

United States Department of the Interior  
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES  
REGISTRATION FORM

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1. Name of Property

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historic name: Rommel Dam

other name/site number: N/A

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2. Location

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street & number: Rommel Dam Road

not for publication: N/A

city/town: Jones Mill

vicinity: X

state: AR

county: Hot Spring

code: AR 059

zip code: 72104

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3. Classification

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Ownership of Property: Private

Category of Property: Structure

Number of Resources within Property:

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
<u>1</u>	_____	structures
_____	_____	objects
<u>1</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register: N/A

Name of related multiple property listing: N/A

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**4. State/Federal Agency Certification**  
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As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this  X  nomination   request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property  X  meets   does not meet the National Register Criteria.   See continuation sheet.

Cathryn D. Byrd   7-16-92   
Signature of certifying official Date

Arkansas Historic Preservation Program   
State or Federal agency and bureau

In my opinion, the property   meets   does not meet the National Register criteria.   See continuation sheet.

\_\_\_\_\_  
Signature of commenting or other official Date

\_\_\_\_\_  
State or Federal agency and bureau

=====  
**5. National Park Service Certification**  
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I, hereby certify that this property is:

- entered in the National Register \_\_\_\_\_  
  See continuation sheet.
- determined eligible for the \_\_\_\_\_  
National Register \_\_\_\_\_  
  See continuation sheet.
- determined not eligible for the \_\_\_\_\_  
National Register \_\_\_\_\_
- removed from the National Register \_\_\_\_\_
- other (explain): \_\_\_\_\_

\_\_\_\_\_  
Signature of Keeper Date  
of Action

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**6. Function or Use**  
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Historic:  Industry  Sub:  Energy Facility

Current :  Industry  Sub:  Energy Facility

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9. Major Bibliographical References
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X See continuation sheet.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary Location of Additional Data:

- State historic preservation office
- Other state agency
- Federal agency
- Local government
- University
- Other -- Specify Repository:

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10. Geographical Data
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Acreage of Property: Approximately two

UTM References: Zone Easting Northing Zone Easting Northing
A 15 509750 3809320 B
C D

See continuation sheet.

Verbal Boundary Description: See continuation sheet.

Beginning at a point at the northwest corner of the dam, proceed south 900 feet along the western elevation of the dam. Then proceed east approximately 50 feet to the line formed by the extreme eastern elevation of the dam. Then proceed north 900 feet along this line. Then proceed west to the point of beginning.

Boundary Justification: See continuation sheet.

This boundary includes all of the property historically associated with this resource that retains its integrity.

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7. Description  
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Architectural Classification:

N/A  
\_\_\_\_\_  
\_\_\_\_\_

Other Description: Flat-slab buttress (Ambursen type)

Materials: foundation Concrete roof Asphalt (powerhouse)  
walls Concrete other \_\_\_\_\_  
Brick

Describe present and historic physical appearance. X See continuation sheet.

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8. Statement of Significance  
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Certifying official has considered the significance of this property in relation to other properties: Statewide.

Applicable National Register Criteria: A, C

Criteria Considerations (Exceptions): N/A

Areas of Significance: Industry  
Engineering  
Entertainment/Recreation  
\_\_\_\_\_  
\_\_\_\_\_

Period(s) of Significance: 1923-1942

Significant Dates: 1924

Significant Person(s): N/A  
\_\_\_\_\_

Cultural Affiliation: N/A

Architect/Builder: Ford, Bacon, and Davis Co.  
Ambursen Construction Co.  
\_\_\_\_\_

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.  
X See continuation sheet.

11. Form Prepared By

=====

Name/Title: Stephen C. Cox, Student: University of Arkansas at Little Rock  
Edited by AHPP Staff

Organization: Arkansas Historic Preservation Program Date: 07/15/92

Street & Number: 225 E. Markham, Suite 300 Telephone: (501) 324-9346

City or Town: Little Rock State: AR ZIP: 72201

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### Summary

Rommel Dam is a reinforced concrete and steel Ambursen-type flat-slab buttress dam. It is a hollow gravity structure which, in addition to its own weight, utilizes the weight of the lake water bearing down upon its upstream face for stability. The upstream face of the dam is sloped downward into the lake at an approximate 45-degree angle to the horizontal. The upstream face is reinforced concrete slabs 24 inches thick which span the buttress wall sections and act as an impervious water barrier. The weight of the water and the slabs themselves are transmitted by beam action to the individual reinforced concrete buttress walls. These buttresses are integrated into a commonly shared reinforced concrete foundation slab. This type of dam was a design typical of the early 1900's when the additional labor and material costs for the extensive form-work and reinforcement placement were cheaper than the cost of the massive amounts of concrete required for a reinforced concrete solid gravity dam. Rommel Dam forms Lake Catherine, which covers 1900 acres.

### Elaboration

Rommel Dam is a reinforced concrete and steel Ambursen-type flat-slab buttress dam. It is a hollow gravity structure which, in addition to its own weight, utilizes the weight of the lake water bearing down upon its upstream face for stability. The upstream face of the dam is sloped downward into the lake at an approximate 45-degree angle to the horizontal. The upstream face is reinforced concrete slabs 24 inches thick which span the buttress wall sections and act as an impervious water barrier. The weight of the water and the slabs themselves are transmitted by beam action to the individual reinforced concrete buttress walls. These buttresses are integrated into a commonly shared reinforced concrete foundation slab. This type of dam was a design typical of the early 1900's when the additional labor and material costs for the extensive form-work and reinforcement placement were cheaper than the cost of the massive amounts of concrete required for a reinforced concrete solid gravity dam.

Rommel Dam's eastern face is the one facing downstream and is the most visible. The southern half of the dam comprises the spillway area. There are 12 spillway gates, each separated by a reinforced concrete buttress wall which extends outward and upward from the spillway slope. At the base of the spillway a reinforced concrete foundation slab extends outward horizontally about 50 feet. At the outer edge of this slab numerous reinforced concrete piers jut back toward the spillway face. These serve to break up and reduce the erosion of the riverbed and thus prevents the erosion of the riverbed underneath the foundation.

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The northern half of the downstream face is dominated by the powerhouse, which adjoins the northern end of the spillway and abuts the downstream face. The lower half of the powerhouse structure is of reinforced concrete construction. This lower half contains the penstocks, spiral cases, wicket gates, and turbine wheels and shafts. The penstocks are tubes which carry water under pressure to the spiral cases. These are large tubes which wrap around the turbine and direct a uniform flow of water into the turbines. The wicket gates surround the turbine wheels and can be opened and closed to control the amount of waterflow into the turbines.

The upper half of the powerhouse contains the generators, monitoring equipment, workrooms, and other equipment necessary for the generation of electricity. The upper half is constructed of reinforced concrete, brick masonry, steel, and/or glass, except for the north wall, which was originally constructed of wood beams, glass, and galvanized tin. It is now constructed of steel and aluminum siding. The north wall was originally intended to be temporary because additional generating units were planned for installation on the north side. These were never added, and when the original wall began to deteriorate several years ago it was replaced. A series of transformers rest on a reinforced concrete extension outside the east wall of the powerhouse. The original transformers have all been replaced. Originally a transmission substation sat on the roof of the powerhouse, but this has been moved to a spot atop the northern bank of the river near the dam.

The northernmost portion of the dam simply consists of the rear face of the barrier slabs and their buttresses. There is no spillway ramp facing this portion of the dam. At the base of this northern section there runs a large open reinforced concrete channel running alongside the dam from the northern riverbank to the powerhouse. This channel serves as an overtopping spillway that keeps water that may flow over the top of the dam during a severe flood from eroding the riverbank and thus jeopardizing the dam's foundation. It was installed in the mid-1960's due to changes in federal regulations.

The top of the dam is spanned by a walkway that runs from one riverbank to the other. This is an original feature of the dam. The only exterior feature not previously mentioned which is not original is a stairway leading from the top of the dam on the north end down to the powerhouse, where it adjoins a catwalk that runs the length of the powerhouse's north wall. One of the very few features that no longer exists is a stairway tower that led from the north end of the dam down to the bottom of the dam. It was not connected to the powerhouse.

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Continuation SheetSection number 8 Page 1**Summary**

Rommel Dam's importance in Arkansas' history is several-fold. Its construction was the culmination of the dreams, effort, and persistence of one of the state's pre-eminent businessmen and economic developers, Harvey Couch. It helped key the expansion and survival of one of the state's leading businesses, Arkansas Power and Light Company, during a period fraught with risk for fledgling electric utilities throughout the South. It is also an example of advanced industrial design and engineering that was rare in Arkansas at the time it was built. The lake it created, Lake Catherine, was immediately significant as a recreational resource because of its size and remains so today even though it has since been eclipsed in size by numerous other man-made Arkansas lakes. For these reasons, it is eligible under both Criteria A and C with statewide significance.

**Elaboration**

Rommel Dam was constructed for Arkansas Power and Light by the Ambursen Construction Company in partnership with the engineering and construction firm of Ford, Bacon, and Davis. Both Ambursen and Ford, Bacon, and Davis were nationally respected firms, and the flat-slab buttress design used in Rommel's construction was patented by Ambursen. Construction was begun early in 1923 and completed near the end of 1924. Because of its isolated location, all construction workers lived on-site in a self-sufficient workers' camp. Electricity for the job site was provided by an AP&L facility in Malvern, a small town a few miles away. At the time it was built the dam and its generating facilities could provide peaking electrical power to AP&L's entire network of customers. Although it is no longer able to serve AP&L's system on that scale, it still provides peaking power when necessary, and is available to serve a potential purpose of the utmost importance: because its generating facilities can be re-started manually, Rommel Dam could serve as the initial re-start point in AP&L's system in case of a power blackout. With respect to the generating facilities, perhaps the most impressive fact about the dam today is that over ninety percent of all the various motors, machines, pumps, gauges, and other equipment necessary to generate electricity are original. In addition, the changes that have been made to the exterior over the years have altered the visual character of the dam minimally, and most of these changes have been necessary technological or regulatory alterations.

The dam's significance in industry and commerce is the result of its relationship to one of Arkansas' most important persons of this century, Harvey Couch, who was one of the state's pioneers in economic and industrial development. Before founding AP&L, which was at the time already Arkansas' largest electric utility,



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Couch was a trailblazer in the telephone industry in Arkansas in the 1890's and early 1900's. Later, in the late 1920's and 1930's he became a major force in the railroad industry through his acquisition of the Louisiana and Arkansas and Kansas City Southern railroads. Couch's success in obtaining financing for the dam project and overseeing its successful completion helped to establish respect for Couch in the world of banking and finance, whose support was crucial for the company's as well as the state's economic growth. This was especially significant due to the fact that Couch had to persuade Eastern financiers to back his early projects because Arkansas banks were leery of the risk that electric utilities in the South represented at that time.

Rommel Dam is also important because it established a number of firsts for Arkansas. It was the first electricity-producing facility in the state able to serve a statewide base of customers and helped to significantly lower electrical costs, thus enabling more customers to be connected to the system. It was the state's first hydroelectric dam and the first dam to be constructed entirely of steel and reinforced concrete using sophisticated engineering techniques. It also created Arkansas' first true man-made lake.

That lake, Lake Catherine, named for Couch's only daughter, also contributes to the dam's significance. It serves as an ongoing economic and recreational resource, providing fishing, boating, and other nature-oriented pleasures to thousands of visitors and home-owners on the lake, which translates into millions of dollars pumped into the local economy. The lake created by the dam does not always serve as a source of pleasure, however. The dam and lake were designed primarily for the generation of electricity, not flood control, although they are able to handle most flooding adequately and with a minimum of resulting property damage. But twice since the dam's construction extremely heavy rainfall has created flooding on such a massive scale that water flowed over the top of the dam. The first time was during the great floods of 1927. At that time, development around the lake was virtually nonexistent, and damage was minimal; the second time this sort of flooding occurred was May 19-20, 1990. Due to the massive floodwaters and the high degree of development around the lakeshore, damage to homes, boats, recreational facilities, and even the dam powerhouse amounted to over ten million dollars.

Finally, Rommel Dam is noteworthy also due to its namesake, Harmon L. Rommel. Harmon Rommel was Arkansas' leading Republican of the day and was also prominent in the party on the national level. It was due to Rommel's friendship with Couch, a Democrat, and his influence with the Republican administration of President Calvin Coolidge that Couch was able to receive the necessary federal permits in a manner timely enough to allow him to begin construction almost immediately. If Couch had been delayed by the federal regulatory approval process Rommel Dam might have never been built.

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Rommel Dam is eligible under Criterion A with statewide significance by virtue of its associations with both a crucial, early stage in the growth of the Arkansas Power and Light Company -- which then, as now, was the state's largest provider of electricity -- and the creation of Lake Catherine, an historically-important regional recreational lake. It is eligible under Criterion C with statewide significance for its engineering importance as one of the few -- if not the only -- example in the state of an Ambursen-type dam.

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### Bibliography

Wilson, Stephen. Harvey Couch: An Entrepreneur Brings Electricity to Arkansas. Little Rock, AR; 1986, August House.

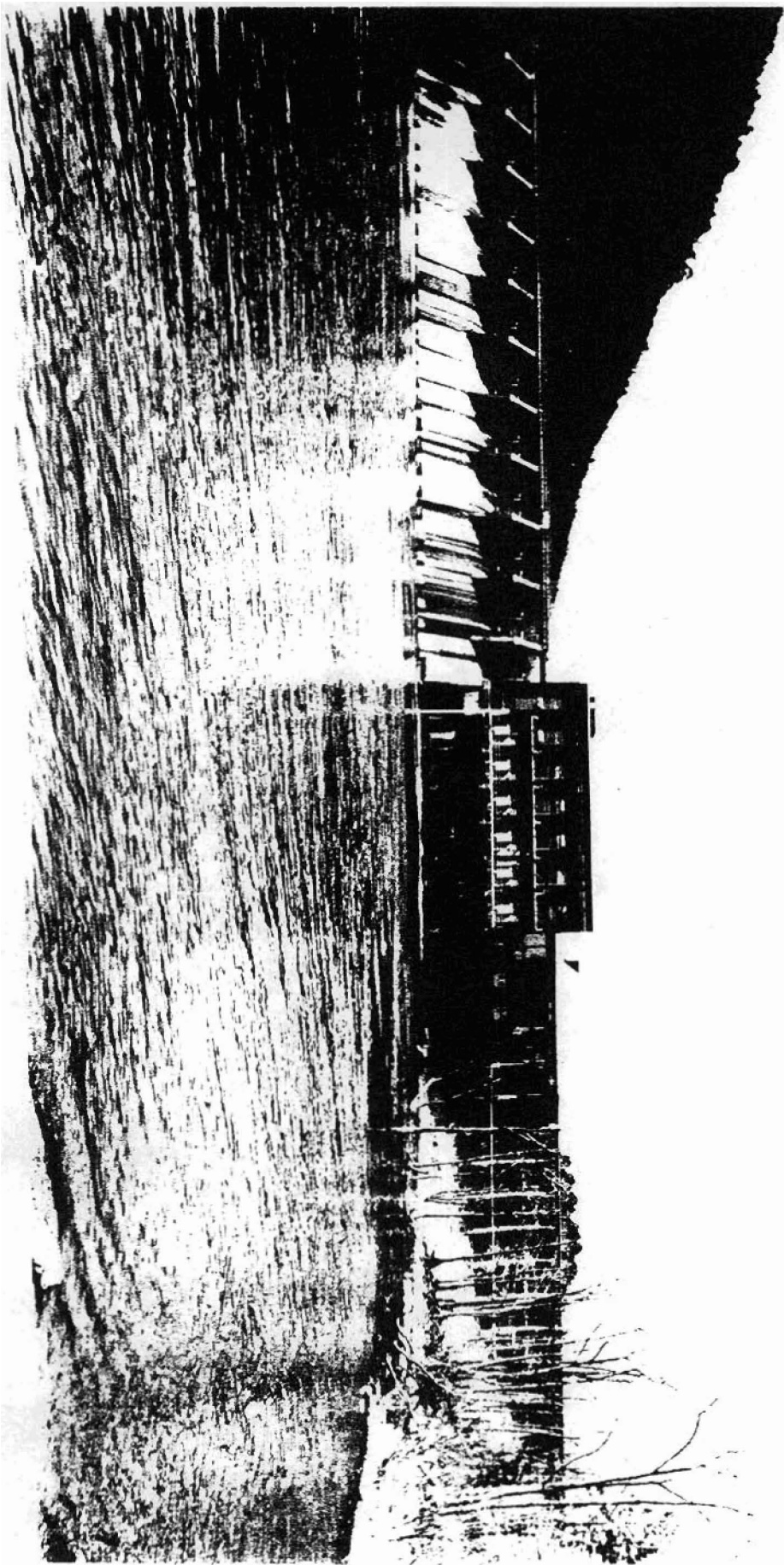
Interview with Henry Hodge, manager of Remmel Dam Hydroelectric Station, April 5, 1991.

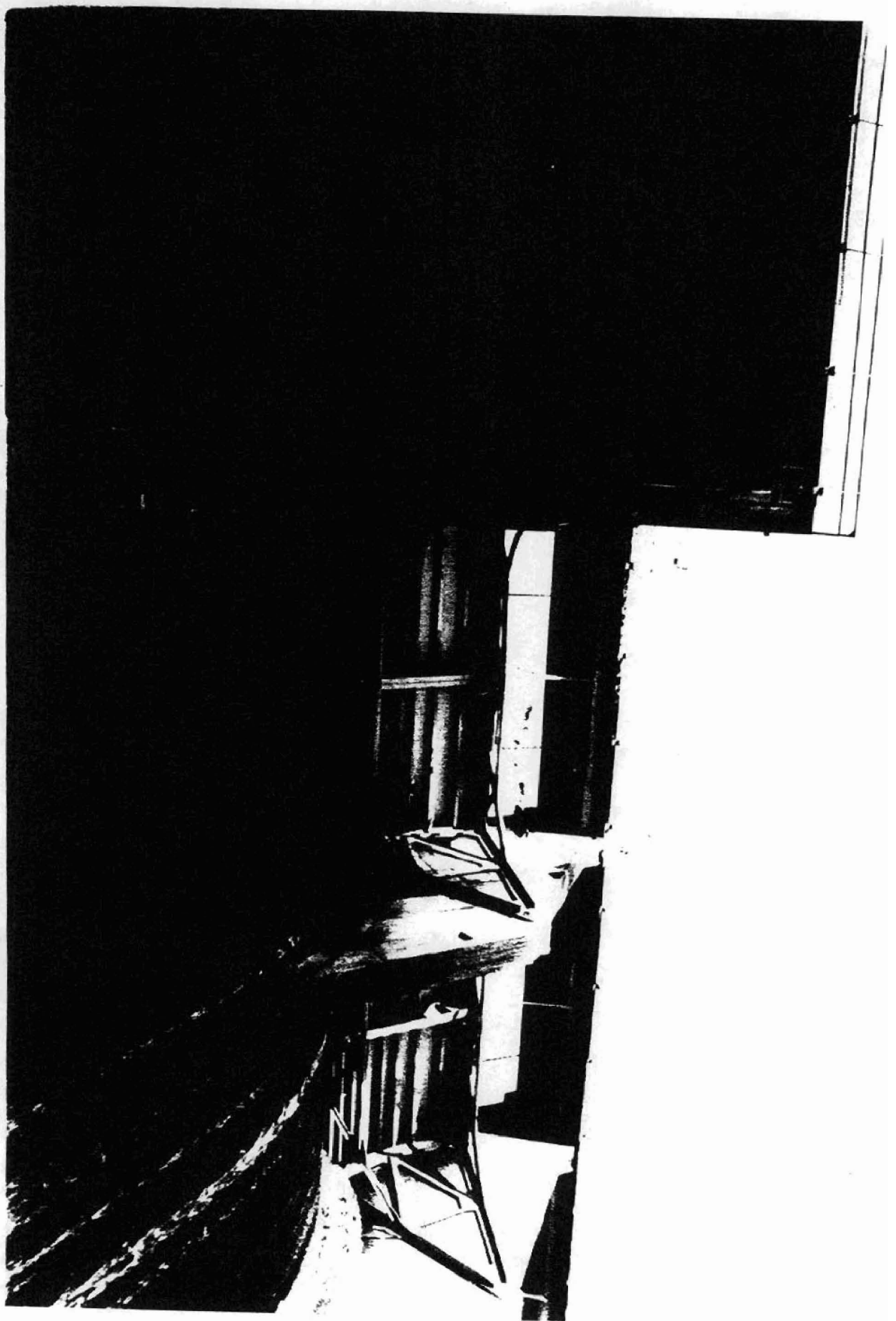
Hot Springs Sentinel Record. December 7, 1924; December 31, 1924; May 22, 1990; May 24, 1990; May 25, 1990; June 1, 1990.

Arkansas Gazette, January 1, 1925.

Malvern Daily Record. November 19, 1986.

Other unpublished information provided by Arkansas Power and Light Company's Corporate Communications Department, and Charles Weatherford, Arkansas Power and Light Company's Central Services office.







# REMEL DAM AND POWER STATION

900 FEET LONG, NORMAL HEAD 56 FEET  
ULTIMATE CAPACITY 23,000 HORSE POWER  
FIRST OF A SERIES OF DAMS ON THE  
OUACHITA RIVER TO DEVELOP 220 FEET TO 260 FEET HEAD  
AND 450,000 TOTAL HORSE POWER

THE DEVELOPMENT OF THIS POWER PROJECT  
TO THE FORESIGHT AND PUBLIC SPIRIT OF  
T. C. COUCH AND HIS ASSOCIATES.

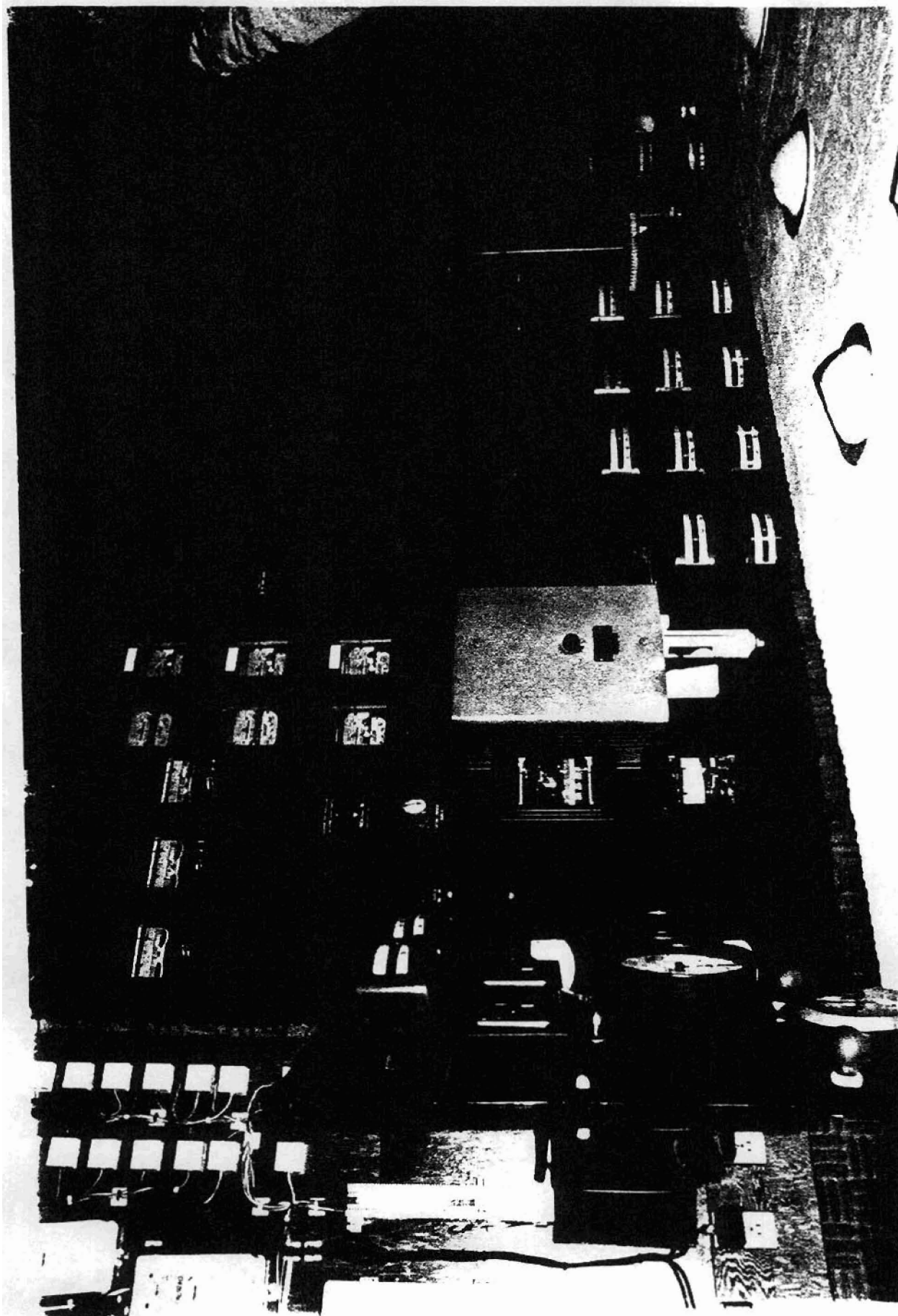
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|--------------------|------------------|-----------------|
| W. NOTI ADAMS      | W. M. DAVIS      | T. O. MOLONEY   |
| H. M. ADRIAN       | GEORGE W. DORSEY | C. H. ROGERS    |
| D. S. ALEXANDER    | MICHAEL E. DUGAN | L. S. ROY       |
| W. E. BAKER        | JOHN E. FORDYCE  | W. H. ROYER     |
| JULIAN C. BLASS    | DAVID A. GATTS   | H. L. RYAN      |
| GEORGE H. CAHOUN   | L. GARRETT       | W. E. RYAN      |
| J. F. CALLAWAY     | J. L. FORTSON    | W. C. SHERB     |
| C. H. CAMPBELL     | C. S. LYNCH      | L. L. SMITH     |
| T. J. CARPENTER    | G. J. MANSFIELD  | G. STANLEY      |
| FRANK P. CHRISTOFF | C. S. MCCAIN     | A. C. THIBODEAU |
| W. COCKE           | W. ROSS McFAIR   | J. D. WILSON    |
| W. CROPPS          | J. D. MELTZER    | I. M. WILKES    |

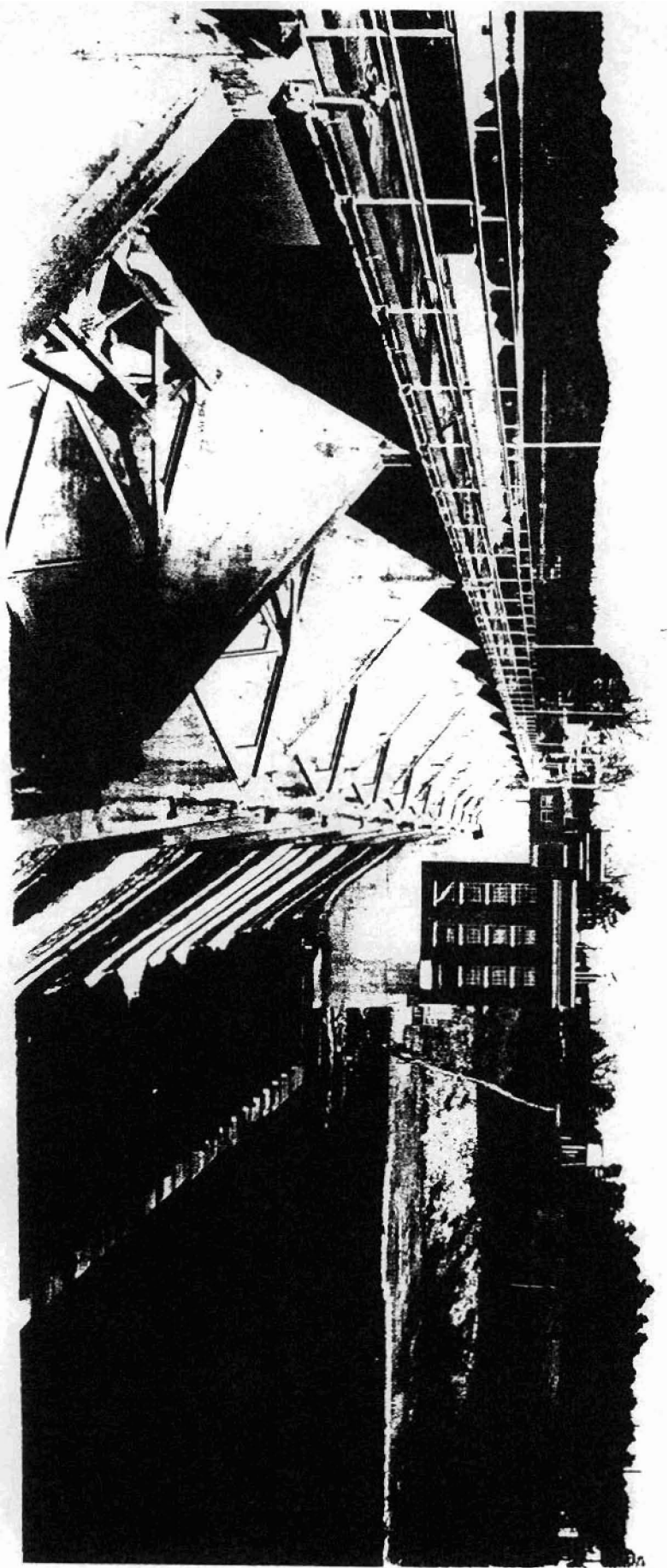
AMERSON CONSTRUCTION COMPANY  
1000 PINE STREET, MOBILE, ALA.

FRANK BACON & DAVIS, INCORPORATED  
1000 PINE STREET, MOBILE, ALA.

ARKANSAS LIGHT & POWER COMPANY

1924

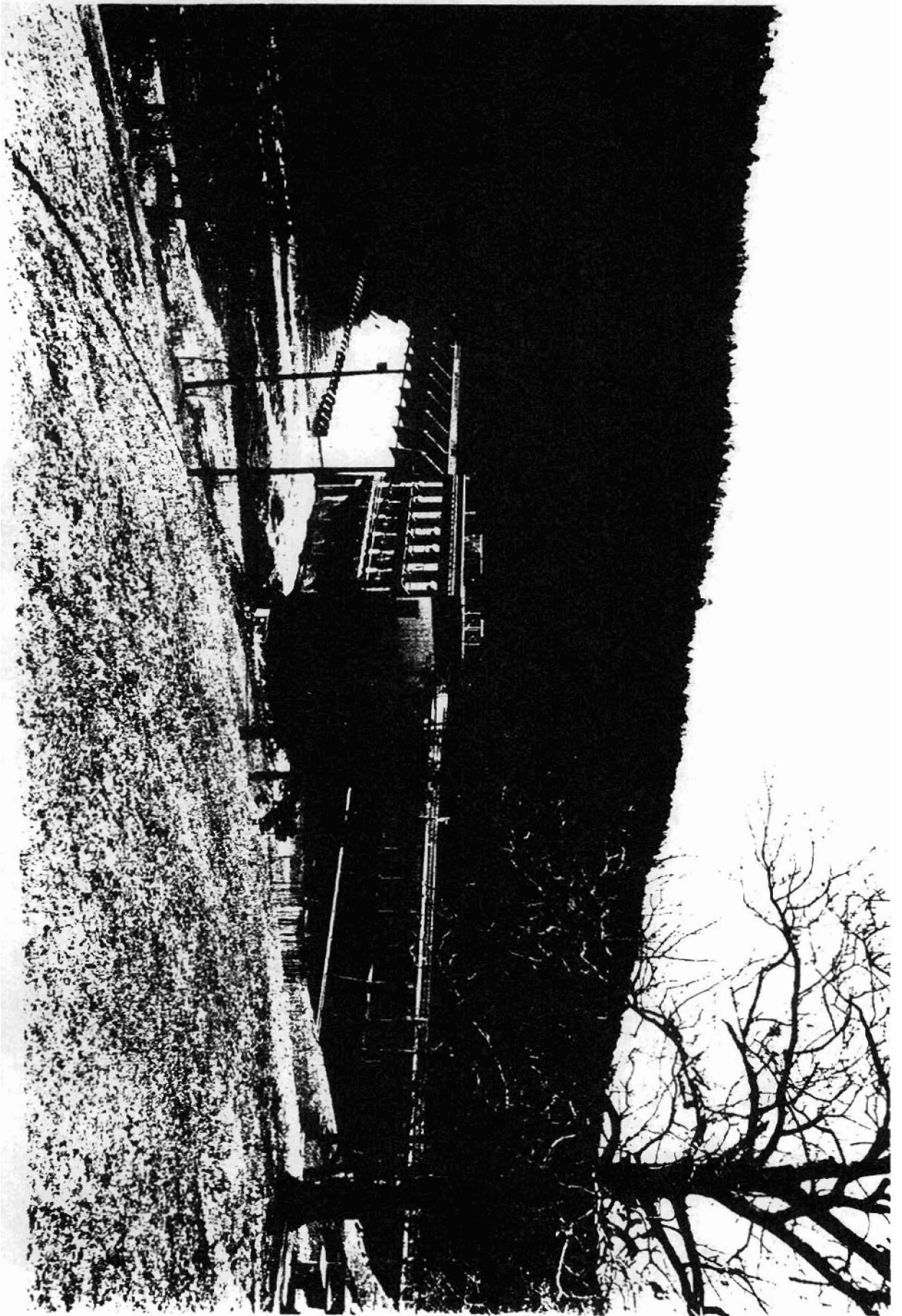


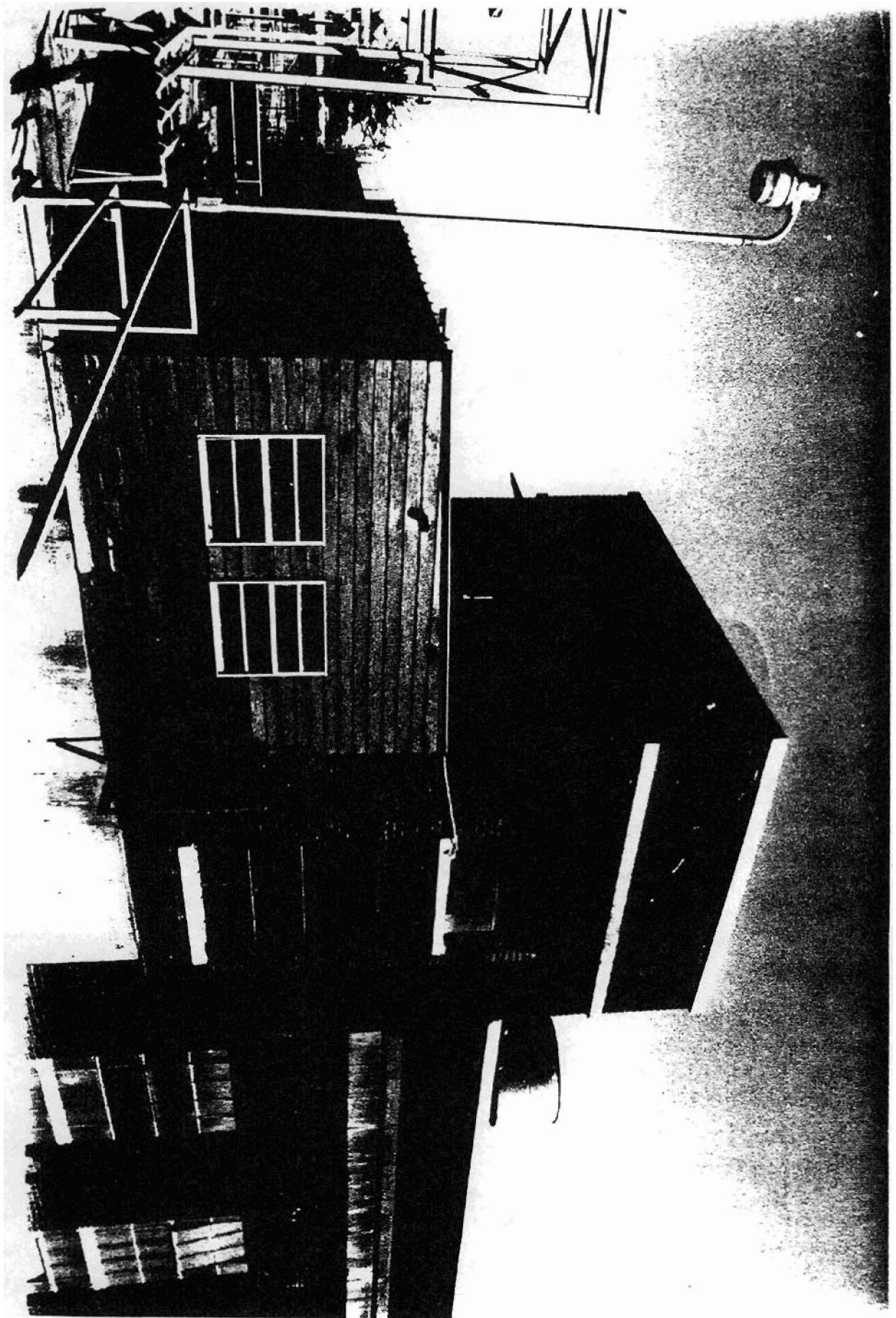


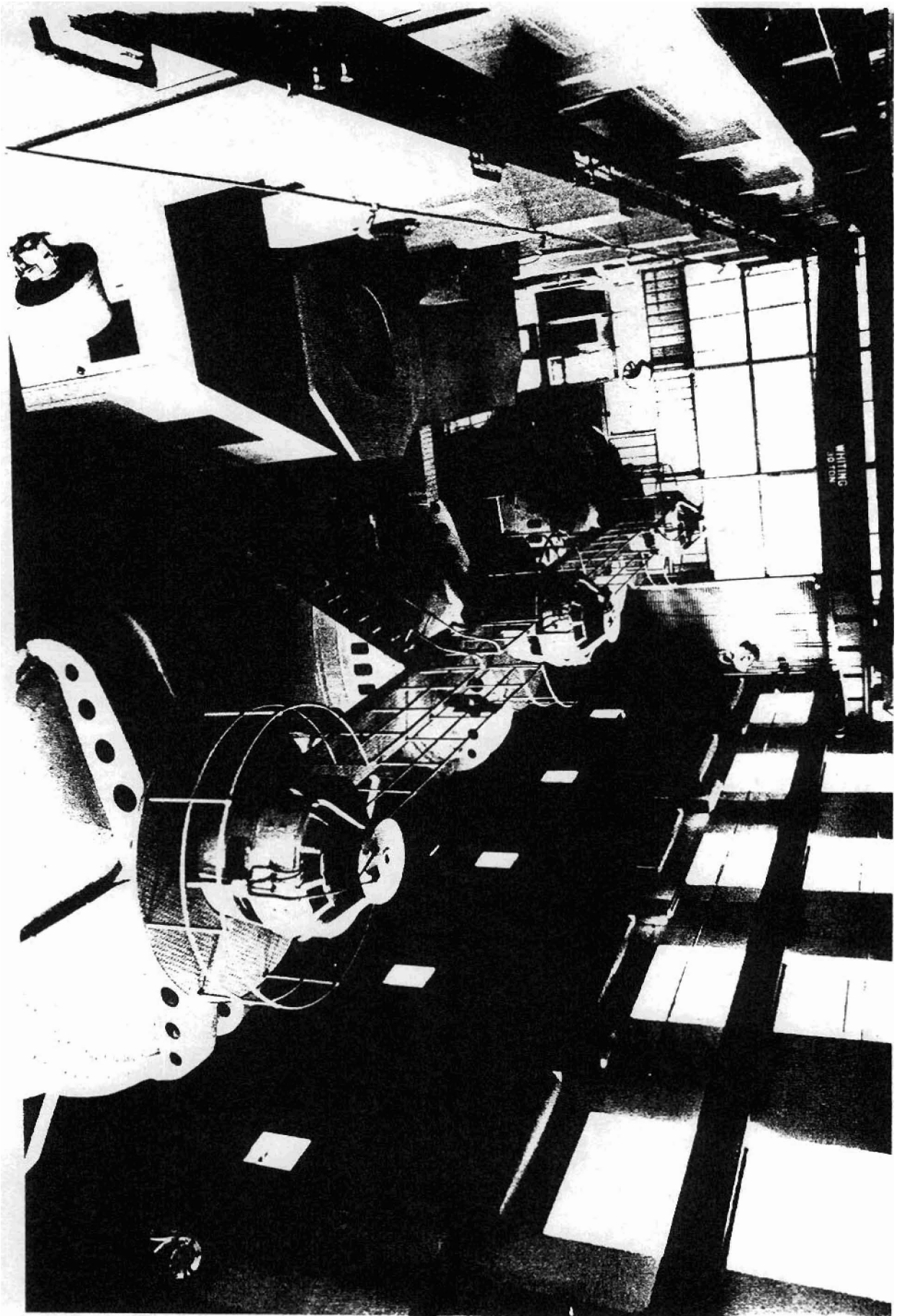
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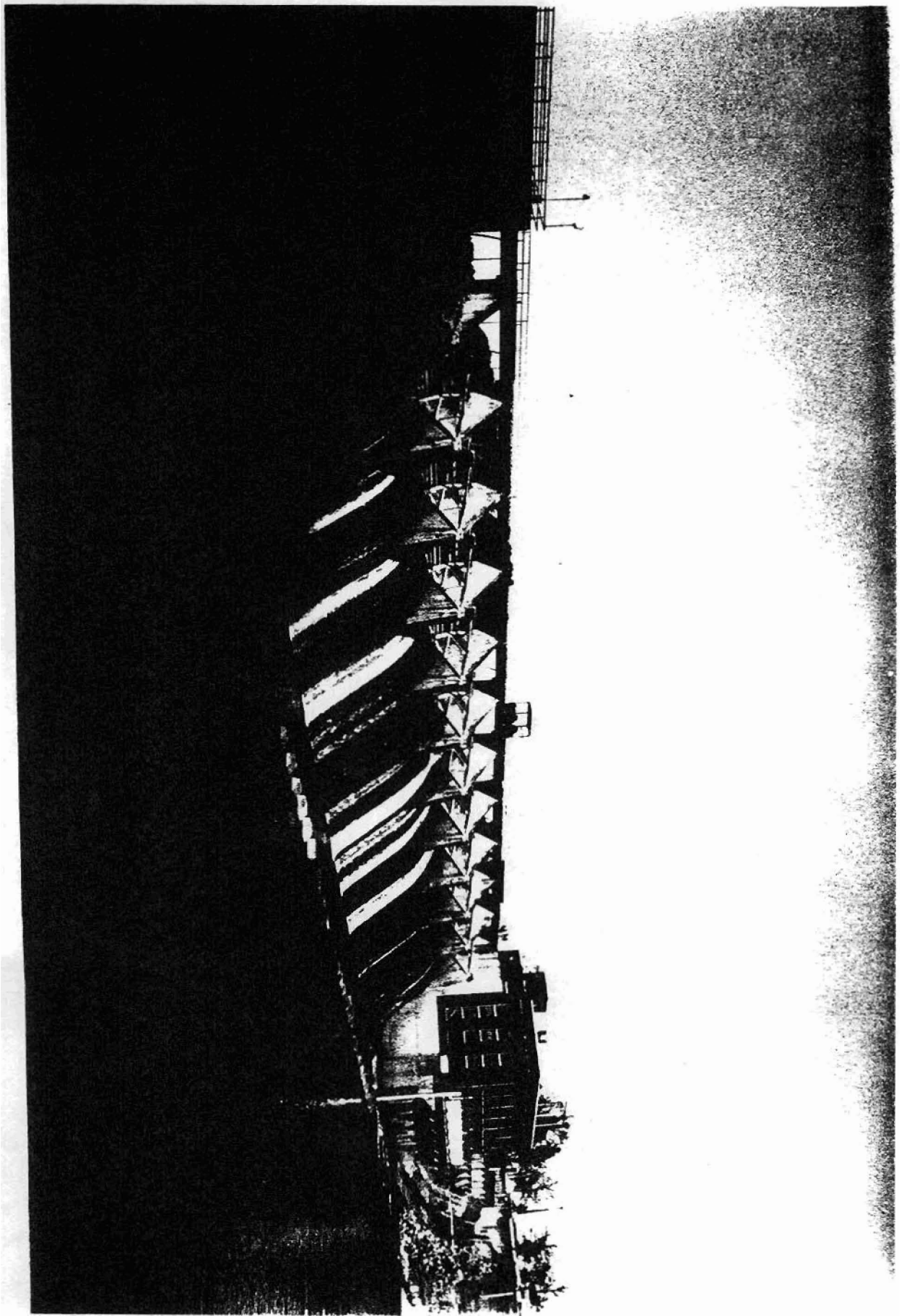


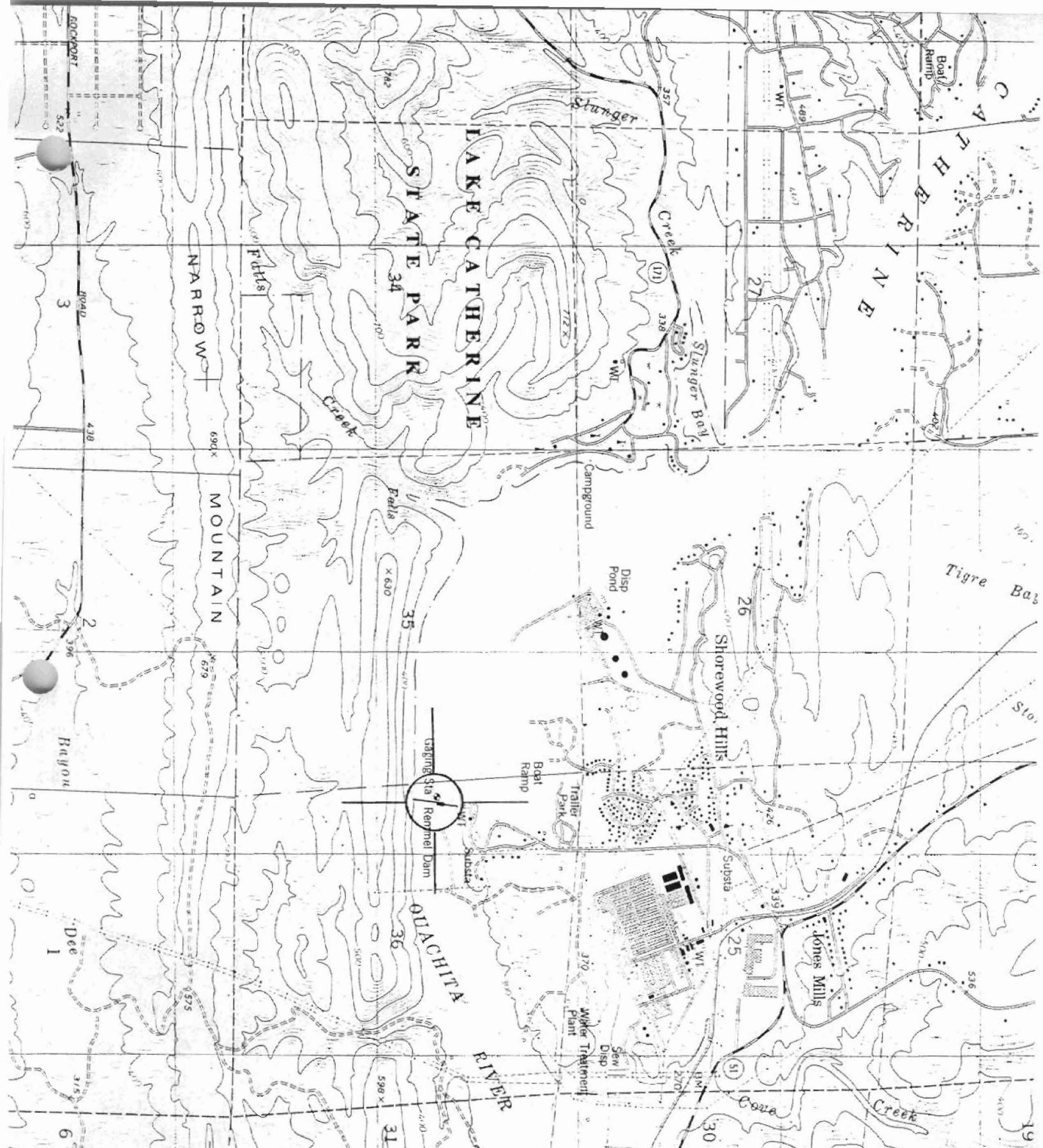












(MALVERN NORTH) 4 MI. TO U.S. 270  
7452 IV NE

Jones Mill  
 VIC.,  
 Arkansas  
 UTM:  
 15/509750/  
 3809320

34 25' 13S  
 14S 31 309