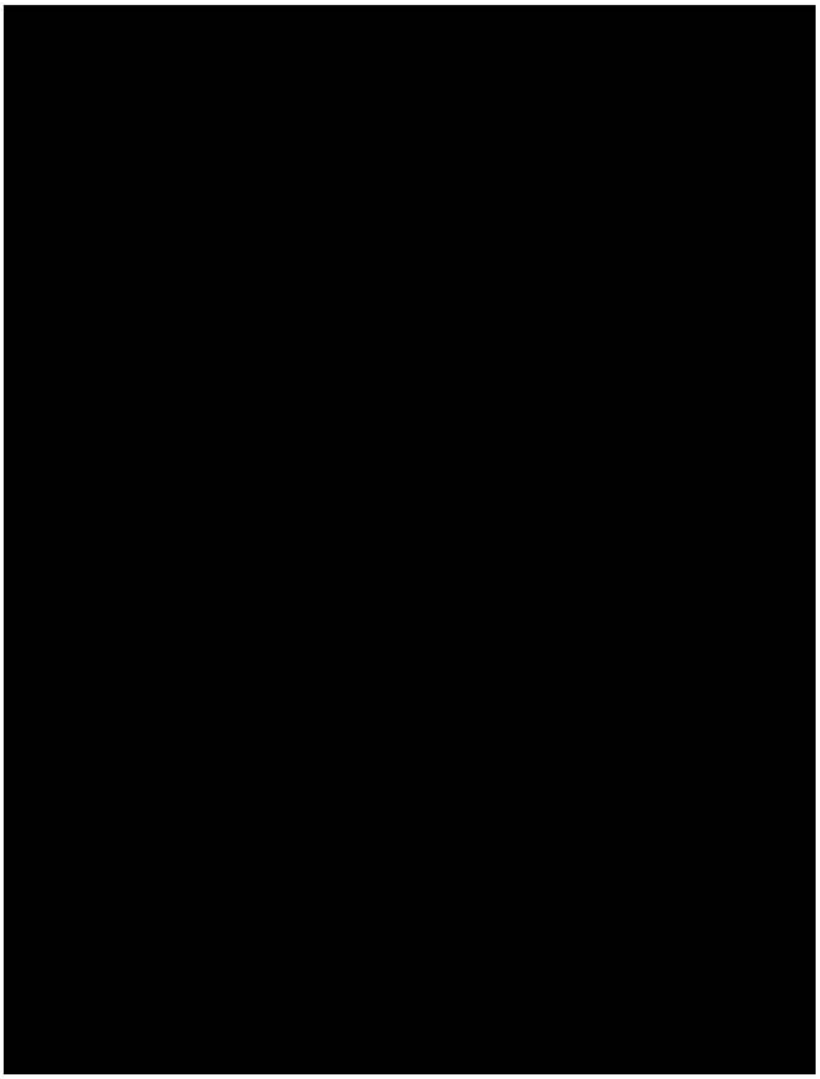
Photograph 35. 16th St. Water Storage Tank View of the 300,000-gallon elevated 16th St. Water Storage Tank.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 36

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 37

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 37. Overflow Pipe, 16th St. Water Storage Tank View of the 16th St. Water Storage Tank overflow pipe. The overflow pipe terminated approximately nine inches above a concrete pad, which appeared to be less than double the pipe diameter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 38

Location: Arkadelphia Waterworks		
City: Arkadelphia	County/Parish: Clark County	State: Arkansas

Photograph 38. Overflow Pipe, 16th St. Water Storage Tank View of the end of the 16th St. Water Storage Tank overflow pipe. The opening was covered by a mesh screen.