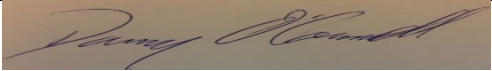


Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	06/06/2023	
Media Program:	Water	
Regulatory Program(s)	AWIA/SDWA	
Facility Name:	Greenbrier Water Works	
Facility Physical Location:	11 Wilson Farm Rd.	
(city, state, zip code)	Greenbrier, AR 72058	
Mailing address:	P.O. Box 415	
(city, state, zip code)	Greenbrier, AR 72058	
County/Parish:	Faulkner County	
Facility Phone Number	501-679-2422	
Facility Contact:	Kaleb Mack	
	Municipal Superintendent	
FRS Number:	N/A	
Identification/Permit Number:	AR0000191	
Media Identifier Number:	N/A	
NAICS:	N/A	
SIC:	N/A	
Personnel participating in inspection:		
Kaleb Mack	City of Greenbrier	Municipal Superintendent
Jake Hubbard	City of Greenbrier	Operator
Danny O'Connell	PG Environmental	EPA Contract Inspector
Jake Okun	PG Environmental	EPA Contract Inspector
Sami Fares	Arkansas Department of Health	District Engineer
EPA Lead Inspector: Danny O'Connell		7/31/2023
Signature/Date	Danny O'Connell	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

On June 6, 2023, U.S Environmental Protection Agency (EPA) Region 6 contract inspectors from PG Environmental (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 the Greenbrier Water Works (System), ID No. AR0000191. The inspection process began at approximately 9:00 a.m. on June 6, 2023 and finished at approximately 3:00 p.m. Sami Fares, district engineer from the Arkansas Department of Health (ADH), was also present for the inspection.

Danny O’Connell and Jake Okun of PG Environmental presented their Safe Drinking Water Act (SDWA) inspector credentials to the System representatives upon arrival. They informed them that this was an inspection to observe compliance with the 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 Kaleb Mack, the Municipal Superintendent, and Jake Hubbard, Head Operator, for the opening conference.

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

Master Meters (Interconnects) Buildings:

- Master Meter #1 (Sharon Circle)
- Master Meter #2 (Wineglass Road)

Finished Water Storage Tanks:

- Highway 65 N. (North) Water Tank- 100,000 gallons
- Horseshoe Mountain Water Tank- 500,000 gallons

SYSTEM DESCRIPTION

The Greenbrier Water Works System (System) is a purchase water system that purchases exclusively from Community Water System (Community Water) for distribution. The System serves a population of approximately 9,500 people. The System does not contain a raw water treatment plant, but additional chlorination is provided via chlorine gas booster stations at the three master meter (interconnects) buildings. The master meters transfer treated purchase water from Community Water into the distribution system. The System contains three ground storage tanks, one elevated storage tank, and one standpipe facility for storing finished water. System representatives stated that the various distribution system assets were mapped digitally using ArcGIS, including storage facilities, meters, valves, and pipes.

ASSET WALKTHROUGH

As a component of the RRA and ERP document review, several assets were observed to cross-reference the information listed in the documents with what was actually being implemented in the field. First, the EPA Inspection Team observed the 100,000-gallon North Water Tank (refer to [Appendix 2, Photograph 1](#)). The tank was surrounded by a locked perimeter fence topped with barbed wire, and the fence was labeled with a “Do Not Enter” sign (refer to [Appendix 2, Photograph 3](#)). [REDACTED]

[REDACTED]
[REDACTED]
The North Water Tank’s level was tied into Community Water’s supervisory control and data acquisition (SCADA) system using telemetry [REDACTED]
[REDACTED]

Following the North Water Tank, the EPA Inspection Team observed the 500,000-gallon Horseshoe Mountain Water Tank (refer to [Appendix 2, Photograph 6](#)). The tank was surrounded by a locked perimeter fence topped with barbed wire, and the fence was labeled with a “No Trespassing” sign (refer to [Appendix 2, Photograph 7](#)). [REDACTED]

[REDACTED] The bottom rungs of the ladder on the side of the tank had been removed, and there was a locked plate over the bottom rungs of the ladder (refer to [Appendix 2, Photograph 8](#)). [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Like the North Tank, the Horseshoe Mountain Tank was tied into Community Water’s SCADA system using telemetry. A generator and propane tank were present onsite to provide backup power to the tank’s telemetry in the event of a power outage (refer to [Appendix 2, Photograph 9](#)). An overflow pipe extended from the top of the tank and the opening was covered by a flapper valve with a tight seal (refer to [Appendix 2, Photograph 10](#)). The overflow emptied onto a concrete splash pad.

After the storage tanks, Master Meter #1 was observed. The meter building was surrounded by a locked perimeter fence with barbed wire. System representatives explained that all of the master meters were owned/maintained by Community Water, but additional chlorination was provided by Greenbrier via chlorine booster stations. The chlorine booster station at Master Meter #1 was located inside the meter building. A chlorine storage room was also present in the building, and it contained two, 150 lb. gas cylinders (one in use and one on standby) (refer to [Appendix 2, Photograph 14](#)). A functional exhaust fan, elevated fresh air intake, window, crash bar, and escape door were present in the storage room. Additionally, a chlorine alarm sensor was present inside the storage room, located near the floor (refer to [Appendix 2, Photograph 17](#)). It was unclear if the alarm and sensor were functional or not.

The chlorine cylinders were placed on a functional scale (refer to [Appendix 2, Photograph 18](#)). Chlorine was being injected through the wall into a carry water line in the backflow protection/chlorine injection room (refer to [Appendix 2, Photograph 15](#)). The final injection point was located downstream of Master

Meter #1. A generator and propane tank were present next to the meter building, and System representatives stated that this was owned by Community Water and used to provide backup power in the event of an outage (refer to [Appendix 2, Photograph 21](#)).

Master Meter #2 was observed next. The meter building was surrounded by a locked perimeter fence with barbed wire, and there was a "Violators Will Be Prosecuted" sign on the fence (refer to [Appendix 2, Photograph 22](#)). The chlorine booster station at Master Meter #2 was located inside the meter building. A chlorine storage room was also present in the building containing one, 150-lb gas cylinder (refer to [Appendix 2, Photograph 23](#)). There was a chlorinator vent line extending off of the cylinder. It was being fed through an exhaust vent with movable louvers (refer to [Appendix 2, Photograph 24](#)). It was unclear if the line was negatively impacting the room's designed ability to properly manage a chlorine gas leak. A functional exhaust fan, elevated fresh air intake, window, crash bar, and escape door were present inside the storage room. The chlorine sensor was positioned over 20 inches off the floor (refer to [Appendix 2, Photograph 25](#)). The chlorine cylinder was placed on a functional scale (refer to [Appendix 2, Photograph 26](#)). Chlorine was being injected through the wall into a carry water line in the meter room (refer to [Appendix 2, Photograph 27](#)). The final injection point was located downstream of Master Meter #1. A generator and propane tank were present next to the meter building. System representatives stated that it was owned by Community Water and used to provide backup power in the event of an outage.

SYSTEM SECURITY AND MONITORING

[REDACTED]
[REDACTED] SCADA is used to observe tank level and master meter activity. [REDACTED]
[REDACTED]
[REDACTED] Computer access to the
SCADA system is restricted to authorized users only [REDACTED]
[REDACTED]
[REDACTED]

When employees are terminated or quit, they are required to return all company property. This includes keys, access codes, and any other security related items. [REDACTED]
Storage tanks and meter buildings are surrounded by locked perimeter fences and topped with barbed wire to prevent trespassing. The Municipal Superintendent stated that all locks and keys were changed whenever an employee was terminated or quit. [REDACTED]
[REDACTED] community members are encouraged to call System representatives if they notice suspicious activity. Chemicals used in the treatment process undergo standardized delivery procedures and are stored in a secured location.

RRA AND ERP GENERATION

The System purchased a software titled “SEMS Technologies” from Arkansas Rural Water Association (ARWA) to complete their RRA and ERP. The software contains RRA and ERP templates that are designed to be compliant with SDWA 1433(a) and (b). The System also utilized ARWA technical assistance to complete their RRA and ERP documents.

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. Greenbrier System representatives stated that their response was not formally documented anywhere and there were no standard operating procedures (SOPs) that were generated to document how an event like this should be responded to in the future.

Tornados, which are a common occurrence in Arkansas. Greenbrier System representatives had no formal plans or SOPs written to respond to a tornado. They stated that tornados were not common in the area where their assets were located.

The transfer of knowledge from experienced System representatives to new staff members after experienced staff members are no longer employed by the System. Greenbrier System representatives stated that operational knowledge was not formally written down anywhere in the form of SOPs. They stated that during the COVID-19 pandemic, many experienced staff members left or passed away, resulting in an almost entirely new staff. Staff historically maintained all records on paper. The new Municipal Superintendent stated that he was in the process of digitizing all of their records including asset tracking through ArcGIS and the work order system.

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. All System assets listed in the RRA document were marked as “low priority” and a “Moderate, Tier 3” risk. However, System representatives stated that they did have high priority assets in their treatment system, including critical valves in the distribution system.

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. Resilience of treatment system infrastructure (disinfection with chlorine gas) was not described in the RRA. The treatment systems share buildings that have a “Community Water System” sign. These buildings have three separate areas, one houses the master meter and the other two house the chlorine gas area and backflow protection/chlorine injection area. Appendix 2, Photograph 20 shows what appeared to be an asset identification name plate for the backflow preventer. It was unclear if this is a System or Community Water asset. System representatives stated that they were working on building out a comprehensive ArcGIS software that could be used to locate various assets and store information regarding their specific operation and maintenance.

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. Monitoring practices were not described in the RRA, [REDACTED]

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 financial impact to system infrastructure as a result of a threat to the system was not described in the RRA document.

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 RRA document did not include an assessment of the use, storage, or handling of various chemicals by the system. “None” was written in the RRA document that addressed chemical storage and handling of various chemicals. However, System representatives stated that they enlisted a standardized chemical delivery process that was monitored by the operators.

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 to treatment or distribution system operation and maintenance (O&M) as a result of a threat was not developed in the RRA. System representatives stated that they did not have any O&M documents. They stated that operators relied on institutional knowledge to operate the treatment and distribution systems rather than

on written procedures. The System also did not have SOPs, and operational knowledge that was held by experienced staff members was lost when they left during the COVID-19 pandemic.

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. This item was not developed in the ERP. However, System representatives stated that Community Water’s SCADA system is used to monitor alarms in the treatment system. They also stated that operators conducted daily rounds and reported suspicious observations from the treatment/storage systems.

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. Information regarding actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health was not developed in the ERP document. However, System representatives discussed their public notification process in the event of an exceedance in a water sample. The process included a text message service, as well as an update to their website.

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. The response protocols for a threat to the treatment system had not been updated since the ERP was written in 2021. The manager listed in the ERP as the contact to respond to the press and lead the response was no longer the manager of the System, and the new Municipal Superintendent’s contact information was not listed. System representatives said that they would rely on their experience to respond to a threat to the treatment system rather than a formal document.

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. The representative listed as the person to call in the event of a terrorist attack was no longer the System manager. However, the ERP stated that System representatives would coordinate with local police in the event of a malevolent or terrorist event.

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 and resources to improve the resilience of the System (both physical and cybersecurity) were not developed in the ERP document. System representatives stated that all computers were password protected, and that only specific personnel had administrative access to the SCADA system. In terms of physical security, there were locked fences surrounding the perimeter of all System assets. System representatives stated that the locks on all doors and gates were changed whenever a staff member quit or was fired. However, this information was not described in the ERP.

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

Observation 12. While some of the assets throughout the distribution system (storage facilities, booster stations) had security signs posted on their perimeter fences, the System as a whole did not have standard signage providing critical information including ownership, restrictions, or a contact number to call in case of an emergency. Some assets had signs, but they were heavily damaged and difficult to read. For example, a sign was posted at the North Water Tank that appeared to have critical security information on it, but the sign was faded from the sun and therefore illegible (refer to [Appendix 2, Photograph 2](#)).

Observation 13. A valve box at the North Water Tank contained a pressure gauge and a water spicket with a threaded hose connection (refer to [Appendix 2, Photograph 4](#)).

Observation 14. [REDACTED]

Observation 15. [REDACTED]

Observation 16. [REDACTED]

Observation 17. [REDACTED]

Observation 18. It was unclear if the chlorine alarm and sensor in the Master Meter #1 chlorine storage room was functional. There was a large wasp nest on top of old rubber gloves that was resting on the sensor, and it appeared that it had not been cleaned/serviced recently (refer to Appendix 2, Photograph 17).

Observation 19. Chlorine was being injected into carry water in a separate room than where the chlorine gas cylinders were being stored at Master Meter #1 (refer to Appendix 2, Photographs 15 and 16). Additionally, the chlorine gas injection line was resting on the floor of the backflow protection/chlorine injection room, creating a potential tripping hazard which could trigger a gas leak if the line was jostled.

Observation 20. Some of the bolts that were securing a flange in the backflow protection/chlorine injection room at Master Meter #1 were experiencing substantial metal loss (refer to Appendix 2, Photograph 19).

Observation 21. Chlorine was being injected into carry water in a separate room than where the chlorine gas cylinders were being stored at both Master Meter #1 and #2 (refer to Appendix 2, Photograph 27). Additionally, there was a chlorinator vent line extending off of the 150 lb. chlorine gas cylinder at the Master Meter #1 chlorine booster station, and it was being fed through an exhaust vent with movable louvers (refer to Appendix 2, Photograph 24). It was unclear if the line was negatively impacting the room's designed ability to properly manage a chlorine gas leak.

Section IV – CLOSING CONFERENCE

On June 6, 2023, the EPA Inspection Team met with the Municipal Superintendent and head operator for a closing conference at approximately 2:50 p.m. Danny O'Connell and Jake Okun 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 6, 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: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 1. North Water Tank View of the North Water Tank. The tank is 100,000 gallons and was surrounded by a locked perimeter fence.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 2. Security Sign, North Water Tank View of the security sign that was posted in front of the perimeter fence at the North Water Tank. The sign was sun bleached and illegible.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 3. North Water Tank Perimeter Fence View of a "Do Not Enter" sign that was posted on the locked perimeter fence of the North Water Tank.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



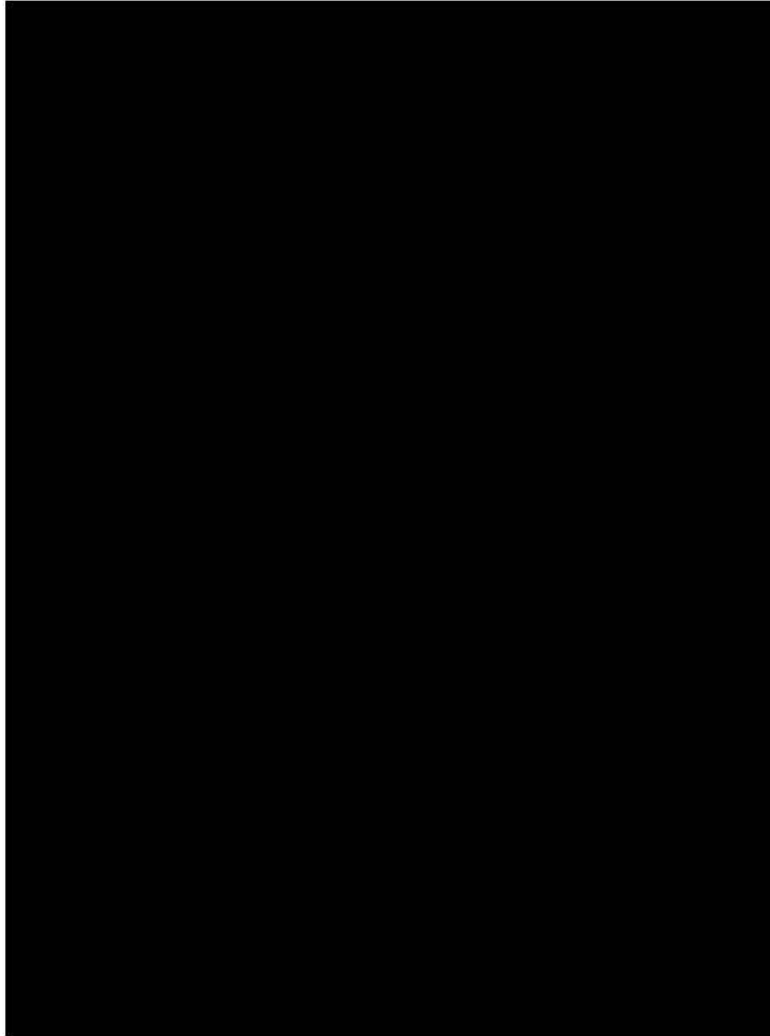
Photograph 4. Valve Box, North Water Tank View of the inside of a valve box at the North Water Tank that contained a pressure gauge indicator and a threaded hose tap without backflow prevention.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Photograph Log

Photo No. 5

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 6. Horseshoe Mountain Water Tank View of the Horseshoe Mountain Water Tank. The tank is 100,000 gallons and was surrounded by a locked perimeter fence.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 7. Horseshoe Mountain Tank Perimeter Fence View of a "No Trespassing" sign that was posted on the locked perimeter fence of the Horseshoe Mountain Water Tank.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 8. Horseshoe Mountain Water Tank View the locked security plate over the bottom rungs of the ladder at the Horseshoe Mountain Water Tank.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 9. Backup Generator, Horseshoe Mountain Water Tank View of the backup generator and propane tank that were positioned next to the Horseshoe Mountain Water Tank. System representatives stated that the generator was owned by Community Water. [REDACTED]

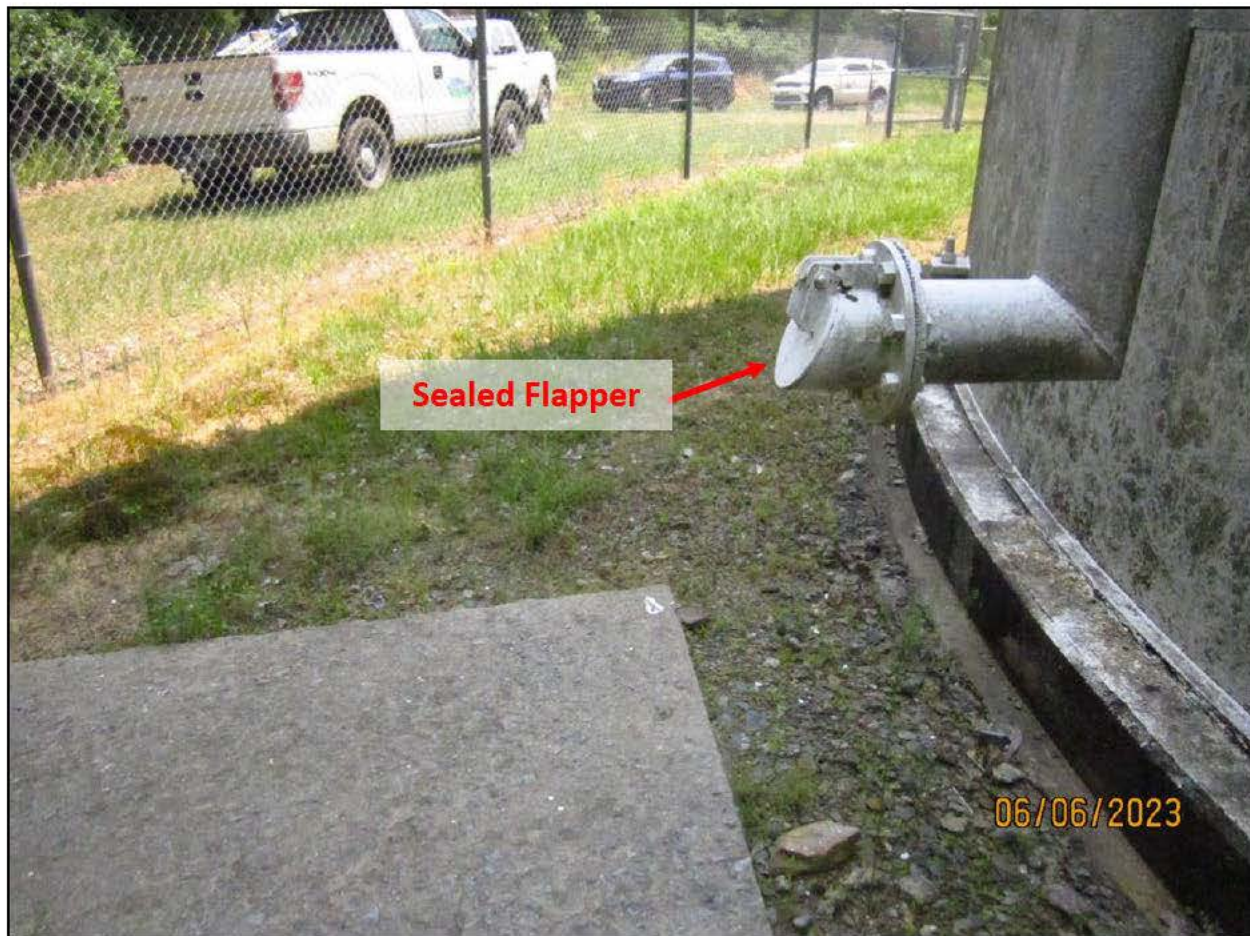


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 10. Horseshoe Mountain Water Tank Overflow Pipe View of the overflow pipe that extended out of the Horseshoe Mountain Water Tank. The end of the pipe was covered by a flapper valve with a tight seal. A concrete splash pad was positioned under the end of the overflow pipe.

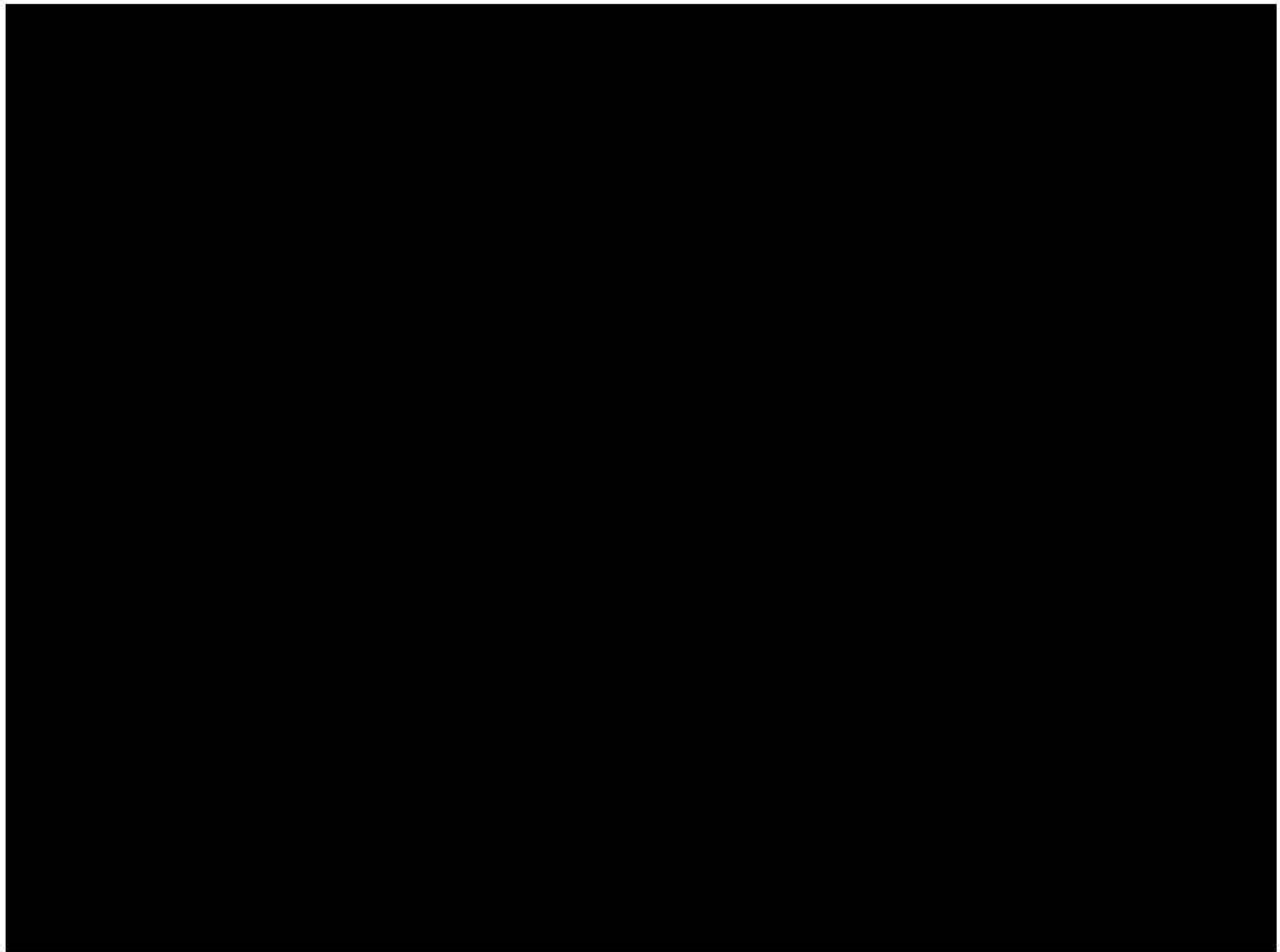


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



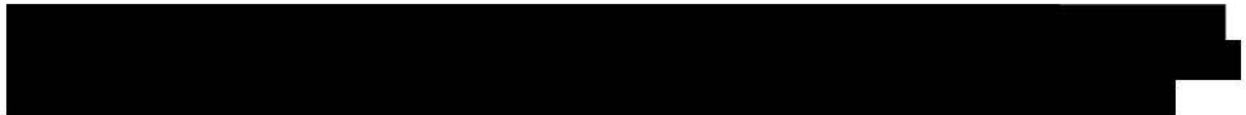
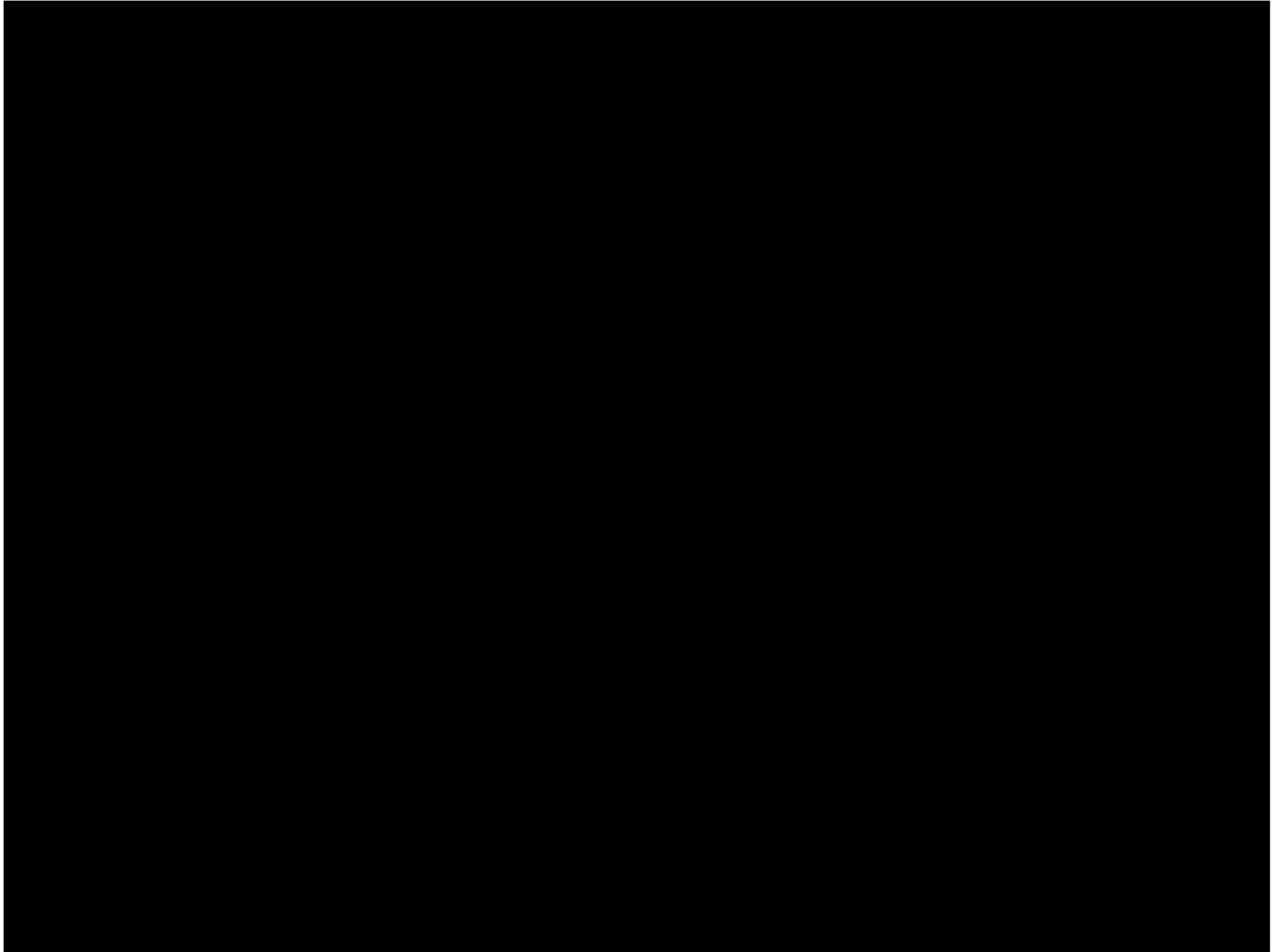


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



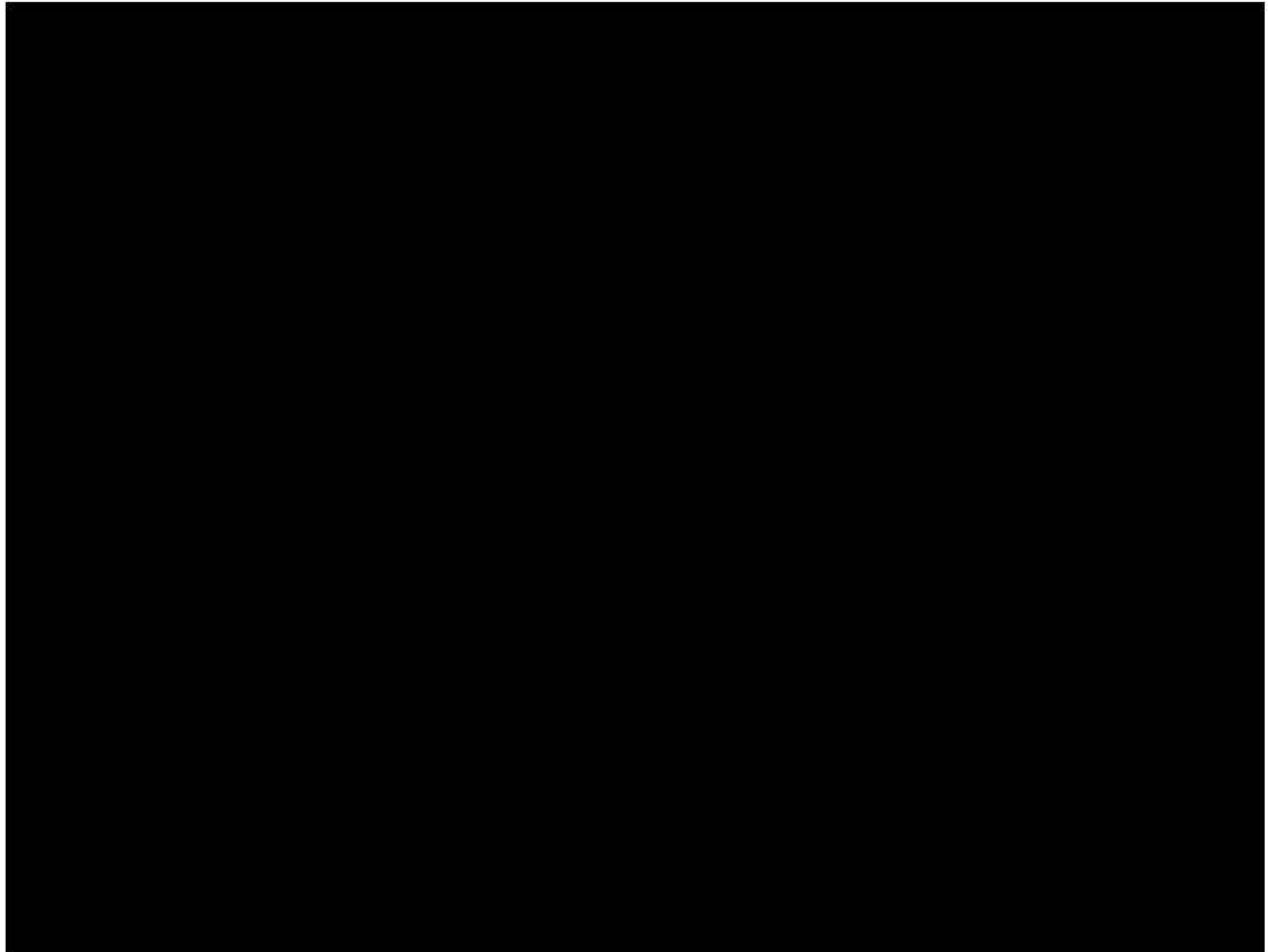


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 14. Chlorine Storage Room, Master Meter #1 View of the inside of the chlorine storage room at Master Meter #1. There were two, 150 lb. cylinders with one in use and one on standby. The chlorinator vent lines were run through an exhaust vent with moveable louvers. It was unclear if the lines will negatively impact the rooms design ability to properly manage a release of chlorine gas.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 15. Chlorine Storage Room, Master Meter #1 View of the chlorine gas line that feeds through the wall into the backflow protection/chlorine injection room where it is injected into carry water before final injection downstream of Master Meter #1.

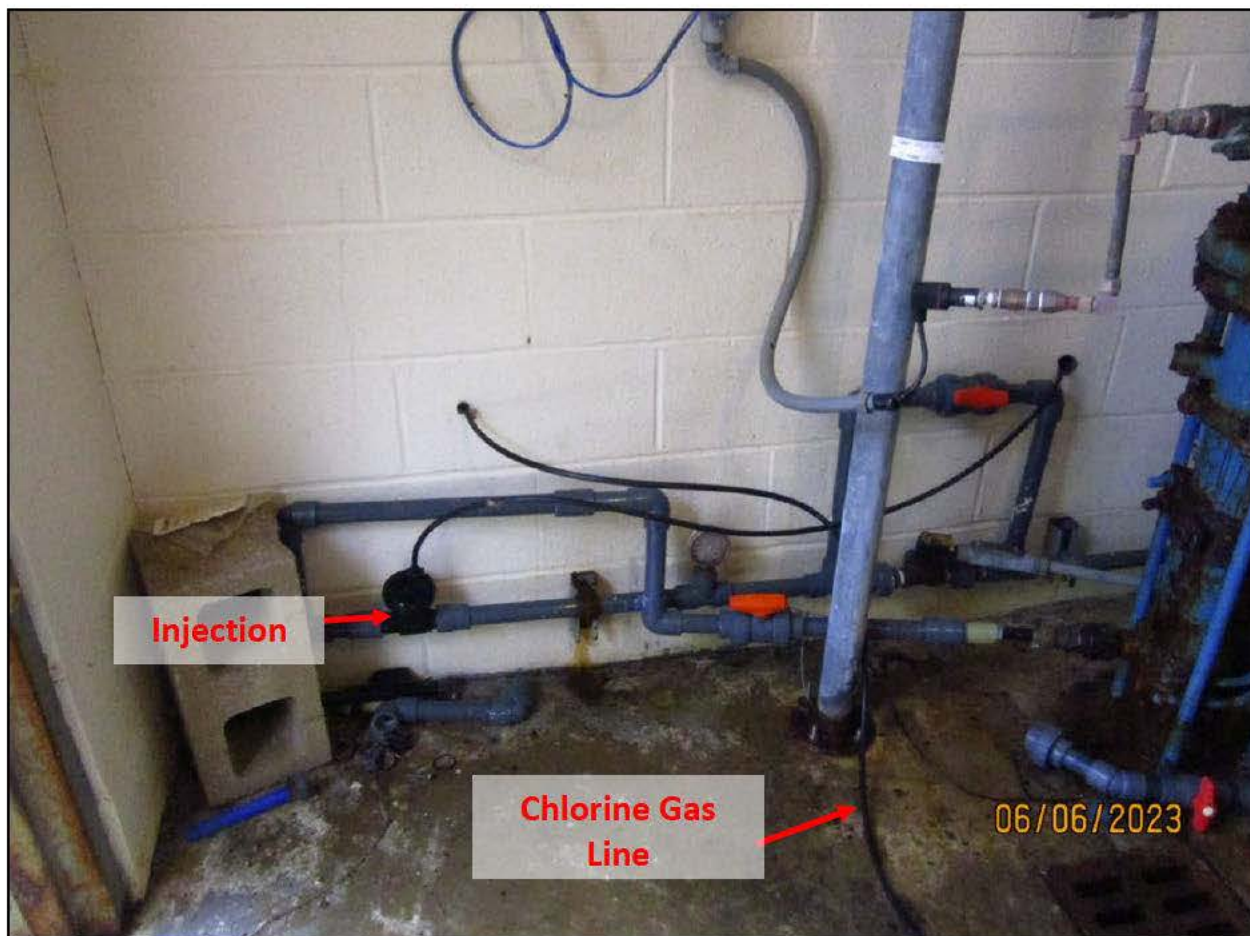


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 16. Chlorine Injection, Master Meter #1 View of the inside of the backflow protection/chlorine injection room where chlorine gas was being injected into carry water. This injection was in a separate room from the chlorine storage room. The chlorine gas line was resting on the floor, creating a potential tripping and disconnection hazard.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 17. Chlorine Sensor, Master Meter #1 View of the sensor near the floor of the chlorine storage room at Master Meter #1. It was unclear if the sensor was functional. There was a large wasp nest on top of old rubber gloves that were resting on the chlorine gas alarm sensor, and it appeared that it had not been cleaned/serviced recently. In addition, the sensor was positioned approximately 20-inches off the floor. Since chlorine gas settles close to the ground, the position of this sensor is concerning because it may not detect a chlorine gas leak until levels of chlorine become dangerously high.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 18. Chlorine Cylinder Scale, Master Meter #1 View of the functional chlorine cylinder scale in the chlorine gas storage room at Master Meter #1.

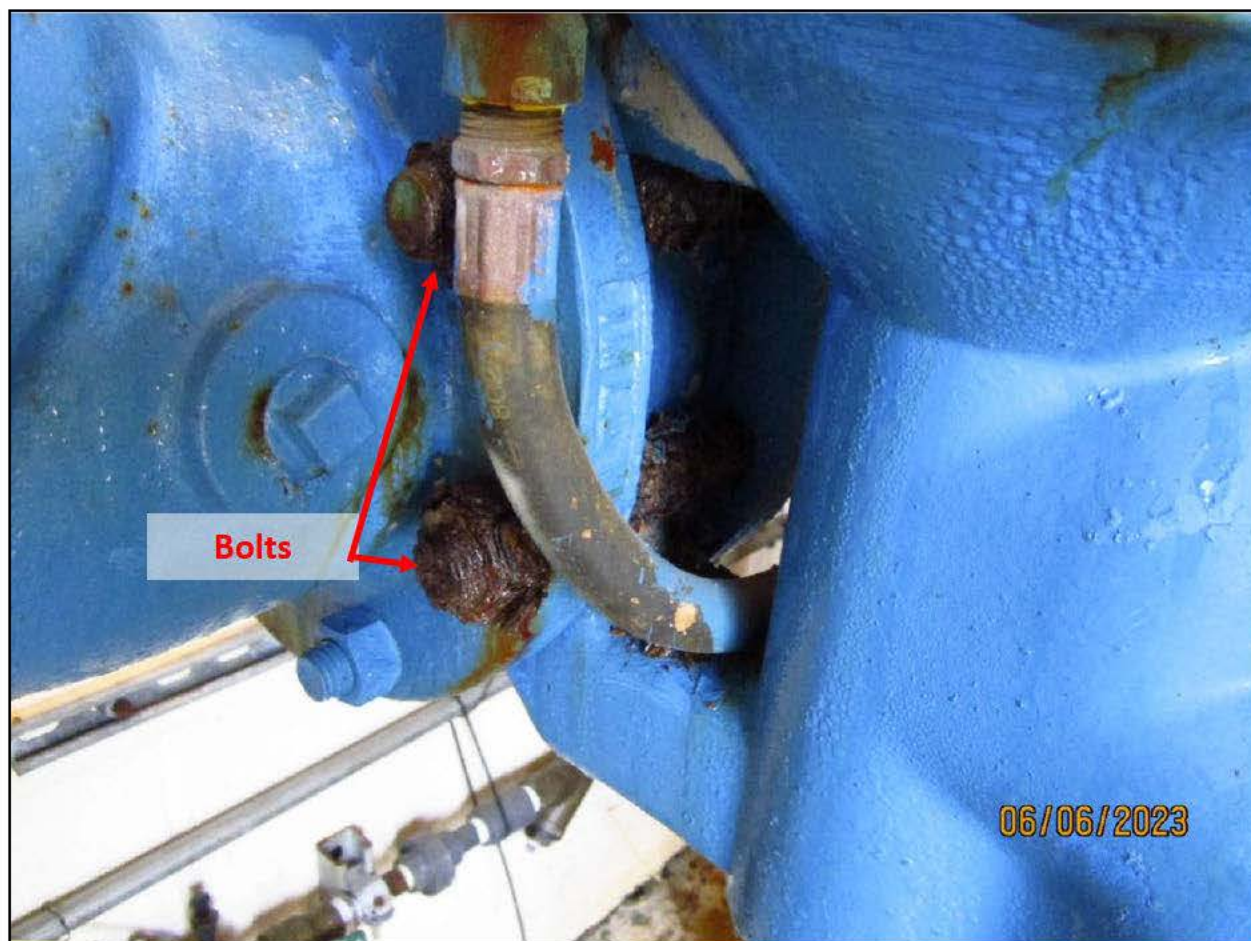


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 19. Master Meter #1 Line View of the bolts that secured one of the flanges at the location. Some of the bolts were experiencing substantial rust and metal loss.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 20. Backflow Preventer, Master Meter #1 View of the backflow preventer on the Master Meter #1 line that appeared to contain an asset identification nameplate.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 21. Backup Generator and Propane Tank, Master Meter #1 View of the backup generator and propane tank that were located inside of fence line at Master Meter #1. System representatives stated that the generator was owned by Community Water.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 22. Master Meter #2 Security Fence View of the sign that said "Violators Will Be Prosecuted" on the perimeter fence of Master Meter #2.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 23. Chlorine Gas Storage Room, Master Meter #2 View of the 150 lb. chlorine gas cylinder inside the Master Meter #2 chlorine storage room. The gas was being fed through the wall into the backflow protection/chlorine injection room.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 24. Chlorinator Vent Line, Master Meter #2 View of a chlorinator vent line in the chlorine storage room at Master Meter #2. The chlorinator vent lines were run through the exhaust vent moveable louvers. It was unclear if the lines would negatively impact the room's designed ability to properly manage a release of chlorine gas.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 25. Chlorine Sensor, Master Meter #2 View of the chlorine gas sensor in the chlorine storage room at Master Meter #2. It appeared that the sensor had not been cleaned/serviced recently. In addition, the sensor was positioned over 20-inches off the floor. Since chlorine gas settles close to the ground, the position of this sensor is concerning because it may not detect a chlorine gas leak until levels of chlorine become dangerously high.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 26. Chlorine Cylinder Scale, Master Meter #2 View of the functional chlorine cylinder scale in the chlorine gas storage room at Master Meter #2.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Photograph Log

Photo No. 27

Location: Greenbrier Water Works		
City: Greenbrier	County/Parish: Faulkner	State: Arkansas



Photograph 27. Chlorine Injection, Master Meter #2 View of the inside of the backflow protection/chlorine injection room where chlorine gas was being injected into carry water. This injection was in a separate room from the chlorine storage room.