~~TOP SECRET~~
~~NO FOREIGN DISSEM~~

Copy 2
81 Pages

C001390

TCS-10629/64
NPIC/TP-34/64
April 1965

TECHNICAL PUBLICATION

PHOTOGRAPHIC EVALUATION REPORT

MISSION 4010

15-16 AUGUST 1964

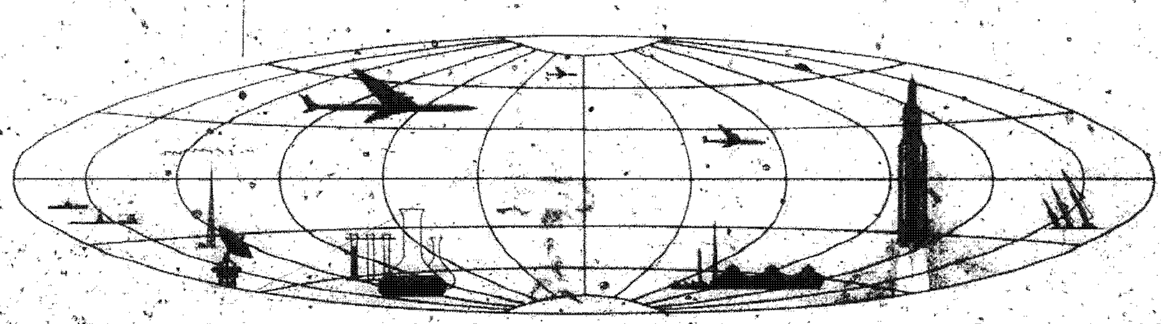
20 APR 1965

Handle Via ~~TALENT-KEYHOLE~~ Control Only

WARNING

This document contains classified information affecting the national security of the United States within the meaning of the espionage laws U. S. Code Title 18, Sections 793 and 794. The law prohibits its transmission or the revelation of its contents in any manner to an unauthorized person, as well as its use in any manner prejudicial to the safety or interest of the United States or for the benefit of any foreign government to the detriment of the United States. It is to be seen only by personnel especially indoctrinated and authorized to receive TALENT-KEYHOLE information. Its security must be maintained in accordance with KEYHOLE and TALENT regulations.

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



~~TOP SECRET~~
~~NO FOREIGN DISSEM~~

GROUP 1
Excluded from autom
downgrading and declas

~~TOP SECRET RUFF~~

~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC TP-34 64

TECHNICAL PUBLICATION

PHOTOGRAHIC EVALUATION REPORT
MISSION 4010
15-16 AUGUST 1964

NPIC TP-34-64

April 1965

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TABLE OF CONTENTS

Page

SYNOPSIS 1

GENERAL FLIGHT DATA 2

PART I. CAMERA OPERATIONS 3

1. Main Camera No FM-10 3
2. Stellar Camera No S- 3
3. Index Camera No S- 4
4. Associated Equipment 4

PART II. FILM 7

1. Film Footage 7
2. Film Processing 7
3. Physical Film Determinations 8
4. Film Processing Curves 9

PART III. IMAGE QUALITY 13

1. Photographic Interpretation (PI) Suitability 13
2. PI Suitability for Mission 1010 14

APPENDIX A. SYSTEM SPECIFICATIONS 17

1. Main Camera Data 17
2. Stellar and Index Camera Data 17
3. Expanded Schematic of Optical Components 19
4. Main Camera Format Dimensions 20
5. Time Track Format 21

APPENDIX B. MICRODENSITOMETRY 22

1. Edge Spread Function 22
2. Edge-Traces for Mission 1010 23

APPENDIX C. MISSION COVERAGE STATISTICS 27

1. Summary of Plottable Photographic Coverage 27
2. Mission Coverage Tracks 29

LIST OF ILLUSTRATIONS

		Page
Figure 1.	Definition of Photographic Data	4a
Figure 2.	Example of Stellar Photography	4c
Figure 3.	Example of Index Photography	4e
Figure 4.	Imagery in Yaw Slit (Time Track Edge)	4f
Figure 5.	Imagery in Yaw Slit (Edge Opposite Time Track)	4g
Figure 6.	Image of Yaw Slit Apertures (Time Track Edge)	4k
Figure 7.	Image of Yaw Slit Aperture (Edge Opposite Time Track)	4m
Figure 8.	Forward Looking Photography of Aircraft, Double Imaged	14a
Figure 9.	Aft Looking Photography of Aircraft, Double Imaged	14a
Figure 10.	Forward Looking Photography of Dock Area, Double Imaged	14c
Figure 11.	Aft Looking Photography of Dock Area, Double Imaged	14c
Figure 12.	Forward Looking Photography of Airfield, Double Imaged	14e
Figure 13.	Aft Looking Photography of Airfield, Double Imaged	14e
Figure 14.	Best Quality Photography in Mission 4010 (Airfield)	14g
Figure 15.	Best Quality Photography Obtained in Mission 4010 (Airfield)	14i
Figure 16.	Best Quality Photography Obtained in Mission 4010 (Town)	14k
Figure 17.	Best Quality Photography in Mission 4010 (Complex)	14m
Figure 18.	Photograph of Edge Track Area	20a

3. Index Camera No S-f

The Index camera operated for only 12 exposures. The sun angle is extremely low on the first 5 frames; therefore, these frames are underexposed. The reseau is distorted and the imagery is out-of-focus at the corners of the format. About one-half of the camera number block and a portion of the adjoining format corner are vignetted. No record of the correlation mark is present; therefore, no S/T correlation was accomplished.

4. Associated Equipment (This equipment records technical information required for attitude determination and measuration of the photography)

The time track did not record during the mission, precluding accurate time and velocity determination.

Because of misalignment of the slit plate, all of the yaw slits were vignetted. The smaller aperture of the yaw slit at the non-time-track edge was blocked to the extent that only a single image was recorded. Since all yaw slit images must be present for accurate determination of yaw, these measurements are unobtainable. The outside edge of the yaw slit at the time track edge of the format is obscured by a continuous plus density streak. Images of 2 additional yaw slits were recorded during the set period. These are present at the time track edge of the format, 1 on either side of the pair of yaw slits in use. It is probable that a slight imperfection in the yaw slits being used refracted a portion of the light entering the slit. The refracted light was then transmitted through the glass slit plate and illuminated the adjacent, unused yaw slits, causing their images to record on the film.

FIGURE 1. DEFINITION OF PHOTOGRAPHIC DATA

The data pertaining to the photographic illustrations contained in this publication are defined as follows:

Pass: A pass is the operational portion of an orbital revolution. A suffix D indicates that the photography was acquired during the descending portion, a suffix A indicates that the photography was acquired during the ascending portion, and a suffix M indicates that the photography was acquired during a pass that includes both ascending and descending portions. An additional suffix E indicates that the pass was an engineering operation (no imagery detectable) or that a portion of the photography has been edited.

Index: A mark placed along the titled edge, numbered consecutively within a pass and spaced approximately every 1" inches. It is used to orient the Universal Grid on the photograph.

Universal Grid Coordinates: These coordinates are included to locate the illustrated photography within the format.

Date of Photography: The date of photography indicates the day, month, and year (GMT) that the photography was acquired.

Enlargement Factor: The enlargement factor is included to indicate the number of diameters the original material has been enlarged in the photographic illustration.

Geographic Coordinates: These coordinates are included to indicate the latitude and longitude of the photographic illustration.

Altitude: This measurement is the vertical distance from the vehicle to the reference ellipsoid at the time of the acquisition of the photography.

Vehicle Roll (planned): This is the roll programmed for the acquisition of the target.

Mirror Position: The stereo mirror may be pitched to 1 of 3 positions to produce forward, vertical, or aft looking photographs.

Exposure: The exposure is the duration of the photographic exposure expressed in fractions of a second and is computed from the slit width and film speed.

Local Sun Time: This time is included to present to the viewer a realistic time of the acquisition of the photography illustrated.

Solar Elevation: Solar elevation is the angular elevation of the sun above a plane tangent to the surface of the earth at the center of the photographic format. A negative solar elevation indicates that the sun is below the plane.

Solar Azimuth: The solar azimuth is the angular measurement of the rays of the sun measured from true north in a clockwise direction.

Azimuth of the Principal Ray: The angular distance of the principal ray measured clockwise from true north.

Solar Bearing from the Principal Ray: The angular distance of the solar azimuth measured clockwise from the azimuth of the principal ray.

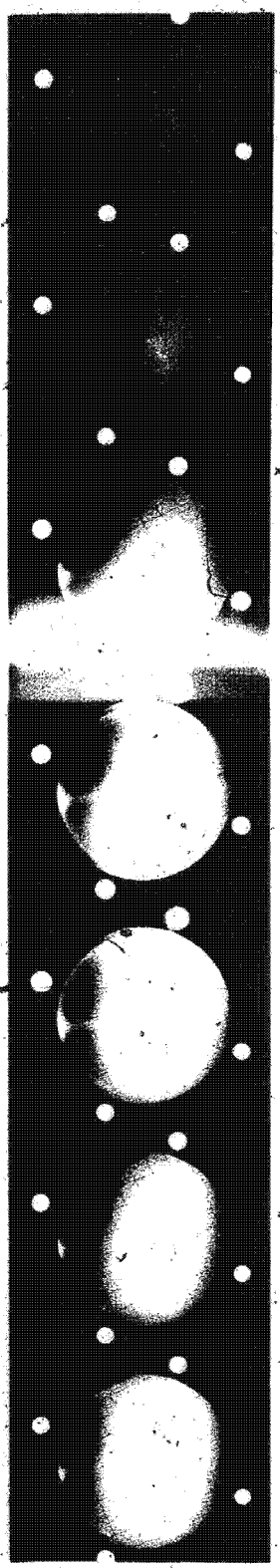
FIGURE 2. EXAMPLE OF STELLAR PHOTOGRAPHY

The 7 stellar frames which contain images are illustrated. The orientation of the reseau, the bloomed fiducials, the 3 fogged areas, and the fingerprint can also be observed.

Stellar Frame Number . . . . . Last 7 frames
Enlargement factor . . . . . Contact
Exposure . . . . . 2 sec

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64



Handle Via
~~TALENT-KEYHOLE~~
Control System Only

~~TOP SECRET - RUFF~~
NO FOREIGN DISSEM

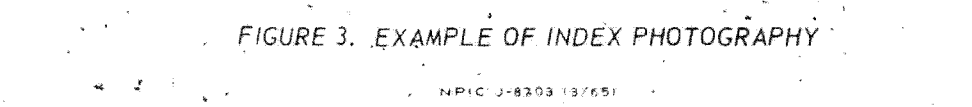
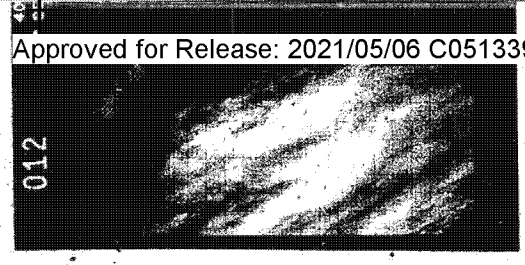


FIGURE 3. EXAMPLE OF INDEX PHOTOGRAPHY

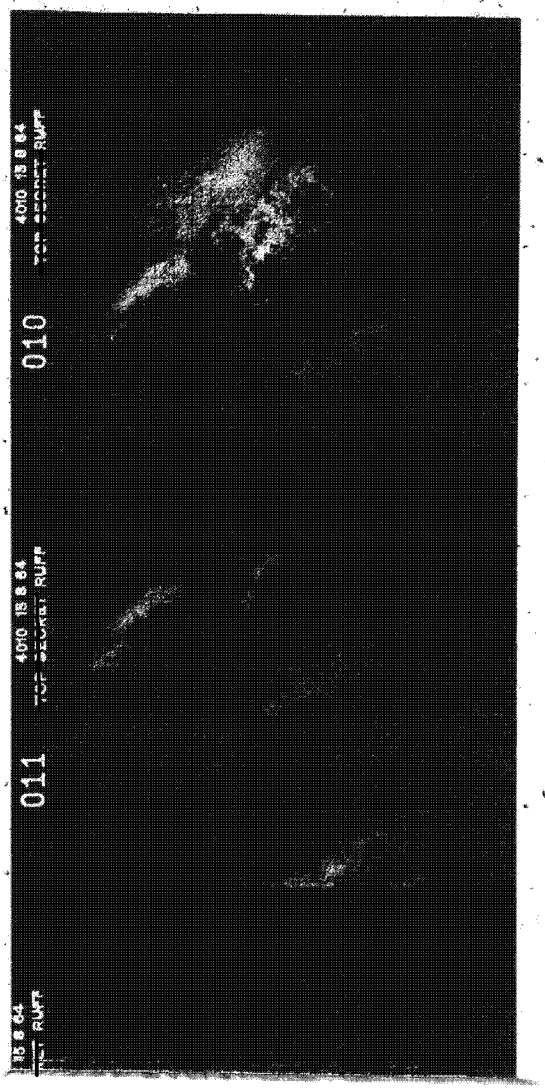
NPIC J-8303 (3/65)

Three of the 4 index frames which received adequate exposure are displayed. The distorted image of the reseau and the out-of-focus imagery can be seen at the corners of each format. The vignetted format corner and camera number block are visible.



~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

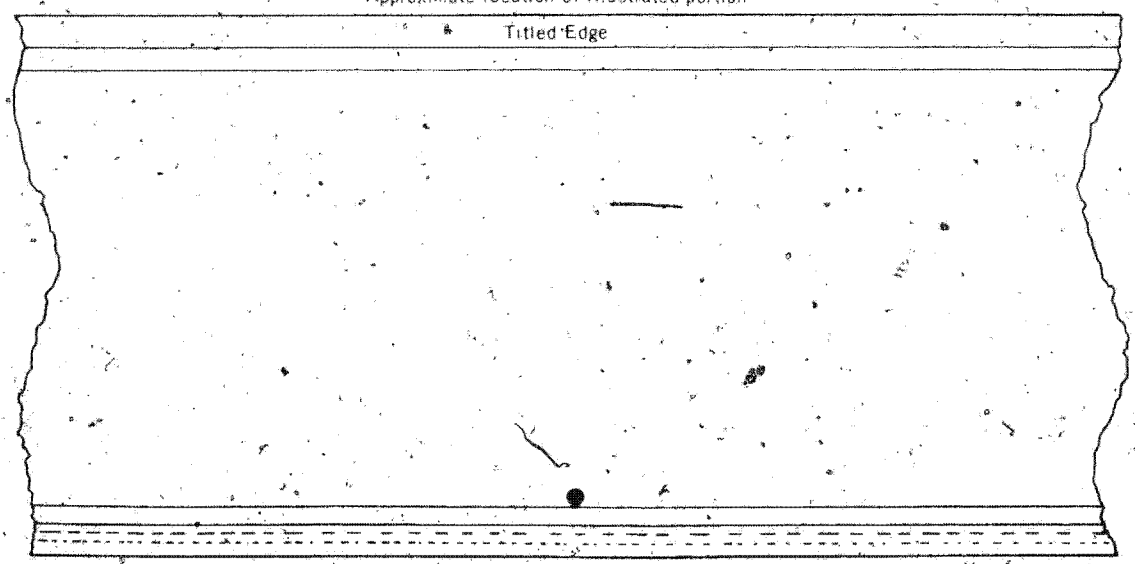


Approved for Release: 2021/05/06 C05133954

TCS-10629/64
NPIC/TP-34/64

Pass	10D
Frame	10
Date of Photography	15 Aug 64
Index	17
Universal Grid Coordinates	78-1
Enlargement Factor	20X
Geographic Coordinates	59N-25E
Altitude (nm)	88.9
Vehicle Roll (planned)	24.82
Type of Coverage	Strip
Mirror Position	AFT
Exposure	1 186
Local Sun Time	1417
Solar Elevation	38.0
Solar Azimuth	225.1
Azimuth of Principal Ray	250.9
Solar Bearing from Principal Ray	154.2

Approximate location of illustrated portion



TCS-10629/64
NPIC/TP-34/64

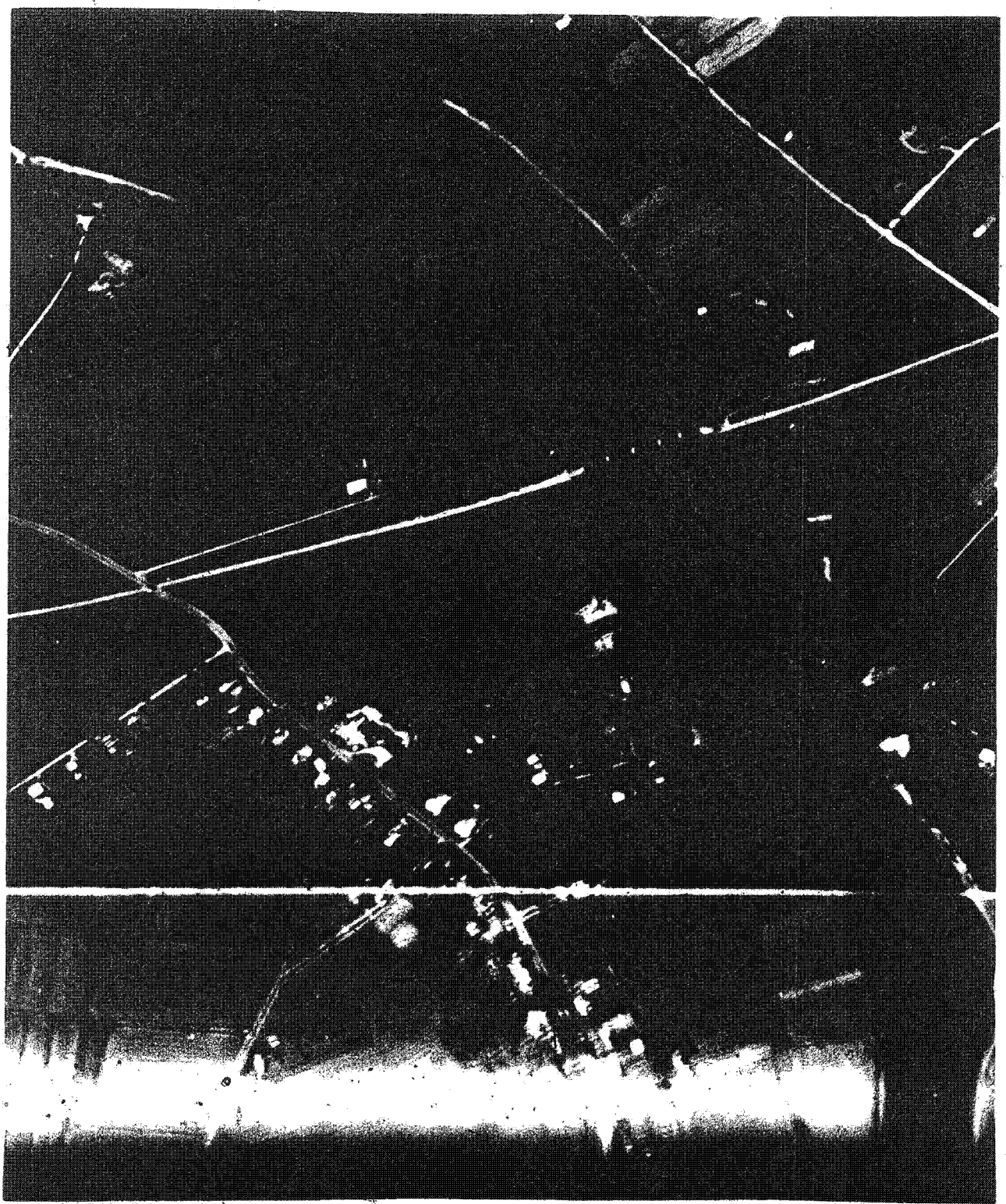


FIGURE 5. IMAGERY IN YAW SLIT (EDGE OPPOSITE TIME TRACK)

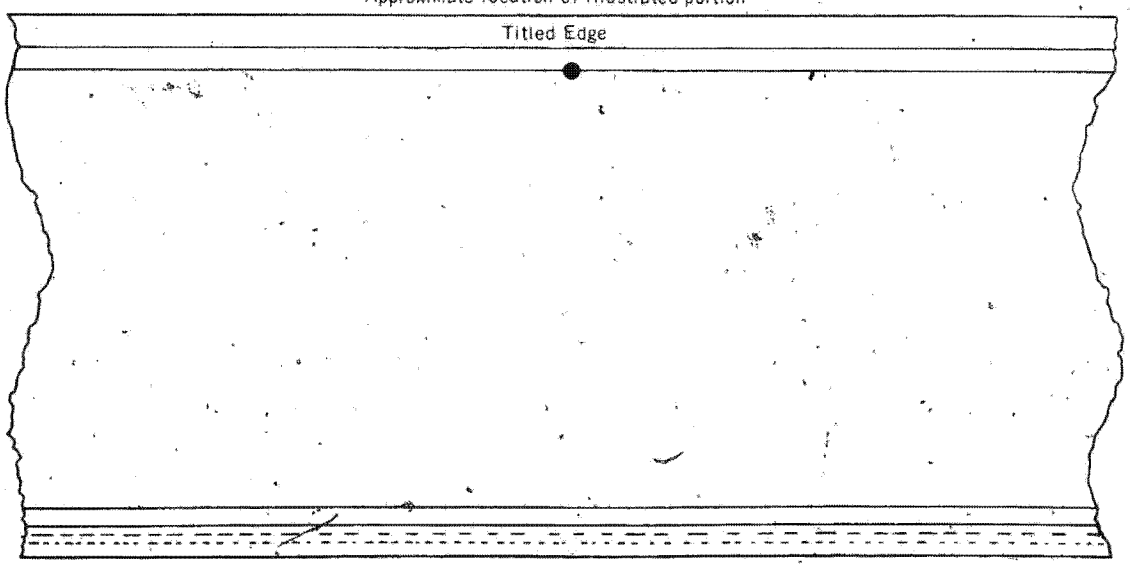
NPIC J-8705 (3/65)

Because the yaw slits were vignetted, double imagery is not present in the yaw slit area located opposite the time track edge of the film.

TCS-10629/64
NPIC/TP-34/64

Pass	10D
Frame	10
Date of Photography	15 Aug 64
Index	17
Universal Grid Coordinates	77-23
Enlargement Factor	20X
Geographic Coordinates	59N-25E
Altitude (nm)	88.9
Vehicle Roll (planned)	24.82
Type of Coverage	Strip
Mirror Position	AFT
Exposure	1/186
Local Sun Time	1417
Solar Elevation	38.0
Solar Azimuth	225.1
Azimuth of Principal Ray	250.9
Solar Bearing from Principal Ray	154.2

Approximate location of illustrated portion



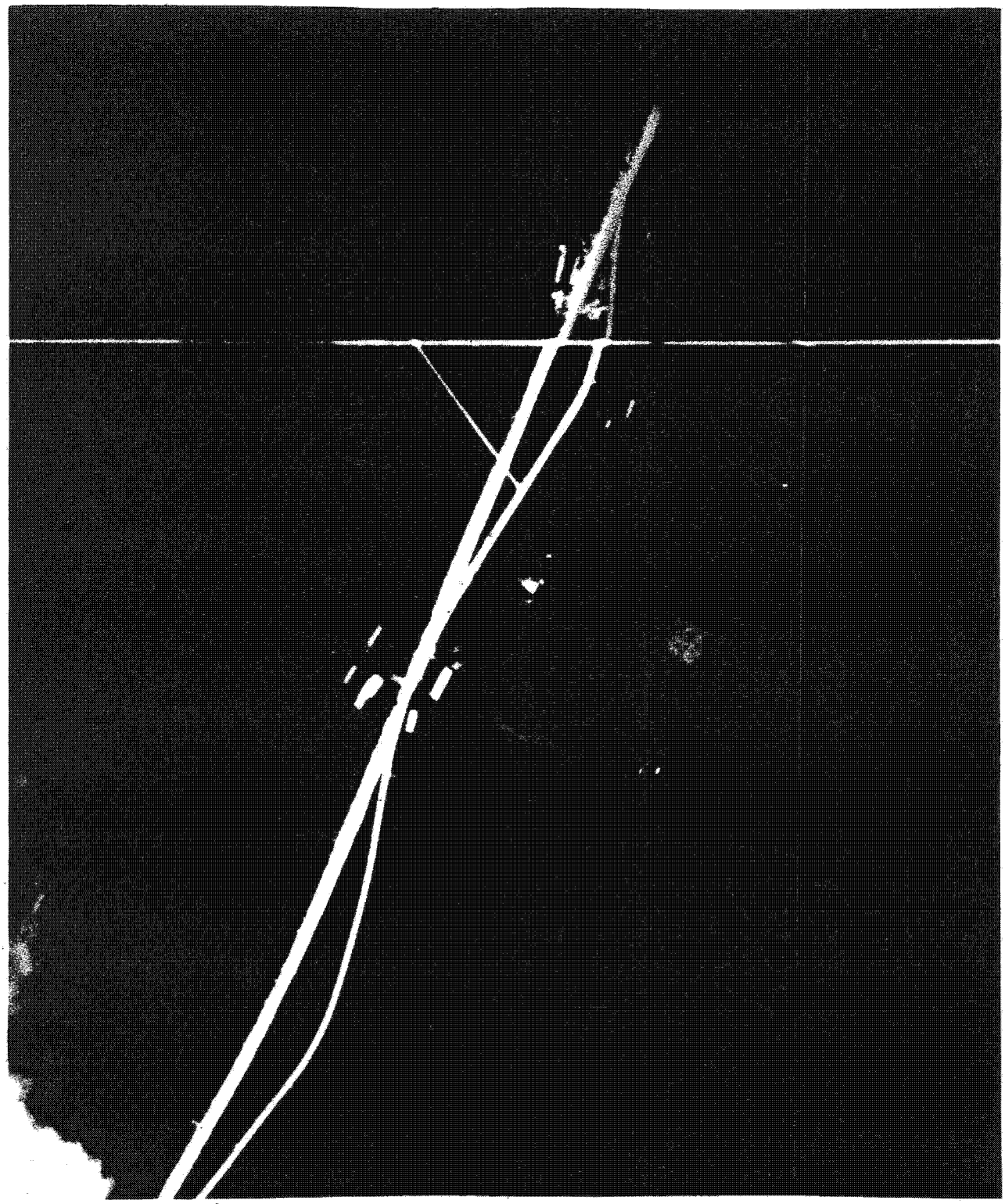


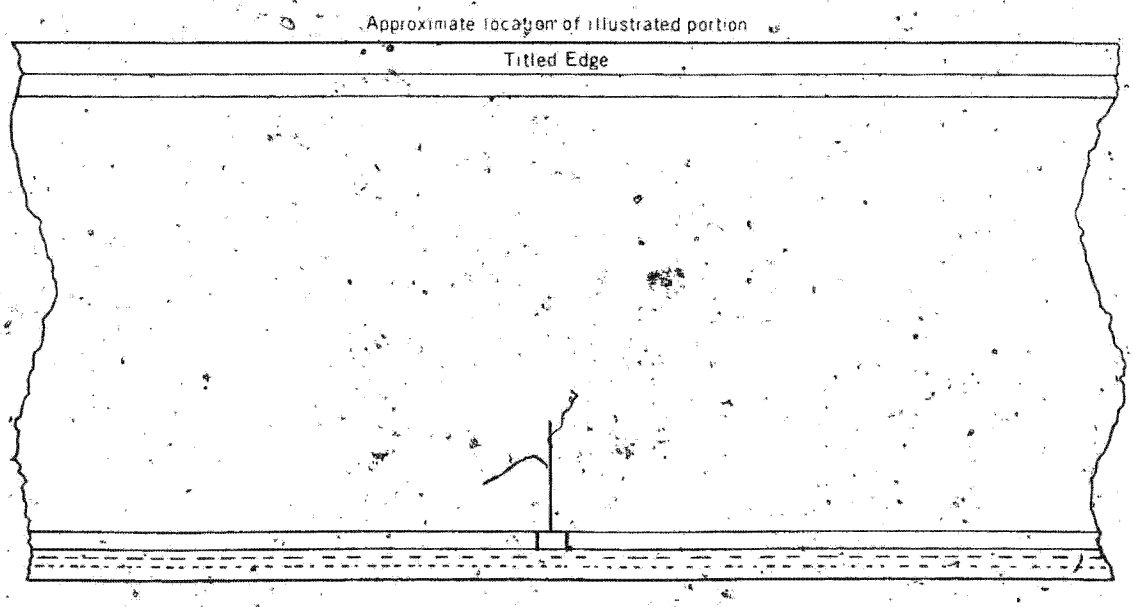
FIGURE 6. IMAGE OF YAW SLIT APERTURES (TIME TRACK EDGE)

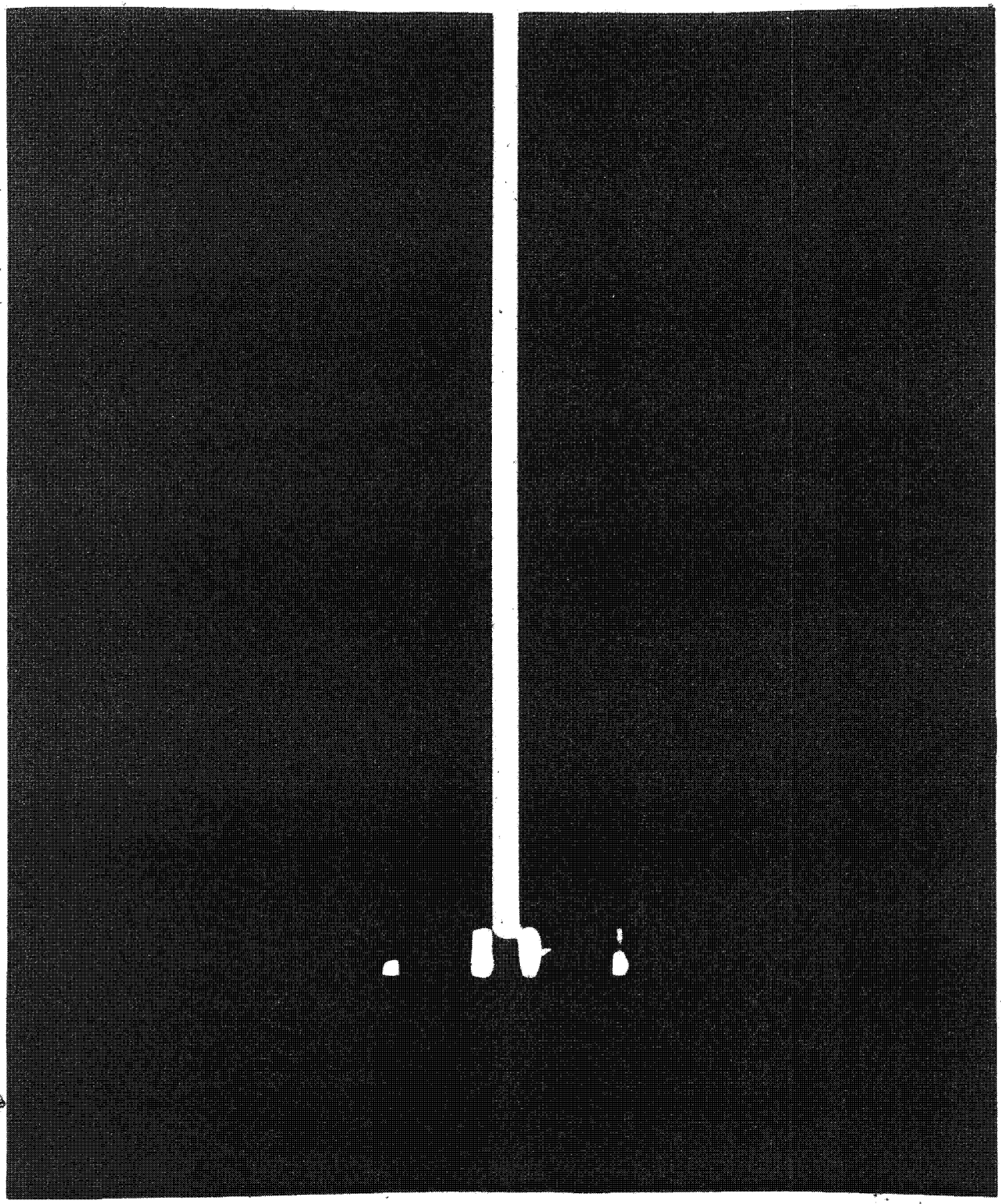
NPIC J-8706 (3/65)

That portion of the main slit at the time track edge of the format and the adjacent yaw slits are shown as recorded during the set period. The images of additional yaw slits are present.

TCS-10629/64
NPIC/TP-34/64

Pass 20D
Enlargement Factor 3X

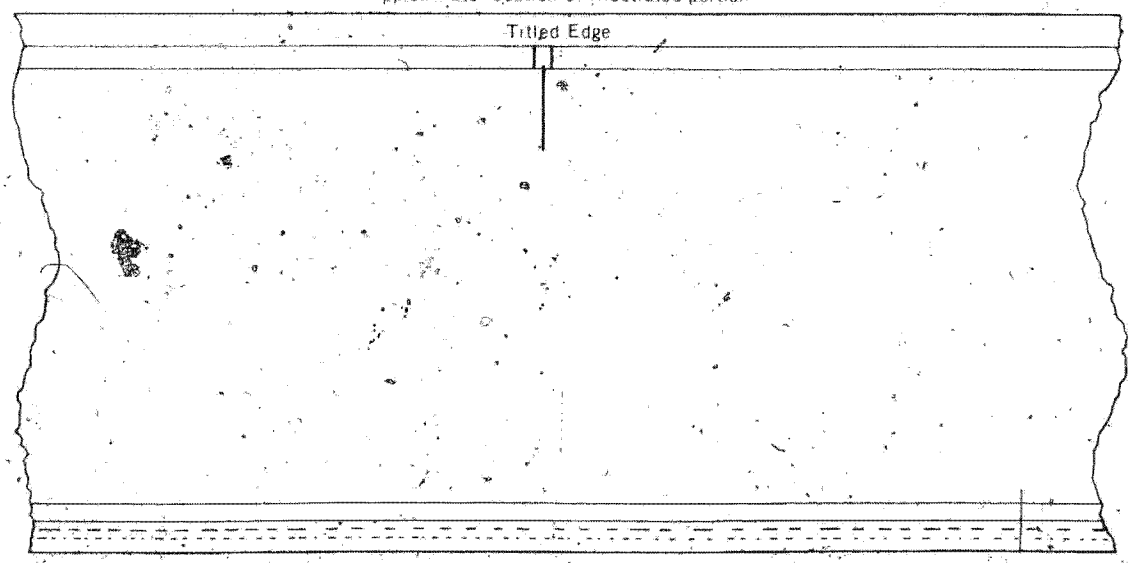


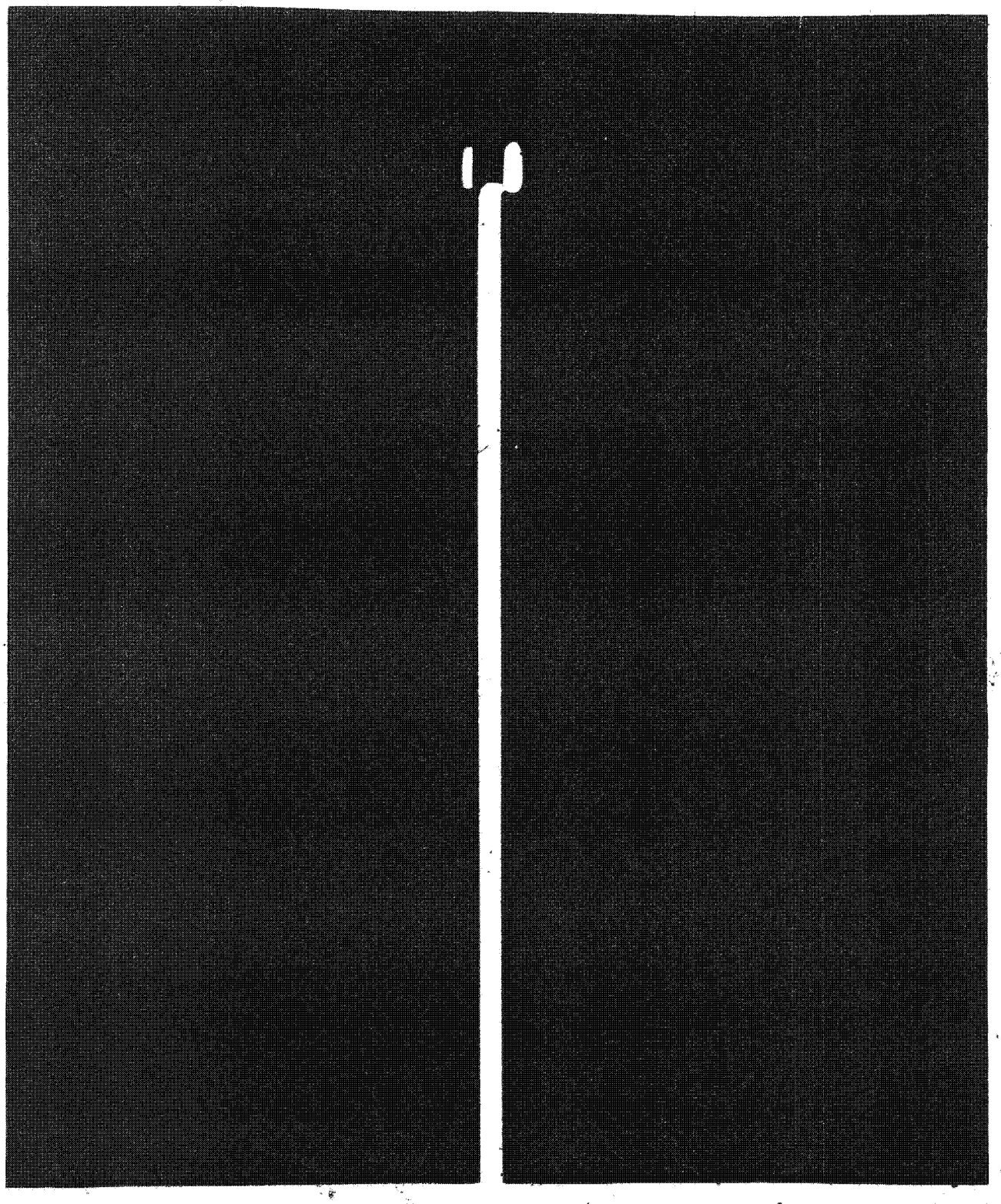


TCS-10629/64
NPIC/TP-34/64

Pass 20D
Enlargement Factor 3X

Approximate location of illustrated portion





PART II. FILM

1. Film Footage

The film footage and frames processed from each of the cameras employed in Mission 4010 are as follows:

CAMERA	FOOTAGE	FRAMES
Main Camera FM-10	654 recovered, which contained 290 of photography. 2,285 unused, remained aloft	130 which comprise 50 stereo pairs and 31 strips.
Stellar Camera S-6	5.3	39
Index Camera S-6	11	12

2. Film Processing

This section provides an evaluation of the exposure, processing and densities of the original negatives from the 3 cameras used in Mission 4010.

a. Most of the film received adequate exposure and acceptable photography was accomplished throughout the mission. The solar elevation varied from 16.3 degrees in pass 10D to 62.9 degrees in pass 6D.

b. Infrared detection densitometry was employed to determine the optimum levels of development for the various portions of the mission. Five changes in the level of development were executed for optimum processing of the material from the Main camera. No changes were made in the development level for the processing of the stellar and index material. The percentages of the Main camera material processed at the various levels are as follows:

Level of Development	Percent of Mission
Primary	
Intermediate	22
Full	73

(These percentages include transitional periods)

(c) The density of the negatives is considered good and compares favorably with that of negatives from previous missions.

3. Physical Film Degradations

No major physical film degradations are present on the material from this mission. The presence of handling marks, abrasions, emulsion digs, pinholes, and scratches are considered minimal. Three transverse areas of fog and some dendritic static discharge traces are present on the stellar material. A large fingerprint and a few crimps are located within the last 3 inches of film. The index material contained no major physical degradations.

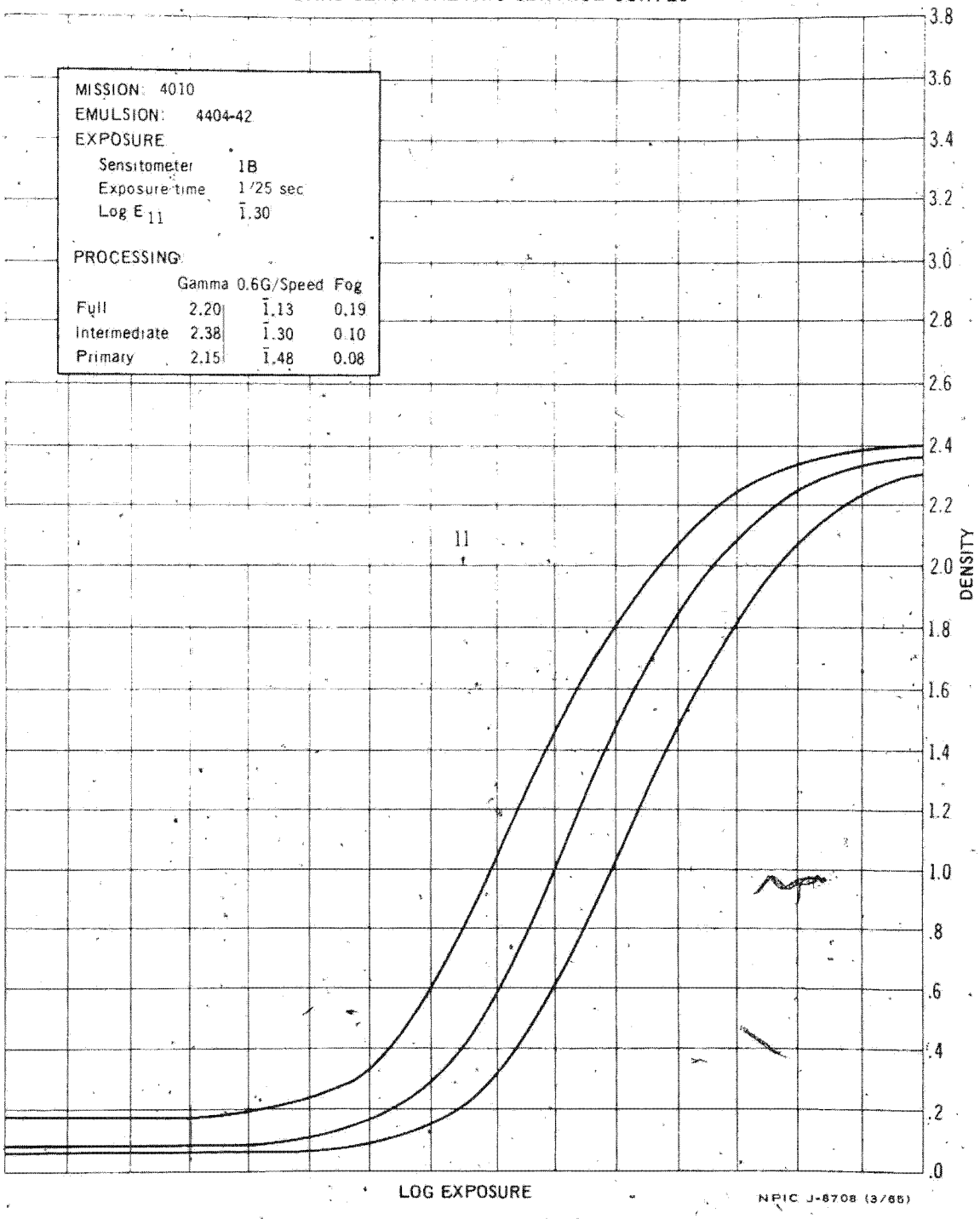
4. Film Processing Curves

The following processing curves are a product of the processing contractor:

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64

STANDARD SENSITOMETRIC CONTROL CURVES

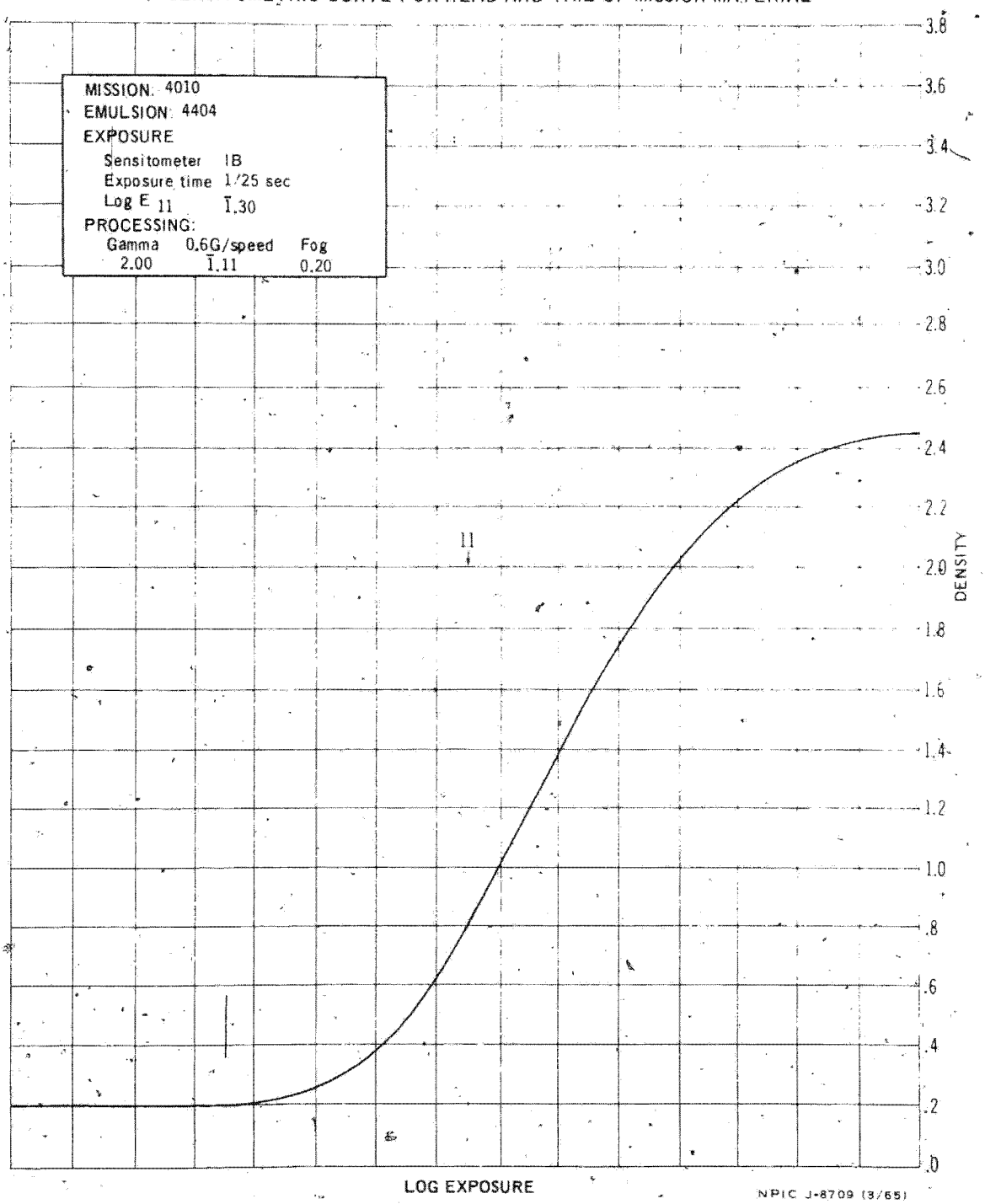


Handle Via
~~TALENT-KEYHOLE~~
Control System Only

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

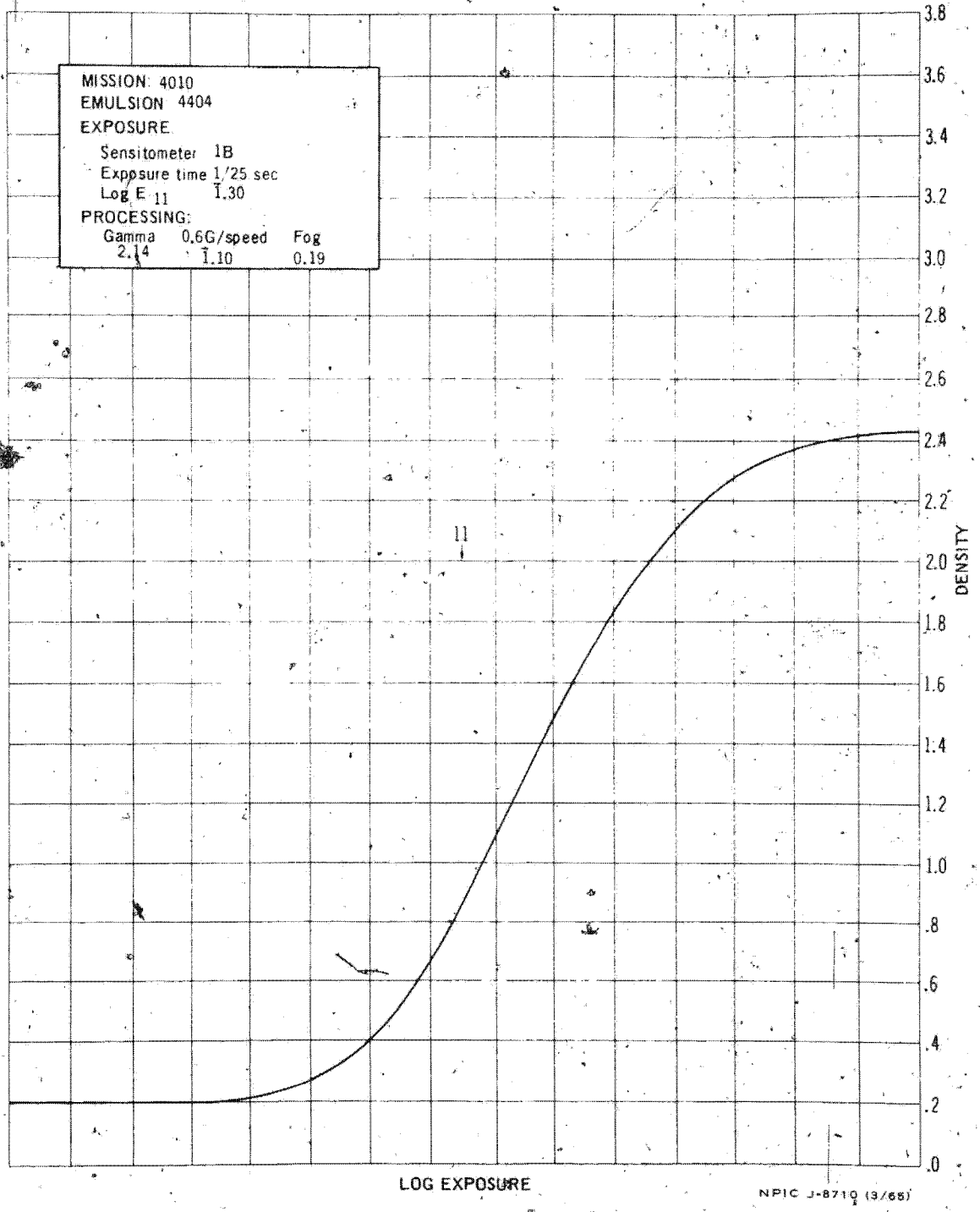
TCS-10629/64
NPIC/TP-34/64

SENSITOMETRIC CURVE FOR HEAD AND TAIL OF MISSION MATERIAL



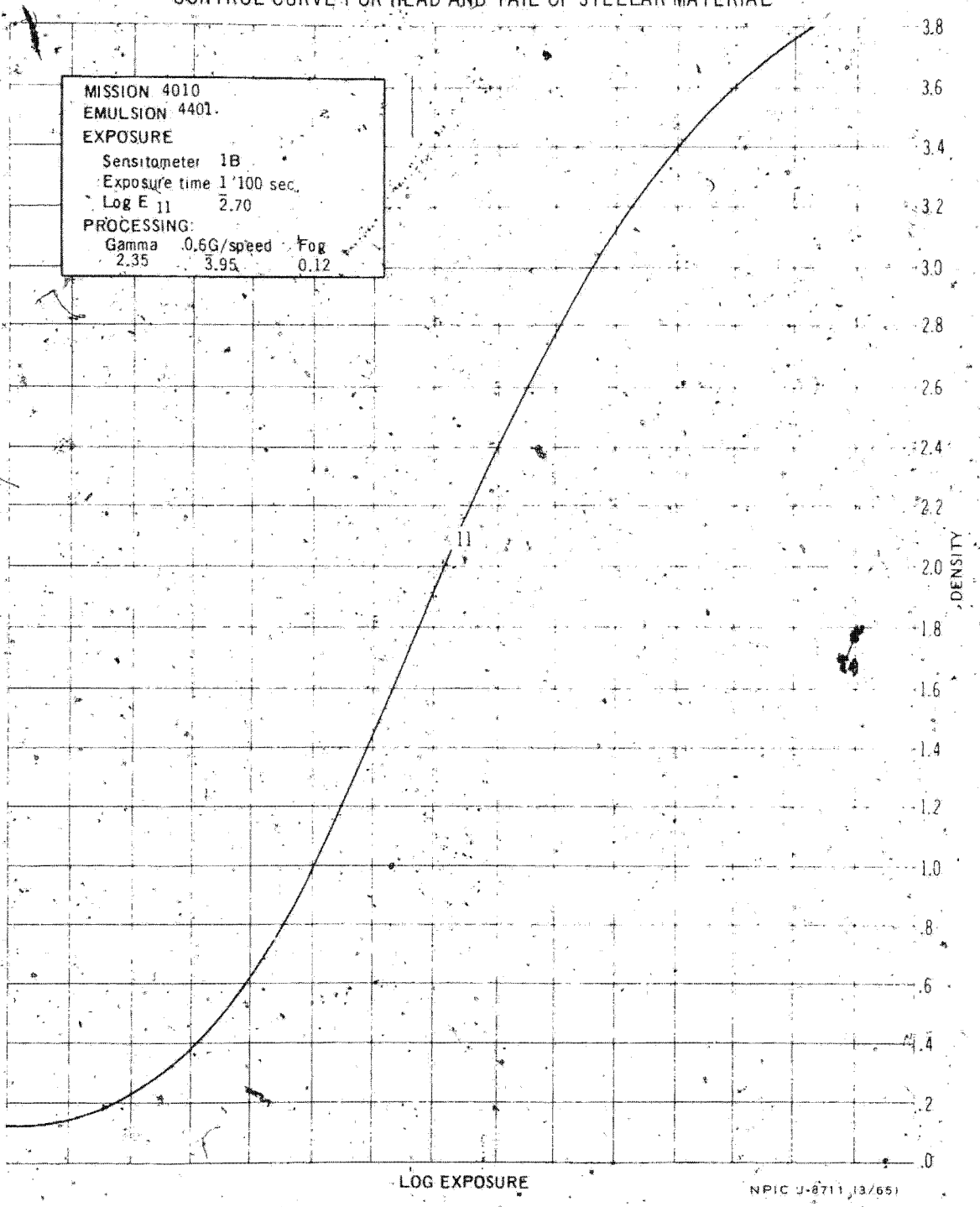
Handle Via
~~TALENT-KEYHOLE~~
Control System Only

SENSITOMETRIC CURVE FROM MAIN CAMERA MATERIAL



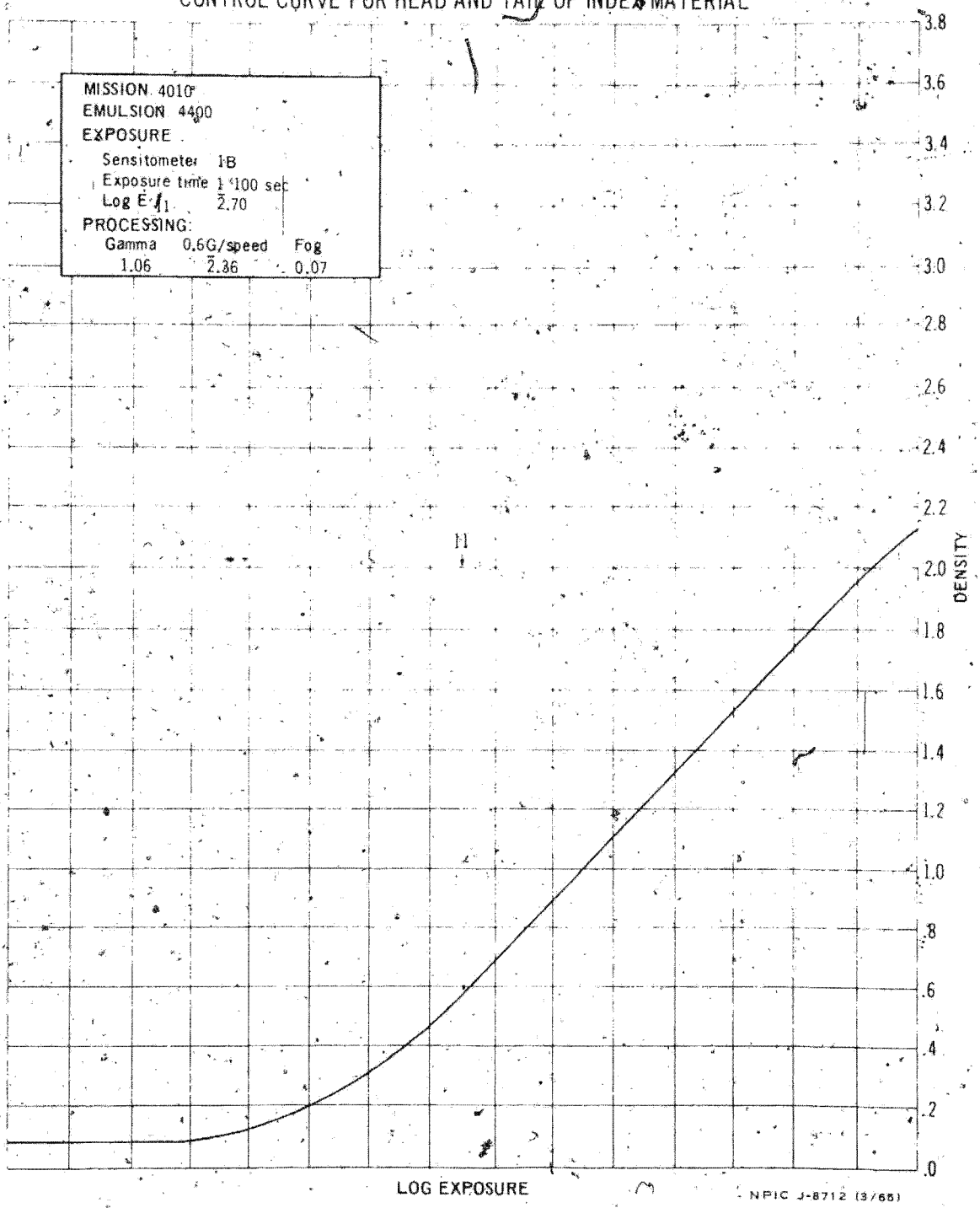
NPIC J-8710 (3/65)

CONTROL CURVE FOR HEAD AND TAIL OF STELLAR MATERIAL



TCS-10629/64
NPIC/TP-34/64

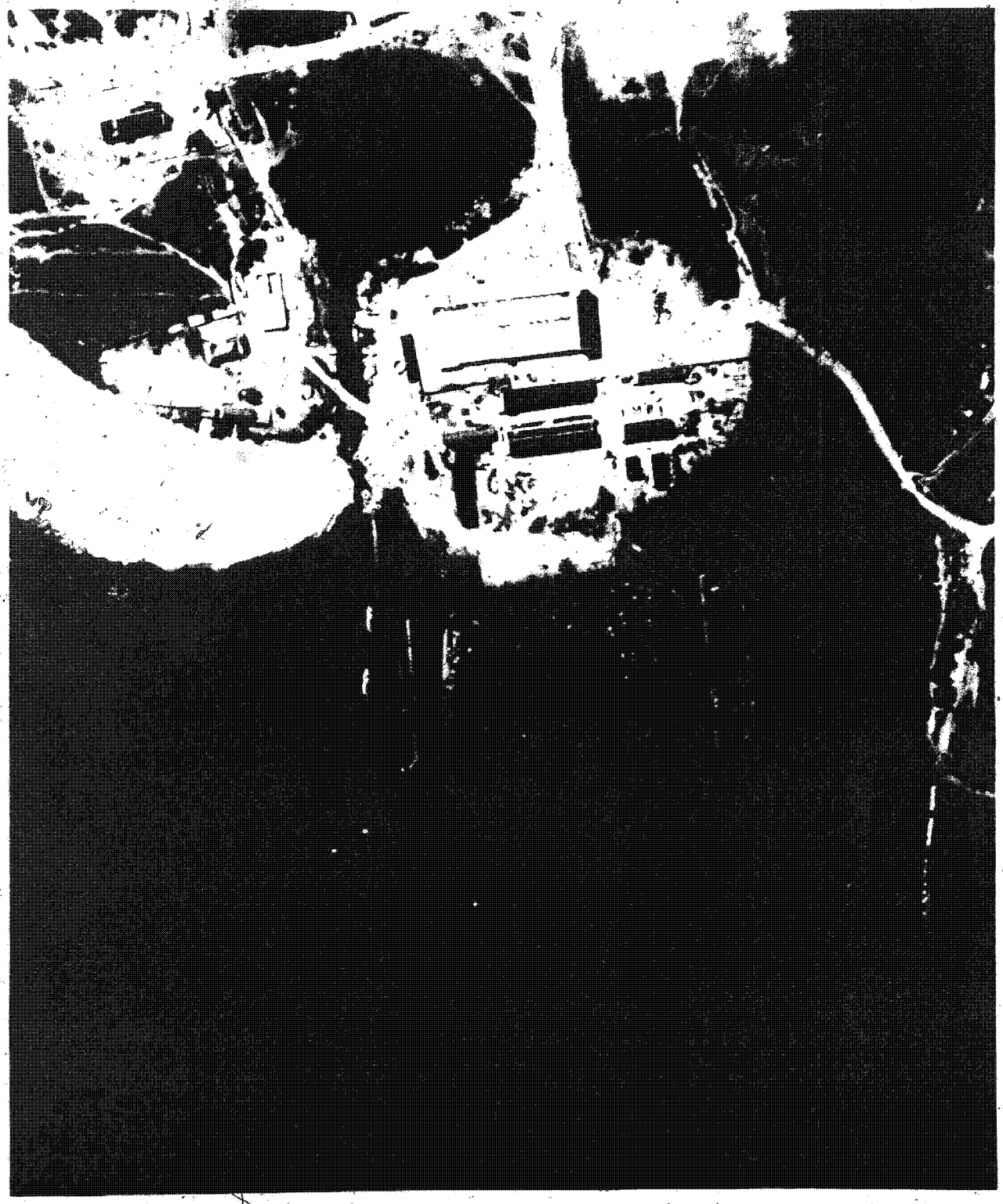
CONTROL CURVE FOR HEAD AND TAIL OF INDEX MATERIAL



~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64



Handle Via
~~TALENT-KEYHOLE~~
Control System Only

~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

FIGURE 12. FORWARD LOOKING PHOTOGRAPHY OF AIRFIELD, DOUBLE IMAGED.

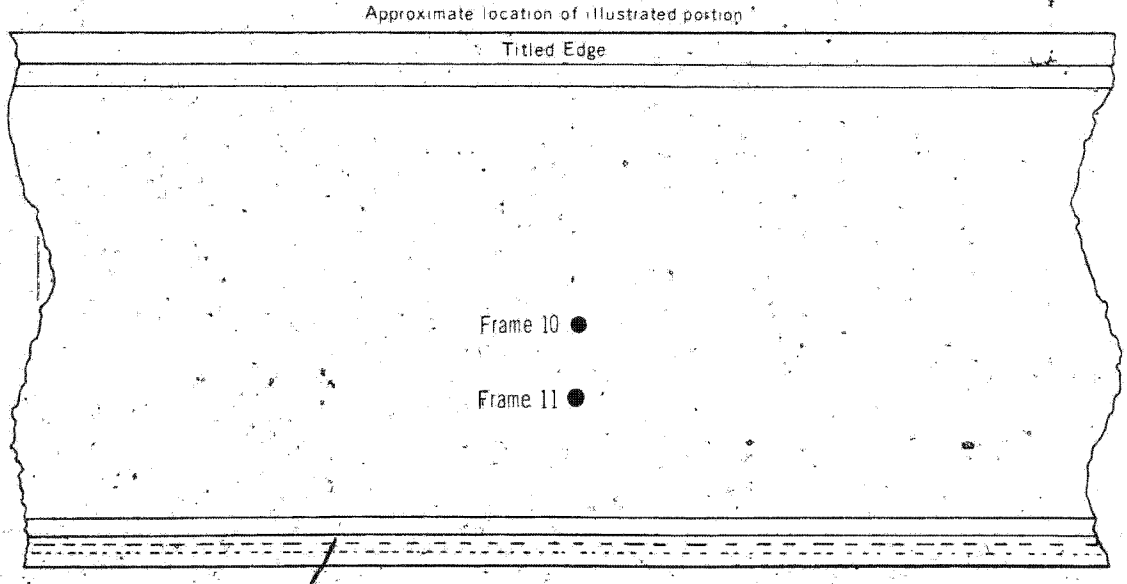
NPIC J-8717 (3 65)

FIGURE 13. AFT LOOKING PHOTOGRAPHY OF AIRFIELD, DOUBLE IMAGED

NPIC J-8718 3 65

The image displacement in the accompanying photography is not sufficient to produce 2 separate images and appears rather as an out-of-focus or smeared condition.

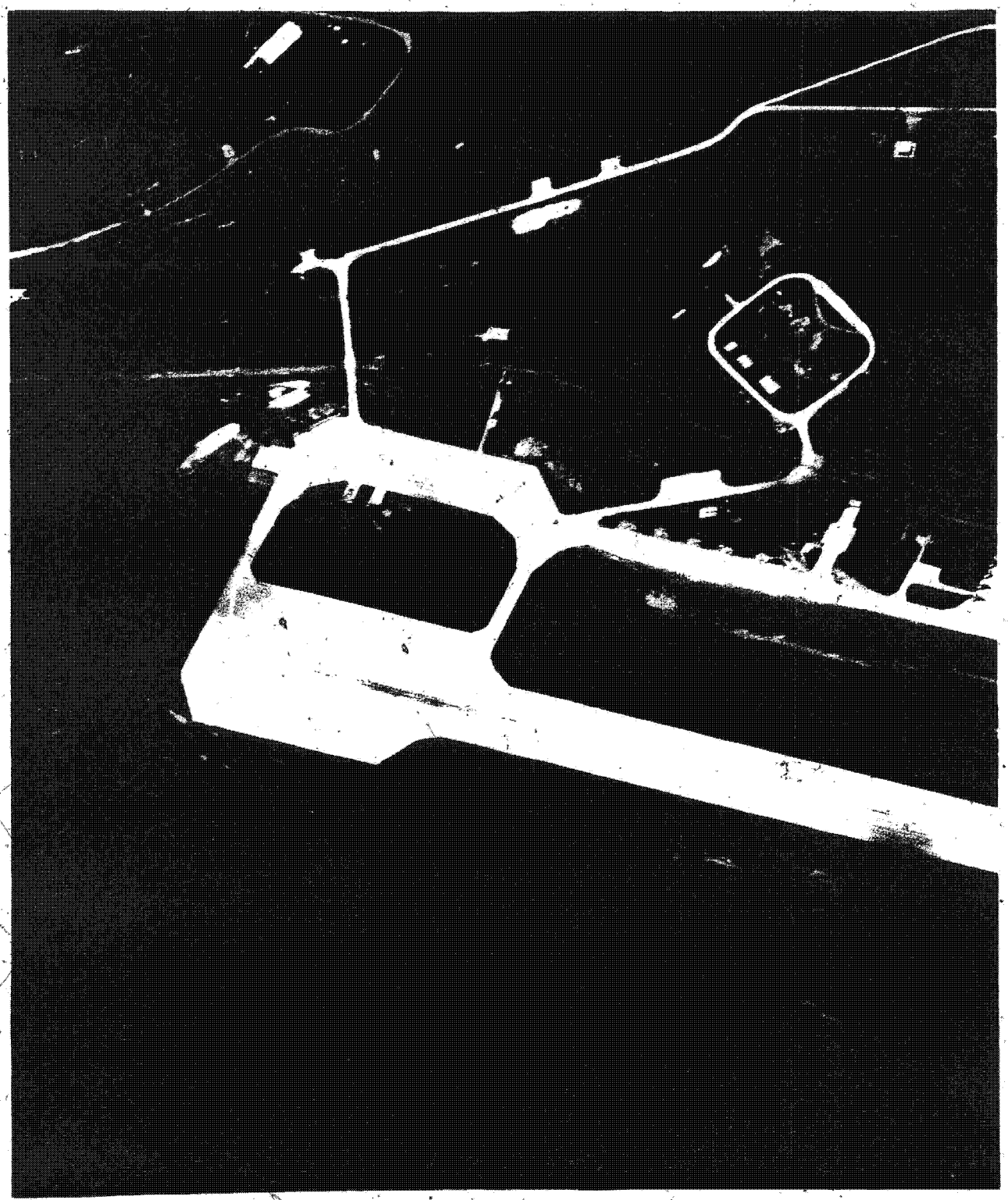
	Figure 12	Figure 13
Pass	21D	21D
Frame	10	11
Date of Photography	16 Aug 64	16 Aug 64
Index	20	22
Universal Grid Coordinates	63-11	58-7
Enlargement Factor	20X	20X
Geographic Coordinates	44N 132E	44N 132E
Altitude (nm)	84.6	84.5
Vehicle Roll (planned)	-31.20	-31.20
Type of Coverage	Stereo	Stereo
Mirror Position	Fwd	Aft
Exposure	1/191	1/193
Local Sun Time	1406	1405
Solar Elevation	51.2	51.2
Solar Azimuth	228.0	227.9
Azimuth of Principal Ray	68.2	125.1
Solar Bearing from Principal Ray	339.8	282.8



~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS: 10629/64
NPIC/TP-34/64



~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

Approved for Release: 2021/05/06 C05133954

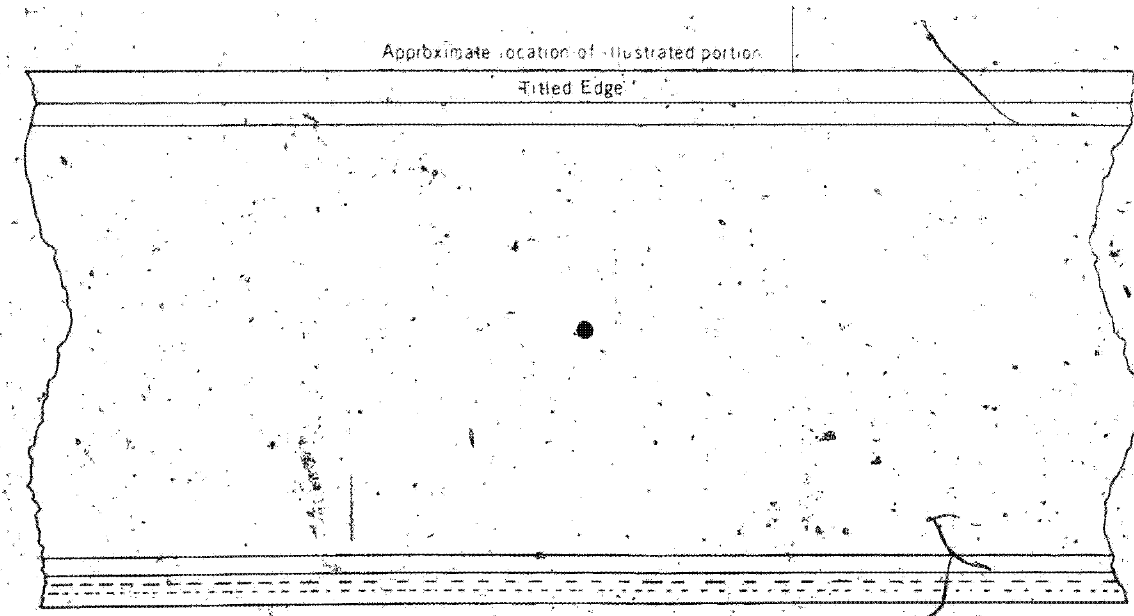
FIGURE 14. BEST QUALITY PHOTOGRAPHY IN MISSION 4010 (AIRFIELD)

NPIC J-8719 (3/65)

Degradation caused by double imagery is at a minimum in the photography of this airfield. Although the engine nacelles are distinguishable, the general quality of the imagery is below the known capability of the system.

TCS-10629-64
NPIC TP-34-64

Pass	[illegible]
Frame	[illegible]
Date of Photography	[illegible] Aug [illegible]
Index	[illegible]
Universal Grid Coordinates	[illegible]
Enlargement Factor	[illegible]
Geographic Coordinates	[illegible]
Altitude (nm)	[illegible]
Vehicle R… planned	[illegible]
Type of Coverage	[illegible]
Mirror Position	[illegible]
Exposure	[illegible]
Local Sun Time	[illegible]
Solar Elevation	[illegible]
Solar Azimuth	[illegible]
Azimuth of Principal Ray	[illegible]
Solar Bearing from Principal Ray	[illegible]



Handle Via
~~TALENT-KEYHOLE~~
Control System Only

Approved for Release: 2021/05/06 C05133954

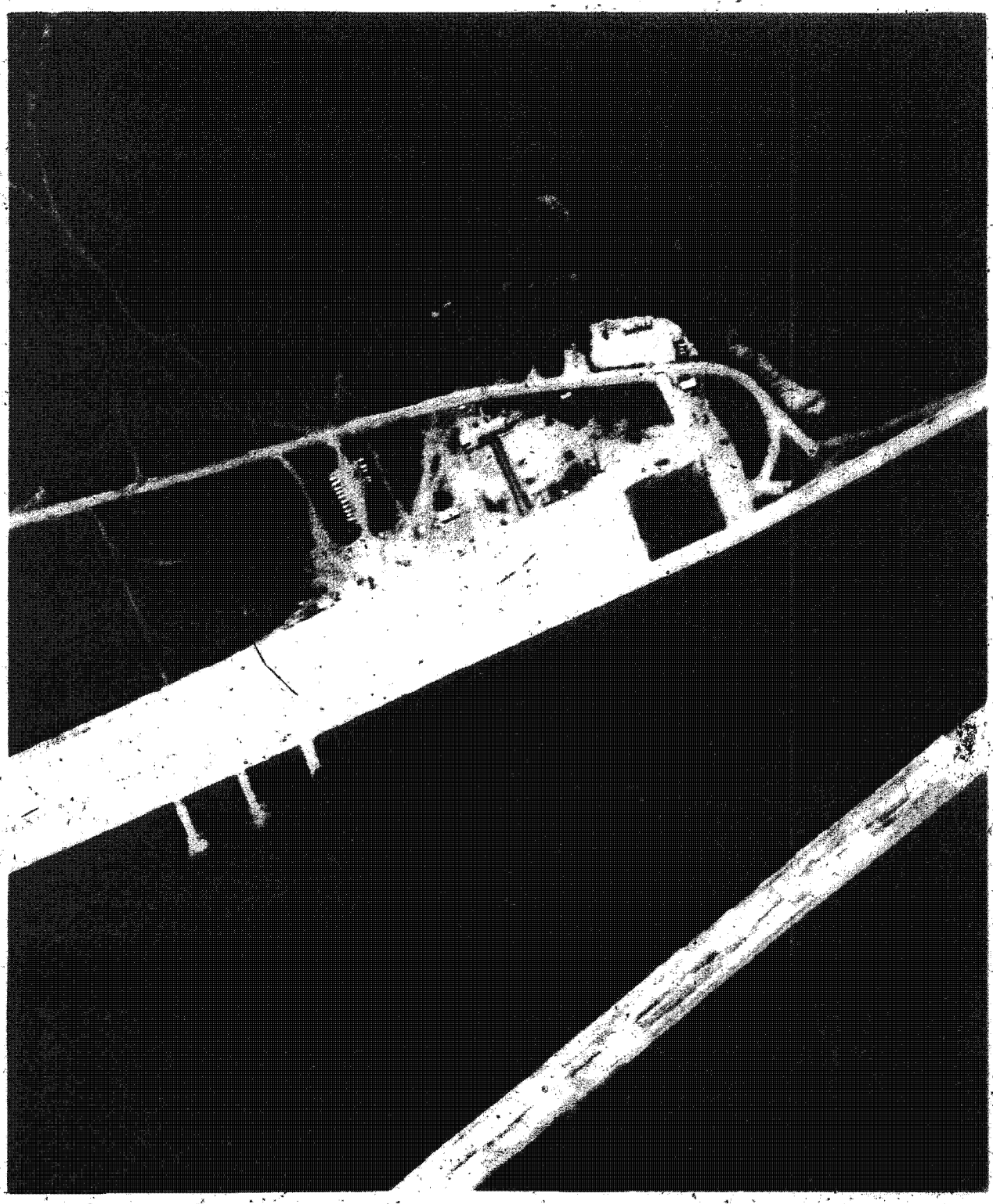


FIGURE 15. BEST QUALITY PHOTOGRAPHY OBTAINED IN MISSION 4010 (AIRFIELD)

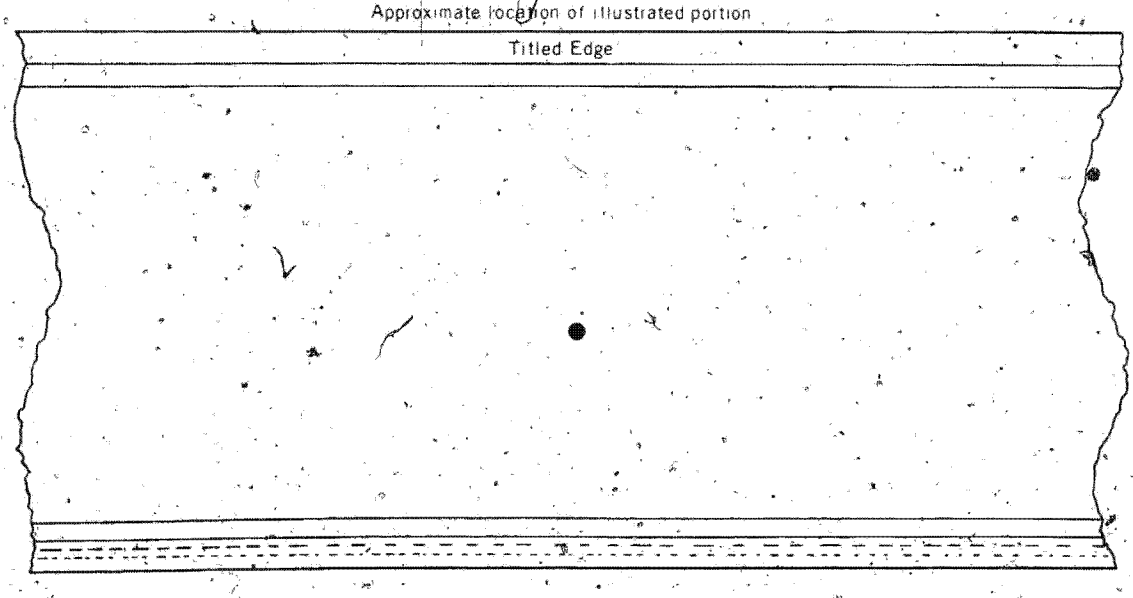
NPIC J-8720 (3-65)

This airfield is an example of the best photography obtained on Mission 4010. Since it is aft looking photography, the image displacement is at a minimum.

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64

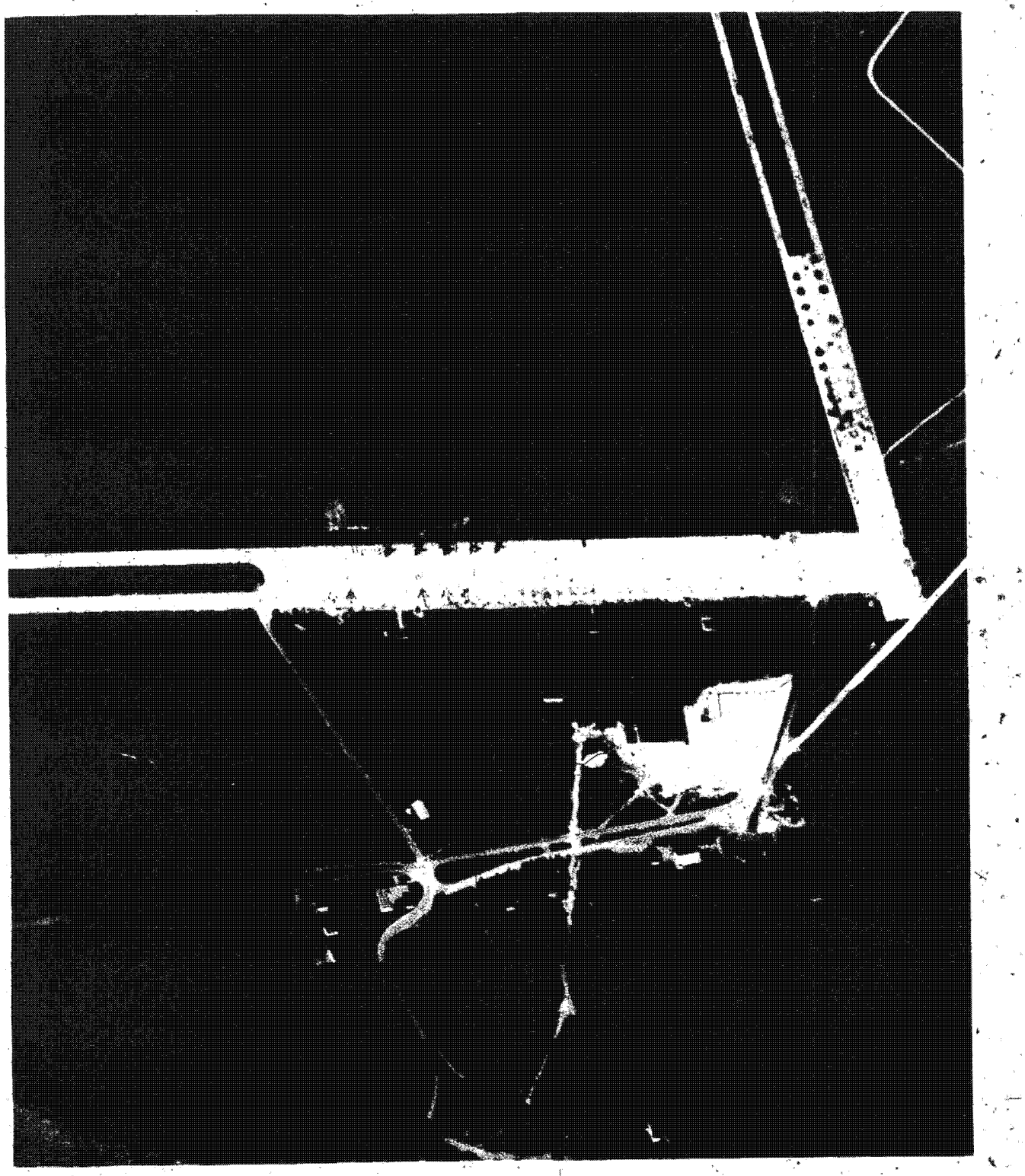
Pass	10D
Frame	10
Date of Photography	15 Aug 64
Index	17
Universal Grid Coordinates	76-10
Enlargement Factor	20X
Geographic Coordinates	59N-25E
Altitude (nm)	88.9
Vehicle Roll (planned)	24.82
Type of Coverage	Strip
Mirror Position	Aft
Exposure	1/186
Local Sun Time	1417
Solar Elevation	38.0
Solar Azimuth	225.1
Azimuth of Principal Ray	250.9
Solar Bearing from Principal Ray	154.2



Handle Via
~~TALENT-KEYHOLE~~
Control System Only

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64



Handle Via
~~TALENT-KEYHOLE~~
Control System Only

~~TOP SECRET - RUFF~~
~~NO FOREIGN DISSEM~~

FIGURE 16. BEST QUALITY PHOTOGRAPHY OBTAINED IN MISSION 4010 (TOWN)

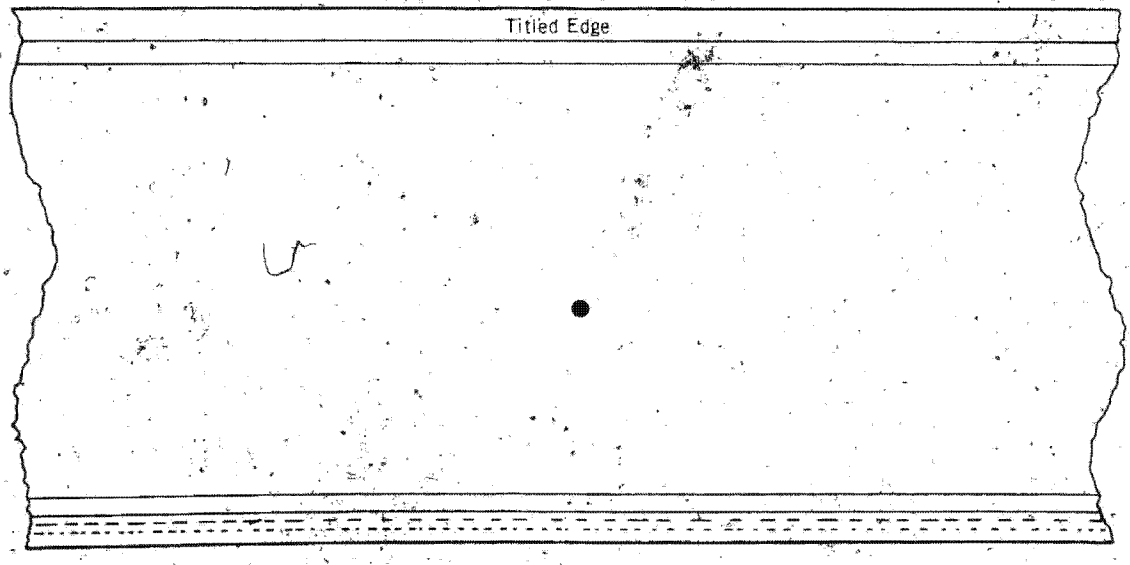
NPIC J-8721 (3/65)

The town and industrial complex shown here are on the same frame as the previous airfield. This is an example of photography having the least image displacement of any in the mission.

TCS-10629/64
NPIC/TP-34/64

Pass	10D
Frame	10
Date of Photography	15 Aug 64
Index	17
Universal Grid Coordinates	74-10
Enlargement Factor	20X
Geographic Coordinates	59N-25E
Altitude (nm)	88.9
Vehicle Roll (planned)	24.82
Type of Coverage	Strip
Mirror Position	Aft
Exposure	1/186
Local Sun Time	1417
Solar Elevation	38.0
Solar Azimuth	225.1
Azimuth of Principal Ray	250.9
Solar Bearing from Principal Ray	154.2

Approximate location of illustrated portion



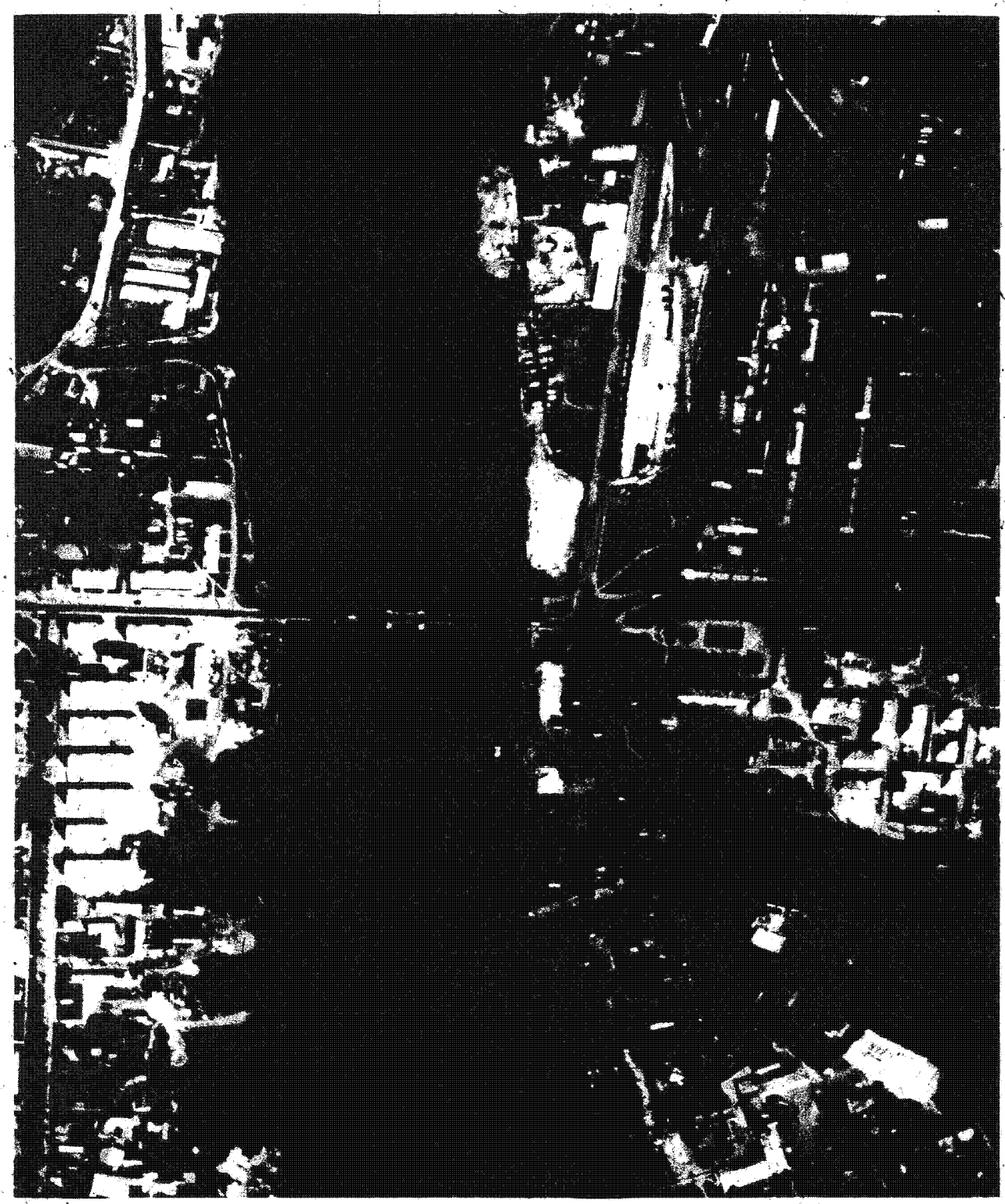


FIGURE 17. BEST QUALITY PHOTOGRAPHY IN MISSION 4010 (COMPLEX)

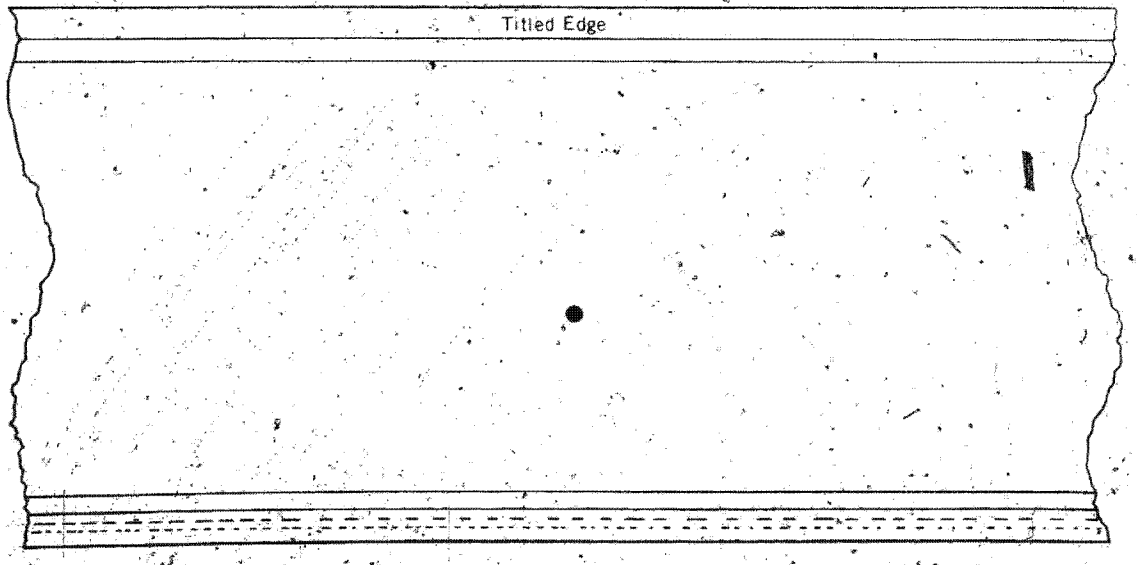
NPIC J-8722 (3/65)

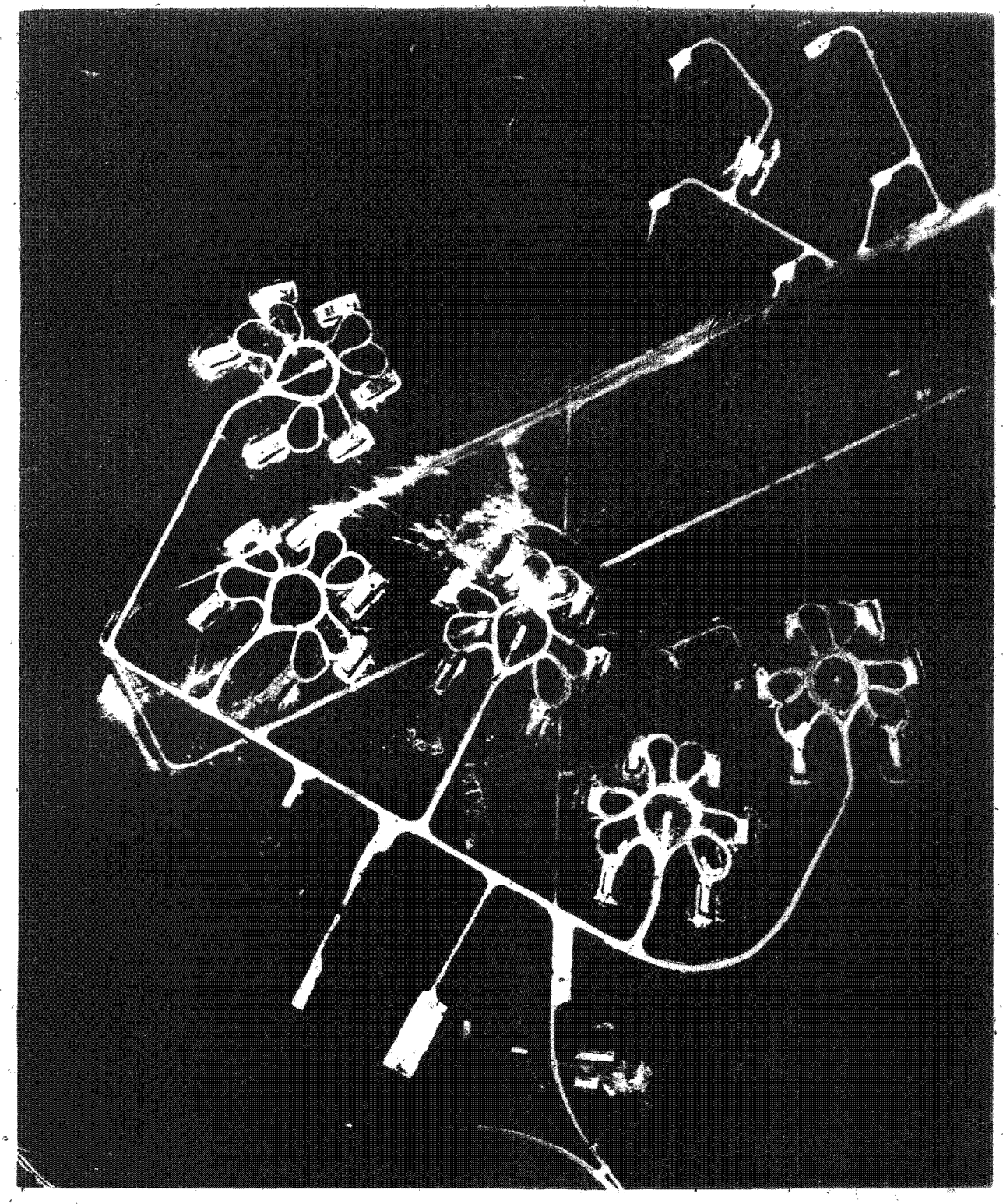
The image displacement in the following photography is slight and thus it is some of the best photography obtained on Mission 4010.

TCS-10629/64
NPIC-TP-34/64

Pass	10D
Frame	8
Date of Photography	15 Aug 64
Index	13
Universal Grid Coordinates	66-10
Enlargement Factor	10X
Geographic Coordinates	60N-24E
Altitude (nm)	89.6
Vehicle Roll (planned)	12.76
Type of Coverage	Stereo
Mirror Position	Fwd
Exposure	1/201
Local Sun Time	1420
Solar Elevation	37.4
Solar Azimuth	224.2
Azimuth of Principal Ray	327.8
Solar Bearing from Principal Ray	76.4

Approximate location of illustrated portion





~~TOP SECRET - RUFF~~

APPENDIX A. SYSTEM SPECIFICATIONS

1. Main Camera Data

Camera Number	FM-10
Slit Width	0.0161"
Effective T-Stop	6.1
Filter	B&L Y-10
Operational Focal Length	76.923"
Film Type	4404
Film Length Available	2733.5'
Splices	0
Emulsion Data	4404-49-12-3-4

2. Stellar and Index Camera Data

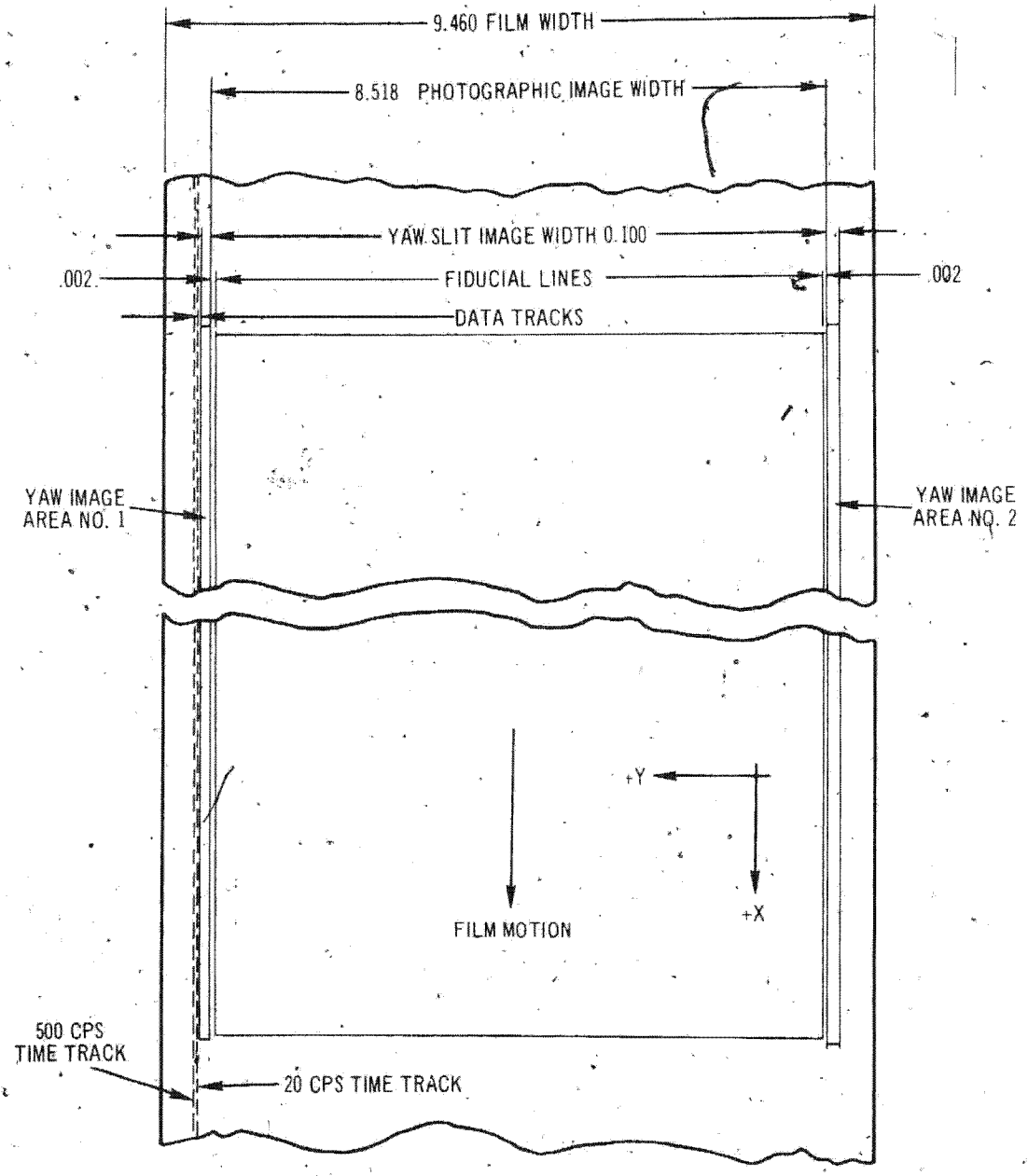
	Stellar	Index
Camera Number	S-6	S-6
Exposure Time	1/550	2 sec
Filter	None	Schott OG-5
Focal Length (approx)	38 mm	85 mm
Film Type	4401	4400
Film Length Available	75 - 80 feet	135 feet

NPIC J-2530 (8/64)

EXPANDED SCHEMATIC OF OPTICAL COMPONENTS

~~TOP SECRET RUFF~~
~~NO FOREIGN DISSEM~~

Handle Via
~~TALENT-KEYHOLE~~
Control System Only



NPIC J-2531 (8/64)

FILM FORMAT (VIEWED FROM EMULSION SIDE)

NPIC J-2532 (8/64)

TIME-TRACK FORMAT

TOP SECRET RUFF

Handle Via
TALENT-KEYHOLE
Control System Only

APPENDIX B. MICRODENSITOMETRY

1. Edge Spread Function:

The technique of obtaining the spread function from microdensitometer edge traces is used as an objective measure of the image quality in mission photography. The spread function curve represents a summation of the separate elements of the photographic system. By taking the Fourier Transform of the spread function the modulation transfer function of the system may be obtained.

To satisfy the desire to express image quality in terms of a value, a single number is determined from the spread function curve by measuring its width at 50 percent amplitude. This width is expressed as a micron distance in image space and may be converted to a distance on the ground. On domestic passes, where three bar resolution targets have been available, the ground distance determined from edge trace analysis and from the targets has been found to be comparable.

The microdensitometric analysis of edges in the image requires that the object edge fulfill the conditions of a unit step function, i.e., exist for an appreciable distance at a fixed brightness level and change abruptly to a new level which exists for an appreciable distance. This requirement is usually achieved by rooftops of buildings in large-scale photography, and aircraft runways or taxiways in small-scale photography.

The mission is examined to determine the MIP frame (Mission Information Potential) which is a subjective selection of the best photography. Straight edges in this imagery meeting the criteria of a step function for a length of at least 120 microns are selected for scanning with the microdensitometer.

The microdensitometer used is a Joyce-Lobel Double Beam Model III CS. It is used with an effective slit of 1 micron by 75 microns. The recording table and specimen table are directly linked with a 1000:1 ratio arm. The speed of the scan is proportional to the rate of pen deflection (as the pen deflection rate increases the speed is decreased, giving the pen time to reach its maximum response). The trace thus produced represents a plot of deflection versus distance: The deflection of the pen is essentially linear with density.

Several computer programs that have as output both the spread function and MTF are currently being investigated. The best features of each will be incorporated into a program for the UNIVAC 490. In the interim the data reduction is done manually.

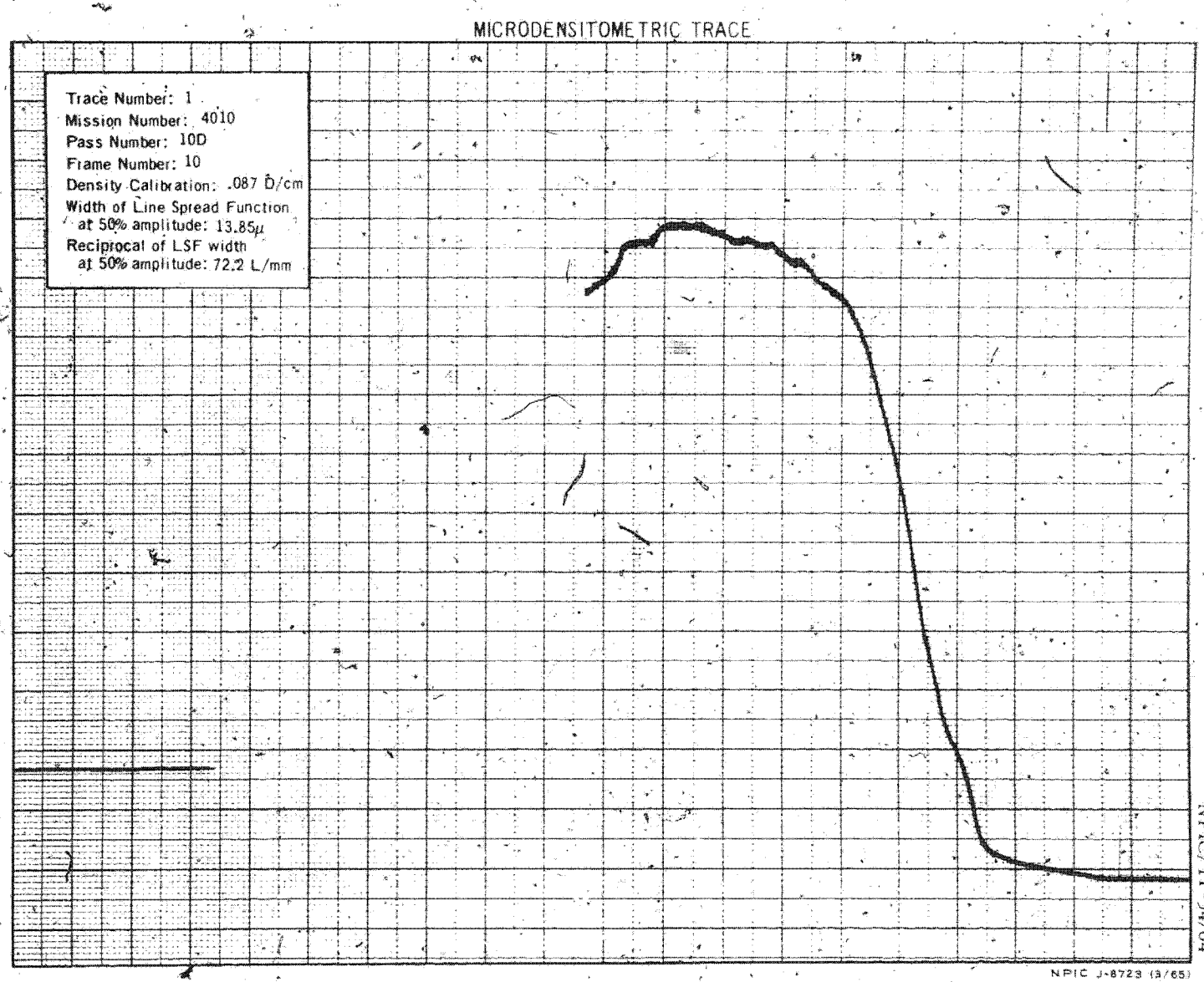
The microdensitometer plots, which exhibit the steeper density gradients and fall on the straight-line portion of the H & D curve for the material, are traced and smoothed. They are then digitized in a comparator into values of distance (X) and deflection (Y). Since the instrument response is linear with density, it is also linear with exposure on the straight-line portion of the applicable D Log E curve. The values of Y are converted to Log E and the antilog taken to obtain values of relative exposure. The difference between adjacent values of E is divided by the corresponding difference of the measured values of X to produce the slope values ($\Delta E/dX$) of the original object reflectance distribution. Finally, 50 percent of the maximum slope is computed, and the distance between the 50 percent slope values is determined by interpolation. The Line Spread Function (LSF) may also be plotted (slope versus distance) and the 50 percent amplitude width measured for verification of the calculated value.

The following table shows the 50 percent amplitude width of the Line Spread Functions determined from the enclosed microdensitometric edge traces made on the original negative. The lines per millimeter is determined by taking the reciprocal of the 50 percent amplitude width LSF and converting to millimeters.

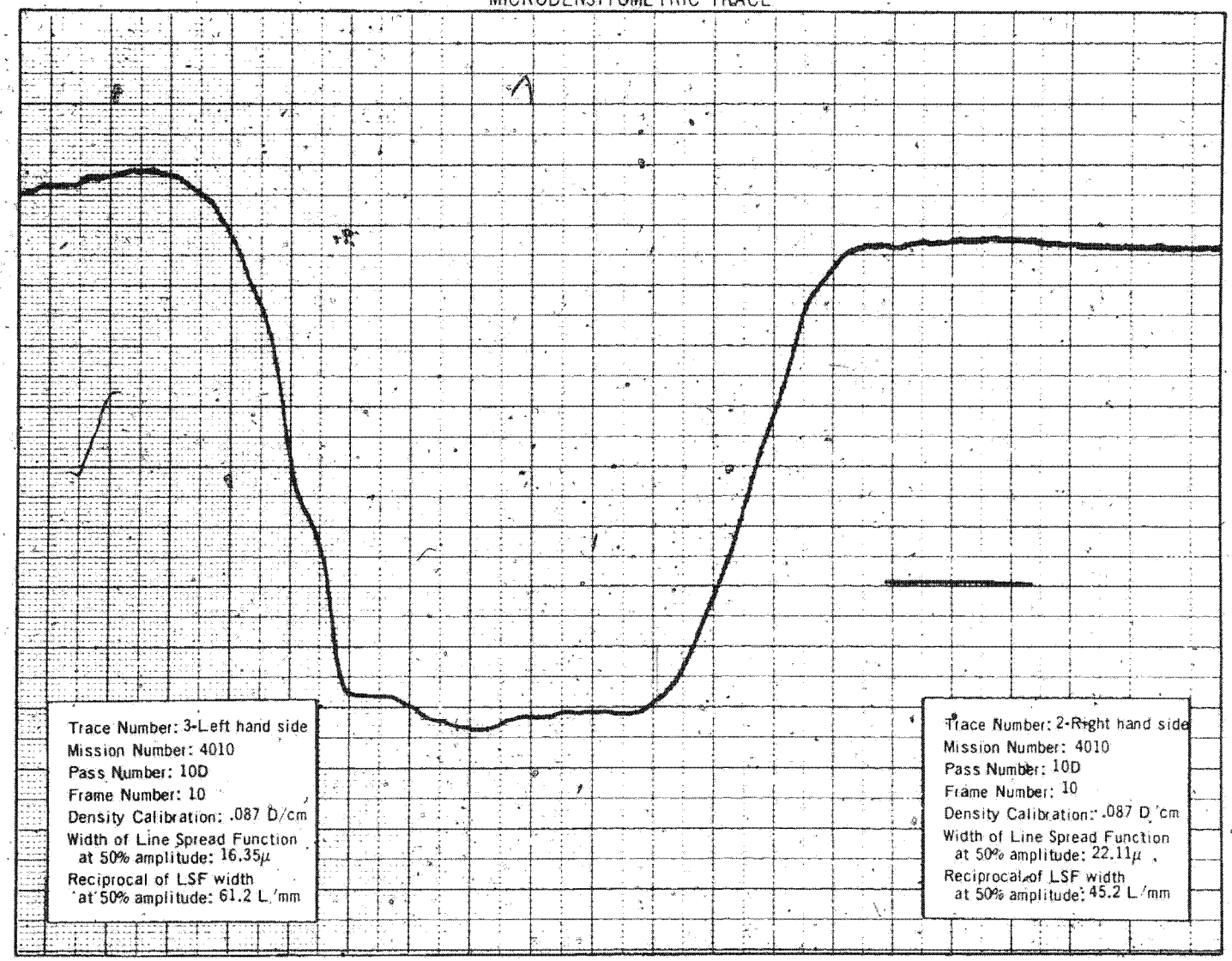
2. Edge-Traces For Mission 4010

SUMMARY TABLE OF EDGE TRACES

Trace Number	Line Spread Function width at 50 percent amplitude	Reciprocal of LSF width at 50 percent amplitude
1	13.85 microns	72.2 l/mm
2	22.11 microns	45.2 l/mm
3	16.35 microns	61.2 l/mm



MICRODENSITOMETRIC TRACE



Trace Number: 3-Left hand side
Mission Number: 4010
Pass Number: 10D
Frame Number: 10
Density Calibration: .087 D/cm
Width of Line Spread Function at 50% amplitude: 16.35μ
Reciprocal of LSF width at 50% amplitude: 61.2 L/mm

Trace Number: 2-Right hand side
Mission Number: 4010
Pass Number: 10D
Frame Number: 10
Density Calibration: .087 D/cm
Width of Line Spread Function at 50% amplitude: 22.11μ
Reciprocal of LSF width at 50% amplitude: 45.2 L/mm

Handle Via
TALENT KEYHOLE
Control System Only

TOP SECRET RUFF
NO FOREIGN DISSEM

TCS-10629/64
NPIC/TP-34/64

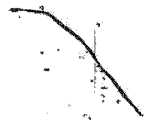


FIGURE 18. PHOTOGRAPH OF EDGE-TRACE AREA

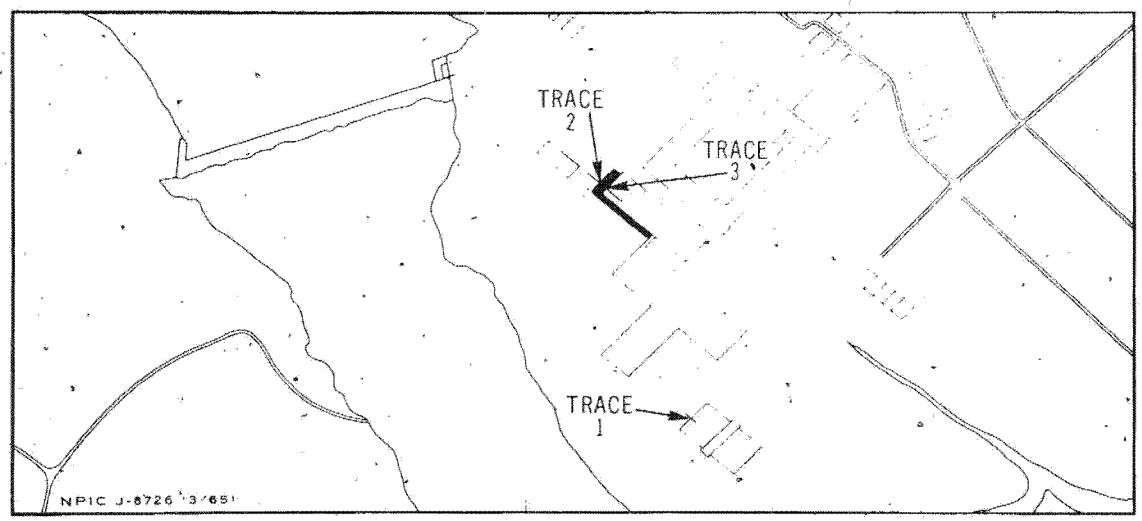
NPIC J-8725 13(65)

This photography shows the edges which were traced in the microdensitometric analysis.

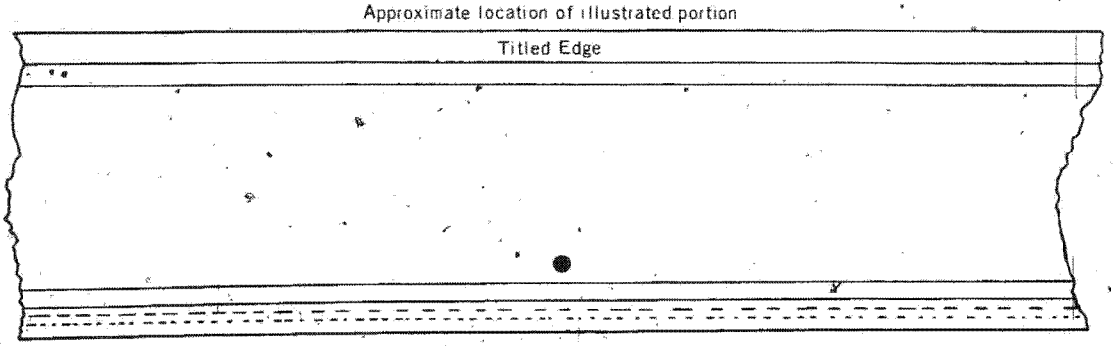
Handle Via
~~TALENT KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64

Pass	10D
Frame	10
Date of Photography	15 Aug 64
Index	17
Universal Grid Coordinates	77-3
Enlargement Factor	20X
Geographic Coordinates	59N-25E
Altitude (nm)	88.9
Vehicle Roll (planned)	24.82
Type of Coverage	Strip
Mirror Position	Aft
Exposure	1/186
Local Sun Time	1417
Solar Elevation	38.0
Solar Azimuth	225.1
Azimuth of Principal Ray	250.9
Solar Bearing from Principal Ray	154.2



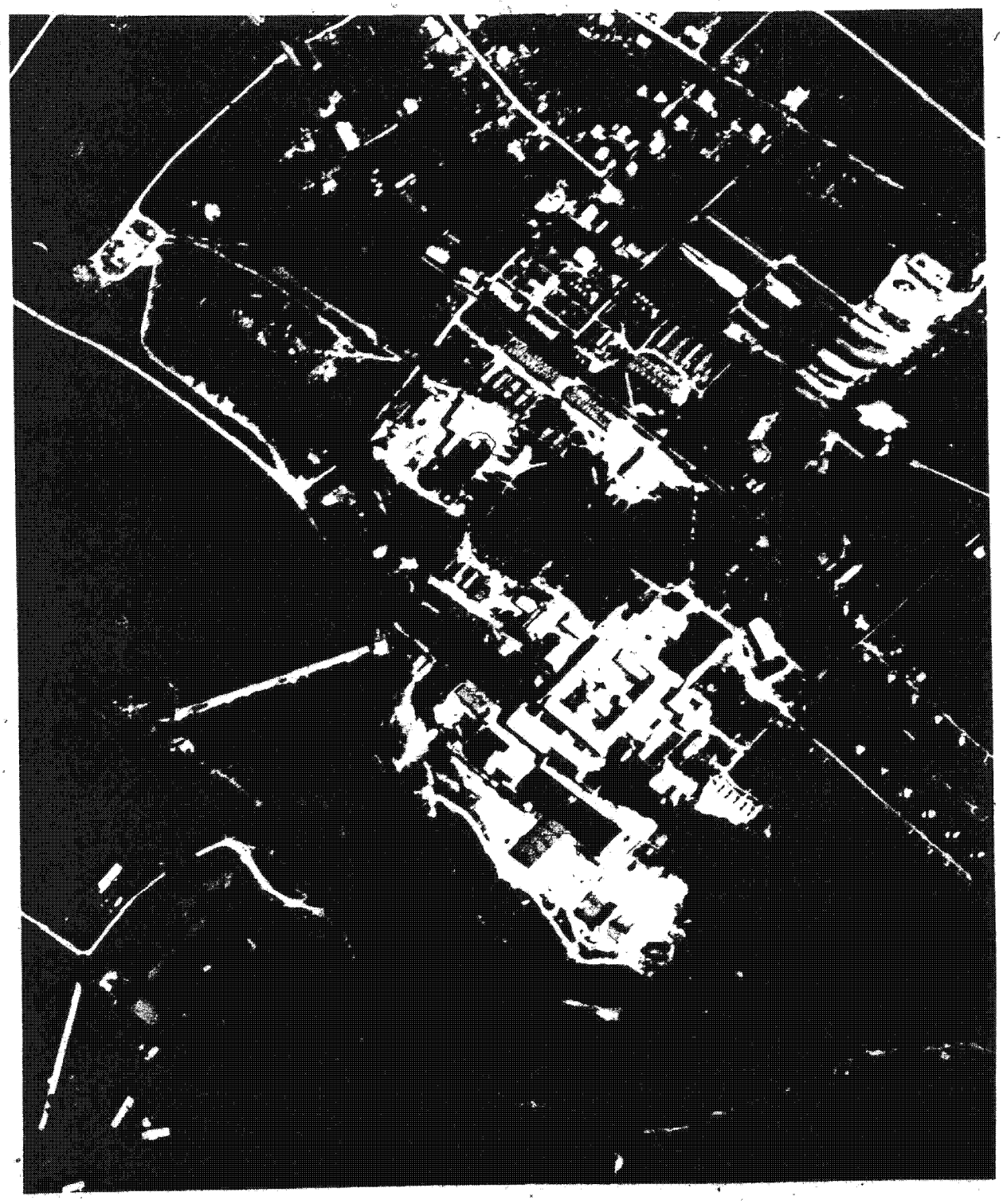
Approximate location of illustrated portion



Handle Via
~~TALENT KEYHOLE~~
Control System Only

Handle Via
~~TALENT-KEYHOLE~~
Control System Only

TCS-10629/64
NPIC/TP-34/64



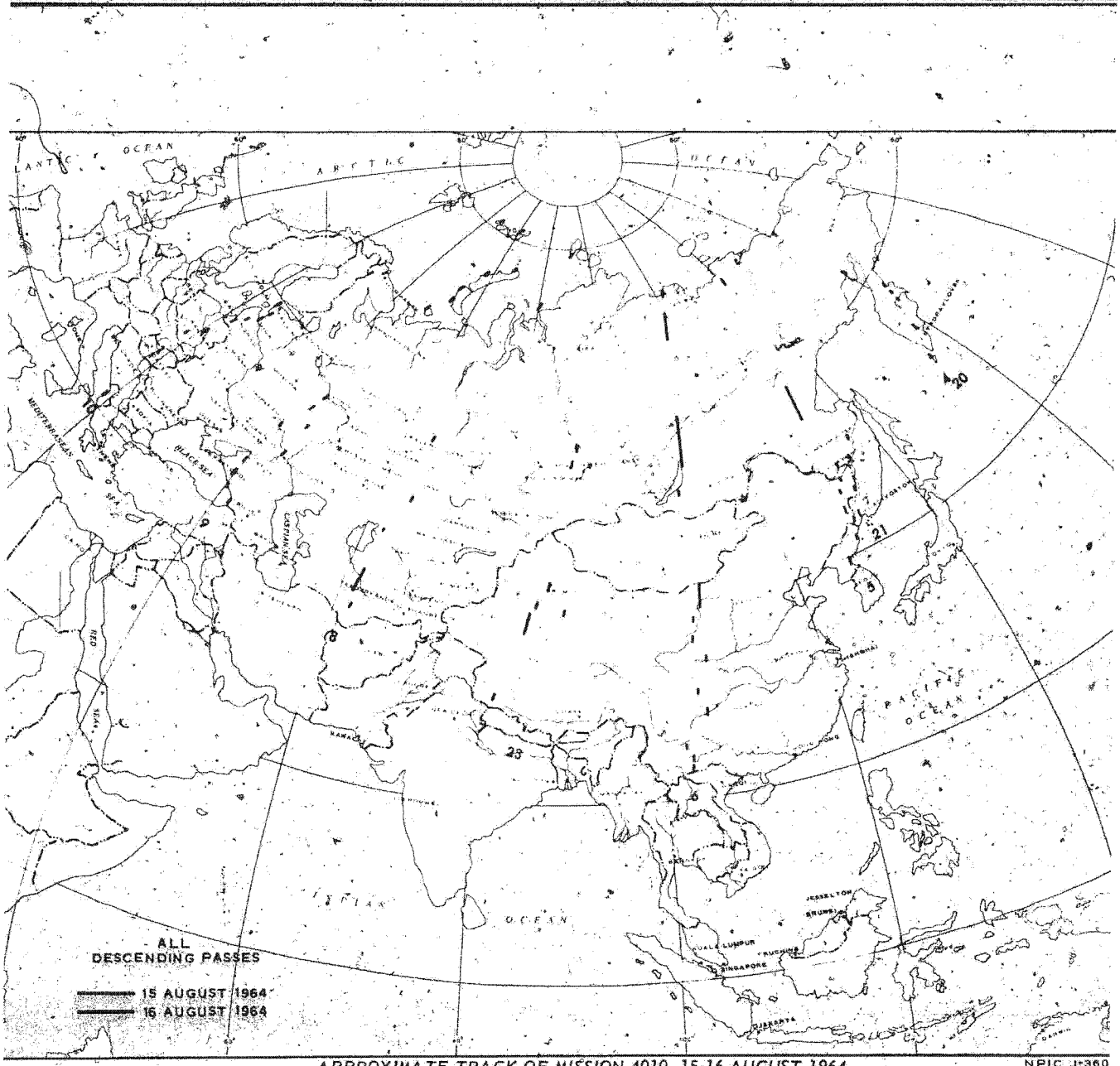
Handle Via
~~TALENT-KEYHOLE~~
Control System Only

APPENDIX C. MISSION COVERAGE STATISTICS

SUMMARY
OF PLOTTABLE PHOTOGRAPHIC COVERAGE
Mission 4010
15 - 16 August 1964

COUNTRY	Linear nm	Square nm
USSR	2,738	26,486
China	692	7,152
Hungary	68	658
Albania	54	918
Poland	40	448
Turkey	30	420
North Vietnam	4	36
GRAND TOTAL	3,626	36,118

NOTE: No photographic coverage of the Continental United States was obtained by this mission.



APPROXIMATE TRACK, OF MISSION 4010, 15-16 AUGUST 1964

NPIC J-360

END

DATE FILMED

DEC 5 1975