2021 Recycle Pond A Inspection Report

Entergy Arkansas, LLC White Bluff Plant
Recycle Pond A

January 2022
Promus Project No. 210227

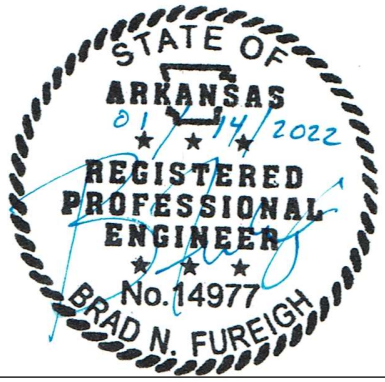
Prepared for:
Entergy Arkansas, LLC
P.O. Box 551
Little Rock, Arkansas 72203

Prepared by:

PROMUS ENGINEERING

PROFESSIONAL ENGINEER'S CERTIFICATION

This report on the annual engineering inspection of the Entergy Arkansas, LLC White Bluff Plant Recycle Pond A and supporting documentation was prepared under the direction and supervision of a qualified, State of Arkansas-registered Professional Engineer. Mr. Brad Fureigh, PE, of Promus Engineering, LLC. (Promus), was responsible for the overall preparation of this report. The report has been prepared to fulfill the requirements of §257.84(b). Based on the inspection of the recycle pond facility and review of available recycle pond documents, the design, construction, operation, and maintenance of Recycle Pond A is consistent with recognized and generally accepted good engineering standards.



Brad N. Fureigh, PE
AR Registered Professional Engineer No.: 14977

January 14, 2022
Date

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2021 Recycle Pond A Inspection Report

Entergy Arkansas, LLC White Bluff Plant Recycle Pond A
Redfield, Arkansas

1.0 INTRODUCTION

1.1. Purpose of Report

The purpose of this report is to document the annual inspection of the Entergy Arkansas, LLC White Bluff Plant's Recycle Pond A (South Pond) in accordance with 40 CFR §257, *Subpart D - Disposal of Coal Combustion Residuals From Electric Utilities* (the CCR Rule). In particular, the report has been prepared to comply with §257.83(b), which requires an inspection to be conducted by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the recycle pond is consistent with recognized and generally accepted good engineering standards.

The report includes:

- Changes in geometry of the pond,
- Location and type of existing instrumentation and the maximum recorded readings of each instrument,
- Approximate minimum, maximum and present depth and elevation of impounded water and CCR,
- Storage capacity of the recycle pond at the time of inspection,
- Approximate volume of impounded water and CCR at time of inspection,
- Any appearance of an actual or potential structural weakness of the pond; and
- Other changes which may affect stability or operation of the pond.

1.2. White Bluff Power Plant Recycle Pond Information

Entergy Arkansas, LLC (Entergy) operates the White Bluff Steam Electric Station, located on the west bank of the Arkansas River, near Redfield in Jefferson County, Arkansas, as shown on Figure 1. This plant previously operated two Water Recycle Ponds: A and B, as part of its process water system for bottom ash transport system. The Water Recycle Ponds were replaced by a submerged flight conveyor and not operational during 2021. Further, the Water Recycle Ponds are currently in the process of being closed by removal pursuant to 40 C.F.R. 257.102(c). During operations since closure commenced, the bottom ash from the boilers is sluiced to a remote submerged flight conveyor for removal of bottom ash from the bottom ash transport water, which is recycled. The bottom ash is deposited into the bottom ash bunker from which it is removed and bottom ash is transported from the bottom ash bunker for disposal in the landfill. The water drained during the process is returned to the bottom ash transport system for reuse in the sluicing operations.

2.0 DESCRIPTION OF RECYCLE POND LAYOUT

The recycle pond system consists of 2 ponds, Recycle Pond A (South Pond) and Recycle Pond B (North Pond). Recycle Pond A is not incised and is unlined. This report will cover Recycle Pond A only. The recycle pond area is approximately 19 acres. Pond A is approximately 7.1 acres (768' x 403') with a bottom elevation of approximately 256.5 ft msl and has a capacity of 190,600 cubic yards. Pond A has a rim elevation at approximately 280.0 ft msl with interior slopes constructed at roughly 2.5:1. There are stormwater swales around the pond to control stormwater and limit the volume of run-on. The facility has ceased placement of CCR and non-CCR waste streams in the pond. Recycle Pond A has been mostly drained, and the only influent to the pond is from rainwater and groundwater. The facility commenced closure of Pond A on October 5, 2018. Closure construction activities were documented during the December 6, 2021 site inspection. Construction is anticipated to be completed in the first quarter of 2022, which is within 5 years of the commencement date, in accordance with 40 CFR 257.102(c).

3.0 REVIEW OF AVAILABLE INFORMATION

A review of available information regarding the status and condition of Recycle Pond A including files available in the operating record, such as pond design and construction information, previous structural stability assessments, weekly inspection reports, and any previous annual inspections which have been conducted. Based on review of this information, no signs of actual or potential structural weakness were noted. As previously noted, Recycle Pond A has been mostly drained and closure construction activities are in progress.

4.0 ASSESSMENT OF RECYCLE POND

This section of the report provides a summary of the inspection of the Entergy Arkansas, LLC White Bluff Plant's Recycle Pond A that was conducted on December 6, 2021. Charah Solutions, Inc. (Charah) was Entergy's ash management contactor throughout 2021. The assessment included an onsite inspection of the pond area, discussions with Charah and Entergy personnel, review of weekly inspection reports of the facility, and review of documents pertaining to the operation and compliance of the recycle pond. Photographs of the site inspection are included in Appendix B.

4.1. Changes in Geometry

During the reporting period, no changes were made to the geometry of Pond A. At the time of inspection, Pond A was mostly drained for on-going closure construction activities.

4.2. Instrumentation

Two (2) piezometers and ten (10) monitoring wells are in operation around the Recycle Pond area. No new monitoring wells or piezometers were installed during the reporting period. Table 4.1 shows the max readings of each piezometer and monitoring well during the reporting period.

Table 4.1: 2021 Recycle Pond Instrumentation Data

Name	Northing	Easting	Type	Maximum Reading	Date of Reading
PZ-1	1,949,513.90	1,272,146.80	Piezometer	n/a	n/a
PZ-5	1,949,067.50	1,272,460.60	Piezometer	n/a	n/a
RP-1	1,949,807.10	1,273,086.50	Monitoring Well	278.23	6/16/2021
RP-2	1,950,042.00	1,274,004.00	Monitoring Well	277.15	6/16/2021
RP-3	1,949,486.50	1,273,729.90	Monitoring Well	276.66	6/16/2021
RP-4	1,949,249.30	1,272,808.40	Monitoring Well	277.36	6/16/2021
RP-5	1,948,586,20	1,272,475.80	Monitoring Well	276.54	6/16/2021
RP-6	1,948,590,90	1,271,958.90	Monitoring Well	274.06	6/16/2021
RP-7	1,949,766.80	1,271,839.40	Monitoring Well	273.85	6/16/2021
RP-8	1,949,162.50	1,271,875.30	Monitoring Well	276.51	6/16/2021
RP-9	1,948,797.00	1,272,803.30	Monitoring Well	277.25	6/16/2021
RP-10	1,949,510,50	1,272,499.00	Monitoring Well	277.15	6/16/2021

Note: Water elevations from PZ-1 and PZ-5 were not taken during the reporting period.

4.3. Pond Characteristics

Shown below in Table 4.2 is a summary of the minimum, maximum, and present depth and elevation of impounded water and CCR, storage capacity of the recycle pond at the time of inspection, and the approximate volume of impounded water and CCR at the time of inspection. During the inspection, Pond A was mostly drained for on-going closure construction activities.

Table 4.2: Recycle Pond Characteristics

	Water	CCR
Minimum Depth (ft)	0	> 0
Maximum Depth (ft)	< 23.5	< 23.5
Present Depth (ft)	Mostly Drained	< 23.5
Storage Capacity (cy)	190,600	
Volume of Media (cy)	Mostly Drained	< 190,600

4.4. Appearance of Structural Weakness

A visual inspection of Pond A was conducted to observe signs of actual or potential structural weakness or any conditions that are or may disrupt the operations. Pond A was mostly drained, and no signs of potential structural weakness were noted during the inspection. Also, the piezometers and monitoring wells appeared to be in good condition.

4.5. Other Changes That May Affect Stability or Operation

Based on discussions with Entergy personnel, Charah personnel, and field observations, there were no changes made to Pond A in this reporting period that would affect the stability. Recycle Pond A is out of operation as closure by removal proceeds.

APPENDIX A
FIGURES

Photo No. 1
Looking east from the west side of Recycle Pond A. Closure construction activities in progress.

Photo No. 2
Looking north at west end of Recycle Pond A with closure construction activities in progress.

Photo No. 3
Looking north at the east side of Recycle Pond A.

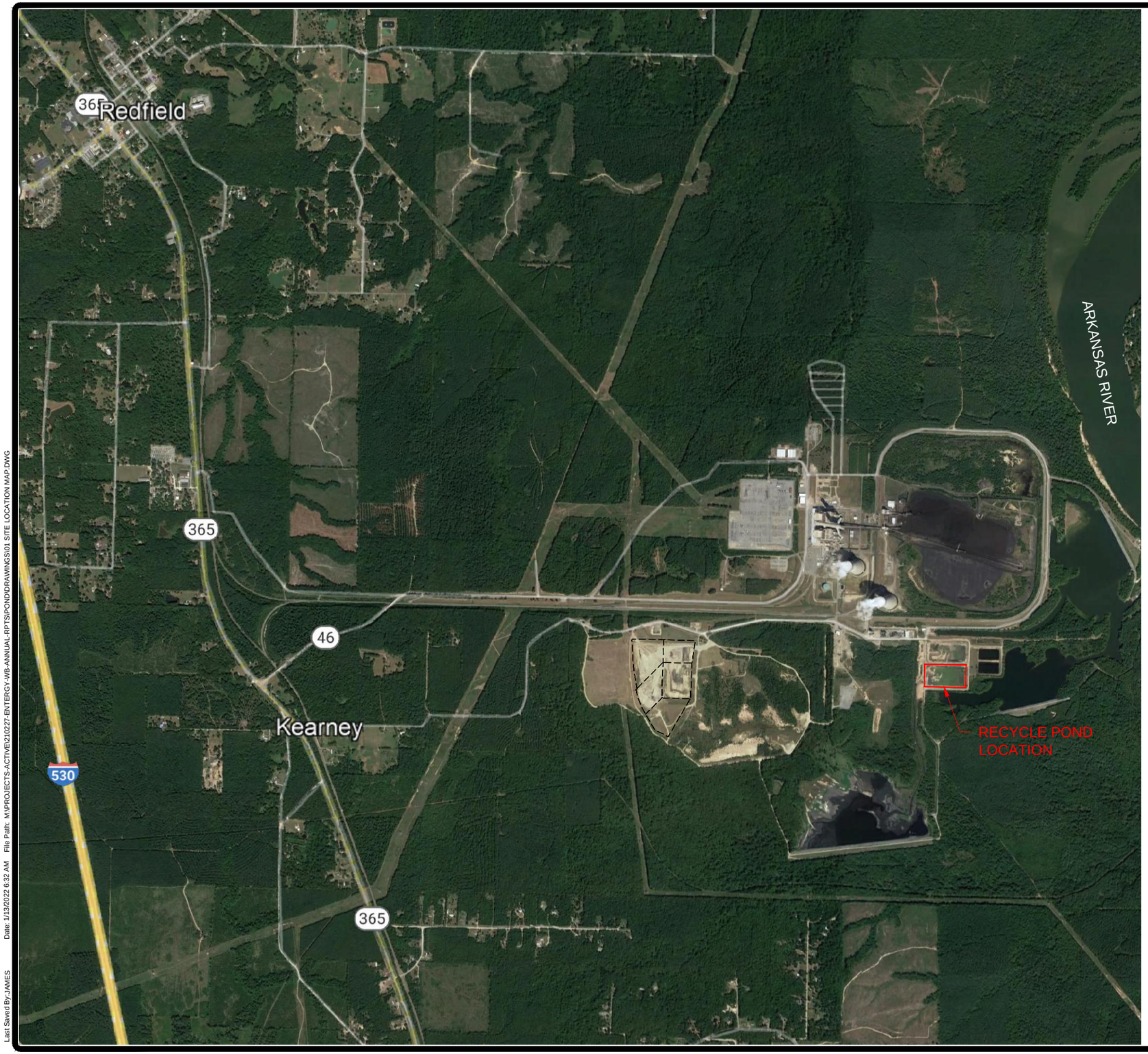
Photo No. 4
Looking west at the perimeter road located between Recycle Pond A and the Clear Water Holding Pond.

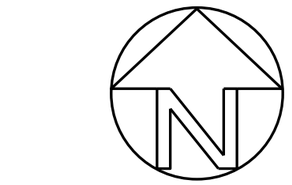
Photo No. 5
Looking west from the east side of Recycle Pond A.

Photo No. 6
Looking west at the dike located between Recycle Pond A and Recycle Pond B.

APPENDIX B

PHOTOS OF ANNUAL ENGINEERING INSPECTION





NOTES:

ORTHO IMAGERY OBTAINED FROM GOOGLE EARTH, DATED SEPTEMBER 2021.

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SITE LOCATION MAP

ANNUAL ENGINEERING INSPECTION REPORT
WHITE BLUFF
REDFIELD, ARKANSAS

PROJECT NO.: 210227

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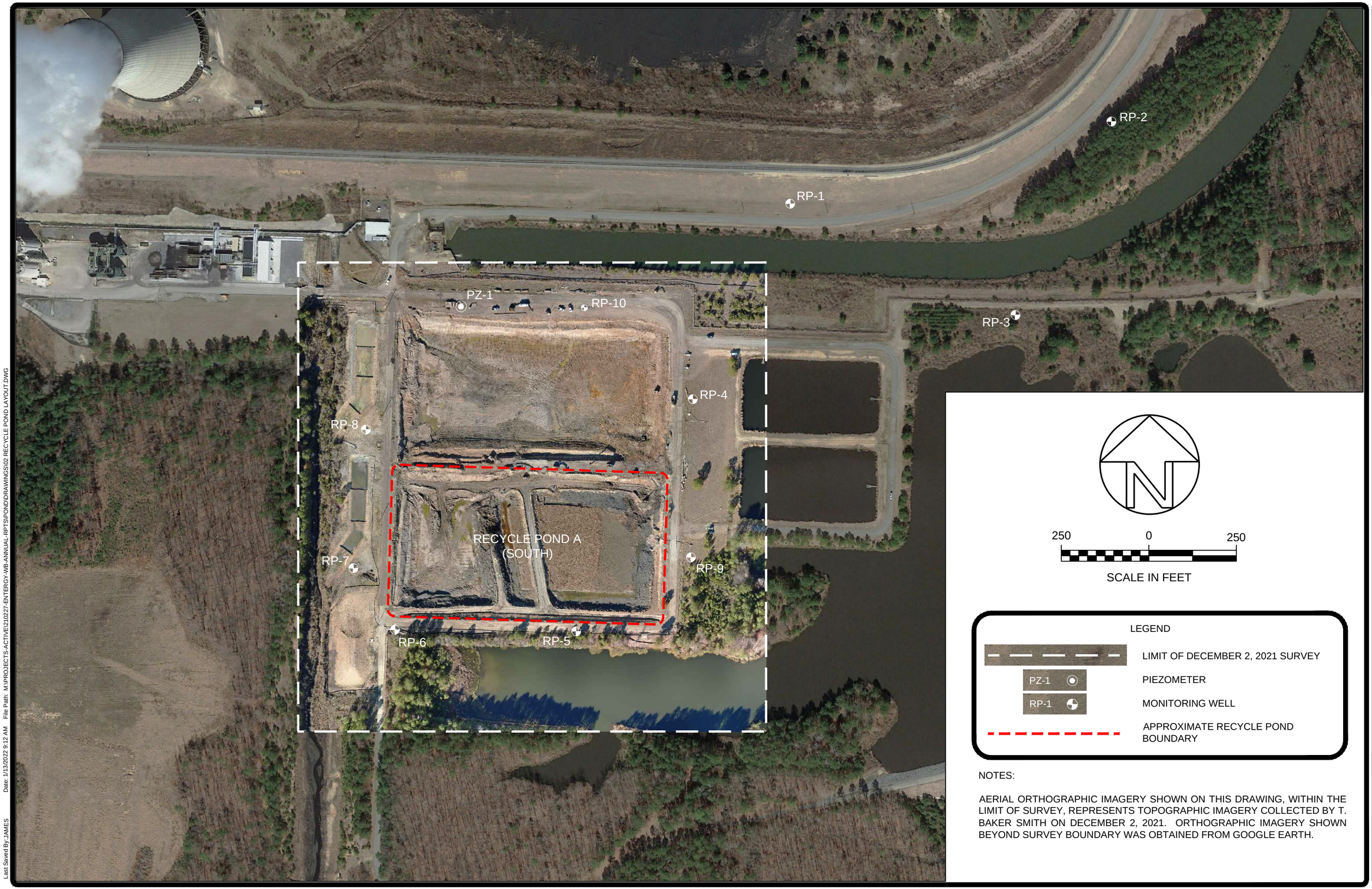

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SCALE IN FEET

LEGEND

- LIMIT OF DECEMBER 2, 2021 SURVEY
- PZ-1 — PIEZOMETER
- RP-1 — MONITORING WELL
- APPROXIMATE RECYCLE POND BOUNDARY

NOTES:

AERIAL ORTHOGRAPHIC IMAGERY SHOWN ON THIS DRAWING, WITHIN THE LIMIT OF SURVEY, REPRESENTS TOPOGRAPHIC IMAGERY COLLECTED BY T. BAKER SMITH ON DECEMBER 2, 2021. ORTHOGRAPHIC IMAGERY SHOWN BEYOND SURVEY BOUNDARY WAS OBTAINED FROM GOOGLE EARTH.

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RECYCLE POND LAYOUT

ANNUAL ENGINEERING INSPECTION REPORT
WHITE BLUFF
REDFIELD, ARKANSAS

PROJECT NO.: 210227

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100 0 100

SCALE IN FEET

LEGEND

- 100 — EXISTING CONTOURS
- PZ-1 — PIEZOMETER
- RP-1 — MONITORING WELL
- APPROXIMATE RECYCLE POND BOUNDARY

NOTES:

EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING REPRESENTS TOPOGRAPHIC IMAGERY COLLECTED BY T. BAKER SMITH ON DECEMBER 2, 2021.

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DECEMEBER 2, 2021 SURVEY

ANNUAL ENGINEERING INSPECTION REPORT
WHITE BLUFF
REDFIELD, ARKANSAS

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