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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1009-1 and 1009-2

FTV 1605; J-12

30 April 1965

Approved: [redacted]
Mgr.
Advanced Projects

Approved: [redacted]
Mgr.
Program [redacted]

TOP SECRET [redacted]

NO [redacted]

FOREWORD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1605.

Lockheed Missiles and Space Company has the responsibility for evaluating payload performance under the Systems Integration and "J" System contracts.

This document is the final payload test and performance evaluation report for Missions 1009-1 and 1009-2 which was launched on 5 August 19[illegible]4.

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INTRODUCTION

This report presents the final performance evaluation of Missions 1009-1 and 1009-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-12 payload system, to identify the source of in-flight anomalies and recommend the appropriate corrective action.

The performance evaluation was jointly conducted by representatives of Lockheed Missiles and Space Company (LMSC) and ITEK at the facilities of NPIC and AFSPPL. The off-line evaluation using Corona engineering photography acquired over the United States was performed at the individual contractors plants.

The quantitative data used for this report is obtained from government organizations. The diffuse density data, visual RES values and MTF/AIM resolution are produced by AFSPPL. The vehicle attitude error values, frame correlation times are made at NPIC who also supply the Processing Summary and MTF/AIM resolution reports published by [redacted]

Computer programs developed by A/P are utilized to calculate and plot the frequency distribution of the various contributors to image smear to permit analysis and correlation of the conditions of photography to the information content and quality of the acquired pictures. Computer analysis of the exposure, processing and illumination data provides the necessary data to analyze the exposure criteria selected for the mission.

SECTION 1
SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The payload section of Mission 1009, placed into orbit by Flight Test Vehicle #1605 and SLV-2A booster #413, consisted of two panoramic cameras, two Stellar-Index cameras, two Mark 5A recovery capsules and a space structure to enclose the cameras and provide mounting surfaces for all equipments. Figure 1-1 presents an inboard profile of the J-12 payload system. This Corona "J" system is designed to acquire search and reconnaissance photography of selected areas of the earth from orbital altitudes. The planned mission was two, four day photographic periods separated by a seven day inactive period.

B. MISSION DESCRIPTION

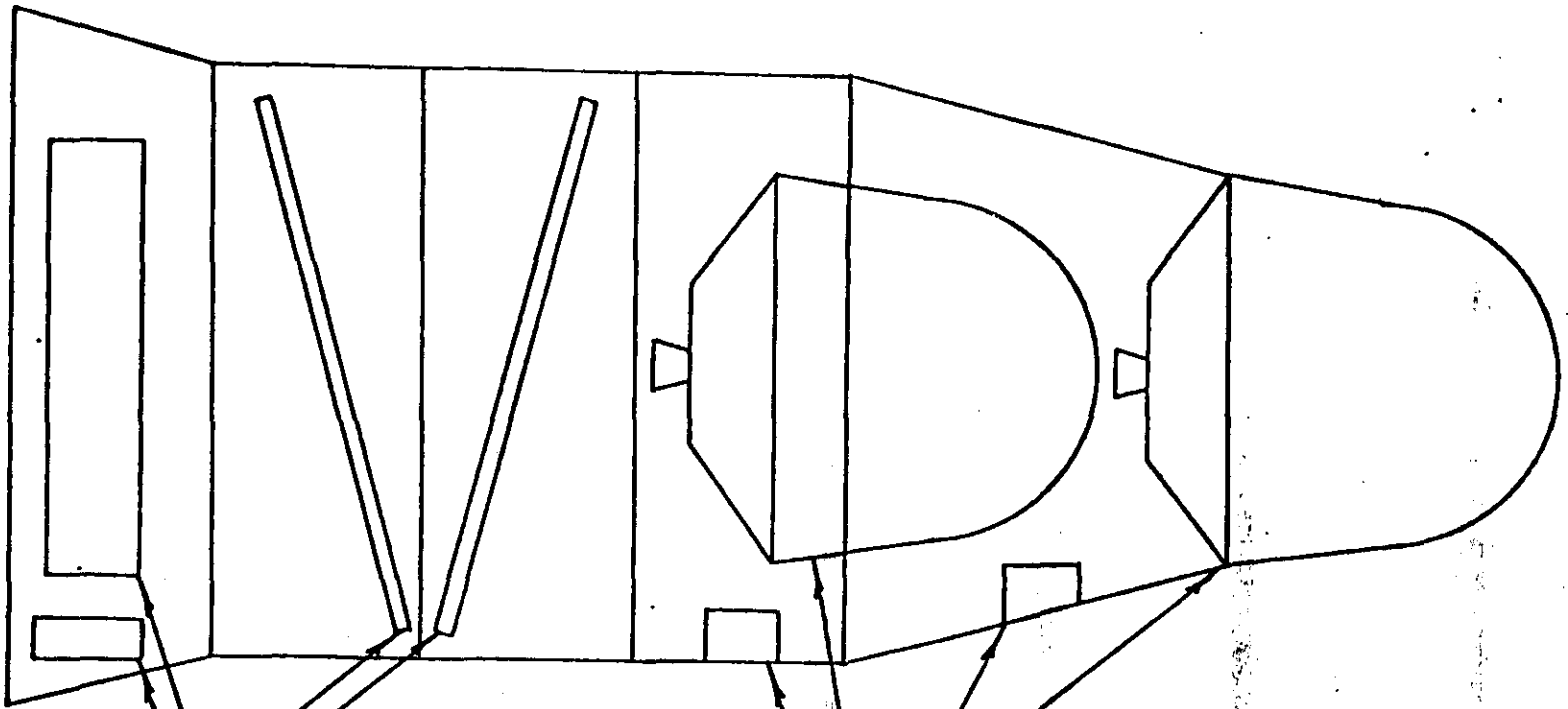
The payload was launched from Vandenberg Air Force Base (VAFB) at 2315:04 Z (4:15:35 PDT) on 5 August 1964. Ascent and injection were normal and the achieved orbit within nominal tolerances. Tracking and command support was effected by the Air Force Satellite Control Facility consisting of tracking and command stations at [redacted] under central control of the Satellite Test Center at Sunnyvale, California. Mission 1009-1 consisted of three days operation and was completed by air recovery on 8 August 1964. The mission was one day shorter than originally planned as a problem was encountered with the S-Band transponder. Mission 1009-2 was completed with an air recovery on 13 August 1964 following five days of photographic operations.

The comparison of the planned and actual orbit parameters is tabulated as follows:

[redacted]

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1009



Master Camera No: 154

Slave Camera No: 155

Supply Cassette No: SC-15

Clock No: 517

Yaw Programmer No: 258

"A" Recovery Subsystem No: 646

"A" Stellar-Index Camera No: D56/54/56

"B" Recovery Subsystem No: 647

"B" Stellar-Index Camera No: D38/38/34

Pressure Make-up Unit No: 111

FIGURE 1

[redacted]

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 1 Actuals
Period (Min.)	90.87	90.7
Perigee (N. M.)	100.00	99.6
Apogee (N. M.)	251.00	243.0
Inclination (Deg.)	80.00	80.1
Perigee Latitude (Deg. N.)	40.00	39.5
Eccentricity	0.02098	0.0198

A total of 770 feet of film remained on the Master camera supply spool after the completion of Mission 1009-2 while 885 feet remained on the Slave camera supply spool as a result of the early recovery of Mission 1009-1.

The Agena vehicle was deactivated and reactivated after the completion of Mission 1009-2. No problems were encountered.

C. PANORAMIC CAMERAS

The Master and Slave panoramic cameras operated throughout both missions with no significant problems and produced excellent photographic coverage. The cloud cover and atmospheric haze observed in the photography was high. A small area on the Master camera formats during the majority of Mission 1009-1 contained a small soft focus area which was not present during Mission 1009-2.

D. STELLAR-INDEX CAMERAS

The Stellar-Index cameras operated properly through both missions. The Index camera for Mission 1009-2 had a small light leak which was degrading only at camera sit times.

E. OTHER SUB-SYSTEMS

The clock, instrumentation, command and thermal control sub-systems performed satisfactorily through both missions.

F. CONCLUSIONS

Mission 1009-1 and 1009-2 achieved the objective of acquiring high quality search and reconnaissance photography from orbital altitudes.

G. RECOMMENDATIONS

The evaluation and analysis of the data produced by both missions has resulted in the following recommendations:

1. Incorporate the yaw programmer on all future Corona "J missions.

2. Continue the use of the Pressure Make-Up device on future missions but do not modify the present system test philosophy.

3. Continue the analysis of the cause of soft focus areas in the panoramic photography.

SECTION 2

PRE-FLIGHT SYSTEMS TESTS

A. ENVIRONMENTAL TESTING

1. Test Objective

As a standard procedure, the J payload systems are subjected to thermal/altitude environmental testing which simulates orbital environment. One of the purposes of this test is to demonstrate the system susceptability to corona discharge. Such discharge fogs the film thus degrading the operational photography.

2. Test Summary

The J-12 payload system completed a 5 1/2 day orbit simulation test at the Sunnyvale TASC Chamber. a seven (7) day test was initiated 4 June 1964 but was shortened by skipping orbits 6-14 of the SRV-B, second day.

The electrical and mechanical operation of the system was generally acceptable, except for the following: (1) There was no Stellar/Index installed during the SRV-"A" test. (2) Cycle rate predictability exceeded limits. (3) Clock interrogated randomly at Master camera "ON". (4) The yaw programmer failed after orbit 14 day 2. Several noise disturbances during operation scan periods. Two self-heating tests were conducted and showed good repeatability.

A pressure make-up system was tested on selected operations throughout the TASC test. Pressure data as recorded by an alphatron gage correlated with test payload indicated that start up corona did not appear when pressure make-up gas was turned on simultaneous with the instrument.

However, the master instrument showed excessive amounts of corona without the pressure make-up gas on, and the system returned to the HIVOS chamber for correctional tests.

The J-12 payload system completed a one day orbit simulation test in the Sunnyvale HIVOS chamber on 18 June 1964. The chamber was set for on-orbit temperature and pressure environ-

ment. This test was run in the "B" mission configuration to retest for corona markings as observed on the Master camera in the "B" mission of the TASC chamber test. The retest proved acceptable corona levels. The electrical and mechanical operation of the system was good. The following problems were noted: (1) Cycle rates exceeded the 1% predictability but were all within 0.5% fast to 2.1% slow. (2) Clock interrogated by the Master camera "ON" at random times. (3) The continuity loop/water seal monitor indicated that the S/I water seal did not close. (4) The clock indicated 49.1 seconds fast at the end of the test. Instrument temperatures were 70° at the start of the test and 62° at the end of the test. Self-heating corrections are applied.

The pressure make-up system was installed and operated on selected orbits throughout the test.

3. Panoramic Camera Performance

Cycle rate errors during Panoramic instrument operation exceeded the 1% predictability approximately 50% of all operations. Maximum deviation was 2.1% slow and 0.5% fast. The mean deviation was 1.3% slow for both instruments.

Evaluation of the test film showed that the Master camera produced minor start-up corona marking which was well within the acceptance criteria. The J-12 system was recommended for flight.

4. Stellar-Index Camera Performance

The Stellar-Index performance was nominal. A system was installed such that the S/I programmer input and/or output could be disabled. The S/I Programmer would get out of sync with the S/I when the programmer output was disabled. S/I performance resumed normal sequence within 14 frames of programmer output enable.

5. Instrumentation Performance

The continuity loop and water seal monitor (11-1-54) indicated that the S/I water seal did not close at transfer.

The skin temperature sensor #1 was out of band high (13-1-2).

The film footage pot consumption indication was in agreement with cycle counter.

Channel 18-1-00 exhibited 0.25 to 0.5V spikes when RTC 14 was executed.

Serious ground loop problems existed during instrument operate. T/M monitors referenced to 28V regulated return shift as much as 0.6 volts at instrument on to 2.5 volts when the two instruments center format occurs together.

6. Temperature Environment

Typical instrument temperatures recorded through the test are as follows:

Orbit	Master Camera	Slave Camera
1	70°	70°
5	69°	65°
10	68°	64°
16	66°	62°

7. Clock Performance

Clock performance, when compared to IRIG C, showed the following errors:

Orbit	Error (Accum. from Ø 1)
5	+ 16.398 seconds
10	+ 16.386 seconds
12	+ 16.404 seconds
15	+ 32.775 seconds
16	+ 49.141 seconds

8. Yaw Programmer

The yaw programmer operated satisfactory through the test. The period was a nominal 5300 seconds. The period duration during

one-orbit was 5281 seconds and the next orbit 5332 seconds. Phase relationship was proper and amplitude was 50 mv peak to peak.

9. Pressure Environment

The pressure environment of the instruments was less than 0.5 micron in a non-operating condition. The pressure would increase to a nominal 1 micron during operation when the pressure make-up system was not used. The pressure make-up system would cause the pressure to increase to a nominal 40 microns during an operate.

Typical pressures in microns of Hg as recorded are as follows:

Orbit	ALPHATRON Master Camera		ALPHATRON Slave Camera		Pressure Make-up System
	On	Off	On	Off	
1	0.8	10+	0.4	10+	ON
3	0.4	2.4	0.6	2.0	OFF
8	0.4	42	0.4	41	ON
10	0.4	0.9	0.4	0.9	OFF
13	0.55	39	0.5	44	ON
16	0.44	0.88	0.38	0.87	OFF

B. RESOLUTION TEST

The dynamic resolution test of the J-12 payload system was performed at the A/P facility on 19 June 1964. Each panoramic camera photographed high and low contrast resolution targets. The resulting through focus resolution data is shown in Figure 2-1 for the Master camera and in Figure 2-2 for the Slave camera.

C. LIGHT LEAK TEST

The examination of the film threaded in the J-12 system during the light leak test determined that no film fogging was present. The light tight integrity of the system was considered acceptable for flight.

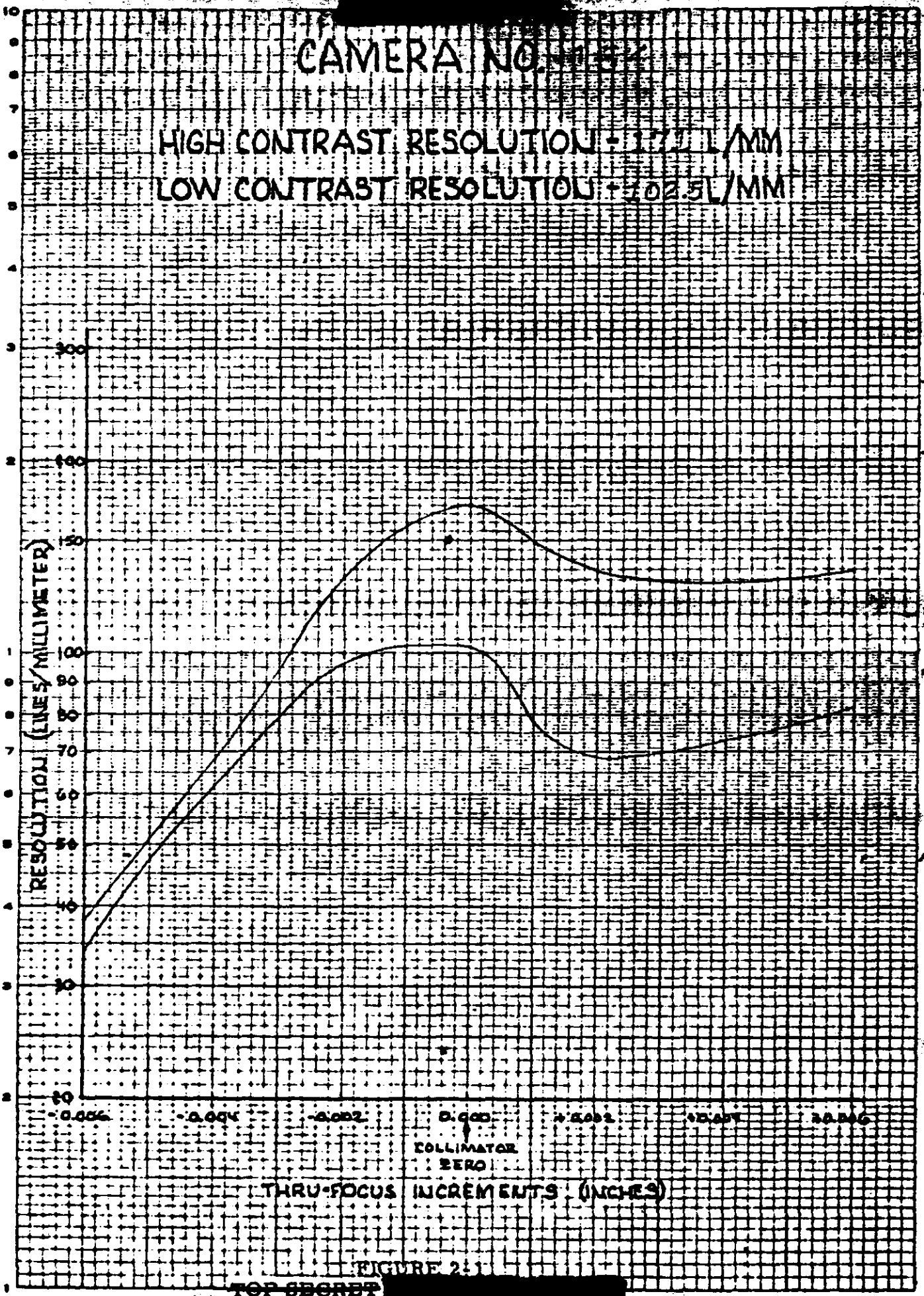


FIGURE 21

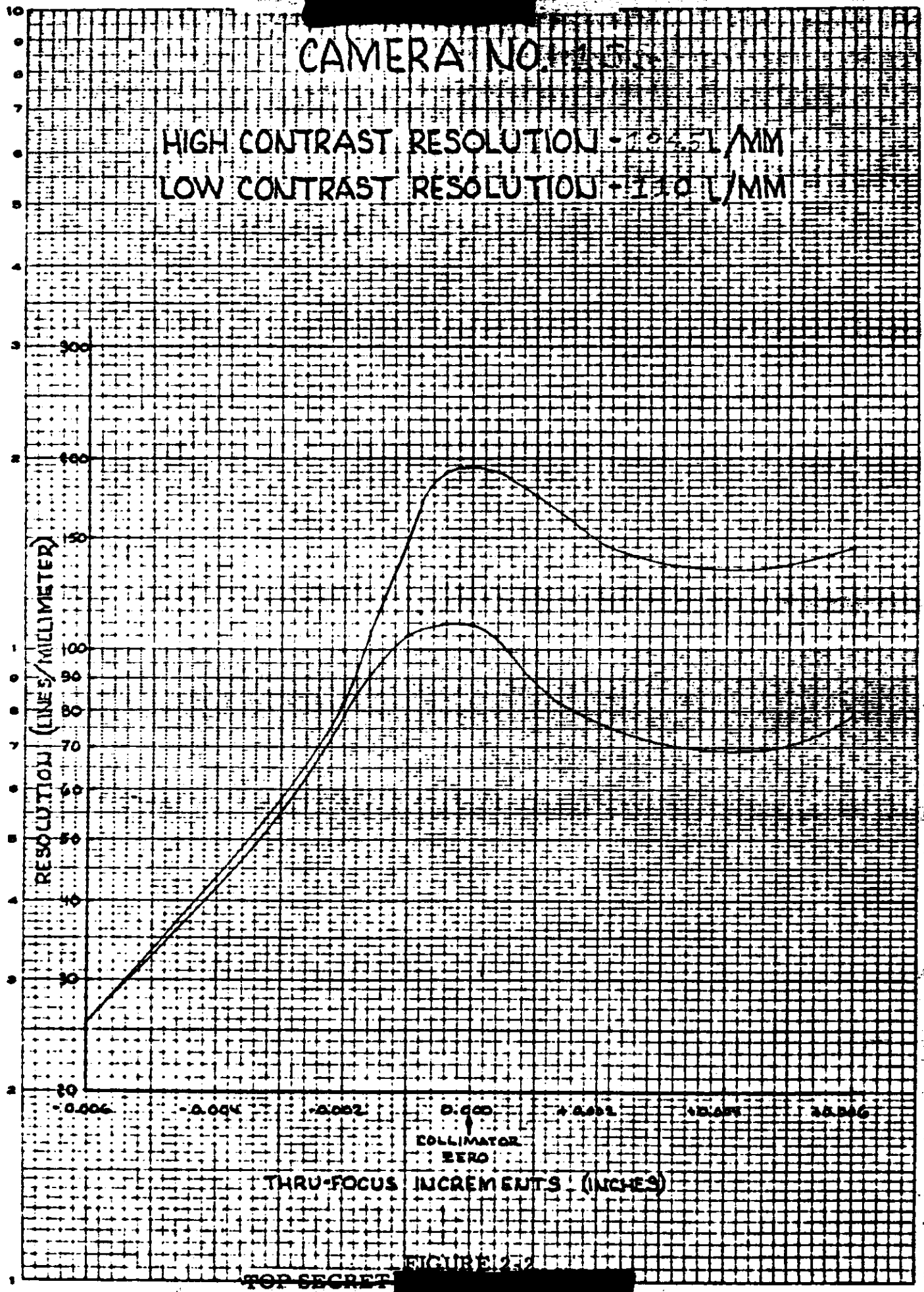


FIGURE 2-2

SECTION 3

FLIGHT OPERATIONS

A. INSTRUMENTATION AND COMMAND PERFORMANCE

All Instrumentation System functions operated properly throughout both missions. All monitors operated properly, except Fairing Temperature Sensor #6 (13-1-14) and Orbital Sine Function Generator Position (11.1-7).

The Fairing Temperature Sensor #6 (13-1-14) was open at injection into orbit. The sensor opened during ascent.

The orbital sine function generator position monitor failed on orbit 111 ascending, approximately 1000 seconds from the start point. The generator was enabled for 240 seconds on orbit 88 ascending, 132 ascending, 189 descending, and 205 descending. Vehicle phase response was proper in each case for the particular ascending/descending conditions. Post flight payload analysis also indicated that the function generator was operating properly through orbit 116.

The vehicle S-band transponder became intermittent on orbit 21. This condition presented some problems in tracking and commanding. This intermittent condition encouraged early recovery of Mission 1009-1. On orbit 56 the transponder transmitter failed. After this transmitter failure, commanding was accomplished with very few problems using alternate tracking and verification techniques.

B. PANORAMIC CAMERA PERFORMANCE

Both panoramic instruments operated properly throughout the mission. Camera operation was monitored on 9 operations during the active mission and 3 operations after completion of Mission 1009-2. Significant items of operation observed were as follows:

1. Maximum cycle rate deviations were +1.5% to -1.4% for the master instrument and +0.7% to -2.1% for the slave instrument.

2. The cut and wrap operation for Mission 1009-1 was normal.

3. A total of 4757 frames were taken on both instruments during Mission 1009-1 and 6236 frames during Mission 1009-2 as indicated by the cycle counters.

4. A total 770 feet of payload on the master supply spool and a total of 885 feet was left on orbit as a result of early recovery of Mission 1009-1.

5. The two instruments were operated in mono mode after re-activation.

Below is a tabulation of cycle rate history of actual vs. predicted of all operations observed during the active missions.

CYCLE PERIOD DATA

		Master			Slave		
Orbit	Time Up Ramp	Nominal	Actual	%Error	Nominal	Actual	% Error
1	2150	2.293	2.292	0	2.300	2.312	0.5 S
9	910	4.645	4.566	1.5 F	4.602	4.570	0.7 F
25	956	4.499	4.457	0.93 F	4.461	4.490	0.65 S
40	1005	4.344	4.328	0.40 F	4.310	4.336	0.6 S
47	2600	2.270	2.287	0.80 S	2.277	2.305	1.2 S
56	1050	4.210	4.270	1.4 S	4.180	4.270	2.1 S
72	1115	4.026	4.080	1.3 S	4.000	4.072	1.8 S
88	1168	3.678	3.740	1.2 S	3.676	3.728	1.4 S

F - Fast

S - Slow

The cut and wrap operation performed properly. The instruments operated for 4 cycles and stopped in the stow position.

The film payload consumption summary of the mission was:

	Master	Slave
Off Spool	200 Ft.	200 Ft.
Control Sample	109	109
Recovered - 1 Mission	6,628	6,558
Recovered - 2 Mission	8,293	8,248
Left on Orbit	770	885
TOTAL	16,000 Ft.	16,000 Ft.

Both cameras were operated after the completion of Mission 1009-2. The Slave camera was operated on orbit 139 (prior to deactivate) and the no-takeup failure mode was observed. The input metering was normal for 8 frames where it became erratic. After 11 frames, both the input and output idlers had stopped. The center format and lens rotation monitors continued to operate properly.

The Slave camera was operated after reactivation on orbit 189. The Master was operated after reactivation on orbit 190. No payload metering was observed on these two operations.

C. STELLAR-INDEX PERFORMANCE

The Stellar-Index units operated properly throughout both missions.

D. CLOCK PERFORMANCE

The clock gained the 15th bit 6 times through the mission. This problem occurred between orbits 8 and 9, between orbits 40 and 41, during acquisition of orbit 56, between orbits 95 and 103, and twice between orbits 110 and 119. When corrections were made for the added bits, correlation with system time was good.

E. ORBITAL SINE FUNCTION GENERATOR PERFORMANCE

Operation of the Orbital Sine Function Generator was normal throughout the mission. The output remained disabled until orbit 88 ascending. On this orbit the output was enabled for 240 seconds to test response from the guidance system. Analysis of the Guidance TM showed proper response to the generator output. The generator then was enabled on orbit 112 and remained enabled until orbit 119 where it was disabled. The T/M position monitor failed on orbit 111 ascending. Tests were made on orbit 135 ascending, 189 descending and 205 descending to determine that the generator output was still functioning. The output was enabled for 240 seconds in each case and vehicle guidance system response was proper for the orbital conditions. Post flight payload analysis also showed that the generator output was producing proper yaw error correction.

F. PRESSURE MAKE-UP SYSTEM PERFORMANCE

The pressure make-up system operated properly throughout the mission. The supply was adequate for the mission flown. The conic pressure increased from 1 micron to 60 microns during operates toward the end of the mission.

At launch the supply pressure was 2500 PSIA. At acquisition of orbit 1 [redacted]he pressure had increased to 2700 PSIA from ascent thermal environment. At the last operation of Mission 1009-2, the supply pressure was at 1075 PSIA. Figure 3-1 is a plot of Supply Pressure vs. Orbit Number of the Mission.

The Conic Chamber Pressure increased to above 10 microns in 5 seconds or less in all operations observed. The pressure regulator kept the chamber pressurized from 20 to 40 seconds after the instrument had shut off. This is a result of the regulator being located between the shutoff valve and the metering orifice. The time decreased as mission life increased. Figure 3-2 is a plot of conic pressure prior to instrument operate and the maximum pressure obtained during the operate. Figures 3-3 through 3-8 are conic chamber pressure profiles of orbits 9, 25, 40 72, 88 and 103 respectively.

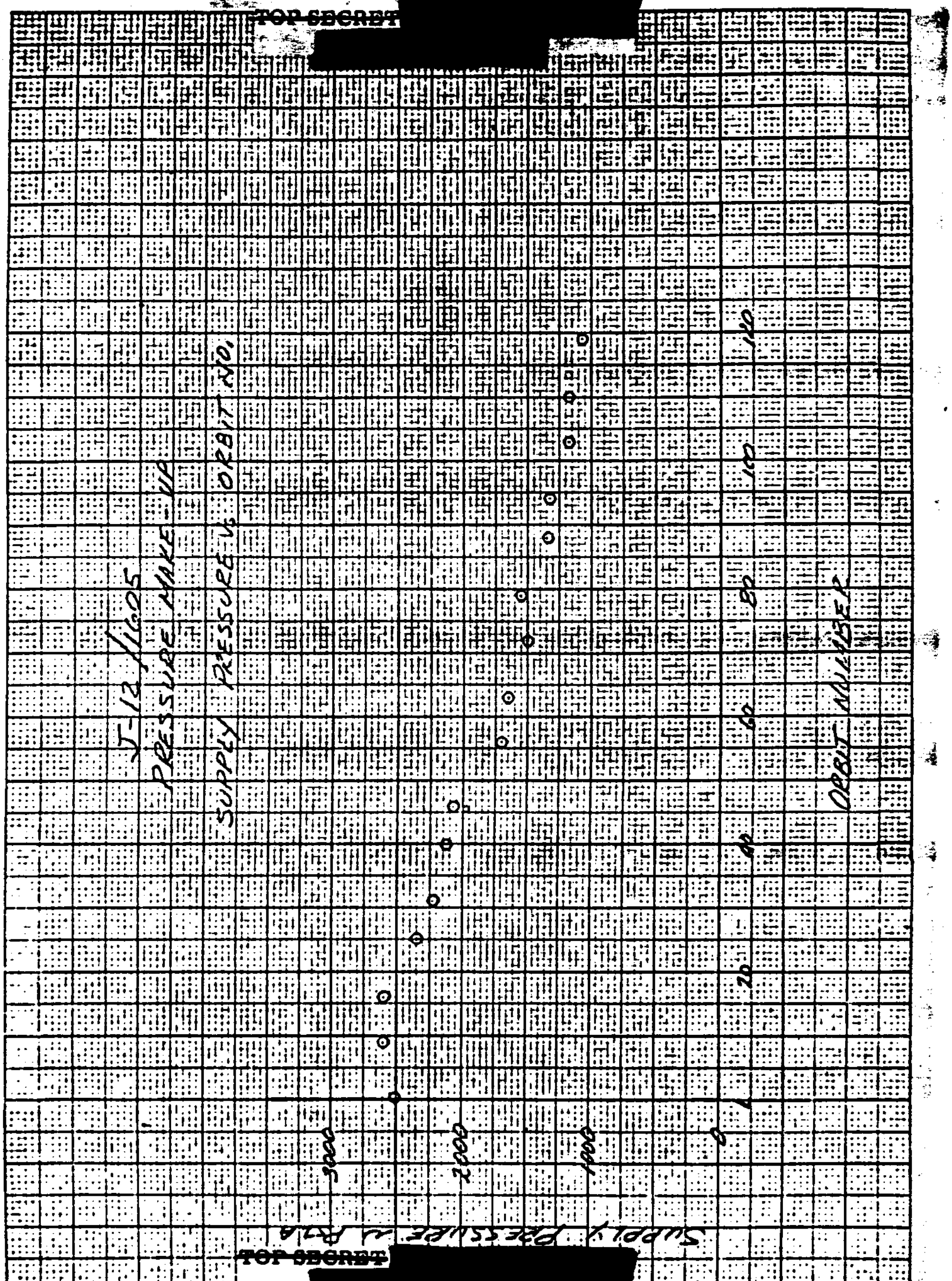

J-12 /1025
PRESSURE MAKE-UP
SUPPLY PRESSURE V. ORBIT NO.
0
20
40
60
80
100
120
ORBIT NUMBER
0
1000
2000
3000
SUPPLY PRESSURE - PSIA

FIGURE 3-1

J-12 1/1405
CONIC CHAMBER PRESSURE
VS ORBIT NUMBER
Δ MAXIMUM PRESSURE ATTAINED DURING OPERATION
○ BEFORE OPERATION
CONIC PRESSURE μ MILLIBARS
140
120
100
80
60
40
20
0
ORBIT NO.
0
10
20
30
40
50
60
80
100
120

FIGURE 3-2

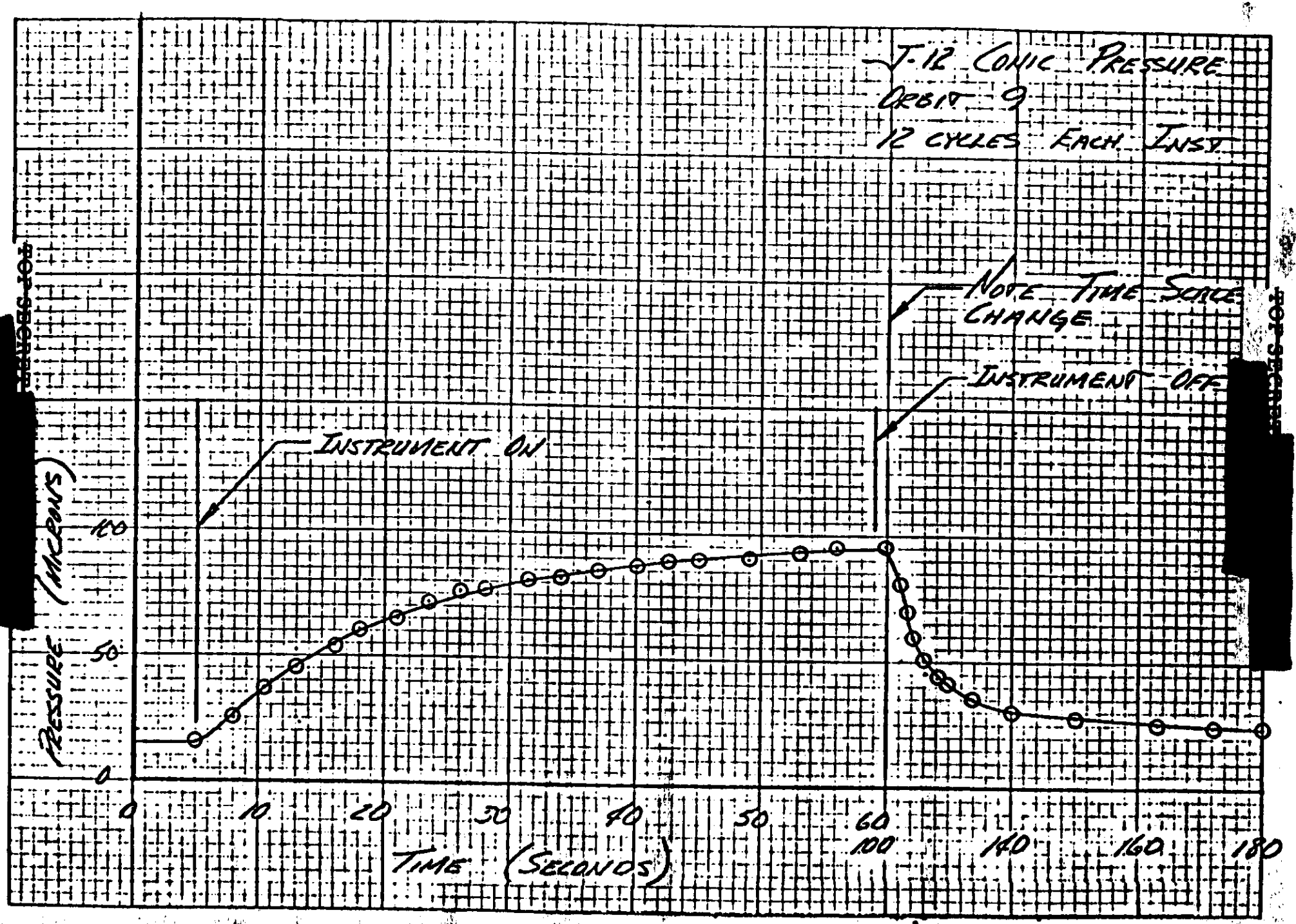

K&E 10 X 10 TO THE INCH 359-5
KEUFFEL & ESSER CO.
J-12 CONIC PRESSURE
ORBIT 9
12 CYCLES EACH INST.
NOTE TIME SCALE CHANGE
INSTRUMENT OFF
INSTRUMENT ON
PRESSURE (MICRONS)
0
50
100
0
10
20
30
40
50
60
100
140
160
180
TIME (SECONDS)

FIGURE 3-3

TOP SECRET

-19-

FIGURE 3-4

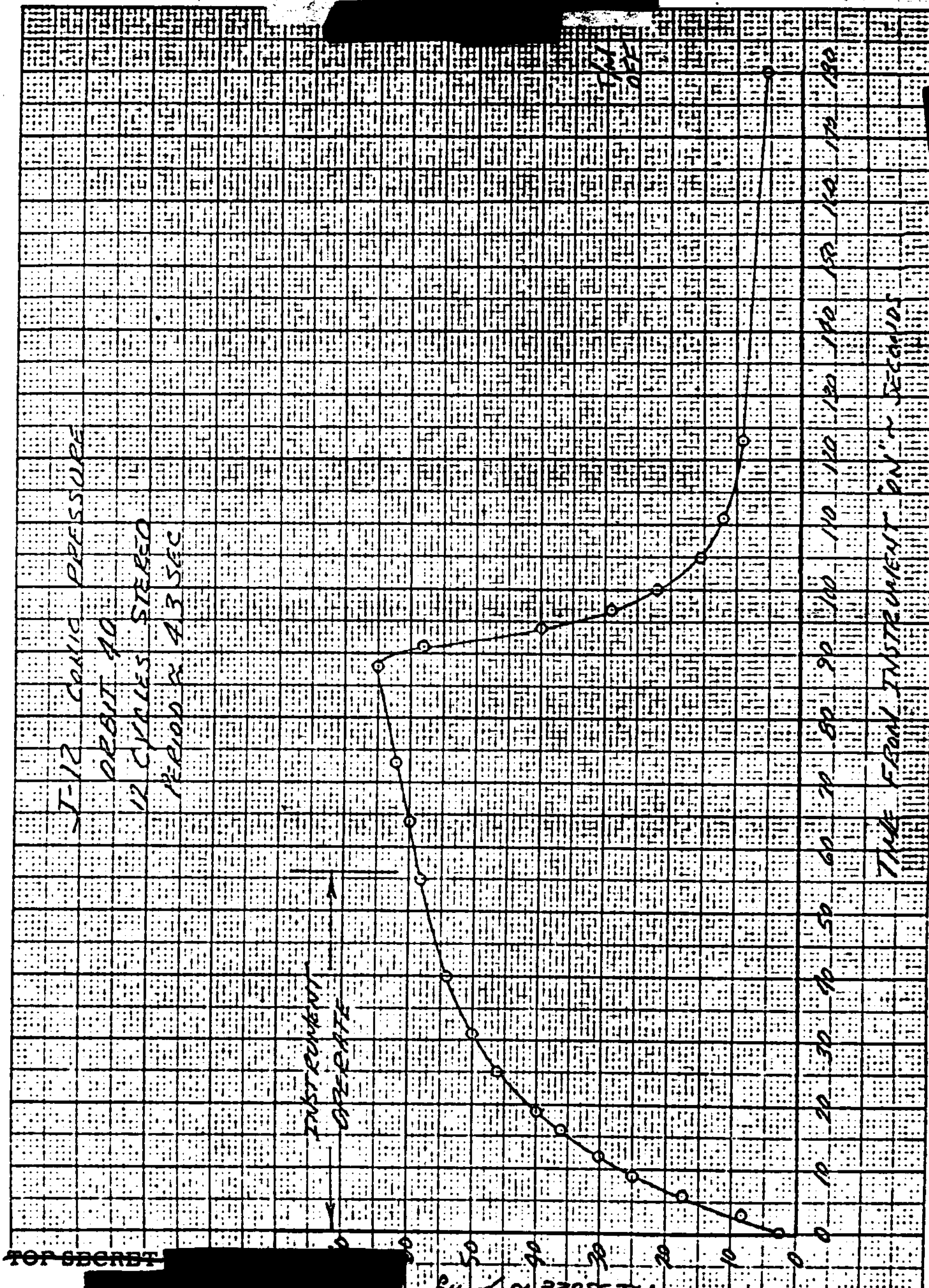

J-12 CONIC PRESSURE
ORBIT 40
12 CYCLES STEREO
PERIOD ≈ 43 SEC
INSTRUMENT OPERATE
TIME FROM INSTRUMENT "ON" ~ SECONDS
PRESSURE ~ μ Hg
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
8/19/64

FIGURE 3-5

TOP SECRET [redacted]

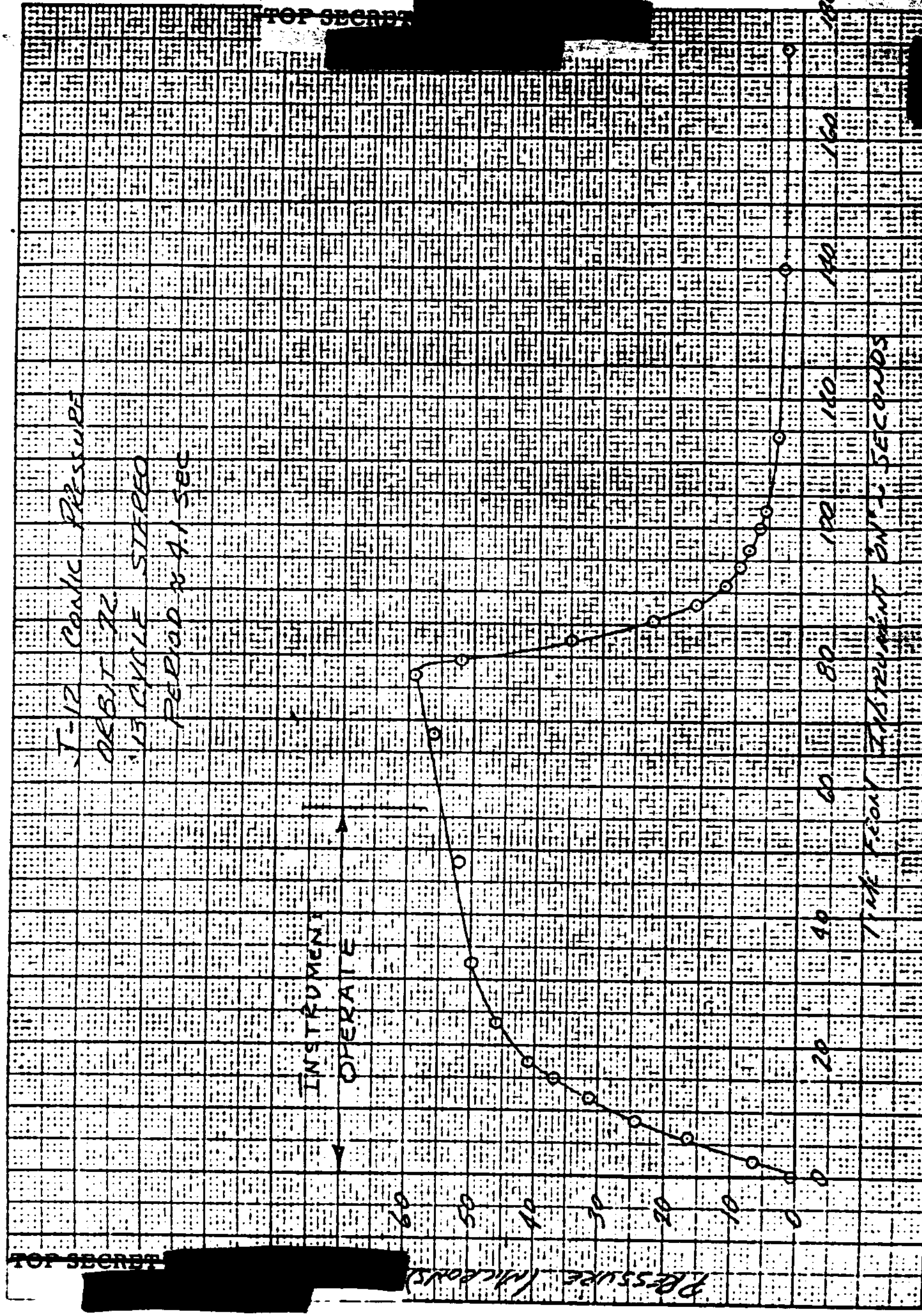


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FIGURE 3-6

T-12 Cabin Pressure
ORBIT 88
14 CYCLE STEREO
PERIOD = 3.75 SEC
INSTRUMENT OPERATE
Pressure - Microns
TIME FROM INSTRUMENT ON - SECONDS
0
10
20
30
40
50
60
70
0
20
40
60
80
100
120
140
160

FIGURE 3-7

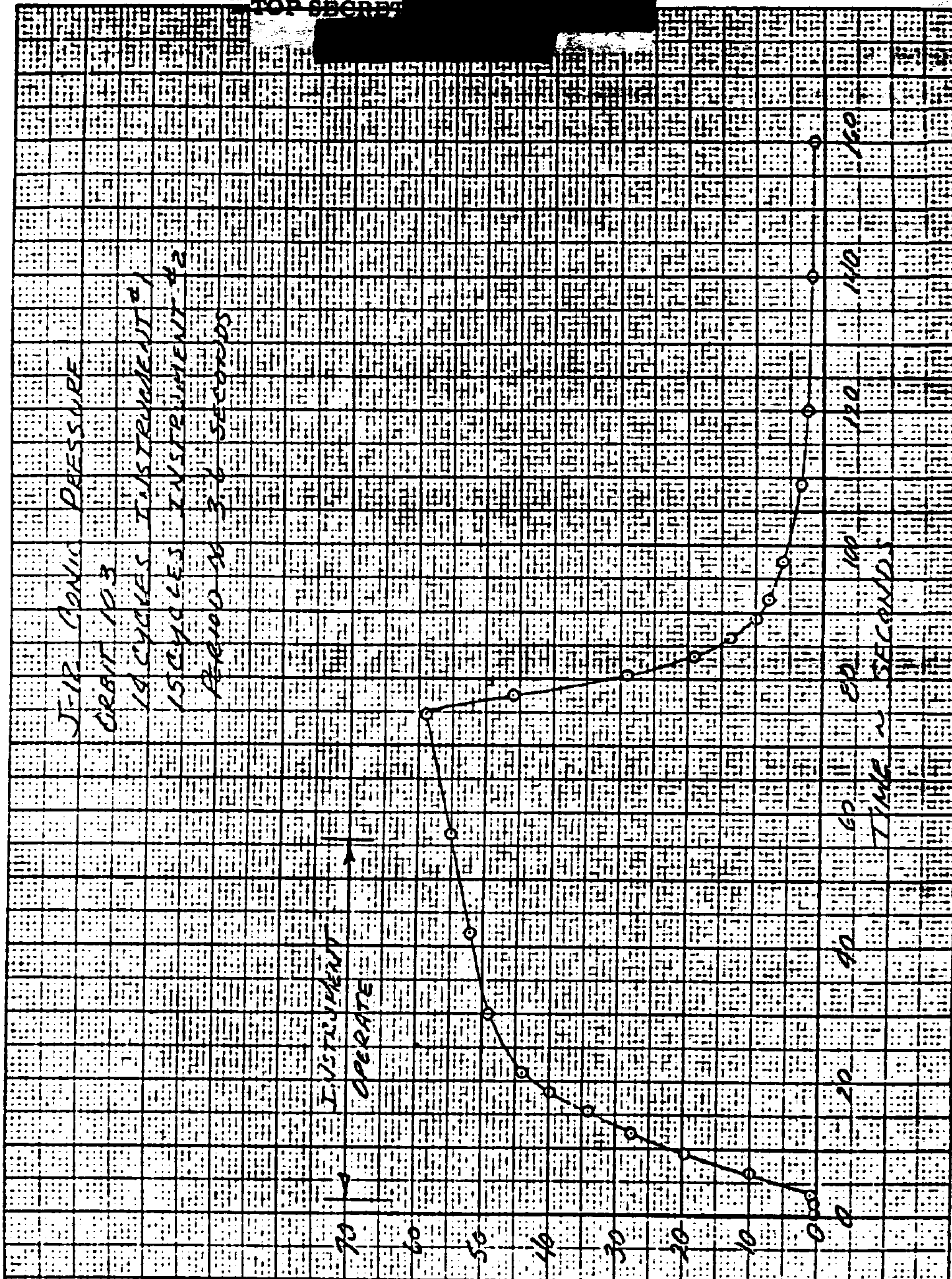

J-12 CONIC PRESSURE
ORBIT NO 3
14 CYCLES INSTRUMENT #1
15 CYCLES INSTRUMENT #2
PERIOD 36 SECONDS
INSTRUMENT OPERATE
0
20
40
60
80
100
120
140
160
TIME ~ SECONDS
0
10
20
30
40
50
60
70
PRESSURE ~ MICRONS

FIGURE 3-8

G. DEACTIVATE/REACTIVATE PERFORMANCE

The vehicle was deactivated on orbit 136. Both instruments stowed properly. The vehicle was reactivated on orbit 184. The Slave camera was operated on orbit 189 and the Master camera was operated on orbit 190. All functions were normal, for the conditions of the P/L at that time.

H. TEMPERATURE ENVIRONMENT

The temperature environment of the system throughout the active mission is tabulated in Tables 3-1 and 3-2. Data were obtained from real-time orbits acquired at [redacted] Tracking Station. Self-heating corrections are based on data taken from the HIVOS Environmental Chamber self-heating tests.

[redacted]

PAYLOAD J-17

TEMPERATURE SUMMARY

VEHICLE 1605

SENSOR — ORBITS ACQUIRED

Master	Injection	9	16	25	31	40	47	56	63	72	79	88	94	103	110	11
3	62	61	61	63	61	62	60	57	52	53	49	52	46	48	48	49
4	68	71	70	73	70	71	66	66	62	60	58	62	54	58	56	57
5	63	74	73	75	73	74	70	70	65	64	62	65	59	60	60	61
6	62	84	82	86	82	83	81	81	75	74	70	75	69	70	67	69
7	62	78	78	80	77	77	77	76	70	69	68	70	66	66	64	64
8	68	77	76	78	75	77	74	73	67	68	65	69	61	63	62	63
9	66	83	82	83	81	83	81	78	73	73	70	73	67	69	67	68
10	64	76	77	77	77	76	76	72	69	66	67	66	65	63	64	62
11	68	86	87	86	92	85	84	76	79	72	74	72	71	65	56	70
12	73	67	67	67	66	68	64	62	58	59	56	59	53	55	55	55
13	65	87	85	88	86	85	82	80	75	74	71	74	69	68	65	69
VG. INSTR. TEMP.	65	77	76	78	76	77	75	72	71	73	65	67	62	62	60	62
Slave																
3	63	82	84	83	82	80	81	77	75	74	73	73	68	69	68	68
4	68	78	78	80	77	78	75	76	72	73	68	73	65	68	64	68
5	62	74	72	74	77	72	72	72	66	65	63	67	59	61	60	61
6	62	69	68	70	68	69	68	68	61	61	59	62	56	59	56	57
7	63	75	75	76	74	75	74	71	68	66	64	66	63	63	62	61
8	67	74	73	75	73	74	70	70	66	67	63	68	60	62	60	63
9	64	64	63	66	63	64	62	62	58	59	55	59	52	55	53	55
10	63	74	76	75	75	73	75	70	68	64	67	66	63	62	62	61
11	68	64	67	67	64	66	65	61	59	60	56	60	53	56	64	57
12	68	77	79	79	77	78	75	85	71	71	68	71	64	66	54	66
13	63	71	70	73	70	70	69	67	62	63	59	62	56	58	60	58
VG. INSTR. TEMP.	65	73	73	74	73	73	71	70	72	66	65	66	60	62	60	61
Supply Spool																
1	70	59	65	58	61	68	61	61	58	57	54	64	52	55	53	54
2	73	51	72	75	67	75	67	68	61	63	60	70	58	60	56	62

NOTE: All data corrected for self-heating except injection.

SECTION 4

MISSION 1009-1 RECOVERY SYSTEM

SRV #646 was received at A/P on 13 November 1963. The receiving weight was 147 pounds. After modifications and incorporation of outstanding E.O.'s, the SRV was delivered to systems test for incorporation into the J-12 system.

The following major modifications were made to SRV #646 during the testing phase at A/P:

1. FEDR 1317. Cracks were found in forebody #122 which was removed and replaced by #181. The defective forebody was returned to the manufacturer.

The capsule was delivered for shipment to VAFB on 24 June 1964. The S/I take-up cassette #2 film footage pot was replaced at VAFB.

A successful air catch of the capsule was made on orbit 49. The impact point was within normal tolerances. All capsule re-entry events occurred within tolerance, except main chute deployment. This occurred 0.22 seconds early from nominal. Normal tolerance is 0.20 seconds. Table 4-1 lists the sequence of monitored re-entry and recovery event times.

The condition of the recovered capsule was satisfactory with damage limited to normal paint blistering. Figures 4-1 through 4-3 are diagrams of re-entry temperatures. Post flight inspection and test showed no anomalies.

MISSION 1009-1

RECOVERY SEQUENCE OF EVENTS

Event	System Time	Delta Time Actual	Delta Time Nominal
Transfer	4759.21	-	-
Electrical Disconnect	4760.20	.99	.900 $^{+.43}_{-.40}$
*Separation	4761.21	2.00	2.0 ± .25
** Spin	4763.48	3.28	3.4 ± .30
Retro	4771.15	7.67	7.55 ± .45
Despin	4781.74	10.59	10.75 ± .54
T/C Separation	4783.25	1.51	1.5 ± .15
Voltage Mon. Closed	4877.05	93.80	104.0 ± 44.
"G" Switch Open	5265.62	388.57	-
Parachute Cover Off	5299.88	34.26	34.0 ± 1.5
Drogue Chute Deployed	5300.65	.77	.75 ± .08
Drogue Chute Release	5310.52	9.87	10.05 ± 1.0
Main Chute Deployed	5311.10	.58	.80 ± .20
Main Chute Disreefed	5315.70	4.60	4.0 ± 1.7

* From Transfer

** From Elect. Disc.

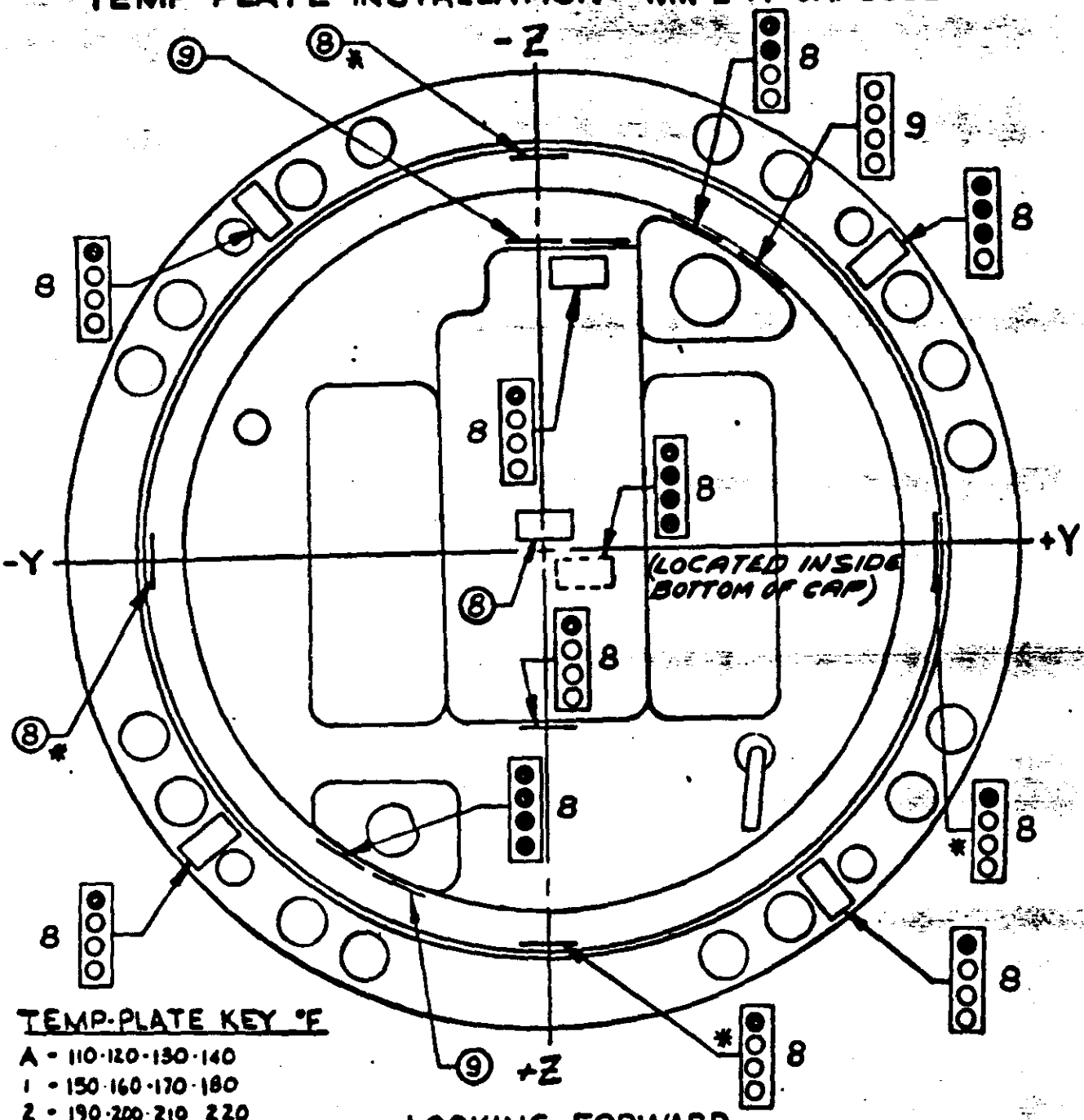
Spin Rate - 69 RPM

Despin Rate - 10 RPM

Retro Velocity - 944 Ft/Sec.

TABLE 4-1

TEMP-PLATE INSTALLATION - Mk V-A CAPSULE



TEMP-PLATE KEY °F

A - 110-120-130-140
1 - 150-160-170-180
2 - 190-200-210 220
3 - 230 240-250-260
4 - 270 280-290-300
5 - 310-320 330-340
6 - 350-360-370 380
7 - 390-410-435-450
8 - 100-150-200-250
9 - 300-350-400-450

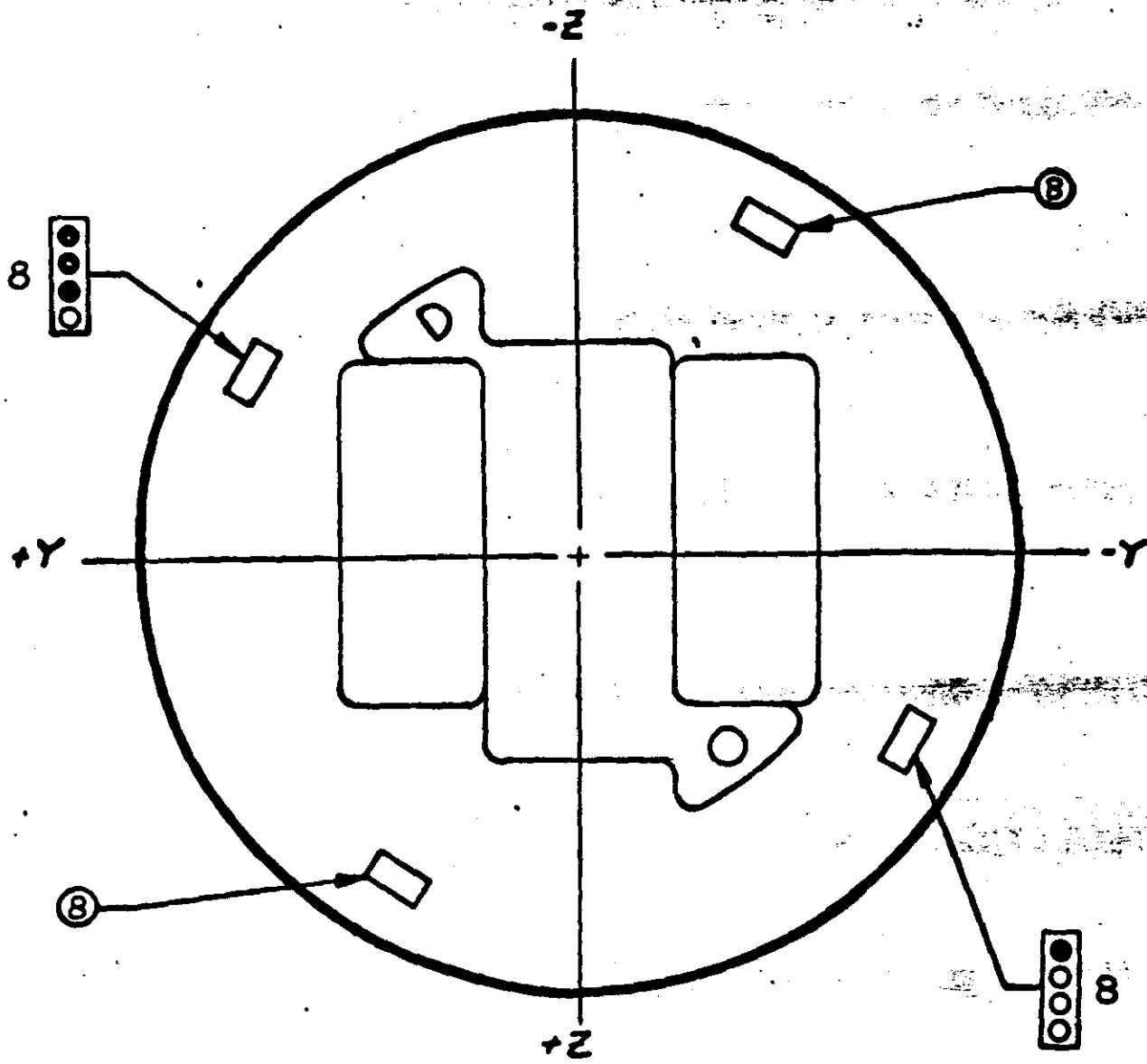
* LOCATED INSIDE CAPSULE ON NOSE WALL

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1009-1

FIGURE 4-1

TEMP-PLATE INSTALLATION-MK V-A CAPSULE



LOOKING AFT
VEHICLE
(USE OF TEMP-PLATES)

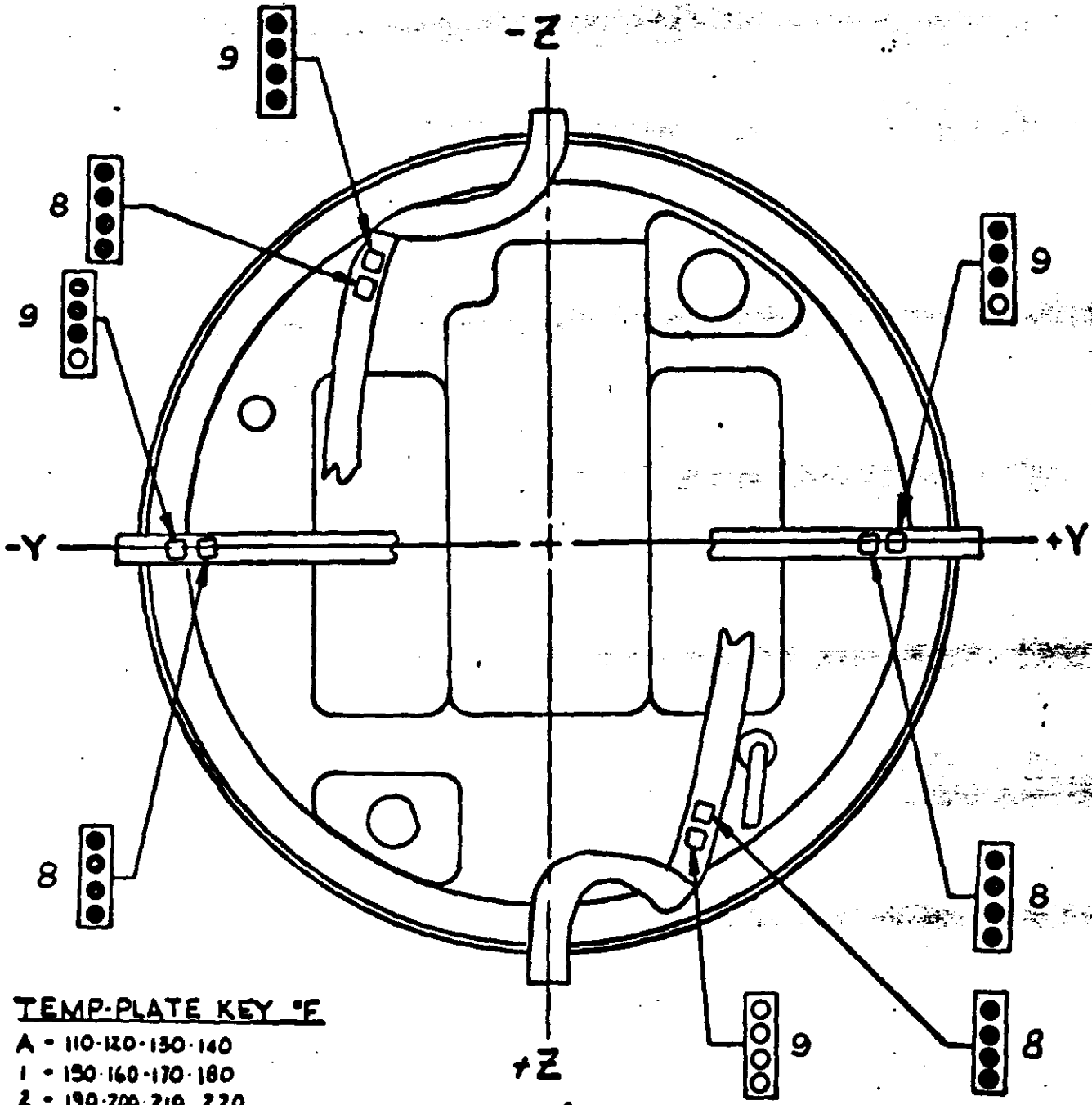
TEMP PLATE KEY "E"

A-110·120·130·140
1-150·160·170·180
2-190·200·210·220
3-230·240·250·260
4-270·280·290·300
5-310·320·330·340
6-350·360·370·380
7-390·410·435·450
8-100·150·200·250

●INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATOR LEVEL

FIGURE 4-2

TEMP-PLATE INSTALLATION - Mk V-A CAPSULE



TEMP-PLATE KEY °F

A - 110-120-130-140
1 - 150-160-170-180
2 - 190-200-210-220
3 - 230-240-250-240
4 - 270-280-290-300
5 - 310-320-330-340
6 - 350-360-370-380
7 - 390-410-435-450
8 - 100-150-200-250
9 - 300-350-400-450

LOOKING FORWARD

USE OF TEMP PLATES ON PARACHUTE SHROUDS

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1009-1

FIGURE 4-3

SECTION 5

MISSION 1009-2 RECOVERY SYSTEM

SRV #647 was received at A/P on 9 October 1963 at a receiving weight of 154 pounds. After modification and incorporation of outstanding E.O.'s the capsule was delivered to systems test for incorporation into the J-12 system.

The torque potentiometer in the S/I take-up cassette was replaced twice (FEDR 1270 and 1277) when an open circuit was found. The capsule was delivered for shipment to VAFB on 22 June 1964. No testing problems were encountered at VAFB.

The second recovery unit was successfully recovered by air catch on orbit 128. The impact point was within normal tolerances. Table 5-1 is a tabulation of the sequence of monitored re-entry and recovery event times.

Post flight inspections and tests showed all events to be normal. Damage to the recovery system was limited to normal blistering of paint. Temperatures encountered during re-entry are shown in Figures 5-1 through 5-3.

MISSION 1009-2

RECOVERY SEQUENCE OF EVENTS

Event	System Time	Delta Time Actual	Delta Time Nominal
Transfer	2290.10	-	-
Electrical Disconnect	2290.97	.87	.900 + .43 - .40
* Separation	2292.10	2.00	2.00 ± .25
** Spin	2294.34	3.37	3.4 ± .30
Retro	2302.10	7.76	7.55 ± .45
Despin	2313.04	10.94	10.75 ± .54
T/C Separation	2314.52	1.48	1.50 ± .15
Voltage Mon. Closed	2417.97	103.45	104.0 ± .44
"G" Switch Open	2868.87	450.90	-
Parachute Cover Off	2903.19	34.32	34.0 ± 1.5
Drogue Chute Deployed	2903.85	.66	.75 ± .08
Drogue Chute Release	2913.61	9.76	10.05 ± 1.0
Main Chute Deployed	2914.13	.52	.80 ± .20
Main Chute Disreefed	2918.44	4.31	4.0 ± 1.7

* From Transfer

** From Elect. Disc.

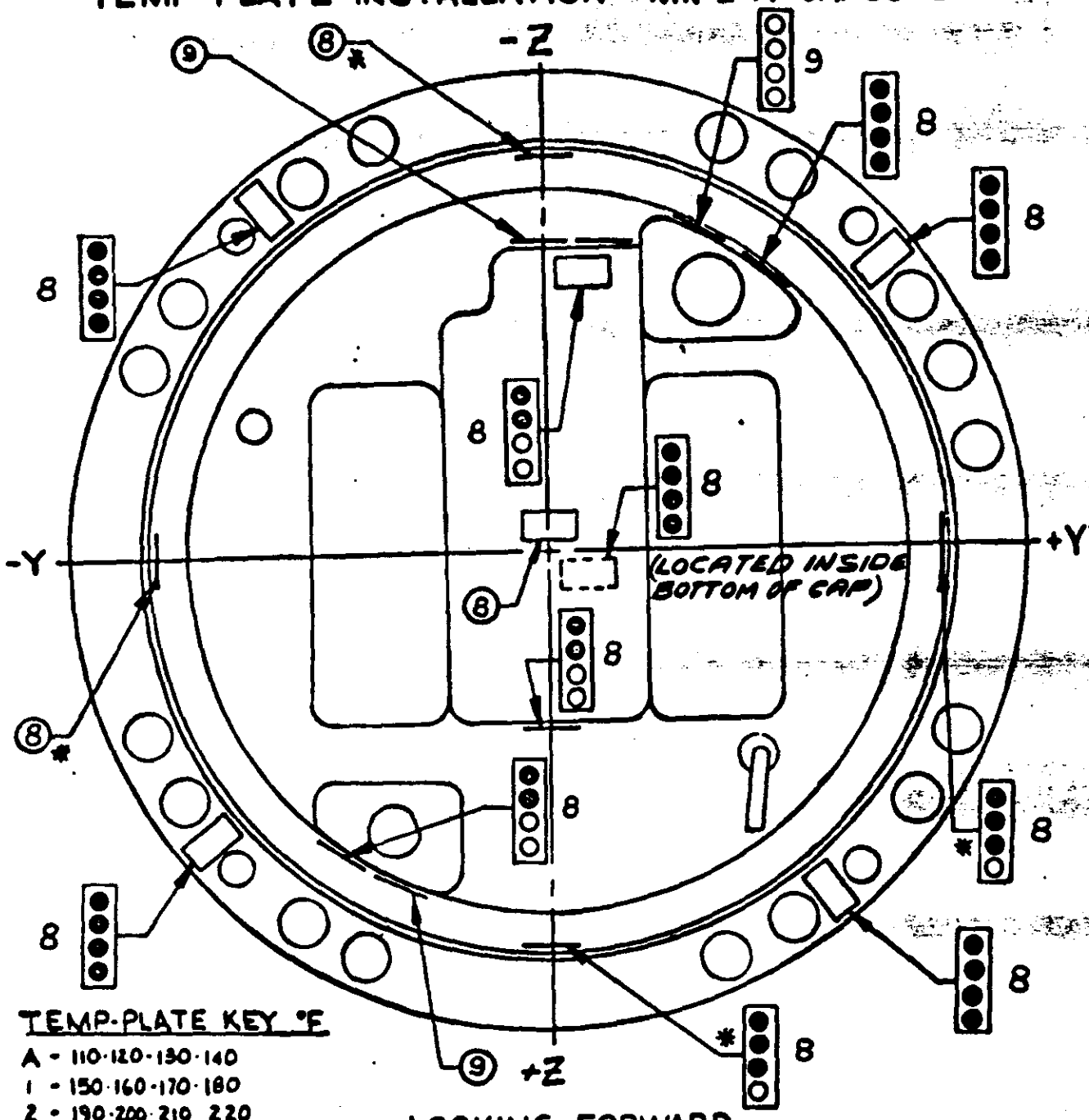
Spin Rate - 64.8 RPM

Despin Rate - 9.0 RPM

Retro Velocity - 947.2 Ft./Sec.

TABLE 5-1

TEMP-PLATE INSTALLATION - Mk V-A CAPSULE



TEMP-PLATE KEY °F

A - 110·120·130·140
1 - 150·160·170·180
2 - 190·200·210 220
3 - 230 240·250·260
4 - 270 280·290·300
5 - 310·320 330·340
6 - 350·360·370 380
7 - 390·410·435·450
8 - 100·150·200·250
9 - 300·350·400·450

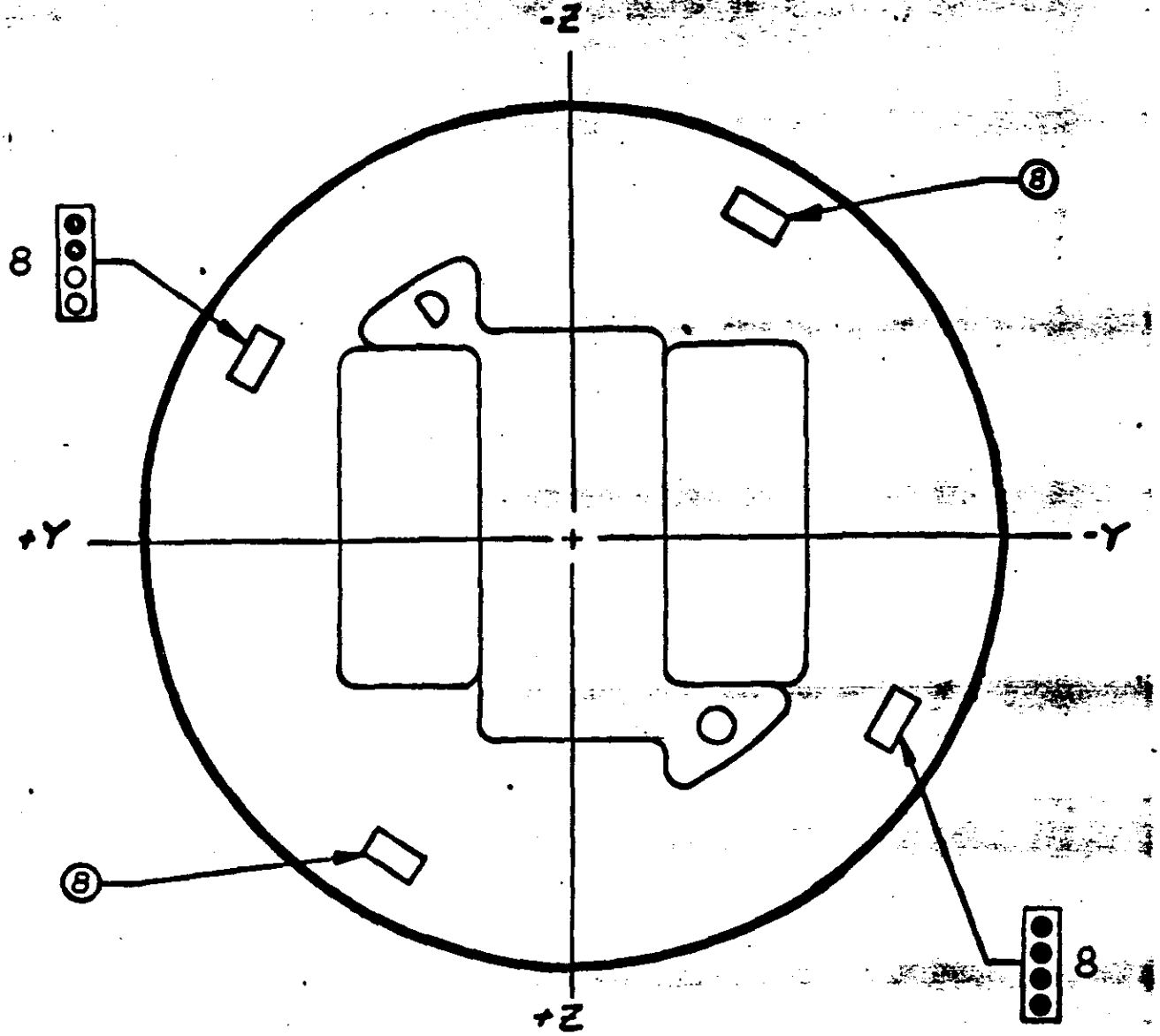
* LOCATED INSIDE CAPSULE ON NOSE WALL

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1009-2

FIGURE 5-1

TEMP-PLATE INSTALLATION-MK V-A CAPSULE



LOOKING AFT
VEHICLE
(USE OF TEMP-PLATES)

TEMP PLATE KEY °F

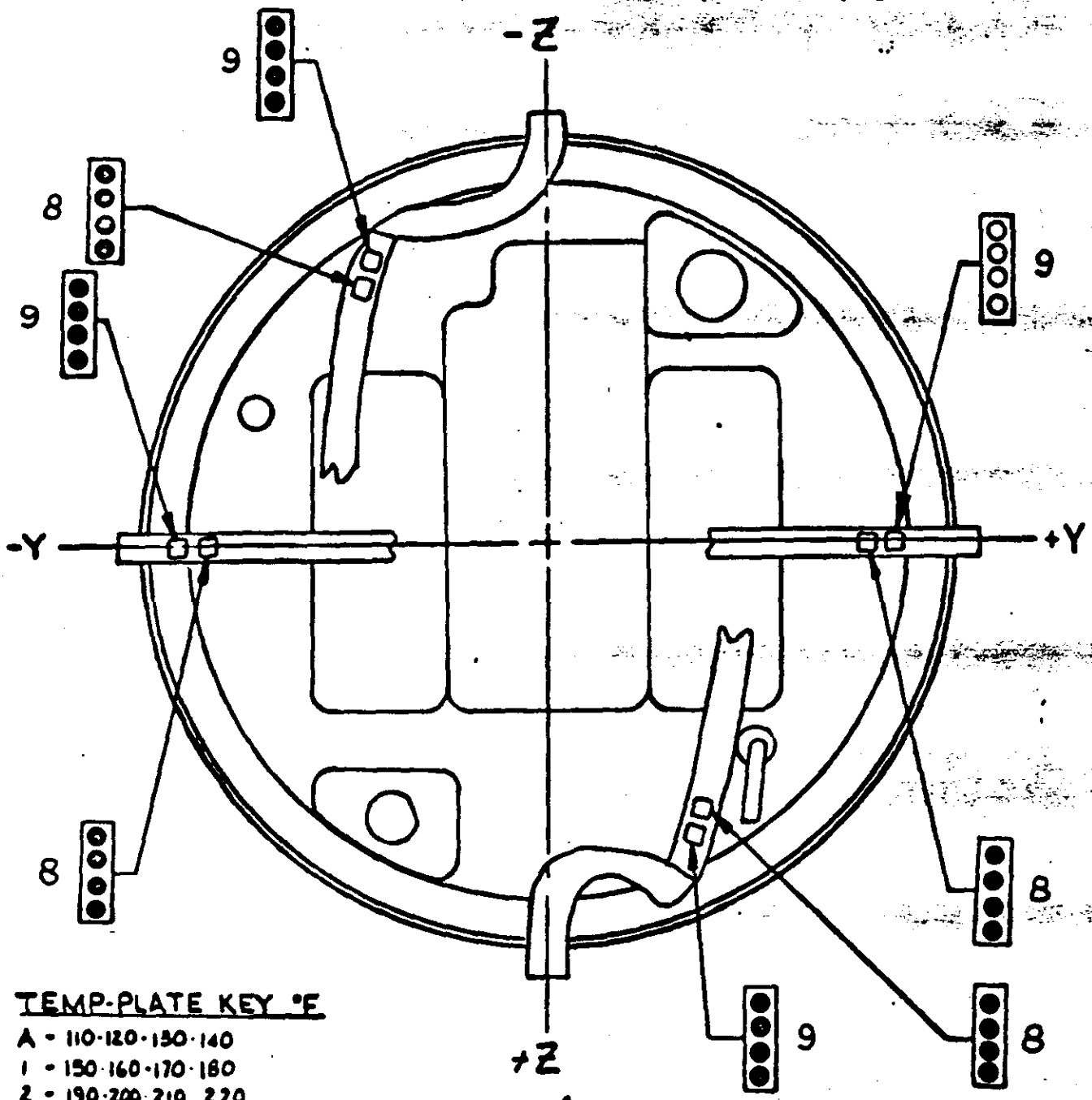
A-110·120·130·140
1-150·160·170·180
2-190·200·210·220
3-230·240·250·260
4-270·280·290·300
5-310·320·330·340
6-350·360·370·380
7-390·410·435·450
8·100·150·200·250

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATOR LEVEL

FIGURE 5-2

1009-2

TEMP-PLATE INSTALLATION - Mk V-A CAPSULE



TEMP-PLATE KEY °F

A - 110-120-150-140
1 - 150-160-170-180
2 - 190-200-210 220
3 - 230 240-250-260
4 - 270 280-290-300
5 - 310-320 330 340
6 - 350 360-370 380
7 - 390-410-435-450
8 - 100-150-200-250
9 - 300-350-400-450

LOOKING FORWARD

USE OF TEMP PLATES ON PARACHUTE SHROUDS

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1009-2

FIGURE 5-3

SECTION 6

MASTER PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	154
Main Camera Lens	1292435
Supply Horizon Camera	137 B
Supply Horizon Camera Lens	812290
Take-up Horizon Camera	137 A
Take-up Horizon Camera Lens	814010
Supply Cassette	SC-15

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.200"
Filter Type	Wratten 21
Film Type	Eastman Type 4404

Supply (Port) Horizon Camera:

Lens	55 mm f/6.8
Aperture Setting	f/6.8
Exposure Time	1/100 second
Filter Type	Wratten 25

Take-up (Starboard) Horizon Camera:

Lens	55 mm f/6.8
Aperture Setting	f/8.0
Exposure Time	1/100 second
Filter Type	Wratten 25

C. POST FLIGHT PERFORMANCE EVALUATION

The quality of the photography produced by the Master camera was very good throughout both missions. The information content of the photography was considered excellent. The missions were considered superior to Mission 1008 and approximately equal to Mission 1007. A small soft area was present at the supply end of the format intermittently during Mission 1009-1 however it was not present during Mission 1009-2.

The electro-mechanical operation of the camera system was normal during both missions. There were no degrading factors to the photography with the exception of the usual light leaks near the start and end of most operations.

SECTION 7

SLAVE PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	155
Main Camera Lens	1322435
Supply Horizon Camera	148 B
Supply Horizon Camera Lens	813517
Take-up Horizon Camera	148 A
Take-up Horizon Camera Lens	813519
Supply Cassette	SC-15

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.200"
Filter Type	Wratten 21
Film Type	Eastman Type 4404

Supply (Starboard) Horizon Camera:

Lens	55 mm f/6.8
Aperture Setting	f/8.0
Exposure Time	1/100 second
Filter Type	Wratten 25

Take-up (Port) Horizon Camera:

Lens	55 mm f/6.8
Aperture Setting	f/6.8
Exposure Time	1/100 second
Filter Type	Wratten 25

C. POST FLIGHT PERFORMANCE EVALUATION

The photographic quality and information content of the imagery produced by the Slave camera during both missions was comparable to the Master camera photography. The photography was degraded only by the minor effects of the usual light leaks and minus density streaks.

Data block lamp #4 failed during passes D40 and D41 only. This failure is attributed to a wiring problem within the data block. The remaining electro-mechanical operations of the camera were, in general, normal during both missions.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The exposure parameters of both the panoramic cameras were the normal 0.200 inch wide slit and Wratten 21 filter used historically during summer flights. These conditions place the nominal exposure on the intermediate level processing curve, as published by [redacted]

The illumination conditions during the mission were relatively constant as the flight was conducted during the summer. The frequency distributions of the solar elevations and solar azimuths encountered during the photographic operations are shown in Figures 8-1 to 8-4.

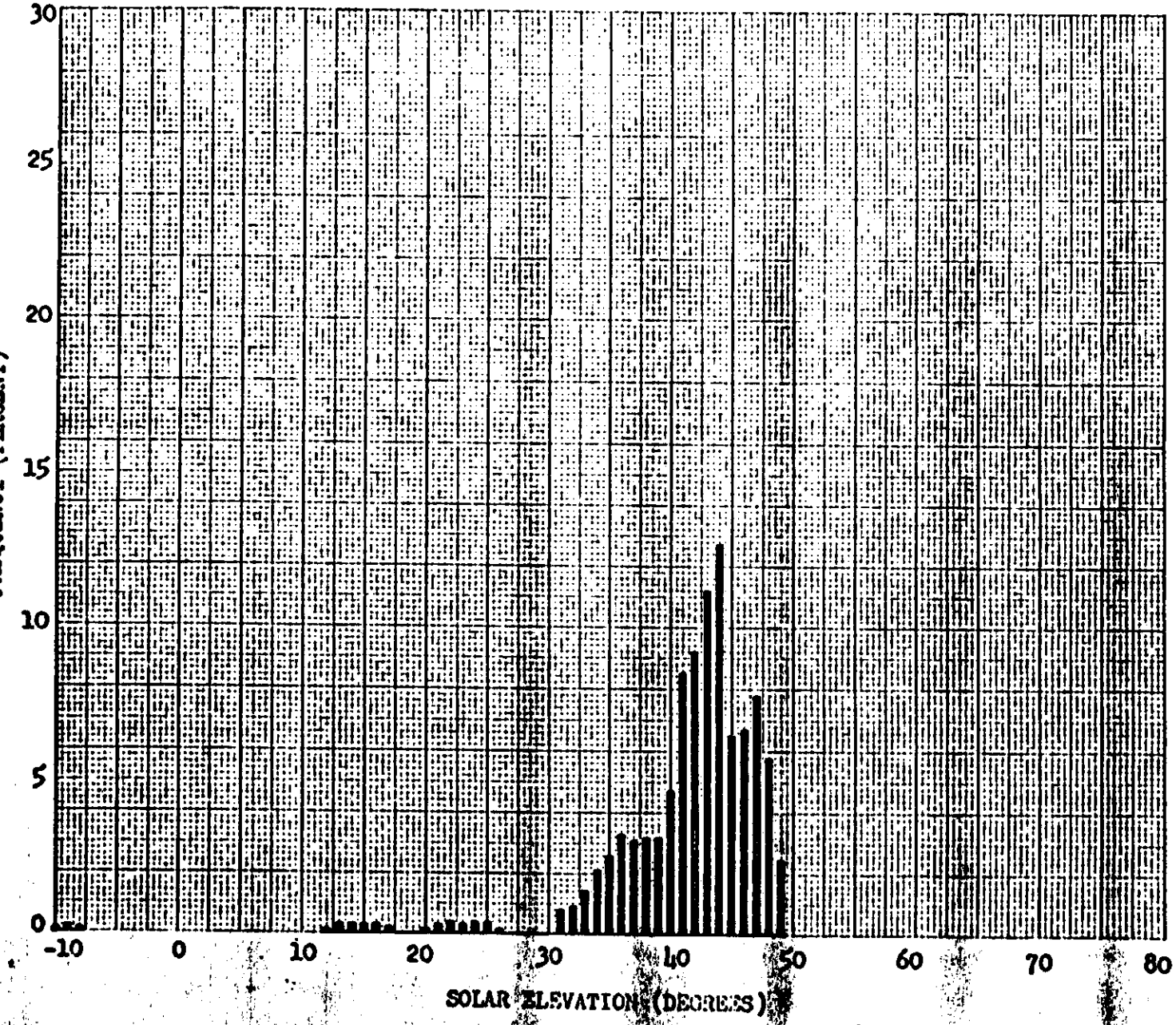
The nominal exposure times are shown as a function of latitude for passes D-08, D-40, D-72 and D-104 in Figures 8-5 to 8-8. The predicted level of processing for the original negative is based on the in-flight performance estimate and is tabulated below with the processing levels reported by [redacted]

Mission	Camera		Primary	Intermediate	Full
1008-1	FWD	Predicted	0	100	0
		Reported	1	26	73
1009-1	AFT	Predicted	0	100	0
		Reported	0	40	60
1009-2	FWD	Predicted	0	100	0
		Reported	3	21	76
1009-2	AFT	Predicted	0	100	0
		Reported	4	47	49

The variation in the predicted and reported processing levels is generally consistent with the data observed from recent missions. The use of significantly greater percentages of full processing has been experienced throughout the Corona program. Further analysis and calculations are in process to attempt to ascertain the optimum exposure-processing conditions.

[redacted]

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1009-1

Payload No: J-12

Camera No: 154

Launch Date: 8/5/64

Launch Time: 2318 Z

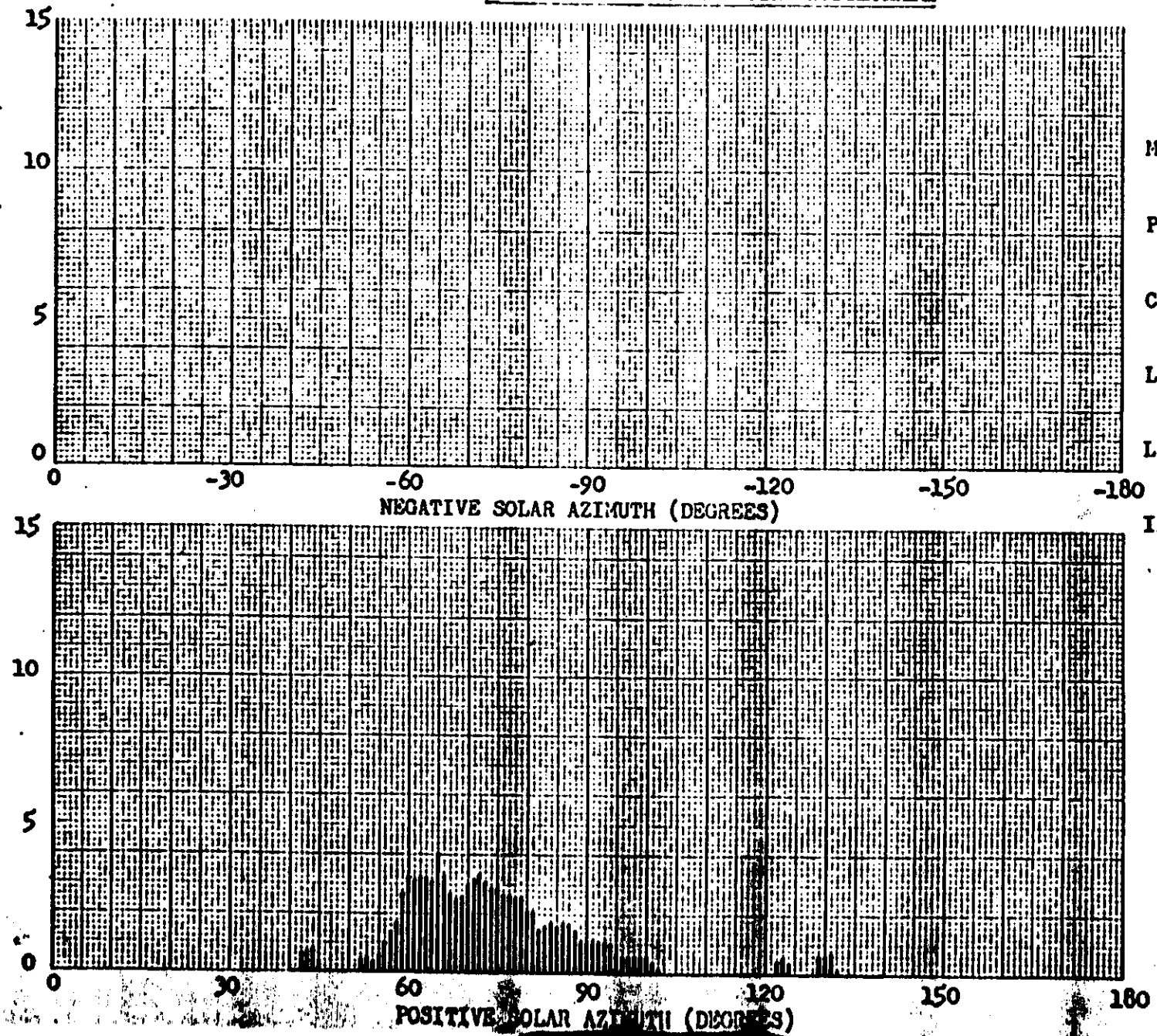
Inclination: 80°

FIGURE 8-1

[redacted]

[redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION



Mission No: 1009-1

Payload No: J-12

Camera No: 154

Launch Date: 8/6/64

Launch Time: 2318 z

Inclination: 80°

SIGN NOTATION

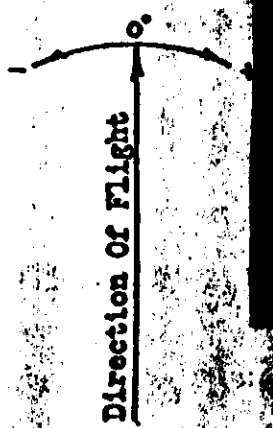
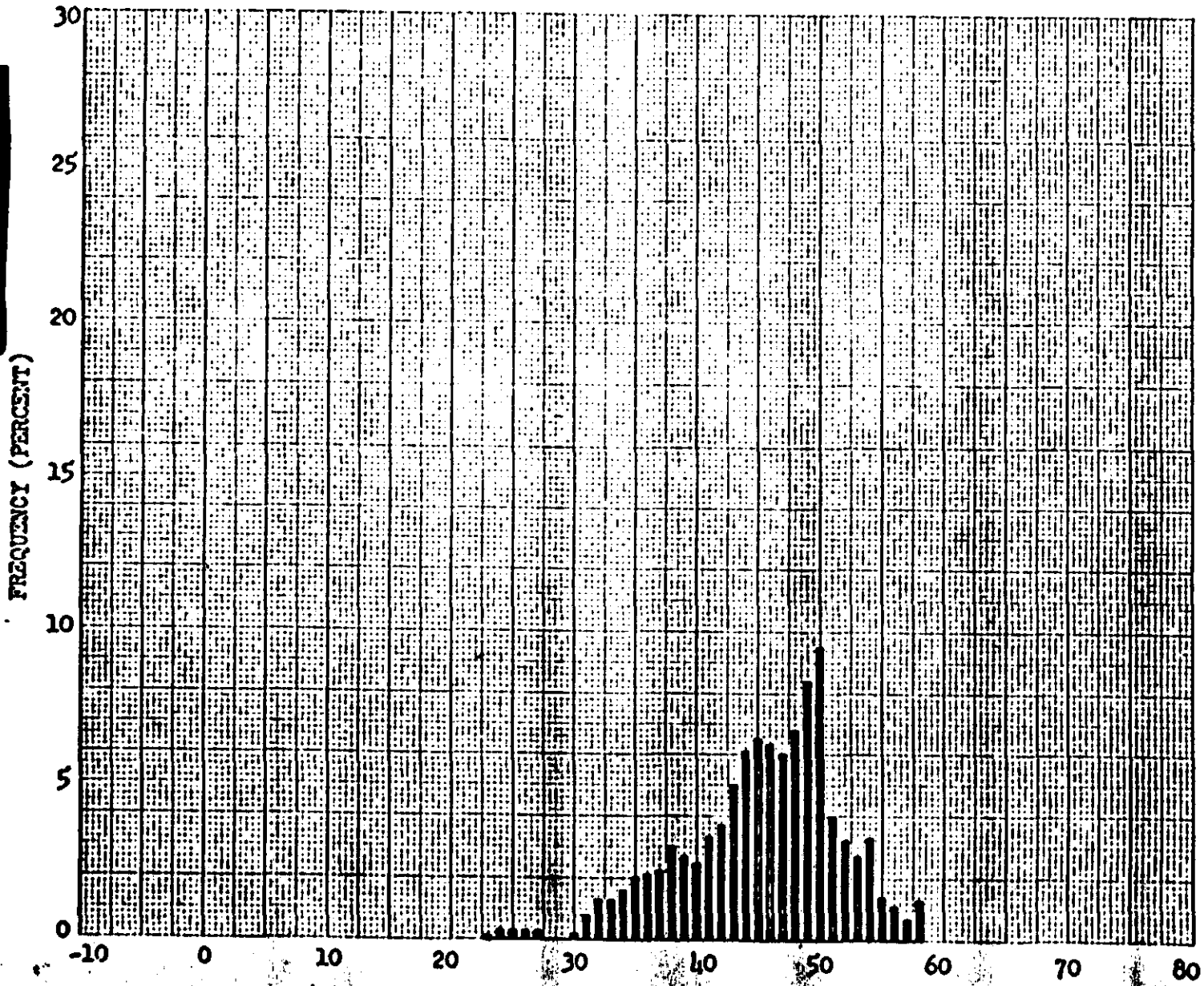


FIGURE 8-2

[redacted]

[redacted]

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1009-2

Payload No: J-12

Camera No: 154

Launch Date: 8/6/64

Launch Time: 2318 Z

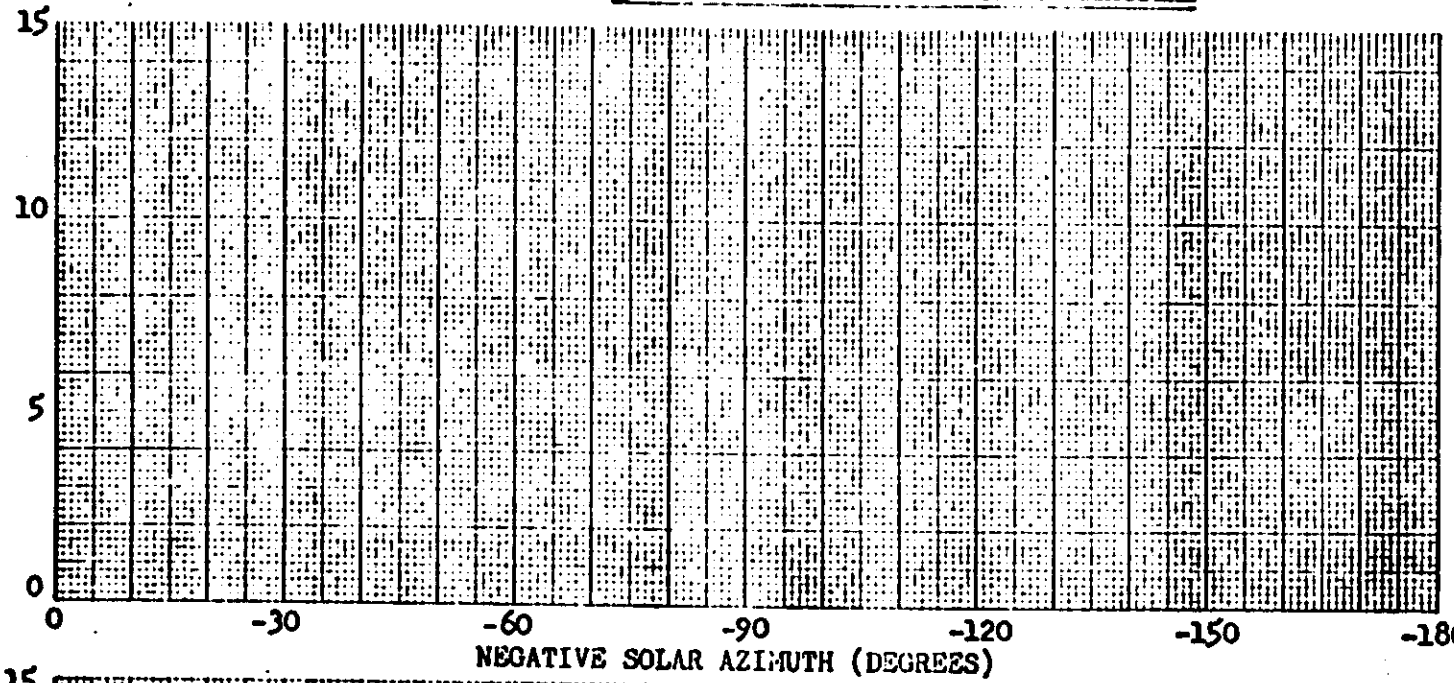
Inclination: 80°

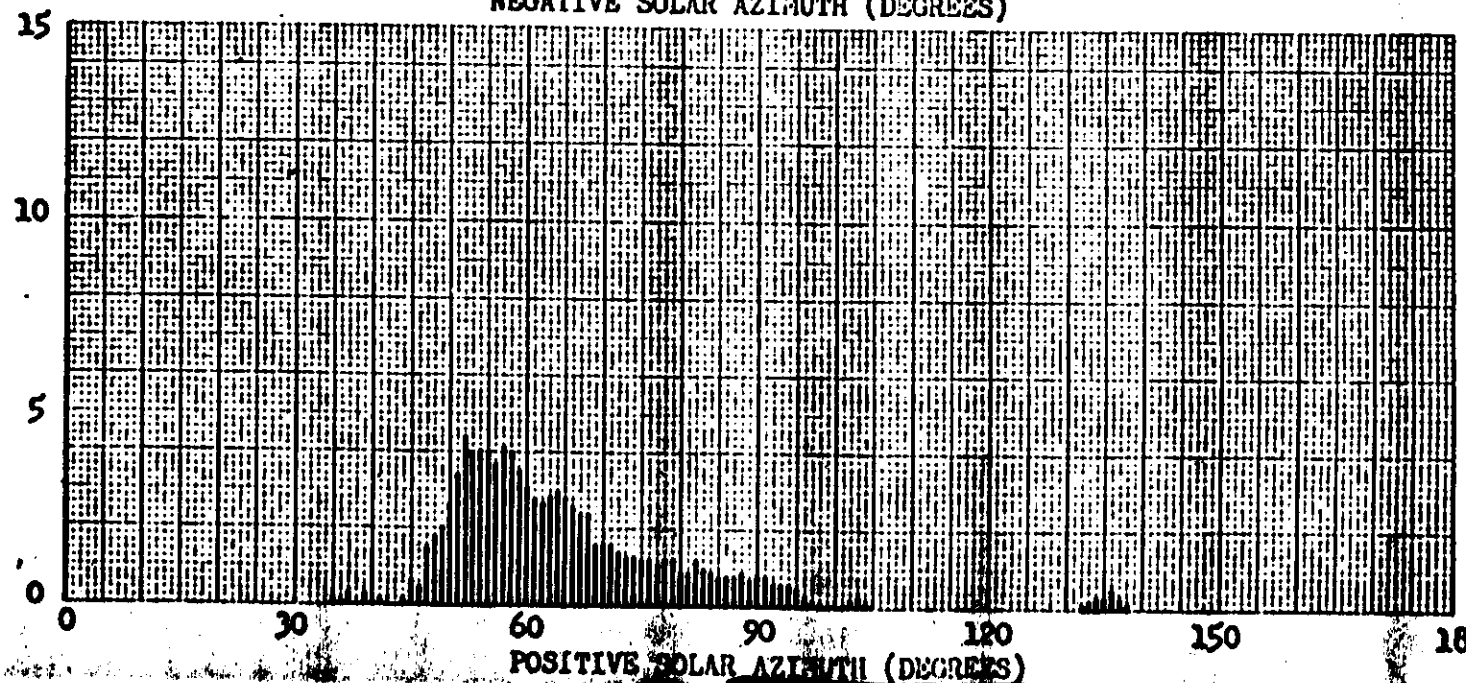
[redacted]

FIGURE 8-3

[redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1009-2

Payload No: J-12

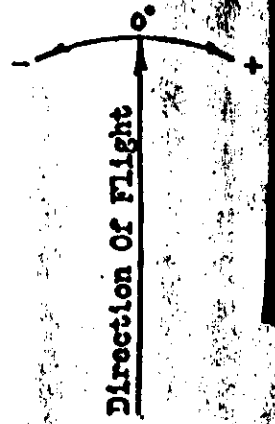
Camera No: 154

Launch Date: 8/6/64

Launch Time: 2318 Z

Inclination: 80°

SIGN NOTATION



[redacted]

FIGURE 8-4

[redacted]

EXPOSURE POINTS

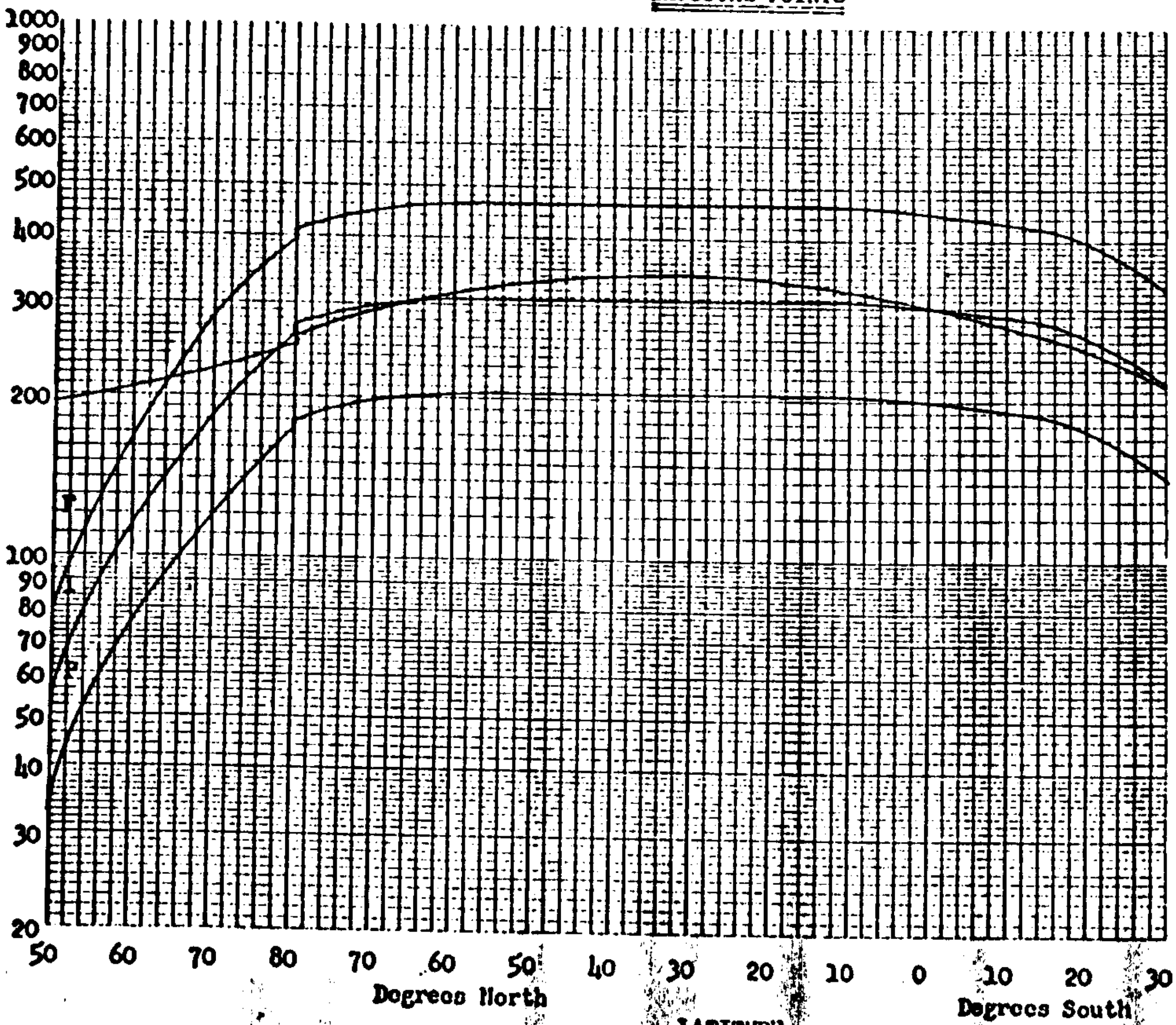


FIGURE 8-5

Mission No: 1009

Payload No: J-12

Camera No: 154 - 155

Pass No: 8

Launch Date: 8/5/64

Launch Time: 2318 Z

Slit Width: .200

Filter Type: Wratten 21

Film Type: 4404

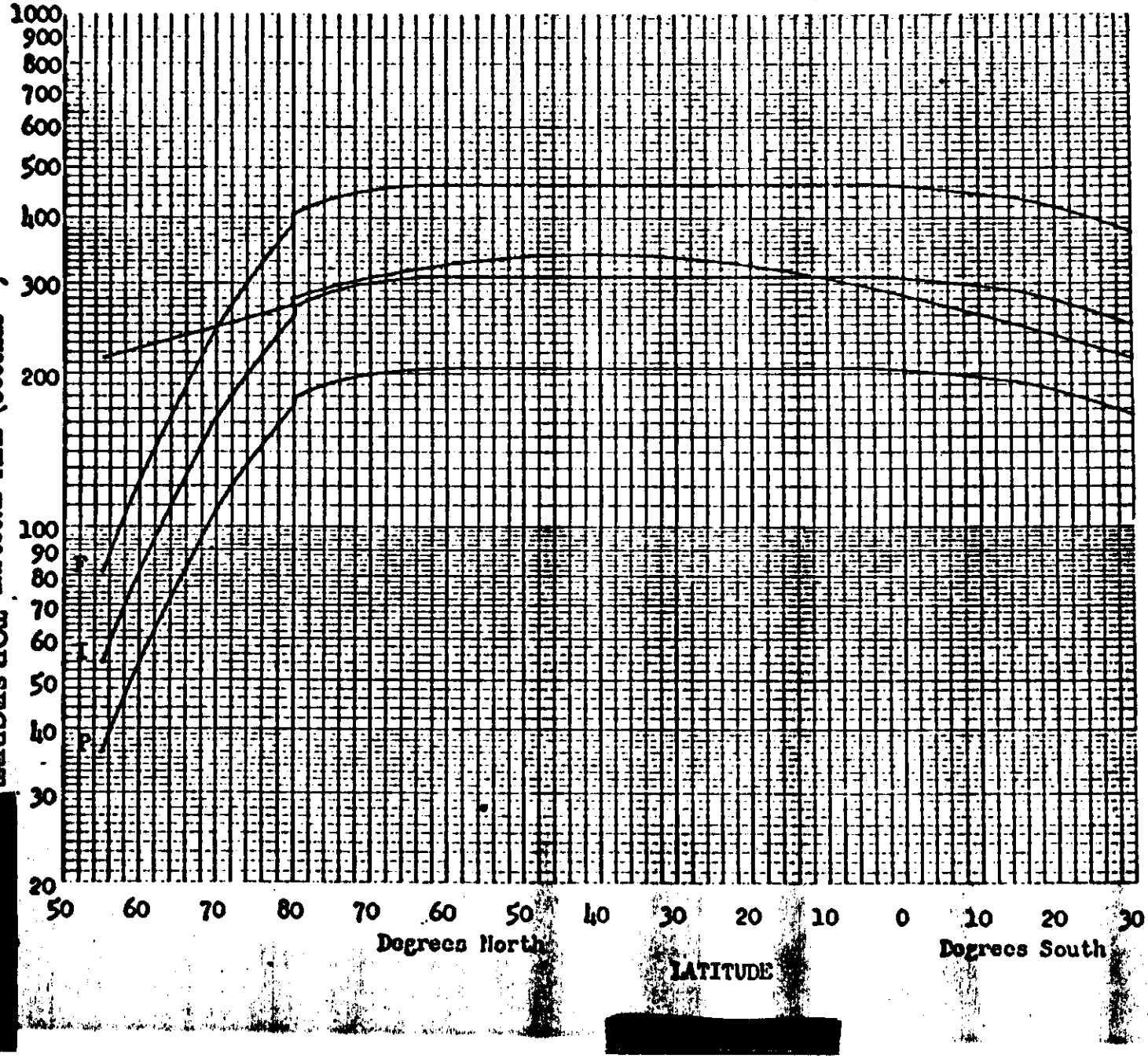
[redacted]

TOP SECRET [redacted]

[redacted]

[redacted]

EXPOSURE POINTS



Mission No: 1009

Payload No: J-12

Camera No: 154 - 155

Pass No: 40

Launch Date: 8/5/64

Launch Time: 2318 Z

Slit Width: .200

Filter Type: Wratten 21

Film Type: 4404

[redacted]

[redacted]

EXPOSURE POINTS

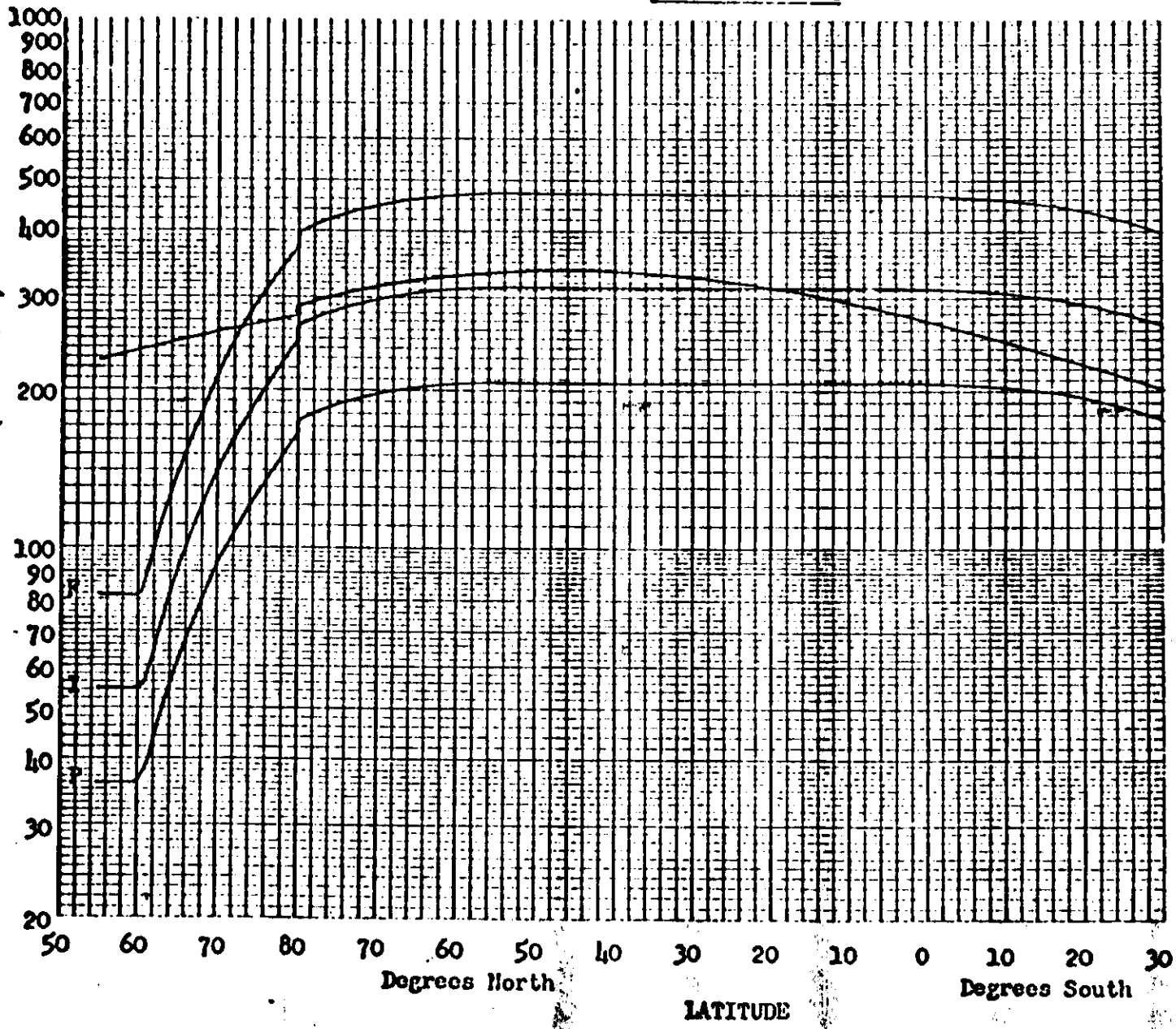


FIGURE 8-7 [redacted]

[redacted]

Mission No: 1009

Payload No: J-12

Camera No: 154 - 155

Pass No: 72

Launch Date: 8/5/64

Launch Time: 2318 Z

Slit Width: .200

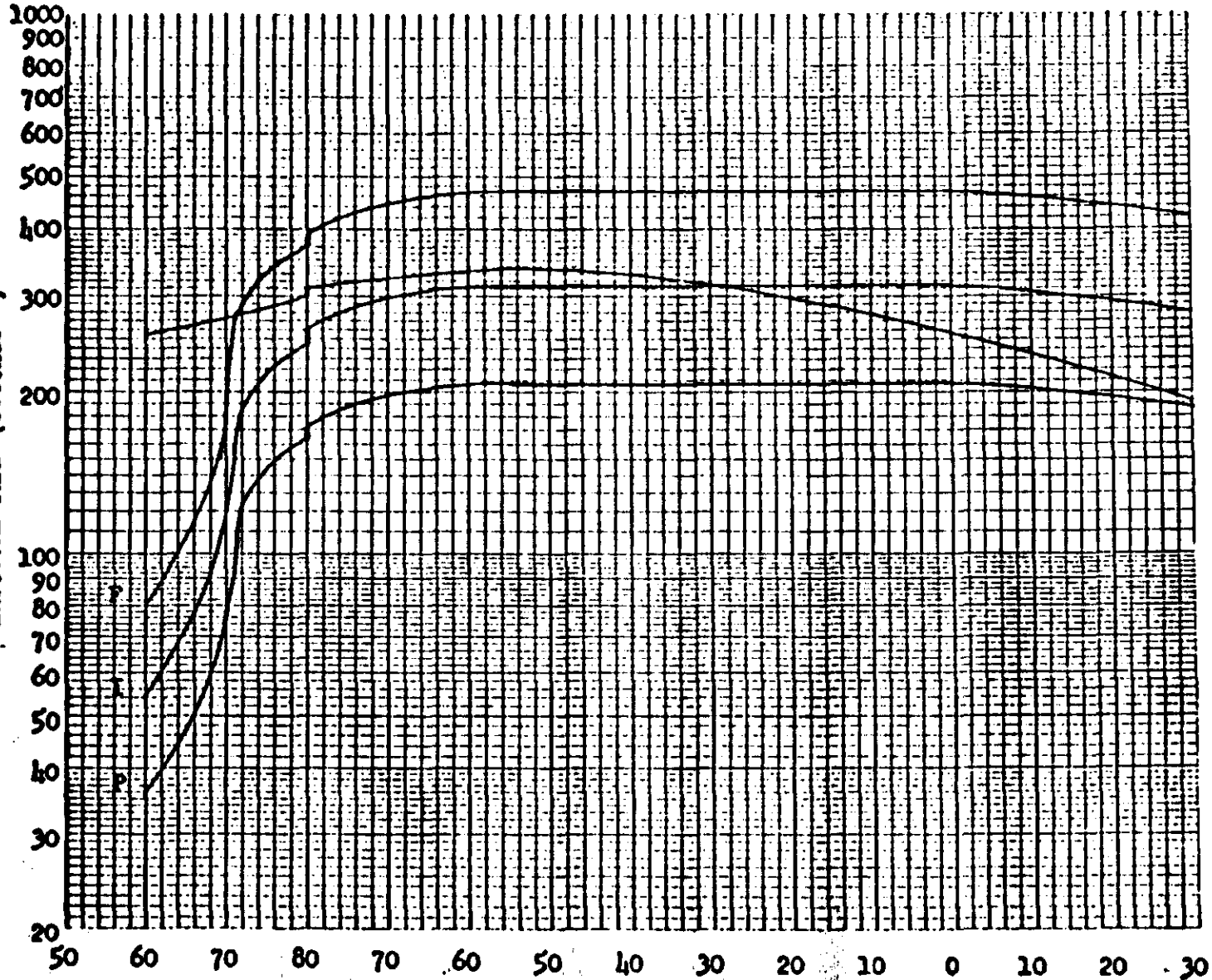
Filter Type: Wratten 21

Film Type: 4404

[redacted]

[redacted]

EXPOSURE POINTS



Mission No: 1009

Payload No: J-12

Camera No: 154 - 155

Pass No: 104

Launch Date: 8/5/64

Launch Time: 2318 Z

Slit Width: .200

Filter Type: Wratten 21

Film Type: 4404

[redacted]

FIGURE 8-8

A comparison was made between the exposure time calculated from the time word displayed by the Binary Data Block and the exposure time derived from the 200 cycle time track. The exposure time from these two sources was determined for engineering passes D-47 and D-61 and plotted on Figure 8-9.

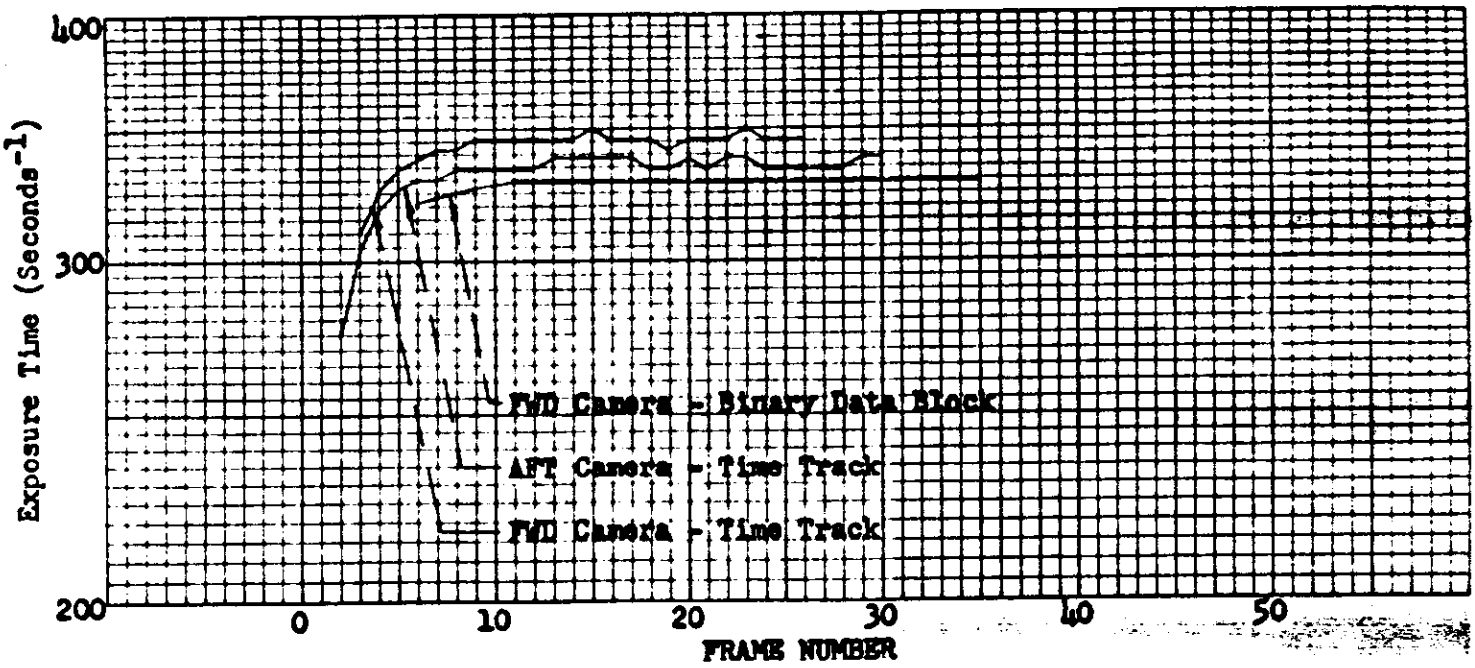
The exposure time from the two sources parallel each other quite well however the FWD camera data shows that time track data results in an exposure time that is approximately 6% shorter than calculated from the binary time word. This effect on the exposure imparted to the original negative is insignificant. The shorter exposure time actually experienced does reduce the sensitivity of the camera system to image motion.

The cause of the variation in exposure time is attributed to the non-linear scan rate known to exist in the cameras. There is no evidence to indicate that the non-linear scan rate is in conjunction with a non-linear lens rotation which would produce image smear.

EXPOSURE TIME VARIATION

MISSION 1009-1

PASS D47



MISSION 1009-2

PASS D61

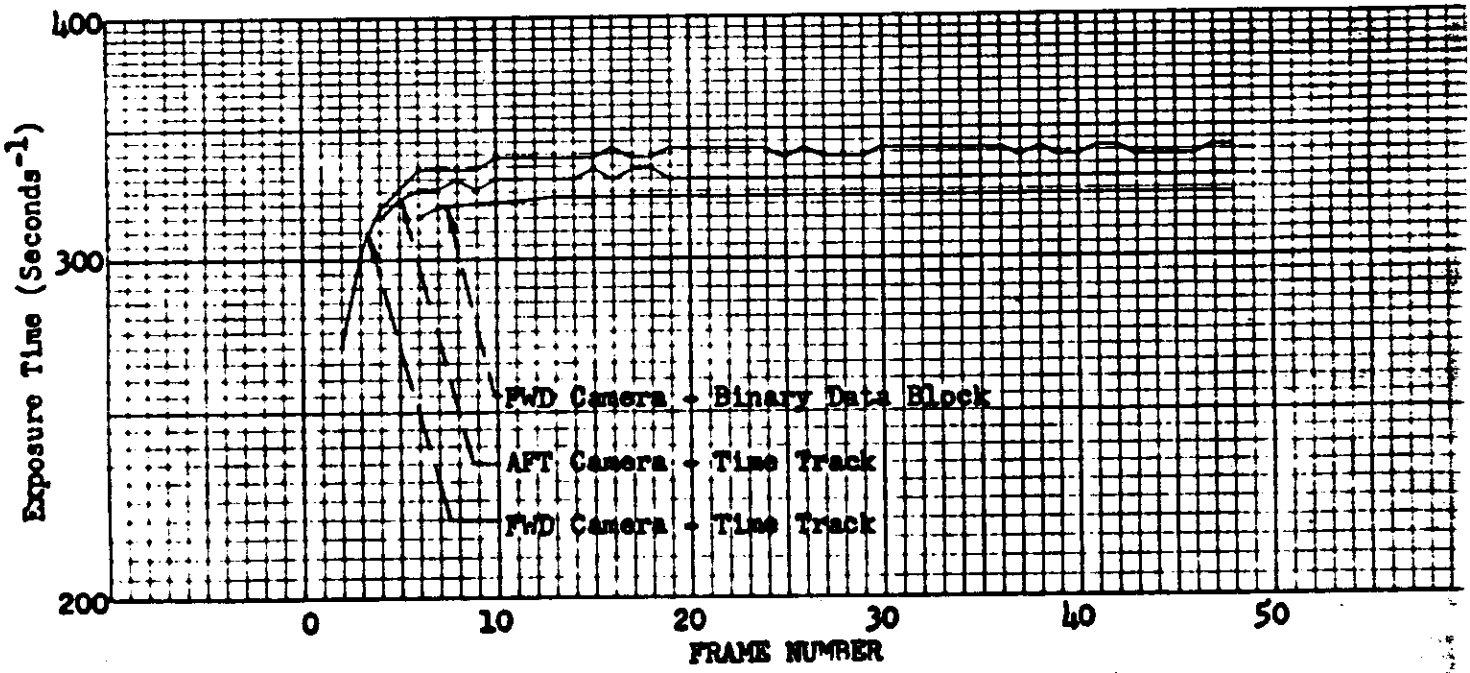


FIGURE 8-9

SECTION 9

DIFFUSE DENSITY MEASUREMENTS

Tables 9-1 and 9-2 list mission data supplied by AFSPPL. This data includes the visual Reciprocal Edge Spread (RES) values, the area on the format in which the value was obtained and the general characteristics of the edge as shown on the data key page. The densitometric measurements of the base plus fog,, minimum and maximum terrain densities and the maximum cloud densities are also listed with other general data such as solar elevation, latitude and overlap.

The columns are arranged in the following order:

COLUMN NUMBER	HEADING	DATA
1	-	Ascending or Descending pass
2-4	Pas Nbr	Pass Number
5	-	FWD or AFT camera
6-8	Frm Nbr	Frame Number
9-17	Area 1 RES	RES data in area 1
9-11	WWW	With flight RES value
12-14	AAA	Across flight RES value
15	S	Subject - see key
16	T	Terrain - see key
17	Q	Qualifiers - see key
18-26	Area 2 RES	RES data in area 2
27-35	Area 3 RES	RES data in area 3
36-44	Area 4 RES	RES data in area 4
45-53	Area 5 RES	RES data in area 5
54-56	D min	Terrain minimum density
57-59	D max	Terrain maximum density
60-62	D B+F	Base plus fog density
63-65	LIM max	Cloud maximum density

COLUMN NUMBER	HEADING	DATA
66-68	LAT	Latitude
68	T	0 = North, 1 = South
69-71	Sun Ele	Solar Elevation
73-74	CLD	Percent cloud cover
75-76	OL	Percent overlap

The data key for the listings of the "Subject", "Terrain" and "Qualifiers" is shown below.

I SUBJECT

1. Buildings
2. Roads, runways
3. Tanks, A/C, other man-made
4. Non-cultural

II TERRAIN

1. Flat
2. Hilly
3. Mountains
4. Flat and snow
5. Hilly and snow
6. Mountains and snow

III EDGE QUALIFIERS

1. Clear
2. Snow
3. Hazy
4. Shadow
5. Snow and Haze
6. Snow and Shadow
7. Haze and Shadow
8. Snow, Haze and Shadow

Notice of Missing Page(s)

Page 54 of the original document was missing.

PAS_FRM	AREA1_RES	AREA2_RES	AREA3_RES	AREA4_RES	AREA5_RES	D_D_D_LIM_SUN
NBR_NBR	WWWAAASTQ	WWWAAASTQ	WWWAAASTQ	WWWAAASTQ	WWWAAASTQ	MINMAXB+FMAXLATELECLDOU
DC08F172		C59054412				055169011200400+4601006
DC08F182						052128010202380+46 99
DC08F188		059061432				053120011214370+4606503
DC08F005						011234710+3809899
DC08F015						013232700+39 99
AC09F006						012 410- 20009
CC09F005		099085112				034120013229600+4306599
DC09F015						045094013228590+43 99
CC09F025			055059212			072126018243570+4408099
CC09F035						124170020241560+44 99
DC09F045		055070112				088158020245540+4408099
DC09F055						081130015240530+44 99
CC09F065				072065112		078110013235510+4509899
DC09F075						058170017235500+45 99
DC09F085		065057112				068142019241480+4504508
DC09F095						076176019242470+45 99
CC09F105						136153018189450+4601099
DC09F111						018195450+4600000
CC10F005		067080412				090146020202031+2800504
DC10F015						093148020220041+28 99
CC10F025						087131020214061+2702099
DC17F005					082075411	113133021230171+2303099
CC17F015						074138020222191+22 99
CC17F025						020223211+21 99
DC17F030	078085411					093128020219211+2004099
CC17F040						020210231+19 99
CC17F044						021220241+18 99
DC20F005						020232750+3610099
DC20F015						020232740+3710099
CC20F023						116142020229730+38 99
CC20F033						114162020233720+39 99
DC20F039						017234710+3910099
CC20F050						070090014232530+48 99
DC20F060	051075412					068140020240520+4809599
DC20F070						054115019236500+48 99
DC20F080		C65078432				038093020218490+4901504
CC20F083		063065132				042111020217490+4900599
CC21F005		078057421				036144020235540+4701006
DC21F015						037133019229530+48 99
CC21F025	082111111					059151019242510+4802006
CC21F038						065189019240470+49 99
DC21F048		085082411				070183019240450+4907006
CC21F058						049188019242430+49 99
CC21F068		C85094111				038162019241420+4902508
DC21F078						084178019230400+48 99
CC21F088					085082111	082176019230390+4802099
CC21F098						103200019246370+48 99
DC21F108		085085412				100153019245360+4806006
DC21F118						019244340+48 99
CC21F128		C70085411				091159019245330+4805006

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    PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D   D   D LIM    SUN
    NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDUL

D021F138                                       057159019239310+48   99
D021F148                       104104411       037136019230300+4804008
CC21F158                                       059155019239280+47   99
D021F168                                             019243270+47   99
C021F176                                       055165019241250+47   99
CC21F186                                             019244240+47   99
D022F005               C85078411               070116020236680+4103007
D022F015                                       074148020234670+42   99
CC22F025               C67067411               082134020196650+4307512
C022F035                                       054111020220640+43   99
D022F045               078072411               044116019232620+4400512
D022F055                                       072134019224610+44   99
CC22F065               078082411               054111020220590+4502512
D022F075                                       048091020216580+46   99
D022F085               090082111               043132020231560+4601510
CC22F095                                       060144020243550+47   99
C022F105                       111104111       076134019244530+4807510
C022F115                                       109132020243520+48   99
CC22F124               085090111               070165016236510+4907599
CC23F005                                             012230690+40   99
CC23F011                       078072411             065083690+4106099
D023F021                                       066115017227670+42   99
CC23F031               072067411               043091018224660+4301508
C023F038                                       044107019224650+44   99
DC23F048               085000211               048136019237590+4602007
CC23F058                                       078142020240580+47   99
C023F068               C82087111               062146020239560+4702510
DC23F076                                       048135020238550+48   99
C023F085               087087211               092160020242510+4905099
CC23F095                                       069172020239490+49   99
DC23F105               099087211               049169014236470+4902008
D023F115                                       057160012222460+50   99
CC23F125               C99104111               044152012216440+5000507
DC24F005063070412                              068097013200710+3907599
DC24F015                                             013223700+40   99
CC24F017                                       068094012210700+40   99
CC24F027               C99104111               042085012195680+4103010
DC24F037                                       071114019227670+42   99
C024F047       078072411                       080120020224650+4302599
CC24F057                                       057159020239640+43   99
CC24FC67                       078078111       058121018240630+4408008
D024F077                                       071097012225610+45   99
CC24F087094094111                              066171018232600+4603004
CC24F097                                       078166020244580+46   99
CC24F103                                       140187020241570+47   99
CC24F113               078094111               074152020239530+4805003
CC24F123                                       070146020241520+48   99
DC24F133               063063111               070171020235500+4902004
CC24F143                                       070174016229490+49   99
CC24F153               C72072111               040146012222470+4901008
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PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL										
D024F163									0641670212114	60+50	99
C024F167		C67072411							0861900202374	50+5001	005
A025FC06									0190004	00- 6	99
C025F005									0192265	90+46	99
C025F015						0850821	2109211	5019230	580+4709		099
C025F025									0881380172405	60+47	99
D025F035		104118111							0521400192415	40+4707	010
D025F044									1061450192405	30+48	99
C030F005			085090111						0931550192403	20+4906	099
C030F015									0182413	10+49	99
C030F025									0182363	00+4810	099
C030FC31									0232402	90+4810	099
CC37F005									0212406	50+4210	099
D037F015									0202406	40+43	99
C037FC25		072078412							0711360192376	20+4308	599
C037F035									0571190191626	10+44	99
DC37F045			065065412						0390940202115	90+4500	509
D037F055									0371370200005	80+45	99
C037F065			094090111						0361230201655	70+4600	508
CC37F075									0372130170005	50+47	99
D037F085			111104111						0371970182425	40+4700	509
D037F095									0421390172395	20+48	99
C037F105				074078422					0461500172405	10+4806	599
D037F111									1001560172415	00+49	99
C037F121			099094111						0321500122363	50+5003	001
CC37F131									0461700132333	40+49	99
C037F141			C87094111						0481710162403	20+4901	005
C037F151									0491660172393	10+49	99
CC37F161			C82085411						0501820172382	90+4802	505
CC37F171									0561760182422	80+48	99
C037F181			078085412						0761640182422	60+4709	599
D037F191									0172402	50+47	99
CC37F201									0172402	30+4710	099
D037F211									0182422	20+46	99
C038F005			082075411						0451310170006	20+44	07
CC38F015									0431160172366	10+45	99
C038F025			075072412						0761200182416	00+4504	007
D038F035									0471620172395	80+46	99
CC38F045			078078111						0631220182415	70+4705	008
C038F055									1101510182415	50+47	99
CC38F065059052112									0801830182405	40+4808	099
D038F075									0501660172424	30+50	99
CC38FC85			082075421						0711800152404	20+5002	007
D038F095									0561860132324	10+50	99
D038F105			082078421						0561720122313	90+5000	505
CC38F115									0621720132323	80+50	99
CC39FC05				094099112					0661420172435	90+4500	905
DC39F015									0601450192435	80+46	99
C039F025									0192425	70+47	99
CC39F035				094099111					0701320182435	50+4706	508

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
	NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ					MIN	MAX	B+F	MAX	LATELECLDOL
DC39F047							122	1940	1623	9490	+49 99
DC39F057				085094412			094	1740	1223	2470	+4907008
DC39F067							047	1900	1223	2460	+49 99
DC39F077		082085111					049	1500	1100	0440	+490C007
DC39FC87							094	1660	1100	0430	+49 99
DC39F097				085090111			066	1960	1200	0410	+5000008
DC39F107							035	1860	1123	8400	+50 99
DC39F117		099094431					060	1700	1100	0380	+5000008
DC39F126				059111111			060	1770	1100	0370	+5000008
AC40F006									012	0040	0- 5 +99
DC40F005									016	2306	10+4509999
DC40F015		078085112					070	1460	1824	1600	+4606507
DC40F023							120	1520	1823	9580	+46 99
DC40F033		094085212					072	1680	1824	0570	+4706507
DC40FC43									018	2385	50+48 99
DC40F055		C94072112					072	1840	1923	8460	+4903504
DC40F065							060	1730	1823	9450	+49 99
DC40F075		C75072431					046	2320	1823	6430	+4902504
DC40FC85							068	1680	1823	8410	+50 99
DC40F095		C75068432					061	2010	1823	5400	+5001504
DC41F005	094085411						089	1520	1822	5560	+4709099
DC41F015							052	1400	1822	0550	+48 99
DC41F025		C99111111					051	1460	1824	0530	+4801808
DC41F035							045	1590	1824	1520	+48 99
DC41FC45		094104111					041	1460	1924	2500	+4900208
DC41FC55							060	1760	1823	0480	+49 99
DC41F065	085082411						120	1500	1724	0470	+4903007
DC41F075							076	1460	1824	3450	+50 99
DC46F005		125104111					045	1540	17	400	+5000001
DC46F015							046	1530	19	390	+50 99
DC46F025		104104111					046	1730	1900	0380	+5000007
DC46F031							064	1860	1922	2370	+50 99
DC47FC05							070	1970	1924	3380	+5005005
DC47F015				090078111			081	2020	1824	1370	+5000805
DC47F025							057	1740	1223	8360	+50 99
DC47F035				070094411			062	1820	1220	4340	+4900508
DC47F045							096	1780	1221	8330	+49 99
AC48FC05									014	1927	30+20 99
AC48F015							071	1190	1820	9740	+21 99
AC48F025						072070421	113	1420	1820	5750	+230859
AC48F033									018	2187	60+24 99
DC49FC05				085085411			046	1940	1819	0700	+3900199
DC49F015							060	1330	1922	9690	+40 99
DC49F025		C72078412					070	1150	1823	5680	+410400
DC01AC05									020	2405	20+46 99
DC06AC05		C78078411					098	2120	2222	2730	+3703501
DC06A015							080	1480	2000	0720	+38 99
DC06A025		C67067411					079	1500	2000	0700	+39 01
DC06A035							090	1400	2019	0690	+39 99
DC06A045		082075411					062	1400	1900	0670	+40 01

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ									MINMAXB+F	MAXLATELECLDOL
DC06A055										050142020000660+40	99
DC06A065			078078411							046140019000640+41	05
DC06A075										042126019000620+42	99
DC06A085			078075411							048138019000610+42	05
DC06A095										042110019176590+43	99
DC06A105					067070411					072118019232580+44	08599
DC06A115										055113019222560+44	99
DC06A125		075075411								058102019240550+45	05099
DC06A135										063102019240530+46	99
DC06A146			C67075411							105176016241420+46	02
DC06A156										054180013239410+46	99
DC06A166		085090111								058183013232390+46	00403
DC06A176										040153013235380+46	99
DC06A186			094094121							032144013236360+45	00203
DC06A196										052155019240340+45	99
DC06A205			082078422							089137019248330+45	09099
DC07A005			C72065312							089138020148570+44	04003
DC07A015										082145020236560+44	99
DC07A025			C90C85112							082190020240540+44	06005
DC07A035										092162020240530+45	99
DC07A045			C90094112							094180020242510+45	05005
DC07A055										086184020240490+45	99
DC07A065			078090111							077168020236480+45	01005
DC07A075										110198018240460+45	99
DC07A085			C72078212							092198020244450+45	02003
DC07A095										060218020242430+46	99
DC07A105			078072433							084228020242410+46	02003
DC07A115										084204020236400+46	99
DC07A122		072078112								090180018240390+46	00204
DC08A005										015228720+38	09999
DC08A015										012230710+39	99
DC08A025	059067412									082092013210690+40	09599
DC08A035										060104018236680+40	99
DC08A045			063052411							062136019228660+41	03010
DC08A055										080157020234650+42	99
DC08A065		047047412								056112020234630+43	08509
DC08A075										084166020240590+44	99
DC08A085		061057411								099176018236570+44	04008
DC08A095										084180018242550+45	99
DC08A105			070070411							068140014234540+45	02008
DC08A115										060144016230520+45	99
DC08A125			C70065411							080142014226510+45	09599
DC08A135										012232490+46	99
DC08A147			C67065412							108160013222470+46	08508
DC08A162										132198013224420+46	99
DC08A172										124199013216400+46	99
DC08A185										130188012230380+46	99
DC09A005										018232610+43	09999
DC09A006										012 390- 3	99
DC09A008	085075412									092142018236610+43	09099

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWAAASTQWWAAASTQWWAAASTQWWAAASTQWWAAASTQMINMAXB+FMAXLATELECLDOL										
D009A018										072146019232590+4300099	
C009A028		067067411								092132019240580+4409099	
D009A038										019240560+4400099	
D009A048			C72070111							116148018240550+4409099	
C009A058										098144014232530+45 99	
D009A068										012230510+4510099	
C009A071	072067111									078126012230510+4509099	
D009A081										058128013226490+45 99	
C009A091			C94094111							058126012240480+4502504	
D009A101										064146013232460+46 99	
C009A109	067063411									073140013230450+4600599	
D010A005			099078112							053131013185021+2900504	
C010A015										050125013184031+28 99	
D010A025			C78085412							082125016206051+2703009	
C017A006			085090411							060114020235161+2401599	
D017A016										054136019231181+23 99	
D017A028	067072412									096159019231201+2106099	
D017A038										019234221+19 99	
C017A045										019234231+1810099	
C020A005		085085423								120193020236760+3509599	
D020A015										020236750+37 99	
C020A025										019235730+3810099	
D020A031			078000212							110175019237720+3809006	
D020A040										019236710+39 99	
C020A050										014230540+4810099	
D020A060										073121013230520+48 99	
D020A070			104099111							056120013210510+4807504	
C020A080										042158018240500+49 99	
C020A083			094082431							040140019219490+4901005	
D021A005			C94094121							042144018238540+4700503	
C021A015										044134018236530+48 99	
C021A025			C90078111							058160018242510+4901005	
C021A037										062164014238480+49 99	
D021A048				067067412						062132012235460+4909599	
C021A058										062145012230440+49 99	
D021A068			082078111							060178017244430+4901505	
D021A078										048160018246410+48 99	
D021A088			C78078111							060212018238400+4800504	
C021A098										089190018240380+48 99	
D021A108						078072111	090178015240360+4806599				
D021A118										012240350+48 99	
C021A128			C82075411							078122012238330+4809604	
D021A138										071186016236320+48 99	
D021A148			094090111							036190018218300+4800304	
C021A158										C64190018238290+47 99	
D021A168	072068411									082188018240270+4700599	
C021A178										018240260+47 99	
C021A183										016240250+4709599	
C022A005			C82078412							076146013196690+4007599	
D022A015										051165012235680+41 99	

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBR	WWAAASTQ	WWAAASTQ	WWAAASTQ	WWAAASTQ	WWAAASTQ	MIN	MAX	B+F	MAX	LATELECL	DOL
DC22A025			C85075412				084147017233660+4206007					
CC22A035							068141019210650+42 99					
DC22A045			072078421				047186019219630+4301007					
CC22A055							109139018229620+44 99					
CC22A065			C78078412				061171019237600+4504007					
DC22A075							049153019229590+45 99					
DC22A085			099104111				042165018230570+4600506					
CC22A095							065158018240560+47 99					
CC22A105						078085112	121167018249540+4708599					
CC22A115							083117019239530+48 99					
CC22A124							017243520+4910099					
CC23A005		085085411					055152013187760+3904099					
DC23A015							013228730+40 99					
DC23A025			082075111				038147014238700+4100508					
CC23A035							051144019237670+42 99					
DC23A048			085085111				055140019248590+4503004					
DC23A058							048144016243580+46 99					
CC23A068			C99094111				042143013242570+4601505					
CC23AC84							077155013240510+48 99					
DC23A094			C75072211				069156013242490+4906505					
DC23A104							060140013240480+49 99					
CC23A114			065061411				061167013234460+4900505					
DC23A124							079192013240450+50 99					
CC24A005							012230720+3809099					
CC24A013		082082412					056144013200710+3909099					
CC24A023							090124012204700+40 99					
DC24A033		078085112					046112012227680+4004099					
CC24A043							058132017231670+41 99					
CC24A053		072075411					068124019233650+4202099					
CC24A063							104150019232630+43 99					
DC24A074		082082112					110158019244620+4409699					
CC24A086							100160012226600+45 99					
DC24A096			085090111				060140012238580+4504006					
CC24A111							087144012232540+47 99					
CC24A121			082082112				046118012234530+4804005					
CC24A131							051148012230510+48 99					
DC24A141			078082111				053174012234500+4902005					
CC24A151							084186012238480+49 99					
CC24A161			085085111				048156013236470+5001005					
AC25A006							012 380- 7 99					
CC25A005						094090111	080123017228600+4506099					
CC25A015							075109019235590+46 99					
DC25A025				082082112			120150019250570+4705099					
CC25AC35							059146018244550+47 99					
CC25AC44			085078111				078171019246540+4807099					
CC30AC05			C82085111				073135019246330+5000502					
DC30A015							125184019248320+49 99					
CC30AC25							019243300+4910099					
DC30AC31							019248290+4810099					
DC37A005							015232660+42 99					

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
N8R	N8RWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDCL										
C037A015										013234650+43	99
CC37A025		063072412								047155013245630+4304599	
DC37A035										089115018230620+44	99
CC37A045			085082411							048127019117600+4500506	
C037A055										039127019000590+45	99
DC37A065			094099111							045134017000570+4600005	
CC37A075										038152019000560+47	99
CC37A085			082085411							043177019063540+4700304	
C037A095										041131019200530+48	99
D037A105				094082121						056150019247510+4803003	
CC37A110										093155019250510+49	99
C037A120			085078111							035156014246360+5001500	
CC37A130										037152013240350+49	99
CC37A140			104090111							034144013242330+4901005	
C037A150										035184013236320+49	99
D037A160			125118111							038176013220300+4800503	
CC37A170										028127013235290+48	99
CC37A180			C99094111							039181013237270+4705005	
C037A190										013243260+4710099	
DC37A200										013242240+4710099	
CC37A210										016241230+4610099	
CC38A005			C90094411							044177019000630+43	05
C038A015										050131019222620+44	99
C038A025			C85085411							067146019247610+4502507	
CC38A035										110144019244590+45	99
C038A045			094094111							055172019250580+4603607	
DC38A055										101149019251560+47	99
CC38A065			C82085112							107171019250550+4809505	
CC38A076										055210019237440+50	99
D038A086			090094111							045166014238430+5000105	
CC38A096										061198013240410+50	99
CC38A106		072078411								065174014224400+5000105	
DC38A115										062184014230390+50	99
CC39A005	063063411									060125014240600+4508099	
CC39A015										096188018246590+46	99
CC39A025			099094111							080185018248580+4603004	
D039A035										112145016242560+47	99
CC39A048			C99085411							090214012239490+4907502	
CC39A058										076184012239480+49	99
CC39A068			C67075411							090188012238460+4902504	
CC39A078										072186012224450+49	99
CC39A088						085078111				094200012000430+5000004	
D039A098										108194012000420+50	99
CC39A108			104104111							058182012000400+5000004	
CC39A118										042178012226390+50	99
CC39A125			C67078111							065190012000380+5000004	
AC40A006										012000390- 7	99
CC40A005			085000211							077137012241610+4405099	
C040A015										048101012234600+45	99
C040A025			104094111							072177014237590+4605006	

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ									MINMAXD+F	MAXLATELECLDOL
CC40A035										1351730	19243570+46 99
C040A045	111104111									1421890	19244560+47080 99
D040A055										1011900	15240460+49 99
CC40AC65		111118111								0461820	12240450+490150 4
CC40A075										0361600	12230430+50 9
DC40A085		099104111								0361700	12220420+500200 4
CC40AC94										0541940	14240410+50 9
CC41AC05		C85085111								0501250	19210560+460400 2
D041A015										0192395	50+47 9
DC41A025		085094111								0601500	19232530+470200 4
CC41A035										0641520	19244520+48 9
C041A045		C85078211								0621630	19249500+480200 4
D041A055										0721470	19248490+49 9
C041A065		104104111								1191790	19246480+490100 4
CC41A076										0961770	30243460+50 9
DC46A005		104104111								0501990	21000410+500000 0
CC46A015										0522030	20C00400+50 9
CC46A025		C99104111								0541980	20000390+500000 1
C047A005		104099211								0932110	18251390+500150 1
CC47A015										0931860	18242380+50 9
CC47A025		C90085211								0771890	13245360+500100 1
CC47A035										0691710	13247350+49 9
CC47A045		085085431								0931940	12230330+490300
A048A005											014194720+191009 4
A048A015											018210730+201009 4
A048A023		C90082411								0711100	17223750+220950 4
A048A033											018220760+23 9
CC49A005		085094411								0622140	18000710+390000 2
CC49A015										0581620	18174700+40 9
D049A025	075082411									0501260	18240690+410109 4
8 F											+-0

PAS NBR	FRMAREA1 NBRWWWAAASTQ	RESAREA2 WWWAAASTQ	RESAREA3 WWWAAASTQ	RESAREA4 WWWAAASTQ	RESAREA5 WWWAAASTQ	RES D MINMAXB	D FMAXLATE	D LIM LECLDOL	SUN
D049F012									020240170+4902599
C052F005		094090413							1182190202198 00+2304507
C052F015									078201013200790+24045
D052F025	104094413								053155010172780+2507599
C052F035									100209011212770+26095
C052F045									060121018230650+3704599
D052F055		078072411							085199021117630+3804005
D052F065									021233620+3910099
C052F075									021238600+4010099
CC52F085			072067412						071118020245580+4103007
C052F095									053133020237560+42040
C052F105		085078111							036128021233550+4301005
C052F115									033105021240530+43010
D052F125		C90078111							046115021214510+4400207
C052F135									050147021 500+45000
CC52F145		104094111							049167019 560+4700007
C052F160									040125020126440+48001
DC52F170		094085111							036172020154420+4800507
CC52F180									057145020230400+48
CC52F190									020229390+4910099
C052F200									020235380+4910099
C053F005									020233730+3010099
C053F015									020231720+3110099
DC53F025									013220710+3210099
CC53F035		C94085411							061123020230690+3308099
C053FC45									042132020219680+34075
C053F055		C99085411							043136021215660+3502010
D053F065									062155020233650+36040
CC53FC75		104111411							047122020224630+3702010
CC53FC85									052112020230620+38060
C053FC95					078085411				083127021235600+3909099
C053F105									068094020235590+40075
DC53F119					067072411				080152021243550+4309099
C053F129									088136020241530+44050
CC53F139		085096112							060130020239520+4503009
CC53F149									060162020239500+45040
CC53F158		C72067411							054126018236490+4603909
CC53F168									077177013234420+48020
CC53F178	094094111								044198013225410+4800507
CC53F188									043187013233390+49025
DC53F198	067072421								073129013228370+4909099
CC53F208									093180013228360+49098
C053F218		C78085112							059180017231340+4901507
C053F228									059162020238320+49210
DC53F238		082094121							062158020240310+5002008
CC53F248									020242290+5010099
C054F005									020224740+2910099
DC54F015	085085421								104206021232730+3009099
CC54F025									021232710+3109899
DC54F035		094094411							076199021224700+3104008

TOP SECRET [redacted]

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 PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D  D  D LIM   SUN
 NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXD+FMAXLATELECLDOL

CC54F045                                            061156021200680+32025
CC54F055                  067078411                 050128022113670+3200108
CC54F065                                            046158021000650+33000
CC54F075                  072090411                 042130021000640+3400008
CC54F085                                            049128021000620+34000
CC54F095                  085099411                 044119021000610+3500008
CC54F105                                            039144022000590+36000
CC54F115                  104104411                 042160021000580+3600008
CC54F125                                            067132022141560+37015
CC54F135                                            082121019230550+37090
CC54F145                                                  015231530+381009
CC54F155                           118118111        075110019230520+390909
CC54F165                                            061189022236500+39075
CC54F175                           111104111        066173022239490+400609
CC54F185                                                  022233470+410989
CC54F195104094111                                   073144022225460+410809
CC54F205                                                  021235440+421009
CC54F215                                            145186018231430+420989
CC54F225                  094094411                 059115015236410+430800
CC54F235                                            084173015230400+44015
CC54F245                                            155175015000380+44000
CC54F255                  134099111                 082188015000370+450000
CC54F265                                            072192015231350+46050
CC54F275                                                  015000340+461009
CC54F285                           085085411        061176015233320+470650
CC54F295                                            042184012232310+47035
CC54F305                                   094085411008169012230290+480859
CC54F315                                                  012231280+491009
CC54F325         072094412                          063138023233260+490800
CC54F332                                            052156017231250+50030
CC55F005                                                  019199700+330459
CC55F015                                   075067412096127019233690+340759
CC55F025                                            103129019239670+35095
CC55F035         067061412                          110139019241660+350600
CC55F045                                            114146019236640+36050
CC55F055                  078082111                 059134019228630+370300
CC55F065                                            072145019241610+37020
CC55F075                                   094082311082177019242600+380859
CC55F085                                            073165019242580+39050
CC55F095                                   085078112095174019238570+390909
CC55F105                                            097164019244550+40080
CC55F115         072072412                          093164019240540+410750
CC55F125                                            062145020243520+42025
CC55F135         08207511                           084152019239500+420150
CC55F145                                            081169019239490+43015
CC55F155         094104111                          068197016236470+440100
CC55F165                                            034169013230460+44005
CC55F175                           072067411        082180013   440+450009
CC55F185                                            104199019   430+46000
CC55F195         072072112                          118210019234410+460039
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PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN						
NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOOL						
C055F205					129219019	400+47000
C055F215					06706741214321002O	380+4800099
C055F225					125184019	370+48000
C055F235		085078112			115207019	350+4900006
C055F244					086204020	340+50000
AC56F006					018	401-14 99
C056F005			118118111		085128019236610+3907599	
CC56F015					082135019232600+40	
CC56F025		104104111			060147019234580+4102005	
C056F035					083157019239570+41	
CC56F045		063072412			112161020244550+4209099	
CC56F055					120181020240530+43095	
C056F065	075072112				117176020240520+4409599	
C056F075					020239500+44100	
CC56F085		094090111			092158020239490+4505006	
CC56F095					078176019245470+46040	
C056F105			099090111		074163019241460+4601099	
CC56F115					079167020241440+47040	
CC56F124				094090211	103178020235430+4801099	
CC61F005		125111111			054129020238410+4801500	
CC61F015					050169020184400+49001	
CC61FC25	075078112				083159020236380+4901599	
C061F035					020151360+49025	
C061F044					020230350+50075	
C065F005					020235190+49065	
CC65FC09					020242190+49045	
C069F005			078082411		104152021224730+3008599	
C069F015					073119019224720+32	
CC69F025					080107013210710+3309599	
C069F035					010188690+3410099	
CC69F045					067091013215680+3509599	
C069F055			072072412		047123019228650+37	
CC69F065					047123019228650+37	
C069F075		075082411			049106020230640+3801006	
CC69FC85					038107020227570+42	
CC69FC95		118094111			053130019227560+4301506	
C069F105					097169020238550+44	
C069F115					081152014238530+4408599	
CC69F125		085099411			042129013235520+4504505	
C069F135					058176019241500+46	
CC69F145		099111411			058153020223490+4702505	
CC69F155					046178014224420+49	
CC69F165		072072411			100176013 410+5000005	
C069F175					052189013 390+50	
CC69F185	118094111				059171013215380+5100005	
CC69F195					071197019236370+51	
CC69F205		104118111			045166020237350+5102005	
C069F213					090194020243340+52	
CC70F005		090094411			045115020196640+3700507	
C070F015					048120020210630+38060	

TOP SECRET [redacted]

PAS FR NBR NBR	AREA1 RES hWWAAASTQ	AREA2 RES WWWAAASTQ	AREA3 RES hhWAAASTQ	AREA4 RES WhWAAASTQ	AREA5 RES WWWAAASTQ	D D D LIM SUN MINMAXB+FMAXLATELECLOO
DC70F025			C72085411			043124020156610+390100
C070F035						040151020000600+40000
D070F045	078075411					038139020000580+410000
C070F055						043117020225570+42005
CC70F065			104118111			083142020231560+420400
CC70F075						103146021244540+43090
C070F085						020239530+441009
D070F095				094085111		046157014234510+450650
C070F105						072160014236500+460959
DC70F115			094094411			042164014238480+470550
CC70F125						037176014234470+47020
CC70F135			094094411			038136014231450+480350
C070F145						056166015237440+49040
C070F152			094104111			038129015240430+500400
AC72F007						015000411-150009
C072F005			C94099111			073145020240560+430250
DC72F015						077163020239550+44
CC72F025			094099111			056157020243530+450350
CC72F035						063189020239520+45
DC72F045			085094111			062172020237500+460200
CC72F055						052154020236490+47
CC72F065			085097111			081151020242470+470250
CC72F075						077164020241460+48
D072F085		085104111				094162020236450+490209
CC72F095						020216430+50
CC82F005		099099411				062166017213740+290609
D082F015						011180730+310989
CC82F025						011188720+321009
CC82F035						011186700+330859
CC82F045						011185690+340959
CC82F055						031091019238670+350451
DC82F065			078085421			051127020234660+360651
D082F075						095148021230650+37090
DC82F085						020238600+411009
CC82F095						020232590+421009
C082F105				085078411		051106020237580+430600
D082F115						054137020224560+44060
CC82F125		090085411				042228020000550+44000
CC82F135						020140530+450509
D082F145						020176520+460509
CC82F152						020188510+470509
CC85F005			067072412			053158022222650+370600
DC85F015						072118020229640+380759
CC85F025			072075411			049159021234620+390201
C085F035						046161021219610+40040
C085F045				085082111		054137021227600+410501
C085F055						045126020219580+42020
C085F065				094104111		039141021229570+340101
C085F075						069128020228550+440209
D085F085				072085112		090148021242540+450709

TOP SECRET [redacted]

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ								MINMAXB+F	MAXLATELECLOOL
CC85F096										048196013214420+5002599
DC85F106		094090431								064192013228410+5107099
DC85F116										030223013221390+5200599
CC85F126										091169014237380+5309599
CC85F137			C67072431							044139013239300+5406502
CC85F147										064176022241290+5403099
DC85F157				094085121						062181021242270+5402506
CC85F167										103187021240250+5407599
CC85F177			C78090132							064163018240240+5405007
DC85F186										079123012223220+5404099
CC86F005					075067112					032107014215600+4001505
CC86F015										042092017207590+41004
DC86F025			072063112							087145017226570+4202510
CC86F035										096123017231560+43040
CC86F045			085085112							083125017229550+4401009
DC86F055										071137017228530+45020
DC86F065			C90085112							086150017227520+4506010
CC86F075										071148017230500+46
CC86F085		104094411								082155017231490+4704008
DC86F095										064183017234470+48
CC86F105			063085412							082175017215460+4905007
CC86F115										044143012214440+50
DC86F125			C99125111							059157013206430+5000107
AC88F007										011000401-1800099
CC88F005					094090111					085129018231600+4006099
DC88F015										017226590+4108599
DC88F025			118125111							051113018228570+4205006
CC88F035										018227560+4309899
CC88F045			104111111							094169018229550+4405506
DC88F055										073134018232530+45065
CC88F065					099099111					073132018229520+4607599
CC88F072										080142018231510+4707599
DC96F005										018217121+38
CC96F015	099085411									096175016212151+3602099
CC96F025										079141017228171+35
DC96F035			078072411							130182017234201+3305099
DC99F005			C94104411							032097018201530+4602004
CC99F015										029094017210520+47010
CC99F025			075104411							036099017224500+4802005
DC99F035										053136017231490+49070
CC99F045	099094111									046117018231470+4907007
CC99F055										038073018227460+50055
DC99F065		094085411								031172017000440+5100099
CC99F075										017163430+5206599
CC99F085										017227410+5310099
CC99F091										017227410+5310099
DC00F005										017228420+5210099
CC00F015			078085122							067169017227410+5306006
CC00F025										017231390+5310099
DC00F035										120162018231380+5408599

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWHAAASTQWWHAAASTQWWHAAASTQWWHAAASTQWWHAAASTQ									MINMAXB+F	MAXLATELECLDOL
D1C0F045			090082112							091162017230360+5405005	
D100F049										072153017231360+5502599	
D100F059			094104111							062171017231300+5502007	
C100F069										051177017227290+5501599	
C100F079			082094111							042149017231270+5501505	
D100F089										064186018229260+5504599	
D100F099	078078412									124172017232240+5605099	
C1C0F109										017234220+5610099	
D100F119										018227210+5610099	
D101F005				090090111						059142018202580+4200506	
C101F015										070117018106570+43020	
D101F025			090085211							045142018223560+4502009	
D101F035										053110018225540+46070	
C101F045		094090112								063114018228530+4707599	
C101F055										076171018234440+51025	
D101F065			085085423							061183015226430+5204507	
C101F075										071180013231410+53075	
C101F085			078072421							049143012226400+5301505	
D101F093										013216380+5410099	
D102F005										069111011217590+4106099	
C102FC15										011218580+4210099	
D102F025			094078112							062151016220570+4405005	
D102F035										072138017228550+4505099	
C102F044			C94085111							062146017229540+4504505	
A103F007										017000401-1800099	
D112F005										018232161+38	
D112F015										018229181+36	
C112F022										017228201+35	
C115F005				090082421						042099016223530+3704507	
D115F015										017230520+3810099	
C115F025	094090112									108148017230500+3909899	
C115F035										050095017232490+40080	
D115F045			085072121							055138017213470+4105016	
D115F055										016218450+4210099	
C115F065										016230440+4310099	
C115F075										016229420+4410099	
D115F085										016222400+4509899	
C115F091										016222390+4609099	
C116F005		075078311								048134017227540+3604005	
D116F015										017224530+37095	
C116F025	067062311									128164018222520+3909599	
C116F035										070132017225500+40060	
D116F045		082075431								069130016225490+4103099	
C116F055										083192011222420+44060	
C116F065			C94087311							044237011211410+4501007	
C116F075										045174010221400+46015	
D116F085			082078431							057127013231380+4705507	
C116F095										058156016225300+51015	
D116F105			085078212							067153016235280+5203599	
D116F115										080153017240260+52025	

PAS NBR	FRMAREA1 NBRWWWAAASTQ	RESAREA2 WWWAAASTQ	RESAREA3 WWWAAASTQ	RESAREA4 WWWAAASTQ	RESAREA5 WWWAAASTQ	RES Q WWWAAASTQ	D MINMAXB+F	D MAXLATELEC	D LIM LDCLI	SUN
D116F125			C99094111							0751680172352 50+5304509
D116F135										1111700172392 30+52050
D116F145										017236210+5410099
C117F005	072085112									1081320172315 30+3608099
D117F015										0771440172275 20+3800399
D117F025			104111111							0391230172175 00+3900508
D117F035										0382040172214 90+4000399
D117F045		090099121								0461860182244 70+4100504
D117F051										0591960182054 70+4200599
D118F005				094094112						0791480182315 10+3806099
C118F015										0691650182285 00+3901099
D118F025			078072422							0651670172294 80+4003007
D118F035										1101580120004 70+4100099
C118F045			C90094121							0601940110004 50+4200010
C118F055										1221840120004 40+4300099
D049A009										013232190+4902009
CC52A005										014212800+2309899
CC52A015			C94085411							0612030122367 90+2408099
CC52A025										1091670101877 90+25055
DC52A035										014234780+3609099
CC52A045			078065412							0711110192436 50+3606505
C052A055										0821300192366 40+37065
CC52A065										018237620+3810099
CC52A075										019249610+3910099
CC52A085										019250590+4009899
DC52A095			072085411							0611560182415 80+4102006
CC52A105										0491510192495 60+42005
CC52A115			C78067421							0411530192425 50+4301006
C052A125										050135019219530+43002
DC52A135			075078121							0471370192065 20+4400106
CC52A145										0491810190005 00+45000
DC52A155										051158018000470+47000
DC52A165			C94094121							0361480180004 50+4700005
CC52A175										037177018168440+48005
CC52A185			C90094411							0511630182414 20+4802005
CC52A195										018238400+4906099
CC52A200										018241400+4909099
CC53A005										020240740+3010099
CC53A015										019239730+3110099
CC53A025										019236720+3210099
CC53A035										018239700+3310099
CC53A041			C90078412							0691630192426 90+3404005
DC53A051										0461540192336 80+35025
CC53A061		067063421								0461550182346 60+3602507
CC53A071										064152019237650+37040
CC53A081		085072421								0511680192306 30+3802006
C053A091										062152019236620+39045
CC53A101	072061412									1241700202366 00+4009095
DC53A108										0720980192415 90+41085
D053A118		072072112								0961490192465 50+4203503

TOP SECRET [redacted]

PAS NBR	FRMAREA1 RES WWAAASTQ	AREA2 RES WWAAASTQ	AREA3 RES WWAAASTQ	AREA4 RES WWAAASTQ	AREA5 RES WWAAASTQ	D MIN D MAX B+F D MAX LAT ELEC LOOL SUN
D053A128						147188019248540+43090
D053A138			063078112			076172019248520+4408006
D053A148						063158019241510+45015
D053A157			072072121			072134015243500+4605005
D053A166						080178013238440+48050
D053A176			094085431			062171012243420+4803002
D053A186						038179012235400+49015
D053A196			067072411			052153012238390+4905504
D053A206						012240370+4910099
D053A216		072065412				094210014243350+4908099
D053A226						057194020246340+49015
D053A236			085085121			061176019247320+5001503
D053A246						126162019246300+50030
D054A005						019234750+2910099
D054A015						019242740+3010099
D054A025						019238720+3107099
D054A035						019241710+3109899
D054A045			090094411			068212019223690+3201506
D054A055						074168019212680+32015
D054A065			063063412			061182019000660+3300006
D054A075						057195019000650+34000
D054A085			092078411			046162019000630+3400006
D054A095						049164018000620+35000
D054A105			072085411			046182019000600+3600005
D054A115						041177018000590+36000
D054A125			072075411			044131019000570+3700003
D054A135						102145019245560+37005
D054A145			094104412			107143019250540+3803006
D054A155						014245530+3910099
D054A165			085090111			039140014243510+3905504
D054A175						052138013238500+40025
D054A185				094104111		082148013248480+4109599
D054A195						048173012242470+41055
D054A205						123146013231450+4209899
D054A215		078082411				139201012244440+4309599
D054A225						012241420+4310099
D054A235			099094111			064152010236410+4406506
D054A245						115147010000390+44000
D054A255						111151011000380+4500004
D054A265			078075411			053162010222360+4604503
D054A275						060174010236350+46050
D054A285			078094411			067193010235330+4706003
D054A295						063213012241320+48030
D054A305	063061412					130242012244300+4809599
D054A315						079176012242290+4908599
D054A325	067063412					114208012241270+4909099
D054A330						052147012248260+50040
D055A005						017220700+3305099
D055A015						019212690+3404099
D055A023	072072411					103165019234680+3506099

TOP SECRET [redacted]

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAAASTQWWWAAAASTQWWWAAAASTQWWWAAAASTQWWWAAAASTQMINMAXB+FMAXLATELECLOOLI										
D055A033											019240660+35999
D055A043	070075411										125147019238650+3607599
CC55A053											098160019241630+37040
C055A063			070067212								079178020243620+3704006
DC55A073											078154017239600+38030
CC55A083					067075211						077154013244590+3907599
D055A093											076161013232570+39060
C055A103		085094112									089153012235560+4009099
D055A113											064139012233540+41025
D055A123		094090111									044155012240530+4107504
D055A133											054148013236510+42020
D055A143			070075212								057165012238500+4302005
C055A153											056164013237480+43015
CC55A163			078085111								059198012240470+4402005
DC55A173											050209013000450+45000
C055A183			C78072411								051205013000440+4600005
CC55A193											112209012000420+46000
CC55A203		082094111									081202013236410+4700504
D055A213											104210013000390+48
C055A223		067072211									105196013000380+4800099
D055A233											093190013000360+49
D055A243		072072311									076197013000350+5000005
A056A007											020000391-15
CC56AC05			C78075112								084147019231610+3904501
D056A015											020241600+4010099
D056A025			059072112								098198020245580+4108002
CC56A035											066140017239570+4100099
D056A045											116179013237550+4209899
DC56A055											077140014240540+4300099
CC56A065											013240520+4410099
C056A075											099117013231510+4400099
D056A085			094085111								052140013236490+4505504
C056A095											045153013237480+4600099
DC56A105			095080111								061162013235460+4604505
CC56A115											034116013238450+4700099
CC56A124		057070122									082157014239440+4801099
CC61A005			C90085112								089196020248420+4806000
CC61A015											066214019236410+4901099
D061A025		118118111									057157020000390+4900099
CC61A035											020248370+4902099
CC61A044											020222360+5009599
DC65A005											019228200+4907099
C065A009											019216200+4904599
CC69A005			C70094411								068165021237740+3006002
CC69A015											078142019226730+32075
D069A025		085094411									100150016221720+3309599
CC69A035											013228700+3410099
C069A045											093106012218690+3509899
DC69A055											047065012215670+3608599
C069A065			C72078412								036121014218660+3706004

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 PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D   D   D LIM   SUN
 NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL

D069A075                                                   042122017226650+39040
D069A085          082111111                                042114017218580+4101504
CC69A095                                                   043122017220570+42015
C069A105                                                   114158017232550+4308099
D069A115                                                         018238530+4410099
C069A125                    C59059422                      101158018238520+4506502
CC69A135                                                   073138017235500+46045
D069A145                    085094112                      058172017242490+4704502
D069A155                                                   082188015222430+45010
CC69A165                    C78070422                      099191013000420+4600002
CC69A175                                                   113181012000400+47000
D069A185067085431                                          047178012000380+4800099
CC69A195                                                   041176012227370+49020
C069A205                    085094111                      036159012227350+5002502
D069A212                                                   040132016236340+51055
DC70AC05                    C55063412                      053131018223650+3700502
DC70A015                                                   055182018174640+3800099
CC70A025                    048055412                      055146017188620+3904009
D070A035                                                   044139018188610+4000099
CC70A045                    065051412                      048122018000590+4000009
D070A055                                                   043124018000580+4100099
D070A065                    C43047412                      096170018224560+4201504
CC70A075                                                   105157018231550+4300099
CC70A085                                                         018234530+4409899
DC70A095                    067075212                      066160013219520+4403505
CC70A105                    C70075312                      063118012217500+4508599
CC70A115                                                   059119012227490+4600099
D070A125                    C43047412                      081190012233470+4707502
DC70A135                                                   048171012218460+4700099
DC70A145                    C78070111                      056214013232440+4806001
D070A151                    C61059412                      072189012224440+4901001
A072AC07                                                   000000013000391-17
CC72A005                                                         017233570+4210099
C072A015                    085090111                      093158018234560+4304004
CC72A025                                                   078166018238540+44050
CC72A035                    104094111                      064169018239530+4404002
CC72A045                                                   074187017240510+45050
DC72A055                    C94090111                      069185018240490+4604504
D072A065                                                   090164017237480+46055
CC72A075                    C99094111                      100171018239460+4702504
CC72A085                                                   096190018234450+48015
D072A095                                                         018229430+4901099
CC72AC98                                                         018205430+4901599
CC82A005          104099411                                065116016214740+2903099
D082A015                                                         013215730+3110099
D082AC25                                                         011208720+3210099
CC82AC35                                                         009192710+3310099
CC82A045                                                         009184690+3410099
D082A055                                                   026044012212680+3507099
D082A065                              072068412            038080016232670+3604504
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PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
	NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOLF									
	D082A075									018225660+3710099	
	C082A085									018236610+4010099	
	C082A095									014206600+4110099	
	D082A105		078067411							063153016232590+4204008	
	D082A115									047102018238570+43035	
	C082A125		082078411							053176018220560+4402008	
	CC82A135									046110018000540+4500099	
	D082A145									018000530+4600099	
	DC82A152									018000520+4700099	
	C085A005		078072412							070108020219660+3608005	
	D085A015									084143019222650+37085	
	C085A025		067063412							066167019239630+3804508	
	CC85A035									041168020234620+39020	
	CC85A045		078085111							048142019210610+4001509	
	DC85AC55									096150019233590+41075	
	C085A065								063067111	056146019190580+4204599	
	CC85A075									070150020236560+43055	
	C085A085		078085121							061164019235550+4402509	
	C085AC95									087194017213430+50015	
	CC85A105		072067431							069191014224420+5101508	
	DC85A115									084192014234400+51030	
	C085A125								082085431	074202014234390+5207507	
	C085A135									044153014240310+54070	
	DC85A145		065075422							053186019243300+5406006	
	C085A155									077177020242280+54065	
	CC85A165		C94082411							066185020241260+5403507	
	CC85A175									077172016240240+54045	
	C085A185		085078411							060155014235230+5406509	
	CC86A005	118104112								055143018225610+4002003	
	CC86A015									083127019232600+41	
	CC86A025				075072111					048159019217580+4201008	
	CC86A035									086146019232570+43	
	CC86A045		104085111							109148019231560+4407505	
	CC86AC55									080150019228540+45	
	D086A065			099094111						068145013229530+4505005	
	CC86A075									069143013228510+46	
	CC86AC85		078094111							055156012234500+4703005	
	CC86A095									068158013232480+48	
	DC86A105	118104111								055169013227470+4904505	
	CC86A115									051185013161450+50001	
	CC86A125			104104111						080186013183440+5000105	
	A088A007									013000381-19	
	CC88A005								078072211	049128012215610+4002099	
	C088A015									032150012225600+4100099	
	DC88AC25			072070421						051116015221590+4206099	
	C088A035									062162019224570+4300099	
	C088A045				072070212					102160019230560+4407099	
	DC88AC55									082151014228550+4500099	
	D088A065			089072112						091170012228530+4607506	
	C088A072								067057212	081164013234530+4709099	

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL										
D096A016		072000412									074156014222141+37
D096A005											013216111+3901599
C096A026											094177019231161+3601099
D096A036											019238191+34100
C099A005			C72067421								054163020225540+4501506
CC99A015											045143019220530+46015
CC99A025			078078421								046164020228510+4702508
CC99A035											056161019233500+48065
CC99A045		094085111									063161020233480+4906008
C099A055											060187019235460+5006099
D099A065			C75082411								046130020232450+5002007
DC99AC75											020168430+5106599
C099AC85											019227420+5209039
D099A091											020231410+5310099
D100A005											020228430+5110099
C100A015											015224420+5210099
C100A025											134144015233400+5209899
D100A035											014236380+5310099
C1C0A045											101165015238370+5308099
C100A055											079131014234320+5509899
D100A065			104111111								048127014241300+5503508
C100AC75											056191018234280+55025
C1C0A085			C94085111								058151020244270+5503010
C100A095											063153019243250+56030
D1C0A105		067063412									130201020236230+5609599
D1C0A115											016237210+5609899
C1C0A119											014236210+5610099
D101A005											064136017202590+42065
D101AC15	104104111										051173020174580+4300210
C101AC25											057126020224560+44015
D101A035			078104112								064137019234540+4502510
C101A045											068124019240530+4608099
C101A055			078075422								061197015234450+5006508
C101A065											056168015235430+51020
D101A075		067085412									073214014232420+5204510
C101AC85											053187014234400+52002
C101A093		072094412									066155014232390+5305510
D102A005											014225600+4110099
C102AC15											013227590+4210099
C102A025	067067112										087124013231580+4409599
D102A035											060127013224560+45040
C102A044			C94104111								051144013227550+4504007
A103AC07											013000391-19
C112A005											014239151+3805099
D112A015			C67072412								074127013240171+3704099
C112A021											013224191+3605099
D115A005				070067421							031132013225530+3601006
D115A015											108123013236520+38080
C115A025											013237500+3910099
D115A031	085085112										074146013237490+3909099

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWWAAASIQWWWAAASIQWWWAAASIQWWWAAASIQWWWAAASIQ					MIN	MAX	B+F	MAX	LATE	LECLDOL
C115A041						048130012232480+40					
C115A051		094085111				049139013211460+4104005					
D115A061						013231450+4310099					
D115A071						013238430+4410099					
C115A081						012226420+4510099					
C115A091						015218400+4609099					
D116A005		082090111				052159019232550+3502502					
D116A015						089173018241540+36080					
C116A025						018240520+3810099					
C116A035		078078122				089181018241500+3905008					
D116A045						082142019238490+40080					
C116A055						018242430+4499999					
C116A065		C67072421				086201013233420+4502505					
D116A075						050167012230400+46040					
D116A083		075078431				060176012234390+4602009					
C116A092						044165013227310+50010					
D116A102		085085111				045168012234300+5101507					
D116A112						041149013233280+52020					
C116A122	070067112					073164013241260+5204099					
C116A132						064189012239240+53025					
C116A142		C72067411				062192012243220+5404011					
C117A005						014239540+3609899					
C117A015						014239530+3809899					
D117A025		078085111				042130016230510+3901507					
C117A035						048181020249500+40015					
C117A045		067C59431				049190021244480+4101007					
D117A051						059218019227480+4200599					
D118A005		065078122				072162017244520+3705505					
C118A015						071141015242510+39045					
C118A025		C72085411				065170016246490+4005509					
D118A035						060212015239480+41002					
D118A045		085078411				099226014000460+4200009					
C118A054						078207014000450+43000					
8 F						+-0					

The diffuse density measurements made by AFSPPL were computer sorted at A/P to permit analysis of the density ranges encountered at the three processing levels. A study of sorting techniques showed that no absolute method was available to separate the density values as the accuracy of the Processing History published by [redacted] appears rather low and processing transition phases are not accounted for. The sorting technique selected uses the base plus fog density values where measurements up to 0.09 density are considered as having received Primary processing, 0.10 to 0.17 as Intermediate and above 0.17 density as Full. The percentage of original negative that was processed at each level, based on the computer sort, is tabulated below with the predicted and reported processing percentages.

Mission	Camera		Primary	Intermediate	Full
1009-1	FWD	Predicted	0	100	0
		Reported	1	26	73
		Computed	0	34	66
1009-1	AFT	Predicted	0	100	0
		Reported	0	40	60
		Computed	0	45	55
1009-2	FWD	Predicted	2	98	0
		Reported	3	21	76
		Computed	0	40	60
1009-2	AFT	Predicted	2	98	0
		Reported	4	47	49
		Computed	0	56	44

The correlation of the reported and computed percentages at the three processing levels is quite good for Mission 1009-1 and is consistent with the normal mission values. The correlation is not as good for the Mission 1009-2 values and it appears, as seen in Mission 1007, that a slight departure from nominal processing control may have been experienced.

The tabulations of density frequency distributions for Missions 1009-1 and 1009-2 are shown in Tables 9-2 through 9-6. The graphical presentation of the density distribution are computer plotted in Figures 9-1 through 9-36. Analysis of these plots and the assocaited mean and median density values show that no significant variation in density was present in Mission 1009-2.

Table 9-7 shows the distribution of the minimum terrain density measurements that are within and outside of the desired control range of 0.40 to 0.90 density. The percentage of values below 0.40 is very small and essentially all of these values are above 0.30 density. The percentage of over processed film is significant and cuase for concern. It strongly indicates that processing should have been more consistent with the predicted levels.

An extensive study is in process to ascertain the inter-relationship of the conditions of illumination, resulting densities and exposure-processing parameters.

[redacted]

MISSION • 1009-1 • INSTRUMENT • FRHD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	1	0	0	0	0	0	1	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	1	0	0	0	0	0	1	0	0
0.35	0	0	0	2	0	0	0	0	0	2	0	0
0.36	0	0	0	0	0	0	2	0	0	2	0	0
0.37	0	0	0	2	0	0	5	0	0	7	0	0
0.38	0	0	0	2	0	0	2	0	0	4	0	0
0.39	0	0	0	1	0	0	1	0	0	2	0	0
0.40	0	0	0	1	0	0	3	0	0	4	0	0
0.41	0	0	0	0	0	0	1	0	0	1	0	0
0.42	0	0	0	2	0	0	2	0	0	4	0	0
0.43	0	0	0	1	0	0	2	0	0	3	0	0
0.44	0	0	0	1	0	0	3	0	0	4	0	0
0.45	0	0	0	3	0	0	1	0	0	4	0	0
0.46	0	0	0	2	0	0	5	0	0	7	0	0
0.47	0	0	0	2	0	0	0	0	0	2	0	0
0.48	0	0	0	3	0	0	3	0	0	6	0	0
0.49	0	0	0	4	0	0	3	0	0	7	0	0
0.50	0	0	0	2	0	0	2	0	0	4	0	0
SUBTOTAL	0	0	0	30	0	0	35	0	0	65	0	0

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TABLE 9-3

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DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	2	0	0	2	0	0
0.52	0	0	0	1	0	0	2	0	0	3	0	0
0.53	0	0	0	1	0	0	0	0	0	1	0	0
0.54	0	0	0	0	0	0	3	0	0	3	0	0
0.55	0	0	0	1	0	0	3	0	0	4	0	0
0.56	0	0	0	2	0	0	3	0	0	5	0	0
0.57	0	0	0	2	0	0	3	0	0	5	0	0
0.58	0	0	0	2	0	0	1	0	0	3	0	0
0.59	0	0	0	0	0	0	2	0	0	2	0	0
0.60	0	0	0	3	0	0	5	0	0	8	0	0
0.61	0	0	0	1	0	0	1	0	0	2	0	0
0.62	0	0	0	2	0	0	3	0	0	5	0	0
0.63	0	0	0	0	0	0	2	0	0	2	0	0
0.64	0	0	0	0	0	0	2	0	0	2	0	0
0.65	0	0	0	0	0	0	1	0	0	1	0	0
0.66	0	0	0	4	0	0	2	0	0	6	0	0
0.67	0	0	0	0	0	0	1	0	0	1	0	0
0.68	0	0	0	2	0	0	5	0	0	7	0	0
0.69	0	0	0	0	0	0	2	0	0	2	0	0
0.70	0	0	0	3	0	0	8	0	0	11	0	0
0.71	0	0	0	2	0	0	3	0	0	5	0	0
0.72	0	0	0	0	0	0	6	0	0	6	0	0
0.73	0	0	0	1	0	0	0	0	0	1	0	0
0.74	0	0	0	1	0	0	3	0	0	4	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	0	0	0	6	0	0	6	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	1	0	0	2	0	0	3	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	0	0	0	2	0	0	2	0	0
0.81	0	0	0	1	0	0	1	0	0	2	0	0
0.82	0	0	0	0	0	0	2	0	0	2	0	0
0.83	0	0	0	0	0	0	0	0	1	0	0	1
0.84	0	0	0	0	0	0	1	0	0	1	0	0
0.85	0	0	0	0	1	0	0	0	0	1	0	0
0.86	0	0	0	0	0	0	2	0	0	2	0	0
0.87	0	0	0	0	0	0	1	0	0	1	0	0
0.88	0	0	0	1	0	0	2	0	0	3	0	0
0.89	0	0	0	0	0	0	1	0	0	1	0	0
0.90	0	0	0	0	1	0	1	0	0	1	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	0	0	0	2	0	0	2	0	0
0.93	0	0	0	0	0	0	1	0	0	1	0	0
0.94	0	0	0	2	0	0	1	0	0	3	0	0
0.95	0	0	0	0	0	0	0	0	0	0	0	0
0.96	0	0	0	1	0	0	1	0	0	2	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	0	0	0	0	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	1	0	0	1	0	0	2	0	0
SUBTOTAL	0	0	0	35	6	0	92	4	1	127	10	1

[redacted]

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DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	2	0	0	0	0	0	2	0	0
1.02	0	0	0	0	0	0	0	0	0	0	0	0
1.03	0	0	0	0	0	0	1	0	0	1	0	0
1.04	0	0	0	0	0	0	0	0	0	0	0	0
1.05	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	0	0	0	1	0	0	1	0	0
1.07	0	0	0	0	0	0	0	1	0	0	1	0
1.08	0	0	0	0	0	0	0	0	0	0	0	0
1.09	0	0	0	1	0	0	1	0	0	2	0	0
1.10	0	0	0	0	1	0	0	0	0	0	1	0
1.11	0	0	0	0	0	0	0	3	0	0	3	0
1.12	0	0	0	0	0	0	0	0	0	0	0	0
1.13	0	0	0	0	0	0	2	0	0	2	0	0
1.14	0	0	0	0	0	0	1	1	0	1	1	0
1.15	0	0	0	0	1	0	0	3	0	0	4	0
1.16	0	0	0	0	1	0	1	3	0	1	4	0
1.17	0	0	0	0	0	0	0	0	0	0	0	0
1.18	0	0	0	0	0	0	0	2	0	0	2	0
1.19	0	0	0	0	0	0	0	2	0	0	2	0
1.20	0	0	0	1	3	0	1	2	0	2	5	0
1.21	0	0	0	0	1	0	0	1	0	0	1	0
1.22	0	0	0	1	1	0	0	1	0	1	2	0
1.23	0	0	0	0	0	0	0	1	0	0	1	0
1.24	0	0	0	0	0	0	1	0	0	1	0	0
1.25	0	0	0	0	0	0	0	0	0	0	0	0
1.26	0	0	0	0	0	0	0	1	0	0	1	0
1.27	0	0	0	0	0	0	0	0	0	0	0	0
1.28	0	0	0	0	1	0	0	1	0	0	2	0
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	0	2	0	0	0	0	0	2	0
1.31	0	0	0	0	0	0	0	1	0	0	1	0
1.32	0	0	0	0	1	0	0	4	0	0	4	0
1.33	0	0	0	0	0	0	0	3	0	0	3	0
1.34	0	0	0	0	0	0	0	5	0	0	5	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	1	3	0	1	3	0
1.37	0	0	0	0	1	0	0	1	0	0	1	0
1.38	0	0	0	0	0	0	0	3	0	0	3	0
1.39	0	0	0	0	2	0	0	0	0	0	2	0
1.40	0	0	0	0	0	0	1	0	0	1	0	0
1.41	0	0	0	0	0	0	0	3	0	0	3	0
1.42	0	0	0	0	3	0	0	4	0	0	7	0
1.43	0	0	0	0	0	0	0	1	0	0	1	0
1.44	0	0	0	0	0	0	0	3	0	0	3	0
1.45	0	0	0	0	0	0	0	0	0	0	0	0
1.46	0	0	0	0	1	0	0	2	0	0	2	0
1.47	0	0	0	0	1	0	0	7	0	0	8	0
1.48	0	0	0	0	0	0	0	3	0	0	3	0
1.49	0	0	0	0	0	0	0	2	0	0	2	0
1.50	0	0	0	0	4	0	0	0	0	0	4	0
SUBTOTAL	0	0	0	5	23	0	12	66	0	17	89	0

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DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	2	0	0	2	0
1.52	0	0	0	0	1	0	0	3	0	0	4	0
1.53	0	0	0	0	1	0	0	3	0	0	4	0
1.54	0	0	0	0	1	0	0	0	0	0	1	0
1.55	0	0	0	0	1	0	0	3	0	0	3	0
1.56	0	0	0	0	1	0	0	1	0	0	2	0
1.57	0	0	0	0	1	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	1	4	0	1	5
1.59	0	0	0	0	1	0	0	4	2	0	5	4
1.60	0	0	0	0	2	0	0	2	1	0	4	1
1.61	0	0	0	0	0	1	0	1	2	0	1	3
1.62	0	0	0	0	1	0	0	2	1	0	3	1
1.63	0	0	0	0	1	0	0	1	1	0	2	0
1.64	0	0	0	0	0	1	0	1	1	0	1	2
1.65	0	0	0	0	1	0	0	1	1	0	2	1
1.66	0	0	0	0	3	0	0	1	3	0	4	3
1.67	0	0	0	0	1	0	0	3	2	0	4	2
1.68	0	0	0	0	2	0	0	2	1	0	2	3
1.69	0	0	0	0	2	0	0	1	2	0	3	2
1.70	0	0	0	0	3	0	0	1	2	0	4	3
1.71	0	0	0	0	1	0	0	2	1	0	3	2
1.72	0	0	0	0	2	0	0	1	2	0	3	3
1.73	0	0	0	0	2	0	0	2	0	0	2	2
1.74	0	0	0	0	4	0	0	0	0	0	4	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	1	0	0	4	0	4	1
1.77	0	0	0	0	1	0	0	0	0	0	1	0
1.78	0	0	0	0	2	0	0	2	1	0	4	1
1.79	0	0	0	0	0	1	0	0	0	0	1	1
1.80	0	0	0	0	1	0	0	1	2	0	3	1
1.81	0	0	0	0	0	1	0	0	0	0	1	1
1.82	0	0	0	0	3	0	0	0	2	0	3	2
1.83	0	0	0	0	0	0	0	2	1	0	2	1
1.84	0	0	0	0	0	0	0	1	0	0	1	0
1.85	0	0	0	0	0	0	0	0	1	0	0	1
1.86	0	0	0	0	2	0	0	1	2	0	3	2
1.87	0	0	0	0	0	0	0	1	1	0	1	1
1.88	0	0	0	0	0	0	0	1	1	0	1	1
1.89	0	0	0	0	0	1	0	1	1	0	2	1
1.90	0	0	0	0	1	0	0	0	1	0	1	1
1.91	0	0	0	0	0	0	0	1	0	0	1	0
1.92	0	0	0	0	0	1	0	0	1	0	1	1
1.93	0	0	0	0	0	0	0	1	1	0	1	1
1.94	0	0	0	0	2	0	0	1	1	0	3	1
1.95	0	0	0	0	0	1	0	0	1	0	1	2
1.96	0	0	0	0	1	0	0	0	2	0	1	2
1.97	0	0	0	0	0	1	0	0	0	0	2	1
1.98	0	0	0	0	1	0	0	0	1	0	2	0
1.99	0	0	0	0	0	0	0	1	0	0	2	0
2.00	0	0	0	0	0	2	0	0	3	0	3	2
SUBTOTAL	0	0	0	0	39	4	0	65	9	0	104	13

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DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	1	0	0	1	0
2.02	0	0	0	0	0	1	0	1	1	0	1	2
2.03	0	0	0	0	0	1	0	0	0	0	0	1
2.04	0	0	0	0	0	1	0	0	1	0	0	1
2.05	0	0	0	0	0	0	0	0	0	0	0	0
2.06	0	0	0	0	0	0	0	0	0	0	0	0
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	1	0	0	1
2.09	0	0	0	0	0	1	0	0	3	0	0	4
2.10	0	0	0	0	0	1	0	0	2	0	0	2
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	1	0	0	0	1	0	1	0
2.14	0	0	0	0	0	1	0	0	1	0	0	2
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	2	0	0	2	0	0	4
2.17	0	0	0	0	0	0	0	0	1	0	0	1
2.18	0	0	0	0	0	1	0	0	2	0	0	3
2.19	0	0	0	0	0	0	0	0	1	0	0	1
2.20	0	0	0	0	0	0	0	0	5	0	0	5
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	1	5	0	0	3	0	1	8
2.23	0	0	0	0	0	1	0	0	1	0	0	2
2.24	0	0	0	0	0	0	0	0	5	0	0	5
2.25	0	0	0	0	0	1	0	0	1	0	0	2
2.26	0	0	0	0	0	1	0	0	3	0	0	4
2.27	0	0	0	0	0	1	0	0	1	0	0	2
2.28	0	0	0	0	0	1	0	0	0	0	0	1
2.29	0	0	0	0	0	3	0	0	3	0	0	6
2.30	0	0	0	0	0	4	0	0	6	0	0	10
2.31	0	0	0	0	0	1	0	0	1	0	0	2
2.32	0	0	0	0	0	10	0	1	4	0	1	14
2.33	0	0	0	0	0	1	0	0	1	0	0	2
2.34	0	0	0	0	0	2	0	0	1	0	0	3
2.35	0	0	0	0	0	2	0	0	4	0	0	6
2.36	0	0	0	0	0	5	0	0	5	0	0	10
2.37	0	0	0	0	0	0	0	0	4	0	0	4
2.38	0	0	0	0	0	5	0	0	5	0	0	10
2.39	0	0	0	0	0	5	0	0	8	0	0	13
2.40	0	0	0	0	0	9	0	0	16	0	0	25
2.41	0	0	0	0	0	1	0	1	14	0	1	15
2.42	0	0	0	0	0	2	0	1	11	0	1	13
2.43	0	0	0	0	0	1	0	0	8	0	0	9
2.44	0	0	0	0	0	1	0	0	6	0	0	7
2.45	0	0	0	0	0	0	0	0	3	0	0	3
2.46	0	0	0	0	0	0	0	0	3	0	0	3
2.47	0	0	0	0	0	0	0	0	1	0	0	1
2.48	0	0	0	0	0	1	0	0	0	0	0	1
2.49	0	0	0	0	0	0	0	0	3	0	0	3
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	2	70	0	4	141	0	6	211

[redacted] [redacted] [redacted]

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DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	0	0	0	0	0	0	0	0	2	0	0	2
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	2	0	0	2
TOTAL	0	0	0	70	70	74	139	139	153	209	209	227

MISSION 1009-1 INSTR - FRWD 01/18/65 PROCESSING AND EXPOSURE ANALY

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	70	0 PC	13 PC	74 PC	13 PC	0 PC
FULL	139	7 PC	0 PC	78 PC	14 PC	0 PC
ALL LEVELS	209	5 PC	4 PC	77 PC	14 PC	0 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	---------	0.91 AND
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

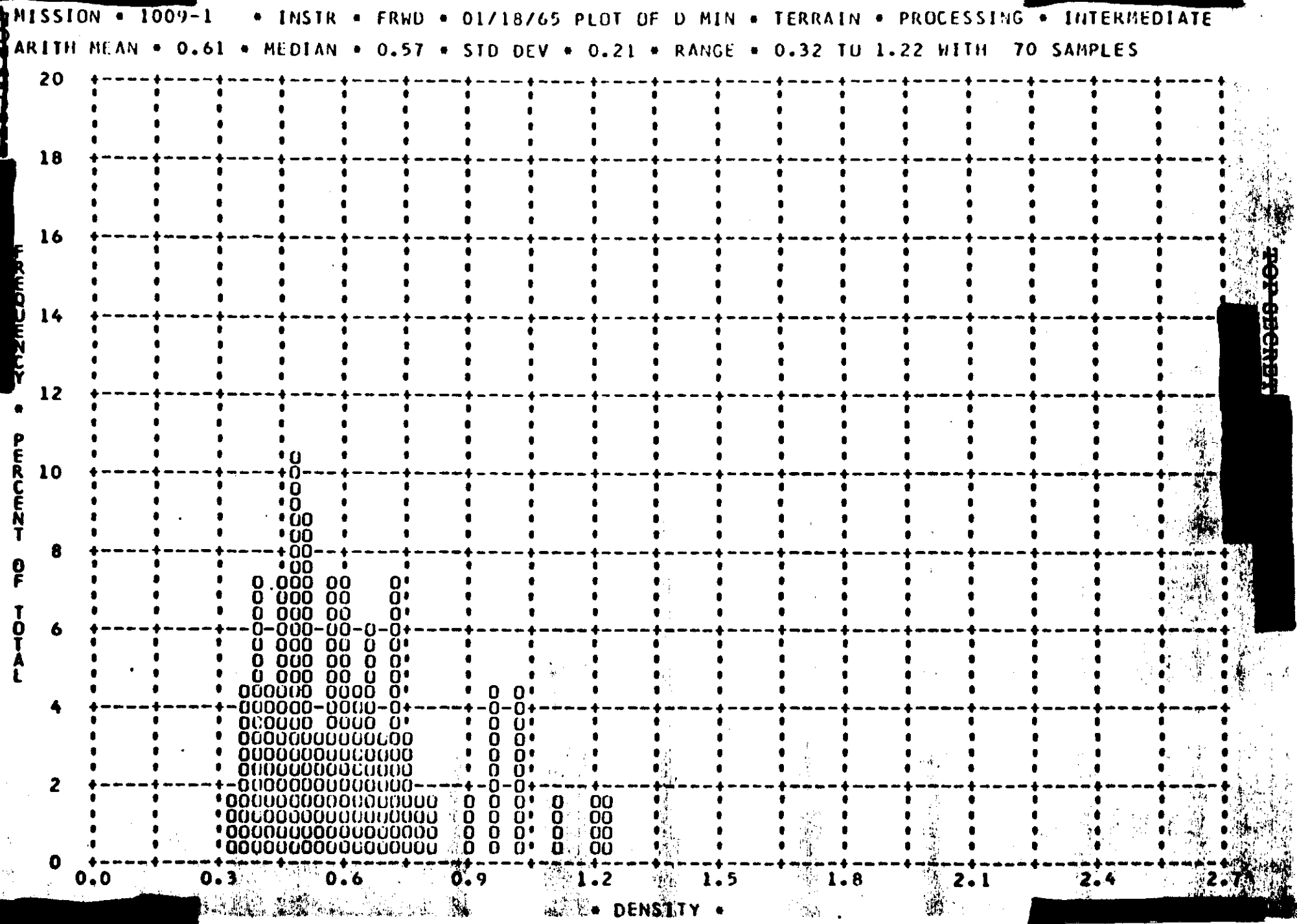


FIGURE 9-1

[redacted]

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.55 • MEDIAN • 1.60 • STD DEV • 0.30 • RANGE • 0.85 TO 2.22 WITH 70 SAMPLES

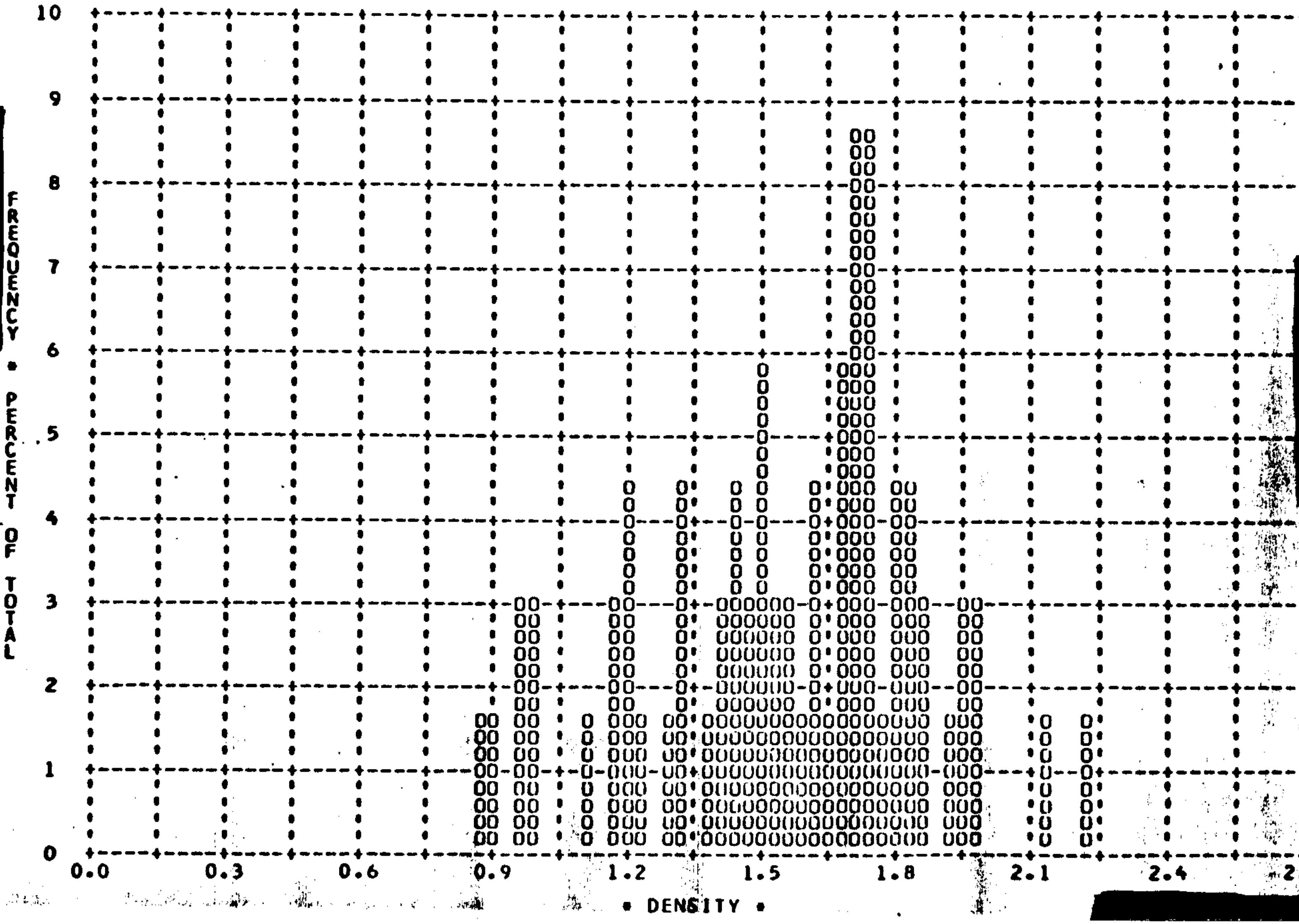


FIGURE 9-2

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 2.30 • MEDIAN • 2.32 • STD DEV • 0.12 • RANGE • 1.92 TO 2.48 WITH 74 SAMPLES

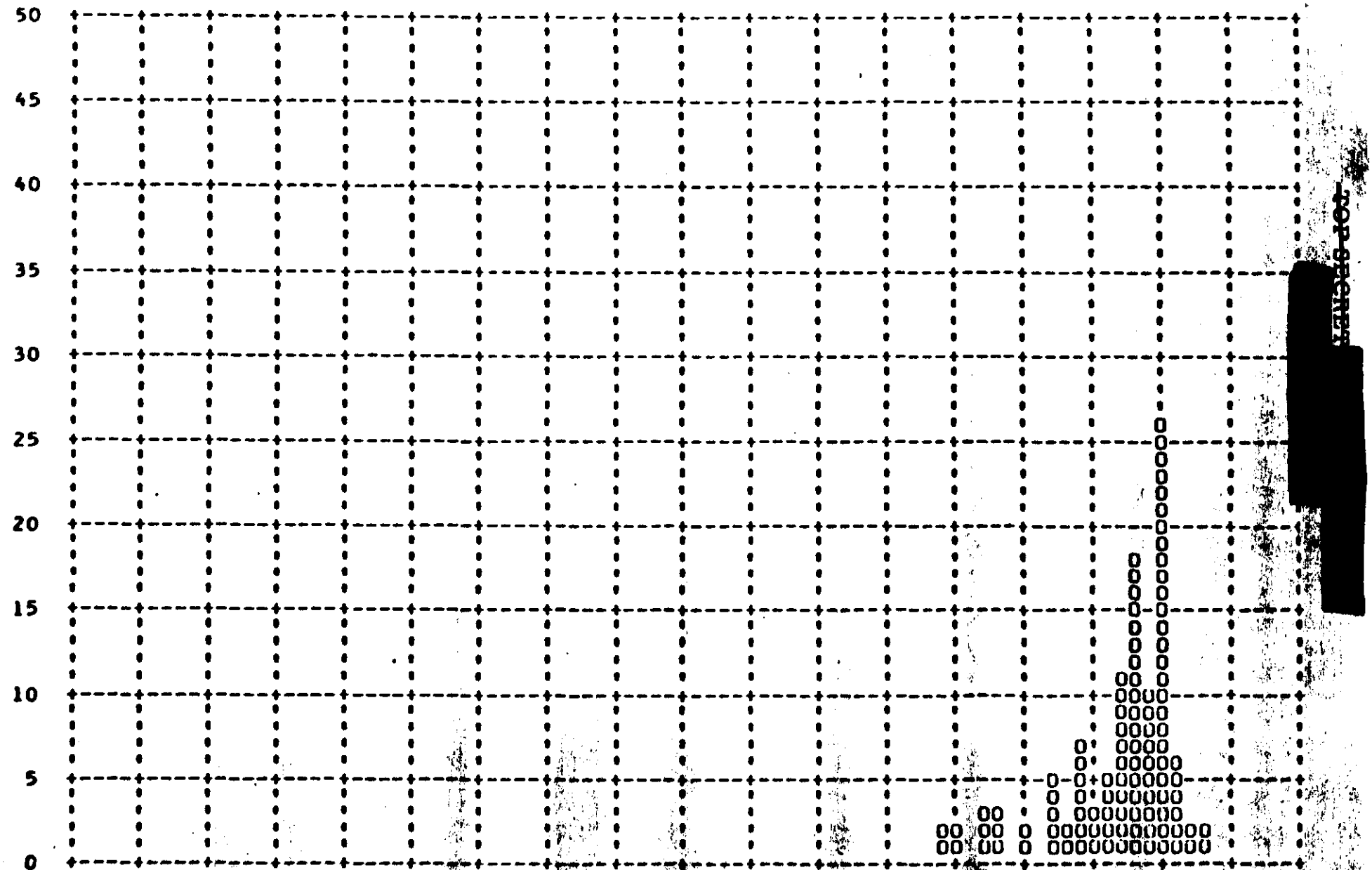


FIGURE 9-3

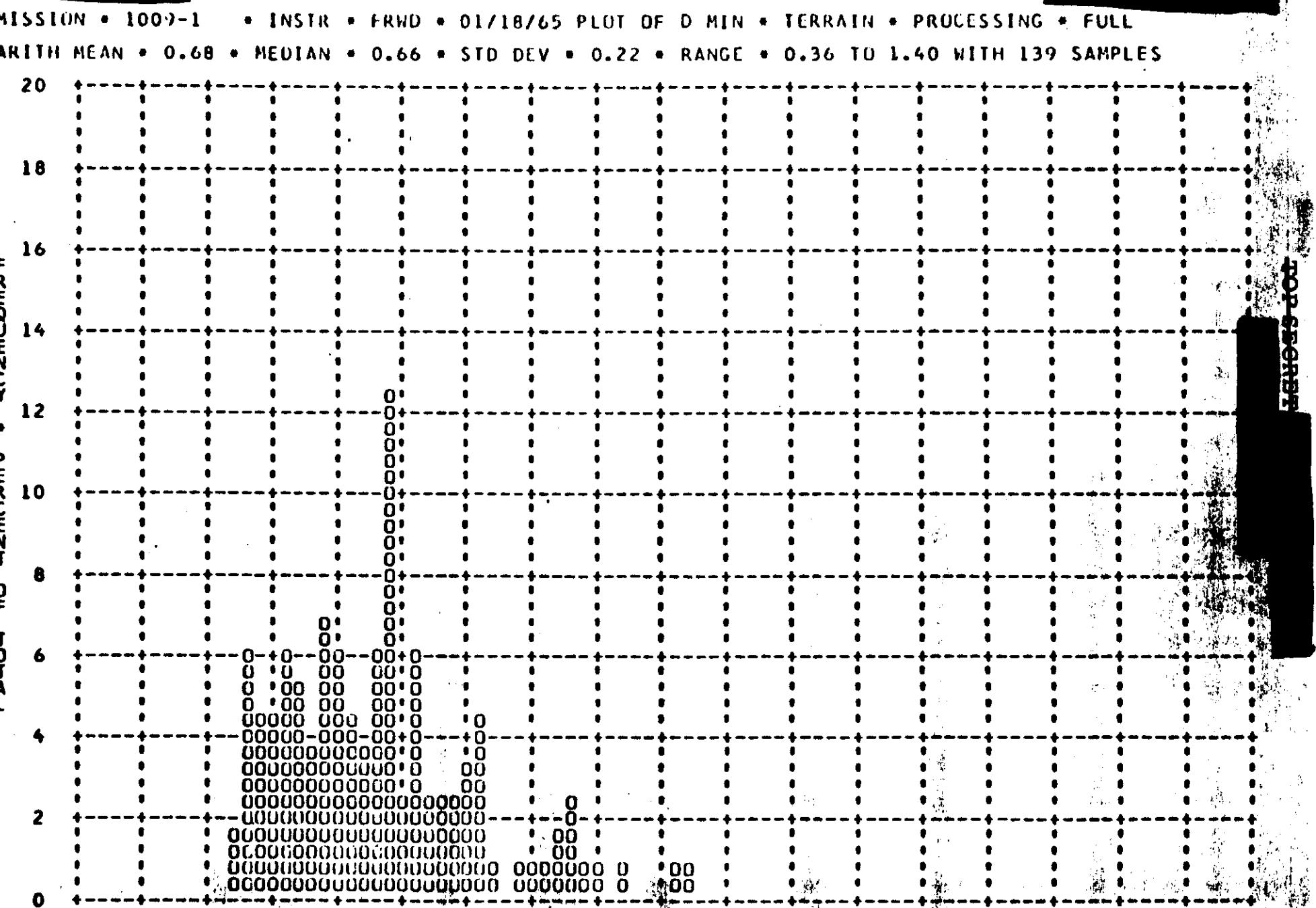

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.68 • MEDIAN • 0.66 • STD DEV • 0.22 • RANGE • 0.36 TO 1.40 WITH 139 SAMPLES
• FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-4

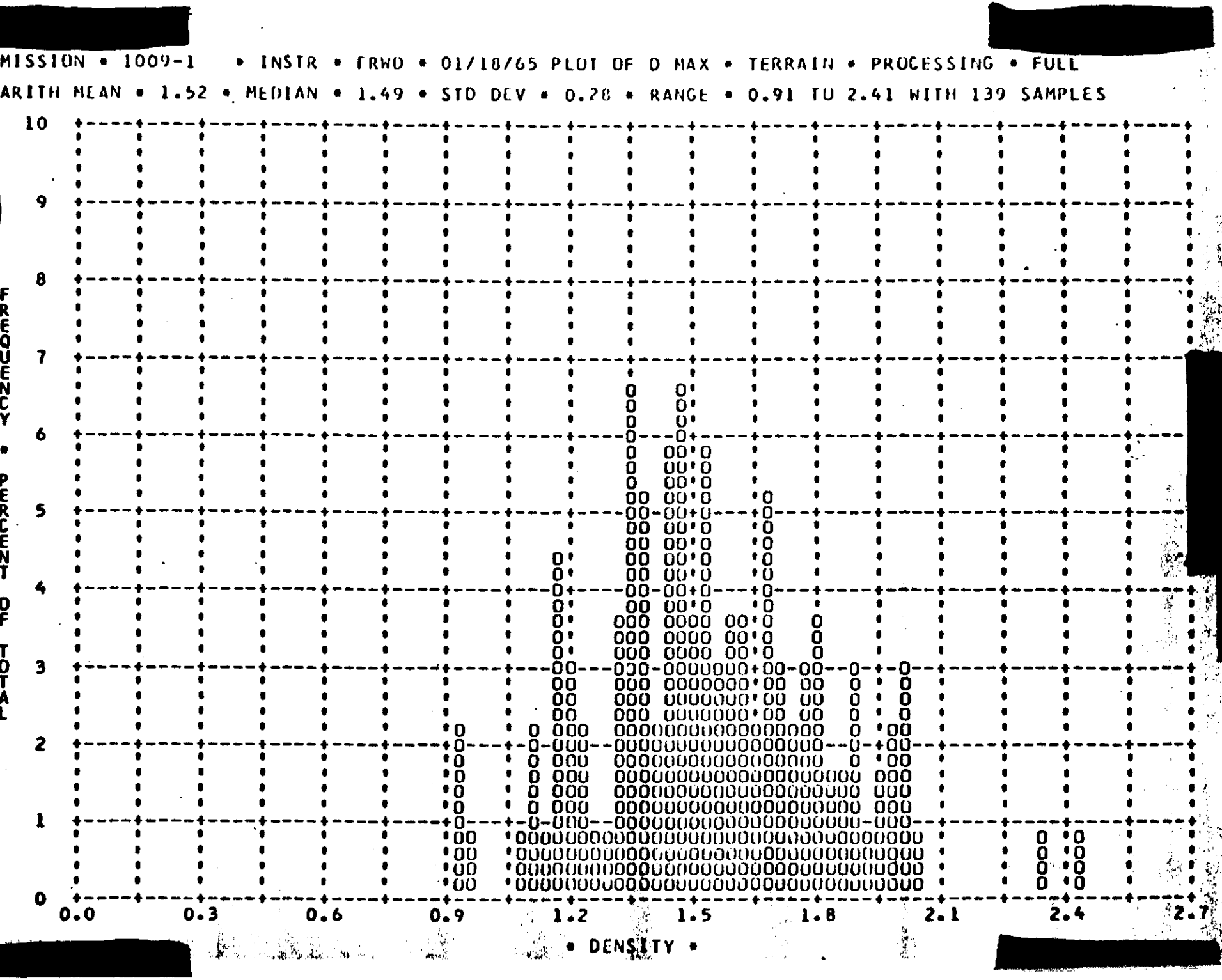

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.52 • MEDIAN • 1.49 • STD DEV • 0.28 • RANGE • 0.91 TO 2.41 WITH 139 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-5

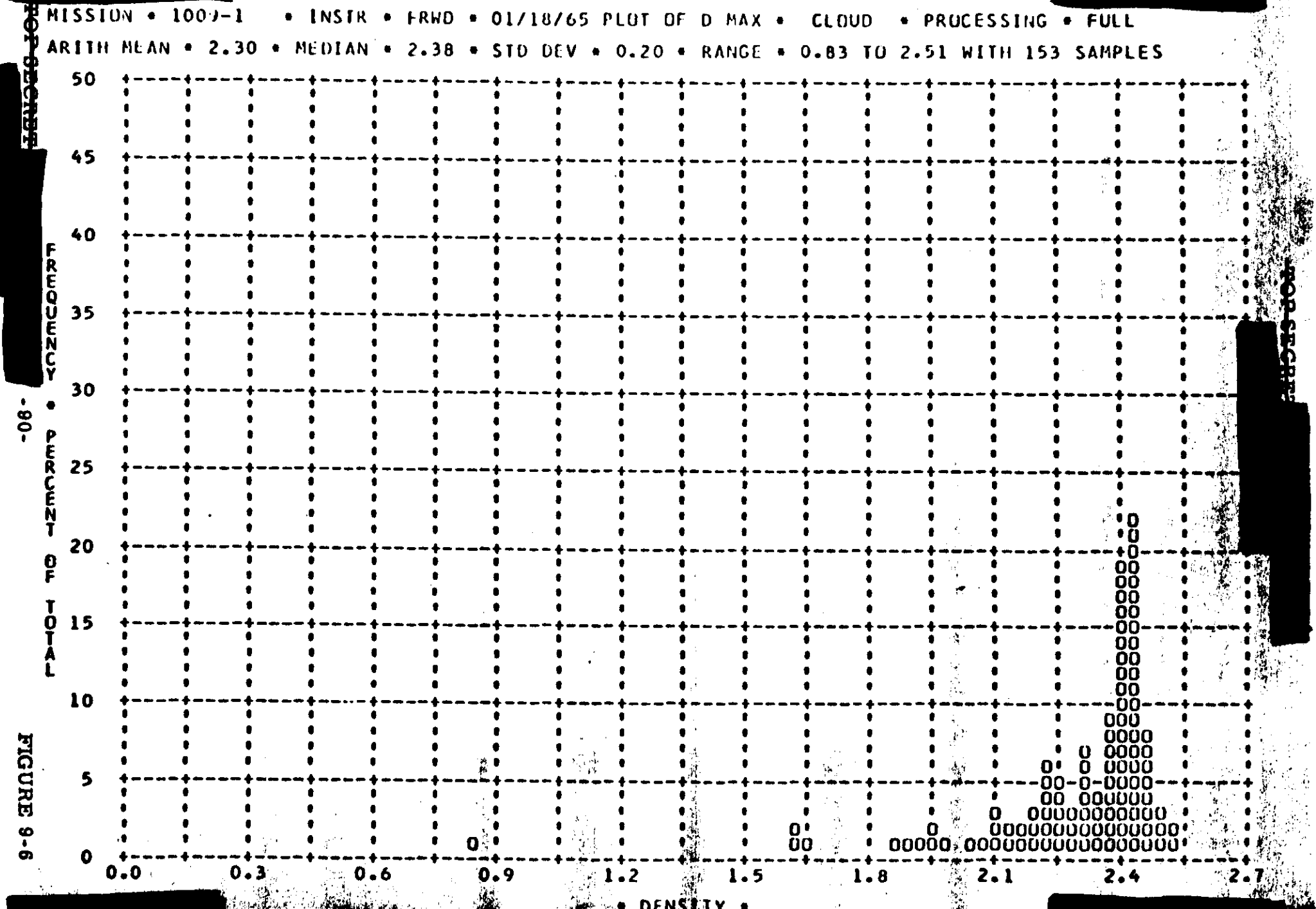

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL
ARITH MEAN • 2.30 • MEDIAN • 2.38 • STD DEV • 0.20 • RANGE • 0.83 TO 2.51 WITH 153 SAMPLES
FREQUENCY • PERCENT OF TOTAL
50
45
40
35
30
25
20
15
10
5
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-6

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.65 • MEDIAN • 0.62 • STD DEV • 0.22 • RANGE • 0.32 TO 1.40 WITH 209 SAMPLES
• DENSITY •
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
0
2
4
6
8
10
12
14
16
18
20

FIGURE 9-7

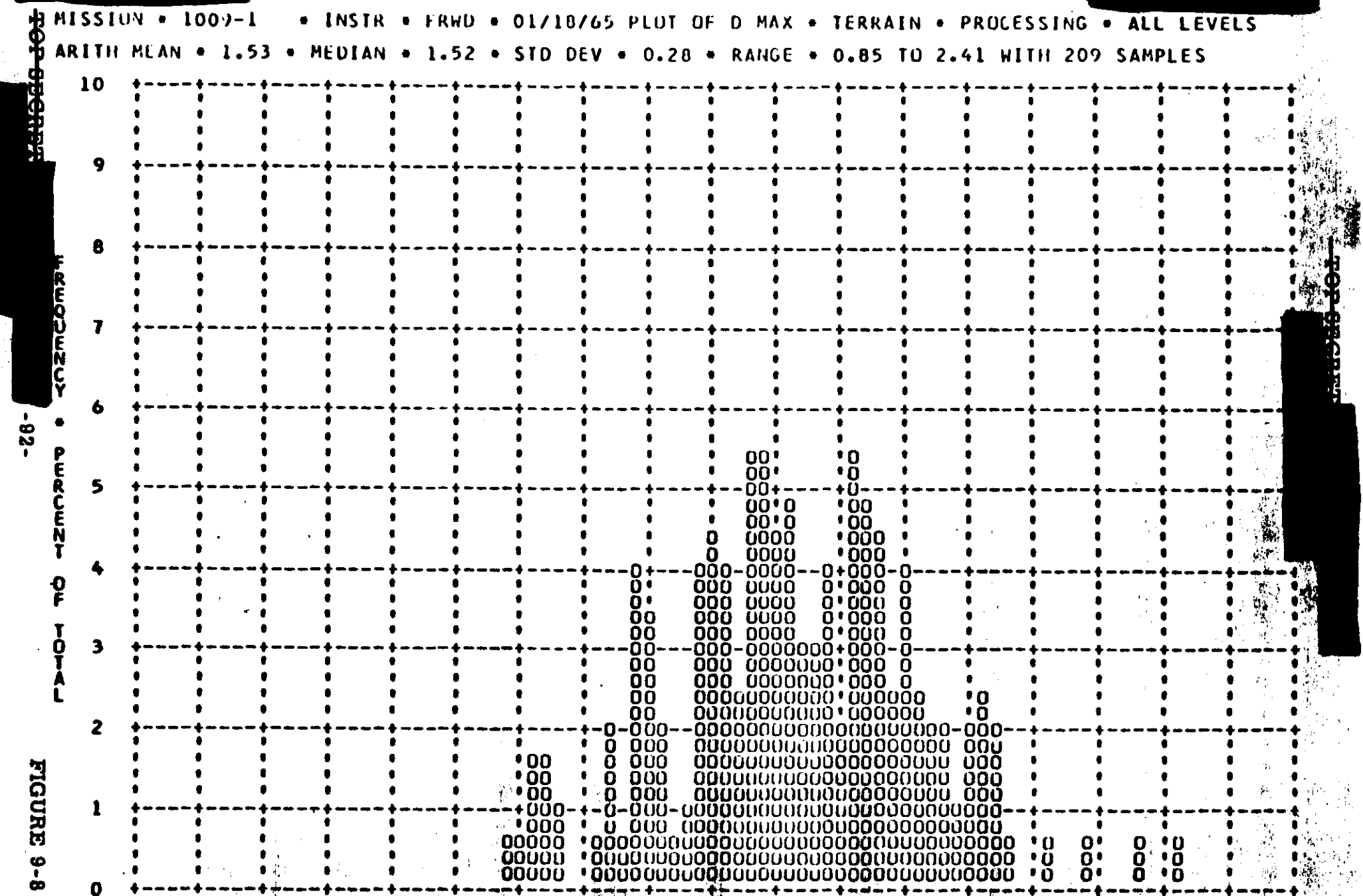

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.53 • MEDIAN • 1.52 • STD DEV • 0.28 • RANGE • 0.85 TO 2.41 WITH 209 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 6-8

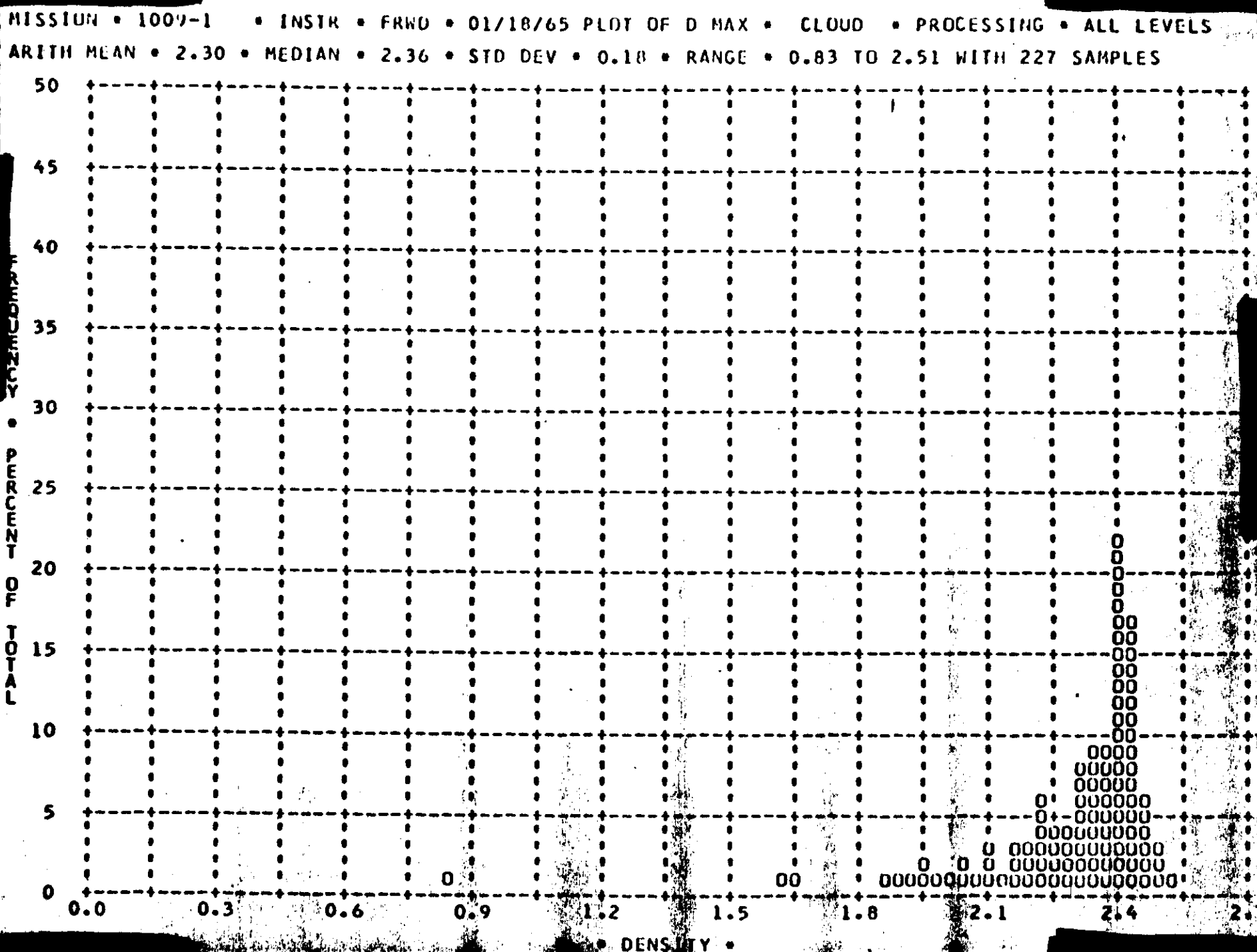

MISSION • 1009-1 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS
ARITH MEAN • 2.30 • MEDIAN • 2.36 • STD DEV • 0.18 • RANGE • 0.83 TO 2.51 WITH 227 SAMPLES
50
45
40
35
30
25
20
15
10
5
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •
• PERCENT OF TOTAL

FIGURE 9-9

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	1	0	0	0	0	0	1	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	1	0	0	0	0	0	1	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	1	0	0	0	0	0	1	0	0
0.35	0	0	0	2	0	0	0	0	0	2	0	0
0.36	0	0	0	2	0	0	1	0	0	3	0	0
0.37	0	0	0	1	0	0	0	0	0	1	0	0
0.38	0	0	0	2	0	0	1	0	0	3	0	0
0.39	0	0	0	1	0	0	1	0	0	2	0	0
0.40	0	0	0	1	0	0	1	0	0	2	0	0
0.41	0	0	0	0	0	0	1	0	0	1	0	0
0.42	0	0	0	2	0	0	5	0	0	7	0	0
0.43	0	0	0	0	0	0	1	0	0	1	0	0
0.44	0	0	0	0	0	0	2	0	0	2	0	0
0.45	0	0	0	2	0	0	0	0	0	2	0	0
0.46	0	0	0	3	0	0	1	0	0	4	0	0
0.47	0	0	0	1	0	0	1	0	0	2	0	0
0.48	0	0	0	3	0	0	3	0	0	6	0	0
0.49	0	0	0	0	0	0	1	0	0	1	0	0
0.50	0	0	0	1	0	0	5	0	0	6	0	0
SUBTOTAL	0	0	0	24	0	0	24	0	0	48	0	0

[redacted]

TABLE 9-4

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	2	0	0	1	0	0	3	0	0
0.52	0	0	0	0	0	0	2	0	0	2	0	0
0.53	0	0	0	2	0	0	0	0	0	2	0	0
0.54	0	0	0	2	0	0	2	0	0	4	0	0
0.55	0	0	0	1	0	0	4	0	0	5	0	0
0.56	0	0	0	2	0	0	2	0	0	4	0	0
0.57	0	0	0	0	0	0	0	0	0	0	0	0
0.58	0	0	0	5	0	0	3	0	0	8	0	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	5	0	0	5	0	0	10	0	0
0.61	0	0	0	2	0	0	1	0	0	3	0	0
0.62	0	0	0	4	0	0	4	0	0	8	0	0
0.63	0	0	0	0	0	0	1	0	1	1	0	1
0.64	0	0	0	1	0	0	2	0	0	3	0	0
0.65	0	0	0	2	0	0	1	0	0	3	0	0
0.66	0	0	0	0	0	0	0	0	0	0	0	0
0.67	0	0	0	0	0	0	1	0	0	1	0	0
0.68	0	0	0	1	0	0	2	0	0	3	0	0
0.69	0	0	0	2	0	0	0	0	0	2	0	0
0.70	0	0	0	0	0	0	0	0	0	0	0	0
0.71	0	0	0	2	0	0	0	0	0	2	0	0
0.72	0	0	0	2	0	0	3	0	0	5	0	0
0.73	0	0	0	2	0	0	1	0	0	3	0	0
0.74	0	0	0	0	0	0	0	0	0	0	0	0
0.75	0	0	0	0	0	0	1	0	0	1	0	0
0.76	0	0	0	2	0	0	0	0	0	2	0	0
0.77	0	0	0	3	0	0	1	0	0	4	0	0
0.78	0	0	0	2	0	0	1	0	0	3	0	0
0.79	0	0	0	1	0	0	1	0	0	2	0	0
0.80	0	0	0	2	0	0	3	0	0	5	0	0
0.81	0	0	0	0	0	0	0	0	0	0	0	0
0.82	0	0	0	2	0	0	3	0	0	5	0	0
0.83	0	0	0	0	0	0	1	0	0	1	0	0
0.84	0	0	0	2	0	0	4	0	0	6	0	0
0.85	0	0	0	0	0	0	0	0	0	0	0	0
0.86	0	0	0	0	0	0	1	0	0	1	0	0
0.87	0	0	0	1	0	0	0	0	0	1	0	0
0.88	0	0	0	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	4	0	0	4	0	0
0.90	0	0	0	4	0	0	2	0	0	6	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	0	1	0	4	0	0	4	1	0
0.93	0	0	0	1	0	0	3	0	0	4	0	0
0.94	0	0	0	1	0	0	1	0	0	2	0	0
0.95	0	0	0	0	0	0	0	0	0	0	0	0
0.96	0	0	0	0	0	0	3	0	0	3	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	1	0	0	1	0	0	2	0	0
0.99	0	0	0	0	0	0	1	0	0	1	0	0
1.00	0	0	0	1	0	0	0	0	0	1	0	0
SUBTOTAL	0	0	0	60	1	0	71	0	1	131	1	1

[redacted]

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	1	1	0	1	0	0	2	1	0
1.02	0	0	0	0	0	0	0	2	0	0	2	0
1.03	0	0	0	0	0	0	0	0	0	0	0	0
1.04	0	0	0	0	0	0	1	1	0	1	1	0
1.05	0	0	0	1	0	0	0	0	0	1	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	1	0	0	1	0	0
1.08	0	0	0	2	0	0	0	0	0	2	0	0
1.09	0	0	0	0	0	0	1	1	0	1	1	0
1.10	0	0	0	0	1	0	4	1	0	4	2	0
1.11	0	0	0	0	0	0	0	1	0	0	2	0
1.12	0	0	0	1	1	0	0	1	0	1	2	0
1.13	0	0	0	0	0	0	0	1	0	0	1	0
1.14	0	0	0	0	0	0	0	1	0	0	1	0
1.15	0	0	0	0	0	0	0	1	0	0	1	0
1.16	0	0	0	0	0	0	1	0	0	1	0	0
1.17	0	0	0	0	0	0	0	1	0	0	1	0
1.18	0	0	0	0	1	0	0	1	0	0	2	0
1.19	0	0	0	0	0	0	1	0	0	1	0	0
1.20	0	0	0	0	1	0	2	0	0	2	1	0
1.21	0	0	0	0	1	0	1	0	0	1	1	0
1.22	0	0	0	0	1	0	0	0	0	0	1	0
1.23	0	0	0	0	1	0	0	0	0	0	1	0
1.24	0	0	0	1	1	0	0	1	0	1	2	0
1.25	0	0	0	0	3	0	1	1	0	1	4	0
1.26	0	0	0	0	2	0	0	2	0	0	4	0
1.27	0	0	0	0	1	0	0	2	0	0	3	0
1.28	0	0	0	0	1	0	0	0	0	0	1	0
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	1	0	0	0	0	0	1	0	0
1.31	0	0	0	0	1	0	0	2	0	0	3	0
1.32	0	0	0	1	2	0	0	1	0	1	3	0
1.33	0	0	0	0	0	0	0	0	0	0	0	0
1.34	0	0	0	0	1	0	0	1	0	0	2	0
1.35	0	0	0	0	0	0	1	1	0	1	1	0
1.36	0	0	0	0	0	0	0	2	0	0	2	0
1.37	0	0	0	0	1	0	0	1	0	0	2	0
1.38	0	0	0	0	0	0	0	2	0	0	2	0
1.39	0	0	0	0	0	0	0	1	0	0	1	0
1.40	0	0	0	0	4	0	0	5	0	0	9	0
1.41	0	0	0	0	0	0	0	1	0	0	1	0
1.42	0	0	0	0	1	0	1	2	0	1	3	0
1.43	0	0	0	0	1	0	0	0	0	0	1	0
1.44	0	0	0	0	7	0	0	3	0	0	10	0
1.45	0	0	0	0	2	0	0	1	0	0	3	0
1.46	0	0	0	0	2	0	0	3	0	0	5	0
1.47	0	0	0	0	2	0	0	1	0	0	3	0
1.48	0	0	0	0	1	0	0	2	0	0	3	0
1.49	0	0	0	0	0	0	0	1	0	0	1	0
1.50	0	0	0	0	0	0	0	5	0	0	5	0
SUBTOTAL	0	0	0	8	41	0	16	52	2	24	93	2

[redacted]

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	0	0	0	0	0
1.52	0	0	0	0	2	0	0	2	0	0	4	0
1.53	0	0	0	0	1	0	0	1	0	0	2	0
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	2	0	0	2	0	0	4	0
1.56	0	0	0	0	3	0	0	2	0	0	3	0
1.57	0	0	0	0	0	0	0	1	0	0	1	0
1.58	0	0	0	0	0	0	0	3	0	0	3	0
1.59	0	0	0	0	0	0	0	1	0	0	1	0
1.60	0	0	0	0	3	0	0	2	0	0	5	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	2	0	0	2	0
1.63	0	0	0	0	0	0	0	1	0	0	1	0
1.64	0	0	0	0	1	0	0	1	0	0	2	0
1.65	0	0	0	0	1	0	0	1	0	0	2	0
1.66	0	0	0	0	1	0	0	1	0	0	2	0
1.67	0	0	0	0	1	0	0	1	0	0	2	0
1.68	0	0	0	0	0	0	0	1	0	0	1	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	1	0	0	0	0	0	1	0
1.71	0	0	0	0	1	0	0	3	0	0	4	0
1.72	0	0	0	0	0	0	0	1	0	0	1	0
1.73	0	0	0	0	0	0	0	1	0	0	1	0
1.74	0	0	0	0	2	0	0	0	1	0	2	0
1.75	0	0	0	0	0	0	0	1	0	0	1	0
1.76	0	0	0	0	2	0	0	1	1	0	3	0
1.77	0	0	0	0	1	0	0	3	0	0	4	0
1.78	0	0	0	0	3	0	0	0	1	0	3	0
1.79	0	0	0	0	0	0	0	1	0	0	1	0
1.80	0	0	0	0	1	0	0	3	0	0	4	0
1.81	0	0	0	0	1	0	0	0	0	0	1	0
1.82	0	0	0	0	2	0	0	0	0	0	2	0
1.83	0	0	0	0	1	0	0	0	0	0	1	0
1.84	0	0	0	0	3	1	0	2	0	0	5	1
1.85	0	0	0	0	3	1	0	2	1	0	5	1
1.86	0	0	0	0	3	1	0	2	0	0	5	1
1.87	0	0	0	0	0	1	0	2	0	0	4	1
1.88	0	0	0	0	2	1	0	2	1	0	5	1
1.89	0	0	0	0	1	2	0	1	4	0	6	1
1.90	0	0	0	0	2	0	0	0	1	0	2	0
1.91	0	0	0	0	0	0	0	0	1	0	1	0
1.92	0	0	0	0	1	0	0	0	1	0	1	0
1.93	0	0	0	0	0	0	0	1	0	0	1	0
1.94	0	0	0	0	3	1	0	0	0	0	3	1
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	1	0	0	0	0	0	1
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	2	0	0	3	0	0	5	0
1.99	0	0	0	0	1	0	0	1	0	0	2	0
2.00	0	0	0	0	1	1	0	1	1	0	2	2
SUBTOTAL	0	0	0	0	49	6	0	50	4	0	99	10

[redacted]

[redacted]

[redacted]

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	0	0	0	0	0
2.02	0	0	0	0	0	0	0	0	0	0	0	0
2.03	0	0	0	0	0	0	0	1	0	0	1	0
2.04	0	0	0	0	0	1	0	1	0	0	1	1
2.05	0	0	0	0	0	0	0	0	0	0	0	0
2.06	0	0	0	0	0	1	0	0	0	0	0	1
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	1	0	0	1	0
2.10	0	0	0	0	0	2	0	1	3	0	1	5
2.11	0	0	0	0	0	0	0	1	0	0	1	0
2.12	0	0	0	0	0	0	0	1	2	0	1	2
2.13	0	0	0	0	0	0	0	2	0	0	2	0
2.14	0	0	0	0	1	0	0	1	0	0	2	0
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	1	0	0	0	0	0	1
2.17	0	0	0	0	0	0	0	0	1	0	0	1
2.18	0	0	0	0	0	0	0	1	1	0	1	1
2.19	0	0	0	0	0	0	0	1	2	0	1	2
2.20	0	0	0	0	0	2	0	0	1	0	0	3
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	1	0	0	3	0	0	4
2.23	0	0	0	0	0	0	0	0	0	0	0	1
2.24	0	0	0	0	0	3	0	0	0	0	0	3
2.25	0	0	0	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	4	0	0	0	0	0	4
2.27	0	0	0	0	0	1	0	0	0	0	0	1
2.28	0	0	0	0	0	3	0	1	1	0	1	4
2.29	0	0	0	0	0	0	0	1	2	0	1	2
2.30	0	0	0	0	0	14	0	0	2	0	0	16
2.31	0	0	0	0	0	1	0	0	2	0	0	3
2.32	0	0	0	0	0	7	0	0	5	0	0	12
2.33	0	0	0	0	0	1	0	0	1	0	0	2
2.34	0	0	0	0	0	6	0	0	4	0	0	10
2.35	0	0	0	0	0	4	0	0	3	0	0	7
2.36	0	0	0	0	0	4	0	0	10	0	0	14
2.37	0	0	0	0	0	2	0	0	4	0	0	6
2.38	0	0	0	0	0	7	0	0	3	0	0	10
2.39	0	0	0	0	0	3	0	0	2	0	0	5
2.40	0	0	0	0	0	13	0	0	19	0	0	32
2.41	0	0	0	0	0	3	0	0	0	0	0	3
2.42	0	0	0	0	0	5	0	0	6	0	0	11
2.43	0	0	0	0	0	3	0	0	3	0	0	6
2.44	0	0	0	0	0	1	0	0	6	0	0	7
2.45	0	0	0	0	0	2	0	0	0	0	0	2
2.46	0	0	0	0	0	1	0	0	5	0	0	6
2.47	0	0	0	0	0	1	0	0	2	0	0	3
2.48	0	0	0	0	0	0	0	0	6	0	0	6
2.49	0	0	0	0	0	0	0	0	2	0	0	2
2.50	0	0	0	0	0	0	0	0	4	0	0	4
SUBTOTAL	0	0	0	0	1	98	0	9	102	0	10	200

[redacted]

[redacted]

MISSION • 1009-1 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	0	0	0	0	0	0	0	0	2	0	0	2
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	2	0	0	2
TOTAL	0	0	0	92	92	104	111	111	111	203	203	215

MISSION 1009-1 INSTR - AFT 01/18/65 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 P
INTERMEDIATE	92	0 PC	12 PC	75 PC	13 PC	0 P
FULL	111	3 PC	0 PC	71 PC	26 PC	0 P
ALL LEVELS	203	1 PC	5 PC	73 PC	20 PC	0 P

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

MISSION • 1003-1 • INSTR • AFT • 01/18/65 PLOT OF U MIN • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 0.67 • MEDIAN • 0.62 • STD DEV • 0.23 • RANGE • 0.28 TO 1.32 WITH 92 SAMPLES
FREQUENCY • AMOUNT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-10

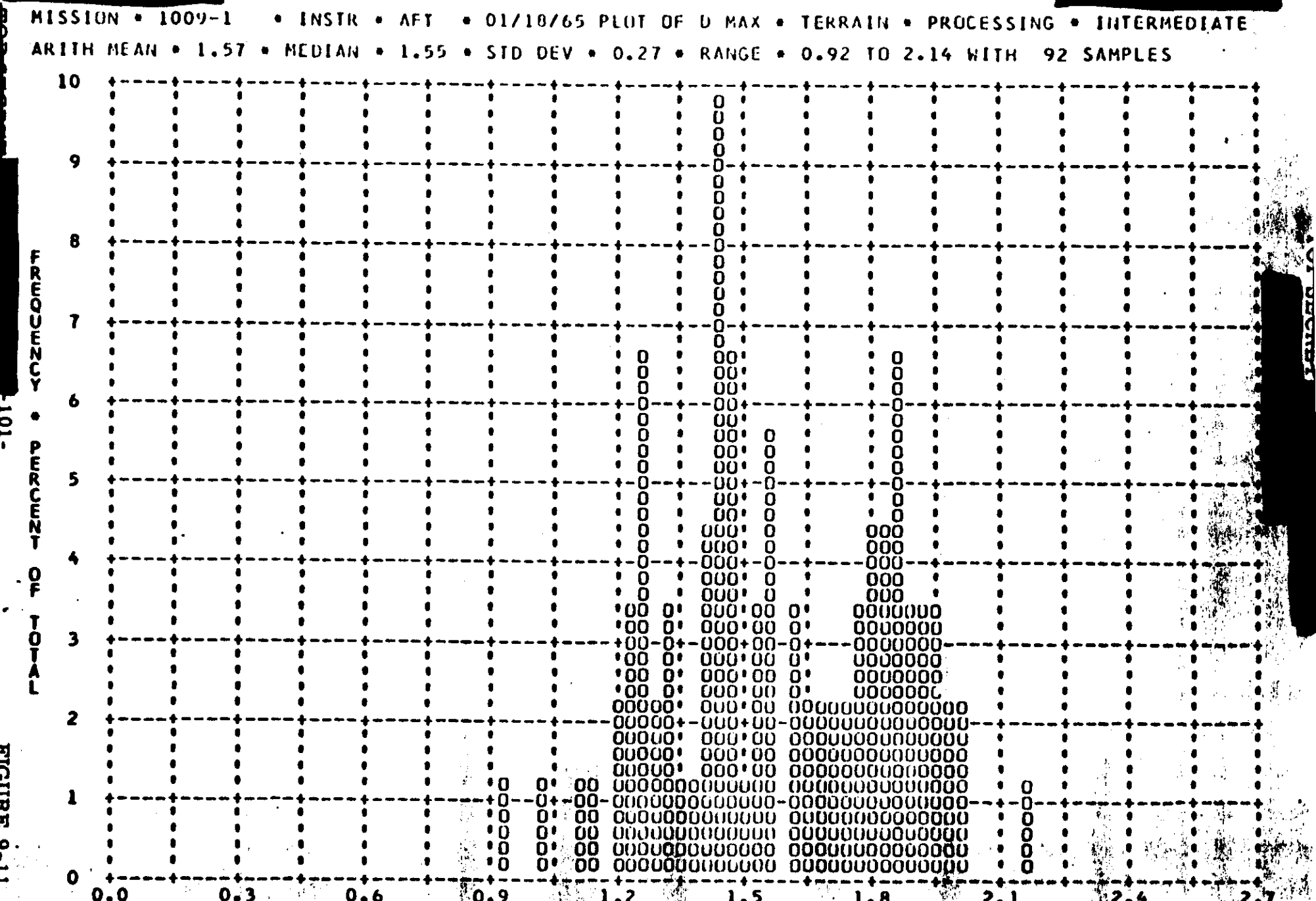

MISSION • 1009-1 • INSTR • AFT • 01/10/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.57 • MEDIAN • 1.55 • STD DEV • 0.27 • RANGE • 0.92 TO 2.14 WITH 92 SAMPLES
FREQUENCY • PERCENT OF TOTAL
• DENSITY •
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
0
1
2
3
4
5
6
7
8
9
10

FIGURE 6-11

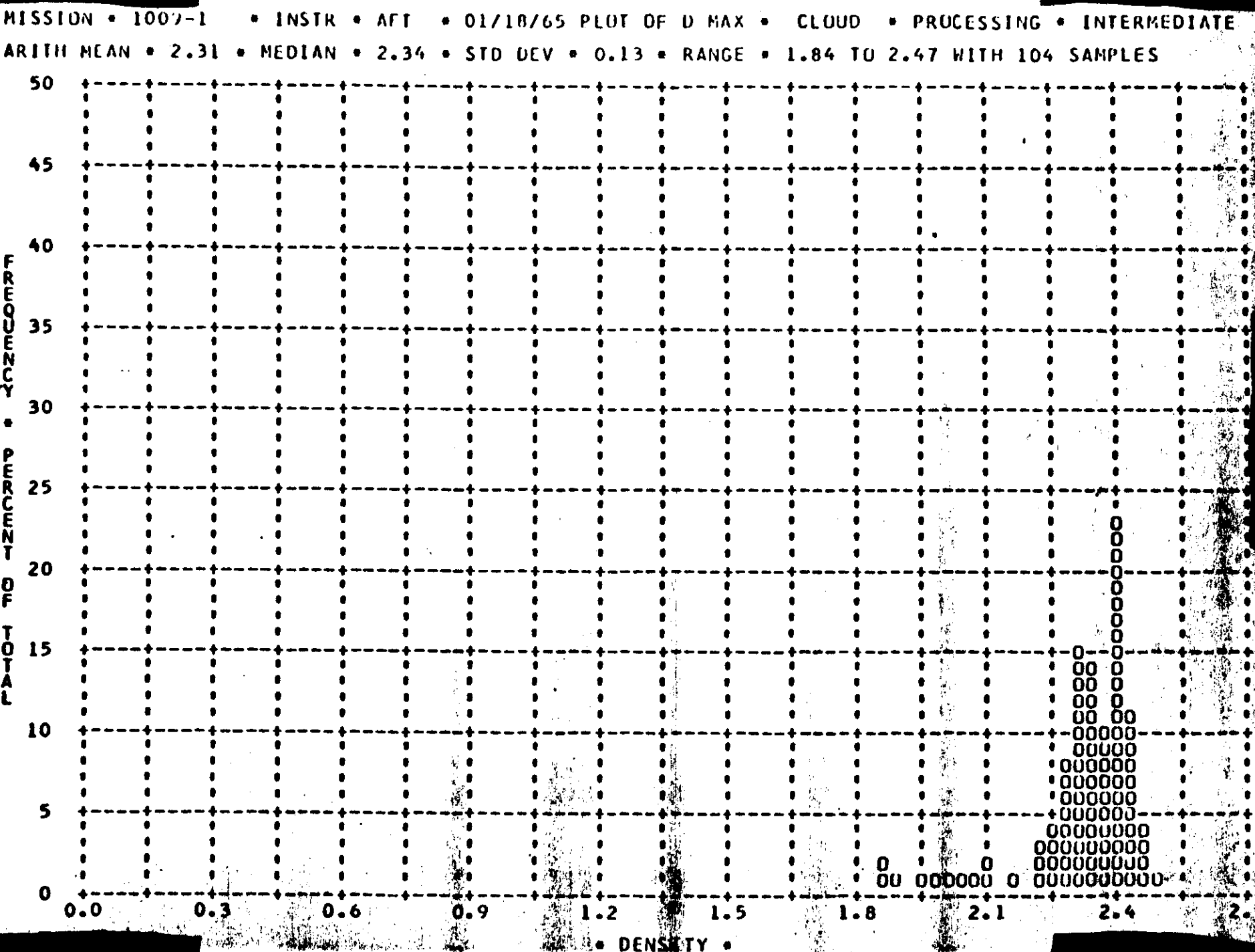

MISSION • 1007-1 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 2.31 • MEDIAN • 2.34 • STD DEV • 0.13 • RANGE • 1.84 TO 2.47 WITH 104 SAMPLES
FREQUENCY • PERCENT OF TOTAL
50
45
40
35
30
25
20
15
10
5
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
• DENSITY •

FIGURE 9-12

[redacted] TOP SECRET [redacted]

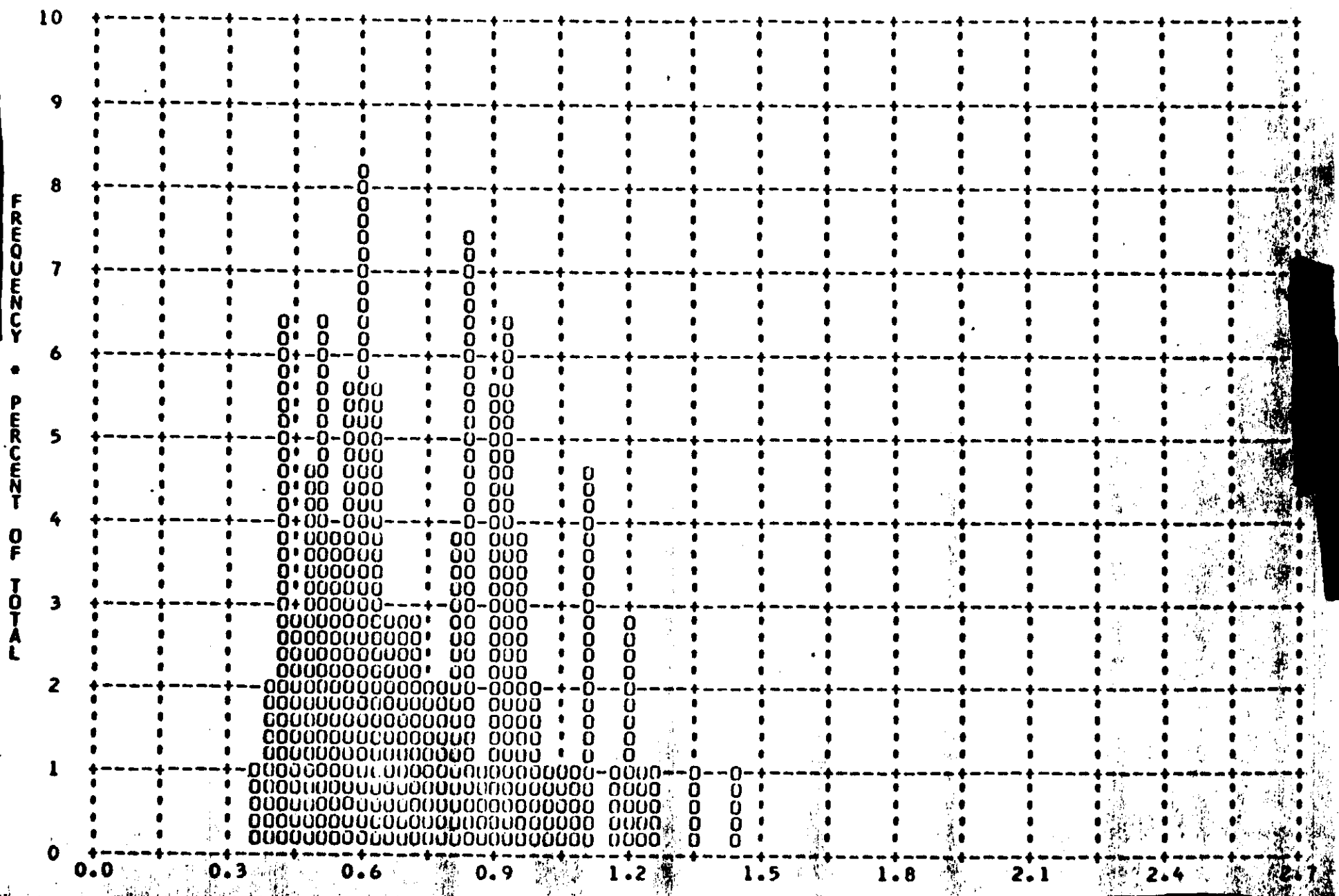


FIGURE 9-13

[redacted] TOP SECRET [redacted]

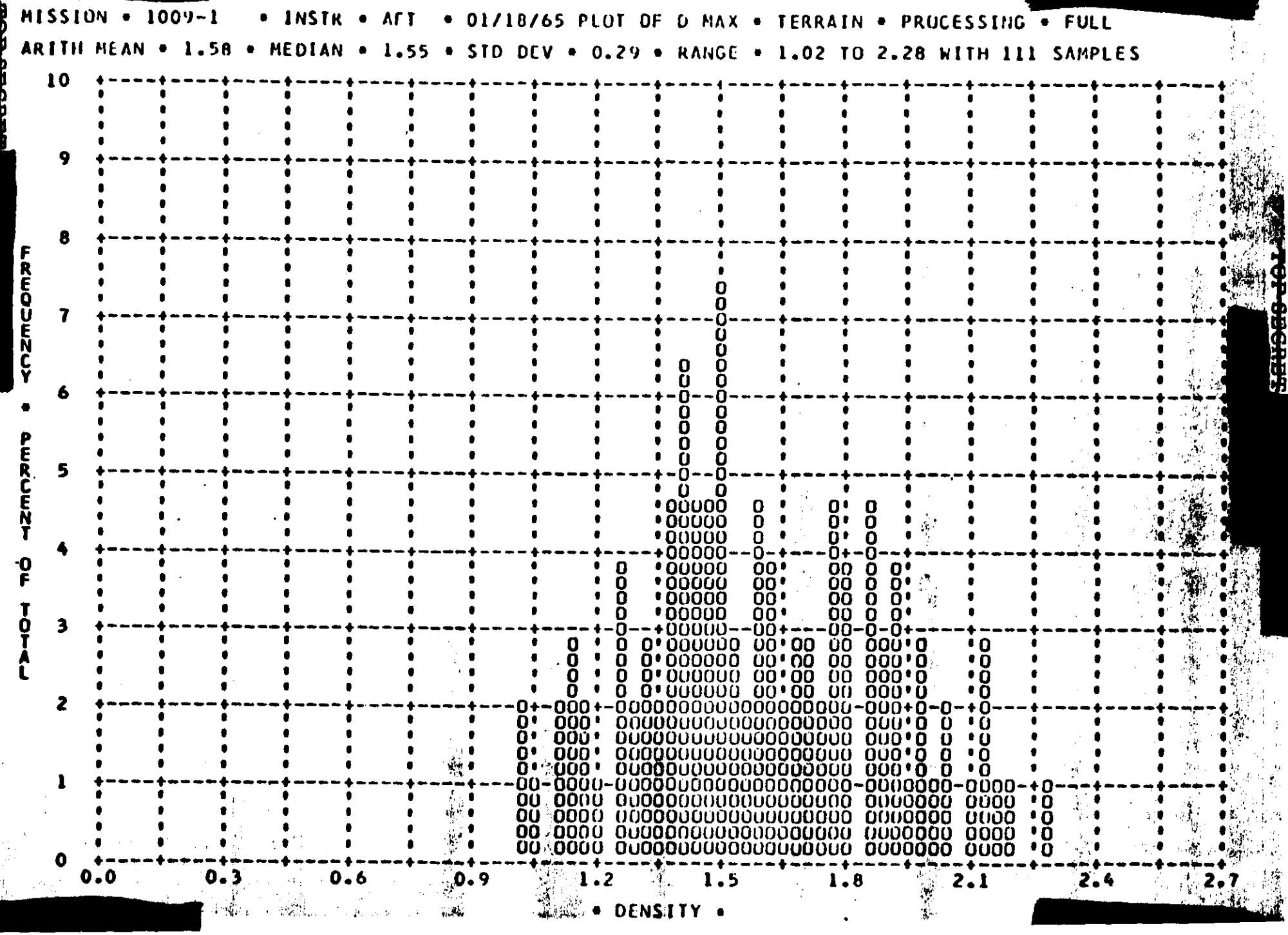

MISSION • 1009-1 • INSTR • AFT • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.58 • MEDIAN • 1.55 • STD DEV • 0.29 • RANGE • 1.02 TO 2.28 WITH 111 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-14

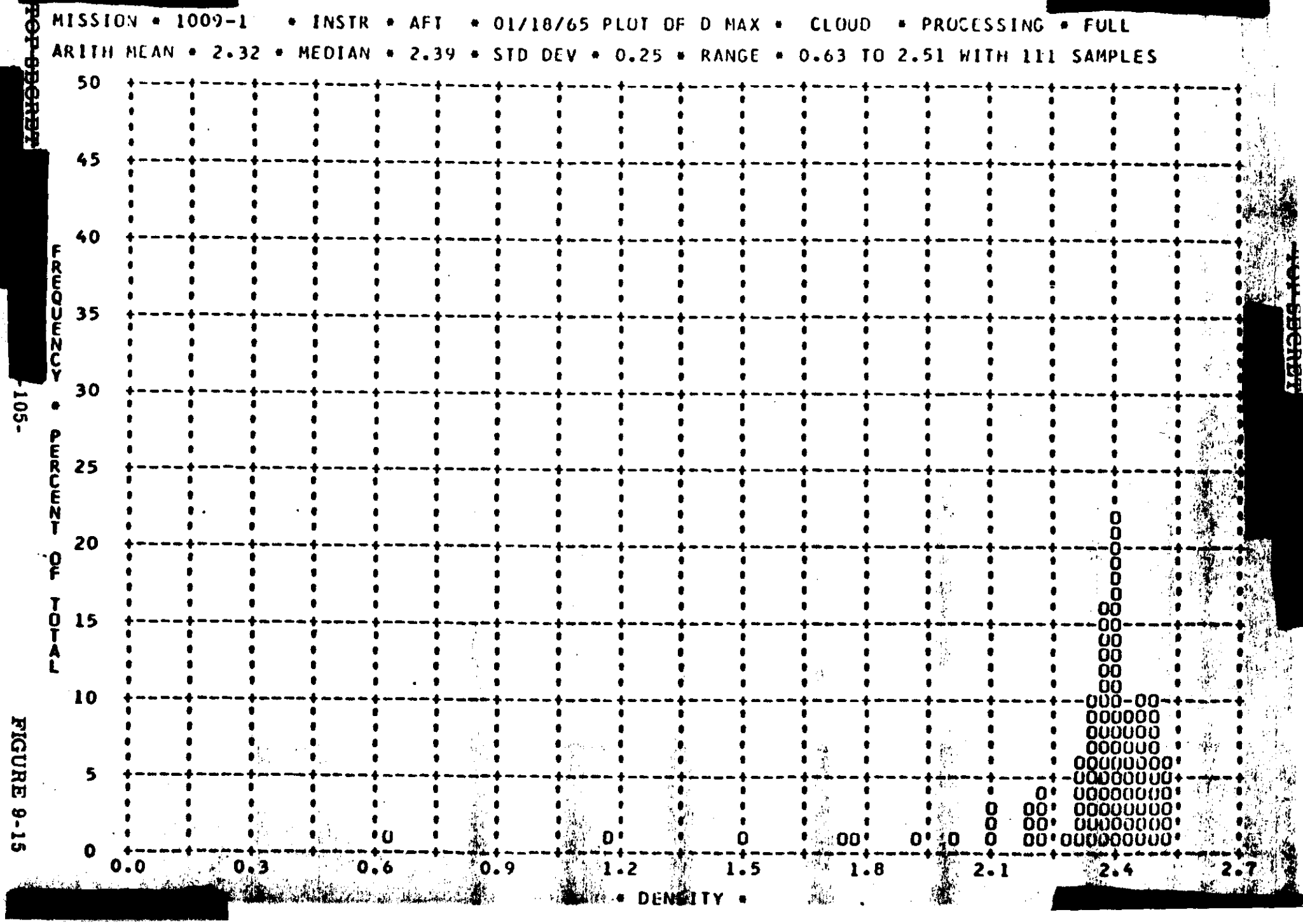
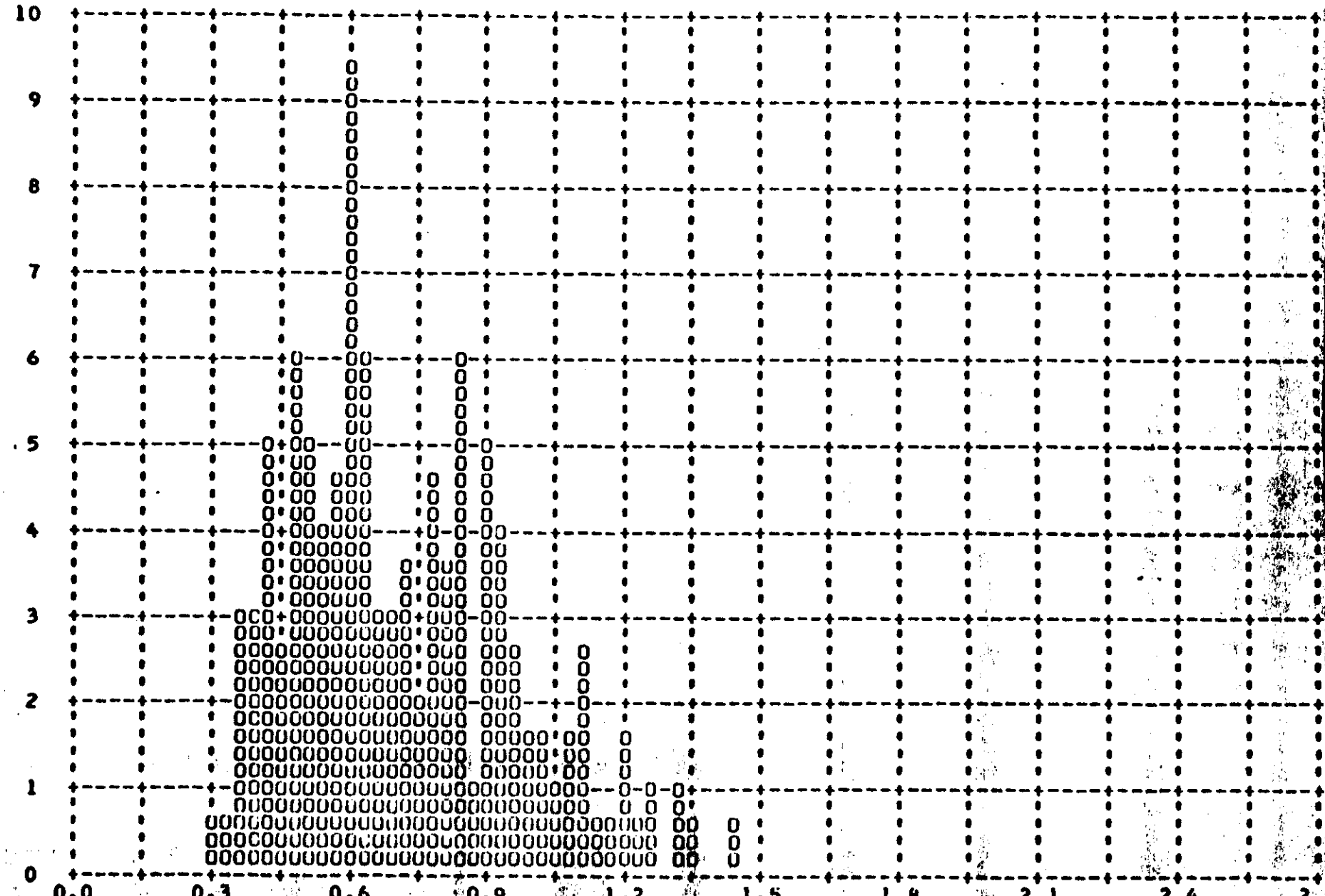

MISSION • 1009-1 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL
ARITH MEAN • 2.32 • MEDIAN • 2.39 • STD DEV • 0.25 • RANGE • 0.63 TO 2.51 WITH 111 SAMPLES
FREQUENCY • PERCENT OF TOTAL
50
45
40
35
30
25
20
15
10
5
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-15

[redacted]

MISSION • 1009-1 • INSTR • AFT • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.70 • MEDIAN • 0.64 • STD DEV • 0.24 • RANGE • 0.28 TO 1.42 WITH 203 SAMPLES



[redacted]

FIGURE 8-16

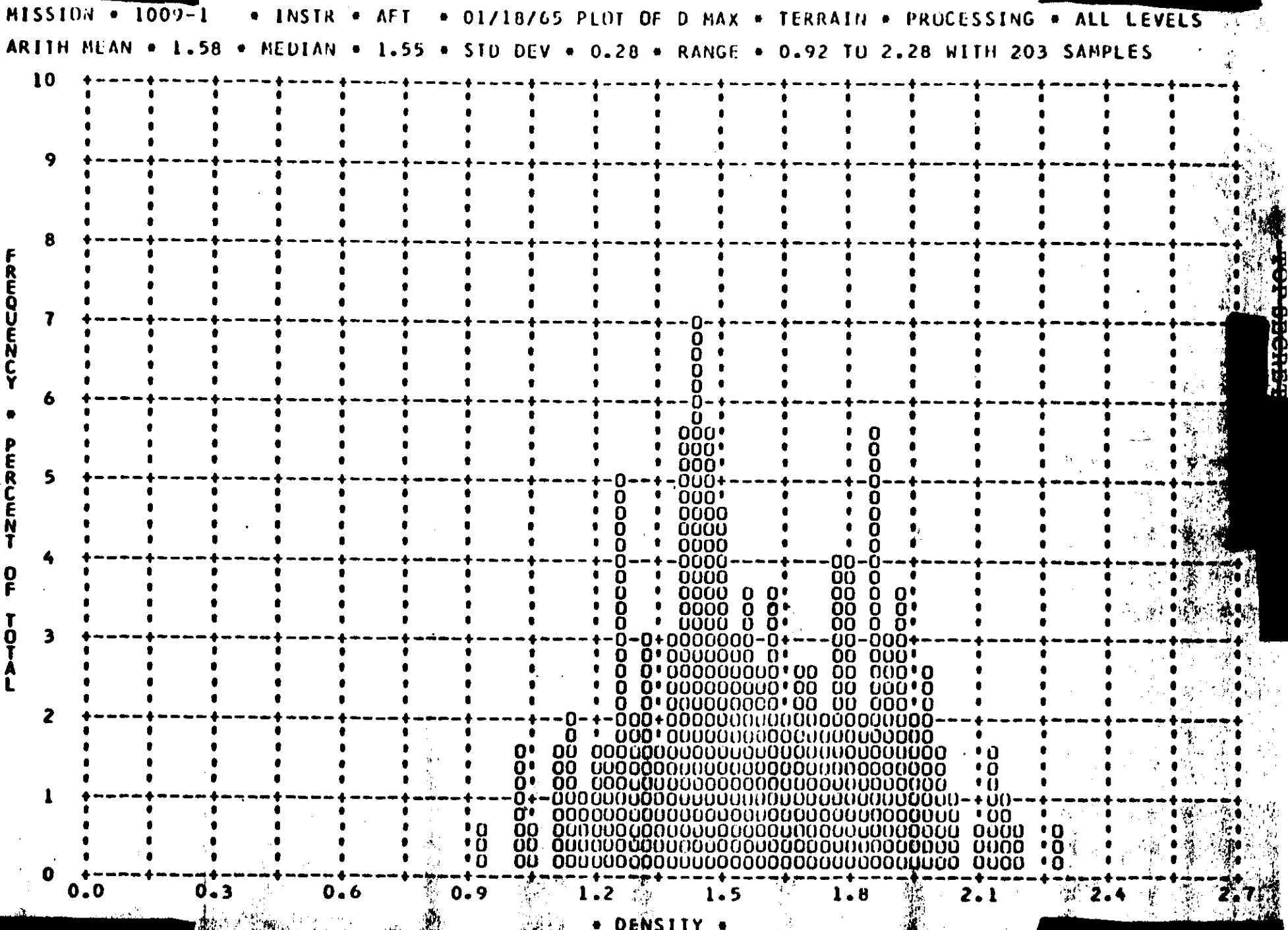

MISSION • 1009-1 • INSTR • AFT • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.58 • MEDIAN • 1.55 • STD DEV • 0.28 • RANGE • 0.92 TO 2.28 WITH 203 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-17

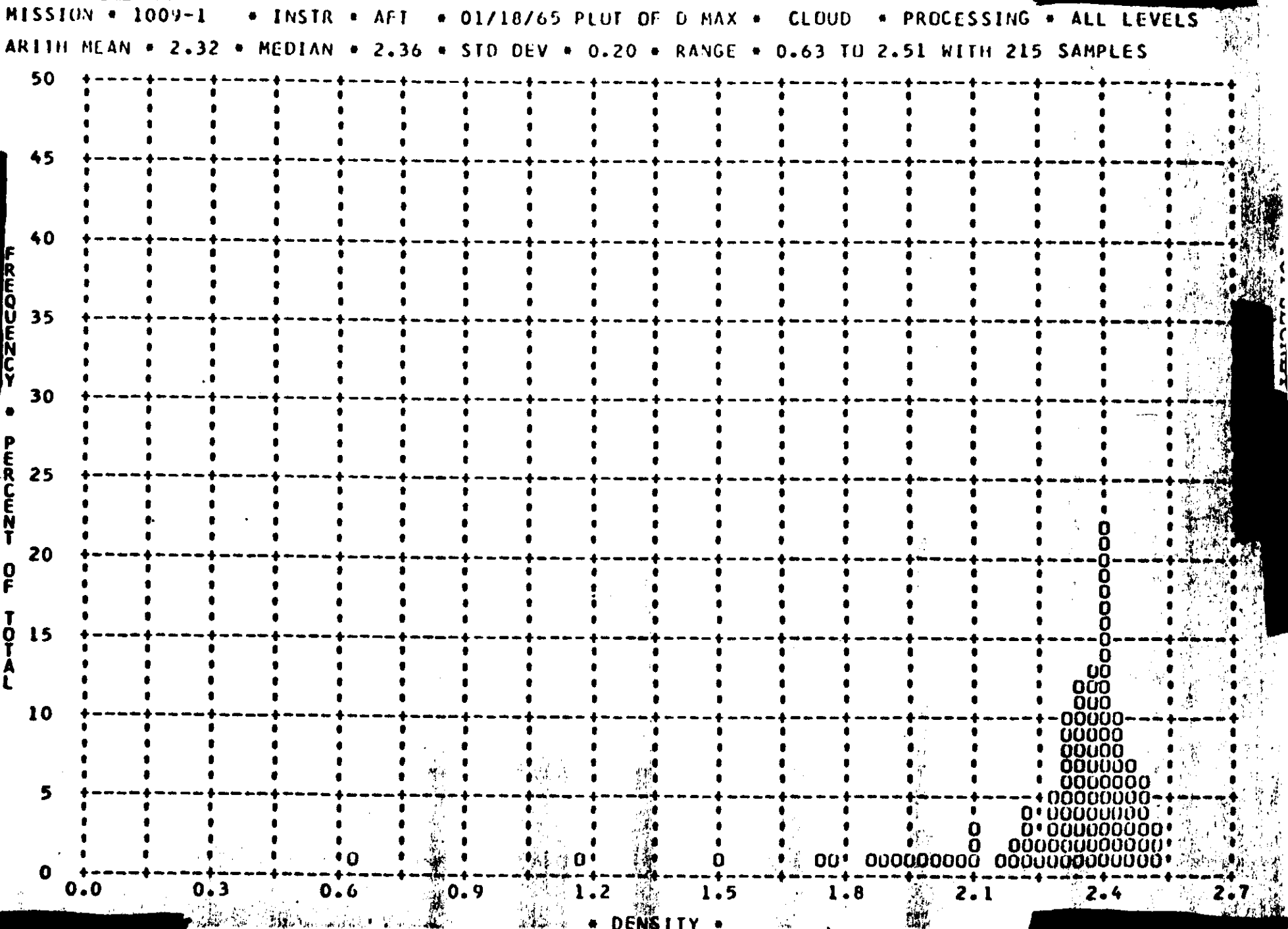

MISSION • 1009-1 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS
ARITH MEAN • 2.32 • MEDIAN • 2.36 • STD DEV • 0.20 • RANGE • 0.63 TO 2.51 WITH 215 SAMPLES
FREQUENCY • PERCENT OF TOTAL
50
45
40
35
30
25
20
15
10
5
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-18

[redacted]

MISSION • 1009-2 • INSTRUMENT • FRWD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	1	0	0	0	0	0	1	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	1	0	0	0	0	0	1	0	0
0.31	0	0	0	1	0	0	1	0	0	2	0	0
0.32	0	0	0	1	0	0	1	0	0	2	0	0
0.33	0	0	0	0	0	0	1	0	0	1	0	0
0.34	0	0	0	1	0	0	0	0	0	1	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	1	0	0	2	0	0	3	0	0
0.37	0	0	0	1	0	0	0	0	0	1	0	0
0.38	0	0	0	4	0	0	3	0	0	7	0	0
0.39	0	0	0	1	0	0	2	0	0	3	0	0
0.40	0	0	0	0	0	0	2	0	0	2	0	0
0.41	0	0	0	0	0	0	0	0	0	0	0	0
0.42	0	0	0	6	0	0	4	0	0	10	0	0
0.43	0	0	0	1	0	0	3	0	0	4	0	0
0.44	0	0	0	4	0	0	1	0	0	5	0	0
0.45	0	0	0	1	0	0	4	0	0	5	0	0
0.46	0	0	0	2	0	0	5	0	0	7	0	0
0.47	0	0	0	0	0	0	3	0	0	3	0	0
0.48	0	0	0	2	0	0	1	0	0	3	0	0
0.49	0	0	0	1	0	0	4	0	0	5	0	0
0.50	0	0	0	1	0	0	3	0	0	4	0	0
SUBTOTAL	0	0	0	29	0	0	40	0	0	69	0	0

[redacted]

TABLE 9-5

[redacted]

MISSION • 1009-2 • INSTRUMENT • FRWD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	1	0	0	3	0	0	4	0	0
0.52	0	0	0	2	0	0	2	0	0	4	0	0
0.53	0	0	0	2	0	0	4	0	0	6	0	0
0.54	0	0	0	0	0	0	4	0	0	4	0	0
0.55	0	0	0	1	0	0	0	0	0	1	0	0
0.56	0	0	0	1	0	0	1	0	0	2	0	0
0.57	0	0	0	1	0	0	1	0	0	2	0	0
0.58	0	0	0	1	4	0	2	0	0	3	0	0
0.59	0	0	0	4	0	0	4	0	0	8	0	0
0.60	0	0	0	1	0	0	4	0	0	5	0	0
0.61	0	0	0	2	0	0	3	0	0	5	0	0
0.62	0	0	0	4	0	0	5	0	0	9	0	0
0.63	0	0	0	0	0	0	3	0	0	3	0	0
0.64	0	0	0	2	0	0	3	0	0	5	0	0
0.65	0	0	0	1	0	0	0	0	0	1	0	0
0.66	0	0	0	0	0	0	1	0	0	1	0	0
0.67	0	0	0	3	0	0	1	0	0	4	0	0
0.68	0	0	0	1	0	0	1	0	0	2	0	0
0.69	0	0	0	2	0	0	2	0	0	4	0	0
0.70	0	0	0	1	0	0	1	0	0	2	0	0
0.71	0	0	0	3	0	0	2	0	0	5	0	0
0.72	0	0	0	4	0	0	2	0	0	6	0	0
0.73	0	0	0	1	0	0	6	1	0	7	1	0
0.74	0	0	0	0	0	0	1	0	0	1	0	0
0.75	0	0	0	1	0	0	1	0	0	2	0	0
0.76	0	0	0	0	0	0	2	0	0	2	0	0
0.77	0	0	0	2	0	0	2	0	0	4	0	0
0.78	0	0	0	1	0	0	1	0	0	2	0	0
0.79	0	0	0	2	0	0	2	0	0	4	0	0
0.80	0	0	0	1	0	0	2	0	0	3	0	0
0.81	0	0	0	4	0	0	3	0	0	7	0	0
0.82	0	0	0	2	0	0	4	0	0	6	0	0
0.83	0	0	0	1	0	0	1	0	0	2	0	0
0.84	0	0	0	0	0	0	3	0	0	3	0	0
0.85	0	0	0	1	0	0	1	0	0	2	0	0
0.86	0	0	0	1	0	0	0	0	0	1	0	0
0.87	0	0	0	1	0	0	1	0	0	2	0	0
0.88	0	0	0	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	2	0	0	2	0	0
0.90	0	0	0	0	0	0	2	0	0	2	0	0
0.91	0	0	0	2	1	0	0	0	0	2	1	0
0.92	0	0	0	0	1	0	1	0	0	1	1	0
0.93	0	0	0	1	0	0	1	0	0	2	0	0
0.94	0	0	0	0	1	0	2	1	0	2	1	0
0.95	0	0	0	0	1	0	2	1	0	2	1	0
0.96	0	0	0	2	0	0	1	0	0	3	0	0
0.97	0	0	0	0	0	0	2	1	0	2	1	0
0.98	0	0	0	0	0	0	0	0	0	0	0	0
0.99	0	0	0	0	2	0	0	0	0	0	2	0
1.00	0	0	0	2	0	0	0	0	0	2	0	0
SUBTOTAL	0	0	0	64	6	0	92	4	0	156	10	0

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MISSION • 1009-2 • INSTRUMENT • FRHD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	0	0	0	0	0	0	0	0	0
1.03	0	0	0	0	0	0	4	0	0	4	0	0
1.04	0	0	0	0	0	0	3	0	0	3	0	0
1.05	0	0	0	0	0	0	0	1	0	0	1	0
1.06	0	0	0	0	0	0	0	2	1	0	2	1
1.07	0	0	0	0	2	0	0	1	0	0	3	0
1.08	0	0	0	2	0	0	0	0	0	2	0	0
1.09	0	0	0	0	0	0	0	0	0	0	0	0
1.10	0	0	0	1	0	0	1	2	0	2	2	0
1.11	0	0	0	1	1	0	0	1	0	1	1	0
1.12	0	0	0	0	0	0	0	1	1	0	1	1
1.13	0	0	0	0	0	0	0	1	1	0	1	1
1.14	0	0	0	0	0	0	1	1	0	1	1	0
1.15	0	0	0	0	1	0	0	1	2	0	1	3
1.16	0	0	0	0	0	0	0	1	2	0	1	3
1.17	0	0	0	0	0	0	0	1	3	0	1	3
1.18	0	0	0	0	0	0	1	2	2	1	2	2
1.19	0	0	0	0	0	0	2	0	2	2	0	2
1.20	0	0	0	0	0	0	2	0	1	2	0	1
1.21	0	0	0	0	0	0	2	0	2	2	0	2
1.22	0	0	0	0	1	0	0	0	1	0	1	1
1.23	0	0	0	0	3	0	0	0	3	0	3	3
1.24	0	0	0	1	0	0	0	1	1	1	1	1
1.25	0	0	0	0	1	0	1	1	2	1	2	2
1.26	0	0	0	0	0	0	1	2	1	1	2	1
1.27	0	0	0	0	1	0	0	3	0	0	4	0
1.28	0	0	0	0	0	0	1	5	0	1	5	0
1.29	0	0	0	0	3	0	1	3	0	1	6	0
1.30	0	0	0	1	1	0	0	3	0	1	4	0
1.31	0	0	0	0	0	0	0	3	0	0	0	0
1.32	0	0	0	0	2	0	0	3	0	0	5	0
1.33	0	0	0	0	0	0	0	1	0	0	1	0
1.34	0	0	0	0	1	0	0	2	0	0	3	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	2	0	0	2	0	0	4	0
1.37	0	0	0	0	1	0	0	2	0	0	3	0
1.38	0	0	0	0	2	0	0	1	0	0	3	0
1.39	0	0	0	0	1	0	0	2	0	0	3	0
1.40	0	0	0	0	0	0	0	1	1	0	1	1
1.41	0	0	0	0	1	0	0	1	0	0	2	0
1.42	0	0	0	0	0	0	0	1	0	0	1	0
1.43	0	0	0	0	2	0	1	0	0	1	2	0
1.44	0	0	0	0	1	0	0	2	0	0	3	0
1.45	0	0	0	0	1	0	1	4	0	1	5	0
1.46	0	0	0	0	1	0	0	2	0	0	3	0
1.47	0	0	0	0	0	0	0	2	0	0	2	0
1.48	0	0	0	0	2	0	0	3	0	0	5	0
1.49	0	0	0	0	1	0	0	0	0	0	1	0
1.50	0	0	0	0	1	0	0	0	0	0	1	0
SUBTOTAL	0	0	0	7	32	0	21	75	6	28	107	6

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MISSION • 1009-2 • INSTRUMENT • FRWD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	1	0	0	2	1	0	3	1
1.52	0	0	0	0	1	0	0	3	1	0	4	1
1.53	0	0	0	0	1	0	0	3	1	0	4	1
1.54	0	0	0	0	1	0	0	3	1	0	4	1
1.55	0	0	0	0	2	0	0	3	1	0	4	1
1.56	0	0	0	0	2	0	0	3	1	0	4	1
1.57	0	0	0	0	2	0	0	4	1	0	5	1
1.58	0	0	0	0	1	0	0	4	2	0	5	2
1.59	0	0	0	0	1	0	0	4	2	0	5	2
1.60	0	0	0	0	1	0	0	4	2	0	5	2
1.61	0	0	0	0	1	0	0	4	2	0	5	2
1.62	0	0	0	0	1	0	0	4	2	0	5	2
1.63	0	0	0	0	1	0	0	4	2	0	5	2
1.64	0	0	0	0	1	0	0	4	2	0	5	2
1.65	0	0	0	0	1	0	0	4	2	0	5	2
1.66	0	0	0	0	2	0	0	4	2	0	5	2
1.67	0	0	0	0	2	0	0	4	2	0	5	2
1.68	0	0	0	0	1	0	0	4	2	0	5	2
1.69	0	0	0	0	1	0	0	4	2	0	5	2
1.70	0	0	0	0	1	0	0	4	2	0	5	2
1.71	0	0	0	0	1	0	0	4	2	0	5	2
1.72	0	0	0	0	1	0	0	4	2	0	5	2
1.73	0	0	0	0	1	0	0	4	2	0	5	2
1.74	0	0	0	0	1	0	0	4	2	0	5	2
1.75	0	0	0	0	1	0	0	4	2	0	5	2
1.76	0	0	0	0	1	0	0	4	2	0	5	2
1.77	0	0	0	0	1	0	0	4	2	0	5	2
1.78	0	0	0	0	1	0	0	4	2	0	5	2
1.79	0	0	0	0	1	0	0	4	2	0	5	2
1.80	0	0	0	0	1	0	0	4	2	0	5	2
1.81	0	0	0	0	1	0	0	4	2	0	5	2
1.82	0	0	0	0	1	0	0	4	2	0	5	2
1.83	0	0	0	0	1	0	0	4	2	0	5	2
1.84	0	0	0	0	1	0	0	4	2	0	5	2
1.85	0	0	0	0	1	0	0	4	2	0	5	2
1.86	0	0	0	0	1	0	0	4	2	0	5	2
1.87	0	0	0	0	1	0	0	4	2	0	5	2
1.88	0	0	0	0	1	0	0	4	2	0	5	2
1.89	0	0	0	0	1	0	0	4	2	0	5	2
1.90	0	0	0	0	1	0	0	4	2	0	5	2
1.91	0	0	0	0	1	0	0	4	2	0	5	2
1.92	0	0	0	0	1	0	0	4	2	0	5	2
1.93	0	0	0	0	1	0	0	4	2	0	5	2
1.94	0	0	0	0	1	0	0	4	2	0	5	2
1.95	0	0	0	0	1	0	0	4	2	0	5	2
1.96	0	0	0	0	1	0	0	4	2	0	5	2
1.97	0	0	0	0	1	0	0	4	2	0	5	2
1.98	0	0	0	0	1	0	0	4	2	0	5	2
1.99	0	0	0	0	1	0	0	4	2	0	5	2
2.00	0	0	0	0	1	0	0	4	2	0	5	2
SUBTOTAL	0	0	0	1	58	8	0	66	9	1	124	17

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MISSION • 1009-2 • INSTRUMENT • FRWD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	1	0	0	0	1	0	1	1
2.02	0	0	0	0	0	0	0	0	1	0	0	1
2.03	0	0	0	0	0	0	0	0	1	0	0	1
2.04	0	0	0	0	1	0	0	0	1	0	0	1
2.05	0	0	0	0	0	0	0	0	1	0	0	1
2.06	0	0	0	0	0	1	0	0	1	0	0	1
2.07	0	0	0	0	0	1	0	0	1	0	0	1
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	2	0	0	2	0	0	3
2.11	0	0	0	0	0	1	0	0	2	0	0	3
2.12	0	0	0	0	0	2	0	0	0	0	0	2
2.13	0	0	0	0	0	2	0	0	0	0	0	2
2.14	0	0	0	0	0	2	0	0	1	0	0	3
2.15	0	0	0	0	0	4	0	0	1	0	0	5
2.16	0	0	0	0	0	1	0	0	1	0	0	2
2.17	0	0	0	0	0	2	0	0	1	0	0	3
2.18	0	0	0	0	0	2	0	0	0	0	0	2
2.19	0	0	0	0	0	0	0	0	2	0	0	2
2.20	0	0	0	0	0	2	0	0	0	0	0	2
2.21	0	0	0	0	0	3	0	0	0	0	0	3
2.22	0	0	0	0	0	3	0	0	2	0	0	5
2.23	0	0	0	0	1	2	0	0	2	0	1	4
2.24	0	0	0	0	0	3	0	0	7	0	0	10
2.25	0	0	0	0	0	4	0	0	3	0	0	7
2.26	0	0	0	0	0	4	0	0	0	0	0	4
2.27	0	0	0	0	0	7	0	0	6	0	0	13
2.28	0	0	0	0	0	8	0	1	7	0	1	15
2.29	0	0	0	0	0	4	0	0	7	0	0	11
2.30	0	0	0	0	0	8	0	0	9	0	0	17
2.31	0	0	0	0	0	16	0	0	8	0	0	24
2.32	0	0	0	0	0	3	0	0	6	0	0	9
2.33	0	0	0	0	0	2	0	0	7	0	0	9
2.34	0	0	0	0	0	6	0	0	5	0	0	11
2.35	0	0	0	0	0	3	0	0	6	0	0	9
2.36	0	0	0	0	0	4	0	0	8	0	0	12
2.37	0	0	0	0	1	2	0	0	7	0	1	9
2.38	0	0	0	0	0	2	0	0	12	0	0	14
2.39	0	0	0	0	0	2	0	0	8	0	0	10
2.40	0	0	0	0	0	0	0	0	8	0	0	8
2.41	0	0	0	0	0	0	0	0	7	0	0	7
2.42	0	0	0	0	0	0	0	0	4	0	0	4
2.43	0	0	0	0	0	0	0	0	3	0	0	3
2.44	0	0	0	0	0	0	0	0	2	0	0	2
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	5	110	0	8	150	0	13	260

[redacted]

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MISSION • 1009-2 • INSTRUMENT • FRWD 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	101	101	118	153	153	165	254	254	283

MISSION 1009-2 INSTR - FRWD 01/18/65 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	101	0 PC	11 PC	74 PC	14 PC	1 PC
FULL	153	7 PC	0 PC	74 PC	20 PC	0 PC
ALL LEVELS	254	4 PC	4 PC	74 PC	17 PC	0 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	---------	0.91 AND
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

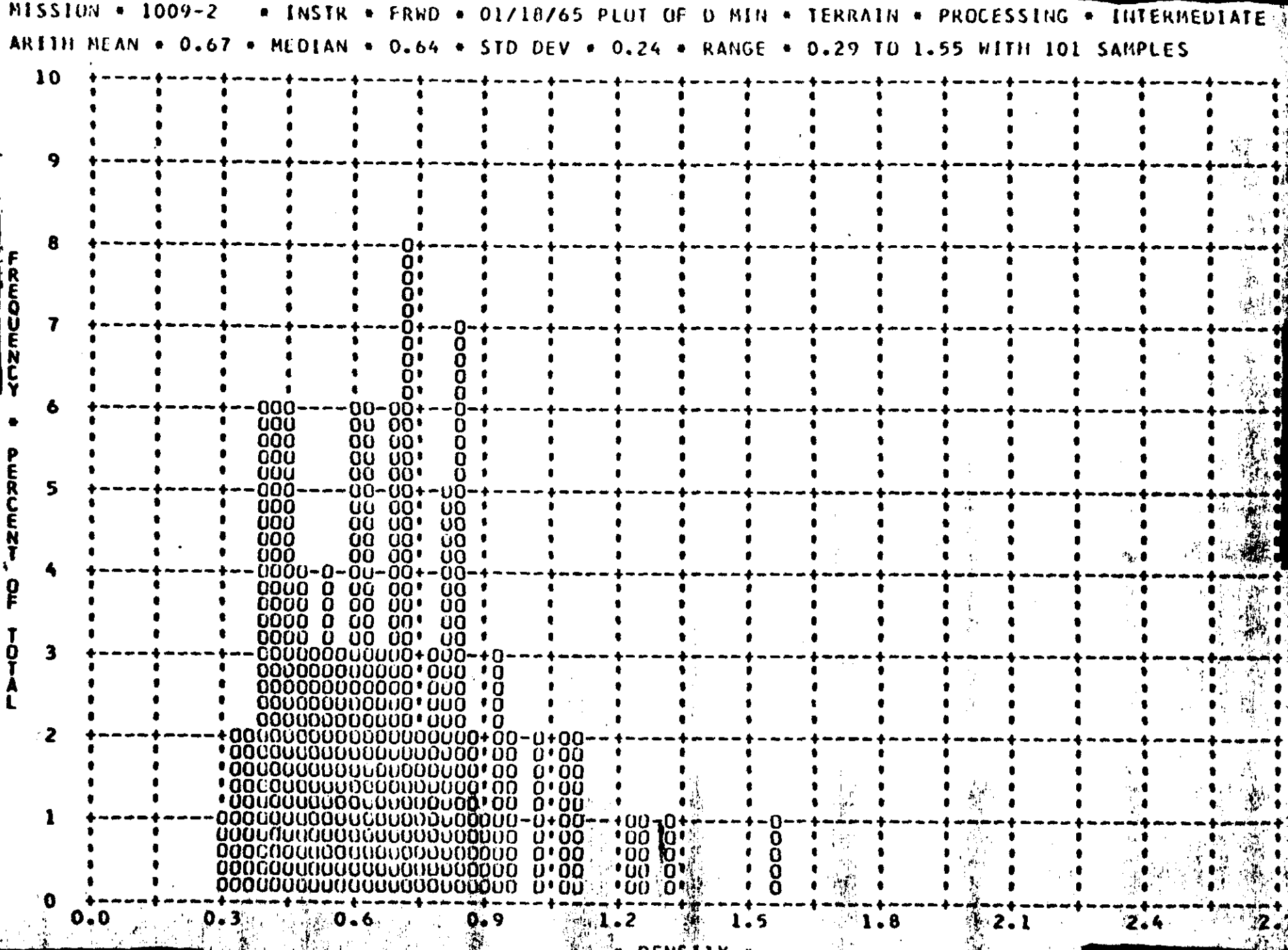
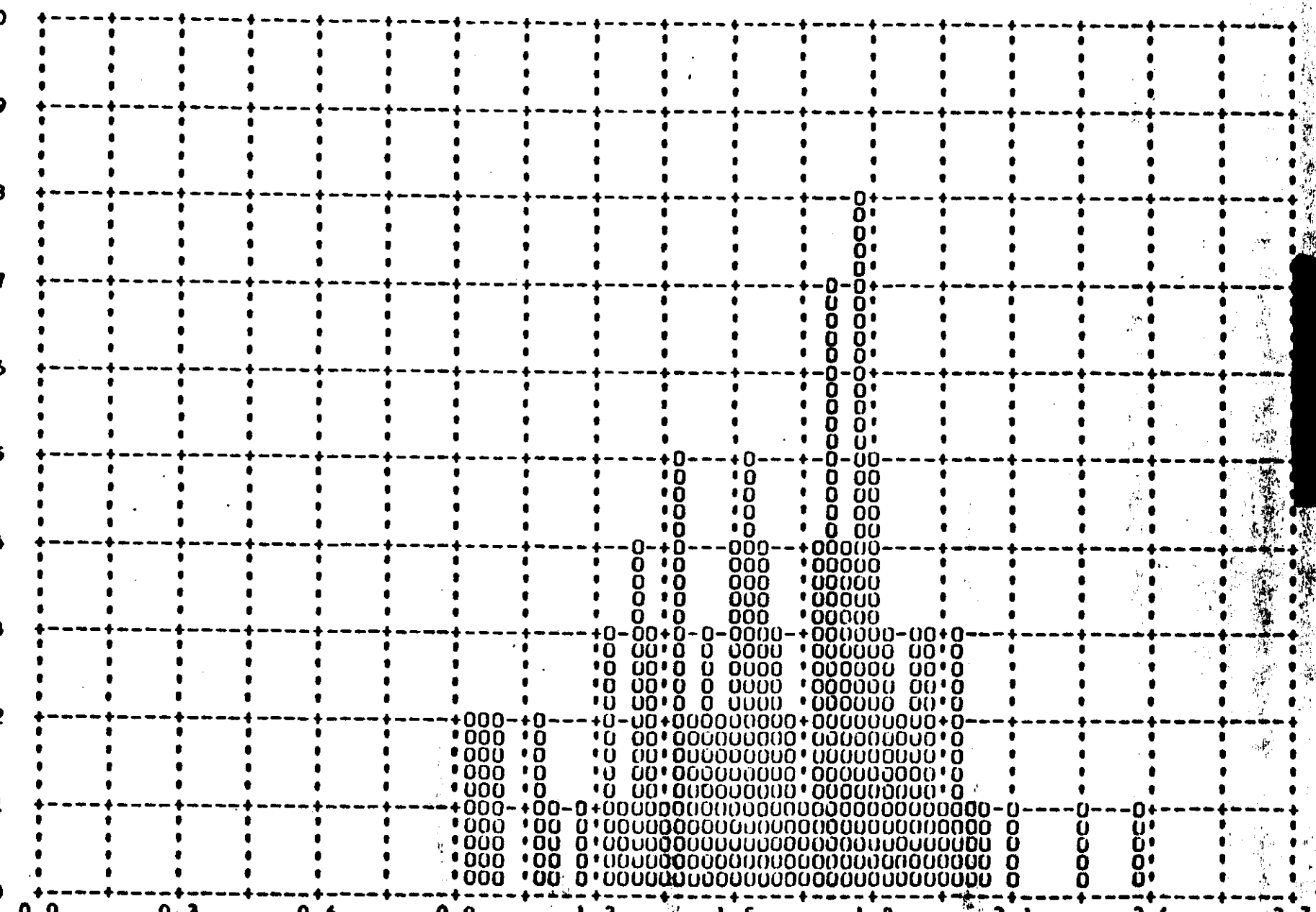

MISSION • 1009-2 • INSTR • FRWD • 01/10/65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 0.67 • MEDIAN • 0.64 • STD DEV • 0.24 • RANGE • 0.29 TO 1.55 WITH 101 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-19

[redacted]

MISSION • 1009-2 • INSTR • IRWU • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.58 • MEDIAN • 1.60 • STD DEV • 0.30 • RANGE • 0.91 TO 2.37 WITH 101 SAMPLES



[redacted]

[redacted]

FIGURE 9-20

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 2.24 • MEDIAN • 2.28 • STD DEV • 0.14 • RANGE • 1.63 TO 2.40 WITH 118 SAMPLES

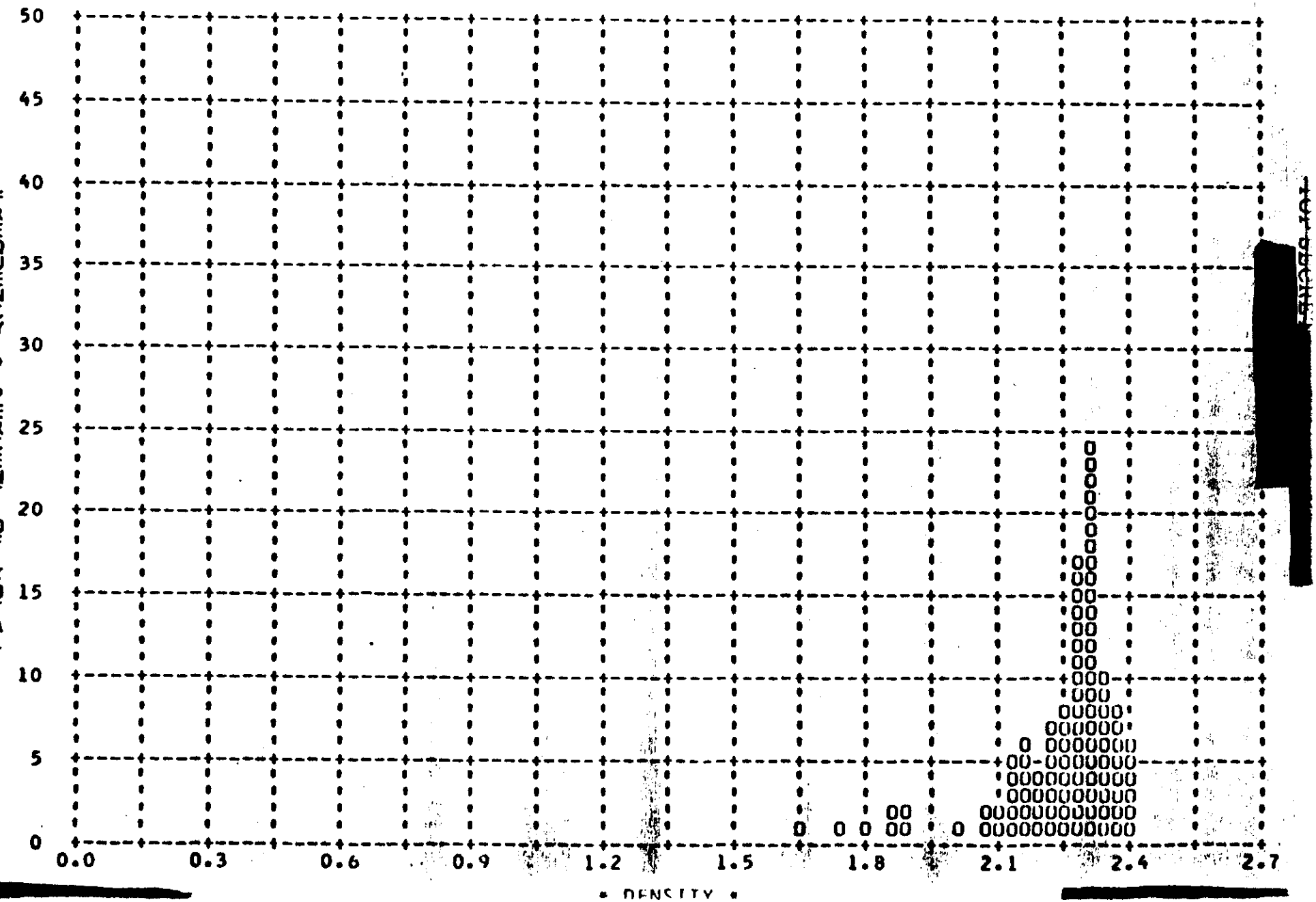


FIGURE 6-21

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.70 • MEDIAN • 0.64 • STD DEV • 0.25 • RANGE • 0.31 TO 1.45 WITH 153 SAMPLES.

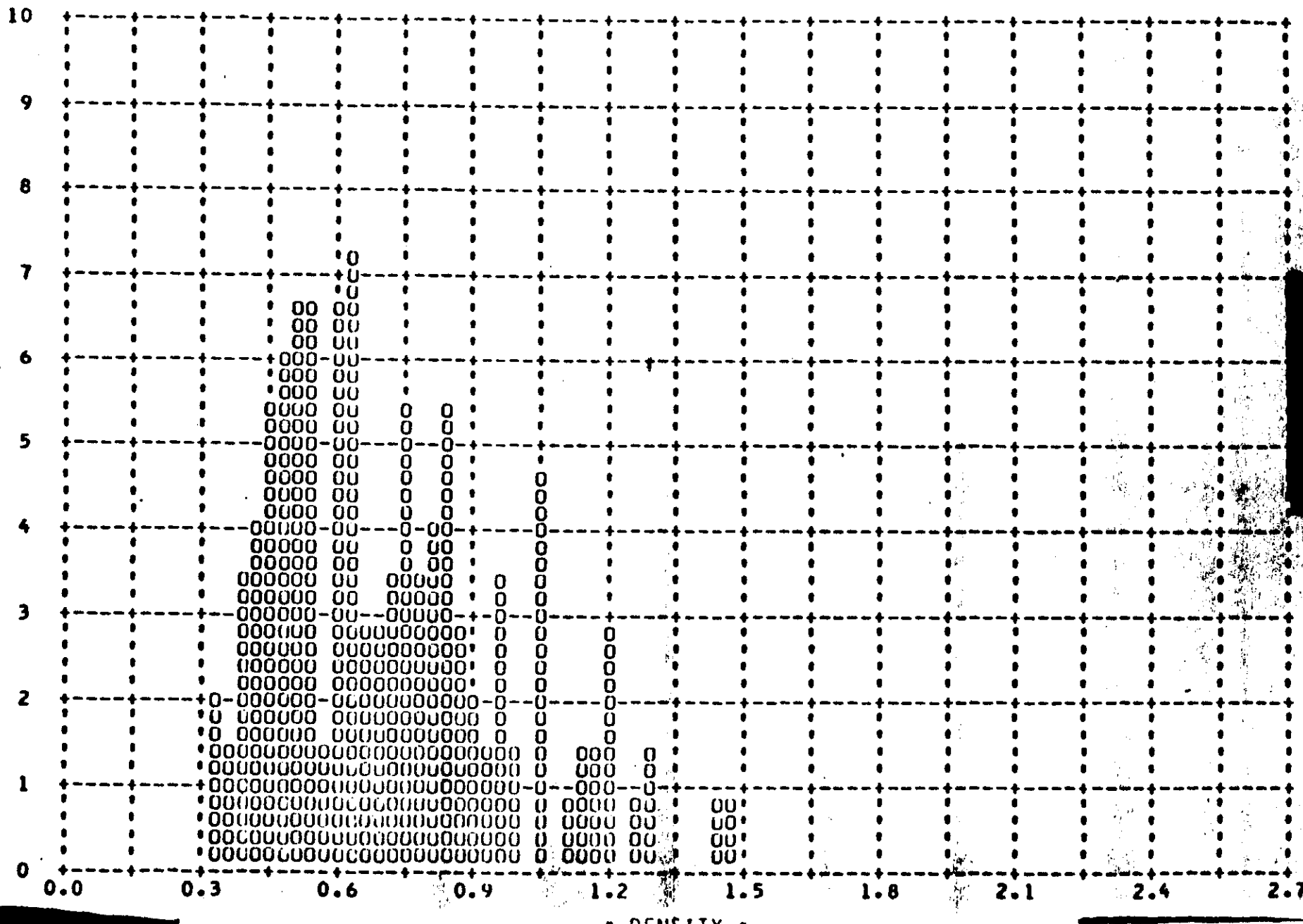


FIGURE 9-22

[redacted]

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.50 • MEDIAN • 1.48 • STD DEV • 0.29 • RANGE • 0.73 TO 2.28 WITH 153 SAMPLES

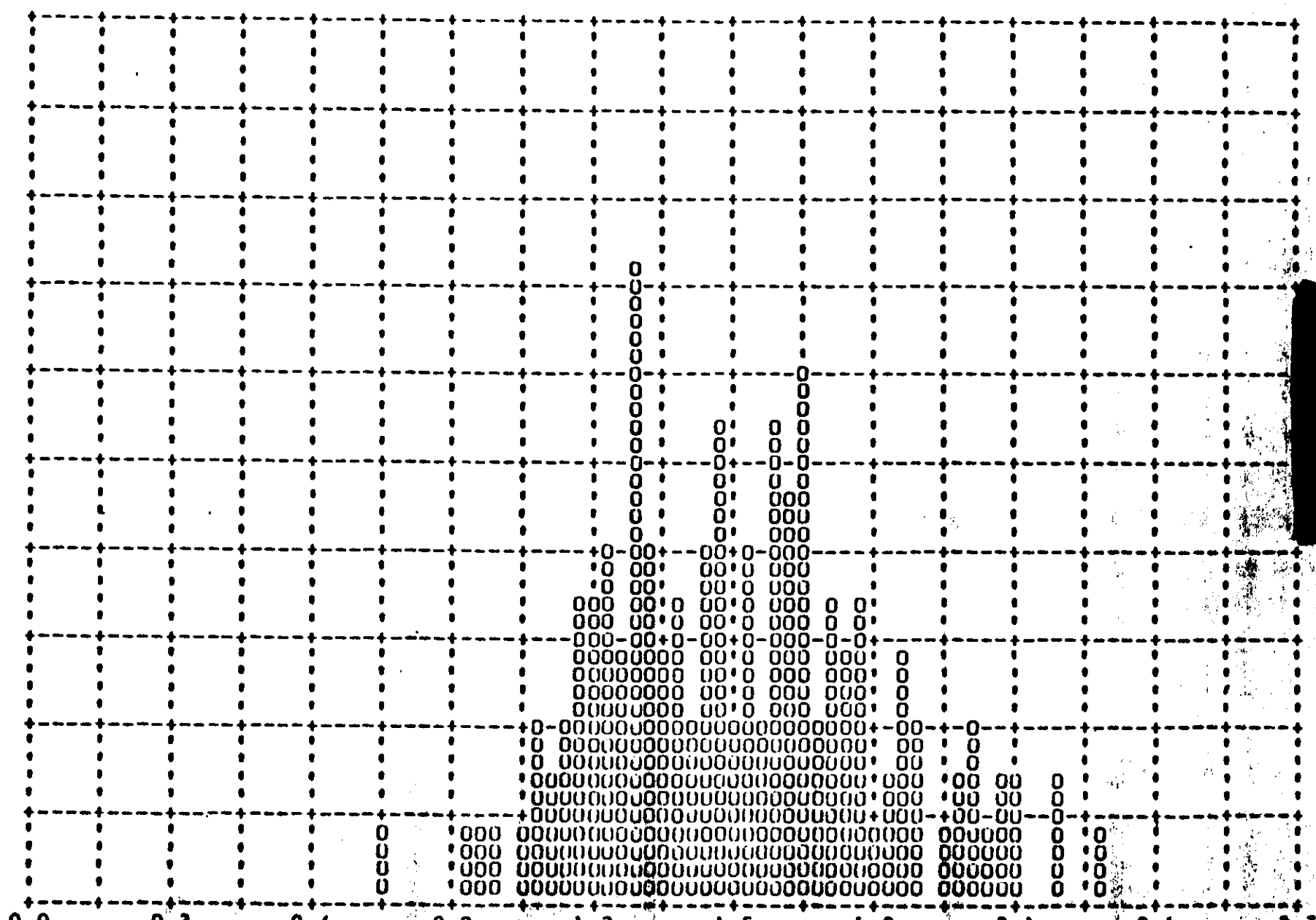
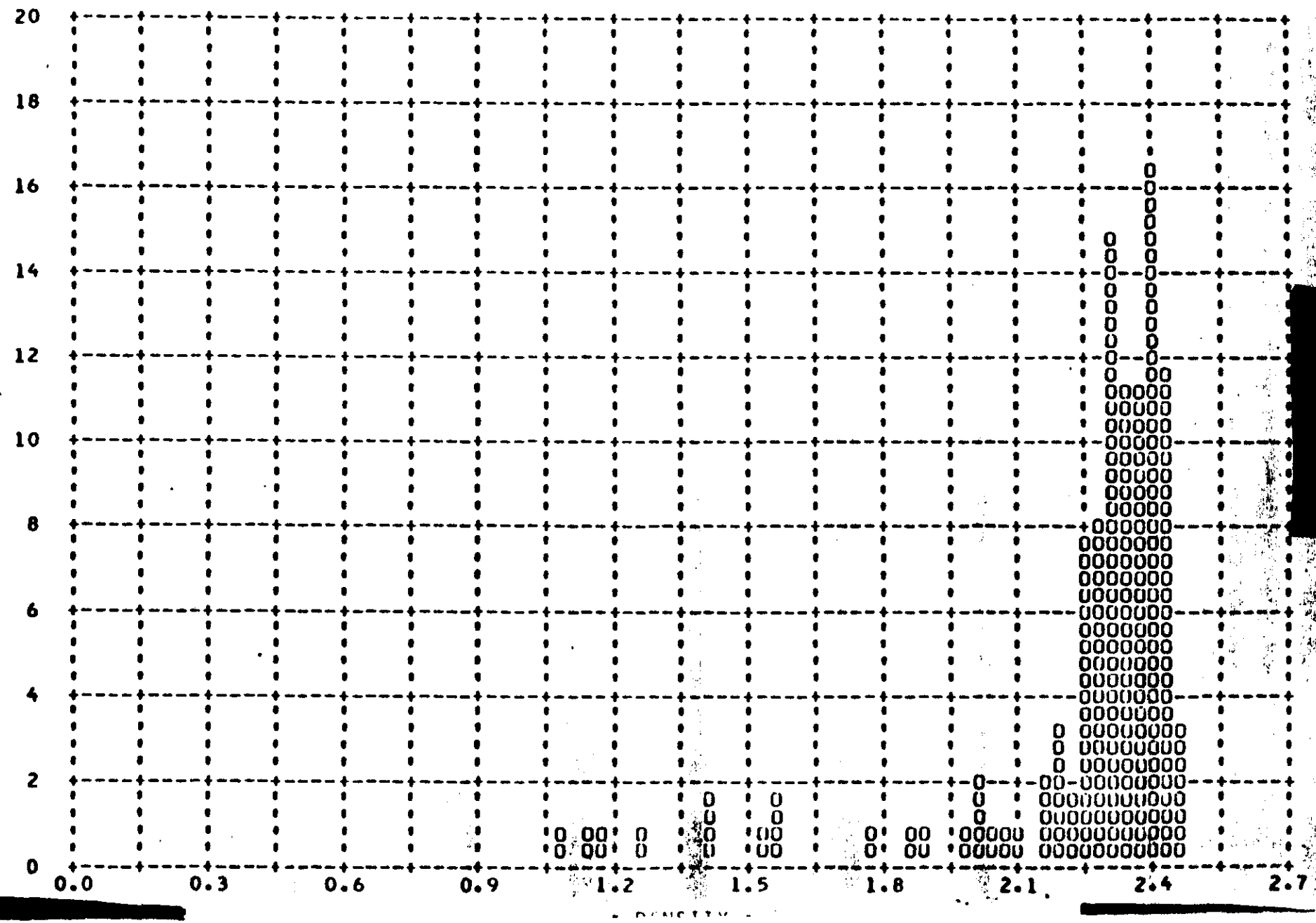


FIGURE 6-28

[redacted]



[redacted]

FIGURE 9-24

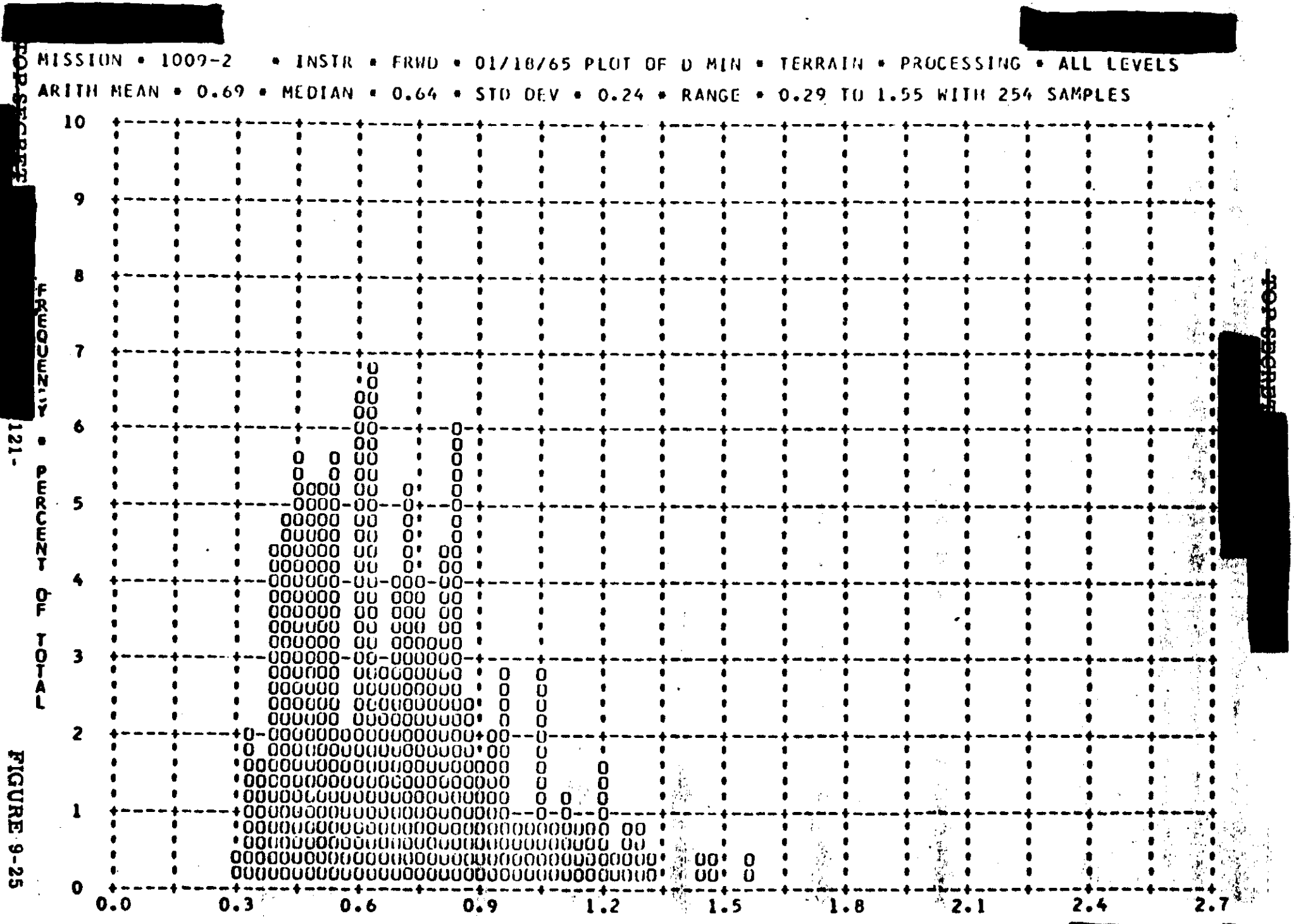

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.69 • MEDIAN • 0.64 • STD DEV • 0.24 • RANGE • 0.29 TO 1.55 WITH 254 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-25

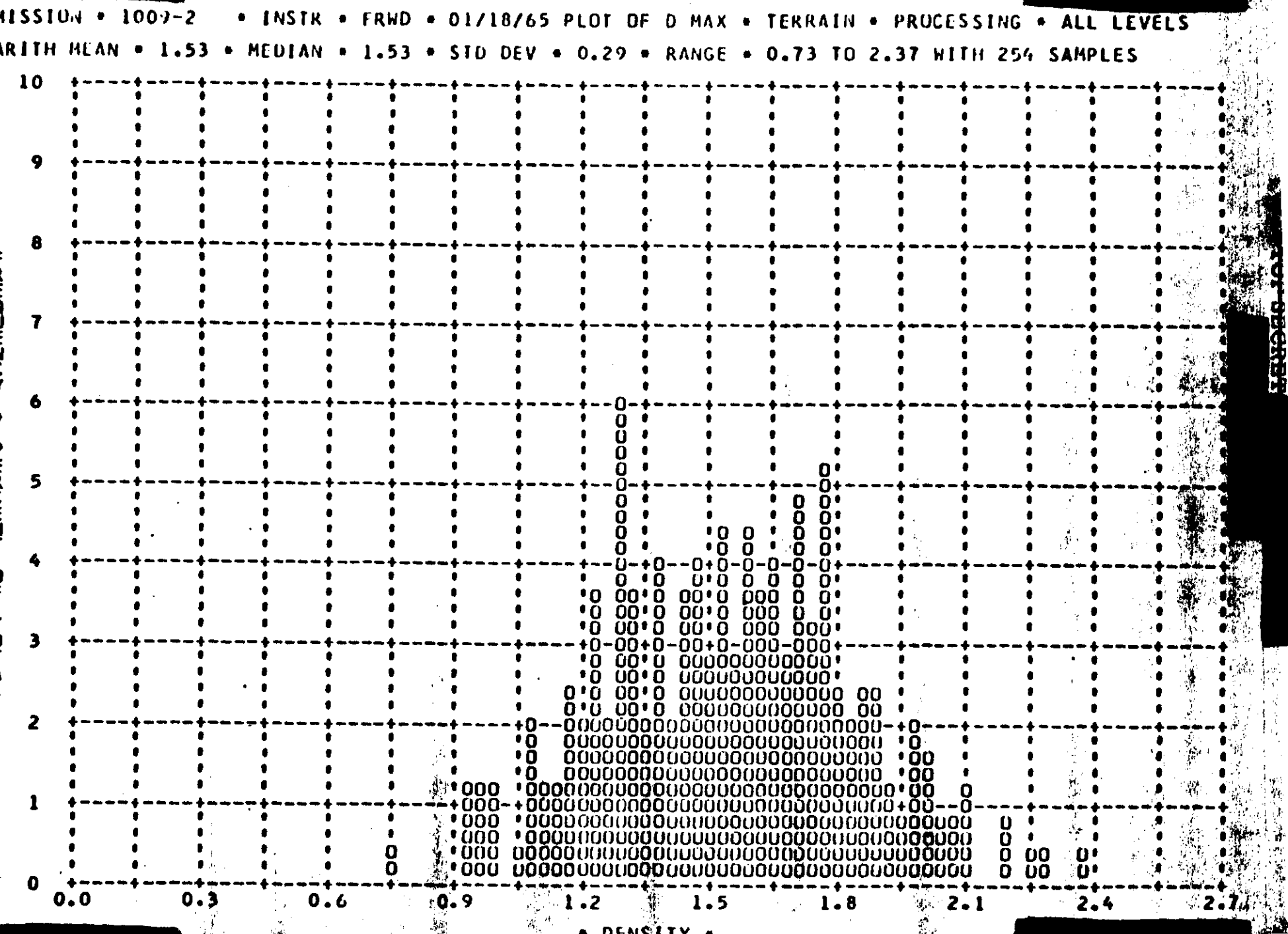

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.53 • MEDIAN • 1.53 • STD DEV • 0.29 • RANGE • 0.73 TO 2.37 WITH 254 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

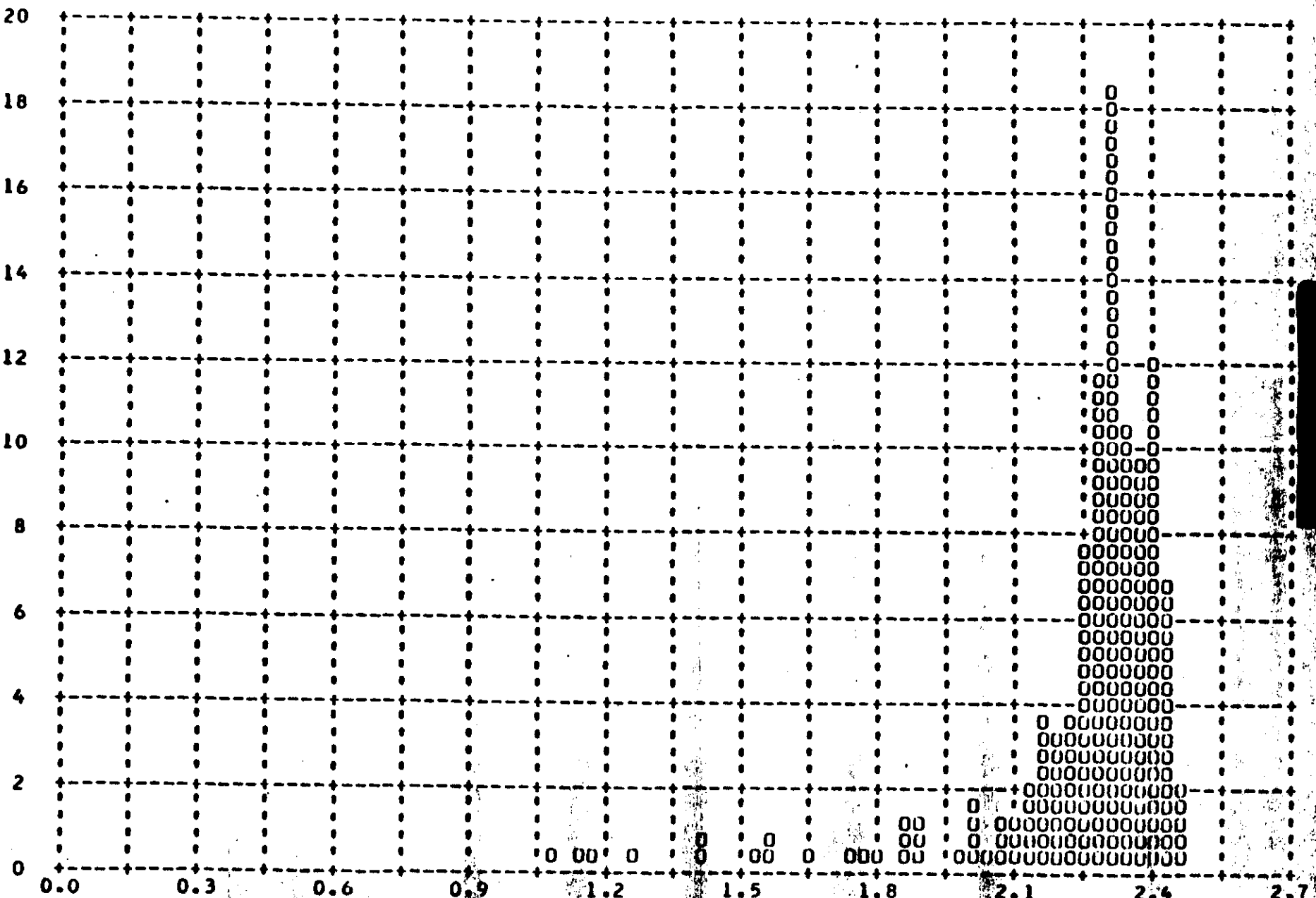
FIGURE 9-26

[redacted]

[redacted]

MISSION • 1009-2 • INSTR • FRWD • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 2.25 • MEDIAN • 2.30 • STD DEV • 0.21 • RANGE • 1.06 TO 2.45 WITH 283 SAMPLES



[redacted]

[redacted]

FIGURE 9-27

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	1	0	0	0	0	0	1	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	1	0	0	0	0	0	1	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	1	0	0	0	0	0	1	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	1	0	0	0	0	0	1	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	2	0	0	1	0	0	3	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	2	0	0	0	0	0	2	0	0
0.39	0	0	0	1	0	0	0	0	0	1	0	0
0.40	0	0	0	1	0	0	0	0	0	1	0	0
0.41	0	0	0	2	0	0	3	0	0	5	0	0
0.42	0	0	0	3	0	0	0	0	0	3	0	0
0.43	0	0	0	1	0	0	1	0	0	2	0	0
0.44	0	0	0	3	1	0	2	0	0	5	1	0
0.45	0	0	0	2	0	0	1	0	0	3	0	0
0.46	0	0	0	0	0	0	7	0	0	7	0	0
0.47	0	0	0	2	0	0	2	0	0	4	0	0
0.48	0	0	0	4	0	0	4	0	0	8	0	0
0.49	0	0	0	2	0	0	4	0	0	6	0	0
0.50	0	0	0	2	0	0	1	0	0	3	0	0
SUBTOTAL	0	0	0	31	1	0	27	0	0	58	1	0

[redacted]

TABLE 9-6

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	4	0	0	4	0	0	8	0	0
0.52	0	0	0	4	0	0	1	0	0	5	0	0
0.53	0	0	0	2	0	0	3	0	0	5	0	0
0.54	0	0	0	1	0	0	1	0	0	2	0	0
0.55	0	0	0	3	0	0	2	0	0	5	0	0
0.56	0	0	0	3	0	0	3	0	0	6	0	0
0.57	0	0	0	1	0	0	4	0	0	5	0	0
0.58	0	0	0	1	0	0	1	0	0	2	0	0
0.59	0	0	0	2	0	0	1	0	0	3	0	0
0.60	0	0	0	5	0	0	1	0	0	6	0	0
0.61	0	0	0	3	0	0	4	0	0	7	0	0
0.62	0	0	0	2	0	0	2	0	0	4	0	0
0.63	0	0	0	3	0	0	3	0	0	6	0	0
0.64	0	0	0	4	0	0	3	0	0	7	0	0
0.65	0	0	0	2	1	0	3	0	0	6	1	0
0.66	0	0	0	3	0	0	3	0	0	6	0	0
0.67	0	0	0	1	0	0	3	0	0	5	0	0
0.68	0	0	0	2	0	0	3	0	0	5	0	0
0.69	0	0	0	2	0	0	2	0	0	4	0	0
0.70	0	0	0	0	0	0	2	0	0	2	0	0
0.71	0	0	0	1	0	0	1	0	0	2	0	0
0.72	0	0	0	3	0	0	1	0	0	4	0	0
0.73	0	0	0	3	0	0	0	0	0	3	0	0
0.74	0	0	0	5	0	0	1	0	0	6	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	2	0	0	1	0	0	3	0	0
0.77	0	0	0	3	0	0	1	0	0	4	0	0
0.78	0	0	0	2	0	0	2	0	0	4	0	0
0.79	0	0	0	2	1	0	1	0	0	3	1	0
0.80	0	0	0	3	0	0	0	0	0	3	0	0
0.81	0	0	0	4	0	0	2	0	0	6	0	0
0.82	0	0	0	0	0	0	1	0	0	1	0	0
0.83	0	0	0	1	0	0	2	0	0	3	0	0
0.84	0	0	0	0	0	0	0	0	0	0	0	0
0.85	0	0	0	2	0	0	1	0	0	3	0	0
0.86	0	0	0	2	0	0	0	0	0	2	0	0
0.87	0	0	0	0	0	0	0	0	0	0	0	0
0.88	0	0	0	2	0	0	0	0	0	2	0	0
0.89	0	0	0	1	0	0	3	0	0	4	0	0
0.90	0	0	0	1	0	0	0	0	0	1	0	0
0.91	0	0	0	1	0	0	0	0	0	1	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	2	0	0	1	0	0	3	0	0
0.94	0	0	0	1	0	0	1	0	0	2	0	0
0.95	0	0	0	0	0	0	0	0	0	0	0	0
0.96	0	0	0	0	0	0	4	0	0	4	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	2	0	0	2	0	0
0.99	0	0	0	3	0	0	0	0	0	3	0	0
1.00	0	0	0	1	0	0	1	0	0	2	0	0
SUBTOTAL	0	0	0	92	2	0	70	1	0	162	3	0

[redacted]

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	1	0	0	1	0	0	2	0	0
1.02	0	0	0	0	0	0	2	1	0	2	1	0
1.03	0	0	0	0	0	0	1	0	0	1	0	0
1.04	0	0	0	1	0	0	0	0	0	1	0	0
1.05	0	0	0	1	0	0	1	0	0	2	0	0
1.06	0	0	0	0	1	0	0	0	0	0	1	0
1.07	0	0	0	0	1	0	0	0	0	1	1	0
1.08	0	0	0	1	0	0	1	1	0	2	1	0
1.09	0	0	0	1	0	0	1	0	0	2	0	0
1.10	0	0	0	0	0	0	0	1	0	0	1	0
1.11	0	0	0	1	0	0	0	1	0	1	1	0
1.12	0	0	0	1	0	0	0	0	0	1	0	0
1.13	0	0	0	1	0	0	0	0	0	1	0	0
1.14	0	0	0	2	1	0	0	0	0	2	1	0
1.15	0	0	0	1	0	0	0	0	0	1	0	0
1.16	0	0	0	1	3	0	0	0	0	1	3	0
1.17	0	0	0	0	1	0	0	0	0	0	1	0
1.18	0	0	0	0	1	0	0	0	0	0	1	0
1.19	0	0	0	0	1	0	0	0	0	0	1	0
1.20	0	0	0	0	0	0	0	0	0	0	0	0
1.21	0	0	0	0	1	0	0	0	0	0	1	0
1.22	0	0	0	0	2	0	0	1	0	0	3	0
1.23	0	0	0	1	1	0	0	0	0	1	1	0
1.24	0	0	0	0	1	0	0	1	0	1	2	0
1.25	0	0	0	0	0	0	1	1	0	1	1	0
1.26	0	0	0	0	3	0	0	1	0	1	4	0
1.27	0	0	0	0	1	0	0	0	0	0	1	0
1.28	0	0	0	0	1	0	0	0	0	0	1	0
1.29	0	0	0	0	2	0	0	2	0	0	4	0
1.30	0	0	0	1	2	0	0	2	0	1	4	0
1.31	0	0	0	0	1	0	0	2	0	0	3	0
1.32	0	0	0	0	2	0	0	0	0	0	2	0
1.33	0	0	0	0	0	0	0	0	0	0	0	0
1.34	0	0	0	1	1	0	0	0	0	1	1	0
1.35	0	0	0	0	1	0	0	0	0	0	1	0
1.36	0	0	0	0	1	0	0	0	0	0	1	0
1.37	0	0	0	0	0	0	0	2	0	0	2	0
1.38	0	0	0	0	2	0	0	0	0	0	2	0
1.39	0	0	0	1	2	0	0	1	0	1	3	0
1.40	0	0	0	0	4	0	0	0	0	0	4	0
1.41	0	0	0	0	1	0	0	3	0	0	4	0
1.42	0	0	0	0	0	0	0	0	0	0	0	0
1.43	0	0	0	0	1	0	0	4	0	0	5	0
1.44	0	0	0	0	2	0	0	0	0	0	2	0
1.45	0	0	0	0	1	0	0	1	0	0	2	0
1.46	0	0	0	0	3	0	0	2	0	0	5	0
1.47	0	0	0	0	2	0	1	2	0	1	4	0
1.48	0	0	0	0	2	0	0	2	0	0	4	0
1.49	0	0	0	0	1	0	0	1	0	0	2	0
1.50	0	0	0	0	2	0	0	3	0	0	5	0
SUBTOTAL	0	0	0	16	47	0	12	35	0	28	82	0

[redacted]

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	2	0	0	2	0	0	4	0
1.52	0	0	0	0	1	0	0	2	0	0	3	0
1.53	0	0	0	0	5	0	0	2	0	0	7	0
1.54	0	0	0	0	2	0	0	1	0	0	3	0
1.55	0	0	0	0	3	0	0	1	0	0	4	0
1.56	0	0	0	0	2	0	0	1	0	0	3	0
1.57	0	0	0	0	1	0	0	2	0	0	3	0
1.58	0	0	0	0	2	0	0	4	0	0	6	0
1.59	0	0	0	0	1	0	0	2	0	0	3	0
1.60	0	0	0	0	1	0	0	2	0	0	3	0
1.61	0	0	0	0	1	1	0	2	0	0	3	1
1.62	0	0	0	0	3	0	0	3	0	0	6	0
1.63	0	0	0	0	0	0	0	3	0	0	3	0
1.64	0	0	0	0	4	0	0	3	0	0	7	0
1.65	0	0	0	0	3	0	0	2	0	0	5	0
1.66	0	0	0	0	0	0	0	1	0	0	1	0
1.67	0	0	0	0	2	0	0	1	0	0	3	0
1.68	0	0	0	0	2	0	0	3	2	0	5	2
1.69	0	0	0	0	1	0	0	1	0	0	2	0
1.70	0	0	0	0	2	0	0	2	0	0	4	0
1.71	0	0	0	0	2	0	0	1	0	0	3	0
1.72	0	0	0	0	2	0	0	1	0	0	3	0
1.73	0	0	0	0	1	0	0	2	0	0	3	0
1.74	0	0	0	0	1	0	0	0	2	0	1	2
1.75	0	0	0	0	0	0	0	0	2	0	0	2
1.76	0	0	0	0	3	0	0	2	0	0	5	0
1.77	0	0	0	0	0	0	0	4	0	0	4	0
1.78	0	0	0	0	2	0	0	1	0	0	3	0
1.79	0	0	0	0	2	0	0	0	0	0	2	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	1	0	0	3	0	0	4	0
1.82	0	0	0	0	0	0	0	3	0	0	3	0
1.83	0	0	0	0	0	1	0	0	0	0	0	1
1.84	0	0	0	0	0	1	0	0	0	0	0	1
1.85	0	0	0	0	0	1	0	0	2	0	0	3
1.86	0	0	0	0	0	1	0	0	1	0	0	2
1.87	0	0	0	0	0	1	0	0	1	0	0	1
1.88	0	0	0	0	0	1	0	0	1	0	0	1
1.89	0	0	0	0	0	2	0	0	1	0	0	2
1.90	0	0	0	0	0	2	0	0	2	0	0	2
1.91	0	0	0	0	0	2	0	0	1	0	0	2
1.92	0	0	0	0	0	2	0	0	1	0	0	2
1.93	0	0	0	0	0	1	0	0	0	0	0	1
1.94	0	0	0	0	0	1	0	0	1	0	0	1
1.95	0	0	0	0	0	0	0	0	1	0	0	1
1.96	0	0	0	0	0	1	0	0	1	0	0	1
1.97	0	0	0	0	0	2	0	0	0	0	0	2
1.98	0	0	0	0	0	1	0	0	0	0	0	1
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	2	0	71	4	0	69	6	0	140	12

[redacted]

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	2	0	0	1	0	0	3	0
2.02	0	0	0	0	2	1	0	0	0	0	2	1
2.03	0	0	0	0	1	0	0	0	0	0	1	0
2.04	0	0	0	0	1	0	0	0	0	0	1	0
2.05	0	0	0	0	1	0	0	0	1	0	1	1
2.06	0	0	0	0	1	1	0	0	1	0	1	2
2.07	0	0	0	0	1	0	0	0	0	0	1	0
2.08	0	0	0	0	1	1	0	0	0	0	1	1
2.09	0	0	0	0	2	0	0	0	0	0	2	0
2.10	0	0	0	0	2	0	0	0	1	0	2	1
2.11	0	0	0	0	1	2	0	0	2	0	2	4
2.12	0	0	0	0	1	2	0	1	2	0	2	4
2.13	0	0	0	0	1	1	0	1	0	0	2	1
2.14	0	0	0	0	2	1	0	1	0	0	3	1
2.15	0	0	0	0	0	3	0	0	0	0	0	3
2.16	0	0	0	0	0	1	0	0	0	0	0	1
2.17	0	0	0	0	0	1	0	0	1	0	0	2
2.18	0	0	0	0	0	5	0	1	1	0	0	6
2.19	0	0	0	0	0	1	0	1	2	0	0	3
2.20	0	0	0	0	0	2	0	0	2	0	0	4
2.21	0	0	0	0	0	2	0	0	0	0	0	2
2.22	0	0	0	0	0	3	0	0	2	0	0	5
2.23	0	0	0	0	0	0	0	0	2	0	0	2
2.24	0	0	0	0	0	5	0	0	3	0	0	8
2.25	0	0	0	0	0	3	0	0	3	0	0	6
2.26	0	0	0	0	1	2	0	0	1	0	1	3
2.27	0	0	0	0	0	7	0	0	2	0	0	9
2.28	0	0	0	0	0	4	0	0	4	0	0	8
2.29	0	0	0	0	0	1	0	0	1	0	0	2
2.30	0	0	0	0	0	2	0	0	2	0	0	4
2.31	0	0	0	0	0	4	0	0	5	0	0	9
2.32	0	0	0	0	0	9	0	0	4	0	0	13
2.33	0	0	0	0	0	6	0	0	4	0	0	10
2.34	0	0	0	0	0	10	0	0	9	0	0	19
2.35	0	0	0	0	0	7	0	0	2	0	0	9
2.36	0	0	0	0	0	10	0	0	8	0	0	18
2.37	0	0	0	0	0	7	0	0	3	0	0	10
2.38	0	0	0	0	0	7	0	0	9	0	0	16
2.39	0	0	0	0	0	8	0	0	5	0	0	13
2.40	0	0	0	0	0	9	0	0	5	0	0	14
2.41	0	0	0	0	0	5	0	0	11	0	0	16
2.42	0	0	0	0	1	4	0	0	5	0	1	9
2.43	0	0	0	0	0	5	0	0	4	0	0	9
2.44	0	0	0	0	0	4	0	0	2	0	0	6
2.45	0	0	0	0	0	1	0	0	2	0	0	3
2.46	0	0	0	0	0	1	0	0	3	0	0	4
2.47	0	0	0	0	0	0	0	0	1	0	0	1
2.48	0	0	0	0	0	2	0	0	4	0	0	6
2.49	0	0	0	0	0	0	0	0	3	0	0	3
2.50	0	0	0	0	0	0	0	0	2	0	0	2
SUBTOTAL	0	0	0	0	18	149	0	4	122	0	22	271

[redacted]

[redacted]

MISSION • 1009-2 • INSTRUMENT • AFT 01/18/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	2	139	139	153	109	109	128	248	248	283

MISSION 1009-2 INSTR - AFT 01/18/65 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	139	0 PC	6 PC	76 PC	17 PC	1 PC
FULL	109	2 PC	0 PC	79 PC	19 PC	0 PC
ALL LEVELS	248	1 PC	4 PC	77 PC	18 PC	0 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	---------	0.91 AND
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

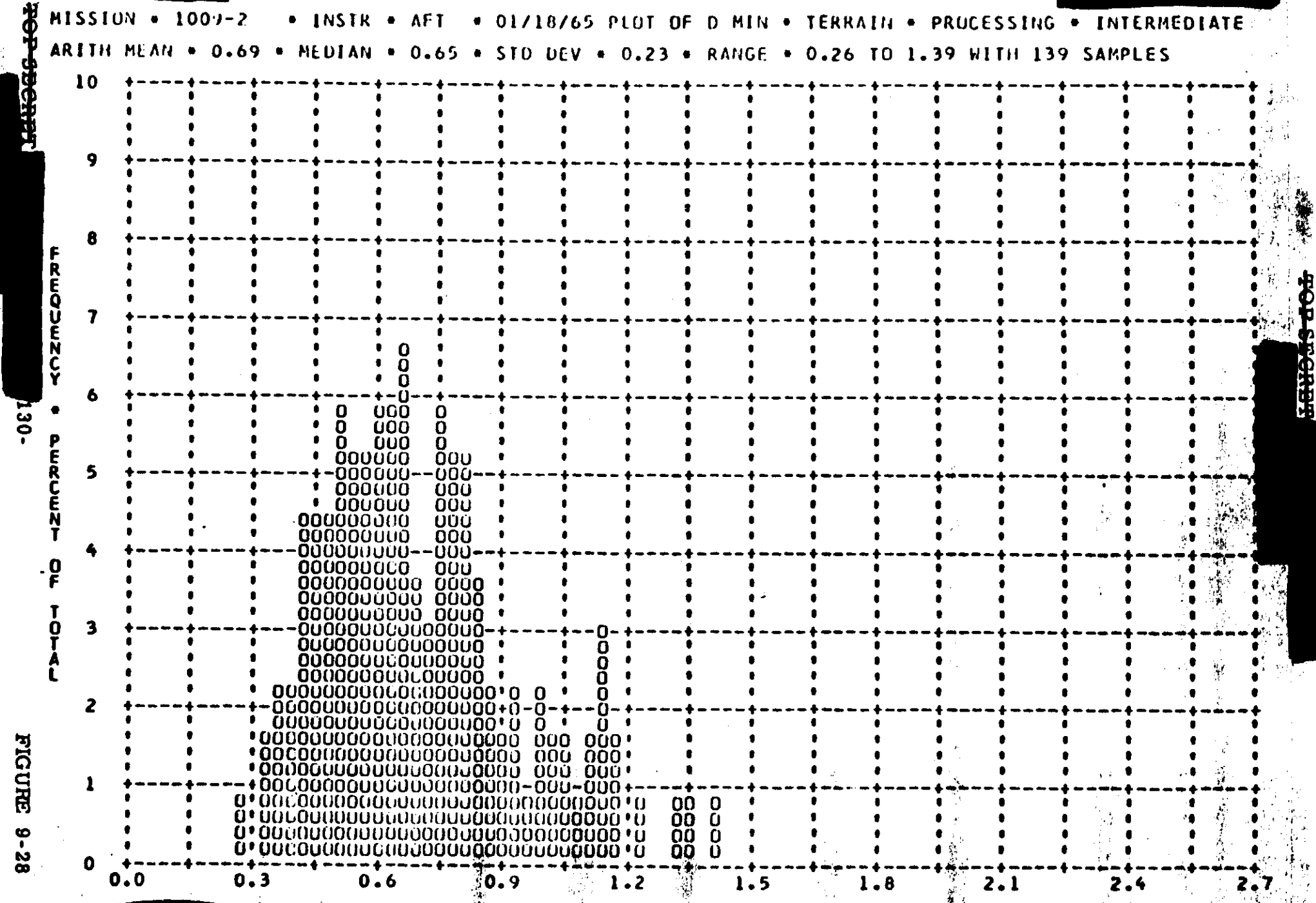


FIGURE 9-28

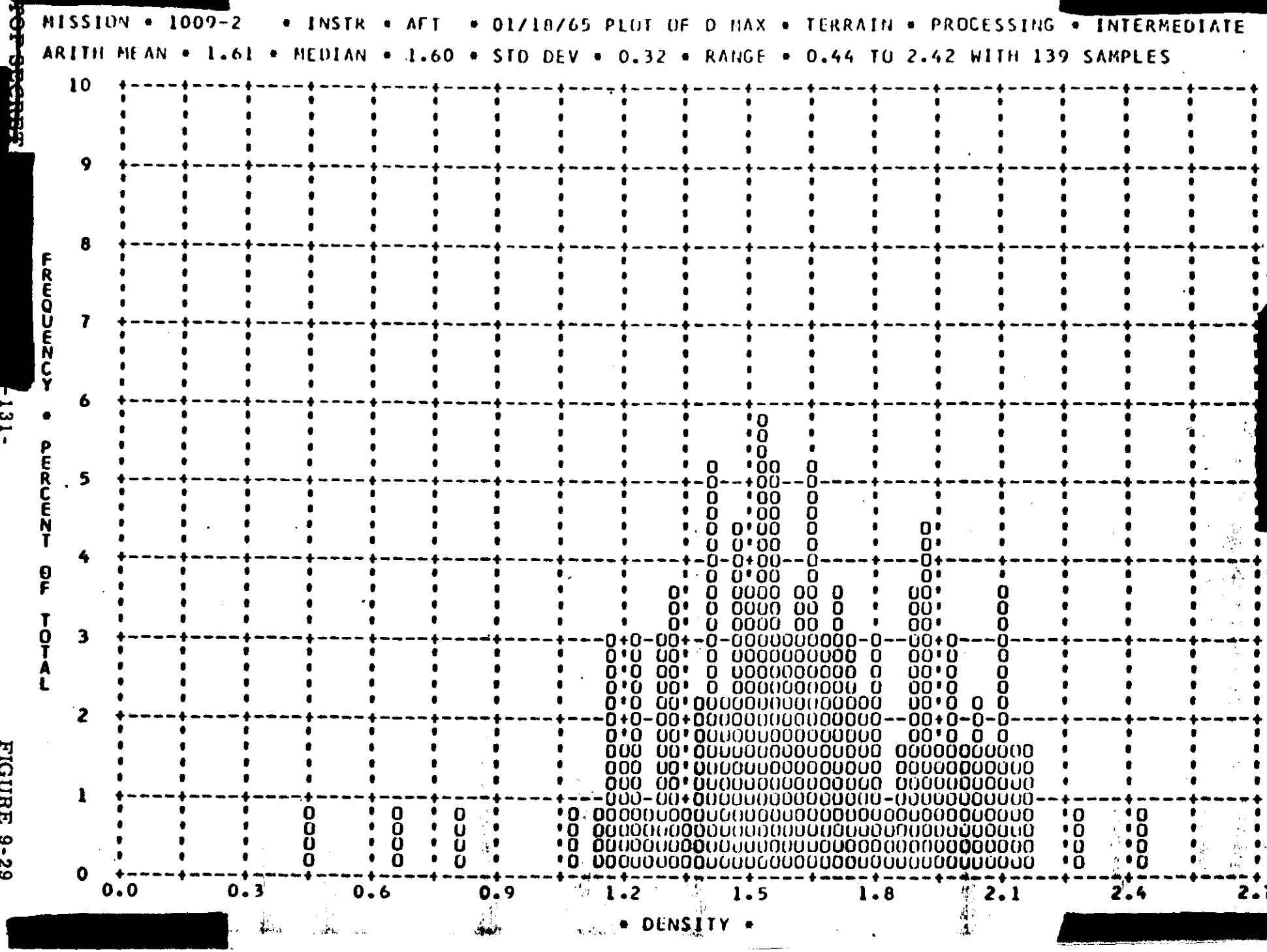

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.61 • MEDIAN • 1.60 • STD DEV • 0.32 • RANGE • 0.44 TO 2.42 WITH 139 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-29

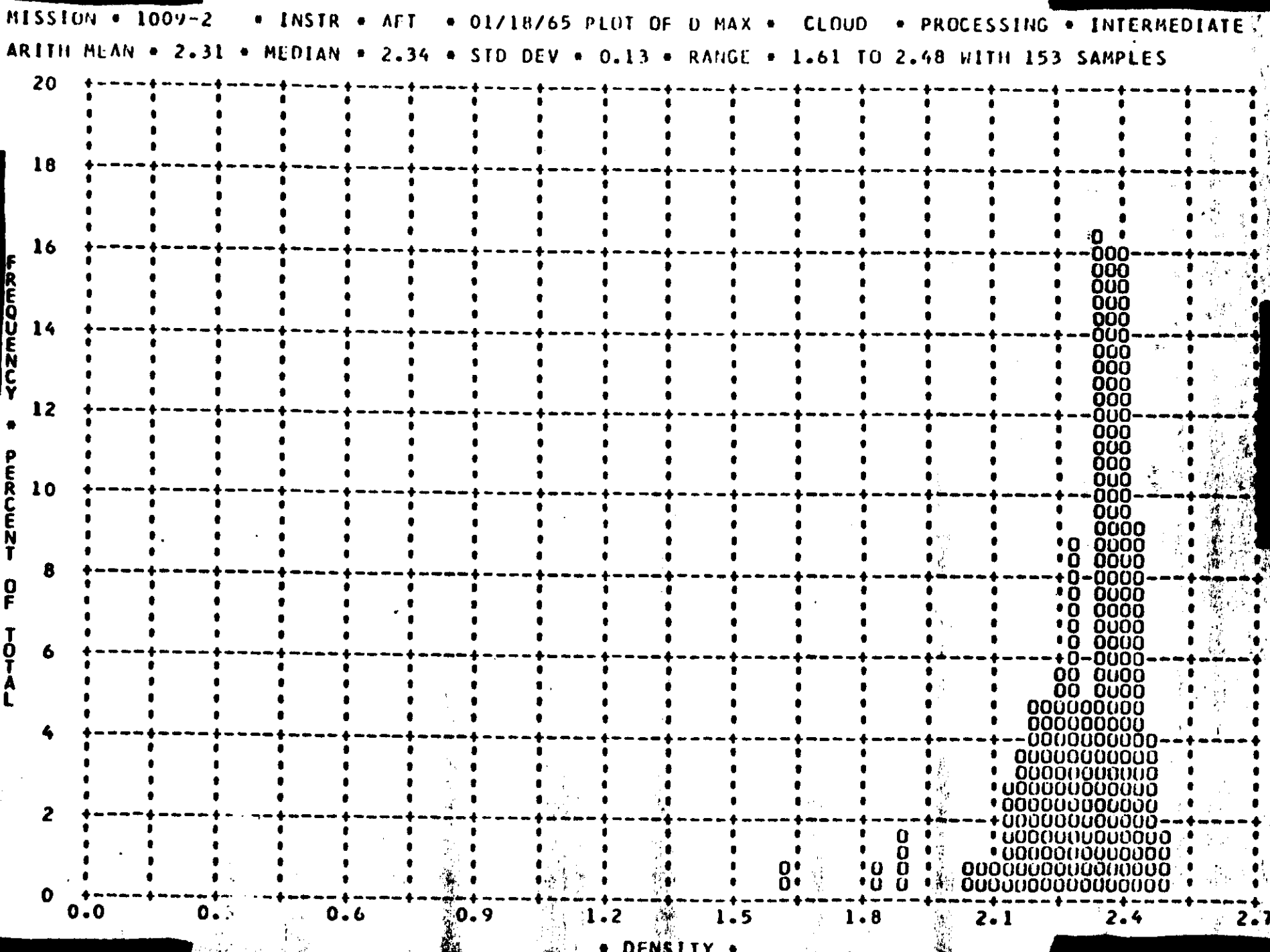

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 2.31 • MEDIAN • 2.34 • STD DEV • 0.13 • RANGE • 1.61 TO 2.48 WITH 153 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-30

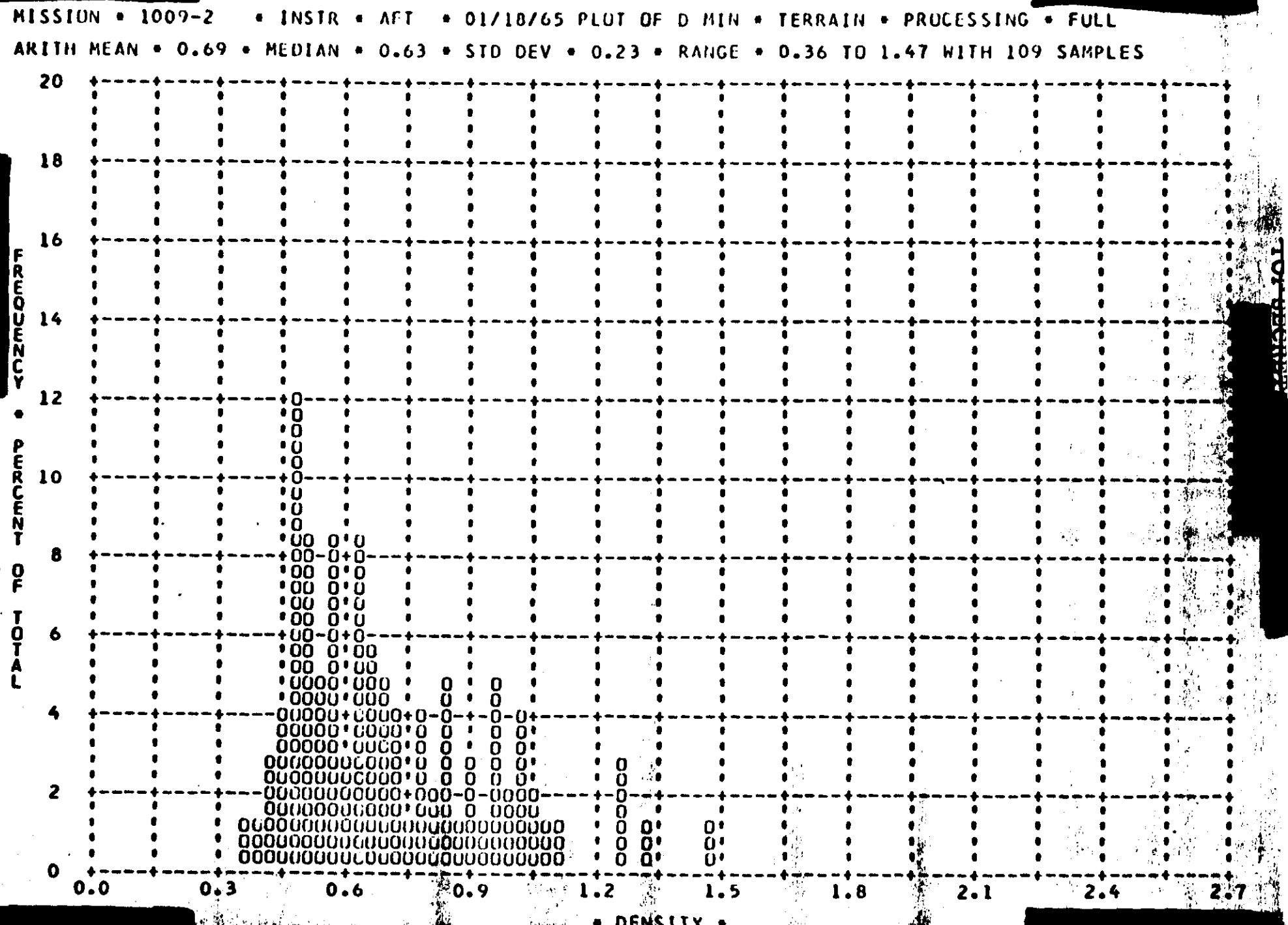

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.69 • MEDIAN • 0.63 • STD DEV • 0.23 • RANGE • 0.36 TO 1.47 WITH 109 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-31

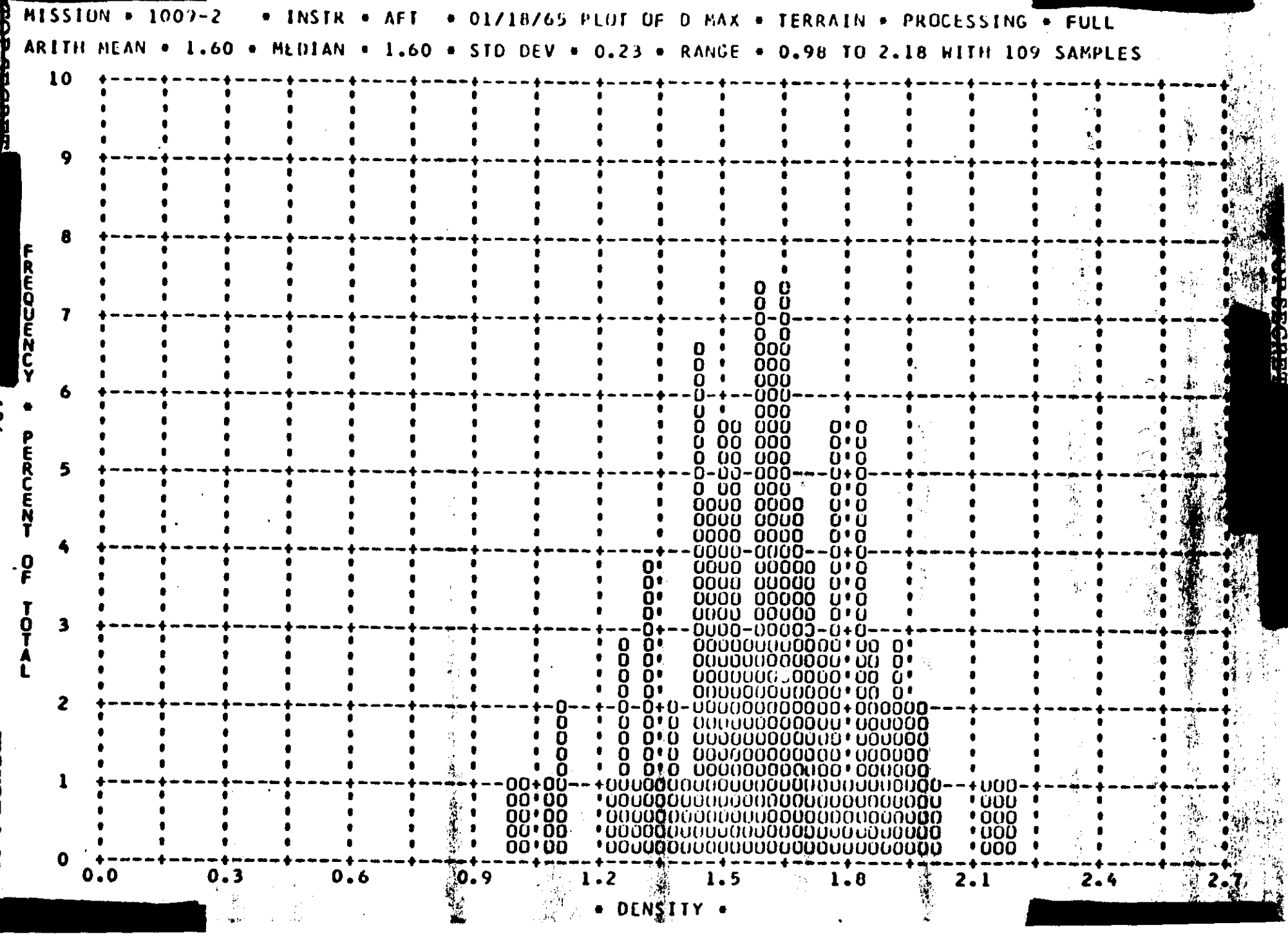

MISSION • 1007-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.60 • MEDIAN • 1.60 • STD DEV • 0.23 • RANGE • 0.98 TO 2.18 WITH 109 SAMPLES
FREQUENCY • PERCENT OF TOTAL
• DENSITY •
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
0
1
2
3
4
5
6
7
8
9
10

FIGURE 9-32

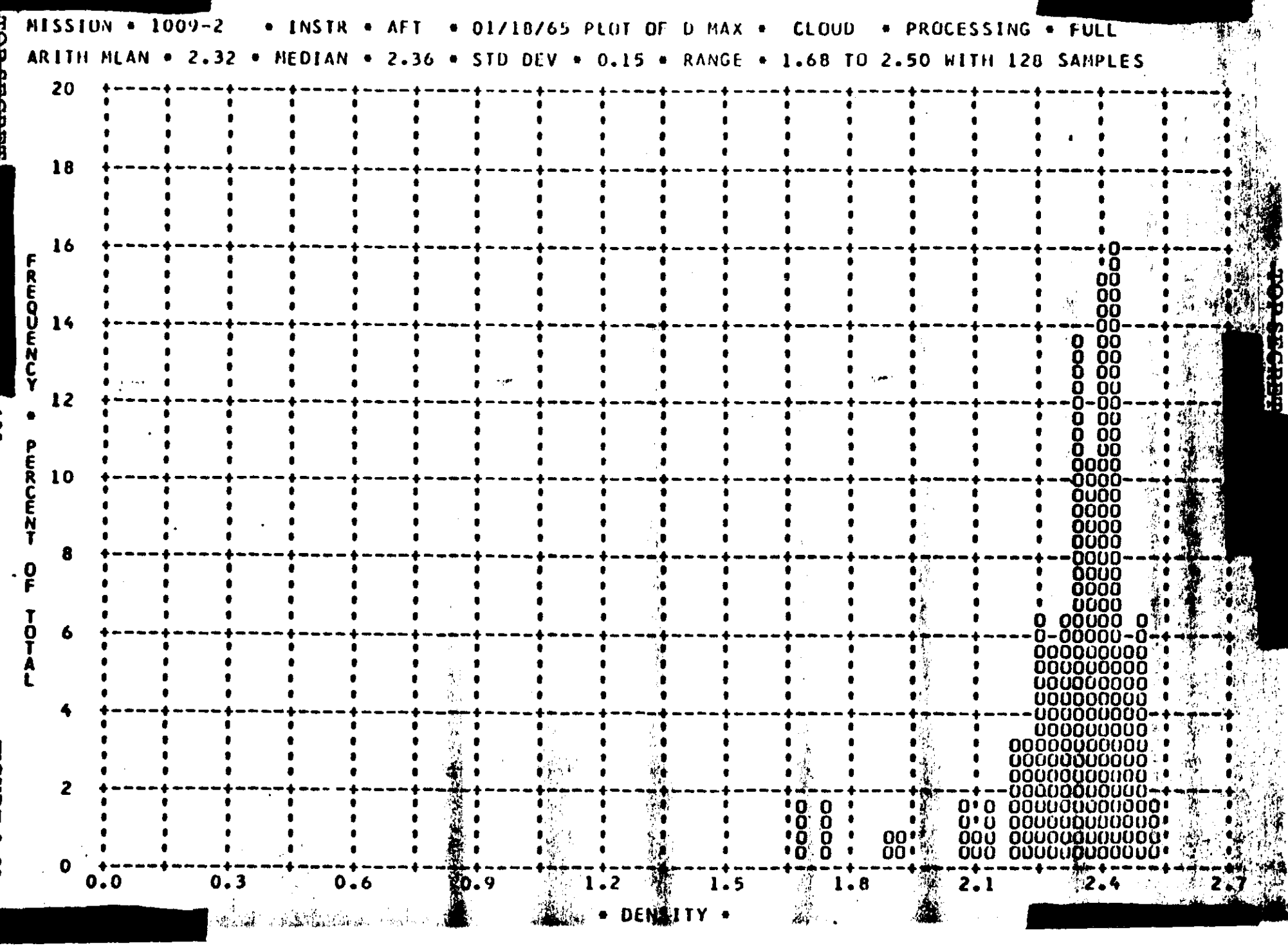

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL
ARITH MEAN • 2.32 • MEDIAN • 2.36 • STD DEV • 0.15 • RANGE • 1.68 TO 2.50 WITH 128 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-33

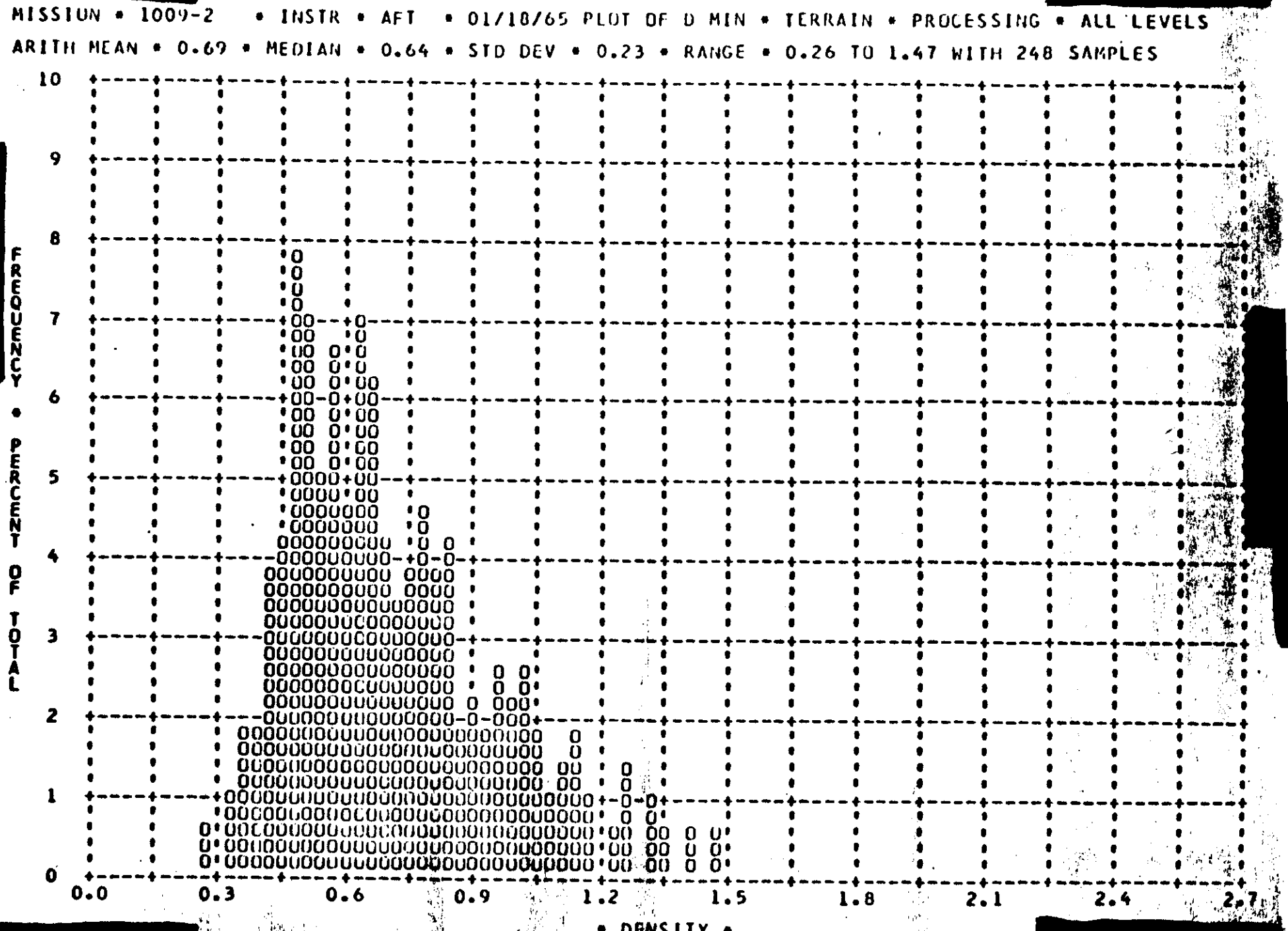

MISSION • 1009-2 • INSTR • AFT • 01/10/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.69 • MEDIAN • 0.64 • STD DEV • 0.23 • RANGE • 0.26 TO 1.47 WITH 248 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-34

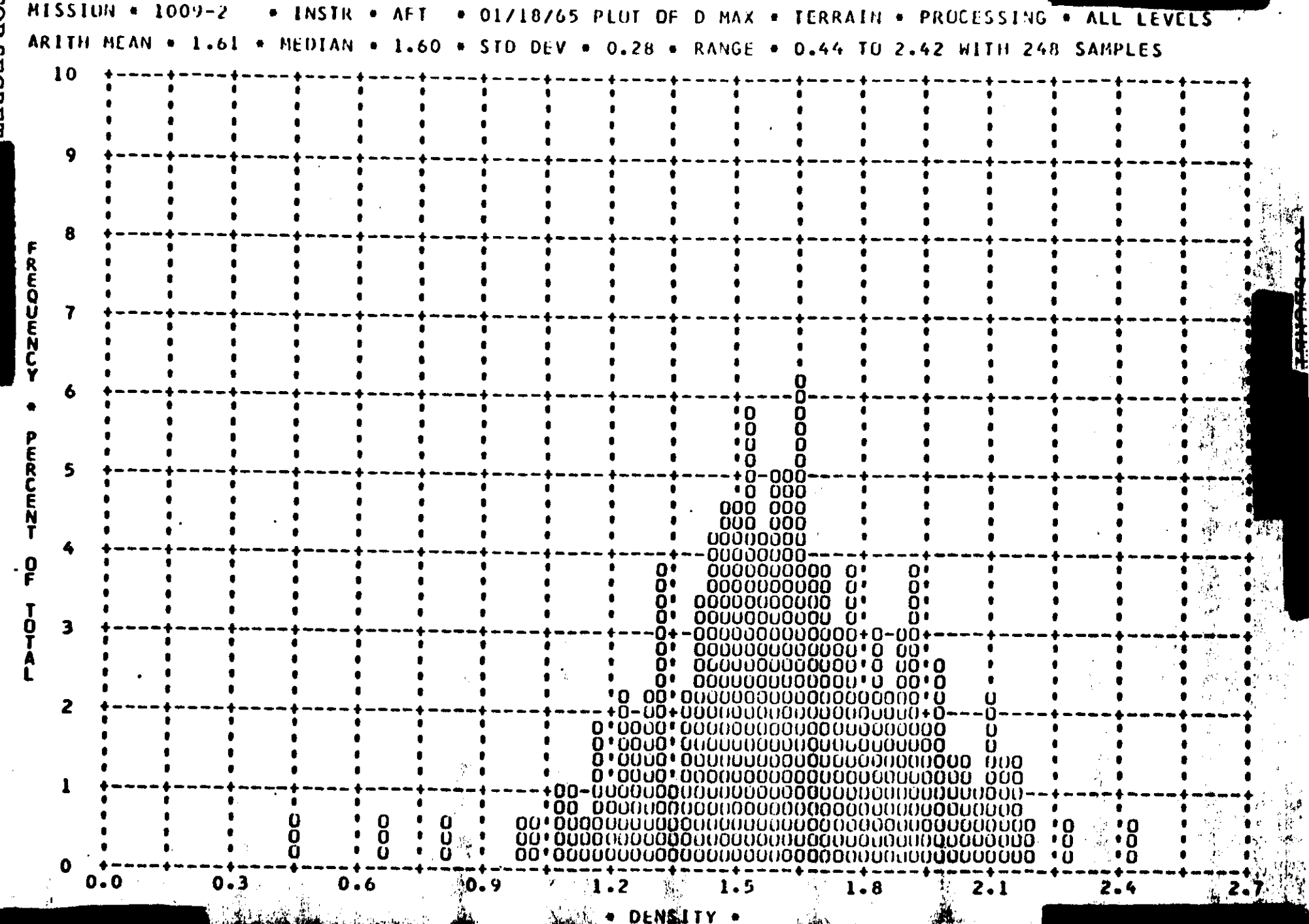

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.61 • MEDIAN • 1.60 • STD DEV • 0.28 • RANGE • 0.44 TO 2.42 WITH 248 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-35

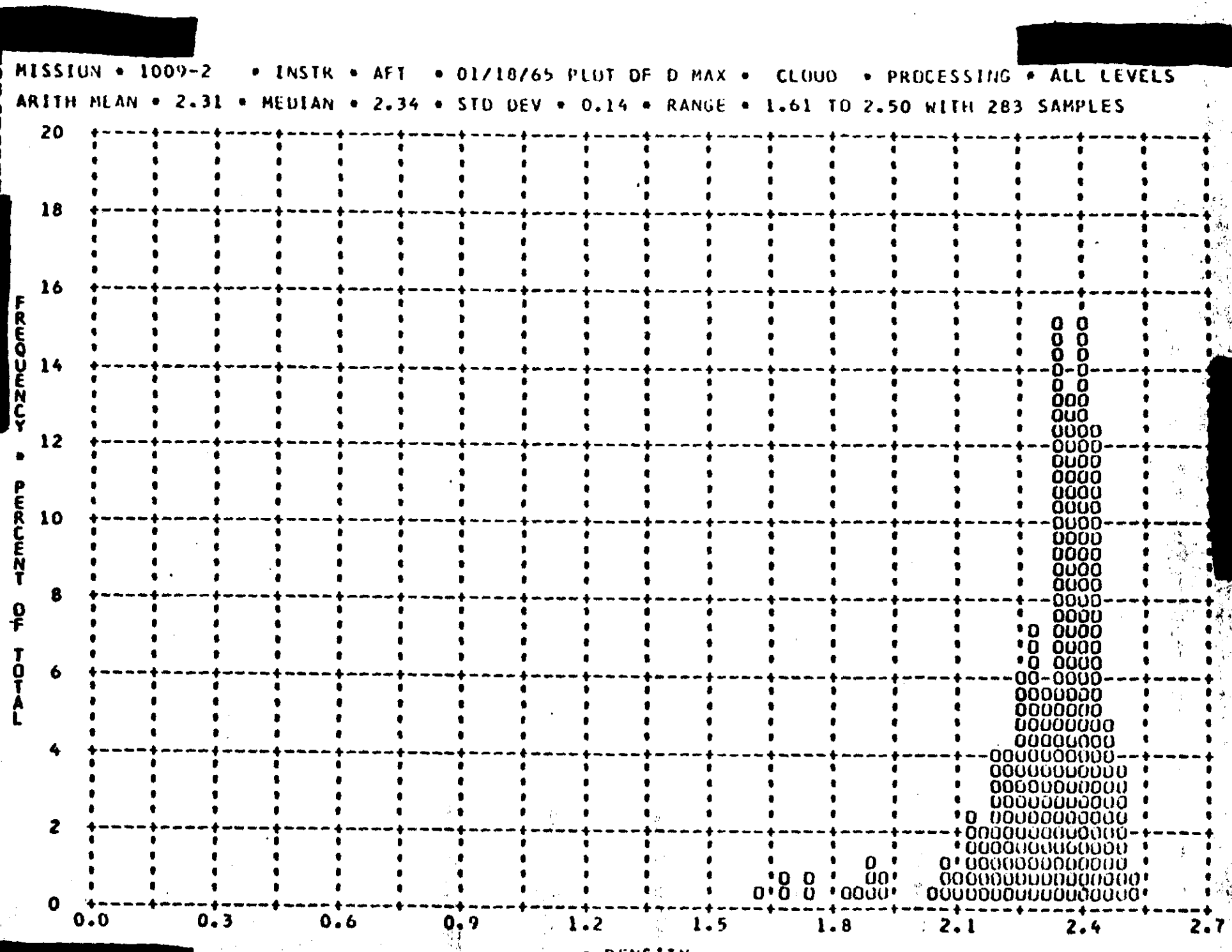

MISSION • 1009-2 • INSTR • AFT • 01/18/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS
ARITH MEAN • 2.31 • MEDIAN • 2.34 • STD DEV • 0.14 • RANGE • 1.61 TO 2.50 WITH 283 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-36

[redacted]

MISSION 1009-1 INSTR - FRWD 01/18/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	70	0 PC	13 PC	74 PC	13 PC	0 PC
FULL	139	7 PC	0 PC	78 PC	14 PC	0 PC
ALL LEVELS	209	5 PC	4 PC	77 PC	14 PC	0 PC

MISSION 1009-1 INSTR - AFT 01/18/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	92	0 PC	12 PC	75 PC	13 PC	0 PC
FULL	111	3 PC	0 PC	71 PC	26 PC	0 PC
ALL LEVELS	203	1 PC	5 PC	73 PC	20 PC	0 PC

MISSION 1009-2 INSTR - FRWD 01/18/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	101	0 PC	11 PC	74 PC	14 PC	1 PC
FULL	153	7 PC	0 PC	74 PC	20 PC	0 PC
ALL LEVELS	254	4 PC	4 PC	74 PC	17 PC	0 PC

MISSION 1009-2 INSTR - AFT 01/18/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	139	0 PC	6 PC	76 PC	17 PC	1 PC
FULL	109	2 PC	0 PC	79 PC	19 PC	0 PC
ALL LEVELS	248	1 PC	4 PC	77 PC	18 PC	0 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND UP
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND UP
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70 AND UP

[redacted]

TABLE 8-7

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1009-1 and 1009-2 received a MIP rating of 85. A summary is tabulated below of the average visual RES values and MTF/AIM resolution values measured by AFSPPL and the MTF/AIM resolution values made by [redacted] The length of the microdensimeter slit used by AFSPPL was 350 microns whereas [redacted] used an 80 micron slit; both slits were one micron wide.

Mission	Camera	Visual RES	AFSPPL	[redacted] All	[redacted] High
1009-1	FWD	92	80	75	88
1009-1	AFT	89	85	75	83
1009-2	FWD	94	85	76	84
1009-2	AFT	87	87	72	79

The [redacted] data normally contains two readings of the same edge the tabulation shows both the average of all the readings and the average of the highest readings of each edge. The value of the average of all readings is questionable as no valid reason can be ascertained for a measurement being greater than the resolution recorded however many factors can reduce the reading.

The details of the measurement and computing techniques, targets measured and target locations are fully reported in the evaluation report published by AFSPPL and are not normally included in this report. [redacted] has recently completed the re-calculation of the MTF/AIM values from Mission 1007-2 and up. Since this data has not been published in a previous report the corrected measurements for Missions 1007-2, 1008-1, 1008-2, 1009-1 and 1009-2 are included in this report. It should be noted that [redacted] used a 320 micron slit for the evaluation of Missions 1007-2, 1008-1 and 1008-2 while a 80 mocron slit was used for Missions 1009-1 and 1009-2.

Analysis of Photographic Image to Evaluate System Performance

Mission 1007-2

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

Arithmetic Mean	71.0 l/mm
Standard Deviation	18.0 l/mm
Coefficient of Dispersion	25%
Number of Edges	106

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

Arithmetic Mean	12.2 μ
Standard Deviation	3.9 μ
Coefficient of Dispersion	32%
Number of Edges	106

Analysis of Photographic Image to Evaluate System Performance

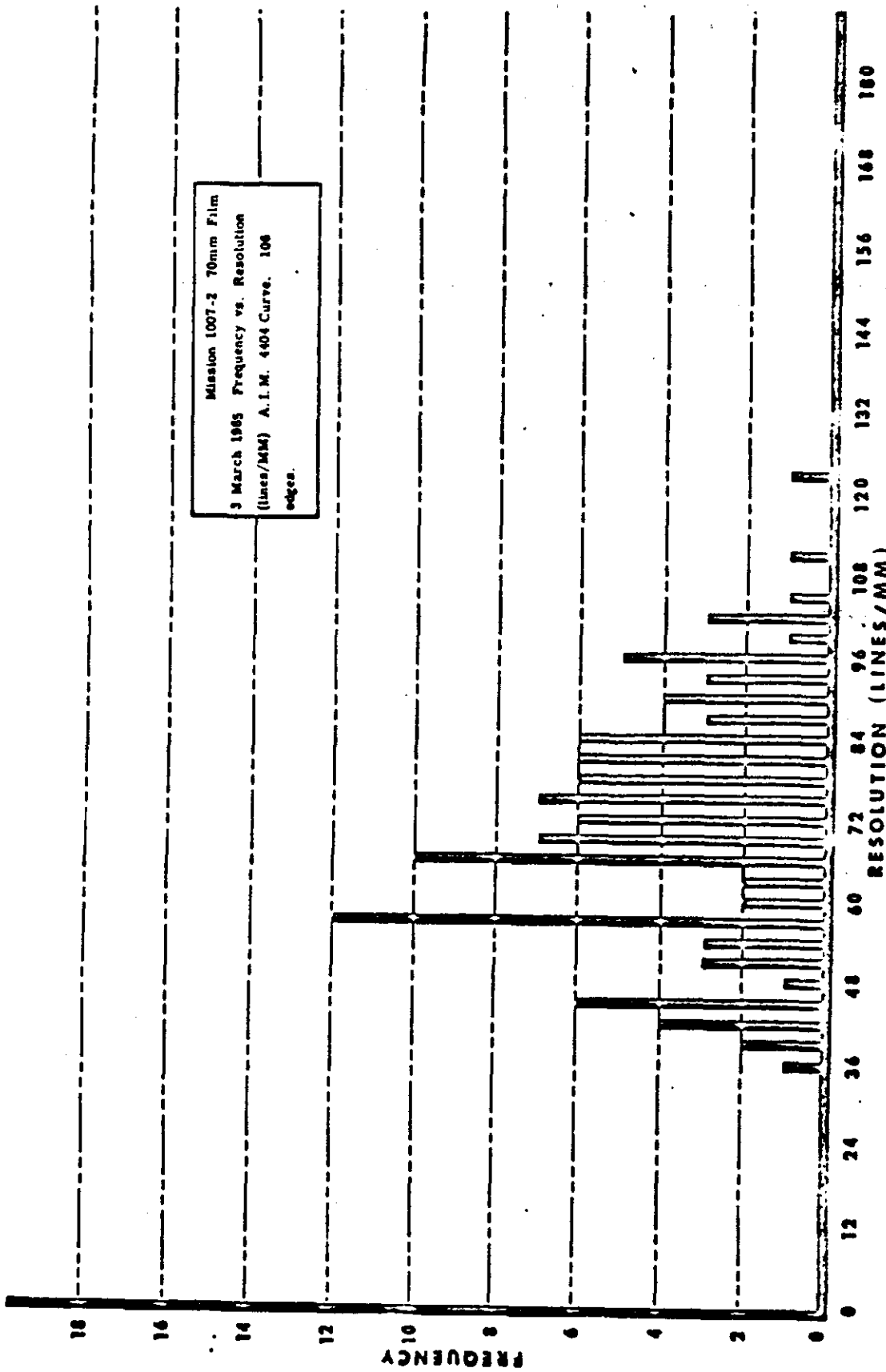
Mission 1007-2

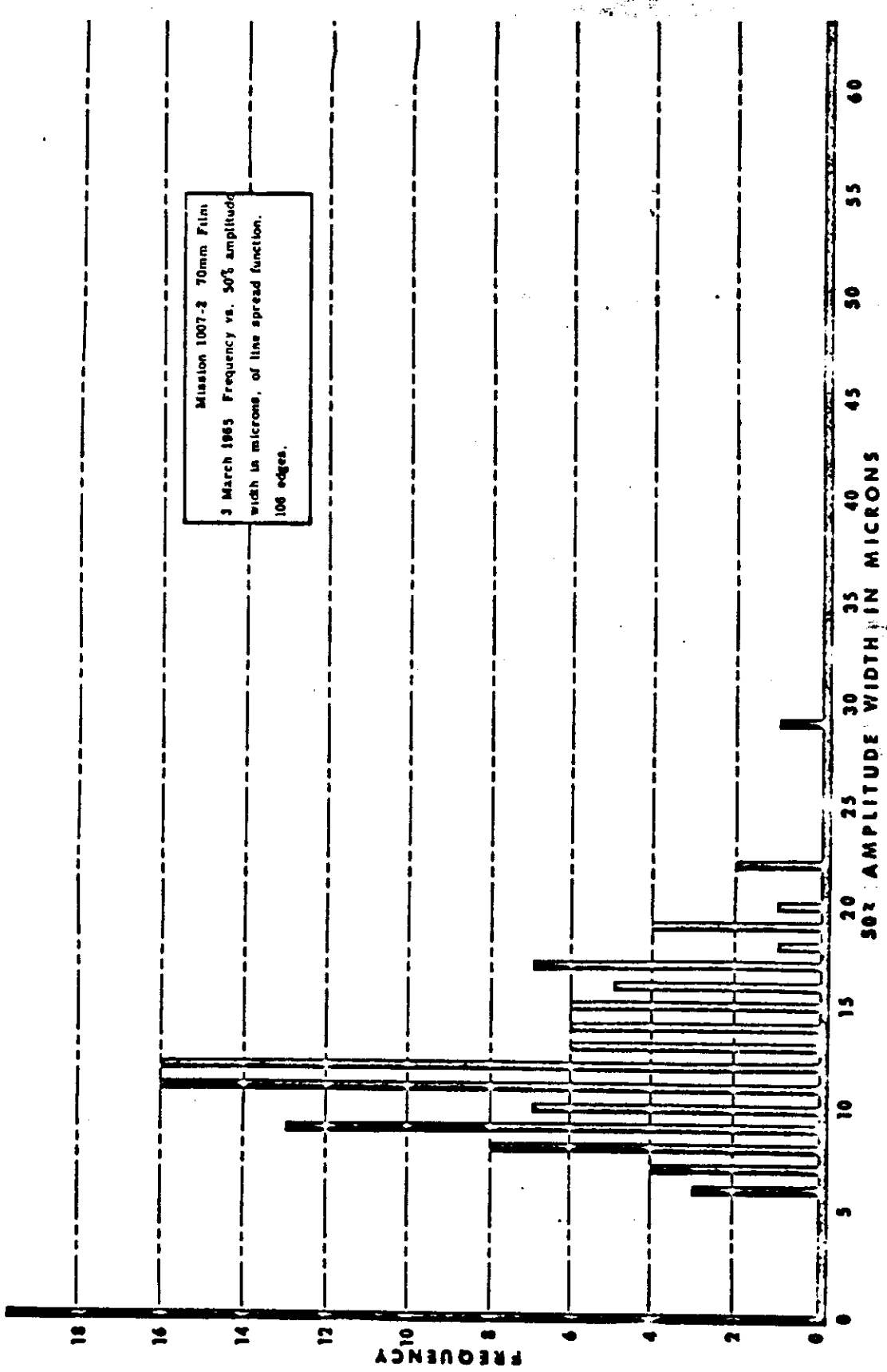
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	67.9 l/mm	74.0 l/mm	71.5 l/mm	61.8 l/mm
Standard Deviation	18.0 l/mm	17.8 l/mm	18.0 l/mm	16.8 l/mm
Coeffient of Dispersion	26%	24%	25%	27%
Number of Edges	53	53	100	6

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	13.1 μ	11.3 μ	12.1 μ	14.6 μ
Standard Deviation	4.3 μ	3.3 μ	3.9 μ	3.0 μ
Coefficient of Dispersion	33%	29%	33%	20%
Number of Edges	53	53	100	6


Mission 1007-2 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4404 Curve. 106
edges.
FREQUENCY
RESOLUTION (LINES/MM)
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
2
4
6
8
10
12
14
16
18


Mission 1007-2 70mm Film
3 March 1965 Frequency vs. 50% amplitude
width in microns, of line spread function.
106 edges.
FREQUENCY
50% AMPLITUDE WIDTH IN MICRONS
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1007-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-71	021	C-1	040	Airfield	7.8	94
D-71	021	C-1	040	Airfield	15.5	52
D-72	045	C-7	000	Airfield	11.1	71
D-72	045	C-7	000	Airfield	14.6	56
D-72	069	B-10	000	Airfield	8.9	95
D-72	069	B-10	000	Airfield	8.7	94
D-72	073	A-9	085	Airfield	10.4	68
D-72	073	A-9	085	Airfield	11.4	65
D-72	086	A-10	165	Airfield	9.0	85
D-72	086	A-10	165	Airfield	14.5	79
D-72	087	B-1	045	Dam	17.4	43
D-72	087	B-1	045	Dam	18.9	42
D-72	091	A-5	080	Airfield	12.2	72
D-72	106	A-3-4	025	Airfield	19.9	48
D-72	106	A-3-4	025	Airfield	17.3	40
D-72	107	C-4	020	Airfield	22.2	40
D-72	107	C-4	020	Airfield	17.2	45
D-73	014	A-13	005	Airfield	8.1	84
D-73	014	A-13	005	Airfield	11.6	64
D-73	016	C-12	165	Airfield	7.8	101
D-73	016	C-12	165	Airfield	15.5	59
D-73	032	A-5	165	Airfield	8.6	93
D-73	032	A-5	165	Airfield	6.3	97
D-73	047	B-2	015	Airfield	9.6	96

Analysis of Photographic Image to Evaluate System Performance

Mission 1007-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-71	021	C-1	040	Airfield	7.8	94
D-71	021	C-1	040	Airfield	15.5	52
D-72	045	C-7	000	Airfield	11.1	71
D-72	045	C-7	000	Airfield	14.6	56
D-72	069	B-10	000	Airfield	8.9	95
D-72	069	B-10	000	Airfield	8.7	94
D-72	073	A-9	085	Airfield	10.4	68
D-72	073	A-9	085	Airfield	11.4	65
D-72	086	A-10	165	Airfield	9.0	85
D-72	086	A-10	165	Airfield	14.5	79
D-72	087	B-1	045	Dam	17.4	43
D-72	087	B-1	045	Dam	18.9	42
D-72	091	A-5	080	Airfield	12.2	72
D-72	106	A-3-4	025	Airfield	19.9	48
D-72	106	A-3-4	025	Airfield	17.3	40
D-72	107	C-4	020	Airfield	22.2	40
D-72	107	C-4	020	Airfield	17.2	45
D-73	014	A-13	005	Airfield	8.1	84
D-73	014	A-13	005	Airfield	11.6	64
D-73	016	C-12	165	Airfield	7.8	101
D-73	016	C-12	165	Airfield	15.5	59
D-73	032	A-5	165	Airfield	8.6	93
D-73	032	A-5	165	Airfield	6.3	97
D-73	047	B-2	015	Airfield	9.6	96

Mission 1007-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-73	047	B-2	015	Airfield	9.0	96
D-87	032	C-7	135	Airfield	10.9	72
D-87	032	C-7	135	Airfield	13.6	67
D-87	042	B-12	045	Airfield	15.3	77
D-87	042	B-12	045	Airfield	11.1	85
D-88	005	C-7	165	Airfield	9.0	84
D-88	005	C-7	165	Airfield	15.4	71
D-88	038	B-2	150	Airfield	19.2	44
D-88	038	B-2	150	Airfield	29.1	37
D-88	042	B-3	135	Airfield	10.5	69
D-88	042	B-3	135	Airfield	10.8	72
D-120	012	A-4	000	Airfield	18.8	42
D-120	012	A-4	000	Airfield	11.7	67
D-120	025	B-3	070	Airfield	9.1	80
D-120	025	B-3	070	Airfield	16.5	53
D-120	033	A-7	160	Airfield With Aircraft	14.7	57
D-120	033	A-7	160	Airfield With Aircraft	14.4	50
D-120	043	C-6	015	Airfield	16.5	57
D-120	043	C-6	015	Airfield	13.1	82
D-120	056	C-7	110	Airfield	11.3	65
D-120	056	C-7	110	Airfield	12.9	58
D-120	057	B-1	115	Airfield	9.6	75
D-120	057	B-1	115	Airfield	14.0	53
D-120	058	B-1	120	Airfield	13.6	56

Mission 1007-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-120	058	B-1	120	Airfield	16.7	45
D-120	058	C-5	115	Airfield	11.9	66
D-120	058	C-5	115	Airfield	12.0	67
D-120	062	B-2	085	Airfield	12.0	67
D-120	062	B-2	085	Airfield	8.6	84

Mission 1007-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-57	044	A-9	172	Airfield	10.5	81
D-57	044	A-9	172	Airfield	7.7	90
D-57	045	C-7	135	Airfield	8.8	81
D-57	045	C-7	135	Airfield	9.2	89
D-57	048	B-4	135	Airfield	12.4	67
D-57	048	B-4	135	Airfield	12.1	63
D-71	027	C-13	040	Airfield	8.0	87
D-71	027	C-13	040	Airfield	10.5	78
D-72	051	C-8	180	Airfield	11.8	69
D-72	051	C-8	180	Airfield	7.4	98
D-72	057	A-6	160	Airfield	11.6	70
D-72	057	A-6	160	Airfield	5.9	106
D-72	058	A-11	175	Airfield	8.1	79
D-72	058	A-11	175	Airfield	7.5	95
D-72	066	B-3	160	Airfield	15.5	51
D-72	066	B-3	160	Airfield	13.6	56
D-72	071	C-3	050	Airfield	6.9	102
D-72	071	C-3	050	Airfield	7.8	89
D-72	074	B-4	002	Airfield	10.6	81
D-72	074	B-4	002	Airfield	11.8	70
D-72	078	C-6	090	Airfield	10.8	86
D-72	078	C-6	090	Airfield	9.5	75
D-72	087	A-8	090	Dam	11.7	79
D-72	087	A-8	090	Dam	11.9	74
D-72	090	A-5	150	Airfield	10.2	74
D-72	090	A-5	150	Airfield	7.1	101
D-72	090	A-12	125	Airfield	14.3	57
D-72	090	A-12	125	Dam	13.2	76

Mission 1007-2

AFT Camera

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-72	095	A-9	080	Airfield	9.5	75
D-72	095	A-9	080	Airfield	10.7	72
D-72	110	C-11	050	Airfield	13.2	58
D-72	110	C-11	050	Airfield	7.0	110
D-72	112	B-10	020	Airfield	12.3	60
D-72	112	B-10	020	Airfield	18.7	44
D-87	038	C-7	130	Airfield	9.3	89
D-87	038	C-7	130	Airfield	5.7	124
D-87	047	A-3	045	Airfield	14.9	45
D-88	011	B-8	160	Airfield	13.0	56
D-88	011	B-8	160	Airfield	11.4	75
D-88	023	A-4	045	Airfield	11.0	78
D-88	023	A-4	045	Airfield	12.5	63
D-102	270	9-C	000	Airfield With Aircraft	9.0	88
D-102	270	9-C	000	Airfield With Aircraft	11.0	70
D-117	030	B-1	000	Airfield	11.8	66
D-117	030	B-1	000	Airfield	15.9	53
D-117	030	B-1	080	Airfield	18.3	45
D-117	030	B-1	080	Airfield	21.5	43
D-119	116	C-3	000	Airfield	16.4	67
D-119	116	C-3	000	Airfield	12.0	56
D-119	118	B-2-3	010	Airfield	9.4	80
D-119	118	B-2-3	010	Airfield	11.3	68
D-119	123	A-7	160	Airfield	9.9	57
D-119	123	A-7	160	Airfield	17.0	56

Analysis of Photographic Image to Evaluate System Performance

Mission 1008-1

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

Arithmetic Mean	83.0 l/mm
Standard Deviation	21.1 l/mm
Coefficient of Dispersion	25%
Number of Edges	103

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

Arithmetic Mean	10.6 μ
Standard Deviation	3.2 μ
Coefficient of Dispersion	30%
Number of Edges	103

Analysis of Photographic Image to Evaluate System Performance

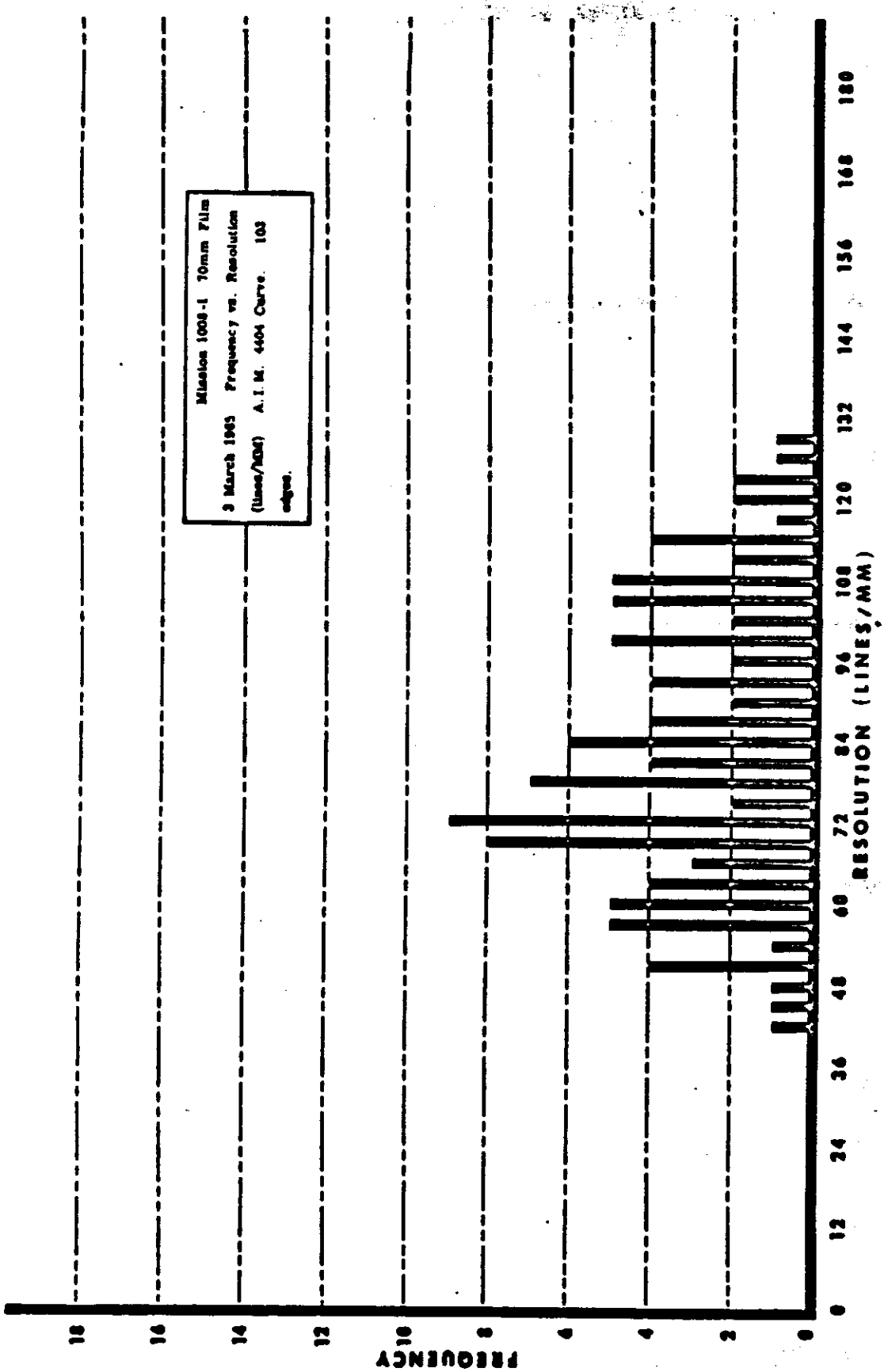
Mission 1008-1

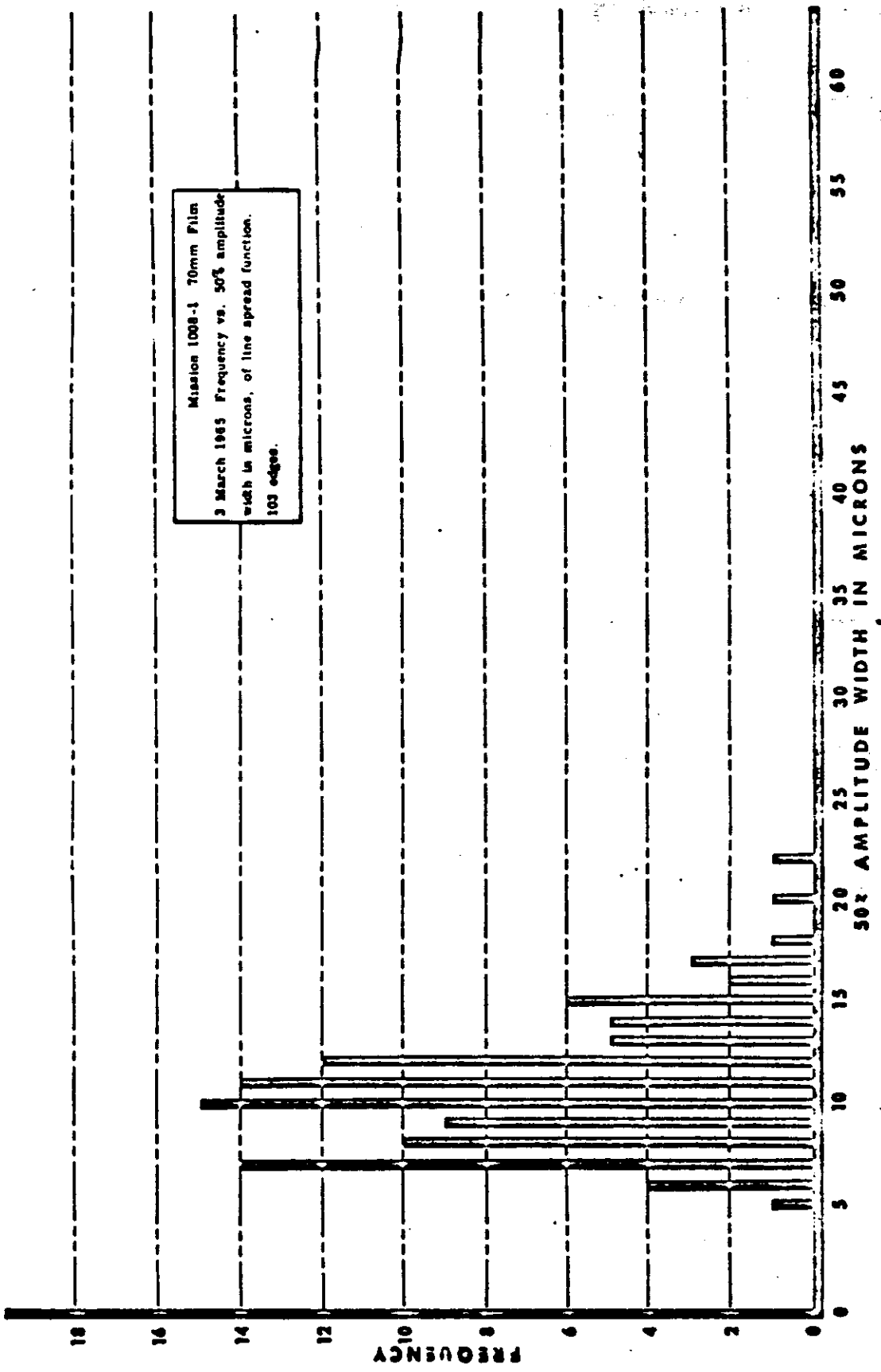
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	80.7 l/mm	85.9 l/mm	83.4 l/mm	74.8 l/mm
Standard Deviation	21.8 l/mm	20.0 l/mm	21.0 l/mm	24.8 l/mm
Coefficient of Dispersion	27%	23%	25%	33%
Number of Edges	57	46	99	4

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	11.2 μ	10.0 μ	10.6 μ	12.5 μ
Standard Deviation	3.5 μ	2.7 μ	3.2 μ	2.6 μ
Coefficient of Dispersion	32%	27%	31%	21%
Number of Edges	57	46	99	4


Mission 1008-1 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4404 Curve. 103
edges.
FREQUENCY
RESOLUTION (LINES/MM)
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
16
14
12
10
8
6
4
2
0


Mission 1008-1 70mm Film
3 March 1965 Frequency vs. 50% amplitude width in microns, of line spread function.
103 edges.
FREQUENCY
50% AMPLITUDE WIDTH IN MICRONS
0
2
4
6
8
10
12
14
16
18
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1008-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A. I. M. Resolution
D-08	041	B-C-2	110	Airfield	12.9	73
D-08	041	B-C-2	110	Airfield	12.5	67
D-09	054	B-10	006	Airfield	13.1	60
D-09	054	B-10	006	Airfield	12.7	68
D-09	065	B-12	126	Airfield	8.2	98
D-09	065	B-12	126	Airfield	9.5	90
D-09	073	C-9	156	Airfield	10.6	67
D-09	073	C-9	156	Airfield	14.1	80
D-09	078	C-9	158	Airfield	7.7	114
D-09	078	C-9	158	Airfield	9.9	88
D-09	082	A-7	005	Airfield	6.7	114
D-09	082	A-7	005	Airfield	8.1	117
D-09	085	B-13	173	Airfield	10.1	84
D-09	085	B-13	173	Airfield	10.6	82
D-09	086	A-11	085	Airfield	7.1	108
D-09	086	A-11	085	Airfield	10.4	73
D-09	086	B-13	128	Airfield	9.4	87
D-09	086	B-13	128	Airfield	12.4	62
D-09	089	B-13	068	Airfield	16.1	62
D-09	089	B-13	068	Airfield	14.9	59
D-40	092	A-13	020	Airfield	10.6	74
D-40	092	A-13	020	Airfield	9.6	77
D-40	099	C-4	035	Dam	15.0	52
D-40	099	C-4	035	Dam	14.6	56
D-40	151	A-5	066	Airfield	22.2	43

Mission 1008-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-40	151	A-5	066	Airfield	16.2	78
D-40	179	B-12	140	Airfield	7.4	101
D-40	179	B-12	140	Airfield	7.0	105
D-40	183	A-6	171	Airfield	11.6	73
D-40	183	A-6	171	Airfield	11.4	73
D-40	197	C-12	100	Airfield	7.7	104
D-40	197	C-12	100	Airfield	11.2	78
D-40	198	A-6	105	Airfield	11.1	84
D-40	198	A-6	105	Airfield	8.3	85
D-40	206	B-7	172	Airfield	6.4	119
D-40	206	B-7	172	Airfield	7.2	94
D-41	027	B-6	041	Airfield	12.3	64
D-41	027	B-6	041	Airfield	11.5	78
D-41	043	A-6	000	Airfield	13.7	58
D-41	043	A-6	000	Airfield	19.6	46
D-41	044	B-7	154	Airfield	12.2	69
D-41	044	B-7	154	Airfield	14.0	57
D-41	045	A-12	158	Airfield	7.2	119
D-41	045	A-12	158	Airfield	6.1	126
D-41	045	B-3	170	Airfield	15.0	53
D-41	045	B-3	170	Airfield	13.7	60
D-41	045	A-5	152	Airfield	10.6	80
D-41	045	A-5	105	Airfield	9.6	85
D-41	045	A-5	105	Airfield	13.9	67
D-41	048	B-7	005	Airfield	17.2	51
D-41	048	B-7	005	Airfield	4.8	123

Mission 1008-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-41	057	C-10	151	Airfield	11.6	68
D-41	057	C-10	151	Airfield	7.8	96
D-41	057	C-11	005	Airfield	6.6	112
D-41	057	C-11	005	Airfield	8.1	113
D-41	072	C-9	030	Airfield	12.3	68
D-41	072	C-9	030	Airfield	14.6	60

Mission 1006-1

AFT Camera

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-09	083	A-5	160	Airfield	9.0	93
D-09	083	A-5	160	Airfield	6.6	108
D-09	087	C-7	005	Airfield	11.8	69
D-09	087	C-7	005	Airfield	16.5	51
D-09	090	C-2	105	Airfield	14.9	56
D-09	090	C-2	105	Airfield	16.5	52
D-09	091	C-3	075	Airfield	10.8	79
D-09	091	C-3	075	Airfield	10.5	70
D-09	091	B-1	115	Airfield	9.6	81
D-09	091	B-1	115	Airfield	12.1	71
D-09	094	B-1	053	Airfield	18.4	48
D-09	094	B-1	053	Airfield	12.6	63
D-40	156	A-8	010	Airfield	10.4	72
D-40	156	A-8	010	Airfield	9.9	84
D-40	156	A-7	120	Dam	10.6	103
D-40	156	A-7	120	Dam	9.9	88
D-40	184	B-2	131	Airfield	7.3	93
D-40	184	B-2	131	Airfield	6.7	104
D-40	188	C-9	171	Airfield	6.8	112
D-40	202	B-10	119	Airfield	9.2	79
D-40	202	B-10	119	Airfield	9.4	91
D-40	203	B-8	105	Airfield	6.2	105
D-40	203	C-3	088	Airfield	12.2	58
D-40	203	C-3	088	Airfield	9.6	88
D-40	203	B-8	105	Airfield	10.1	76
D-40	211	A-6	172	Airfield	7.1	109
D-40	211	A-6	172	Airfield	9.0	96

Mission 1008-1

AFT Camera

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-41	033	C-9	045	Airfield	8.8	92
D-41	033	C-9	045	Airfield	11.3	69
D-41	042	B-10	067	Airfield	10.0	77
D-41	042	B-10	067	Airfield	6.6	108
D-41	048	A-9	000	Airfield	11.1	73
D-41	048	A-9	000	Airfield	8.8	100
D-41	050	A-10	115	Airfield	12.1	68
D-41	050	A-10	115	Airfield	7.9	129
D-41	050	C-7	155	Airfield	9.8	84
D-41	050	C-7	155	Airfield	8.2	99
D-41	050	B-3	154	Airfield	7.5	105
D-41	050	B-3	154	Airfield	5.9	123
D-41	051	C-12	167	Airfield	8.8	114
D-41	051	C-12	167	Airfield	6.5	108
D-41	053	B-3	150	Airfield	10.7	73
D-41	078	B-6	030	Airfield	9.1	99
D-41	078	B-6	030	Airfield	10.7	73
D-41	083	B-2	131	Airfield	10.1	98
D-41	083	B-2	131	Airfield	12.4	60

Analysis of Photographic Image to Evaluate System Performance

Mission 1008-2

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

Arithmetic Mean	84.3 l/mm
Standard Deviation	21.0 l/mm
Coefficient of Dispersion	25%
Number of Edges	123

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

Arithmetic Mean	10.2 μ
Standard Deviation	3.9 μ
Coefficient of Dispersion	38%
Number of Edges	123

Analysis of Photographic Image to Evaluate System Performance

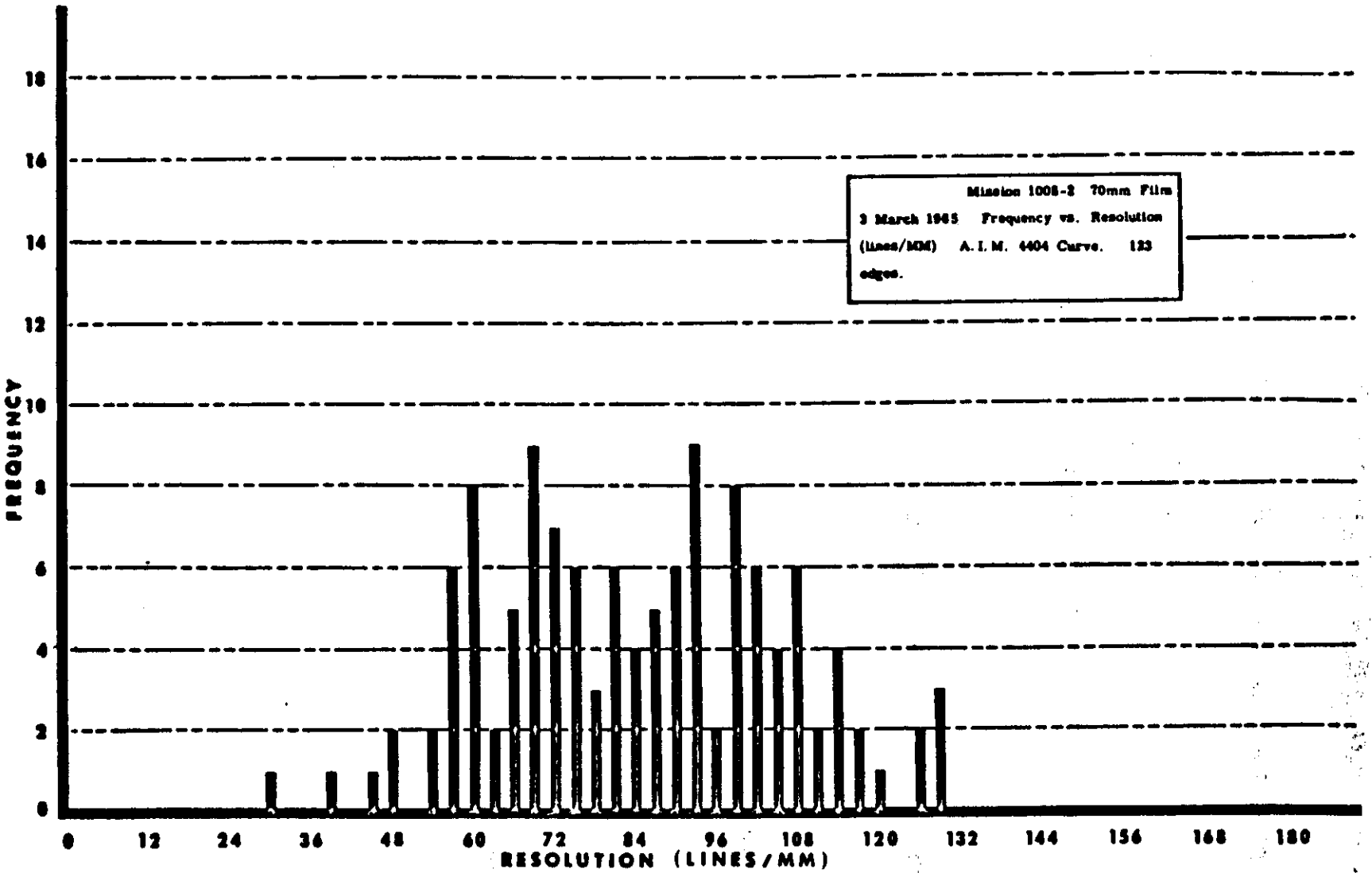
Mission 1008-2

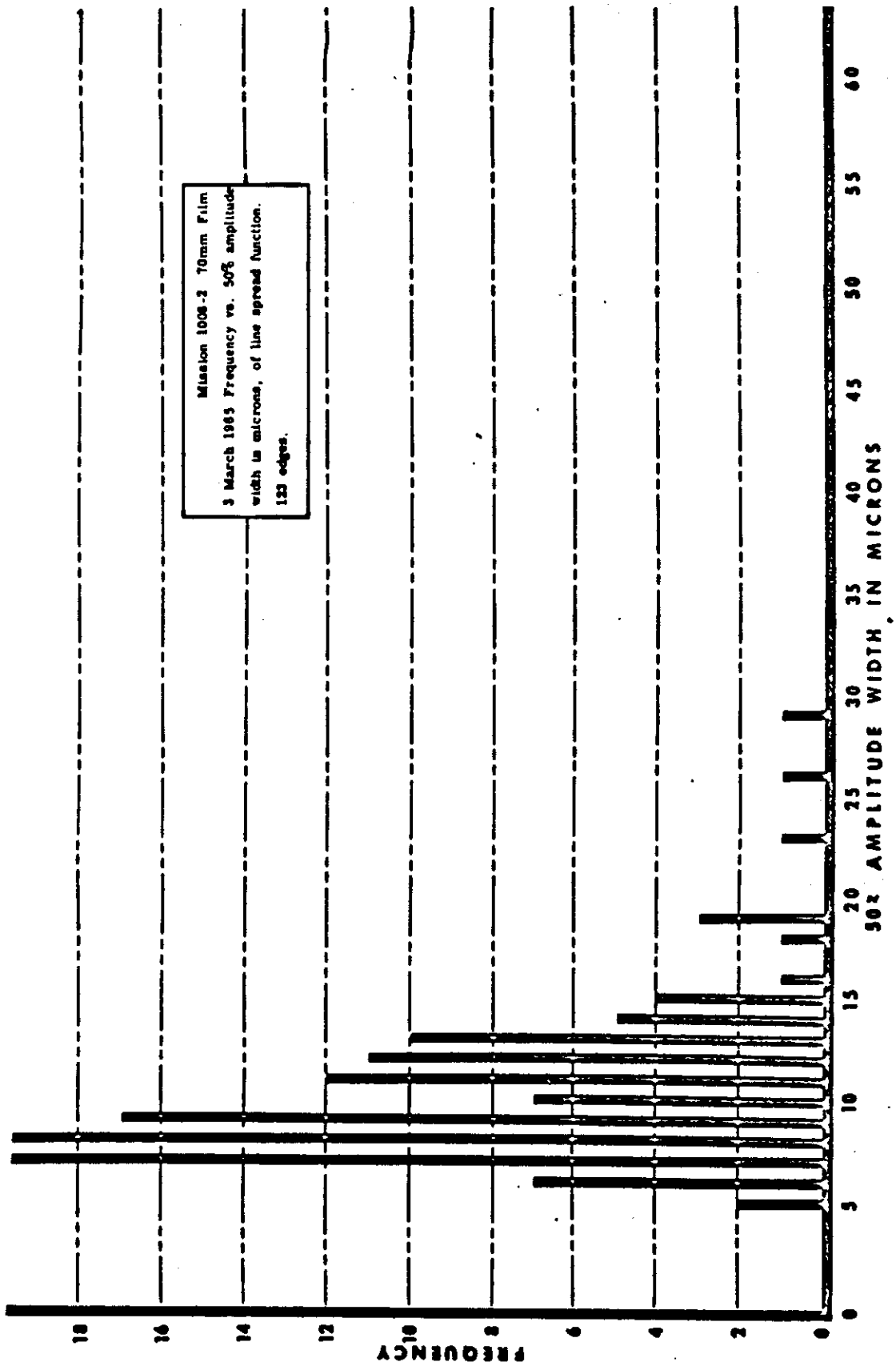
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields
Arithmetic Mean	83.4 l/mm	85.2 l/mm	84.3 l/mm
Standard Deviation	19.9 l/mm	22.4 l/mm	21.1 l/mm
Coefficient of Dispersion	24%	26%	25%
Number of Edges	64	59	123

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields
Arithmetic Mean	10.4 μ	10.1 μ	10.3 μ
Standard Deviation	3.9 μ	3.9 μ	3.9 μ
Coefficient of Dispersion	38%	38%	38%
Number of Edges	64	59	123


Mission 1008-2 70mm Film
3 March 1965 Frequency vs. Resolution (Lines/MM) A. I. M. 4404 Curve. 123 edges.
FREQUENCY
0
2
4
6
8
10
12
14
16
18
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
RESOLUTION (LINES/MM)


Mission 1008-2 70mm Film
3 March 1965 Frequency vs. 50% amplitude width in microns, of line spread function.
123 edges.
FREQUENCY
50% AMPLITUDE WIDTH IN MICRONS
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1008-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-68	057	B-4	175	Airfield	10.2	77
D-68	057	B-4	175	Airfield	8.5	87
D-68	061	B-3	040	Airfield	14.8	55
D-68	061	B-3	040	Airfield	13.7	58
D-68	072	C-9	045	Airfield	11.1	71
D-68	072	C-9	045	Airfield	8.1	91
D-68	073	B-10-11	090	Airfield	8.7	92
D-68	073	B-10-11	090	Airfield	8.0	93
D-68	073	C-11	085	Airfield	8.0	94
D-68	073	C-11	085	Airfield	8.9	89
D-68	074	C-5	165	Airfield	7.0	105
D-68	074	C-5	165	Airfield	8.4	90
D-68	075	A-5	165	Airfield	7.4	102
D-68	075	A-5	165	Airfield	7.0	109
D-72	029	B-8	000	Airfield	9.3	82
D-72	029	B-8	000	Airfield	12.2	68
D-72	030	A-B-7	050	Airfield	8.5	92
D-72	030	A-B-7	050	Airfield	14.2	[illegible]
D-72	032	A-9	025	Airfield	9.6	[illegible]
D-72	032	A-9	025	Airfield	12.7	60
D-72	037	C-5	035	Airfield	8.9	75
D-72	037	C-5	035	Airfield	18.2	48
D-72	058	B-11	005	Airfield	7.6	98
D-72	058	B-11	005	Airfield	15.9	55

Mission 1008-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-72	063	C-12	015	Airfield	7.7	89
D-72	063	C-12	015	Airfield	6.5	119
D-72	082	C-10	150	Airfield	7.2	101
D-72	082	C-10	150	Airfield	9.9	81
D-72	112	C-10	025	Airfield	12.0	69
D-72	112	C-10	025	Airfield	7.4	102
D-72	122	A-2	020	Airfield	9.2	82
D-72	122	A-2	020	Airfield	10.7	80
D-72	125	B-5	030	Airfield	15.0	57
D-72	125	B-C-4	065	Airfield	10.5	69
D-72	125	B-C-4	065	Airfield	13.6	61
D-72	125	B-5	030	Airfield	15.1	58
D-72	128	A-5	010	Airfield	11.5	74
D-72	128	A-5	010	Airfield	22.8	40
D-88	005	C-9	090	Airfield	7.9	91
D-88	005	C-9	090	Airfield	7.8	98
D-88	030	A-8	170	Airfield	7.4	98
D-88	030	A-8	170	Airfield	8.1	92
D-88	030	B-8	045	Airfield	5.8	116
D-88	030	B-8	045	Airfield	12.8	68
D-88	031	A-10	005	Airfield	10.4	73
D-88	031	A-10	005	Airfield	6.6	108
D-88	032	A-B-5	020	Airfield	11.9	66
D-88	032	A-B-5	020	Airfield	10.7	78
D-88	036	BC-10	050	Airfield	8.7	86

Mission 1008-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-88	036	BC-10	050	Airfield	6.8	97
D-88	038	A-3	170	Airfield	7.1	106
D-88	038	A-3	170	Airfield	8.6	83
D-88	045	C-13	085	Airfield	9.2	77
D-88	045	C-13	085	Airfield	9.0	81
D-88	071	C-9	035	Airfield	8.7	84
D-88	071	C-9	035	Airfield	7.8	86
D-88	122	B-10	040	Airfield	11.2	71
D-88	122	B-10	040	Airfield	11.1	73
D-88	133	A-7	095	Airfield	7.5	95
D-88	133	A-7	095	Airfield	15.2	57
D-88	135	B-7-8	170	Airfield	25.7	69
D-88	135	B-7-8	170	Airfield	19.3	130
D-88	135	B-9	088	Airfield	6.1	125
D-88	135	B-9	088	Airfield	6.0	

Mission 1008-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-54	032	A-7	000	Airfield	11.5	73
D-54	032	A-7	000	Airfield	12.0	60
D-54	032	AB-8	065	Airfield	8.4	109
D-54	032	AB-8	065	Airfield	8.5	93
D-55	123	B-10	170	Airfield	14.3	59
D-55	141	B-12-13	165	Airfield	7.3	108
D-55	141	B-12-13	165	Airfield	8.0	92
D-56	063	C-8	130	Airfield	12.7	65
D-56	063	C-8	130	Airfield	13.3	63
D-56	076	A-6	100	Airfield	11.7	74
D-56	076	A-6	100	Airfield	11.2	73
D-56	077	A-11	000	Airfield	7.9	98
D-56	077	A-11	000	Airfield	7.0	108
D-56	082	B-13	165	Airfield	9.9	93
D-56	082	B-13	165	Airfield	13.0	60
D-56	131	B-9	165	Airfield	12.6	70
D-56	131	B-9	020	Airfield	6.8	99
D-56	145	B-5	035	Airfield	28.8	31
D-56	145	B-5	035	Airfield	18.7	48
D-57	050	4-B	135	Airfield	5.3	128
D-57	050	4-B	135	Airfield	7.1	115
D-57	052	4-B	000	Airfield	9.9	86
D-57	052	4-B	000	Airfield	7.7	110
D-57	056	3-A	000	Airfield	9.1	88
D-57	056	3-A	000	Airfield	12.7	67
D-57	072	7-B	175	Airfield	7.2	102

Mission 1008-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-57	072	7-B	175	Airfield	6.6	114
D-72	035	B-6	000	Airfield	10.5	70
D-72	035	B-6	000	Airfield	6.1	102
D-72	035	A-7	055	Airfield	11.7	74
D-72	043	B-9	035	Airfield	5.3	126
D-72	043	B-9	035	Airfield	5.9	106
D-72	064	C-3	010	Airfield	18.5	44
D-72	064	C-3	010	Airfield	11.1	68
D-72	069	B-3	015	Airfield	8.3	90
D-83	072	13-B	120	Airfield	13.0	65
D-83	072	13-B	120	Airfield	12.4	57
D-87	064	B-11	025	Airfield	8.7	94
D-87	064	B-11	025	Airfield	8.2	99
D-88	011	B-5	070	Airfield	13.3	59
D-88	011	B-5	070	Airfield	10.6	75
D-88	035	A-7	170	Airfield	7.7	100
D-88	035	A-7	170	Airfield	11.2	70
D-88	036	C-6	030	Airfield	6.3	113
D-88	036	C-6	030	Airfield	7.7	105
D-88	036	A-4	005	Airfield	6.9	111
D-88	036	A-4	005	Airfield	6.2	116
D-88	037	A-10	025	Airfield	8.7	82
D-88	037	A-10	025	Airfield	12.3	76
D-88	042	C-5	040	Airfield	7.1	101
D-88	042	C-5	040	Airfield	6.9	109
D-88	043	A-12	170	Airfield	14.1	59
D-88	045	A-12	170	Airfield	11.8	61

Mission 1008-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-88	051	A-3	130	Airfield	12.8	64
D-88	051	A-3	130	Airfield	11.0	66
D-88	051	B-2	065	Airfield	10.2	83
D-88	051	B-2	065	Airfield	9.3	83
D-88	052	C-3	130	Airfield	6.8	115
D-88	052	C-3	130	Airfield	7.9	99

Analysis of Photographic Image to Evaluate System Performance

Mission 1009-1

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

Arithmetic Mean	75.3 l/mm
Standard Deviation	19.9 l/mm
Coefficient of Dispersion	26%
Number of Edges	80
M.I.P. Frame	112

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

Arithmetic Mean	11.7 μ
Standard Deviation	4.2 μ
Coefficient of Dispersion	36%
Number of Edges	80
M.I.P. Frame	7.3

Analysis of Photographic Image to Evaluate System Performance

Mission 1009-1

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	75.3 l/mm	74.9 l/mm	75.1 l/mm	77.8 l/mm
Standard Deviation	20.2 l/mm	19.2 l/mm	20.1 l/mm	19.1 l/mm
Coefficient of Dispersion	27%	26%	27%	25%
Number of Edges	63	17	76	4

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	11.8 μ	11.4 μ	11.8 μ	9.6 μ
Standard Deviation	4.4 μ	3.5 μ	4.2 μ	2.1 μ
Coefficient of Dispersion	37%	31%	36%	22%
Number of Edges	63	17	76	4

Analysis of Photographic Image to Evaluate System Performance

CROSSOVER BETWEEN 80μ slit and 320μ slit

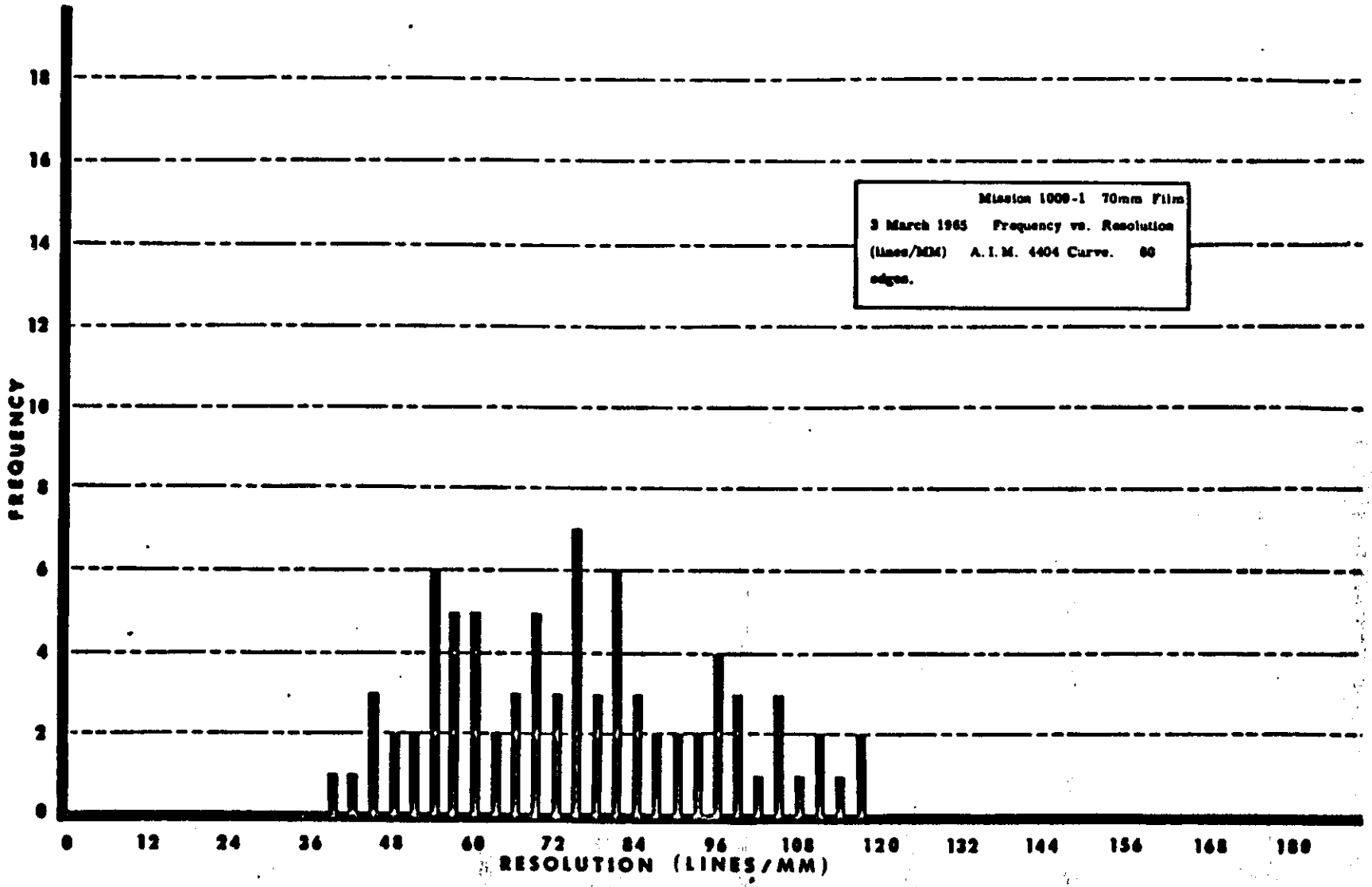
Mission 1009-1

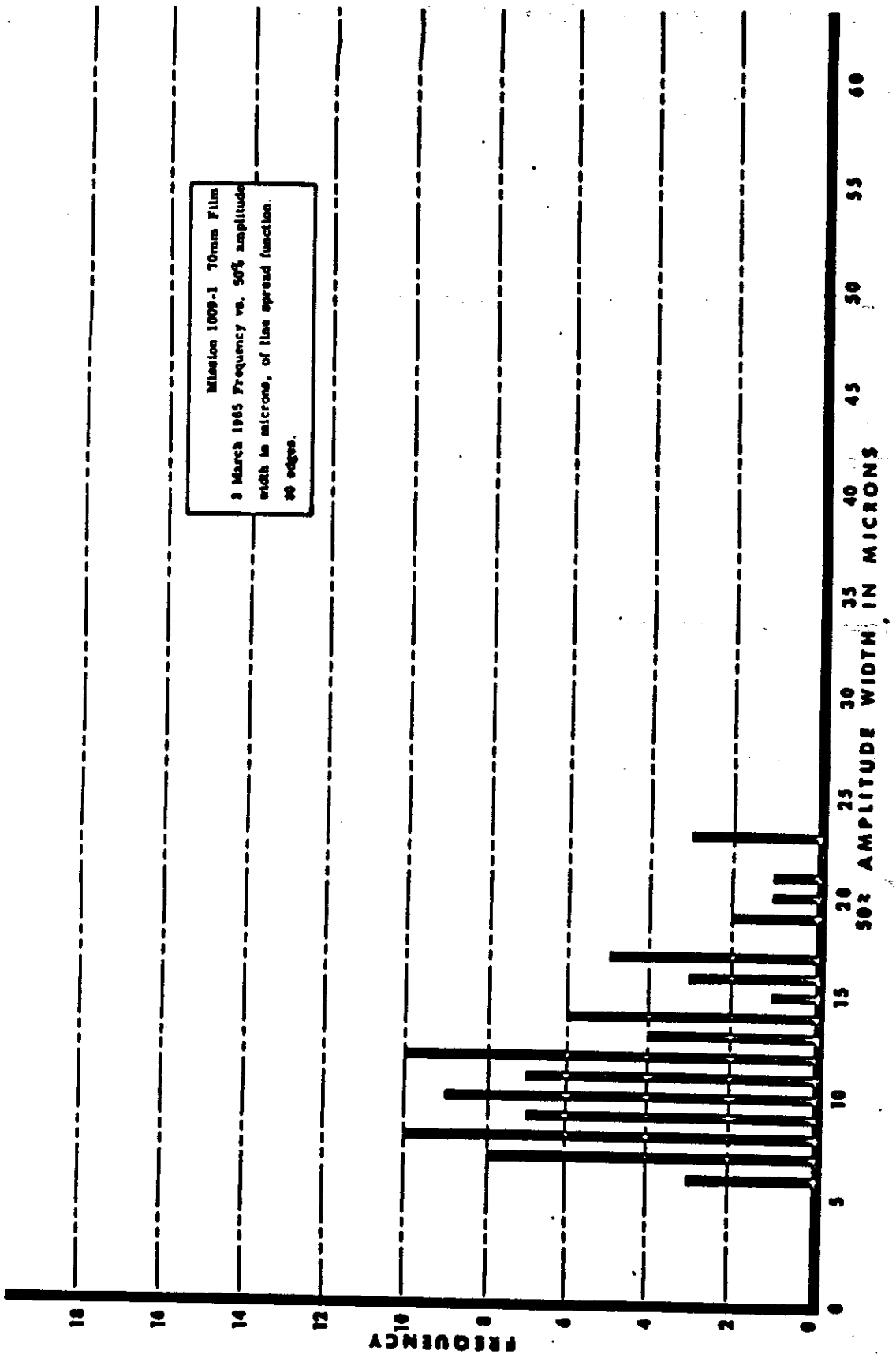
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	1 x 80 micron slit	1 x 320 micron sli
Arithmetic Mean	71.7 l/mm	69.4 l/mm
Standard Deviation	17.6 l/mm	18.2 l/mm
Coefficient of Dispersion	24%	26%
Number of Edges	33	33

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	1 x 80 micron slit	1 x 320 micron sli
Arithmetic Mean	12.1 μ	12.3 μ
Standard Deviation	4.2 μ	3.7 μ
Coefficient of Dispersion	35%	30%
Number of Edges	33	33


Mission 1009-1 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4404 Curve. 80
edges.
FREQUENCY
0
2
4
6
8
10
12
14
16
18
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
RESOLUTION (LINES/MM)


Mission 1009-1 70mm Film
3 March 1965 Frequency vs. 50% amplitude
width in microns, of line spread function.
90 edges.
FREQUENCY
18
16
14
12
10
8
6
4
2
0
50% AMPLITUDE WIDTH IN MICRONS
0
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1009-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-07	013	C-6	025	Building	10.7	70
D-07	013	C-6	025	Building	10.1	75
D-07	013	C-56	015	Airfield	22.5	53
D-07	013	C-56	015	Airfield	23.2	39
D-08	172	C-12	137	Airfield	23.4	42
D-08	172	C-12	137	Airfield	7.3	92
D-09	010	A-9	000	Airfield	12.8	63
D-09	010	A-9	000	Airfield	11.6	72
D-09	074	A-6	065	Airfield	12.1	66
D-09	074	A-6	065	Airfield	16.3	53
D-09	074	B-4	045	Airfield	13.5	59
D-09	074	B-4	045	Airfield	11.4	75
D-09	089	C-4	120	Airfield	17.2	45
D-09	089	C-4	120	Airfield	7.9	86
D-09	093	B-10	080	Airfield	8.9	89
D-09	093	B-10	080	Airfield	7.3	95
D-21	080	B-9	130	Airfield	10.3	71
D-21	080	B-9	130	Airfield	10.6	82
D-21	082	C-13	110	Airfield	12.4	59
D-21	082	C-13	110	Airfield	14.3	70
D-21	135	A-6	060	Airfield	20.7	49
D-21	135	A-6	060	Airfield	9.9	82
D-21	137	A-1	085	Airfield	13.5	54
D-21	137	A-1	085	Airfield	19.7	44

Mission 1009-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-21	142	A-8	015	Airfield	11.9	70
D-21	142	A-8	015	Airfield	9.1	80
D-21	146	B-2	140	Airfield	16.5	55
D-21	146	B-2	140	Airfield	8.8	81
D-21	176	C-6	090	Airfield	5.8	113
D-21	013	B-7	170	Airfield	8.2	95
D-21	013	B-7	170	Airfield	11.8	74
D-41	014	A-2	015	Airfield	8.0	105
D-41	014	B-5	000	Airfield	17.2	55
D-41	014	B-5	000	Airfield	7.9	98
D-41	015	B-2	045	Airfield	10.2	87
D-41	016	B-2	060	Airfield	8.4	100
D-41	016	B-2	060	Airfield	10.9	81
D-41	019	B-8	110	Airfield	6.6	118
D-41	019	B-8	110	Airfield	6.7	112
D-41	025	B-11	140	Airfield	18.9	51
D-41	025	B-11	140	Airfield	11.5	59
D-41	026	B-11	045	Airfield	13.3	60
D-41	026	B-11	045	Airfield	8.2	84
D-41	027	A-8	055	Airfield	12.2	67
D-41	027	A-8	055	Airfield	9.9	73
D-41	037	C-5	170	Airfield	16.0	55
D-41	037	C-5	170	Airfield	10.2	78
D-41	038	C-10	160	Airfield	11.4	68
D-41	038	C-10	160	Airfield	5.9	116
D-41	040	B-6	160	Airfield	10.2	79
D-41	040	B-6	160	Airfield	6.5	108

Mission 1009-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-41	043	C-3	160	Airfield	16.1	52
D-41	043	C-3	160	Airfield	13.3	64
D-41	043	B-4	110	Airfield	19.1	45
D-41	043	B-4	110	Airfield	10.0	74
D-41	043	B-C-7	030	D Am	6.5	105
D-41	043	B-C-7	030	D Am	11.0	61
D-41	058	C-3-4	020	Airfield	9.1	84
D-41	058	C-3-4	020	Airfield	10.2	82
D-41	061	A-10	130	Airfield	8.5	101
D-41	061	A-10	130	Airfield	11.2	75
D-41	063	B-8	150	Airfield	8.2	96
D-41	063	B-8	150	Airfield	8.2	100

Mission 1009-1

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-21	084	A-5	110	Airfield	16.7	56
D-21	084	A-5	110	Airfield	13.8	57
D-21	109	C-8	080	Airfield	9.3	91
D-21	109	C-8	080	Airfield	7.3	94
D-21	144	C-9	045	Airfield	6.4	96
D-21	144	C-9	045	Airfield	11.5	74
D-21	145	A-6	010	Airfield	11.5	68
D-21	145	A-6	010	Airfield	9.0	83
D-37	156	A-3	045	Airfield	15.2	58
D-37	156	A-3	045	Airfield	14.1	57
D-37	170	A-10	050	Airfield	13.2	67
D-37	170	A-10	050	Airfield	14.2	56
D-37	174	B-78	020	Airfield	8.1	76
D-37	174	B-78	020	Airfield	17.3	47
D-41	032*	A-7	060	Airfield	7.3	112
D-46	015	C-12	090	Airfield	7.5	104
D-46	015	C-12	090	Airfield	11.5	78

*M.I.P. Frame

Analysis of Photographic Image to Evaluate System Performance

Mission 1009-2

Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

Arithmetic Mean	74.1 l/mm
Standard Deviation	21.7 l/mm
Coefficient of Dispersion	29%
Number of Edges	110

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

Arithmetic Mean	13.0 μ
Standard Deviation	5.0 μ
Coefficient of Dispersion	39%
Number of Edges	110

Analysis of Photographic Image to Evaluate System Performance

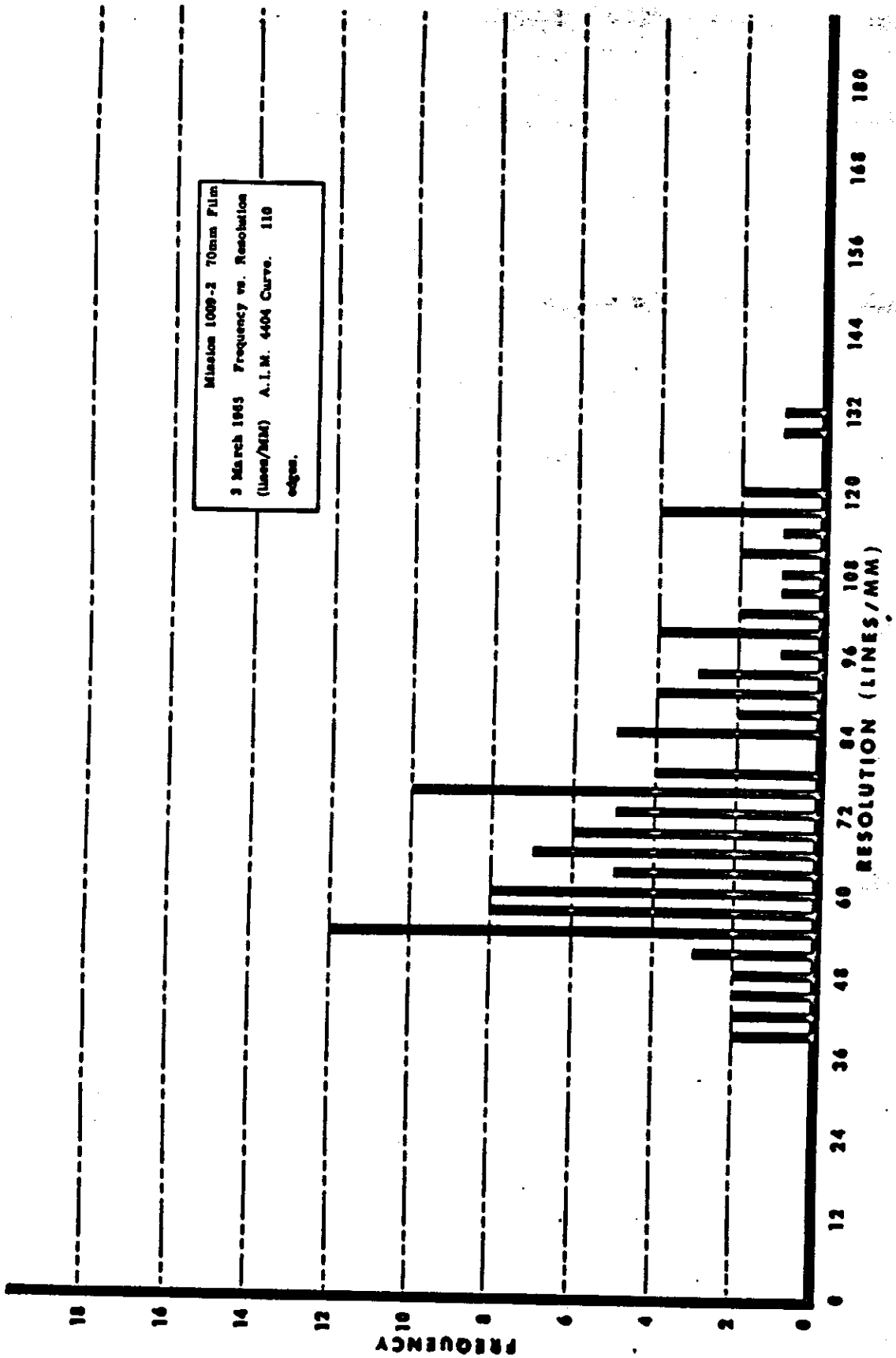
Mission 1009-2

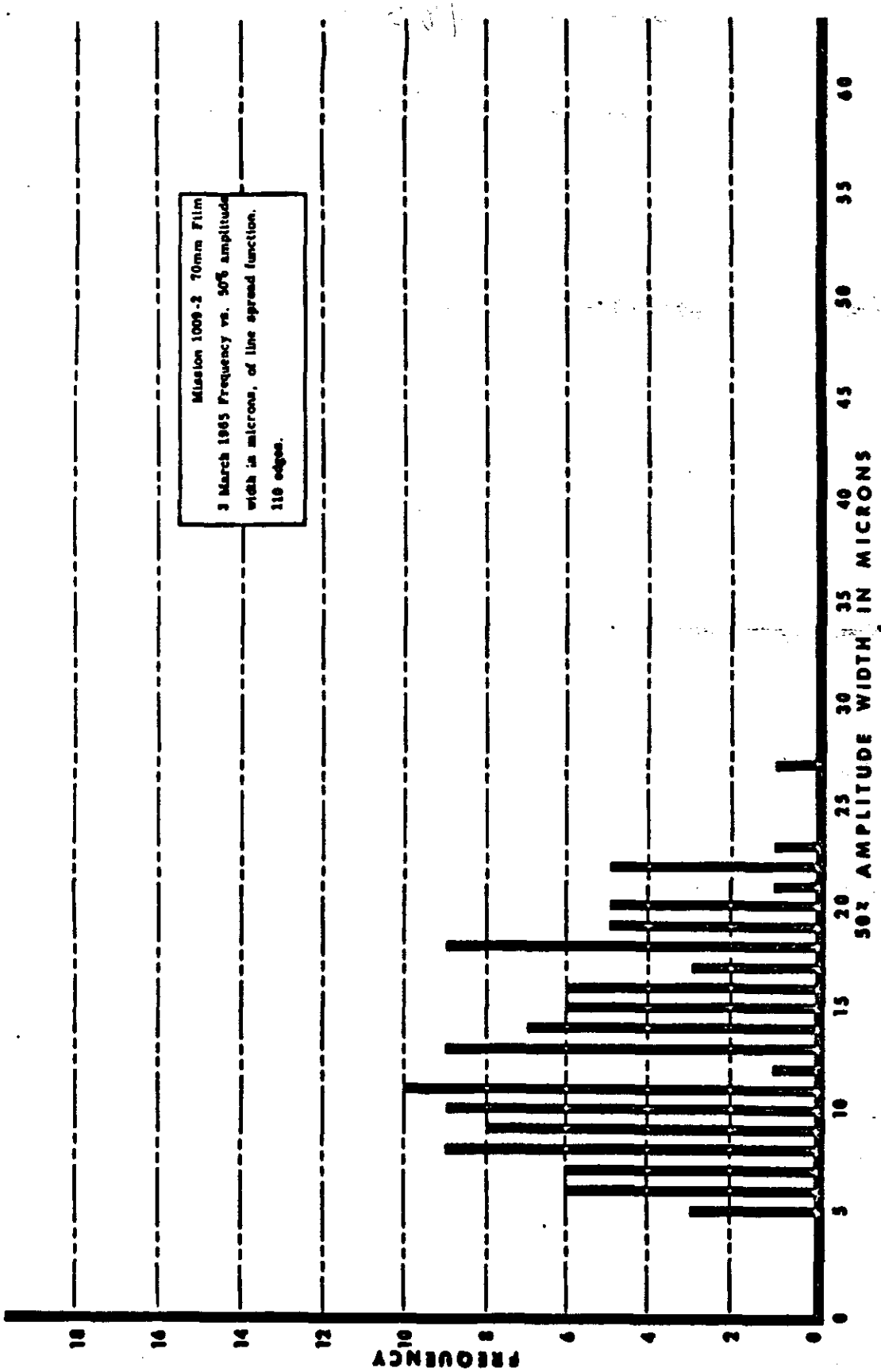
Resolution in lines/mm based on the aerial image modulation - 4404 Curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	75.6 l/mm	72.4 l/mm	74.5 l/mm	71.9
Standard Deviation	23.9 l/mm	18.9 l/mm	22.2 l/mm	19.1
Coefficient of Dispersion	32%	26%	30%	27%
Number of Edges	58	52	92	18

Spread function width at 50% amplitude in microns from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	13.0 μ	13.0 μ	12.8 μ	14.0 μ
Standard Deviation	5.3 μ	4.8 μ	5.0 μ	5.4 μ
Coefficient of Dispersion	40%	37%	39%	38%
Number of Edges	58	52	92	18


Mission 1009-2 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4404 Curve. 110 edge.
FREQUENCY
RESOLUTION (LINES/MM)
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
2
4
6
8
10
12
14
16
18


Mission 1009-2 70mm Film
3 March 1965 Frequency vs. 50% amplitude
width in microns, of line spread function.
110 edges.
FREQUENCY
50% AMPLITUDE WIDTH IN MICRONS
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1009-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-52	122	A-9	130	Airfield	17.8	53
D-52	122	A-9	130	Airfield	23.1	41
D-52	139	A-3	095	Airfield	20.2	54
D-52	139	A-3	095	Airfield	19.1	77
D-52	165	A-7	045	Airfield	4.9	119
D-52	165	A-7	045	Airfield	5.2	117
D-52	175	A-10	175	Airfield	7.5	98
D-52	175	A-10	175	Airfield	10.7	79
D-53	133	A-8	115	Airfield	8.0	101
D-53	133	A-8	115	Airfield	4.6	133
D-56	079	B-8	040	Airfield	9.4	88
D-56	079	B-8	040	Airfield	9.4	84
D-56	080	A-8	120	Airfield	9.5	75
D-56	080	A-8	120	Airfield	6.7	111
D-56	081	A-7	080	Airfield	12.0	65
D-56	081	A-7	080	Airfield	20.7	52
D-56	099	B-2	020	Airfield	6.9	99
D-56	099	B-2	020	Airfield	13.0	66
D-56	112	C-8	018	Airfield	18.7	58
D-56	112	C-8	018	Airfield	17.8	44
D-61	007	C-2	095	Airfield	6.0	121
D-61	007	C-2	095	Airfield	6.0	117
D-61	010	B-4	010	Bridge	6.6	111
D-61	010	B-4	010	Bridge	11.2	76

Mission 1009-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-61	013	B-7	175	Building near Airfield	18.8	47
D-61	013	B-7	175	Building near Airfield	8.0	96
D-61	014	B-12	160	Bridge	13.0	64
D-61	014	B-12	160	Bridge	21.9	59
D-61	016	C-10	130	Airfield	7.5	84
D-61	016	C-10	130	Airfield	8.8	100
D-72	029	A-10	170	Airfield	13.2	75
D-72	029	A-10	170	Airfield	14.2	65
D-72	041	A-5	155	Airfield	6.5	103
D-72	041	A-5	155	Airfield	15.5	75
D-72	048	B-3	065	Airfield	17.5	76
D-72	048	B-3	065	Airfield	20.0	76
D-72	050	B-12	070	Airfield	12.8	70
D-72	050	B-12	070	Airfield	12.6	47
D-72	060	C-5	170	Airfield	17.5	59
D-72	060	C-5	170	Airfield	21.5	54
D-72	083	C-5	025	Airfield	14.8	57
D-72	083	C-5	025	Airfield	15.4	54
D-72	084	A-3	055	Airfield	5.7	130
D-72	084	A-3	055	Airfield	16.0	63
D-88	033	B-C-7	110	Airfield	15.5	53
D-88	033	B-C-7	110	Airfield	16.2	54
D-99	028	B-1	070	Airfield	15.1	53
D-99	028	B-1	070	Airfield	18.5	57

Mission 1009-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-99	029	B-2	050	Airfield	14.5	60
D-99	029	B-2	050	Airfield	11.0	73
D-99	042	B-11	060	Airfield	14.7	61
D-99	042	B-11	060	Airfield	22.4	40
D-100	076	C-7	045	Airfield	10.1	79
D-100	076	C-7	045	Airfield	7.9	86
D-115	041	B-1	170	Airfield	15.8	58
D-115	041	B-1	170	Airfield	18.2	55
D-116	069	C-10	115	Airfield	8.0	89
D-116	069	C-10	115	Airfield	9.2	76

Mission 1009-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-52	144	B-C-11	105	Airfield	18.3	45
D-52	144	B-C-11	105	Airfield	27.2	39
D-52	154	C-10	170	Buildings	10.4	78
D-52	154	C-10	170	Buildings	9.6	83
D-52	170	A-7	040	Airfield	17.3	70
D-52	170	A-7	040	Airfield	8.8	89
D-52	172	B-6	038	Airfield	9.8	75
D-52	172	B-6	038	Airfield	10.8	66
D-52	180	A-5	175	Airfield	13.5	60
D-52	180	A-5	175	Airfield	22.4	58
D-53	137	A-6	115	Airfield	6.5	92
D-53	137	A-6	115	Airfield	7.5	93
D-53	142	A-8	030	Dam	10.6	72
D-53	142	A-8	030	Dam	13.2	64
D-55	141	A-9	170	Airfield	17.4	55
D-55	141	A-9	170	Airfield	15.5	64
D-56	085	C-6	035	Airfield	10.1	70
D-56	085	C-6	035	Airfield	17.1	54
D-56	086	B-8	080	Airfield	8.1	83
D-56	086	B-8	080	Airfield	6.8	107
D-56	086	A-9	170	Dam	8.8	73
D-56	086	A-9	170	Dam	20.3	66
D-56	104	A-12	020	Airfield	13.9	67
D-56	104	A-12	020	Airfield	15.2	64
D-56	118	C-7	020	Airfield	17.5	52
D-56	118	C-7	020	Airfield	17.6	41

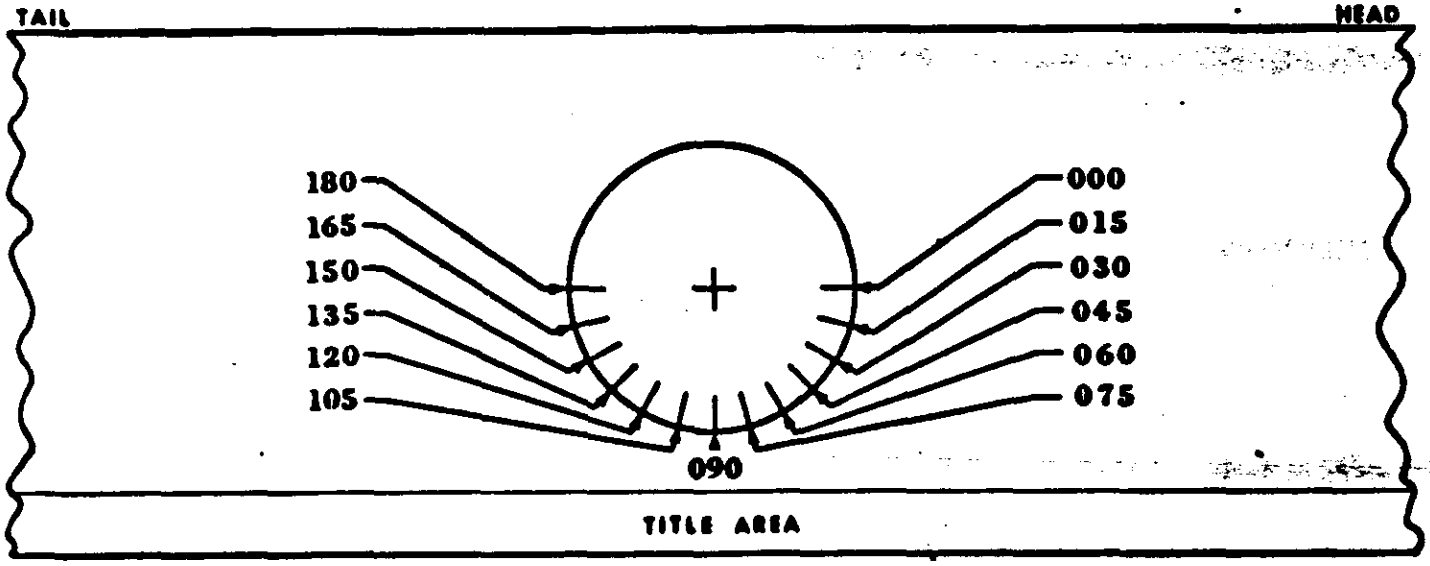
Mission 1009-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-61	014	B-11	170	Bridge	21.6	54
D-61	014	B-11	170	Bridge	14.2	68
D-61	015	B-10	130	Dock	6.4	115
D-61	016	C-10	010	Bridge	18.4	53
D-61	019	C-7-8	030	Airfield & Buildings	9.0	91
D-61	019	C-7-8	030	Airfield & Buildings	10.0	106
D-61	022	B-7	090	Airfield	11.2	75
D-61	022	B-7	090	Airfield	5.8	116
D-69	190	A-4	090	Airfield	6.3	117
D-69	190	A-4	090	Airfield	10.8	98
D-72	052	B-4	100	Airfield	8.2	91
D-72	052	B-4	100	Airfield	11.1	60
D-72	054	C-11	085	Airfield	13.5	69
D-72	054	C-11	085	Airfield	13.7	52
D-72	056	B-2	065	Airfield	11.4	75
D-72	056	B-2	065	Airfield	14.2	60
D-72	060	B-9	050	Dam	20.3	58
D-72	060	B-9	050	Dam	18.6	57
D-72	066	B-9	016	Airfield	12.7	66
D-72	066	B-9	016	Airfield	12.5	70
D-99	034	B-13	085	Airfield	13.0	68
D-99	034	B-13	085	Airfield	10.0	83
D-99	035	B-13	090	Airfield	10.7	73
D-99	035	B-13	090	Airfield	9.9	71
D-99	048	B-3	045	Airfield	19.7	56
D-99	048	B-3	045	Airfield	9.0	93

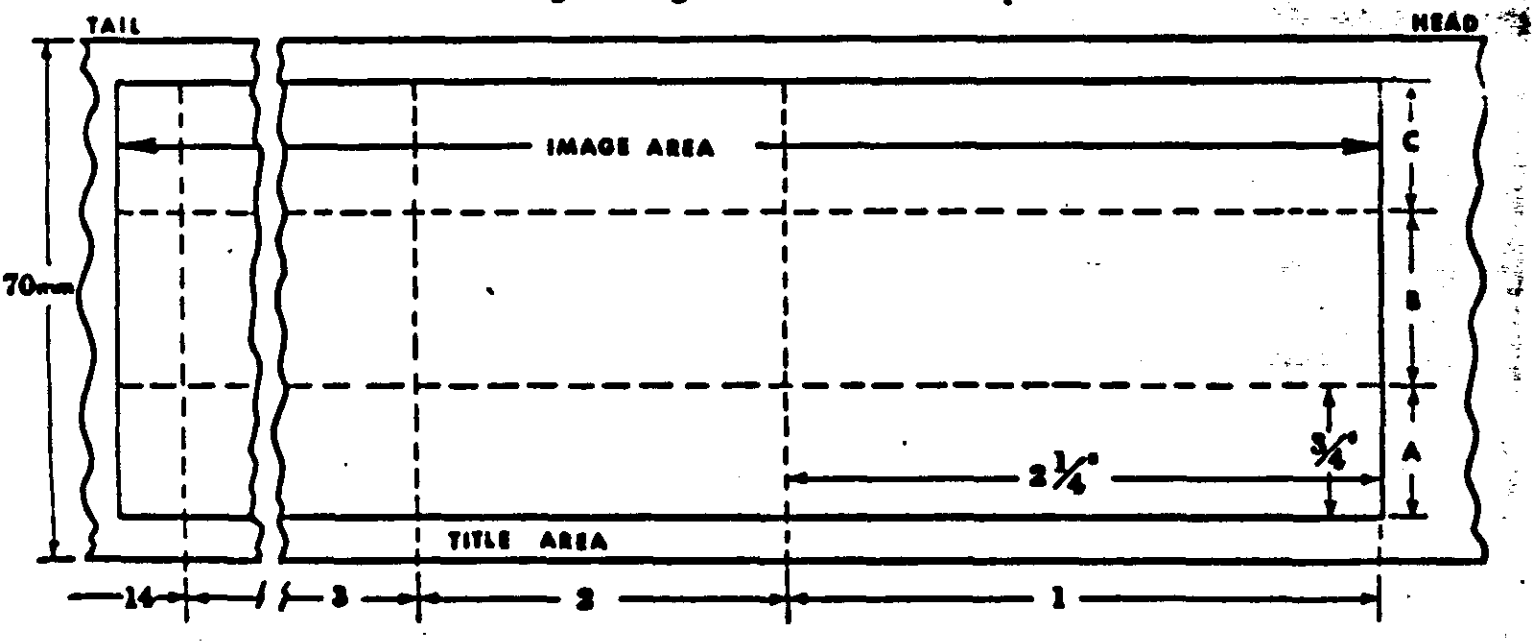
Reference System For Orientation Of C/M/J Mission Edges

original negative - - emulsion up



Grid For Position Of C/M/J Mission Edges

original negative - - emulsion up



SECTION 11

OBSERVED DATA

Photography over the United States was acquired during four passes of Missions 1009-1 and 1009-2. Engineering pass D-30 contained 75 to 100% cloud cover and is unsuitable for evaluating system performance. Engineering pass D-61 contained scattered clouds and considerable haze.

Engineering pass D-47 was very bright and very low contrast with scattered clouds and haze. Indian Springs' fixed target was located in frames 11 and 12 on forward photography and frame 17 aft. Over-exposure and haze prevented the largest group of frames being resolved either along track or cross track.

Engineering pass D-46 contained excellent photography throughout. Density and contrast were nearly ideal for performance evaluation. Fwd and Aft camera performance was very nearly the same.

Objects as small as automobiles were easily detected over the entire format area. In most cases, autos could be distinguished from trucks and buses.

Many types of aircraft were detected and identified. Engine nacelles could usually be seen. In one case, an Electra was identified by its peculiar engine nacelles. The nacelle width at the leading edge of the wing is 32 inches. This indicates a system resolution of 188 lines per millimeter for this particular object.

Similar performance is indicated in the case of a four lane fabricated steel bridge where highway U.S. 40 crosses the Missouri river. This bridge measures approximately 65 feet wide and a total span of nearly 1000 feet. Though the main trusses measured nearly 6 feet wide, typical trusses for this type bridge are not known to exceed 3 feet. The finer details of the cross bracing could be clearly seen, the width of which is usually less than 2 feet.

SECTION 12

MISSION 1009-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 56
Index Reseau	54
Stellar Reseau	56

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

Lens	85 mm f/1.8
Exposure Time	2 seconds
Filter Type	None
Film Type	Eastman Type 4401

Index Camera:

Lens	38 mm f/4.5
Exposure Time	1/500 second
Filter Type	Wratten 21
Film Type	Eastman Type 4400

C. POST FLIGHT EVALUATION

The camera functioned properly throughout the mission with no observed equipment or photographic anomalies. The presence of double stellar images lead to the preliminary conclusion that the Stellar camera shutter had double exposed during 10% of the mission. Further analysis has shown that this problem is caused by the residual unbalance in the panoramic cameras.

The stellar formats contained approximately 50 star images within the usable area in each frame. The normal 30% of each frame was unusable due to the vignetting and flare caused by the eleven inch extended baffle.

Additional radiation shielding was placed on the film chute between the camera and the Recovery System which eliminated the zones of increased base fog observed during the last two missions.

SECTION 13

MISSION 1009-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 38
Index Reseau	38
Stellar Reseau	34

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

Lens	85 mm f/1.8
Exposure Time	2 seconds
Filter Type	None
Film Type	Eastman Type 4401

Index Camera:

Lens	38 mm f/4.5
Exposure Time	1/500 second
Filter Type	Wratten 21
Film Type	Eastman Type 4400

C. POST FLIGHT EVALUATION

The camera operated properly throughout the mission. Emulsion cracks within the stellar formats caused minor degradation during the later portion of the mission. The cracks were evenly spaced at 1.65 inch intervals and are attributed to foreign material on one of the camera rollers.

A small light leak within the Index camera produced a fogged area on all frames however image degradation was only encountered at camera sit times. The fogged frames show that the leak was at the interface of the camera body and the film chute.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1009-1 and 1009-2 were derived from the reduction of the Stellar camera photography. This attitude data is supplied to A/P by NPIC.

The attitude errors for each frame and the attitude control rates are calculated at the A/P computer facility. The computer also plots the frequency distribution of the rates and errors. Figures 14-1 through 14-6 show these distributions for Mission 1009-1 and Figures 14-7 through 14-14 for Mission 1009-2.

The summary table below lists the maximum attitude errors and rates that were experienced during 90% of the photographic operations, excluding the first six frames of each operation, and the total range of the errors and rates.

	Mission 1009-1		Mission 1009-2	
Value	90%	Range	90%	Range
Pitch Error (^{o})	0.65	-1.40 to +0.40	0.48	-0.75 to +0.65
Roll Error (^{o})	0.65	+0.28 to +0.82	0.65	+0.26 to +1.02
Yaw Error (^{o})	0.71	-0.95 to +0.95	0.59	-0.95 to +1.00
Pitch Rate (^{o}/hr)	29.2	-95 to +70	33.6	-75 to +65
Roll Rate (^{o}/hr)	22.7	-95 to +70	23.9	-60 to +95
Yaw Rate (^{o}/hr)	27.6	-44 to +56	27.2	-32 to +54

The performance of the attitude control system is comparable to the control systems used on recent missions. The panoramic photography was not degraded by the attitude control system.

[redacted] MISSION 1009-1 [redacted] MISSION 10

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0

Y PITCH ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

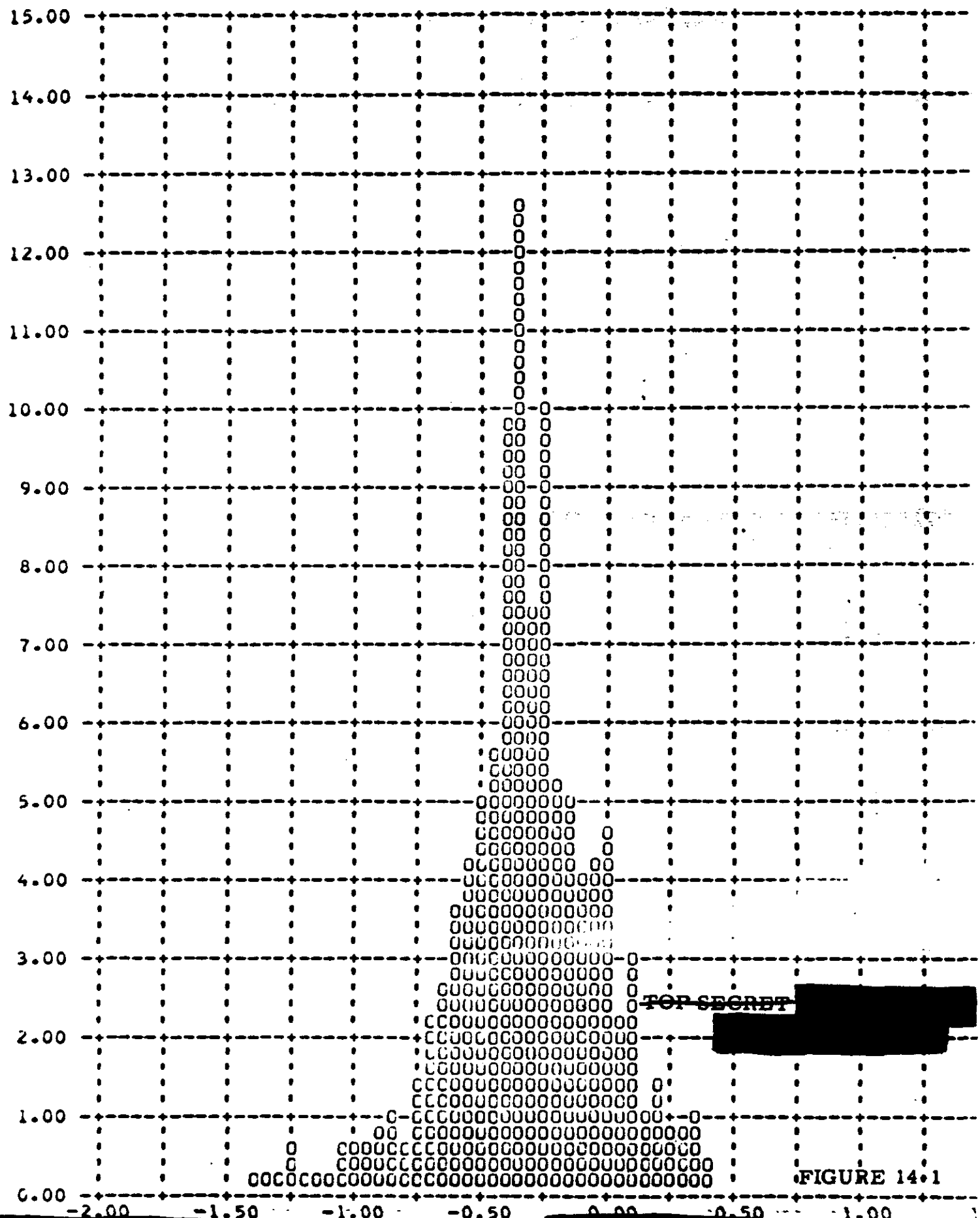


FIGURE 14-1

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0

Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

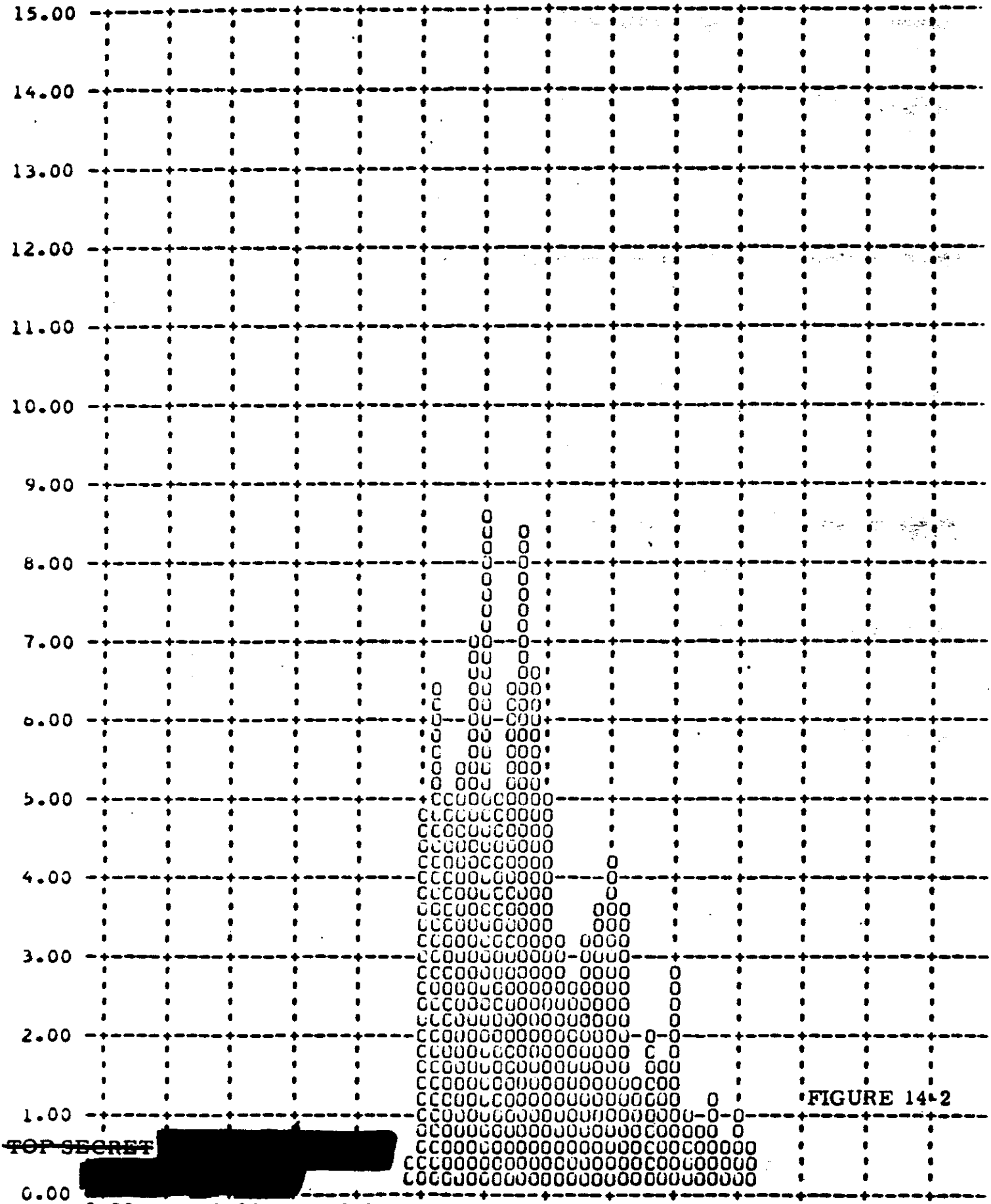


FIGURE 14-2

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

Y YAW ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

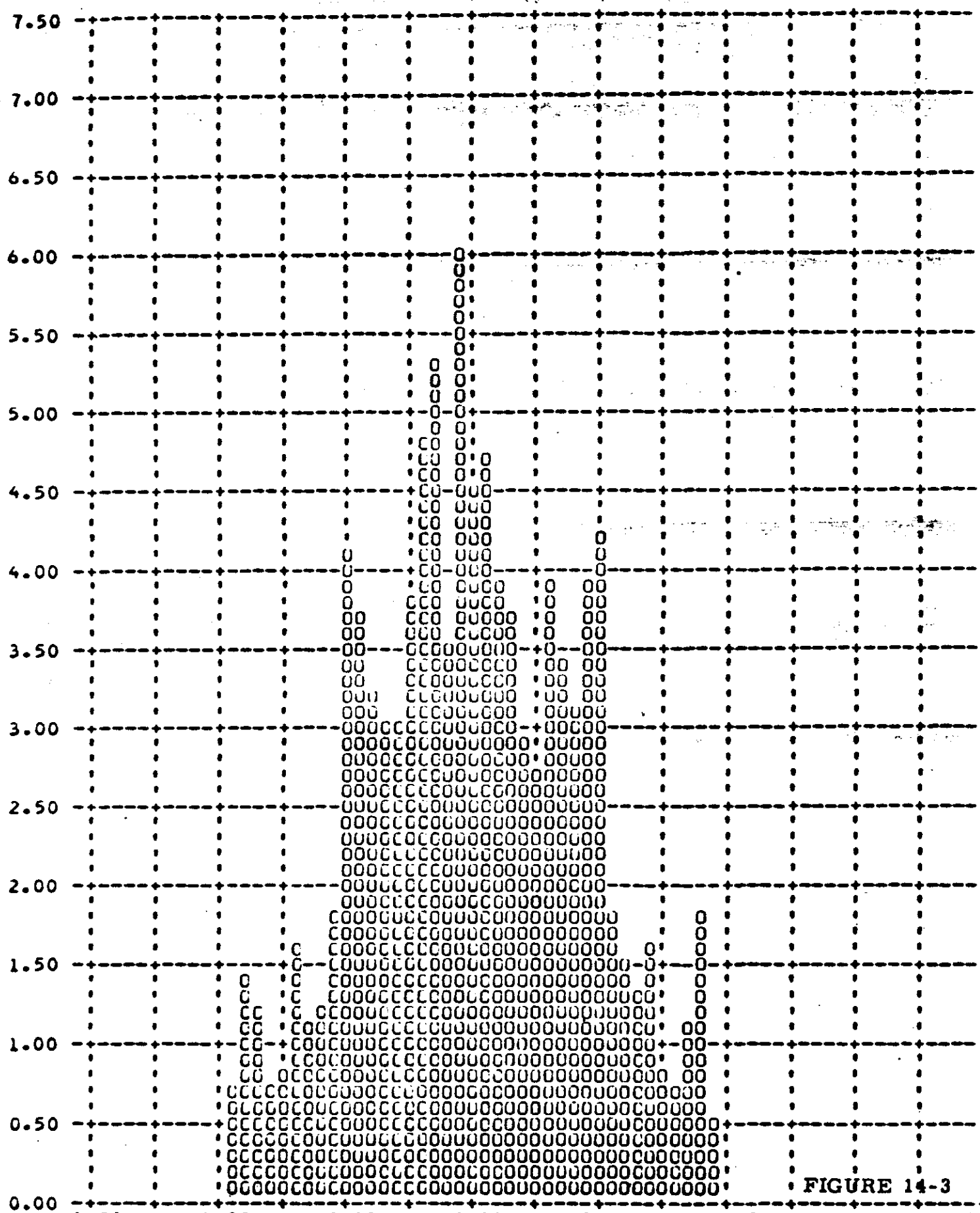


FIGURE 14-3

[redacted] MISSION 1C09-1 [redacted] MISSION 10(

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED = 90 PERCENT = 29.

Y PITCH RATE ERRCR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)

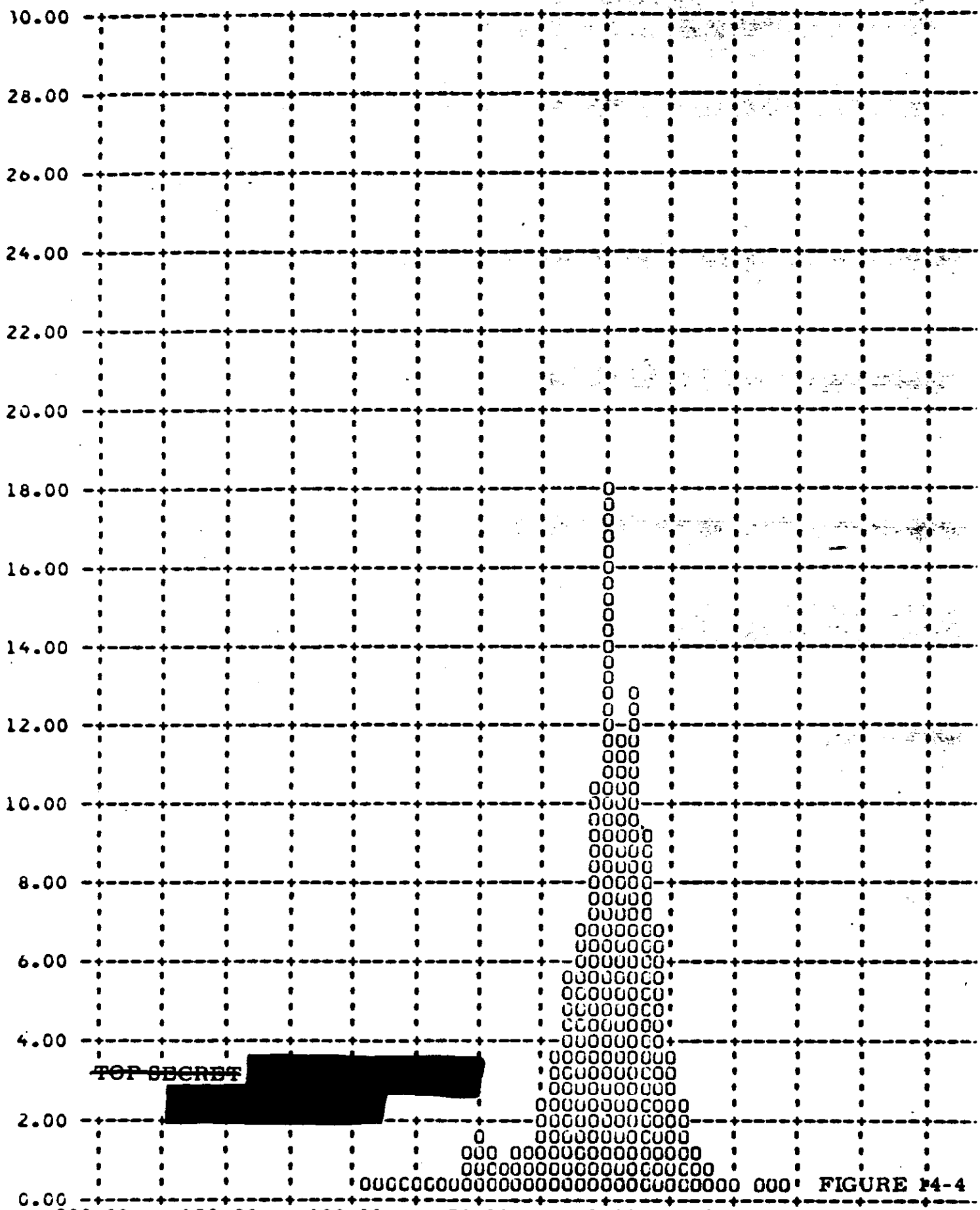


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FIGURE P4-4

[redacted] MISSION 1C09-1 [redacted] MISSION 10(

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 22.

Y ROLL RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)

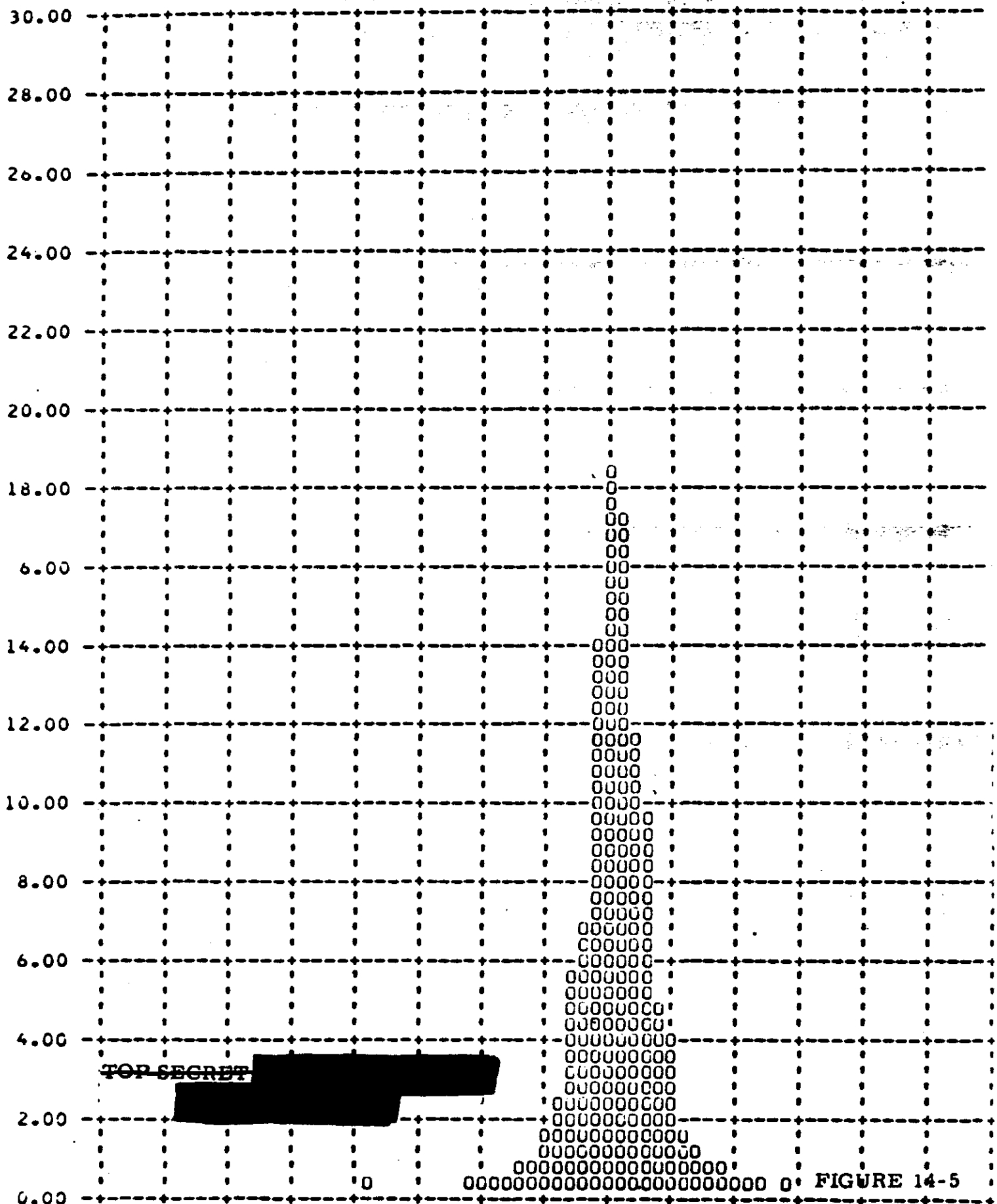
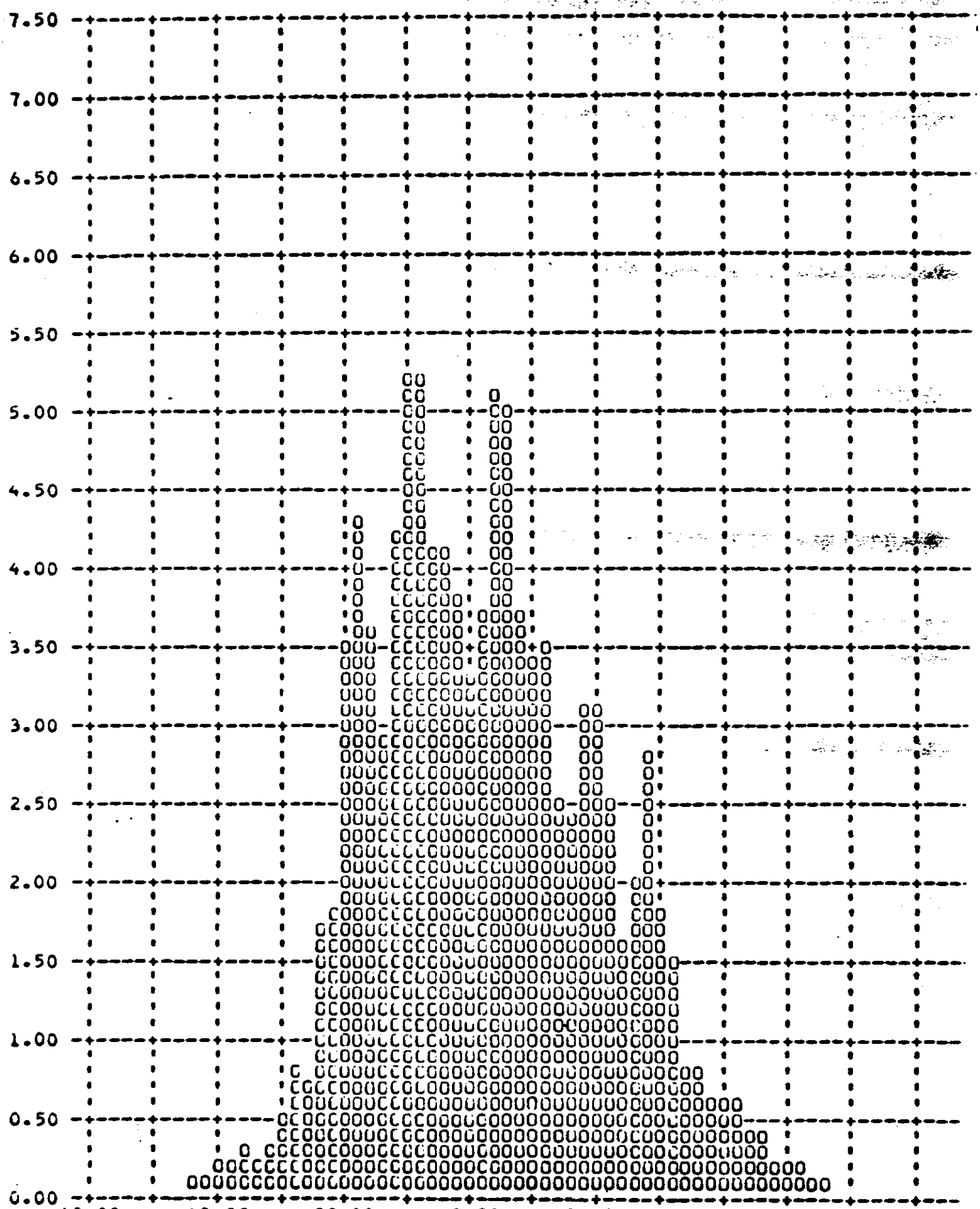


FIGURE 14-5

[redacted] MISSION 1009-1 [redacted] MISSION 100

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 27.

Y YAW RATE ERRCR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)



[redacted] MISSION 1009-1 [redacted] MISSION 10

[redacted] MISSION 1009-2 [redacted] MISSION 100

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

Y PITCH ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

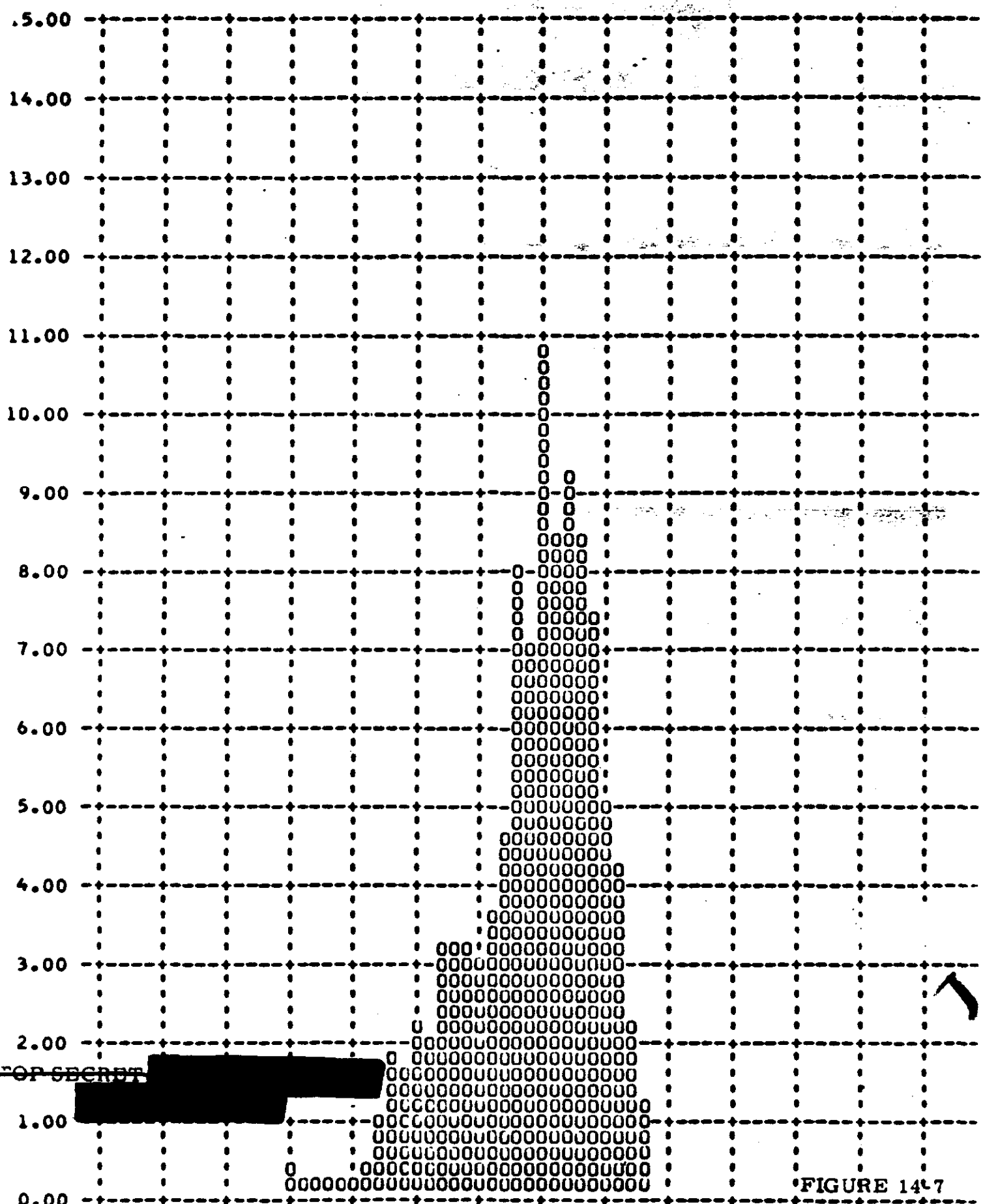


FIGURE 14-7

[redacted] MISSION 1009-3 [redacted] MISSION 10(

INST 1 J12B V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

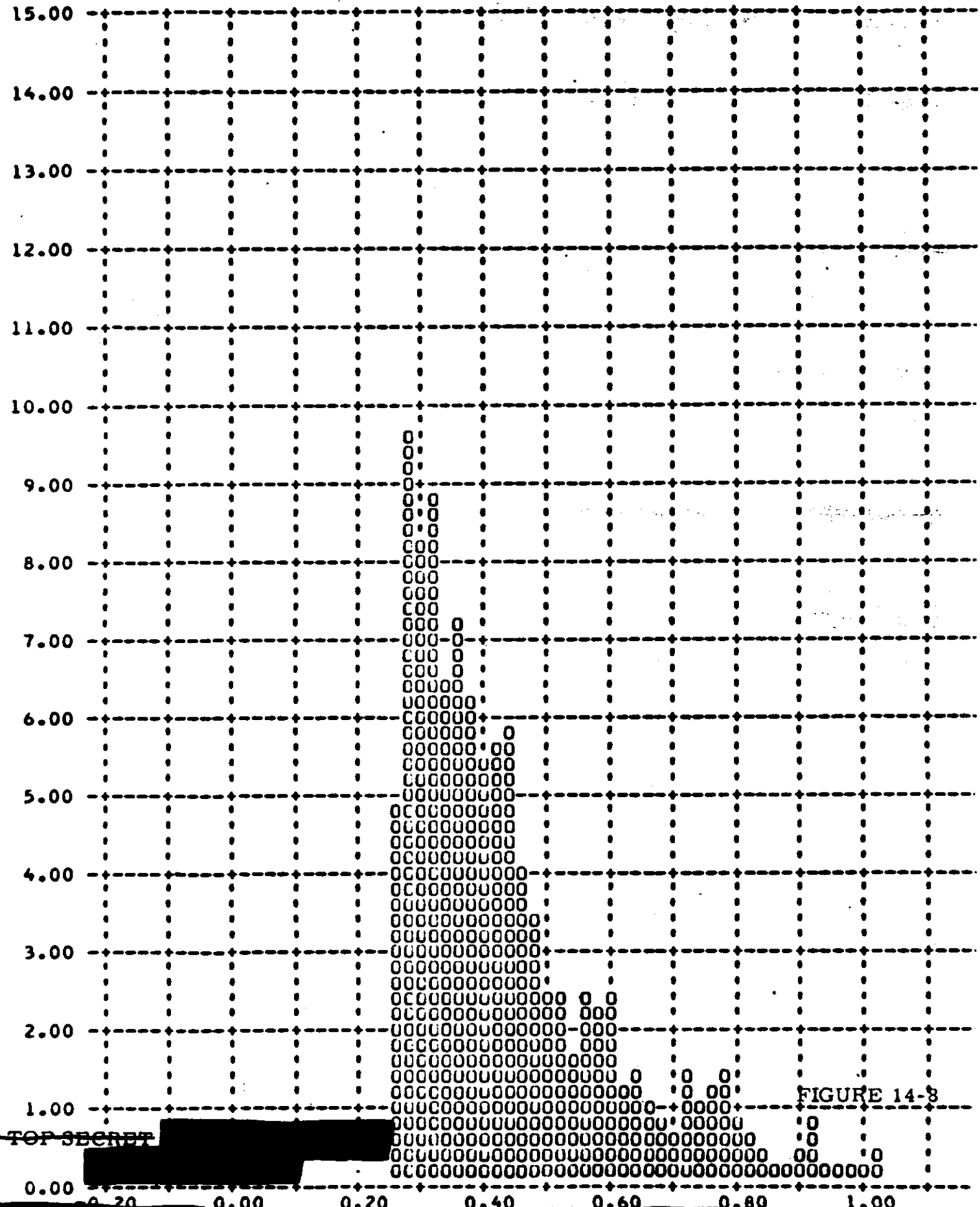


FIGURE 14-8

[redacted] MISSION 1009-2 [redacted] MISSION 10

INST 1 J12B V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0

Y YAW ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)

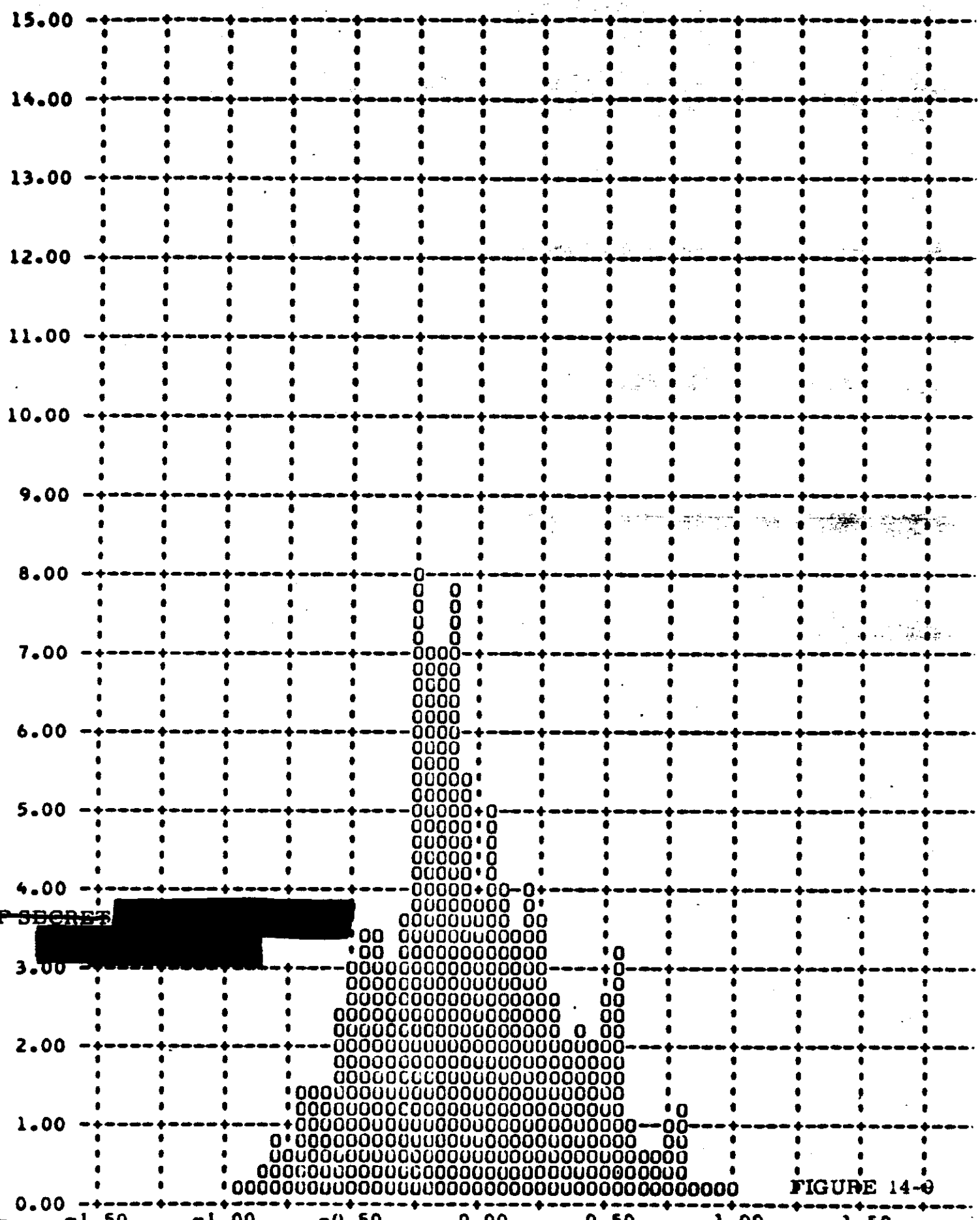


FIGURE 14-9

[redacted] MISSION 1009-2 [redacted] MISSION 10

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 33

Y PITCH RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)

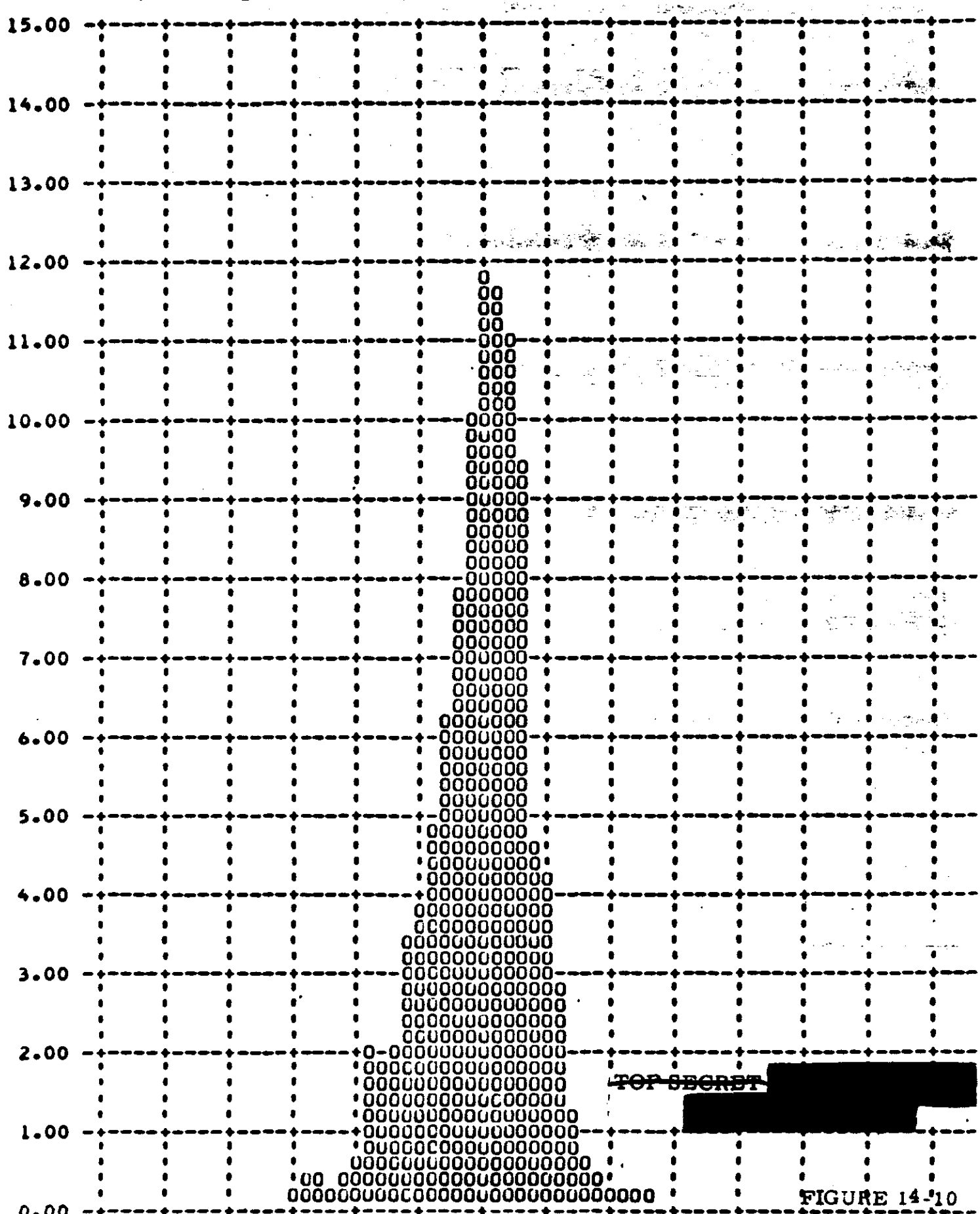
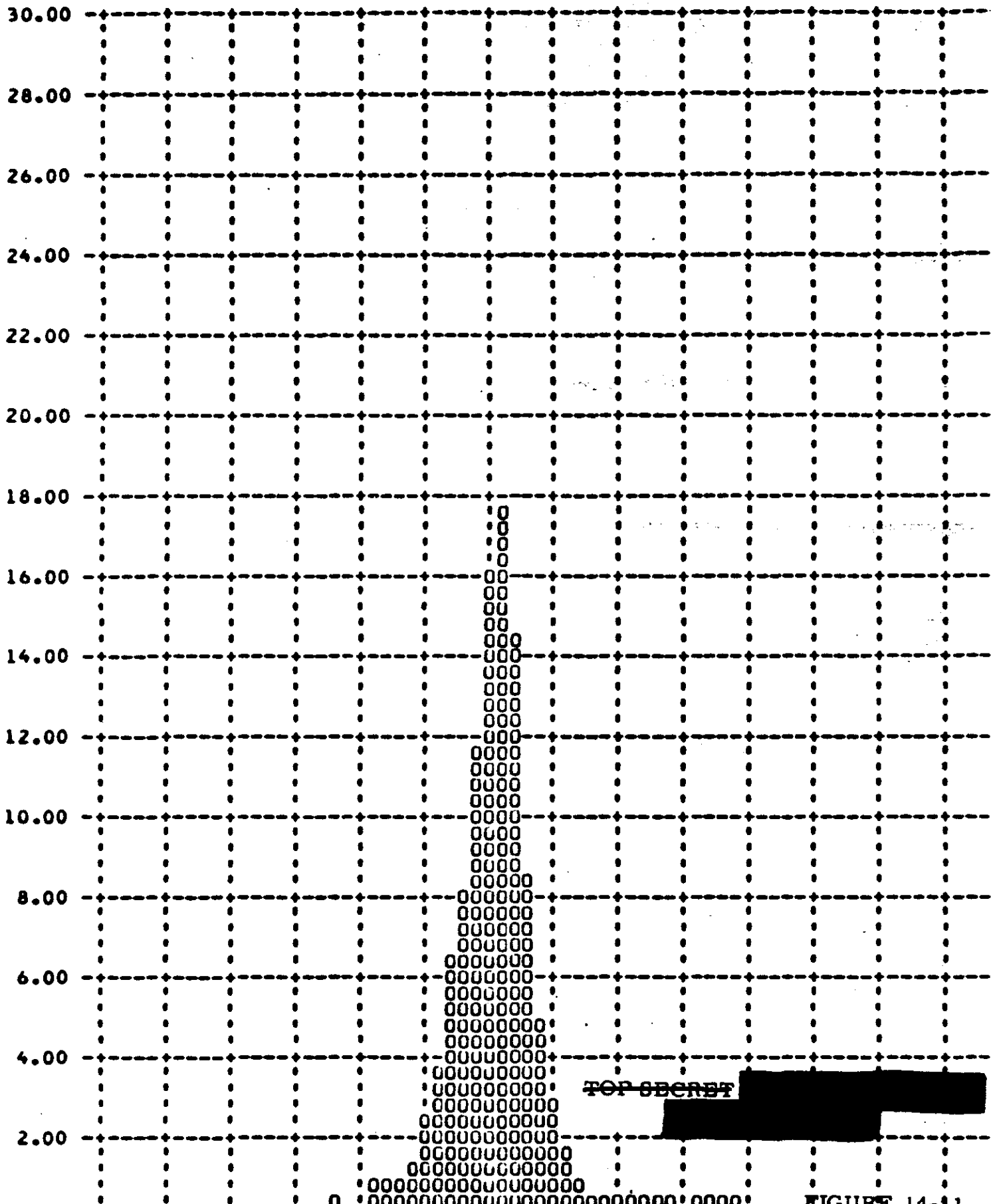


FIGURE 14-10

[redacted] MISSION 1009-2 [redacted] MISSION 10

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 23

Y ROLL RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)



TOP SECRET [redacted]

FIGURE 14-11

[redacted] MISSION 1009-2 [redacted]

INST 1 J12B V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 27.

Y YAW RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)

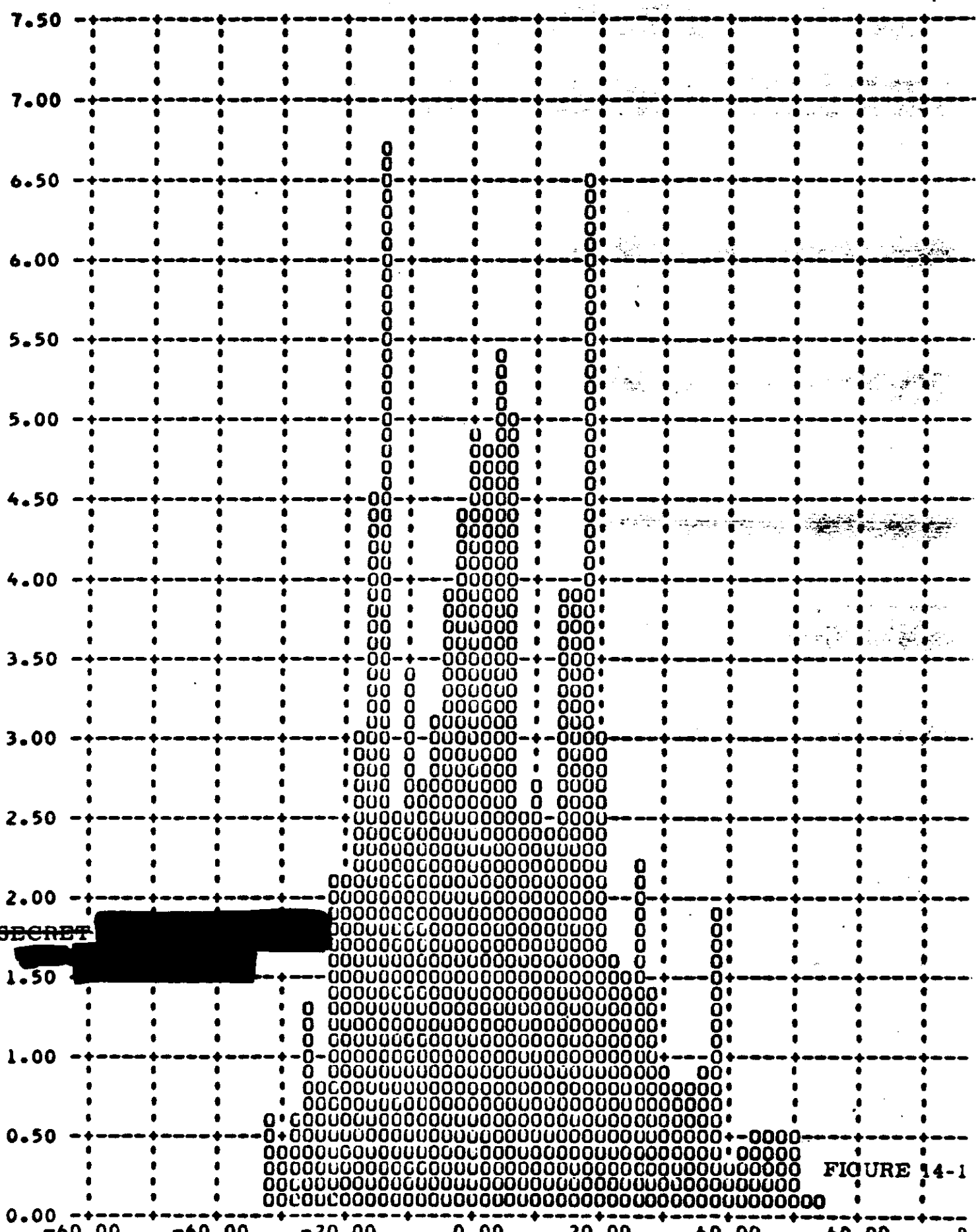


FIGURE 14-1

SECTION 15

IMAGE SMEAR ANALYSIS

The frame correlation tape supplied to A/P by NPIC contains the binary time word of each frame of photography. A computer program has been assembled at A/P which calculates the exposure time of each frame and compares the camera cycle rate with the ephemeris to calculate the V/h mismatch. This data is combined with the vehicle attitude error and rate values of each frame and the crab error caused by earth rotation at the latitude of each frame. The program outputs the total along track and cross track IMC error and the limit of ground resolution that can be acquired by a camera regardless of focal length and system capabilities.

The computer rejects the first six frames of all operations as the large V/h error induced by camera start-up is not representative of the overall system operations. The frequency distribution of the V/h errors and resolution limits are computer plotted and are shown in Figures 15-1 through 15-6.

The summary table below presents the maximum V/h ratio errors and resolution limits that existed during 90% of the photographic operations and the total range of values during all operations that were computed.

	Mission 1009-1		Mission 1009-2	
Value	90%	Range	90%	Range
V/h Ratio Error (%)	3.3	-6.6 to +2.6	2.6	-8.4 to +3.4
Along Track Resolution Limit (ft.)	5.3	0 to 9.6	4.9	0 to 7.8
Cross Track Resolution Limit (ft.)	5.8	0 to 8.8	5.9	0 to 9.2

The yaw programmer was enabled during the later portion of Mission 1009-2. This precluded definative analysis of the benefit of the programmer as the redundant coverage of common target areas was extremely limited.

In addition those target areas that were acquired with and without yaw programming were located at opposite ends of the panoramic frame thus producing significant variations in illumination conditions.

Evaluation of photography to ascertain the operation of the yaw programmer was concentrated on pass D112. This operate was between 15°S and 20°S latitude which resulted in a set of conditions, shown below, that are exceedingly sensitive to image motion:

Altitude	154 N. M.
Distance to target	160 N. M.
Exposure Time	1/200 sec.
Crab error	+ 3.2°
Velocity	24100 fps

A commercial airfield, petroleum tank farm and harbor shipping were recorded during this pass. The engine nacelles of both a 707 and DC-7 type aircraft could be detected as could the passenger loading stairway beside the 707. Conservatively, these objects are estimated to be four feet wide which, considering the above conditions, results in a system performance of 200 lines per millimeter. Stereoscopic examination of the tank farm showed no ellipticity. It was therefore concluded that the yaw programmer was operating properly as the observed targets would not have been detected with the 10.9% cross track error produced by the supposed faulty yaw programmer and earth rotation. This error would result in a 18.8 foot resolution limit (9.4 foot object size).

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.

Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)

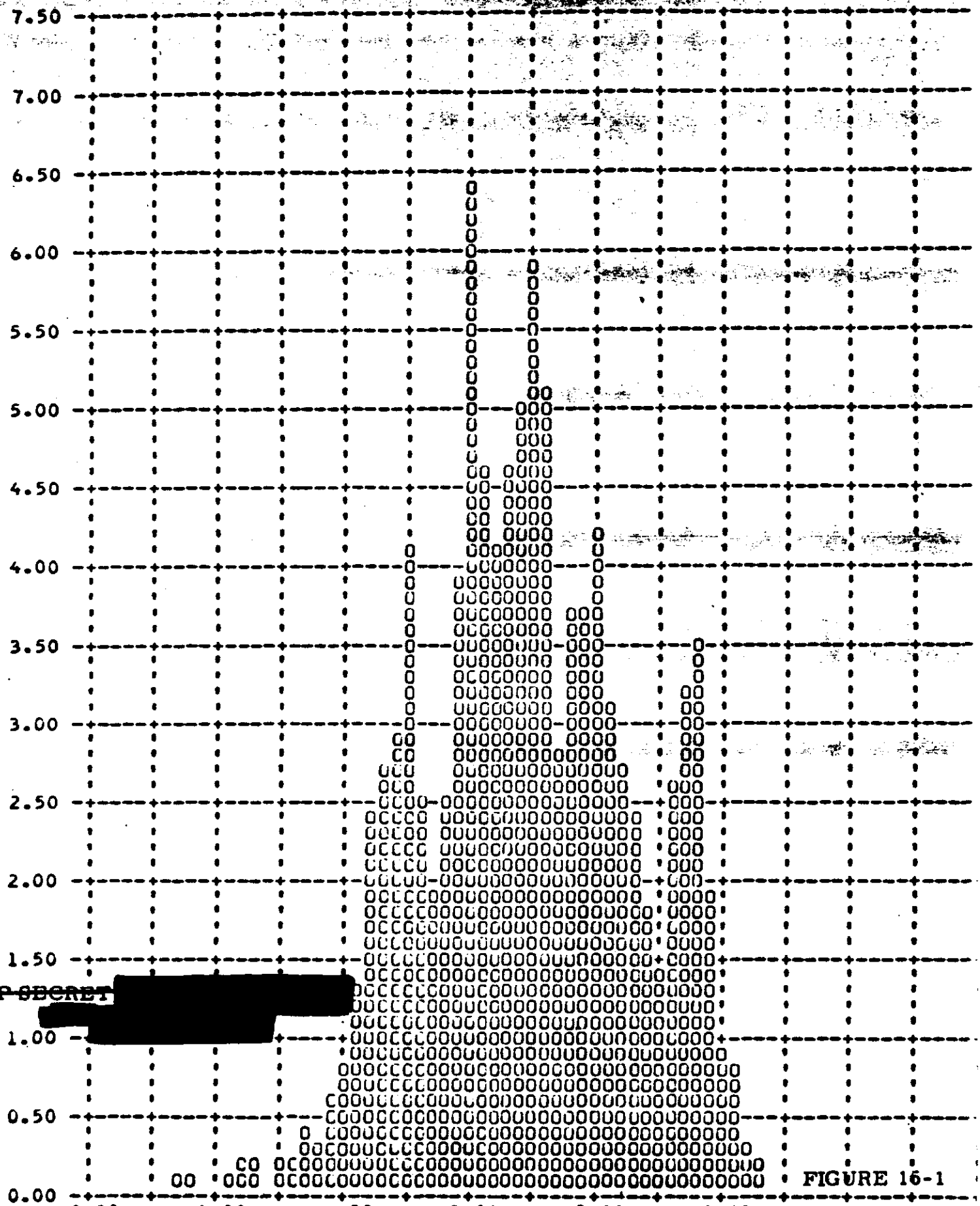


FIGURE 16-1

[redacted] MISSION 1C09-1 [redacted] MISSION 100

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 5.

Y ALONG TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (

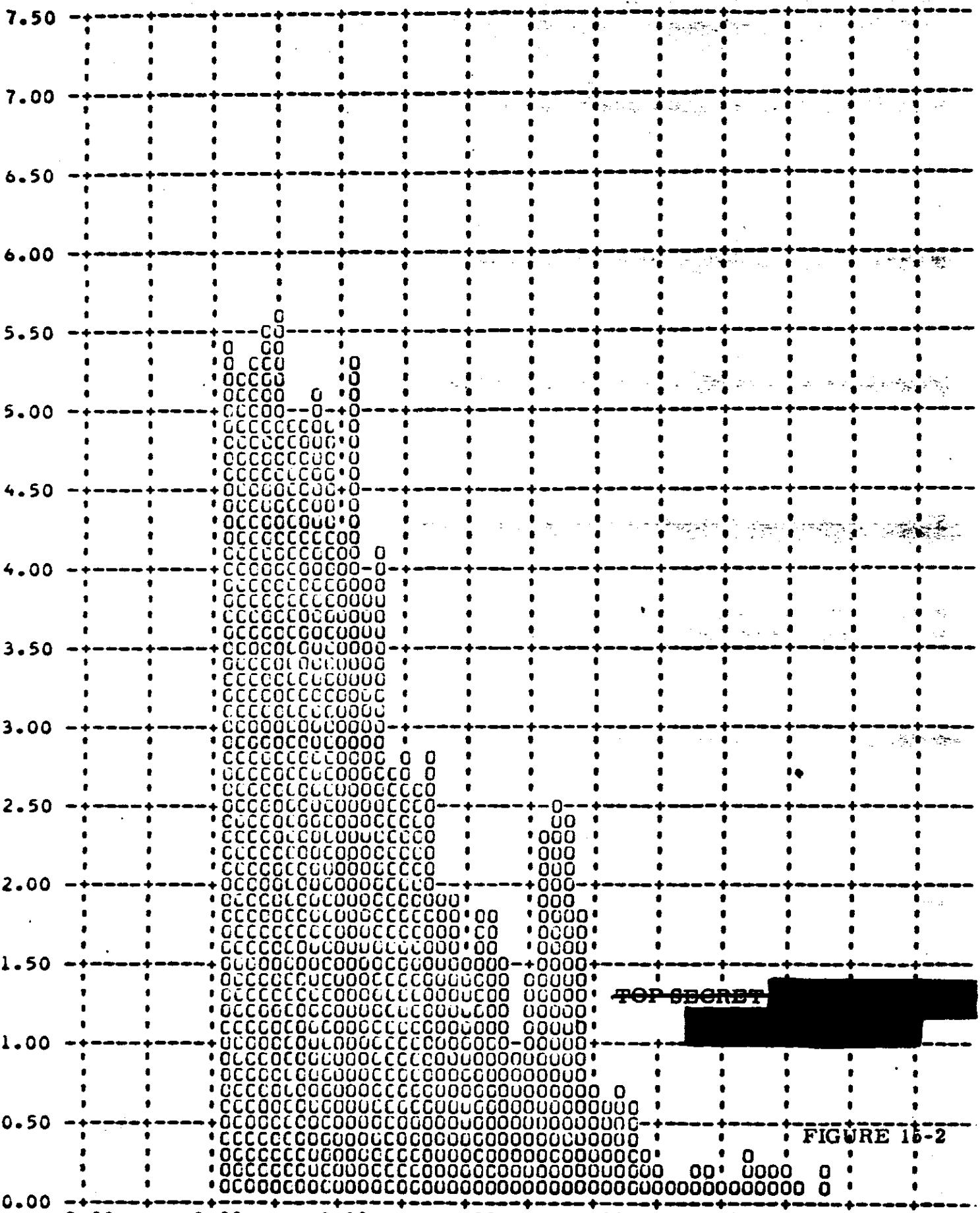


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FIGURE 16-2

[redacted] MISSION 1009-1 [redacted] MISSION 100

INST 1 J12A V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 5.

Y CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (

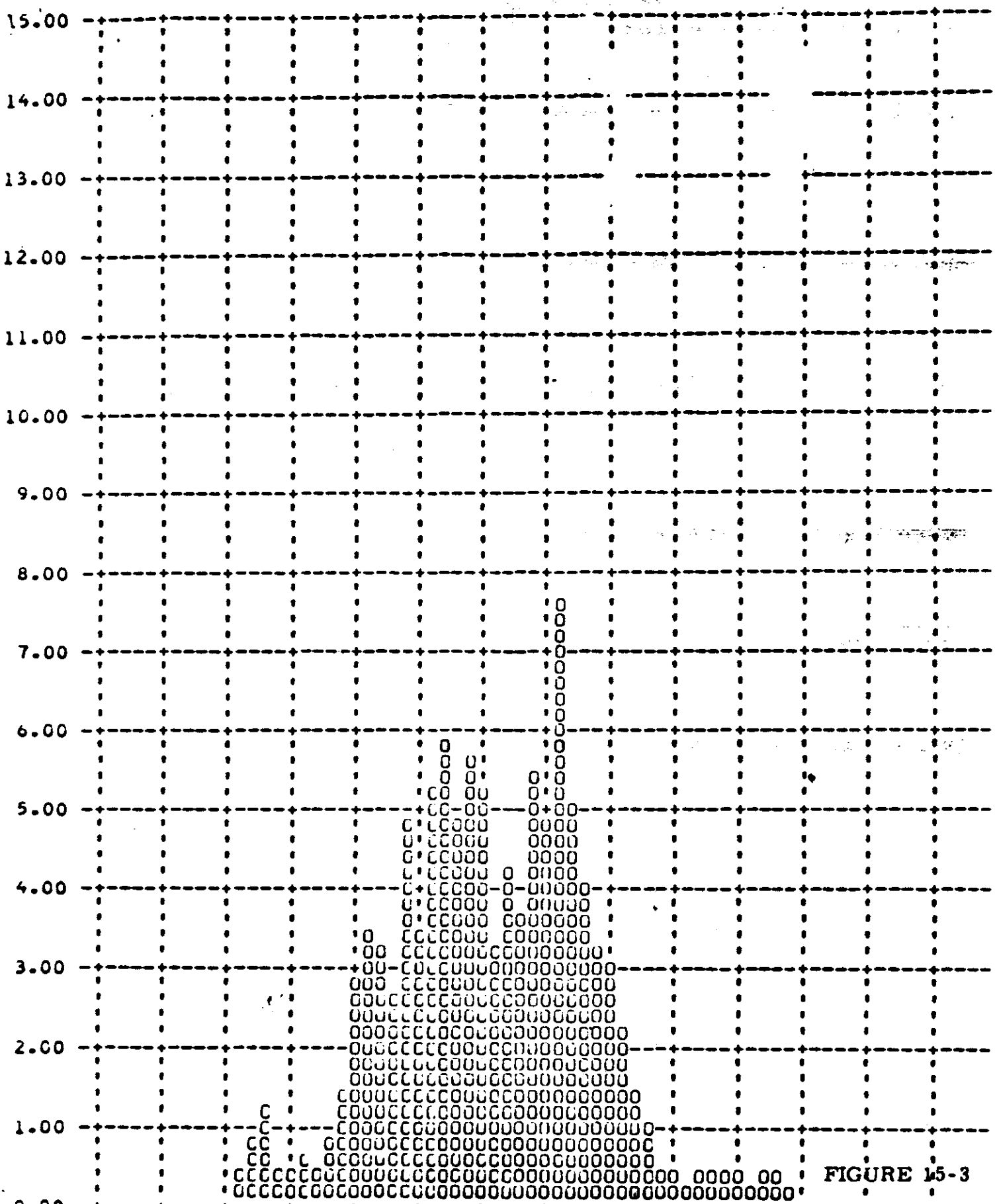

FIGURE 15-3

[redacted] MISSION 1009-2 [redacted] MISSION 1009

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 2.5

Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)

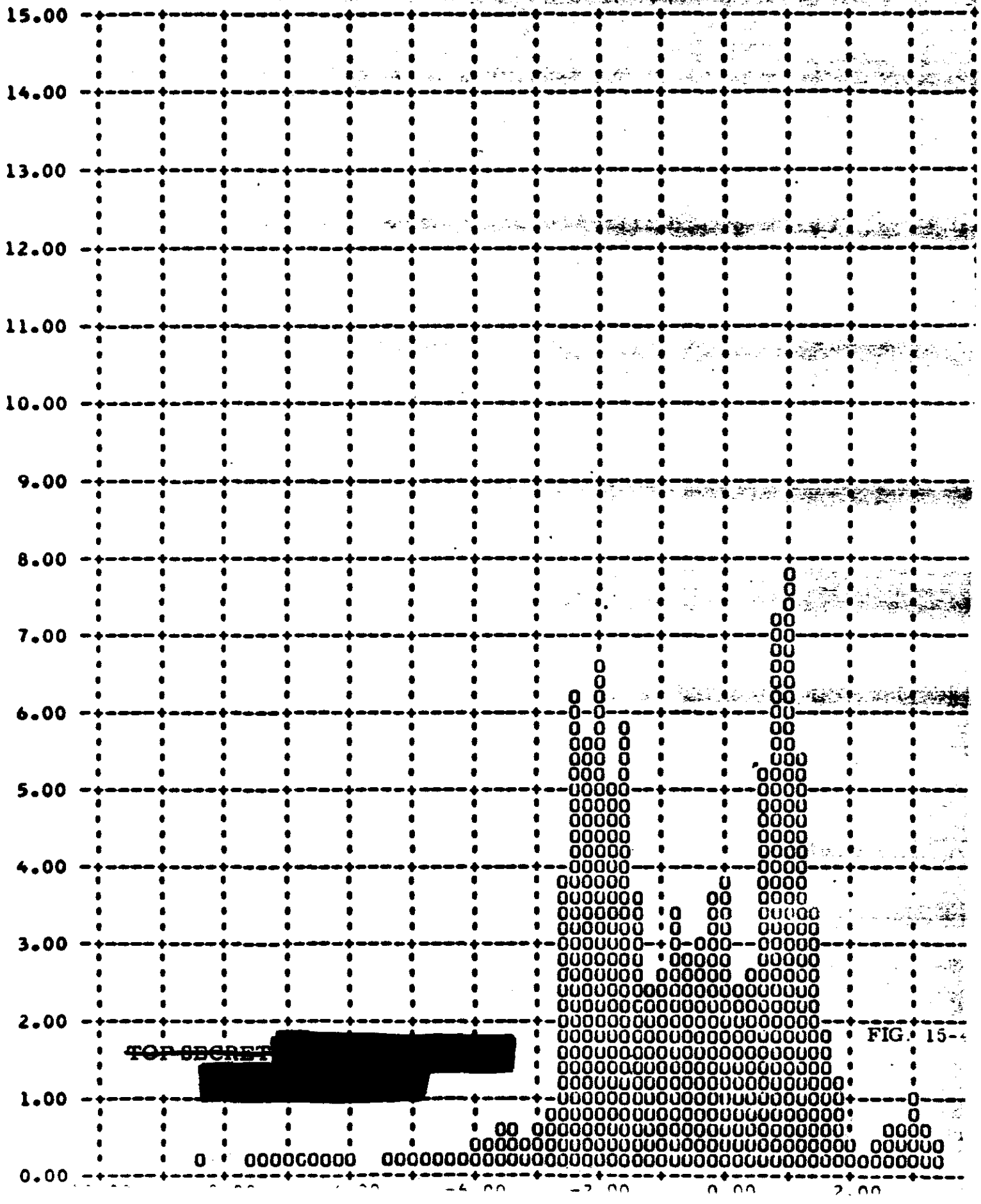

FIG. 15-

[redacted] TOP SECRET [redacted]

[redacted] MISSION 1009-2 [redacted] MISSION 1009

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 4.9

Y ALONG TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (Y

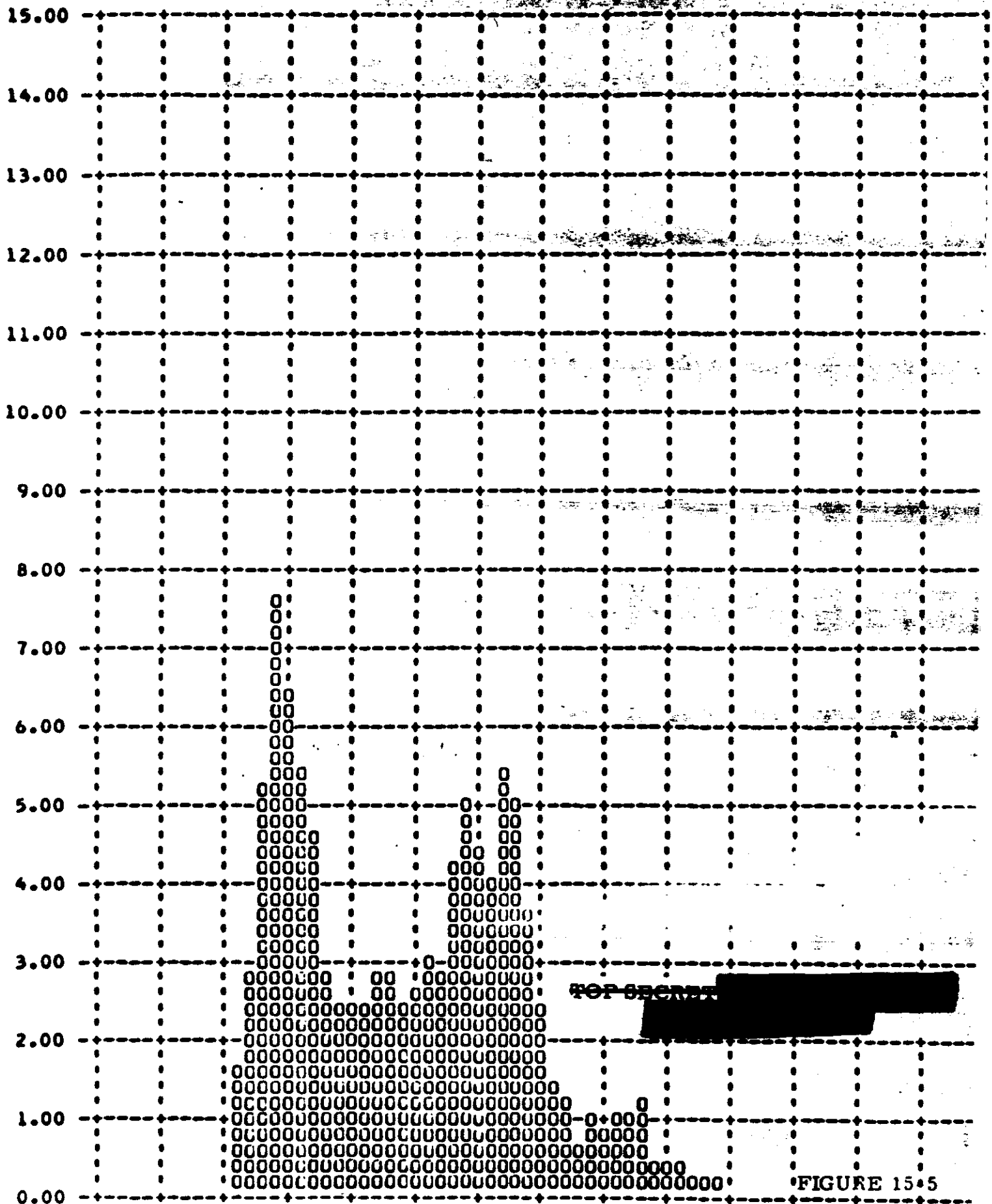

FIGURE 15-5

TOP SECRET [redacted]

INST 1 J128 V1605 L 6-08-64 FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 5.8

Y CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (Y

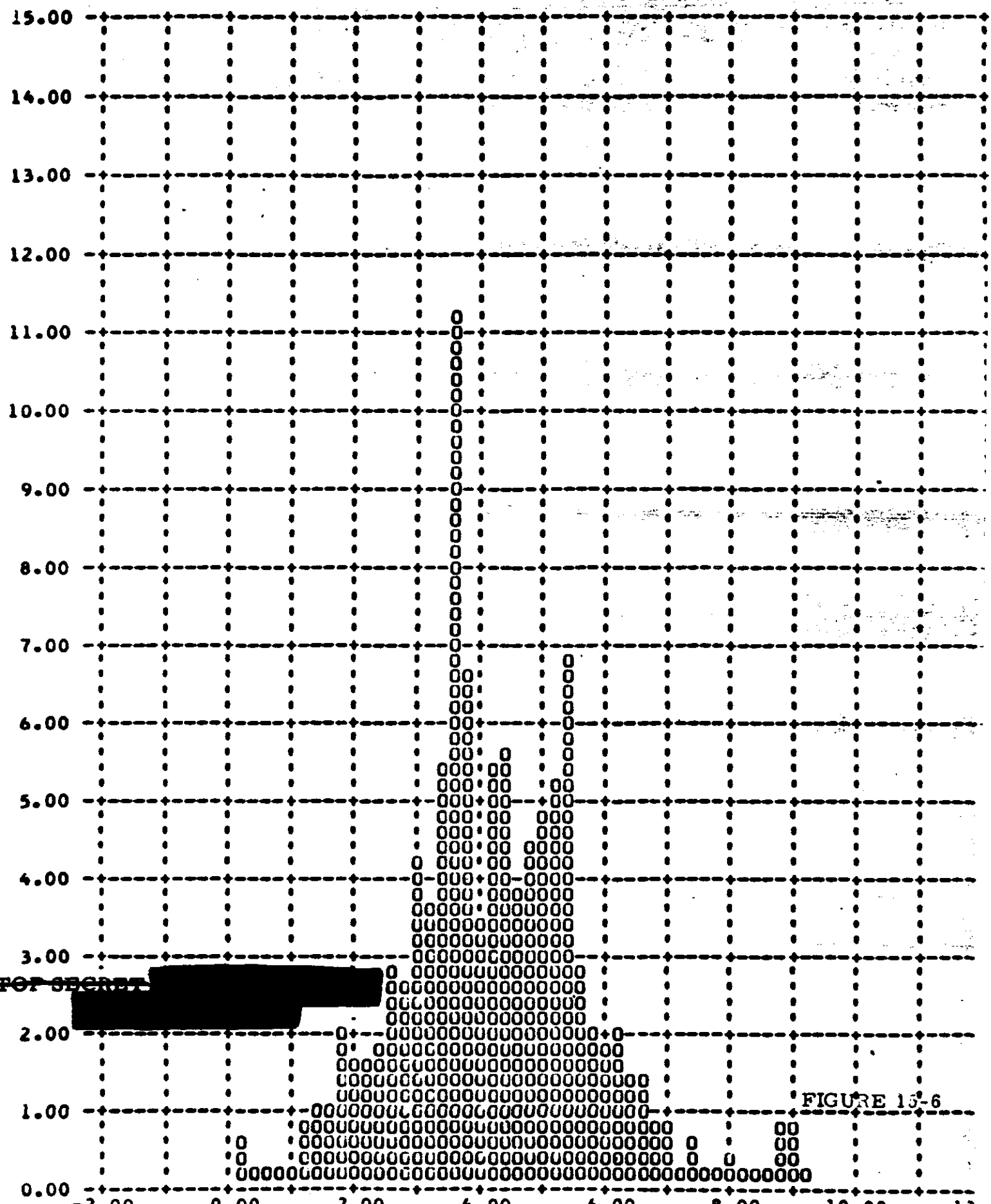

FIGURE 15-6

SECTION 16

RADIATION DOSAGE

Each recovery system flown on a Corona mission contains a sealed packet of Eastman Type 4401 and Royal X Pan emulsions to determine the total radiation received at the take-up cassette. Both film types have been irradiated by LMSC at various levels and the base plus fog densities recorded after controlled processing.

Following recovery the film dosimeter packets are removed at A/P and processed with a pre-flight sample of the same film type and sensitometric control film. The resulting base plus fog density measurement of the dosimeter strips is used to ascertain the total radiation level. The table below presents the base plus fog readings for the dosimeter strips and the radiation level equivalents.

	Mission 1009-1		Mission 1009-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 4401	0.18	0.6 R	0.20	0.8 R
Royal X Pan	0.25	0.4 R	0.27	0.5 R

The mean total radiation seen by the take-up cassettes during both missions was approximately 0.6 roentgens. This level is somewhat less than received during recent missions and is below the level that will degrade the panoramic photography.

SECTION 17

SYSTEM RELIABILITY

Reliability calculations for the payload are based on a sample beginning with M-7. Hence both the major part of the Mural Program and the "J" Program are covered in the calculation. For certain auxiliaries, i. e., the stellar-index camera and the horizon cameras, the sample size is changed to recognize incorporation of modified equipment or new designs where reliability was one of the principal reasons for the modification. However, for primary mission function, the sample size is consistent with reliability reporting for the vehicle.

The reliability estimates of this section deal exclusively with the payload. Failures to achieve orbit or vehicle induced failures are thereby excluded. Recoveries before a complete mission has been completed are considered as full missions providing that early termination was caused by reasons not connected with payload operation. Film quality is not considered in the reliability estimate calculation. Hence, only electrical and mechanical functioning are considered.

The reliability estimate is also divided into primary and secondary functions. The primary functions are operation of the panoramic cameras, main camera door operation, operation of the payload clock, and recovery operations. The secondary mission functions are horizon camera operation excluding catastrophic open shutter failure mode, auxiliary data recording, and stellar-index camera operation.

Panoramic Camera Reliability

Sample Size - 62 opportunities to operate.
One failure - capping shutter on slave instrument on system M-7.
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 98.4% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 31 vehicles x 2 doors = 62 opportunities to operate.
1 major malfunction, door failed to eject for 7 passes, Mission 9048.
1 minor malfunction, door failed to eject for 2 passes, Mission 1006.
Estimated Reliability = 97.6% at 50% confidence level.

Payload Clock Reliability

Sample size - 34 completed missions in sample.
No failures
Estimated Reliability = 98.0% at 50% confidence level.

Estimated Reliability of Payload Functioning on orbit
98.4 x 98.0 x 97.6 = 94.1%

Recovery System Reliability

30 opportunities to recover
1 failure - improper separation due to water seal - cutter failure.
Estimated Reliability = 94.4% at 50% confidence level.

Stellar-Index Camera Reliability

Sample begins with M-13
Sample size = 22
Number of failures = 7
Estimated Reliability = 72.6% at 50% confidence.

Horizon Camera Reliability

Sample includes M27, J5A, J5B, J9A, J9B, and up; 11 samples
1 failure - center of format switch, Mission 1006
Estimated Reliability of Single Camera = 91.4% at 50% confidence level.
Estimated Reliability of Four Horizon Cameras at a Parallel Redundant System = 99.3% at 50% confidence level.

Horizon Camera Door Reliability

Sample size = 31 x 4 = 124 opportunities to operate.
No failures have occurred.
Estimated Reliability = 99.4% reliability at 50% confidence level.

Stellar-Index Camera Door Reliability

Terrain Door, Stellar Door, and deployment of Stellar Baffle are functions considered.
Sample size = 20 x 3 = 60 chances to operate.
One failure - stellar baffle failed to deploy.
Estimated Reliability = 97.4% at 50% confidence level.

SECTION 18

SUMMARY DATA

The comparison of the operating parameters and the performance achieved by previous missions has been difficult due to the large volume of data that results from each mission. Some of the pertinent characteristics from prior missions have been summarized in Tables 18-1 through 18-3.

The summary data was started with Mission 1004 as the J-05 camera system was the first to incorporate the major modifications of the titanium drum and scan arm, four roller scan head and Corona J capabilities. Only those missions that culminated in the recovery of some photography have been listed, therefore Missions 1003 and 1005 are deleted.

MISSION SUMMARY

MISSION NUMBER	PAYLOAD NUMBER	VEHICLE NUMBER	LAUNCH DATE	LAUNCH TIME	ORBIT INCLINATION (°)	PERIGEE ALTITUDE (NM)	PERIGEE LOCATION (°N)	RECOVERY PASS	MASTER CAMERA CAMERA NUMBER	MASTER CAMERA SLIT (")	MASTER CAMERA FILTER TYPE	SLAVE CAMERA CAMERA NUMBER	SLAVE CAMERA SLIT (")	SLAVE CAMERA FILTER TYPE	STELLAR-INDEX CAMERA NUMBER
1004	J-03	1174	2/18/64	2138 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	128	0.250	W-21	029/29/29 / 042/42/42
1006	J-09	1176	6/4/64	2239 Z	79.9	84.0	63.2	65 / 126	148	0.200	W-21	149	0.200	W-21	049/53/42 / 045/47/43
1007	J-07	1609	6/18/64	2318 Z	85.0	99.2	41.5	65 / 128	144	0.250	W-25	145	0.200	W-21	043/43/43 / 054/56/51
1008	J-10	1177	7/10/64	2314 Z	85.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	048/45/48 / 033/29/33
1009	J-12	1606	8/5/64	2316 Z	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	056/54/56 / 038/38/34

TABLE 18-1

PERFORMANCE SUMMARY

~~TOP SECRET~~ [redacted]

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL	AFSPPL MTF/AIM SLIT (μ)	AFSPPL MTF/AIM AVERAGE	SLIT (μ)	AVERAGE	SLIT (μ)	AVERAGE ALL	AVERAGE HIGH	90% ATTITUDE ERROR (") PITCH	90% ATTITUDE ERROR (") ROLL	90% ATTITUDE ERROR (") YAW	90% ATTITUDE RATES (°/HR) PITCH	90% ATTITUDE RATES (°/HR) ROLL	90% ATTITUDE RATES (°/HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1004-1	FWD	124	85	78	350	97	43	109	320	115	127	0 45	0 42	1 08	30 0	25 0	21 0	5 1	7 7	6.1
	AFT			66		80		96		117	124									
1004-2	FWD	125	85	76		88		113		82	90	0 74	0 50	0 91	44 0	30 0	29 0	4 9	6 8	6.3
	AFT			73		83		106		89	95									
1006-1	FWD	148	90	78	350	65	43	88	320	84	97	0 41	0 42	1 14	26 8	28 5	27 8	15 4	13 8	6.7
	AFT			74		71		90		87	92									
1006-2	FWD	149	90	85		64		81		84	90	0 49	0 40	1 08	31 1	27 9	30 0	11 8	10 1	7.0
	AFT			83		72		90		87	94									
1007-1	FWD	144	85	80	350	60	43	87	320	82	91	0 58	0 46	1 43	37 6	23 9	29 9	3 6	3 1	9.4
	AFT			86		63		83		97	110							4 6	2 1	7.6
1007-2	FWD	145	85	79		72		81		68	74	0 64	0 47	—	43 0	25 8	—	3 2	2 4	—
	AFT			81		77		92		74	81							4 2	1 8	—
1008-1	FWD	150	85	80	350	80	43	95	320	81	89	0 59	0 39	0 94	43 8	23 9	29 6	2 9	4 9	8.9
	AFT			76		73		89		86	95									
1008-2	FWD	151	85	82		84		96		83	92	0 63	0 36	0 71	42 9	24 0	32 5	2 8	4 2	8.4
	AFT			79		91		83		85	91									
1009-1	FWD	154	85	92	350	80	—	—	80	75	88	0 65	0 65	0 71	29 2	22 7	27 6	3 3	8 3	8.8
	AFT			89		85				75	83									
1009-2	FWD	155	85	94		85				76	84	0 48	0 65	0 59	33 6	23 9	27 2	2 6	4 9	8.9
	AFT			87		87				72	79									

TABLE 18-2

~~TOP SECRET~~ [redacted]

EXPOSURE - PROCESSING SUMMARY

~~TOP SECRET~~ [redacted]

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°)		SOLAR AZIMUTH RANGE (°)		PREDICTED PROCESSING (%)			REPORTED PROCESSING (%)			COMPUTED PROCESSING (%)			TERRAIN Q-MIN				TERRAIN Q-MAX				CLOUD Q-MAX				UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
															RANGE				RANGE				RANGE									
		LOW	HIGH	LOW	HIGH	P	I	F	P	I	F	P	I	F	LOW	HIGH	MEAN	MEDIAN	LOW	HIGH	MEAN	MEDIAN	LOW	HIGH	MEAN	MEDIAN						
1004-1	FWD	-3	61	25	124	5	76	19	4	79	17	0	79	21	0 26	1 89	0 83	0 78	0 43	2 43	1 97	2 02	1 00	2 43	2 04	2 08	0	4	60	31	5	36
	AFT	-3	61	25	124	5	74	21	4	79	17	0	80	20	0 22	1 56	0 78	0 70	0 93	2 45	1 92	1 94	1 08	2 43	1 98	2 03	1	4	67	26	3	36
1004-2	FWD	-4	60	10	131	7	76	17	37	50	13	4	83	13	0 29	1 80	0 83	0 78	0 36	2 30	1 84	1 90	0 41	2 37	1 87	1 93	0	4	59	27	9	36
	AFT	-4	60	10	131	7	76	17	37	50	13	4	77	19	0 29	1 91	0 81	0 73	0 36	2 39	1 89	1 99	0 43	2 46	1 89	1 98	0	4	67	20	9	36
1006-1	FWD	38	58	92	140	1	99	0	1	31	68	0	31	69	0 23	1 81	0 71	0 68	0 80	2 31	1 58	1 52	1 31	2 40	2 20	2 24	0	9	72	21	1	60
	AFT	38	58	92	140	1	99	0	0	23	77	0	24	76	0 36	1 66	0 87	0 84	0 96	2 35	1 72	1 72	1 14	2 40	2 24	2 28	0	1	58	40	1	60
1006-2	FWD	32	64	36	147	2	98	0	30	41	29	11	59	30	0 21	1 14	0 53	0 50	0 56	2 28	1 49	1 50	1 30	2 38	2 11	2 16	2	21	72	4	0	46
	AFT	32	64	36	147	2	98	0	35	40	25	21	54	25	0 26	1 34	0 82	0 58	0 65	2 19	1 48	1 47	1 56	2 80	2 12	2 16	0	11	77	9	3	46
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0 26	1 22	0 82	0 47	0 82	2 20	1 44	1 40	1 22	1 36	2 17	2 21	20	8	67	5	0	60
	AFT	11	49	48	102	0	100	0	10	42	48	6	77	17	0 26	1 76	0 58	0 55	0 78	2 31	1 52	1 52	1 64	2 39	2 20	2 24	1	13	80	5	1	60
1007-2	FWD	32	57	43	112	0	25	75	3	28	69	0	26	74	0 26	1 23	0 81	0 48	0 70	2 32	1 44	1 40	0 90	2 37	2 15	2 20	18	9	71	2	0	60
	AFT	31	57	38	111	0	100	0	19	41	40	3	88	9	0 24	1 56	0 60	0 56	0 44	2 27	1 50	1 52	0 84	2 41	2 17	2 25	1	16	74	9	1	60
1008-1	FWD	30	51	50	102	0	100	0	4	32	64	1	35	64	0 32	1 48	0 68	0 62	0 78	2 24	1 55	1 54	1 46	2 38	2 21	2 26	2	2	86	8	1	46
	AFT	30	51	50	102	0	100	0	4	27	69	0	34	66	0 32	1 57	0 71	0 69	0 81	2 21	1 57	1 58	1 08	2 37	2 21	2 24	1	1	84	13	0	46
1008-2	FWD	29	56	42	105	0	100	0	3	31	66	0	27	73	0 14	1 81	0 76	0 72	0 57	2 10	1 54	1 56	1 09	2 40	2 20	2 25	2	1	73	23	1	46
	AFT	29	56	42	105	0	100	0	3	30	67	2	29	71	0 32	1 64	0 77	0 76	0 73	2 10	1 55	1 55	1 10	2 38	2 18	2 22	1	3	69	27	0	46
1009-1	FWD	12	49	42	132	0	100	0	1	26	73	0	34	66	0 32	1 40	0 65	0 62	0 85	2 41	1 53	1 52	0 83	2 51	2 30	2 36	8	4	77	14	0	60
	AFT	12	49	42	132	0	100	0	0	40	60	0	45	55	0 28	1 42	0 70	0 64	0 92	2 28	1 58	1 55	0 63	2 51	2 32	2 36	1	8	73	20	0	60
1009-2	FWD	23	58	35	138	2	98	0	3	21	76	0	40	60	0 29	1 55	0 69	0 64	0 73	2 37	1 53	1 53	1 06	2 48	2 28	2 30	4	4	74	17	0	56
	AFT	23	58	35	138	2	98	0	4	47	49	0	56	44	0 28	1 47	0 69	0 64	0 44	2 42	1 61	1 60	1 61	2 80	2 31	2 34	1	4	77	18	0	56

TABLE 18-3

~~TOP SECRET~~ [redacted]

Distribution:

[redacted]