PROJECT 10073 RECORD

1. DATE - TIME GROUP 24 May 54 24/1725Z	2. LOCATION Richmond, Indiana
3. SOURCE military	10. CONCLUSION Reflection of sun rays being carried by ice crystal formations.
4. NUMBER OF OBJECTS one	
5. LENGTH OF OBSERVATION 45 seconds	11. BRIEF SUMMARY AND ANALYSIS Brilliant white light sighted by air crew and photographed by aerial camera.
6. TYPE OF OBSERVATION air visual	
7. COURSE stationary	
8. PHOTOS ☒ Yes ☐ No	
9. PHYSICAL EVIDENCE ☐ Yes ☐ No	

FORM
FTD SEP 63 0-329 (TDE) Previous editions of this form may be used.

RICHMOND, INDIANA
INCIDENT

24 May 1954

At 1225 (EST) on 24 May 1954, an Air Force Major, flying a photographic mapping mission near Richmond Indiana, observed and photographed what appeared to be a large, high-intensity light moving below his aircraft. The light traveled a distance of six miles over the ground at a speed twice that of the aircraft.

Intensive studies of the photographs were made. The studies indicated that the light apparently was ~~neither a reflection~~ -- not a material object.

Extensive investigations, exploring all possible clues and avenues of approach to the probable nature of the object were made. The ground under both the path taken by the aircraft and the object were examined with a fine tooth comb. Photographs were made of the area for a study of ground characteristics or other clues. Aircraft flights, radar units and other operations were immediately checked carefully, with negative results.

The data was submitted to a panel of scientists and specialists, which included astronomers, meteorologists, and a physicist. It was concluded that the sighting was a very rare aerial phenomena caused by the reflection of the sun's rays upon an ice-crystel platellete formation.

3.6012-1
May 1954

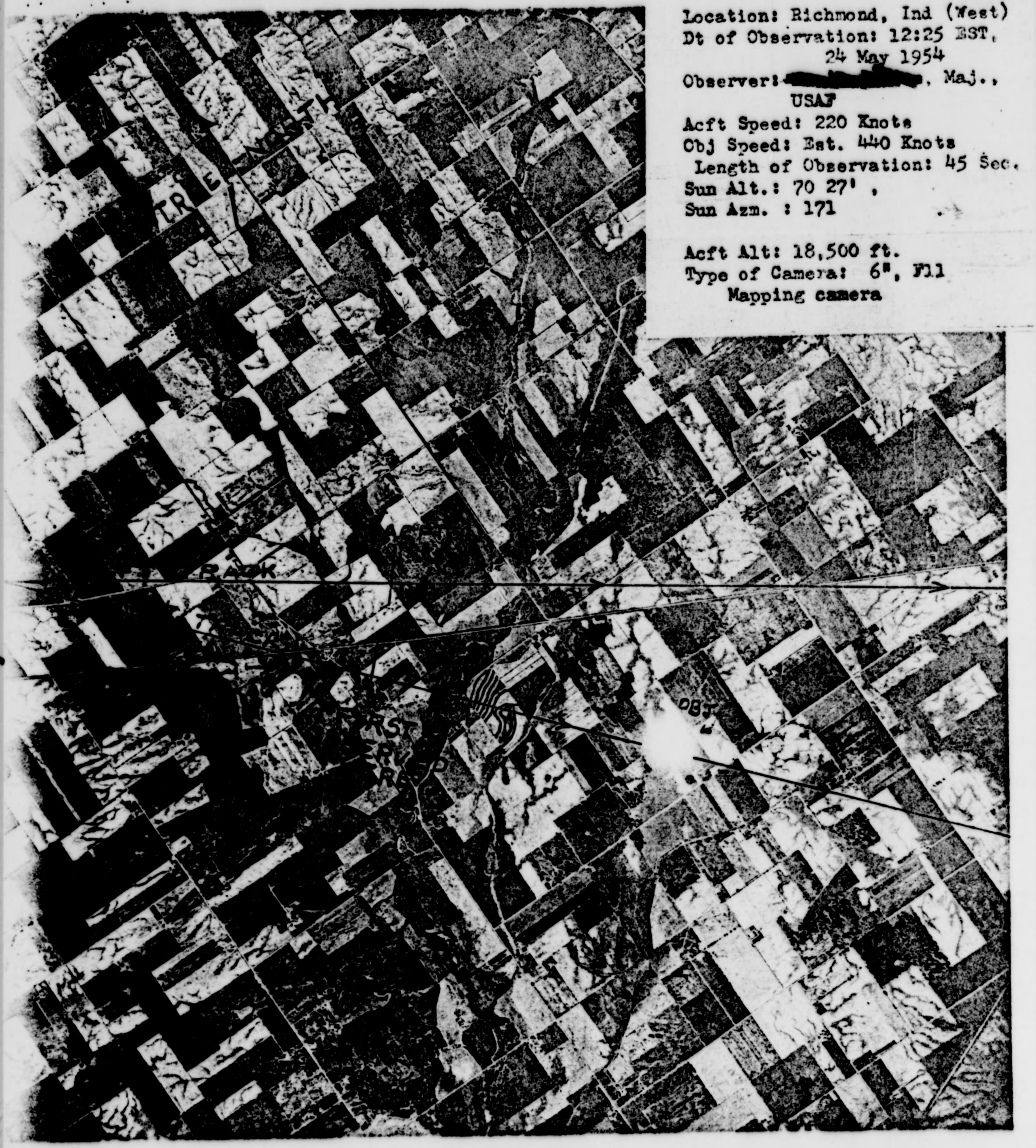
D
orical Archives
-A)
AFB, Ala 36112

7-3719-50

1003403

Richmond, Indiana

SMC



Location: Richmond, Ind (West)
Dt of Observation: 12:25 EST,
24 May 1954
Observer: [redacted], Maj.,
USAF
Acft Speed: 220 Knots
Obj Speed: Est. 440 Knots
Length of Observation: 45 Sec.
Sun Alt.: 70 27' ,
Sun Azm. : 171

Acft Alt: 18,500 ft.
Type of Camera: 6", F11
Mapping camera

RICHMOND, INDIANA

At 1225 (EST) on 24 May 1954, an Air Force Major, flying a photographic mapping mission near Richmond, Indiana, observed and photographed a large high intensity light moving below his aircraft.

Brief to the point.

This part of his statement could be used to be furnished to the TV team covering the broadcast

62a

Wright Field Major, Observer

Photo Mapping Mission

Richmond, Ind. 24 May 1954 1235 EST

High intensity moving light

Called Pilot and Crew

45 Sec. observation

Acft speed 220 MPH

Light double speed of acft

Lost over built up area of city

Acft ruled out

Photo studied

Ground studied

Panel

The light traveled a distance of six (6) miles over the ground at a speed twice that of the aircraft and on a different heading.

A panel consisting of astronomers, meteorologists, a physicist, the observer and the project monitor, concluded that the sighting was a very rare ~~aerial~~ meteorological-optical phenomenon caused by the reflection of the sun rays being carried by ice crystal plateliette formations.

RICHMOND, INDIANA

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This case contains 1
9"x9" negative, 10 9"x9" photos,
3 9"x18" photos and 15, 3"x4"
photos.

RICHMOND, INDIANA

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24 MAY 1957

Dear Sir,

Capt. Edward J. Ruppelt, formerly head of the Project "Bluebook" UFO investigation, told in his book (Report on Unidentified Flying Objects, Doubleday, 1956, p. 312) of the May 24, 1954, photograph taken by the crew of an RB-29 near Dayton.

Since the Air Force has allegedly declassified UFO reports, I wonder if it would be possible to obtain a print of the photograph Ruppelt referred to. I am aware that it showed only light, but I would like to see a print of it nevertheless.

Sincerely,

[redacted]

RH/mk

TO: Colonel O'Mara
Commander, ATIC

ATIAE5/Capt. Hardin
rl/73147
2 June 1954

MEMORANDUM FOR RECORD

PROBLEM:

1. To obtain approval for proposed travel by Captain Charles A. Hardin to Richmond, Indiana and vicinity.

FACTS AND DISCUSSION:

2. On 24 May 1954 an unidentified flying object was sighted and photographed from a mapping aircraft near Richmond, Indiana.

3. The purpose of the trip will be to determine the area characteristics and whether or not anyone sighted the object from the ground.

4. This appears to be a significant case in which a complete investigation should be made.

5. It is proposed that the traveler be in Richmond, Indiana for one day, 3 May 1954; travel time should not exceed one day.

6. The traveler certifies that no suspense items for which he is responsible will become delinquent during the period of his temporary duty and travel outside the ATIC.

COORDINATION:

ATIAE Lt. Col. Harry C. Johnston, Branch Chief _____

ATIA Col. Wayne L. O'Hern, Division Chief _____

ATIN Col. Dane P. Justice, Sr., Office Chief _____

ATI Col. J. A. O'Mara, Commander _____

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AFCIN-4E4g

UFO Sighting (24 May 1954)

19 NOV 1959

SAFOI-3d (Major Tacker)

1. The sighting referred to in the attached letter from Mr. Taylor is carried in the ATIC file as a reflection.

2. The case was given very extensive coverage and the witness was alert enough to get a photograph (the aircraft from which this sighting took place was a B-17, outfitted for photo-reconnaissance work).

3. While there are certain errors in the reporting, which can probably be attributed to the excitement of the witnesses, the photograph, when compared with almanac data and the position of the B-17, leaves no doubt that the object is a reflection of the sun from ice crystals.

FOR THE COMMANDER:

Nick Post 11/18/59

PHILIP G. EVANS
Colonel, USAF
Deputy for Sciences and Components

1 Atch:
Cy ltr 25 Oct 59 from
Herbert S. Taylor

COORDINATION:

Robert H. Friend Major 16 Nov 59 AFCIN-4E4g

M. Shoop Col 4E4 17 Nov 59

ATIC
RECEIVED 13 11
DISPATCHED

RICHMOND, INDIANA

24 MAY 1954

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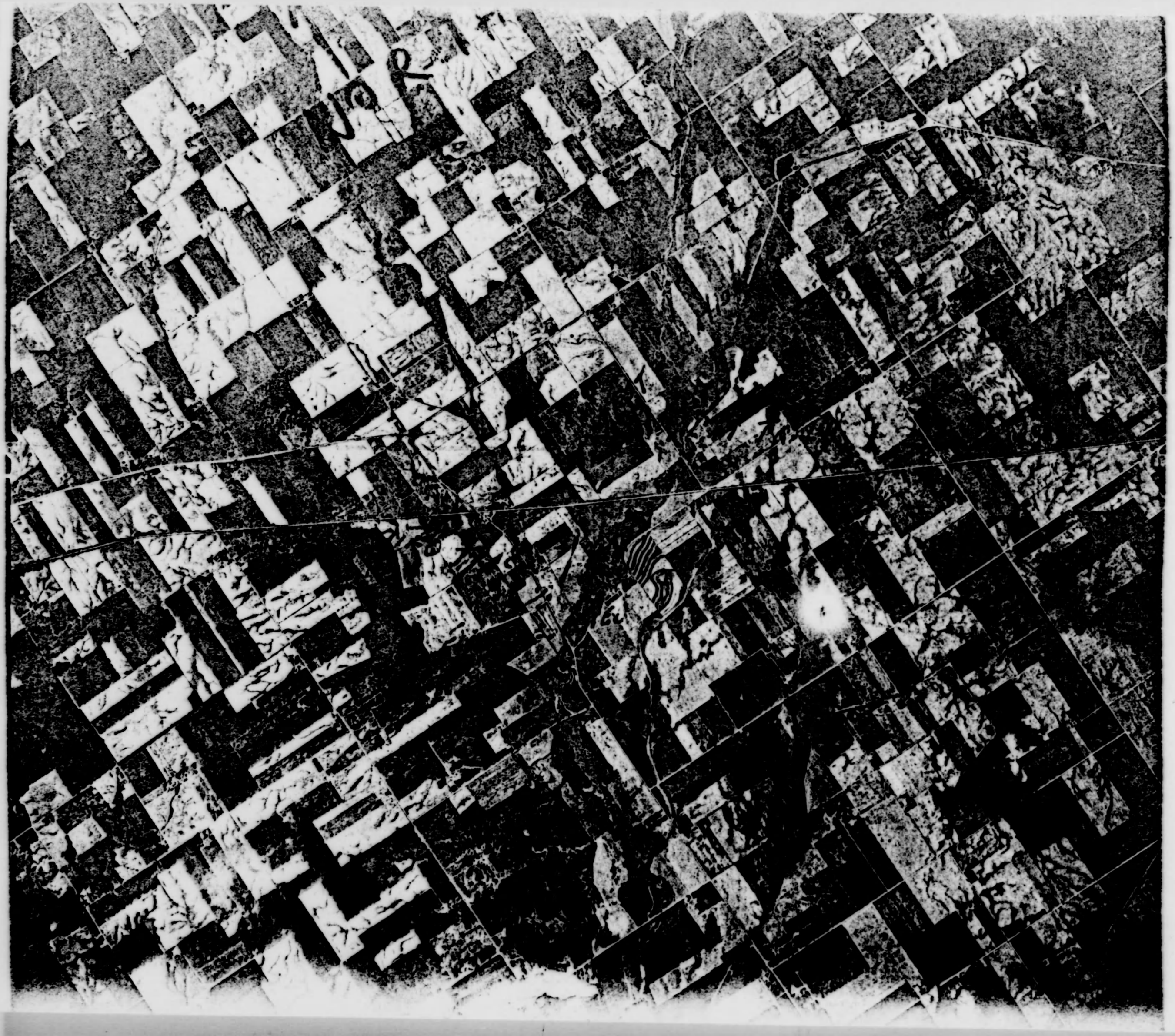
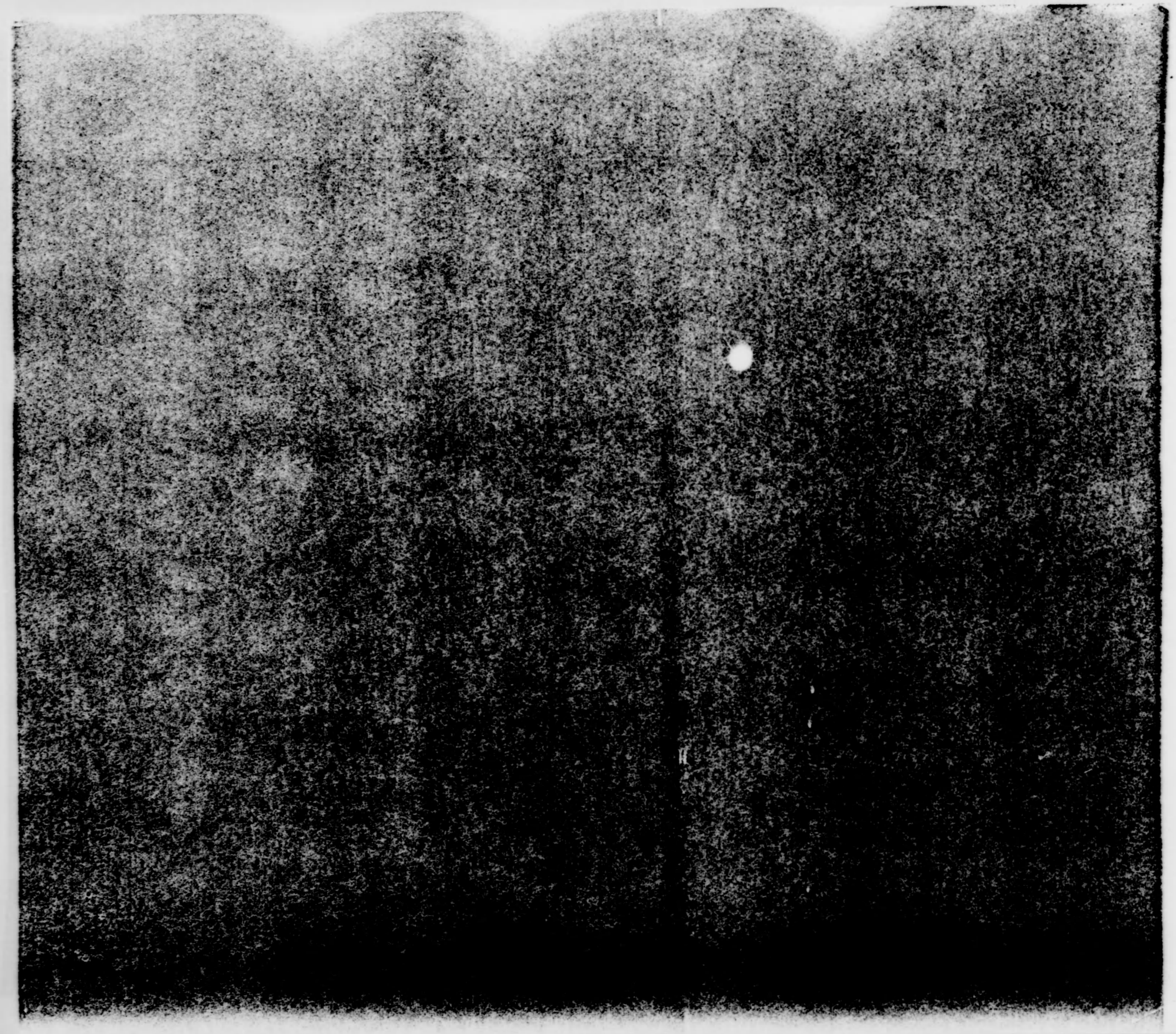
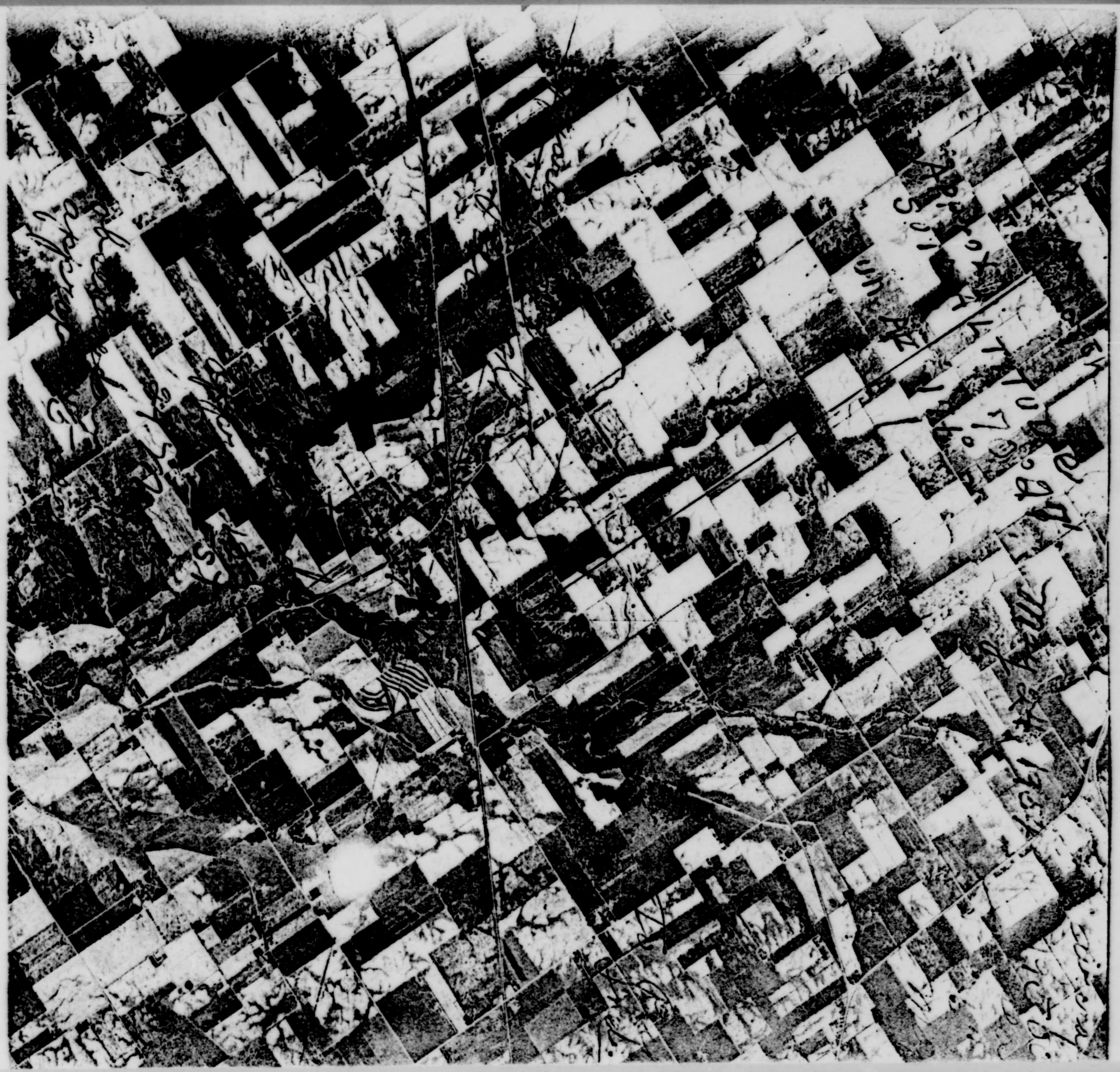
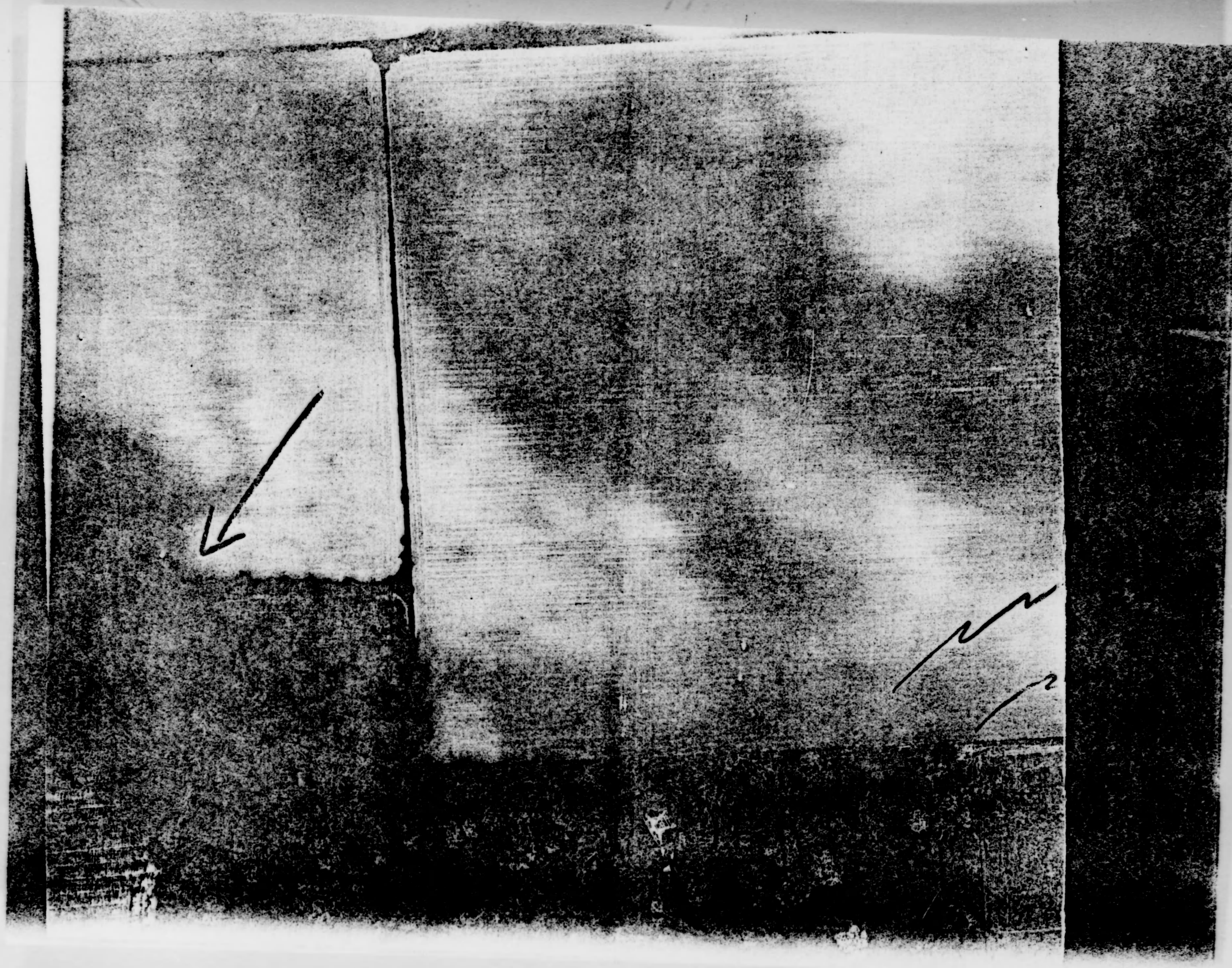






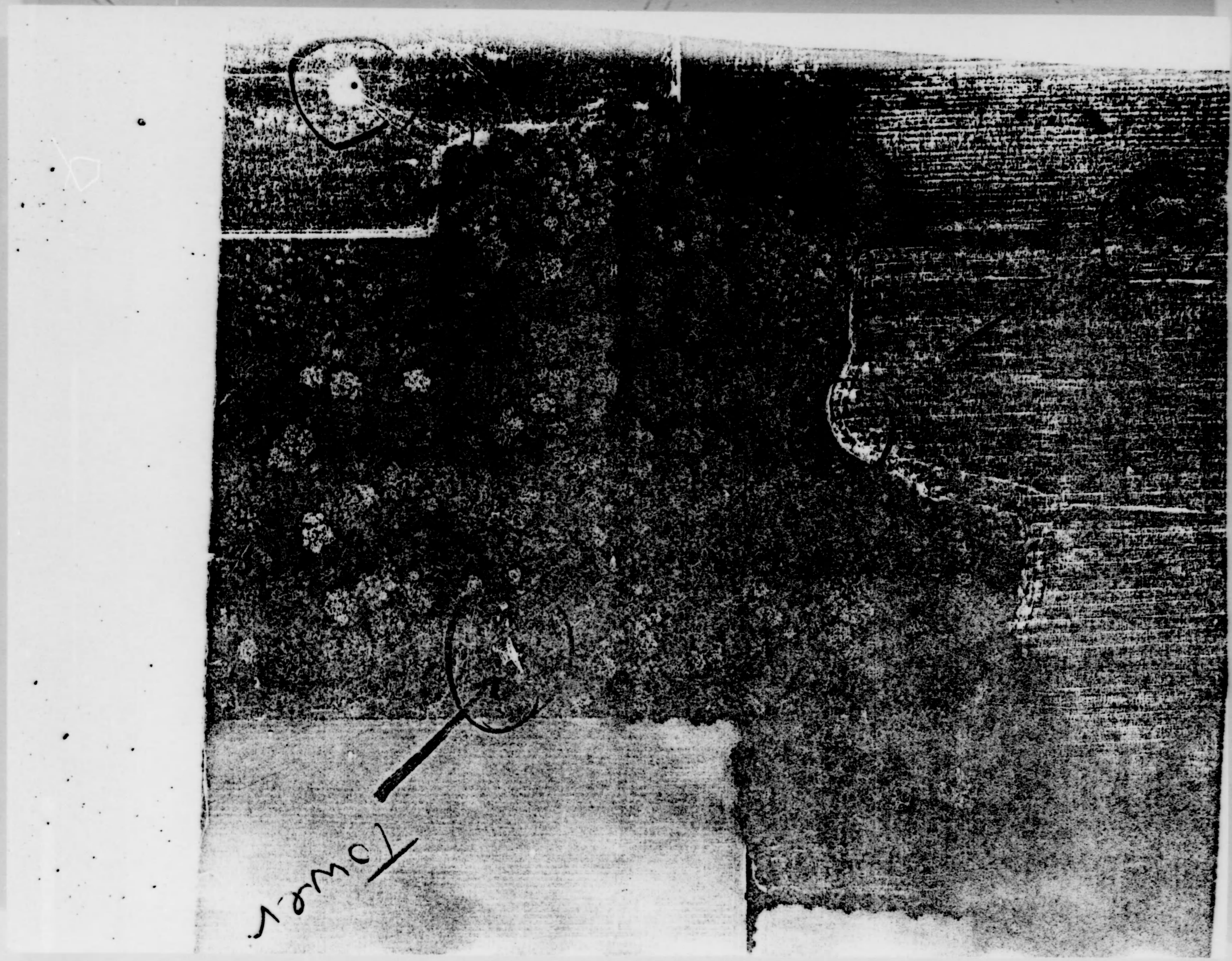


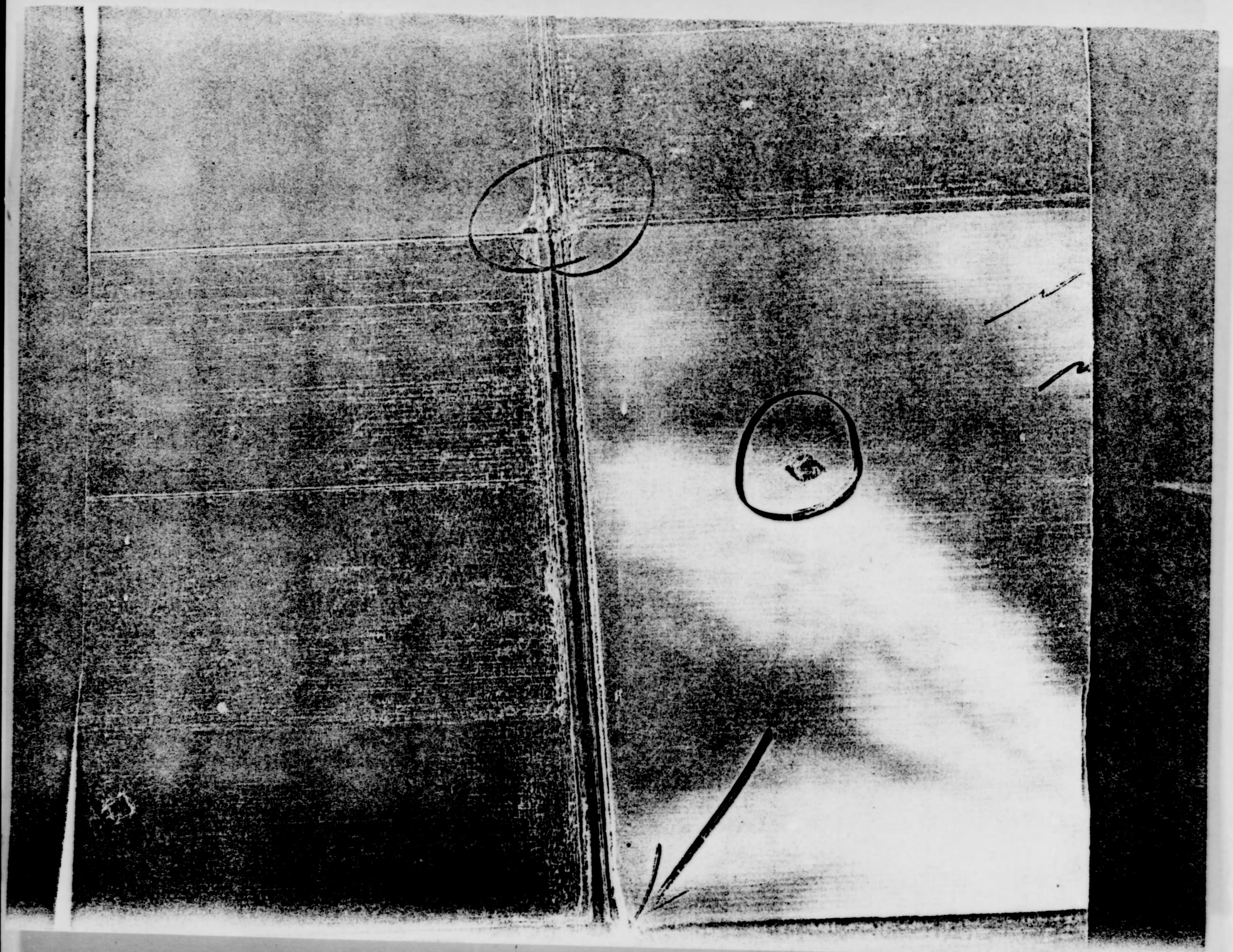
File with Case

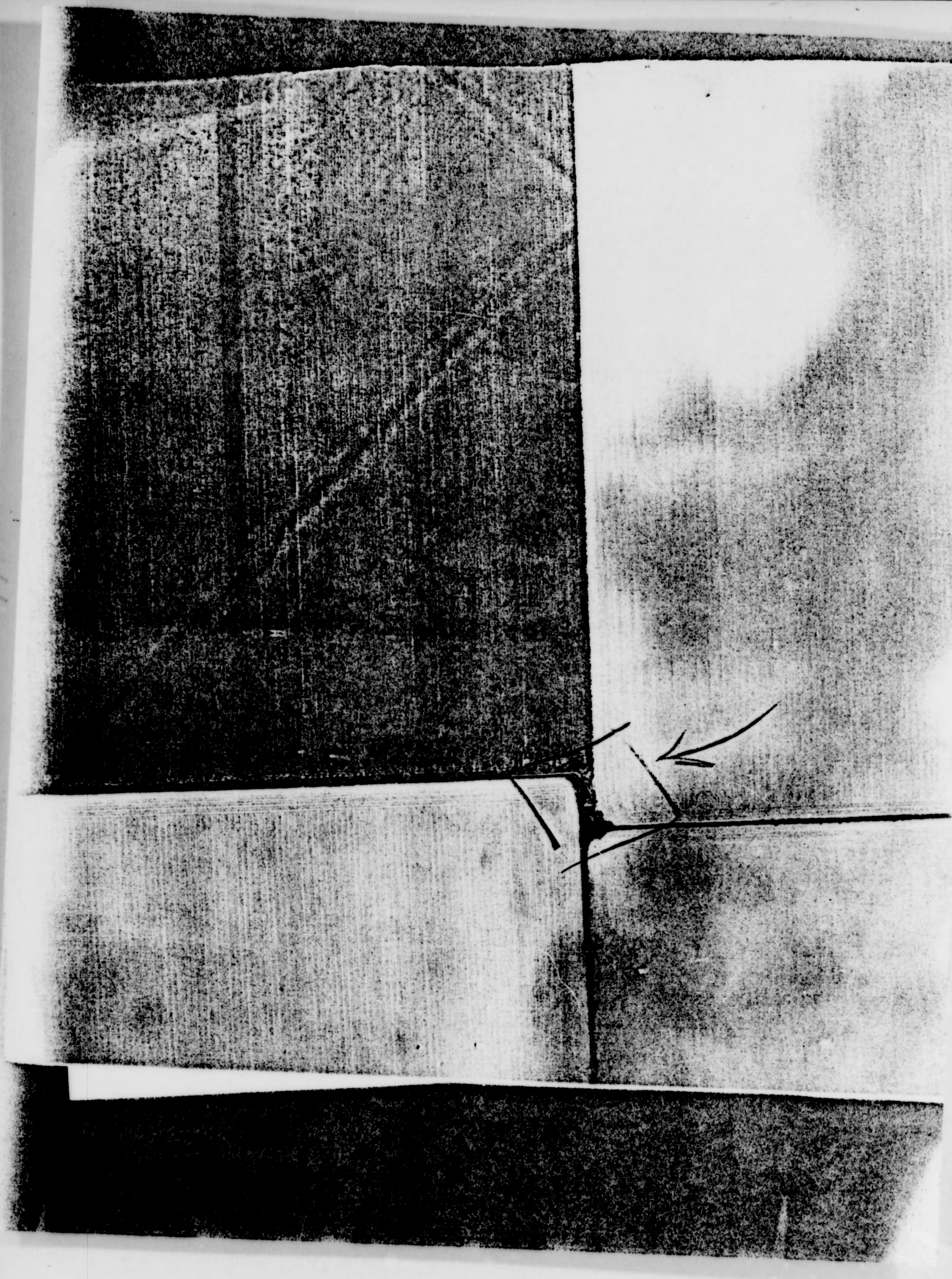
24 May 1954
Richmond Bay
Ice Crystal Photo

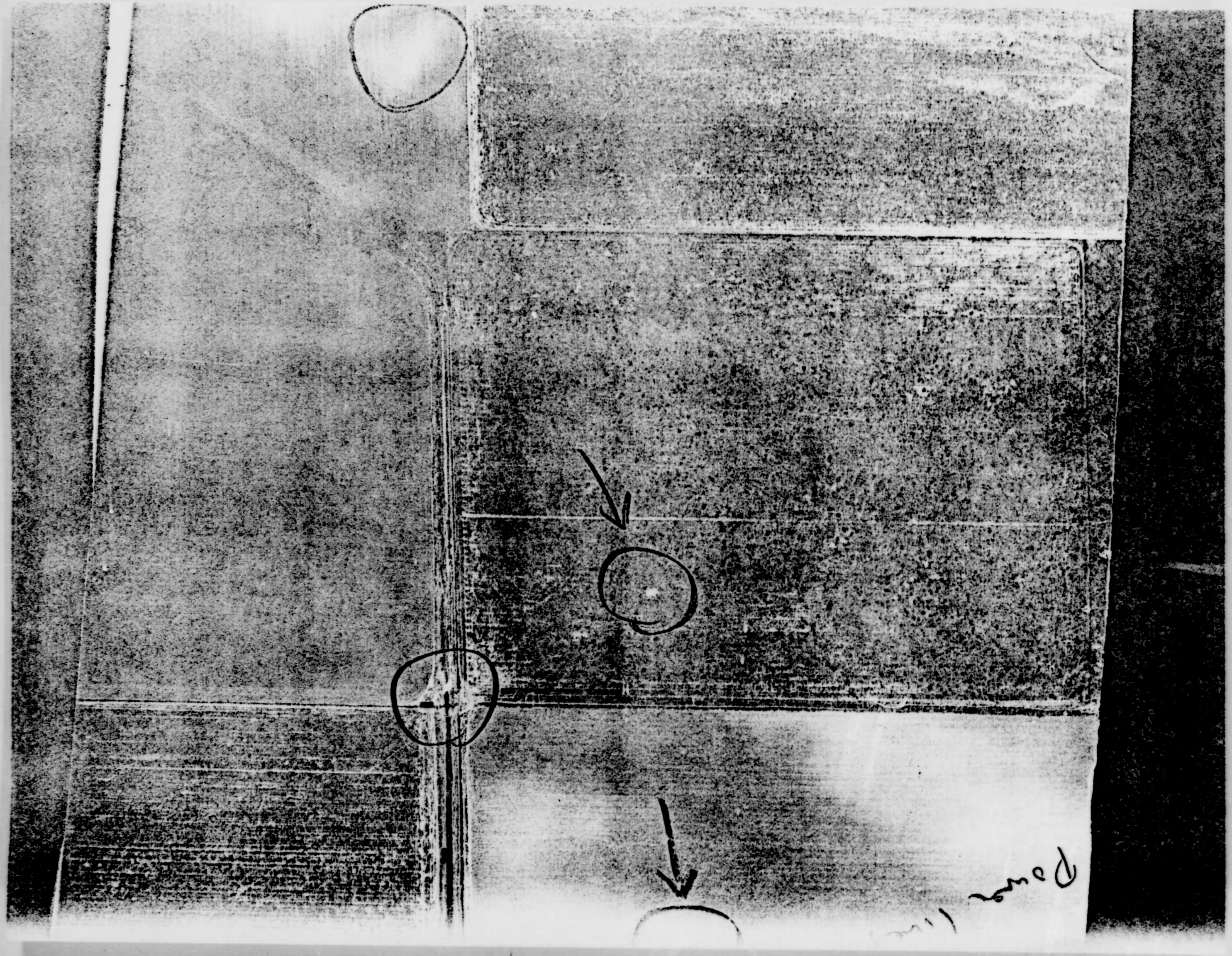
~~Make a View Graph~~

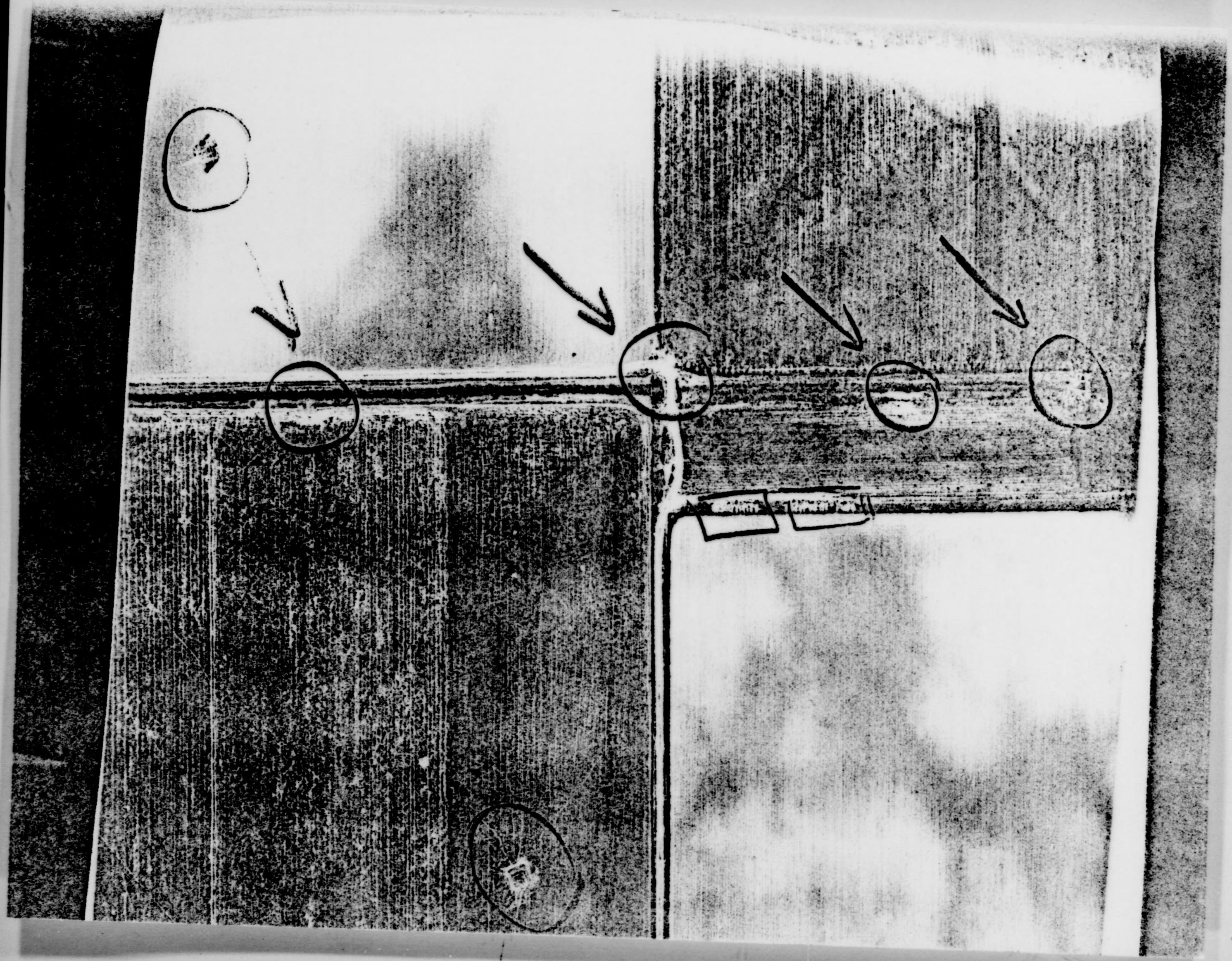
~~from Negative~~.


Tower









8 JUN 1954

MEMORANDUM FOR Director of Intelligence
ATTN: Chief of Management

Capt. Hardin/rl/73147

SUBJECT: (UNCL) Unidentified Flying Object Information

1. An unidentified flying object was sighted and photographed near Richmond, Indiana on 24 May 1954 at 1225 (EST) by Major Leo M. [redacted], Reconnaissance Branch, Aerial Reconnaissance Laboratory, Wright-Patterson Air Force Base, while on a photo mapping mission. The object was first visually sighted to the west of Richmond (3952N 85W) and to the right of the observing aircraft. The length of the observation was 45 seconds in which time the object covered a distance of 6 miles over the ground (500 MPH) disappearing over the residential area of southwest Richmond. The photograph was taken about midway through the observation on the instructions of Major [redacted] to the camera crew. The object was not visable to the other crew members due to its position under the aircraft. The photographing aircraft (B-17) was at 18500 ft flying at 252 MPH. The object was estimated to have been at 3000 to 5000 ft above the ground.

2. The photograph as well as the description by the observer, indicate that the light was of very high intensity. No detail of any object could be made out by the observer or from the photograph. Calculations, based on the observer's estimates show that the diameter of the light would have been 617 ft at ground level or 450 ft if at 5000 ft.

3. Major [redacted] is considered to be a very reliable and accurate observer.

4. The photograph was taken straight down with a mapping camera, lens 6" at F-11. Weather was clear in the area. Sun altitude was 70° 27', azimuth 171°. Temperature was -10 at 18,500 ft and ±4 at 10,000 ft.

5. Aircraft activity and radar plots in the area have been checked with negative results. The area has also been re-photographed for a study of the ground characteristics.

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ATIC Subject: (U) Unidentified Flying Object Information

6. ATIC believes that this unidentified flying object is a reflection phenomena of some type and will carry out further investigation and study in an attempt to determine its nature.

FOR THE COMMANDER

1 Incl
2 Photographs

R. C. SCHUM
CWO, USAF
Asst. Adj.

COORDINATION:

ATIAE5 C. A. Hardin DATE 2 June 1954
Capt. C. A. Hardin

ATIAE W. H. Jensen DATE 2 June
Lt. Col. H. C. Johnston

ATIA W. L. O'Hern DATE 4 JUNE 54
Col. W. L. O'Hern

NOTE ON REFLECTION AND DIFFRACTION FROM ICE CRYSTALS IN THE SKY

- Charles F. Squire, The Rice Institute, Houston, Texas

(Received June 9, 1954)

Observations of the reflected light from ice crystals in the sky have been made for centuries and such natural phenomenon as "mock suns" are well known.[1] On February 6, 1952, I observed and repeatedly photographed the reflection of sunlight from ice crystals while flying in an airplane at 12,000 ft. over the mountain country of Tennessee. The time of day was approximately noon, and it was cold. The ground below was visible through the blue haze caused by the ice crystals. The reflected image of the sun was so intense that the camera speed was 1/200 sec and the aperture was nearly closed. The dark green of the mountain trees and a stream in a valley can be seen in Fig. 1.

The diffraction ring around the central image is just what one would expect for light coming through these fine crystals. It is interesting to note that the image and diffraction ring have an elliptical shape, and I confess that I do not know why this is so. Certainly the ice crystals have their flat surfaces all normal to the vertical. The assumption that a wind could produce an ordering orientation of the crystals in the horizontal plane would allow one to suppose a different diffraction spacing in the x direction than in the y direction. This would give an elliptical diffraction ring, but I do not understand why the central image should be out of round.

The spot of light would sometimes be close to the aircraft (it appeared large) and would sometimes be far away (it appeared small). The image kept the angle of reflection of the sun's rays, and this was checked repeatedly when the image coincided with the sun's reflection from a body of water on the ground below. A change of density of the ice crystals would cause the apparent shift in distance. Since the spot of light kept pace with the air-

FL 17000

No INVERS

7000 - 9000 DRY AREA

7° 8° DROP IN DEW POINT

8000 scattered

10000	RT	- 26 Kts	- 240°
5	-	21	270
18000		32	260

craft (300 miles/hr) and since it changed its distance rapidly - indeed it vanished with incredible speed when the plane flew on into warm air - we conclude that this must not be taken for a flying saucer or disk!

1. R.W. Wood, Physical Optics (Macmillan Company, New York, 1936), Chapter XI.

Gen Whiting
Comp o Eng Liaison
Photo Recon Lab.

Rising air Currents near Brookville

Maj [redacted]
Hq ARDC - RDDQP
P.O.B. # 1395
Balt., Md.

PHOTO OF UFO

RICHMOND IND. AREA (39:52 N - 85 W)

MAJ. [redacted] (OBSERVER) BLDG. 56 - PH 22197

ACFT. ALT. 19500 SL - 18500 G (PHOTO MAP MISSION)

EST. ALT. OF OBJECT 3000 TO 5000

EST. SPEED OF OBJECT 433 K (CALCULATED FROM DISTANCE COVERED IN 45 SEC OBSERVATION)

TEMP -10 @ 18500 +4 @ 10,000

TIME 1225 EST 24 MAY 54 (45 SEC)

Recently Sr. a plan. number 6
that rep. by C.F. Sawin (J.O.S.A. 42,
782, 1952), a solar
diff. presumably by ice crystals.
and which also showed at moon
& yt displ. however from this
in that, as shown in the photograph,
it was symmetrical and had a
motion independent of that of the
plane.

Circumstances of taking pfg.
- Mappin

Pos. eff. of differential motion -
a progressive taking of ice
crystals with distance covered by
plane.

- Note

PHOTO OF UFO

RICHMOND IND. AREA (39:52 N - 85 W)

MAJ. [redacted] (OBSERVER) BLDG. 56 - PH. 22197

ACFT. ALT. 19500 SL - 18500 G (PHOTO MAP MISSION)

EST. ALT. OF OBJECT 3000 TO 5000

EST. SPEED OF OBJECT 433 K (CALCULATED FROM DISTANCE COVERED IN 7½ SEC OBSERVATION)

TEMP -10 @ 18600 +4 @ 10,000

TIME 1225 EST 24 MAY 54 (45 SEC)

SUN ALT. 70°27'

SUN AZ 171°

CAMERA - MAPPING 6" F 11

DENSITY = 3.12

EXPOSURE = 3.3 FOOT CANDLE SECONDS

3.3 X 150 = 495 foot candle illumination on negative

OBJECT SIZE - GROUND 617 FT. LONG - 5000 FT: 450 FT. DIAM.

29 Oct 54

To Whom It may Concern

The attached notes are calculations used by Dr. [redacted] in his evaluation of the "Richmond [redacted] Incident".

Sun alt 170°27'
" Az 111°

Zulu Aug 54 offset 1225 CST

6" T-11 Mapping Camera

19500' sea level.

433 K.

Density 3.12

Exposure 3.3 ft candle sec.

Path of flt 16° west to heading of 0/c.

Mengel on p. 191 shows, and on p. 192 discusses "sub-sums" as reflection in the crystals. His [illegible] discussion indicates its derivation into an ellipse (as in fig 105a & b) but his picture is of a lens-shaped section. This drawing out would seem less for a 70° elevation of the sun.

On p. 188 he says "Again, [the incoming] ray [illegible] thereby shows that the atmosphere is compared about in the direction of that the 'pillar of fire' appears."

On the other hand on p. 195:- "The sun [is] attached to the beam in exactly the same way we have described for the rainbow." - Ib. -- "As long as we maintain a straight course, that bell of light will stay in exactly the same position relative to the plane." [Note dust particles, Fourtic discs and fig on p. 191 and 197.