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~~TOP SECRET~~ [redacted]

CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1012-1 and 1012-2

FTV 1179; J-13

22 October 1965

Approved: [redacted]
Mgr
Advanced Projects

Approved [redacted]

~~TOP SECRET~~ [redacted]

FOREWORD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1179.

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 1012-1 and 1012-2 which was launched on 17 October 1964.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

INTRODUCTION

This report presents the final performance evaluation of Missions 1012-1 and 1012-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-13 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 1012, placed into orbit by Flight Test Vehicle #1179 and LV-2A booster #418, 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-13 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, 4 day photographic periods separated by a seven day inactive period.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 2202:23 Z (1502:23 PDT) on 17 October 1964. Ascent and injection were normal and the achieved orbit was 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 1012-1 consisted of three days operation and was completed by air recovery on 20 October 1964. The mission was one day shorter than originally planned due to a beacon problem that prevented controlled photographic programming. Mission 1012-1 was completed with a water recovery on 22 October 1964 following two days of photographic operations. Mission 1012-2 was prematurely recovered according to plan because of unstable vehicle attitude that developed on Pass 72.

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

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1012

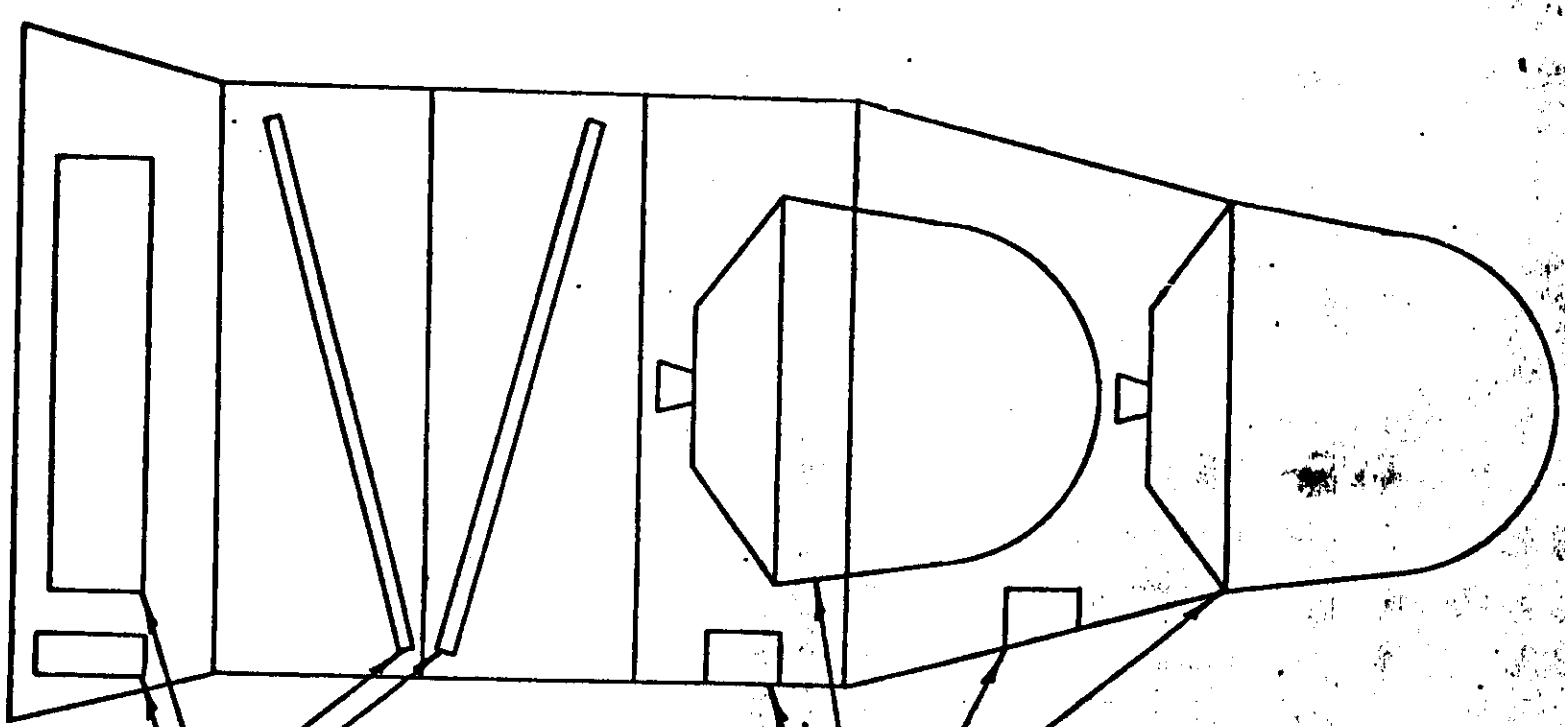


FIGURE 1.1

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 1 Actuals
Period (Min.)	90.67	90.60
Perigee (N.M.)	100.00	96.28
Apogee (N.M.)	237.1	237.68
Inclination (Deg.)	75.00	75.05
Perigee Latitude (Deg.N.)	29.99	32.43
Eccentricity	0.01905	0.0196

SRV #1 contained 86% of the normal amount of payload. SRV #2 was filled with payload to approximately 50% of full capacity. Lifeboat recovery of Mission 1012-2 was successfully initiated on orbit 81.

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 observed in the photography averaged 50% for the entire flight.

D. STELLAR-INDEX CAMERAS

Stellar-Index camera #D-51 used during Mission 1012-1 did not work in orbit. No stellar or terrain photography was acquired during Mission 1012-1. Film transport in orbit did not appear to occur except for possibly one or two frames that were left in the camera from pre-launch operations. Stellar-Index camera #D-46 worked well throughout Mission 1012-2.

E. OTHER SUBSYSTEMS

During Mission 1012-1 the Agena vehicle command verification transmitter was inconsistent. Commands received could not be verified. As a result, Mission 1012-1 was terminated after three days.

During Mission 1012-2, beginning with orbit D-72, the type 9 voltage regulator in the Agena vehicle malfunctioned, adversely affecting the

Agena guidance system and the stability of the satellite SRV. #2 was recovered prematurely according to plan because of loss of vehicle stability. Lifeboat recovery was executed successfully on pass D-81.

The clock, instrumentation, and thermal control subsystems performed satisfactorily throughout both missions.

F. CONCLUSIONS

The panoramic photography acquired in orbit during Mission 1012-1 and 1012-2 was of high quality and adequate to meet the search and surveillance objective of the "J" Program. Failure of Stellar-Index #D-51 to operate during Mission 1012-1 is attributed to loss of unregulated power at the film metering drive motor. The poorly made final splice joining the S/I D 51 index camera flight film to the leader at the core of the take-up spool does not appear to be associated with the failure of S/I D-51.

G. RECOMMENDATIONS

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

1. Increase the use of the yaw steering capability in order to produce sufficient photography to prove the value of yaw steering control.

2. Increase the light level at VAFB to permit reliable inspection of splicing technique and the final flight splices.

3. Use a splice alignment fixture to assist in the preparation of all future flight splices.

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-13 payload system completed a 4-1/2 day orbit simulation test at the Sunnyvale HIVOS chamber on 1 July 1964. The HIVOS test consisted of 2-1/2 days of SRV-"A" testing followed by one day of J-13 deactivate, and one day of SRV-"B" operation. Approximately 10,000 feet of 4404 type flight film was programmed thru panoramic cameras #156 and #157 during altitude testing. Stellar-Index cameras were not altitude tested with J-13 system due to a shortage of double frame units. Minor corona discharge marks were present on the start up frame of both panoramic cameras. Corona is attributed to the input metering roller at camera start up.

The electrical and mechanical operation of the system was generally acceptable, except for the following:

(1) The pressure make-up system did not work.

(2) Instrument #157 started up and ran on two occasions apparently without an "on" command with the 400 cycle power off.

(3) The yaw programmer did not operate from orbit 4 to 8 during the "A" SRV operation.

(4) Panoramic instrument cycle rates varied from 10% fast to 6% slow.

(5) During the SRV "A" operation the V/h sine potentiometer programmer showed a 2-5 second opening at the top of the ramp.

3. Panoramic Camera Performance

Instrument #157 started and ran twice without a planned "on" command during the one day deactivate period of the altitude test. In addition, cycle rates varied from 10% fast to 6% slow. Both the apparent unexplained start-up of the slave camera and the fast cycle rates of both panoramic cameras coorelate with excessively high temperatures experienced in the HIVOS chamber. Subsequent bench tests conducted using the J-13 system demonstrated that temperatures above 100°F were responsible for activating certain power transistors that caused instrument #157 to operate without the "on" command. In as much as the in-flight temperatures are not expected to reach levels high enough to activate the panoramic cameras without the "on" command, no corrective action was taken.

Cycle rate errors up to 10% faster than normal and 6% slower than normal are attributed to the wide temperature excursions to which the system was subjected.

The electrical and mechanical operation of the panoramic cameras was acceptable with the exception of the anomolies noted above.

4. Stellar-Index Camera Performance

Stellar-Index cameras were not available for altitude testing with J-13 system.

5. Instrumentation Performance

Instrumentation performance was normal throughout the altitude test. There were minor indications of dirty electrical contacts associated with the TM sensor on the 99/101 idlers.

6. Temperature Environment

J-13 system experienced a wide range of temperatures from approximately 70°F to over 100°F. Cycle rate errors were found to be excessive during periods of high instrument temperature.

7. Clock Performance

Data reflecting clock performance is tabulated to show the accumulated error in seconds for the SRV "A" and SRV "B" operation as follows:

Operation	Clock Time Span	Clock Error (Seconds)
SRV "A"	Orbit 8 Day 1 to Orbit 14 Day 2	0.016
SRV "B"	Orbit 1 Day 1 to Orbit 14 Day 1	0.015

Clock performance was rated excellent and was accepted for flight.

8. Yaw Programmer

Operation was satisfactory except during orbits 4 thru 8 when the yaw programmer failed to operate. Yaw programmer failure was investigated. The cause of failure was attributed to broken wires in cabling used for test purposes only.

9. Pressure Environment

Although the gas pressure make-up system was in good operating condition, the gas release nozzle was left capped throughout the altitude test. Make-up gas could not escape from the gas container due to the capped nozzle.

Typical internal payload pressures in microns of mercury as recorded during the altitude test are as follows:

Orbit	Alphatron Master Camera ON	Alphatron Master Camera OFF	Alphatron Slave Camera ON	Alphatron Slave Camera OFF	Pressure Make-up System
1	26	60	26	60	OFF
6	24	59	26	60	OFF
12	22	39	22	40	OFF
18	15	29	16	30	OFF
24	11	32	12	34	OFF
30	10	30	12	32	OFF
36	6	24	10	27	OFF
56	1.4	4.2	--	--	OFF
62	.6	7	--	--	OFF
68	.8	5.4	--	--	OFF
72 test End	.6	2.8	--	--	OFF

No corona discharge marks were observed on altitude test film from orbit 1 thru orbit 36. Orbit 1 thru 36 represents SRV "A" operation with internal camera pressures ranging between 6 to more than 60 microns of mercury.

Minor start up corona marks were observed for most master and slave camera starts during the SRV "B" operation. Marking was confined to the film frame in contact with the input metering roller at camera start. Pressure ranged from 4.2 to 0.6 microns of mercury from the beginning to the end of SRV "B" operation. J-13 system corona marking met J Program requirements for flight.

B. RESOLUTION TEST

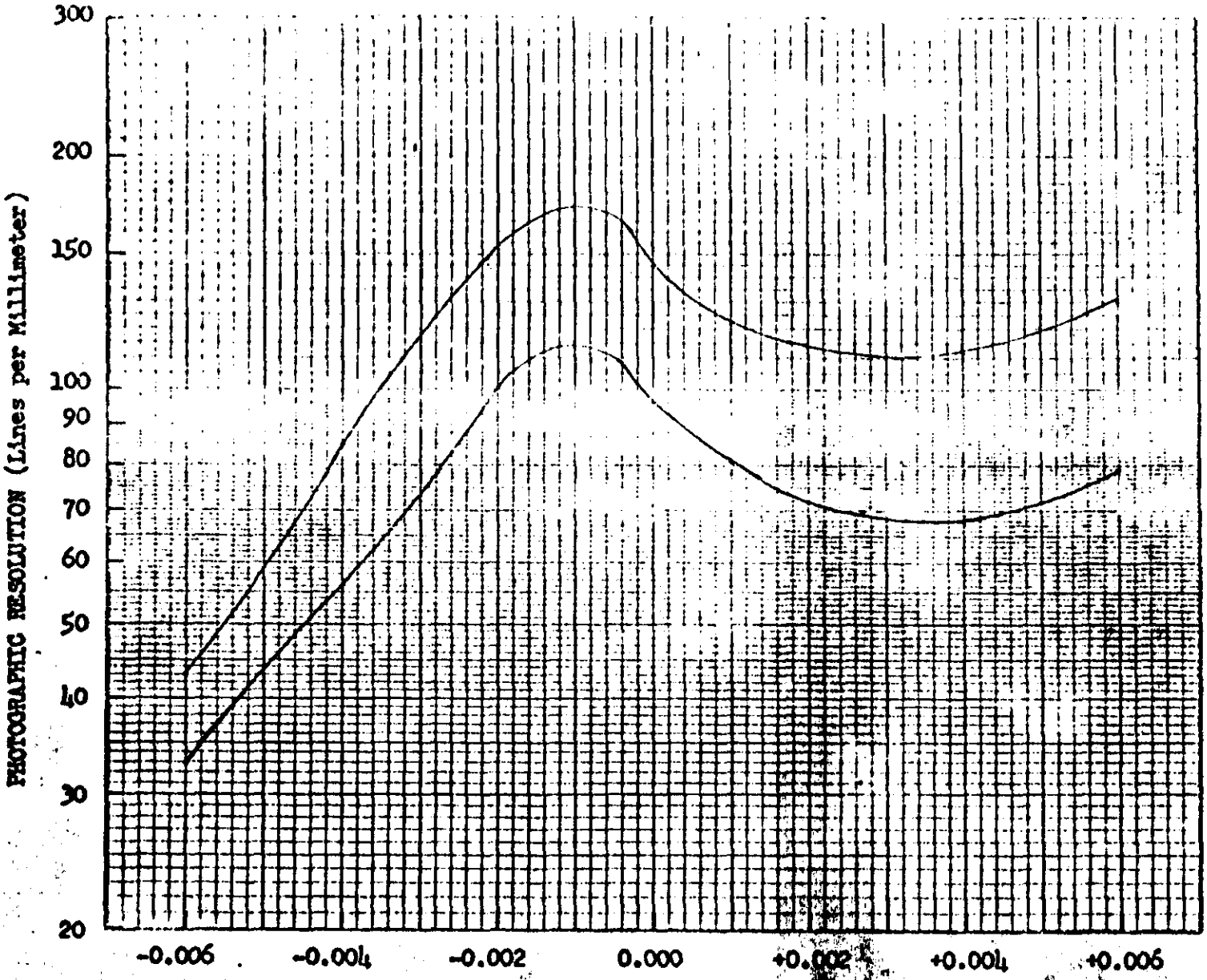
The dynamic resolution test of the J-13 payload system was performed at the A/P facility on 23 July 1964. Each panoramic camera photographed high and low contrast resolution targets. The resulting through focus resolution data is shown in Figure 2-1 for the Master camera and in Figure 2-2 for the Slave camera.

C. LIGHT LEAK TEST

The examination of the film threaded in the J-13 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.

[redacted]

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 156

Payload No: J-13

Resolution (1/mm)

High Contrast: 173

Low Contrast: 114

Film Type: 3404

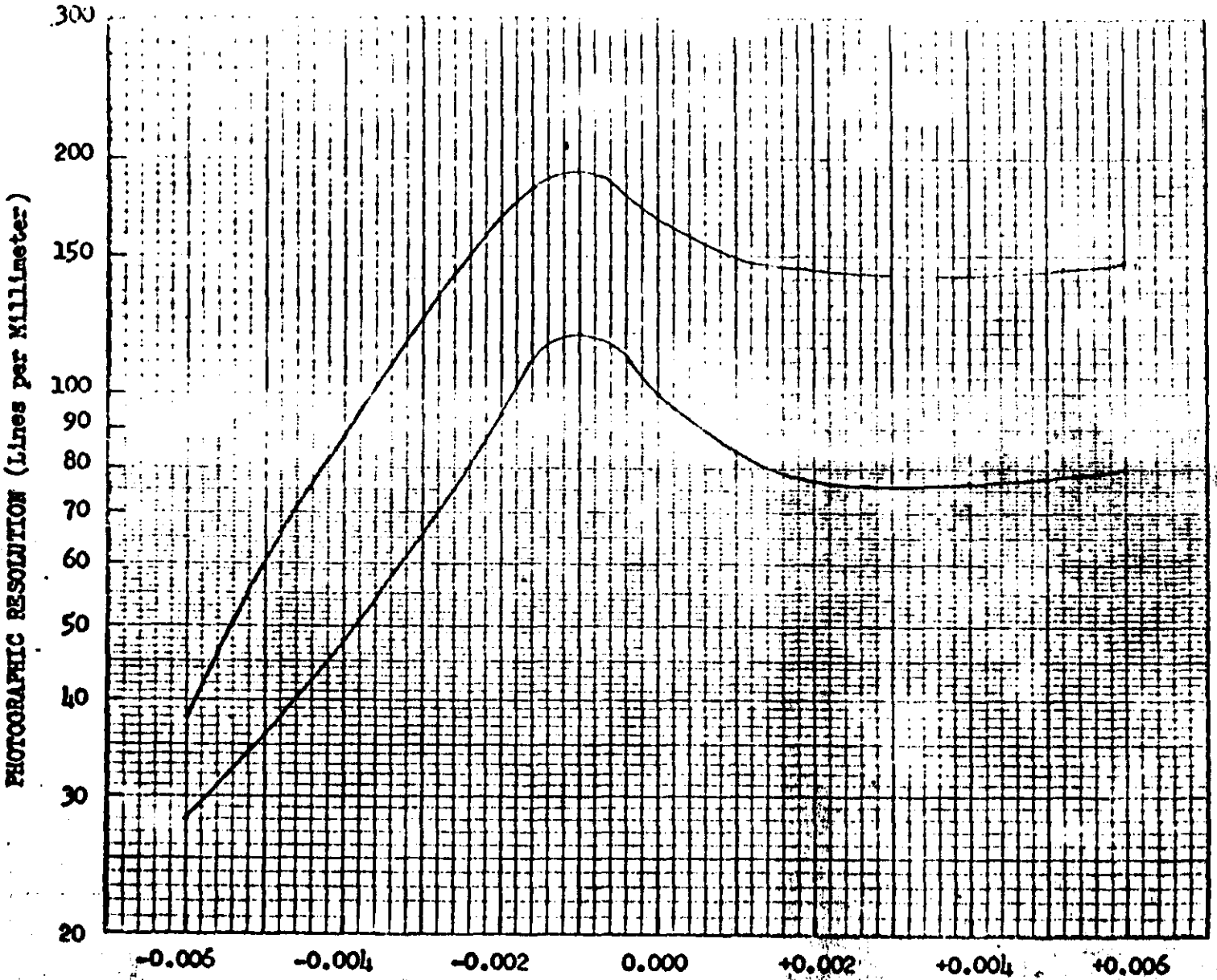
Test Date: 7/29/64

FIGURE 2-1

[redacted]

[redacted]

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 157

Payload No: J-13

Resolution (1/mm)

High Contrast: 193

Low Contrast: 119

Film Type: 3404

Test Date: 7/29/64

FIGURE 2-2

[redacted]

SECTION 3

FLIGHT OPERATIONS

A. INSTRUMENTATION AND COMMAND PERFORMANCE

T/M data indicated no instrumentation problems on either the continuous or the commutated channels. During Mission 1012-1 the Agena vehicle command verification transmitter was inconsistent and commands received could not be verified. As a consequence, Mission 1012-1 was terminated after three days.

During Orbit 72 of Mission 1012-2 the Type 9 voltage regulator in the Agena vehicle malfunctioned, and the Agena vehicle guidance system was adversely affected. With the loss of vehicle stability Mission 1012-2 was terminated, and a lifeboat next orbit recovery mode was initiated for a recovery on Orbit 81.

B. PANORAMIC CAMERA PERFORMANCE

Both panoramic instruments operated properly throughout the mission. T/M data from the engineering passes over the [redacted] Tracking Station [redacted] were monitored to provide information about the panoramic cameras performance. No data were acquired from the first engineering pass on Orbit 9. This omission was due to the vehicle T/M transmitter having been commanded off. The second engineering pass acquired was on Orbit 25. The T/M data from Orbit 25 indicated there was erratic rotation of the instrument #1 input idler.

T/M data from subsequent engineering passes indicated an improvement in the input idler, and on Orbit 57 T/M data indicated normal operation of the input idler.

Analysis of the panoramic camera's film showed normal metering. It would appear that the anomaly was probably caused by the T/M wiper exerting excessive pressure on the input idler contacts. This would relegate the anomaly to a T/M malfunction rather than a panoramic malfunction.

Significant items of operation observed were as follows:

1. A total of 2436 frames were taken on both instruments during Mission 1012-1 and 1458 frames during Mission 1012-2 as indicated by the cycle counters.

2. 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	Actual	% Error
9	370 secs	4.269	4.380	2.5 S	4.375	2.4 S
25	320 secs	4.353	4.300	1.2 F	4.262	2.1 F
41	360 secs	4.293	4.252	1.0 F	4.230	1.5 F
47	1914 secs	2.203	2.210	0.3 S	2.206	0.1 S
57	397 secs	4.235	4.197	0.9 F	4.175	1.4 F
63	1925 secs	2.202	2.214	0.5 S	2.202	0

*Nominal cycle periods are based on the average of the number one and number two predicted cycle periods.

F = Fast
S = Slow

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

C. STELLAR/INDEX CAMERA PERFORMANCE

Telemetry data indicated the Mission 1012-1 camera did not operate. The S/I operation on the first engineering pass (Orbit 9) was not monitored. This non-acquisition was a result of the T/M transmitter being commanded off. T/M static levels indicated an index idler positional change between Orbits 9 and 25. The engineering operation of Orbit 25 indicated no S/I metering. The engineering operation of

Orbit 47 was the first daylight operation, and hence, the first opportunity to observe the S/I shutter pulse. The first S/I shutter pulse of this operation was observed, but the subsequent S/I pulses were not observed. Part one of the mission was terminated on Orbit 49 and no other engineering operations data were available. The Mission 1012-2 camera performed satisfactorily; this eliminates the possibility of the S/I programmer as a possible failure mode.

Analysis of the films from phase one indicated: the S/I smear pulse on the master camera film was present and in proper sequence. Film analysis showed approximately 1 frame of stellar film metered after launch; and approximately 4 frames of index film metered after launch.

D. CLOCK PERFORMANCE

Digital T/M data from the [redacted] Tracking Station indicated satisfactory clock performance. Table 3-1 presents the clock/system's time correlation data.

E. ORBITAL SINE FUNCTION GENERATOR PERFORMANCE (YAW PROGRAMMER)

T/M data indicated the Yaw Programmer performed satisfactorily for the mission. T/M data from the [redacted] Tracking Station indicated no instances in which the Yaw Programmer output voltage deviated more than one percent from the anticipated output voltage.

The Yaw Programmer output voltage was enabled to the Agena vehicle only during orbits two to eight inclusive.

F. PRESSURE MAKE-UP SYSTEM PERFORMANCE

The performance of the pressure make-up system (PMU) was monitored by two functions: a monitor that indicated the pressure in the supply bottle, and a pirani gage that indicated the absolute pressure in the vicinity of the panoramic instruments. Figure 3-1 shows the pressure in the supply bottle as a function of panoramic cameras on time. Figures 3-2 and 3-3 show the representative pressures attained during engineering operations over the [redacted] Tracking Station.

The T/M data from the two monitors indicated satisfacotry performance by the PMU system.

PAYLOAD J-13 VEH 1179 MISSION 1010-1 AND 1010-2

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
79775.115	42696.30890	79775.12070	-0.00474	0	1
40614.315	89935.53890	40614.32280	-0.00683	9	1
80144.055	129465.29190	80144.05240	0.00352	16	1
41182.577	176903.84690	41182.57940	-0.00145	25	1
80678.767	216400.05190	80678.76110	0.00688	32	1
41709.509	263830.82390	41709.50500	0.00491	41	1
75726.394	297847.73090	75726.39190	0.00301	47	1
42232.272	350753.63690	42232.26670	0.00626	57	1
76217.909	384739.29990	76217.90960	0.00034	63	1
37285.745	432207.16990	37285.75160	-0.00561	72	1
76771.910	471693.35890	76771.91720	-0.00628	79	1

A0= 0.37078836970 05 A1= 0.999999409183D 00

SIGMA=0.00478 NO. POINTS= 11

RATIO OF CLOCK TIME TO SYS TIME= 0.100000590820 01

PAYLOAD J-13 VEH 1179 MISSION 1010-1 AND 1010-2

ORDER FIT 2

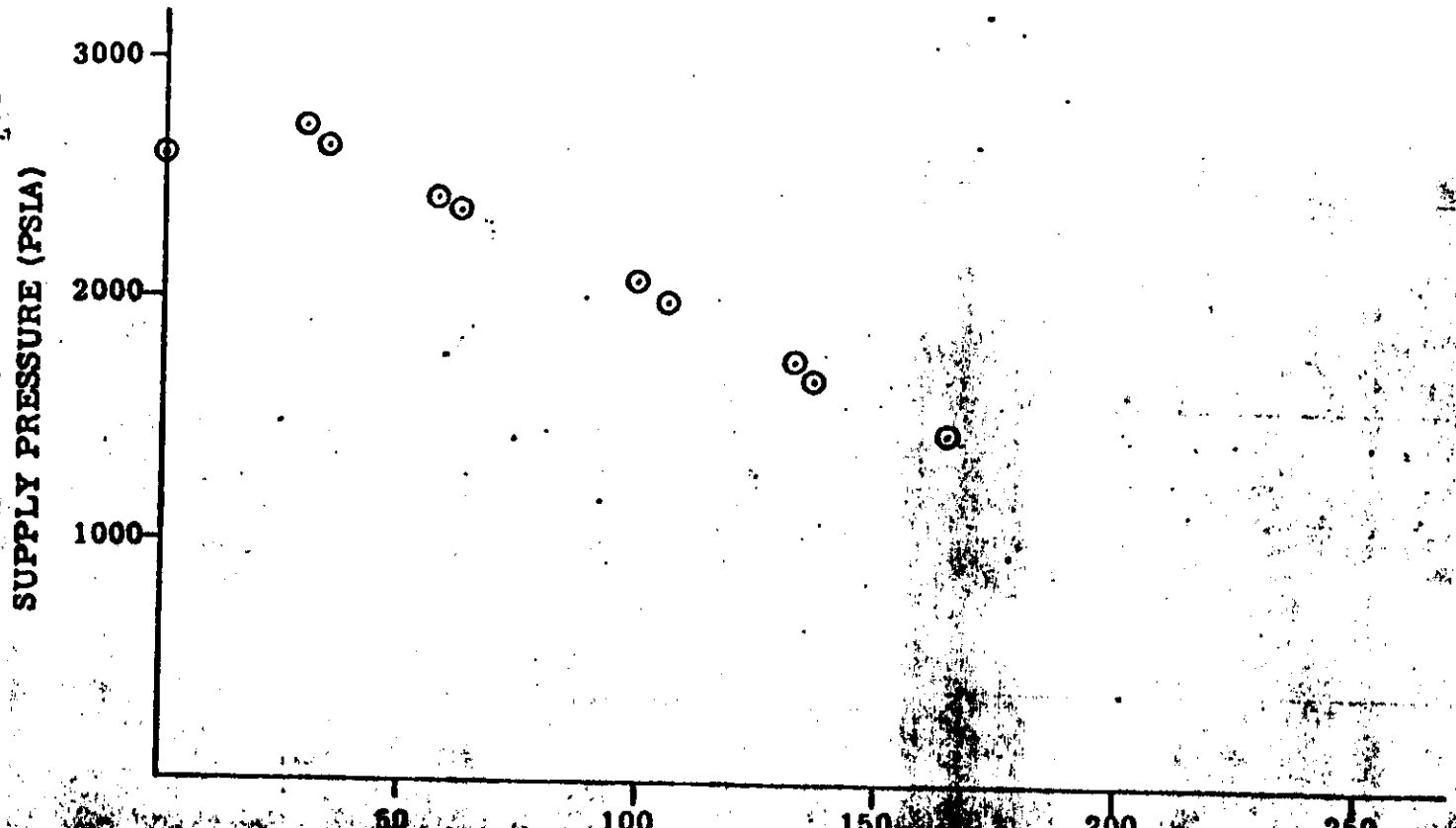
SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
79775.115	42696.30890	79775.11350	0.00248	0	1
40614.315	89935.53890	40614.32020	-0.00426	9	1
80144.055	129465.29190	80144.05290	0.00308	16	1
41182.577	176903.84690	41182.58240	-0.00445	25	1
80678.767	216400.05190	80678.76530	0.00263	32	1
41709.509	263830.82390	41709.50970	0.00021	41	1
75726.394	297847.73090	75726.39620	-0.00130	47	1
42232.272	350753.63690	42232.26920	0.00375	57	1
76217.909	384739.29990	76217.91020	-0.00026	63	1
37285.745	432207.16990	37285.74850	-0.00257	72	1
76771.910	471693.35890	76771.91030	0.00068	79	1

A0= 0.37078824560 05 A1= 0.9999995416590 00
A2=-0.2563741466613D-12

SIGMA=0.00264 NO. POINTS= 11

TABLE 3-1

MISSION 1012 - PMU SUPPLY PRESSURE



FIGU

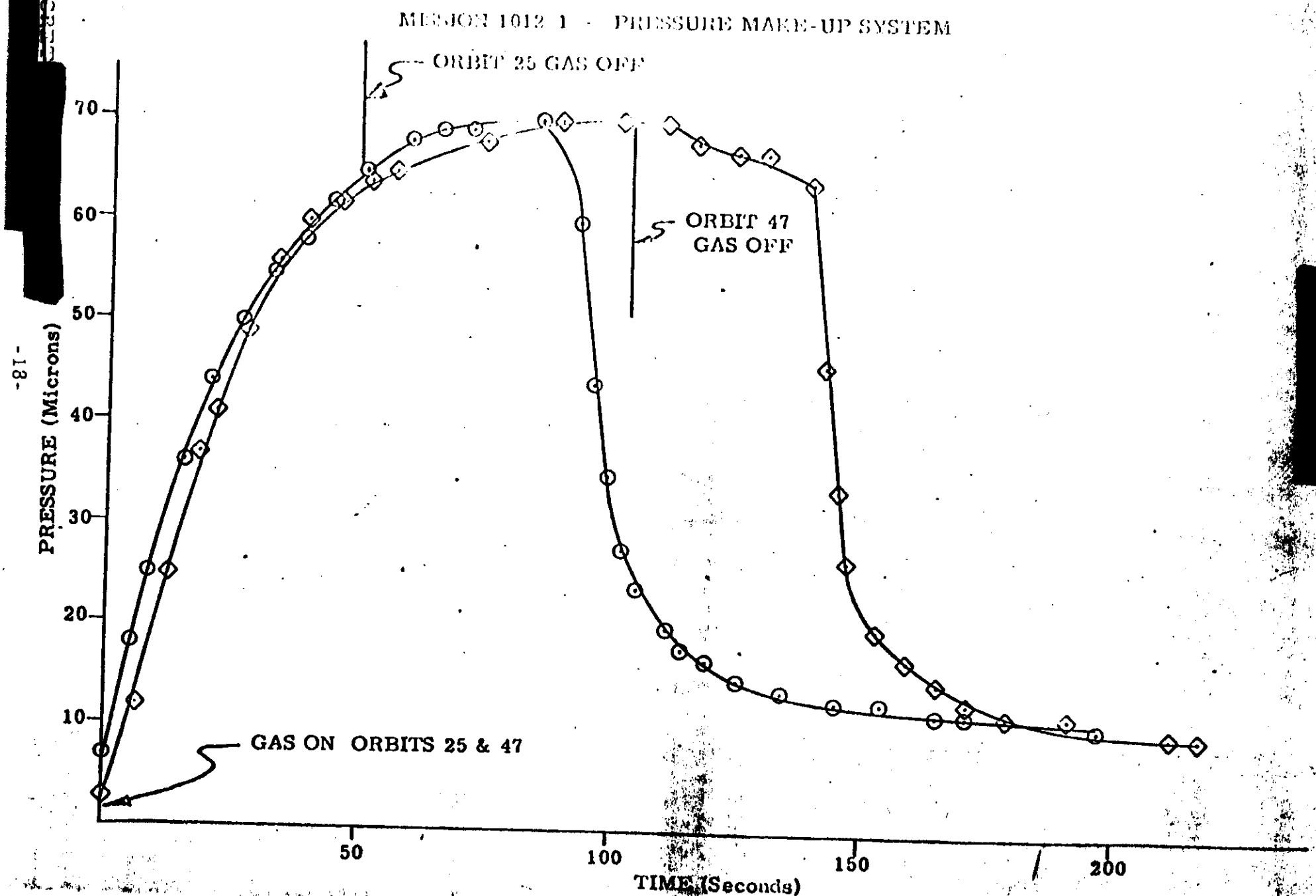

MISSION 1012 1 - PRESSURE MAKE-UP SYSTEM
ORBIT 25 GAS OFF
ORBIT 47
GAS OFF
GAS ON ORBITS 25 & 47
PRESSURE (Microns)
70
60
50
40
30
20
10
50
100
150
200
TIME (Seconds)

FIGURE 8-2

MISSION 1012-2 - PRESSURE MAKE-UP SYSTEM

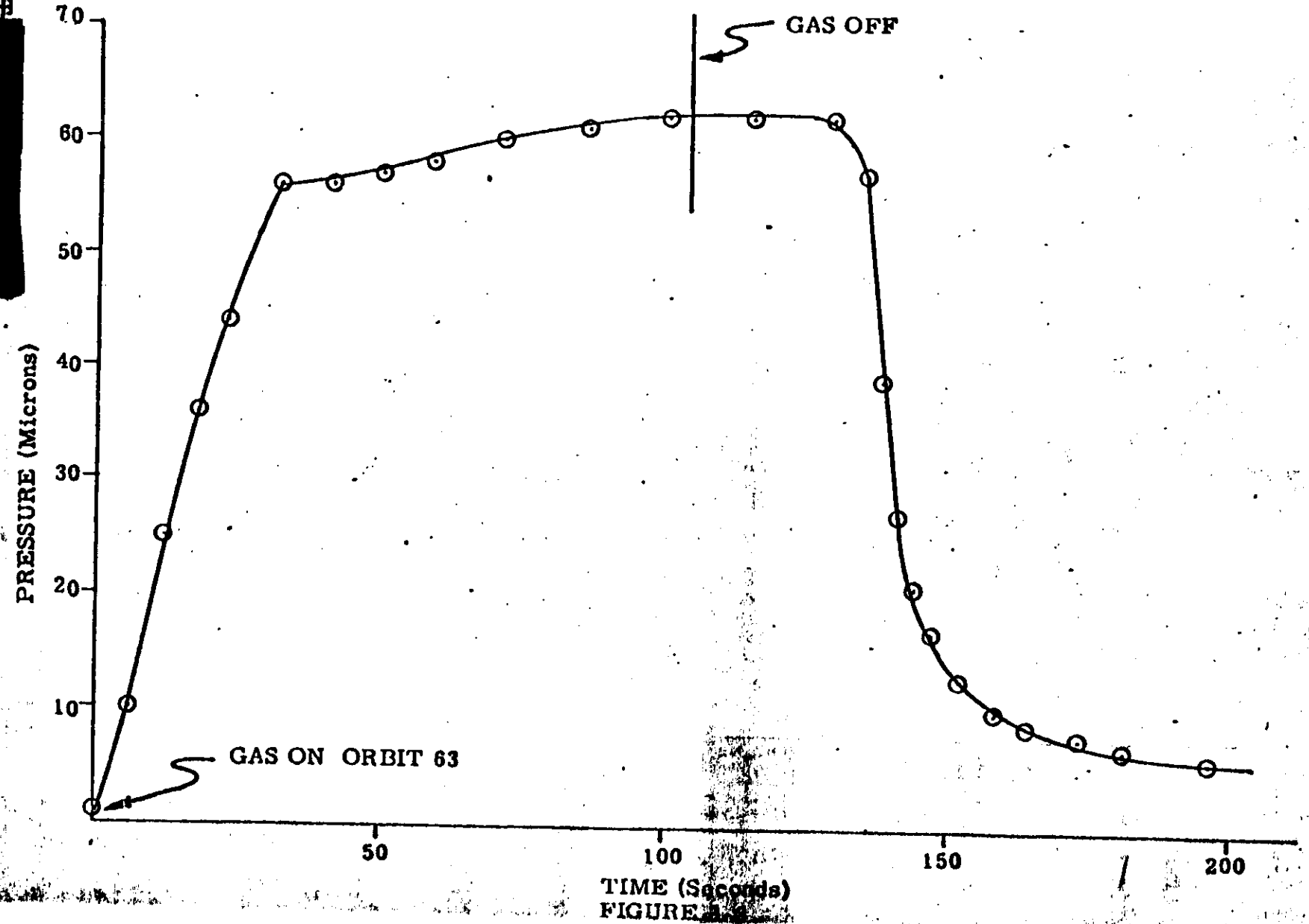


FIGURE [illegible]

G. TEMPERATURE ENVIRONMENT

All thermal data from the [redacted] Tracking Station are presented in Tables 3-2 and 3-3. The panoramic camera temperature sensors are corrected for self-heating, all other payload temperature sensors are not corrected for self-heating.

Figures 3-4, 3-5, and 3-6 show the in-flight predicted and actual temperatures. Predicted temperatures for the instrument scan arm sensors, drum sensors, and lens assembly sensors are based on the scan arm in line with the center of format.

[redacted]

J-13 TEMPERATURE SUMMARY

ORBITS ACQUIRED

SENSOR	0	9	16	25	32	41	47	57	63	72	79
Master Camera											
3	65	52	52	55	51	55	48	46	46	48	56
4	69	66	60	64	61	62	56	54	53	55	62
5	65	68	62	66	63	65	59	56	55	56	59
6	63	78	70	75	70	74	67	66	64	65	61
7	60	66	62	62	61	62	57	55	54	54	54
8	68	71	64	69	63	68	60	60	57	60	61
9	67	77	70	75	69	74	66	66	62	65	61
10	65	66	62	65	63	64	59	56	55	55	58
11	96	79	80	77	78	75	71	70	65	71	69
12	72	60	53	59	55	58	52	50	48	52	60
13	73	78	74	76	72	75	69	64	63	65	64
AVG		68	65	67	63	66	59	57	56	57	60
Slave Camera											
3	66	78	74	77	74	76	70	67	66	67	58
4	66	75	68	75	68	74	65	67	62	67	58
5	65	71	64	69	63	68	61	61	57	61	59
6	61	61	57	60	56	60	55	54	52	53	55
7	62	65	60	63	61	63	58	56	53	56	54
8	67	69	64	68	63	68	61	61	57	61	59
9	66	60	54	59	55	59	53	53	51	53	58
10	66	66	63	64	63	63	59	57	55	56	57
11	89	61	55	62	56	61	55	55	51	55	57
12	68	76	68	74	68	74	65	66	61	66	57
13	66	63	61	63	57	63	60	56	54	55	56
AVG		68	63	67	63	67	61	60	57	59	57
Supply Spool											
1	64	66	65	68	64	69	66	66	62	64	65
2	65	72	68	73	69	73	68	68	64	67	64

Note (1) Camera average temperature excludes T/S #11
(2) All data except supply spool corrected for self-heating

[redacted]

J-13 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED										
Fairing ("A") Barrel #1 ("B")	0	9	16	25	32	41	47	57	63	72	79
1	OBH	39	39	42	39	103	100	5	8	5	75
2	OBH	5	-5	5	-5	5	-5	2	-8	-2	79
3	OBH	3	3	6	3	3	6	29	58	29	77
4	OBH	58	52	58	55	55	52	50	93	47	50
5	OBH	78	90	78	84	75	78	51	73	44	25
6	OBH	72	104	72	95	69	93				
Barrel #2											
1	152	66	93	66	90	63	84	47	72	47	24
2	140	55	107	55	101	52	98	49	90	45	36
3	183	20	43	23	40	23	46	20	43	20	75
4	197	-2	-5	1	-5	1	-5	-2	-8	-2	78
5	199	20	20	20	20	20	20	11	14	11	72
Conic Adapter											
1	156	72	92	72	87	68	84	59	72	56	36
Clock											
1	99	77	73	77	73	77	71	69	60	67	62
2	105	82	75	82	75	80	75	71	65	69	65
Thrust Cone "A" to "B" SRV											
1	120	63	53	54	46	59	45	66	62	64	73
2	81	78	70	72	67	70	65	77	73	75	73
Stellar/Index "A" to "B"											
1	85	70	60	66	60	63	60	65	58	62	68
2	77	68	61	64	61	64	58	60	57	60	67
Recovery Battery "B" SRV											
1	71	75	74	74	72	72	72	90	88	89	90
Master Cassette "A" SRV											
2	96	58	50	52	48	52	49				

Note: Thrust cone data not corrected for self-heating

[redacted]

MISSION 1012 - PREDICTED AND ACTUAL TEMPERATURES

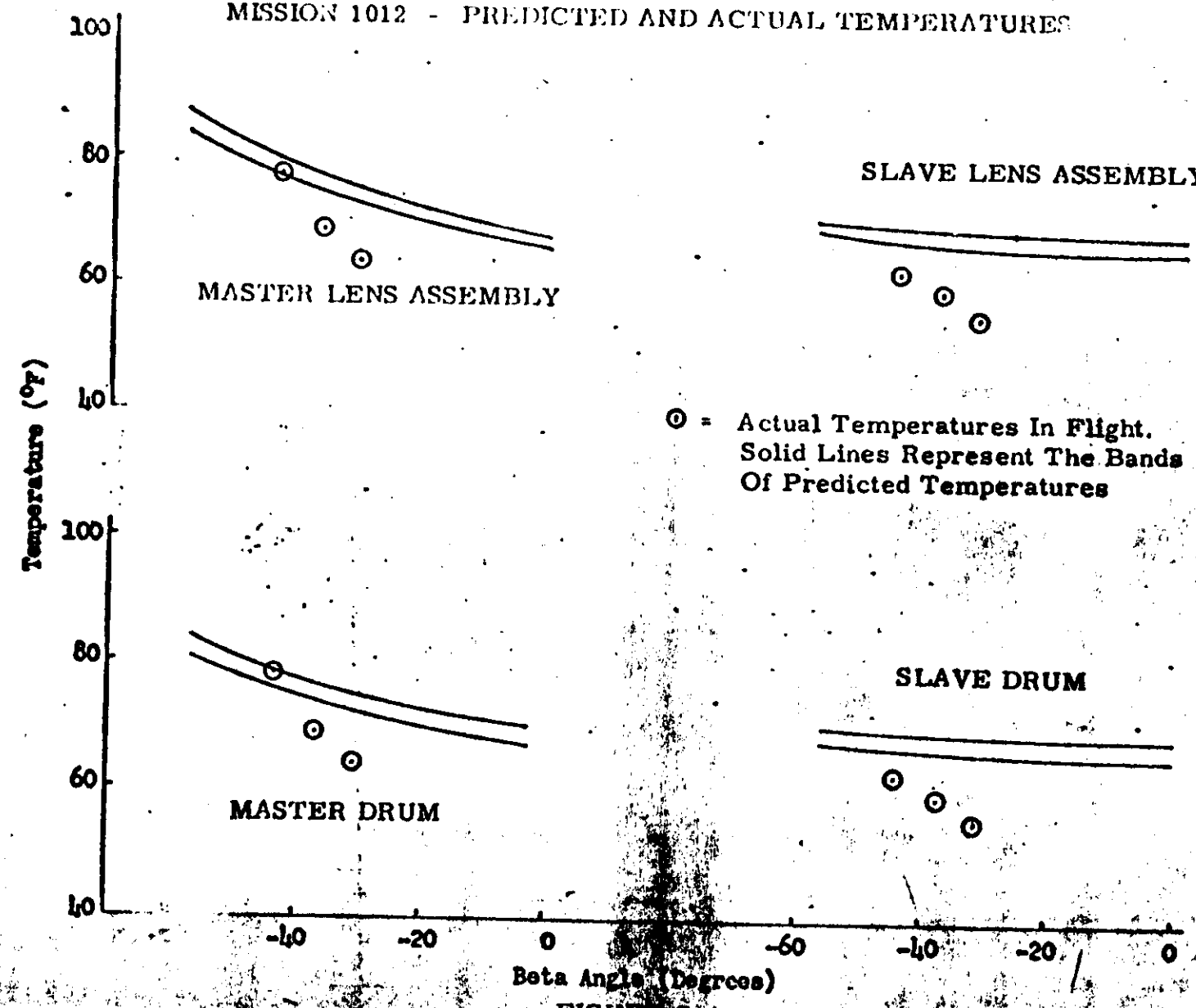


FIGURE 3-4

MISSION 1012 - PREDICTED AND ACTUAL TEMPERATURES

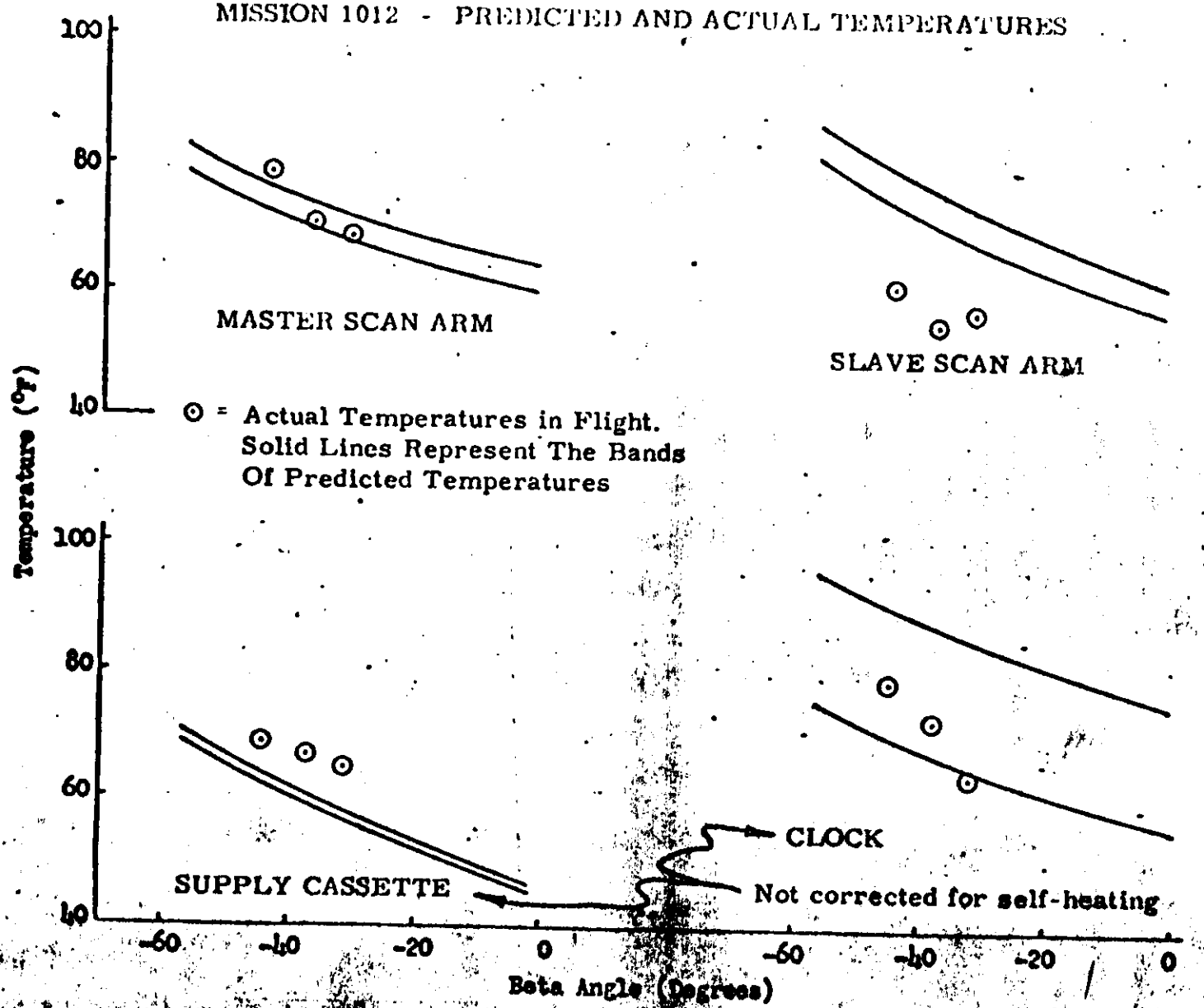


FIGURE 7.5

MISSION 1012 - PREDICTED AND ACTUAL TEMPERATURES

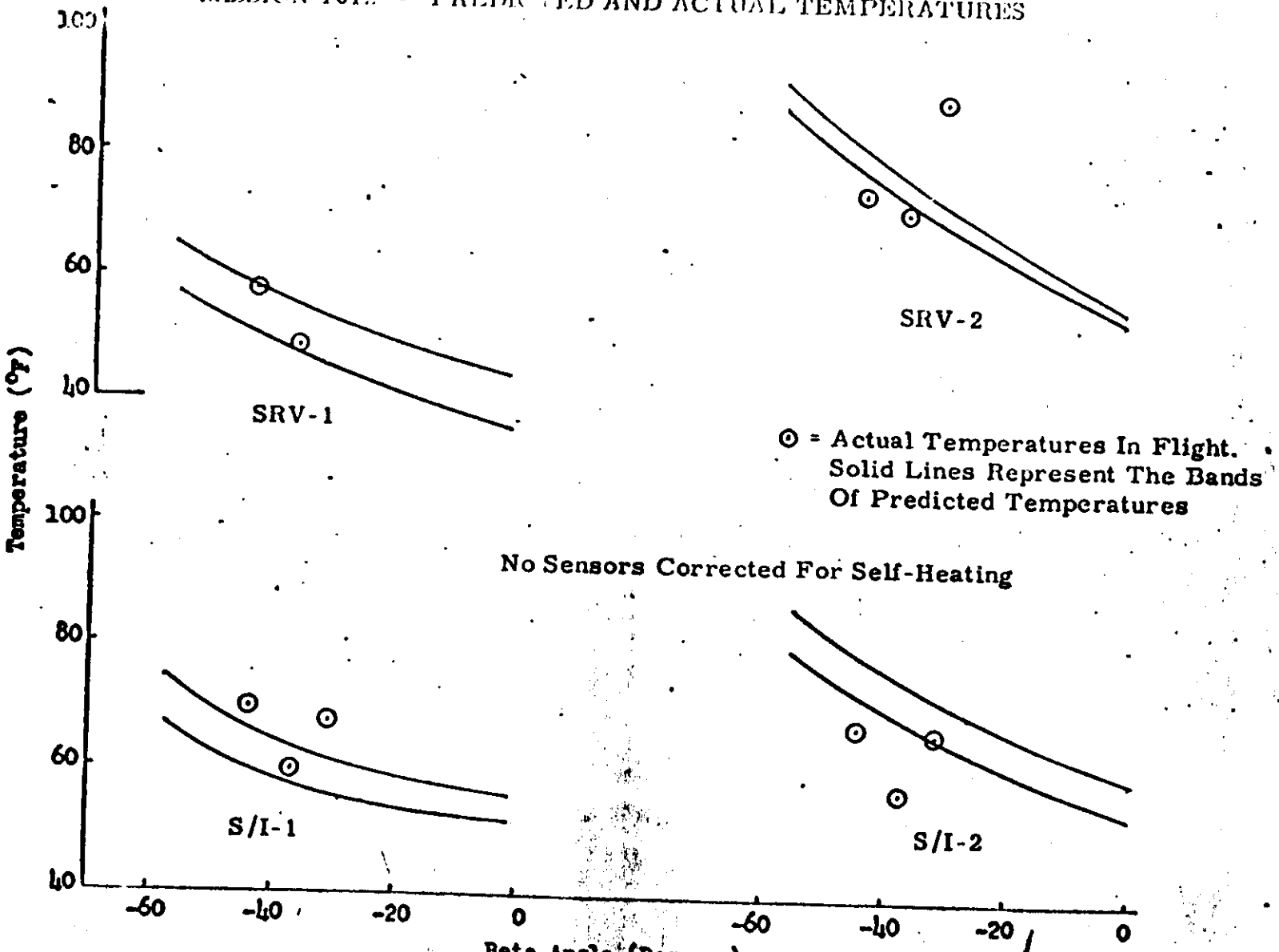


FIGURE 3-6

SECTION 4

MISSION 1012-1 RECOVERY SYSTEM

SRV #651 was received at A/P on 3 December 1963. The receiving weight was 151 pounds. The following major modifications were made to SRV # 651 during the pre-flight test phase at A/P.

1. FEDR V 3801 dated 8-19-64

   During the Vandenberg weight and balance test phase the cassette roller and end plate assembly was found to have a dent. The unit was returned to A/P for replacement of the dented assembly.

   The repair was made and the unit returned to VAFB on 8-25-64.

2. Retrofit ADB-004, ADA-023 and ADA-025 were a field modification made by A/P technicians for the Signal Redundancy change. The electrical ground support equipment were changed to be compatible with the above retrofit.

3. Other action completed by A/P during the test operations which are covered in the Log of Non-Major Reportable Discrepancies.

   A) Flow coated all exposed terminals on the Thrust Cone with a dielectric coating.

   B) Incorporated Engineering Order 318663 on the Thrust Cone main harness. (Jumpered pin small w to pin large N of W1J1 connector).

   C) Re-routed harness in ablative shield.

   D) Re-potted stress relief grooves of ablative shield due to bubbling and separation.

   E) Incorporated E.O. 11372 on the main cassette.

F) Ejection Programmer was replaced because it caused telemetry readout errors.

G) Cracks were found in the ablative shield. They were minor in nature and the system was flown without repair.

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. 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 1012-1

RECOVERY SEQUENCE OF EVENTS

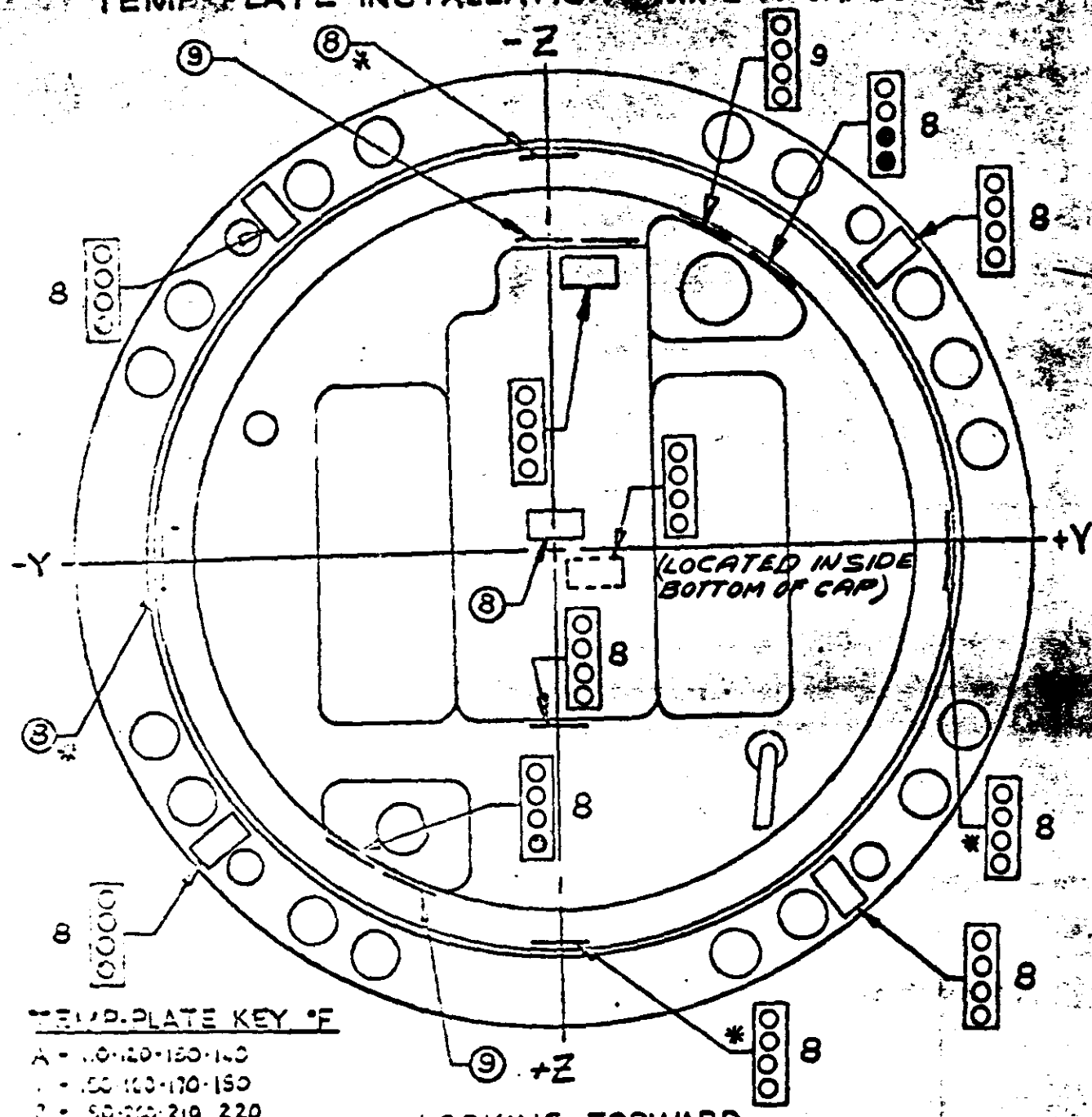
Event	Delta Time (Seconds) Actual	Nominal Events + ΔT
1 Transfer		
2 Electrical Disconnect	0.75	+0.900 $^{+\ 0.430}_{-\ 0.400}$
* 3 Separation	1.99	+ 2.0 ± 0.250
** 4 Spin	3.37	+ 3.4 ± 0.30
5 Retro	7.56	+ 7.55 ± 0.45
6 Despin	10.73	+10.75 ± 0.54
7 T/C Separation	1.51	+ 1.5 ± 0.15
8 V/M Close	N/A	+104.0 ± 44
9 V/M Open	N/A	+110 ± 25
10 "G" Switch Open		
11 Parachute Cover Off	34.08	+ 34.0 ± 1.5
12 Drogue Chute Deployed	0.65	+ 0.75 ± 0.08
13 Drogue Chute Release	10.01	+10.05 ± 1.0
14 Main Chute Deployed	0.44	+0.52 ± 0.12
15 Main Chute Disreefed	4.59	+4.0 ± 1.7

* From Transfer
** From Electrical Disconnect

Spin Rate:	66.6 RPM
Despin Rate:	10.6 RPM
Retro Velocities:	1048 Ft/Sec.

TABLE 4-1

TEMP-PLATE INSTALLATION - MK V-A CAPSULE



TEMP-PLATE KEY °F

A - ..0-120-150-1..0
. - .50-160-170-180
. - .90-200-210-220
D - 230-240-250-260
. - 270-280-290-300
F - 3..0-320-330-340
G - 350-360-370-380
H - 390-..0-..30-450
C - 100-150-200-250
Y - 300-350-400-450

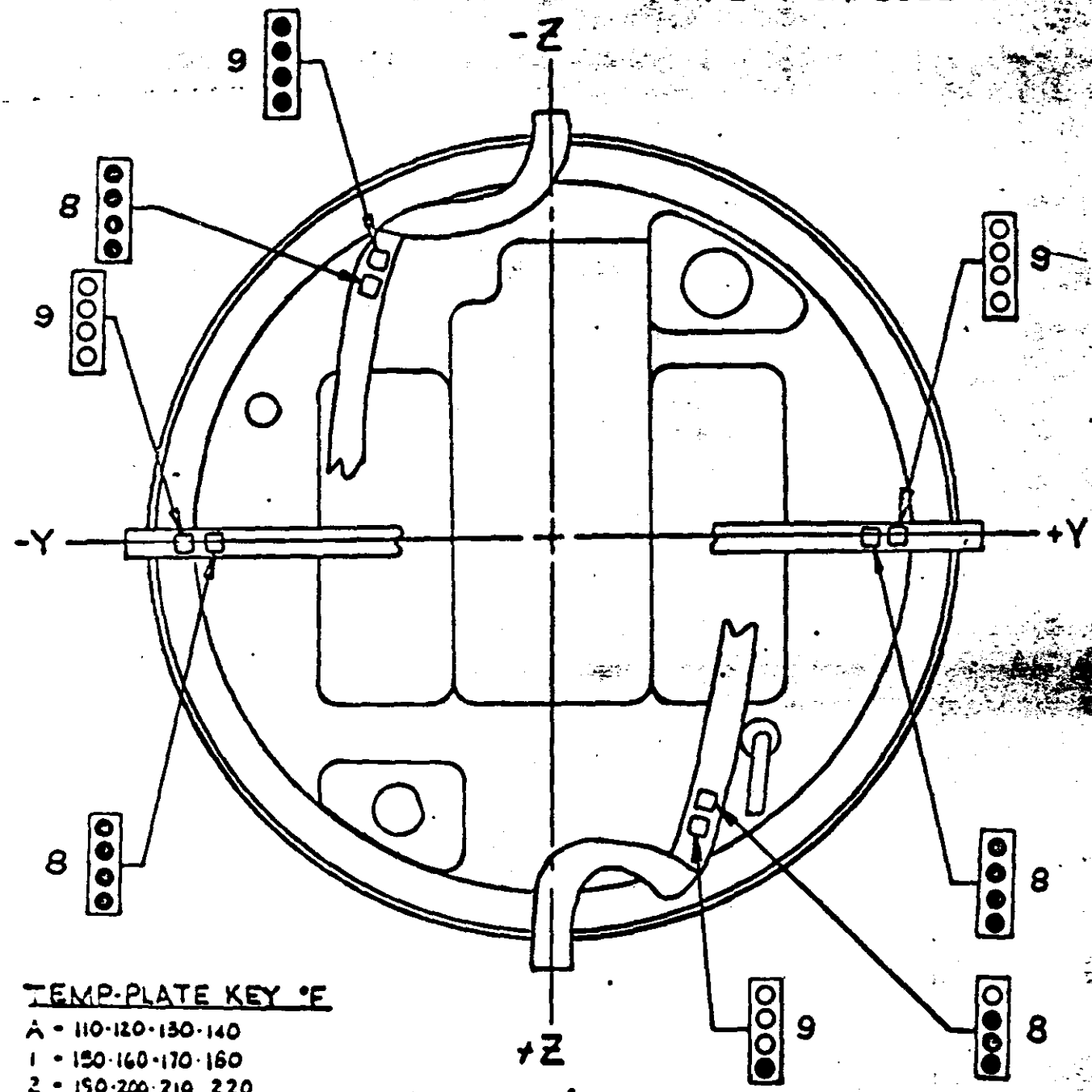
*LOCATED INSIDE CAPSULE ON NOSE WALL

⊙ INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1012-1

FIGURE 4-1

TEMP-PLATE INSTALLATION - Mk V-A CAPSULE



TEMP-PLATE KEY °F

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

LOOKING FORWARD

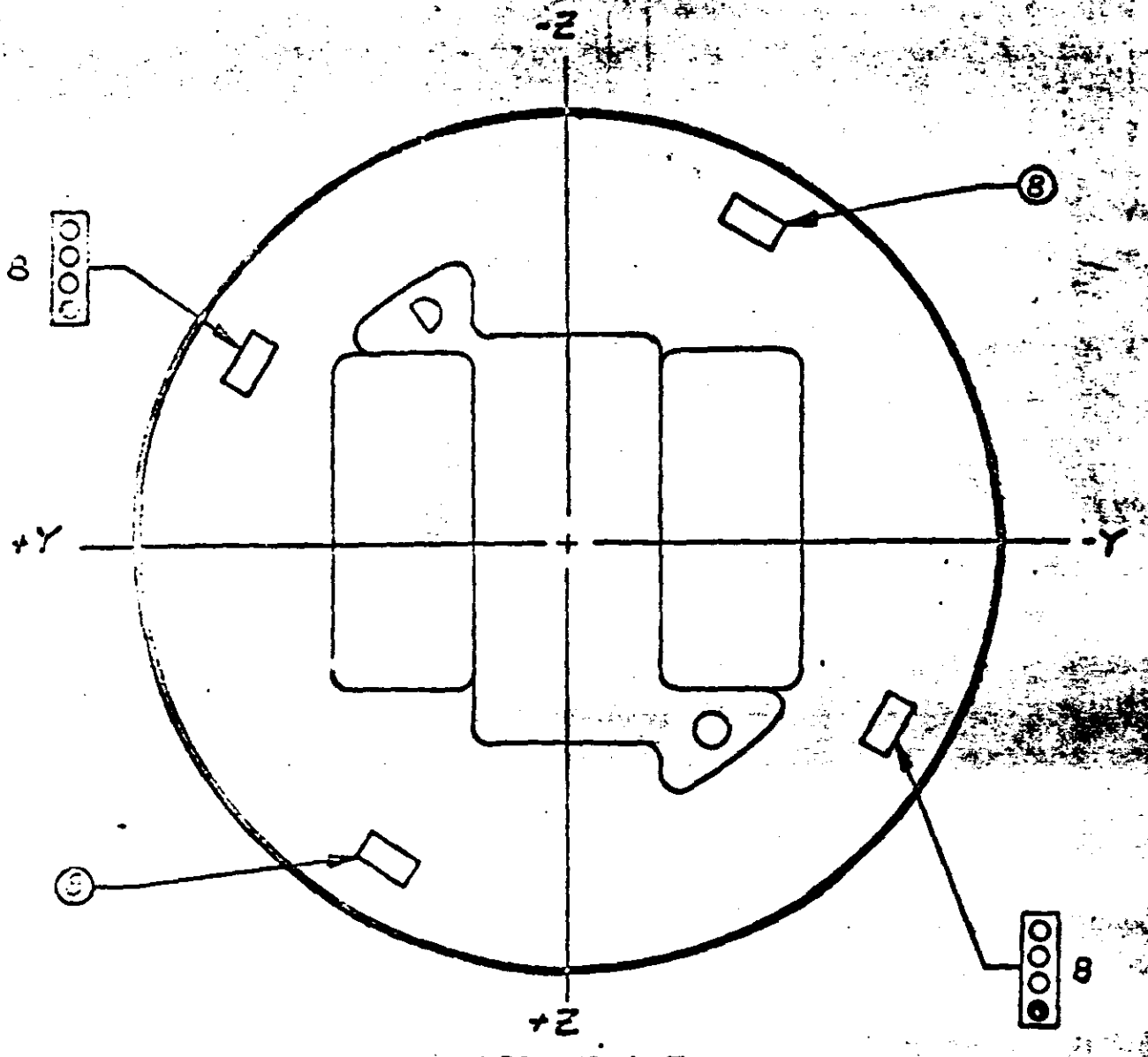
USE OF TEMP PLATES ON PARACHUTE SHROUDS

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1012-1

FIGURE 4-2

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
C·100·150·200·250

○ INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATOR LEVEL

FIGURE 4-3

1012-1

~~TOP SECRET~~ [redacted]

SECTION 5

MISSION 1012-2 RECOVERY SYSTEM

SRV #645 was received at A/P on 11/13/63. The receiving weight was 154 lbs.

The following major modifications were made during the pre-flight test operations at A/P.

1. FEDR #V3776 -- found water seals to be leaking air pressure. An exchange was made with a cover from another capsule (J-15a, #656).

2. FEDR #1331 -- found large crack in nose of ablative shell. (Crack was 10" long 1/8" side, and covered the depth of the ablative material. The unit was returned to General Electric and replaced.

3. FEDR #1314 -- re-work of capsule cover was required due to burrs and sharp edges.

4. FEDR #1251 -- the cassette was found to be operating slow. Disassembly revealed a dented armature segment caused by an interference of a shop aid. Replaced components and used assembly.

5. Incorporated retrofit kits ADB-004, ADA-023 and ADA-025 which is a signal redundancy modification.

6. Other work accomplished by A/P were those listed in the Non-MR discrepancies section of the Q. C. log book. They are as follows:

   A) Re-worked parachute cover to eliminate mechanical interference.

   B) The ejection programmer was returned to G. E. for X-ray inspection to determine if the potentiometers were of an acceptable design. The unit was replaced by a programmer which had been X-rayed and through an oven-cured cycle.

C) Dielectrically coated all exposed terminals on the Thrust Cone.

D) Incorporated A/P E.O. #318663.

E) Re-routed ablative shell harness.

F) Replaced broken cap on vent seal assembly.

G) Re-painted forebody magnesium ring.

H) Found cracks in nose of ablative shell. Determined as repairable. Unit repaired and accepted. The unit later cracked even further after being exposed to the vacuum chamber tests. Cracks were too large for safe repair, unit was returned to GE and replaced. (Old unit was not cracked bad enough to preclude the possibility of safe recovery if the cracks had developed on orbit.

I) The replacement shield was found to have minor cracks. Unit was accepted for flight without a requirement for repair.

J) Found cassette T/M readings to be out of spec. Deviation was accepted without need for repair.

K) Battery connection was damaged. A spring had become unseated. The exposed spring was removed, the connector safety wired and accepted for flight.

L) Found a nick in the water seal gasket which was accepted.

The capsules were delivered to VAFB 31 July 1964. No testing problems were encountered at VAFB.

The second recovery unit was successfully recovered in the water. SRV #645 was recovered on Pass 81. Poor weather visibility prevented attempts at air recovery. 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 1012-2

RECOVERY SEQUENCE OF EVENTS

Event		Delta Time (Seconds) Actual	Nominal Events + ΔT
1	Transfer		
2	Electrical Disconnect	1.13	+0.900 $^{+0.430}_{-0.400}$
*3	Separation	2.52	+2.0 ± 0.250
**4	Spin	3.37	+3.4 ± 0.30
5	Retro	7.54	+7.55 ± 0.45
6	Despin	10.65	+10.75 ± 0.54
7	T/C Separation	1.52	+ 1:5 ± 0.15
8	V/M Close	71.03	+104.0 ± 44
9	V/M Open	N/A	+110 ± 25
10	"G" Switch Open		
11	Parachute Cover Off	34.19	+34.0 ± 1.5
12	Drogue Chute Deployed	0.62	+0.75 ± 0.08
13	Drogue Chute Release	9.96	+10.05 ± 1.0
14	Main Chute Deployed	0.60	+0.52 ± 0.12
15	Main Chute Disreefed	4.41	+ 4.0 ± 1.7

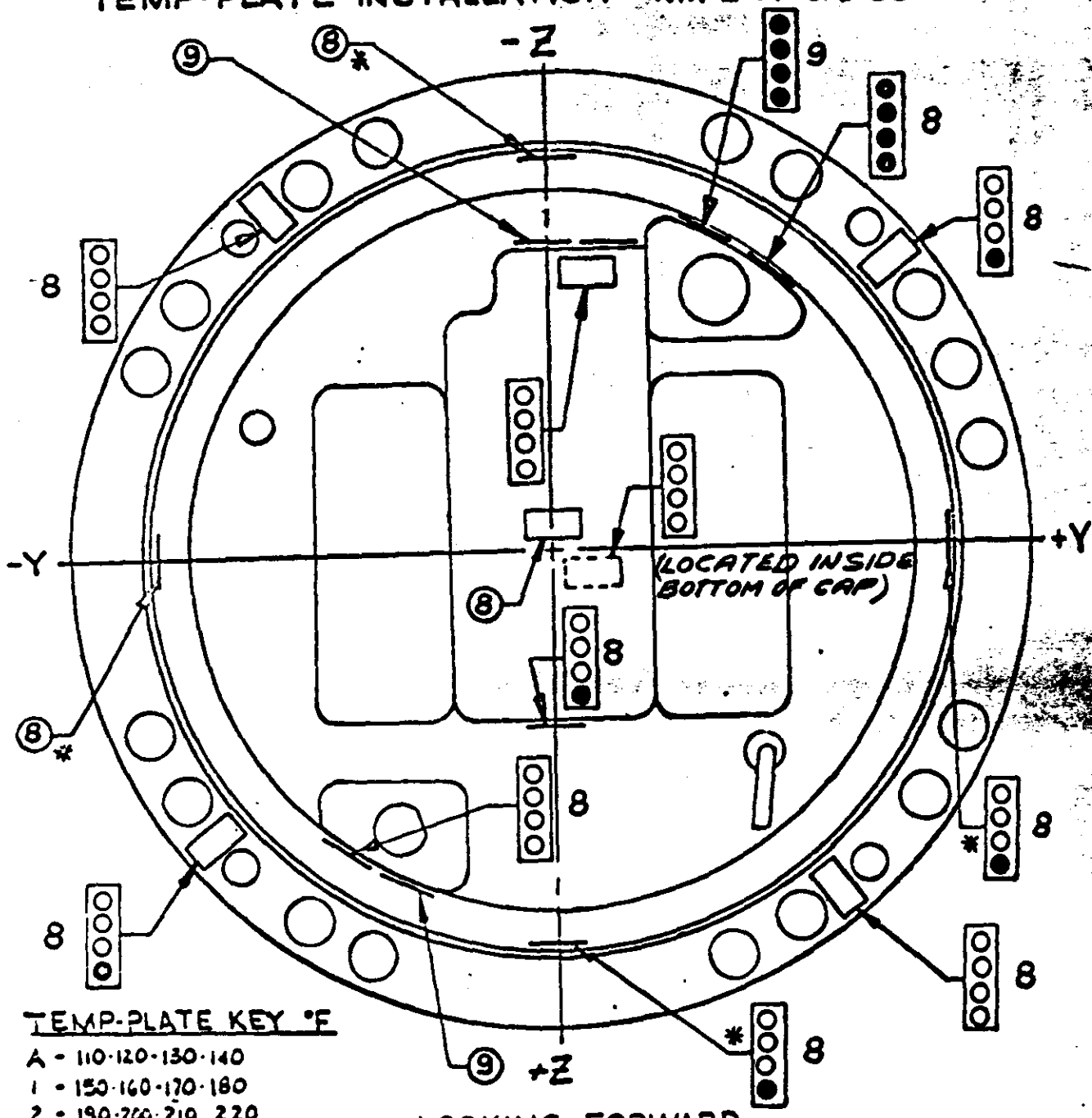
* From Transfer
** From Electrical Disconnect

Spin Rate: N/A
Despin Rate: N/A
Retro Velocity: 1120 Ft/Sec.

TABLE 5-1

[redacted]

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

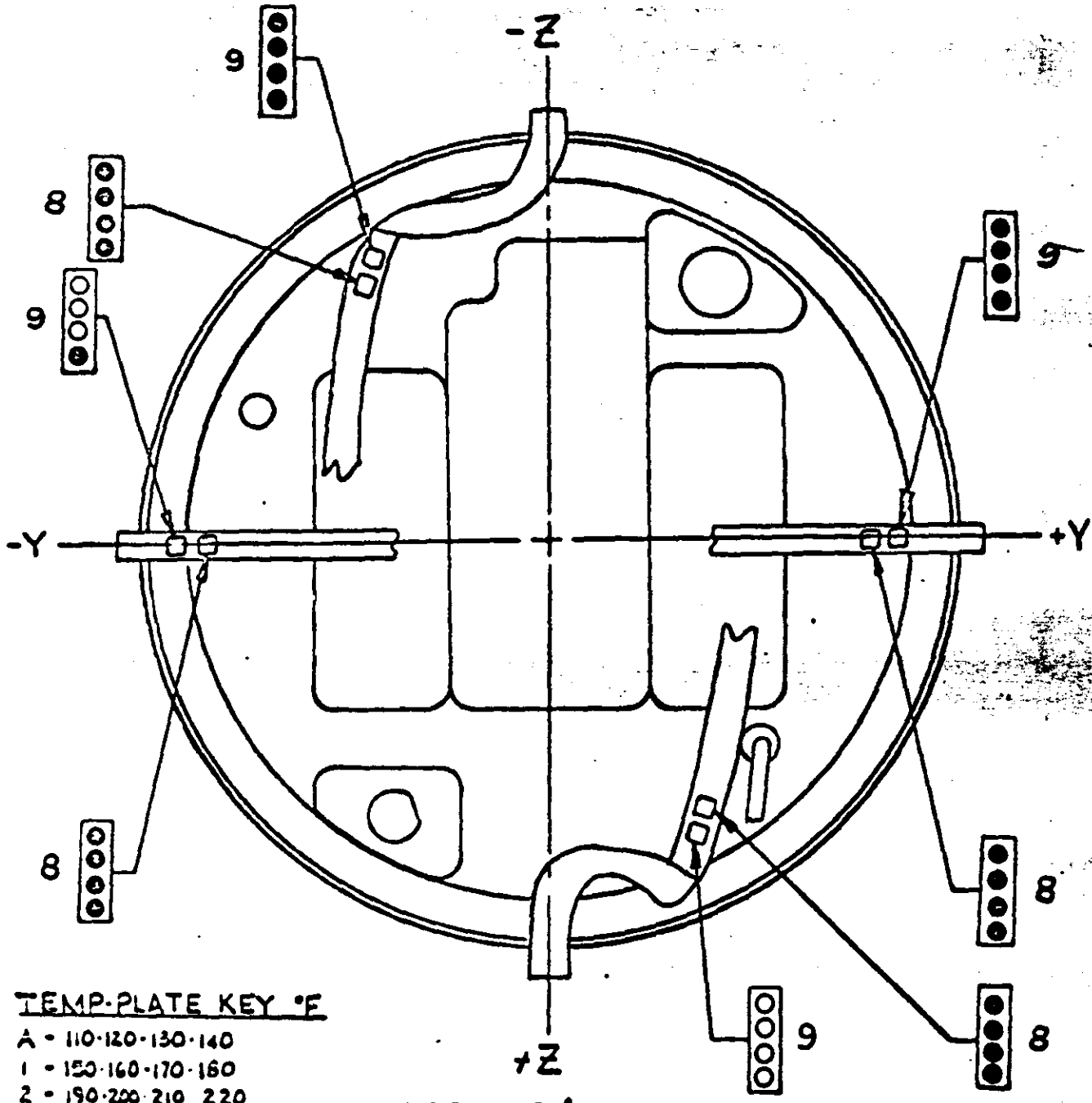
1012 - 2

FIGURE 5-1

[redacted]

[redacted]

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

LOOKING FORWARD

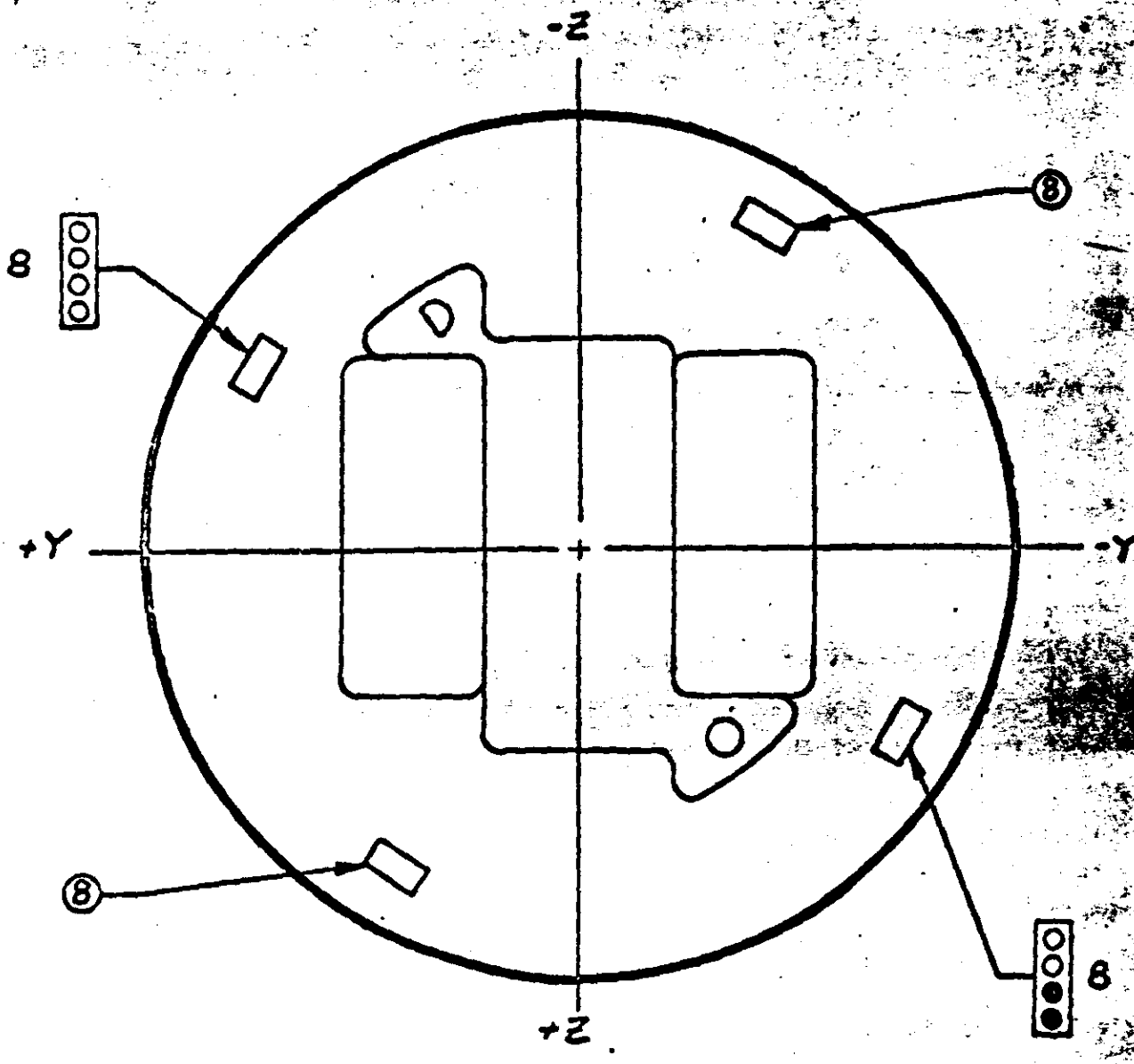
USE OF TEMP PLATES ON PARACHUTE SHROUDS

● INDICATOR TURNED BLACK TEMP REACHED OR EXCEEDED INDICATED LEVEL

1012-2

FIGURE 5-2

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 5-3

1012-2

SECTION 6

MASTER PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	156
Main Camera Lens	1342435
Supply Horizon Camera	128 B
Supply Horizon Camera Lens	812265
Take-up Horizon Camera	128 A
Take-up Horizon Camera Lens	814019
Supply Cassette	SC-5

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.225"
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 good throughout both missions. The information content of the photography was considered good. The missions were considered comparable to Mission 1008.

The electro-mechanical operation of the camera system was normal during both missions.

A total of 2436 frames of photography were recovered during Mission 1012-1; 2500 frames were predicted based on T/M data accumulation. The photographic quality was good throughtout the mission where weather permitted low haze conditions to prevail. Photography was comparable to mission 1008. The MIP frame was rated 85.

Very minor continuous minus density streaks were present throughout the entire mission and correlate with field flattener motion. Minus density streaks are attributed to foreign material in the optical path.

Light leak patterns were present at the start and end of most camera operations. These light leak patterns are attributed to very minor light leaks around the camera drum and/or horizon boots. The structural interface between Instrument #1 Barrel and the Recovery Barrel may also contain a minor light leak. Degradation of parts of three frames per pass was minor.

The camera timing track, center of format switch, horizon camera and fiducials, end of pass mark and camera number operated normally throughout the mission.

No corona discharge or dendritic static marking was observed. Several data block lamp failures were noticed. Binary lamps #1, 2 12, 16, 17 and 19 failed during flight. Analysis is underway to correct this problem.

A total of 1458 frames (3871 feet) of photography were recovered from Mission 1012-2. This represents approximately 50% of the normal amount expected. Photographic quality was the same as in Mission 1012-1. The attitude of the vehicle became very unstable during Pass 72 and threatened the success of the second recovery. Consequently, recovery was affected without delay on Pass D-81. Lifeboat recovery was used.

Vehicle attitude became so abnormal that some of the master panoramic frames of Pass D-73 contained earth horizon photography imaged thru the main lens. Due to vehicle attitude problems on D-73 some terrain imagery was recorded at abnormal angles. Vehicle attitude deviated by such a large degree that the last 19 frames of Pass 73 contained no terrestrial imagery.

The comments of the camera operation in Mission 1012-1 apply in entirety to this mission.

SECTION 7

SLAVE PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	157
Main Camera Lens	1232435
Supply Horizon Camera	139 B
Supply Horizon Camera Lens	812292
Take-up Horizon Camera	139 A
Take-up Horizon Camera Lens	814009
Supply Cassette	SC-5

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.225"
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.

The Slave camera produced 2464 frames (6946 feet) of photography during Mission 1012-1. 2497 frames were expected based on T/M data accumulation. Photographic quality was the same as in Mission 1012-1. The MIP frame was rated 85. Minus density streaks were present throughout the mission photography and tend to follow the movements of the field flattener. Streaks are attributed to foreign material in the optical path. Streaks were minor and appeared to have little or no affect on the detail of ground imagery.

A scratch was observed down the center of most photography generated during pass D-25. Time frequency marks were entirely inside the format area throughout the mission.

Binary lamps #12 and 23 failed during flight. The camera center of format switch, horizon camera and fiducials, end of pass mark and camera number operated normally throughout the mission.

No corona discharge marking was observed. Minor, intermittent dendritic static was present along the film edge but did not affect terrain imagery. Minor light leaks affected parts of two to three frames at the start and end of most camera operations. Light leak patterns are attributed to very minor light leaks around the camera drum and/or

horizon boots. A light leak may be present at the structural interface between instrument #1 Barrel and the Recovery Barrel. Degradation of ground imagery by system light leaks was very minor.

A total of 1461 frames (3872 feet) of photography were recovered from Mission 1012-2. This represents approximately 50% of full film capacity in SRV #2. Early recovery during pass D-73 was necessitated by unstable vehicle attitude observed in pass D-72 and D-73. Lifeboat recovery was used. Photographic quality is comparable to the master instrument, Mission 1012-2 and both are similar to Mission 1012-1. The MIP frame was rated at 85.

The comments of the camera operation in Mission 1012-1 apply in entirety to this mission except the scratch noted in pass D-25. There were no scratches observed in Mission 1012-2.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The exposure condition for both the panoramic cameras were the normal 0.225 inch wide slit and Wratten 21 filter. These conditions place the nominal exposure between the intermediate and full level processing curves as published by [redacted] for 4404 emulsion.

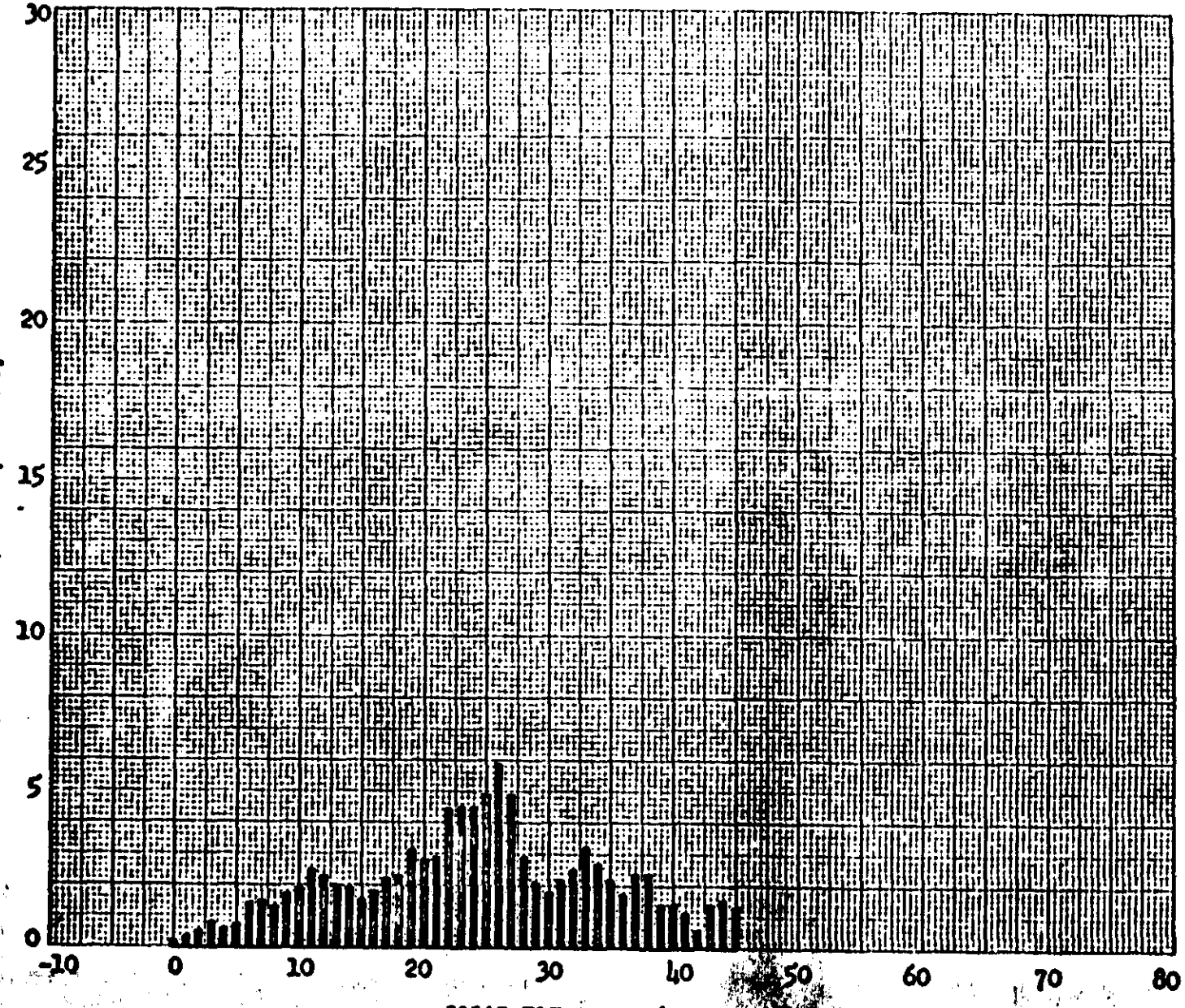
The illumination conditions during the mission were relatively constant. The frequency distributions of the solar elevations and solar azimuths encountered during the photographic operations are shown in Figures 8-1 to 8-4.

The nominal exposure times are shown as a function of latitude for passes D-1, D-49, and D-81 in Figures 8-5 to 8-7. 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
1012-1	FWD	Predicted	0	64	36
		Reported	7	56	37
1012-1	AFT	Predicted	0	64	36
		Reported	0	33	67
1012-2	FWD	Predicted	0	77	23
		Reported	6	44	50
1012-2	AFT	Predicted	0	77	23
		Reported	3	15	82

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.

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1012-1

Payload No: J-13

Camera No: 156

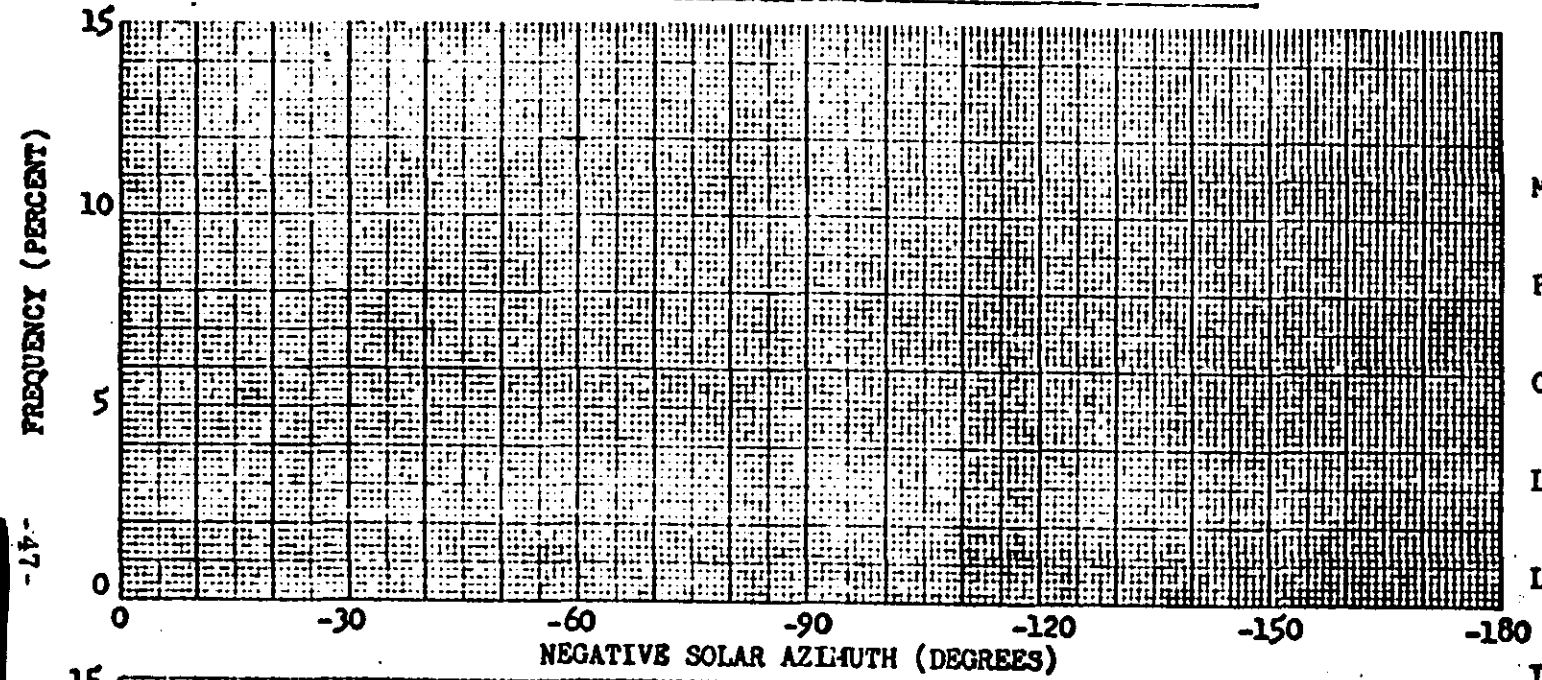
Launch Date: 10/17/64

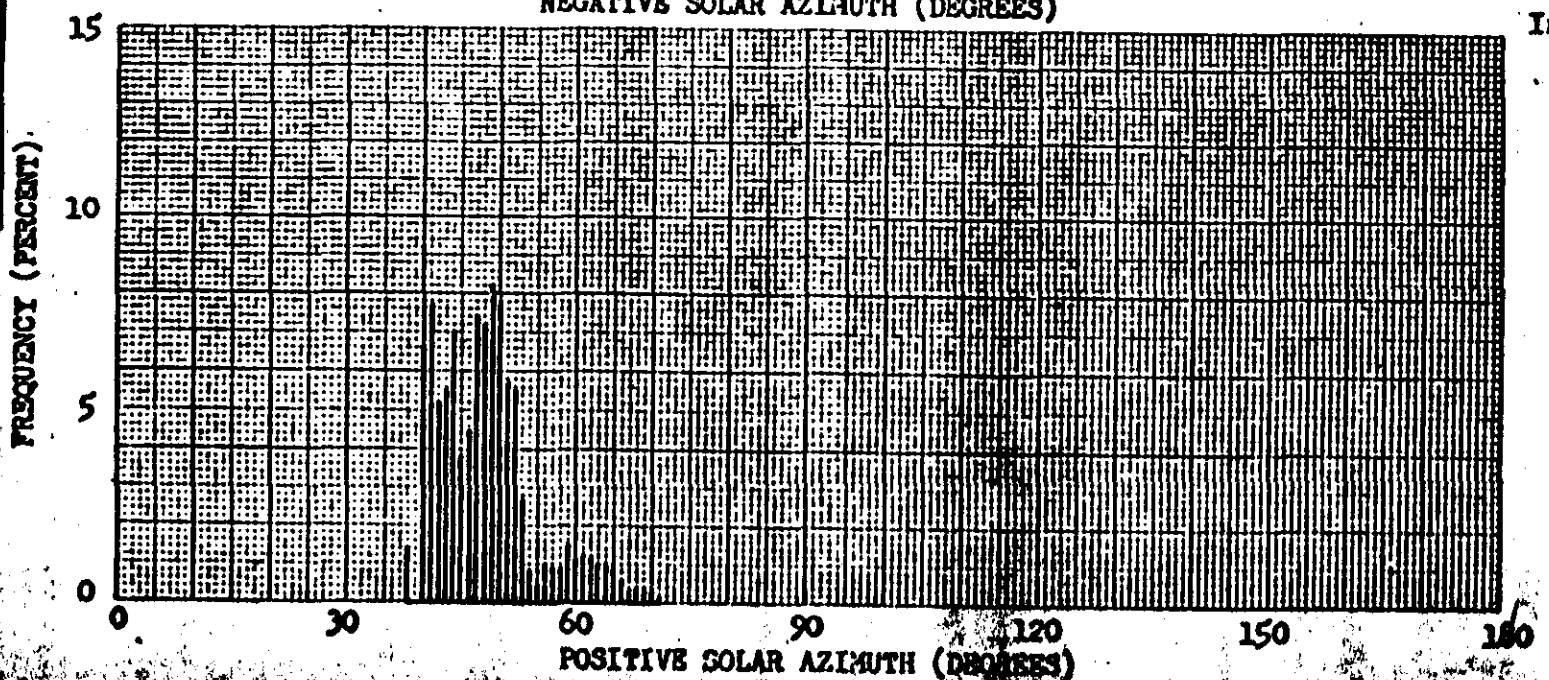
Launch Time: 2202 Z

Inclination: 75°

FIGURE 3-1

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1012-1

Payload No: J-13

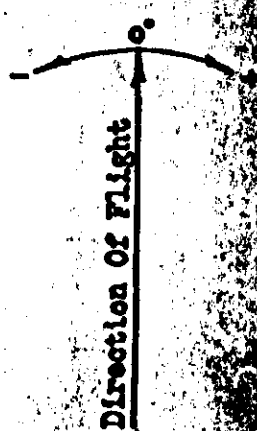
Camera No: 156

Launch Date: 10/17/64

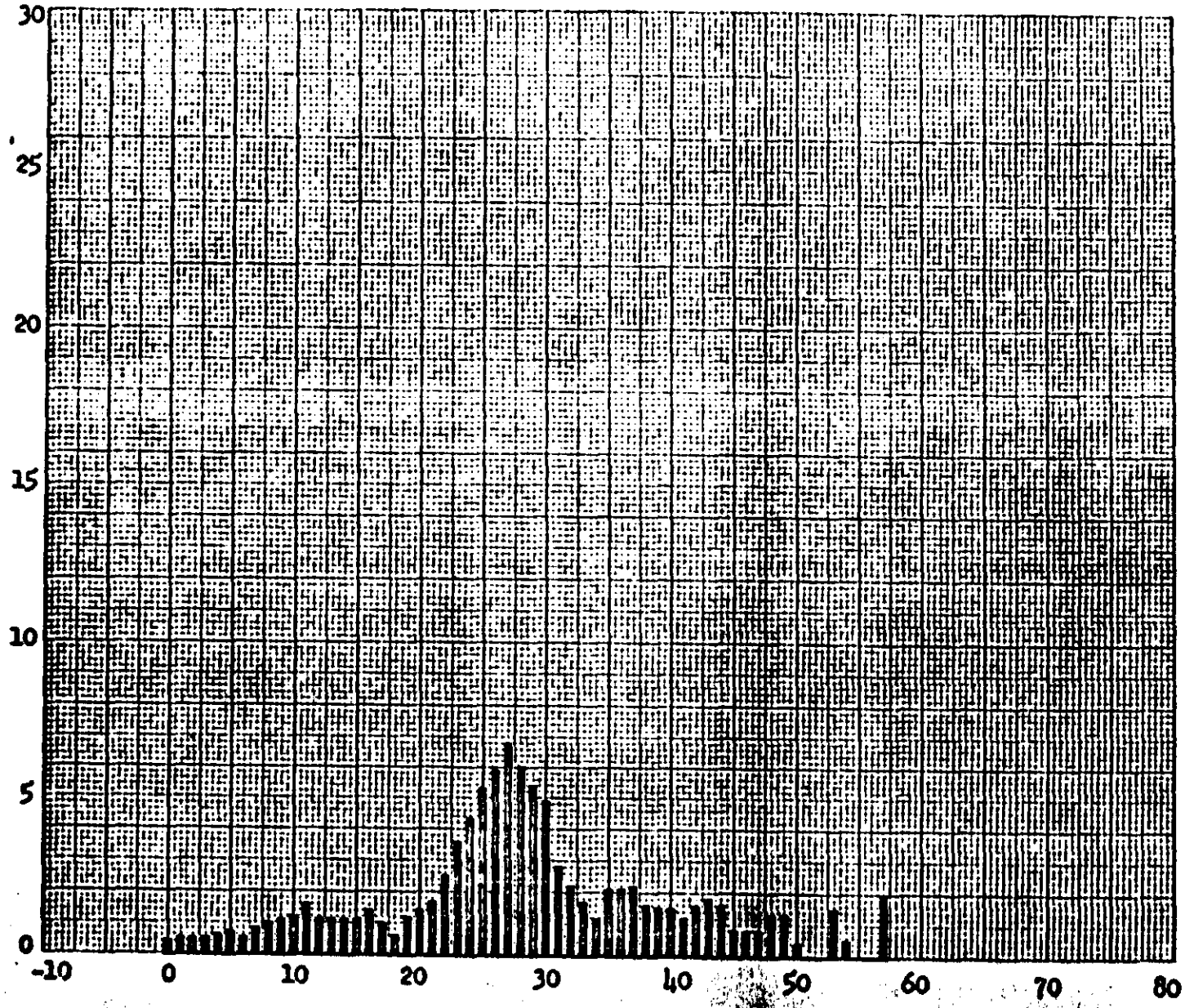
Launch Time: 2202 Z

Inclination: 75°

SIGN NOTATION



SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1012-2

Payload No: J-13

Camera No: 156

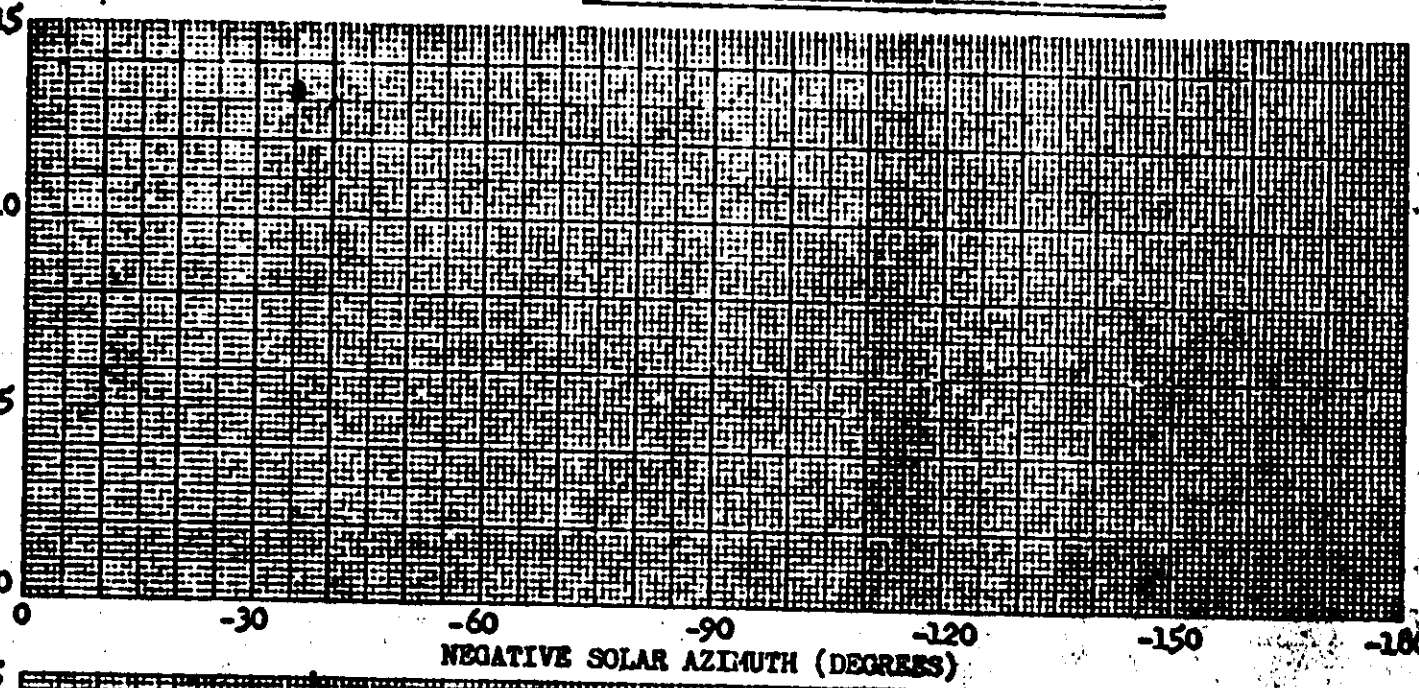
Launch Date: 10/17/64

Launch Time: 2202 Z

Inclination: 75°

FIGURE 8-3

SOLAR AZIMUTH FREQUENCY DISTRIBUTION



Mission No: 1012-2

Payload No: J-13

Camera No: 156

Launch Date: 10/17/64

Launch Time: 2202 Z

Inclination: 75°

SIGN NOTATION

[redacted]

EXPOSURE POINTS

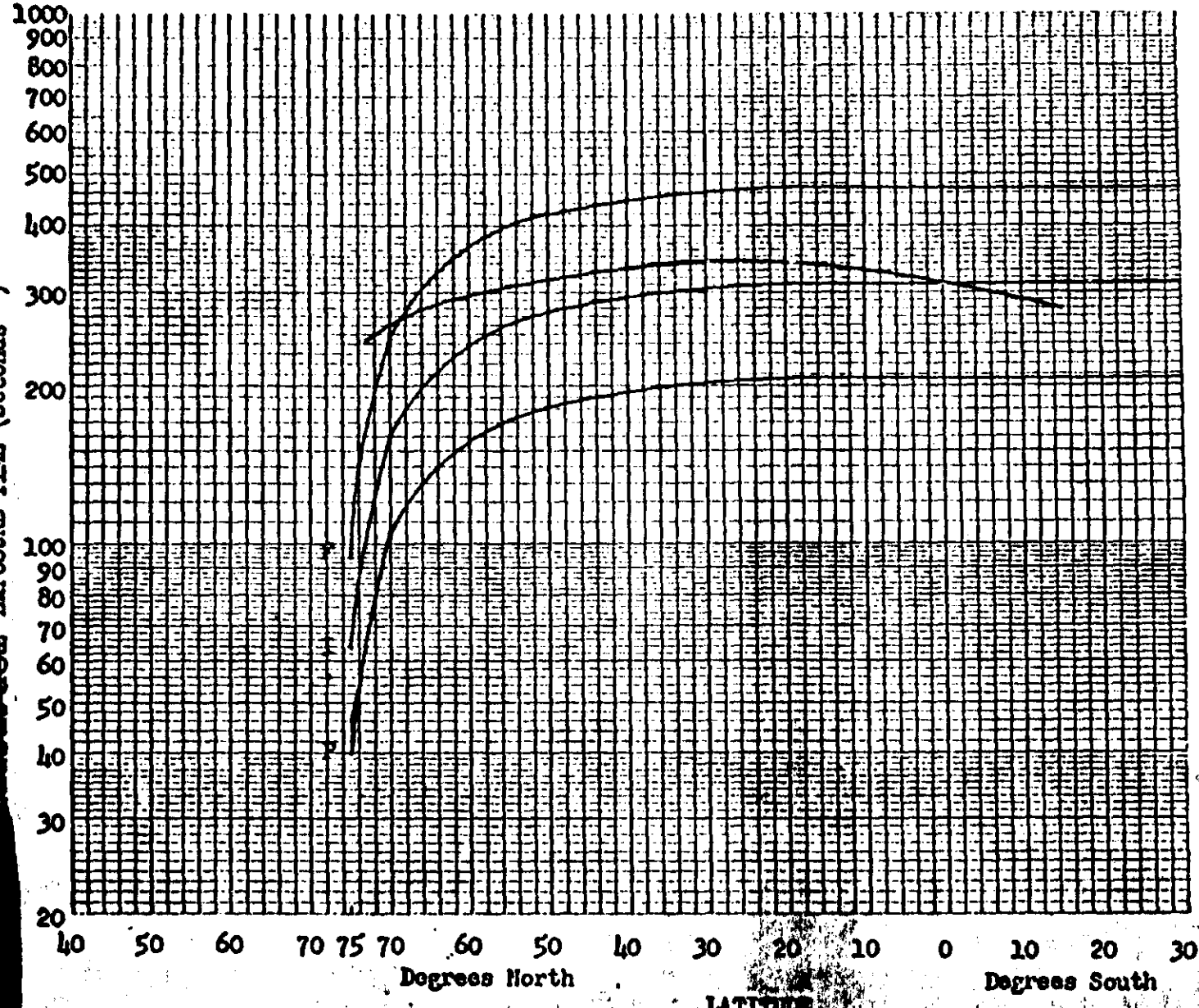


FIGURE 3-

Mission No: 1012-1

Payload No: J-13

Camera No: 156 & 157

Pass No: 1

Launch Date: 10/17/64

Launch Time: 2202 Z

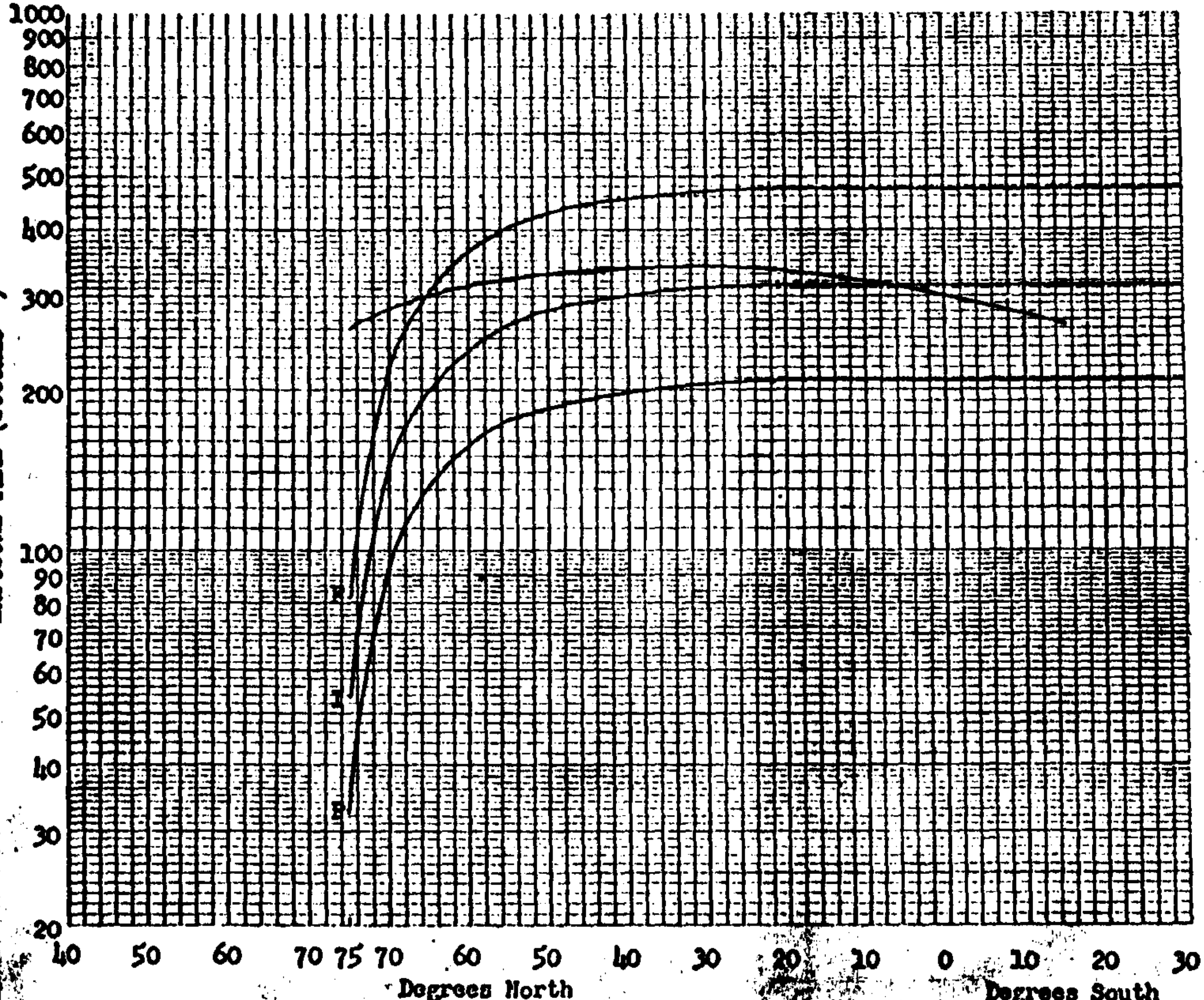
Slit Width: 0.225"

Filter Type: Wratten 21

Film Type: 4404

[redacted]

EXPOSURE POINTS



LATITUDE

FIGURE 8-8

Mission No: 1012-1

Payload No: J-13

Camera No: 156 & 157

Pass No: 49

Launch Date: 10/17/64

Launch Time: 2202 Z

Slit Width: 0.225"

Filter Type: Wratten 21

Film Type: 4404

TOP SECRET [redacted]

[redacted]

EXPOSURE POINTS

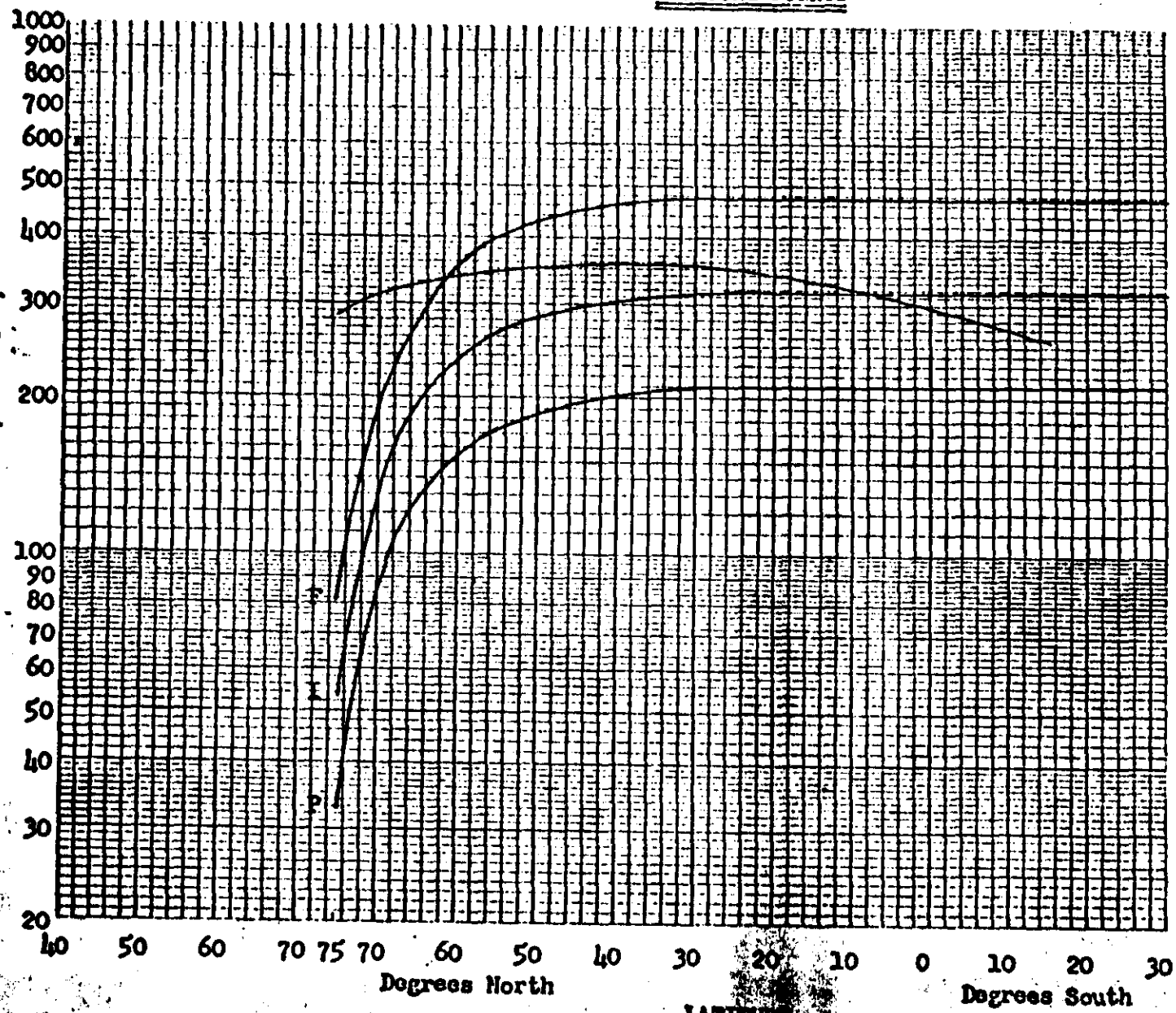


FIGURE 18-7

Mission No: 1012-2

Payload No: J-13

Camera No: 156 & 157

Pass No: 81

Launch Date: 10/17/64

Launch Time: 2202 Z

Slit Width: 0.225"

Filter Type: Wratten 21

Film Type: 4404

[redacted]

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

1012-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D LIM	SUN
NBR	NBRhhWAAASTQhhWAAASTQhhWAAASTQhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDC									
MC01FC05			C59067412						03807502310175N+	20209
MC01FC12									04506702315574N-	20359
CCC2FC05			C72C67412						04410002116274N+	50400
CCC2FC15									07611402016272N+	60609
CCC2FC25									01915371N+	71009
CCC2FC35									02021270N+	91009
CCO2FC41		067067412							08510501918669N+	100959
CCC2FC48									07416201820068N+	110909
CCC3FC05			C67063411						06220601700062N+	160000
CCO3FC15									08822202000061N+	180009
CCC3FC25	C59063411								07021601821060N+	190059
CCO3FC31									01820459N+	190509
CCO3FC41									01822654N+	221009
CCO3FC51									01922653N+	241009
CCO3FC61									01822851N+	251009
CCO3FC68									02023250N+	261009
CCC4FC05			C78075411						09317102020359N+	180750
CCO4FC15									04919602019858N+	200059
CCC4FC25			C85090412						04922702000056N+	210000
CCO4FC35									03818401917654N+	220059
CCO4FC48			C94104411						03607702019250N+	250050
CCC4FC58									04723902021649N+	260409
CCC4FC68			C72075422						07222302121747N+	270309
CCC5FC05			C59C55412						04107601321453N+	230959
CCC5FC15									05311402120452N+	250459
CCC5FC25		085082112							09615502017150N+	260209
CCC5FC35									07814602000048N+	270009
CCO5FC49			C90C90111						07515902000042N+	300000
CCC5FC59									05317001914541N+	310059
CCO5FC69		070075111							08316601900039N+	320009
CCC5FC79									06014802122538N+	330039
CCC5FC89									02022836N+	340209
CCO6FC05									02020156N+	211009
CCC6FC17								07206142210118401620855N+		220909
CCC6FC025									08110701419354N+	230909
CCC6FC35					104099111				04815101400040N+	310000
CCC6FC45									03922101300039N+	320009
CCC6FC55			C99090431						03314601222436N+	340200
CCC6FC65									05214301722534N+	350609
CCC6FC75			C99094121						03913201922833N+	360100
CCC6FC85									03622301923031N+	370509
CCO6FC99								09008543212315001922329N+		380959
CCC6F109									06818101923228N+	390959
CCO7FC05									01618268N+	111009
CCC7FC15									01219067N+	121009
CCC7FC25									01217665N+	131009
CCC7FC35					C72065412				05008601219864N+	150959
CCO7FC45									01221063N+	161009
CCO7FC55		07207C412							08413401521061N+	170989
CCO7FC65									03617201815260N+	190109

TABLE 9-1

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIN SUR

NBR NBRWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOU

CC07FC73		099099111				04214601818058N+200400
CCC7FC83						04618401817855N+220159
CC07FC93			111094111			04609001821254N+230250
CC07FC99						05510501821553N+240759
CCC8FC05						01520260N+181009
CC08FC15						01421159N+191009
CCC8FC25						01318357N+201009
CC08FC35						01218556N+211009
CC08FC45			C94C99111			04410901421051N+240200
CCC8FC55						07611602121650N+250759
CC08FC65						01721148N+271009
CC08FC73	C63067412					10416001420347N+270989
CCC8FC83						01320146N+280709
AC09FC05						01200040S-319999
CCC9FC05						01222056N+201009
CC09FC08			C67078112			06207801221256N+210909
CCC9FC018						04606001222055N+220859
CCC9FC28				C63072112		05008001222053N+230859
CCC9FC38						03608401220252N+240209
CC09FC48			C85075112			03810001220250N+260509
CCC9FC58						05007601221049N+270959
CCC9FC66		063059112				05308601221848N+270909
CC14FC05					063067411	0611380132302[illegible]
CC14FC15						05113301623921N+[illegible]
CC14FC25						02022719N+420299
CC15FCC5						02023233N+361009
CC15FC15						02023233N+361009
CC18FC05			085080422			08016801117069N+ 90950
CC18FC15						01114668N+111009
CC18FC25				C72068412		05618601219067N+120959
CC18FC33						08021401220666N+130759
CC20FC05			C78085421			04715401318667N+110150
CC2CFC15						05614601300066N+120059
CC20FC25			C67C75421			04511501319165N+130100
CC20FC35						04114201417163N+140309
CC2CFC45			C72082122			03710701316762N+160600
CC20FC55						04815401317660N+170509
CC2CFC65		072082112				03917301317359N+180759
CC2CFC78						06620601316151N+240259
CC20FC88			C94099433			03318602118950N+250010
CC20FC98						04914702018048N+260109
CC2CF1C8			C70078433			03321001914747N+270020
CC20F118						03920301917745N+280059
CC21FCC5					067072411	07410602122751N+230909
CC21FC15						08515602022850N+240959
CC21FC25			C72078412			07521601821149N+250200
CC21FC35						01119932N+361009
CC21FC45			C85085111			04507401221331N+370350
CC21FC55						01421329N+380909
CC21FC65						02223728N+390409

1012-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
ABR	ABRHWHAAASTQHWHAAASTQHHWAAASTQHHWAAASTQWWHAAASTQMINMAXB+FMAXLATELECLDC										
CC22FC05										01918769N+	91009
CC22FC15		C72085412								037111014170	68N+100759
CC22FC25										10614901519067N+	110809
CC22FC35		C78085121								04719401415756N+	200050
CC22FC45										C7819801520155N+	210509
CC22FC55		C72065112								07411601219154N+	220959
CC22FC65										03816401421145N+	280059
CC22FC75		C82094433								03920801300043N+	290000
CC22FC85										06914501300042N+	300009
CC22FC95		078090411								07814501400040N+	310000
CC23FC05		C85082112								04916202113858N+	180250
CC23FC15										05313601900057N+	190009
CC23FC25										09007211206610901920656N+	210859
CC23FC35										05710901921254N+	220359
CC23FC45		C72070112								06912901919853N+	230500
CC23FC55										06914201920651N+	240609
CC23FC65										06506741209112001920250N+	250859
CC23FC75										10613102021448N+	260989
CC23FC85	078072412									08415401922447N+	270859
CC23FC95										06518401922245N+	280409
CC23F111		C90078111								05716701300040N+	310000
CC23F121										03121301319439N+	320019
CC24FC05										01020857N+	191009
CC24FC15										01015056N+	211009
CC24FC24		C78085112								03310001015255N+	220989
CC24FC34										01221453N+	231009
CC24FC50		C82085112								07308301220851N+	240989
CC24FC60										07012601220050N+	250989
AC25FC05										01200046S-	369999
CC25FC05										01321448N+	251009
CC25FC15										01321147N+	261009
CC25FC26		C67C62412								07909701321745N+	270989
CC25FC36										06108901422044N+	280609
CC25FC46		C9CC99122								03909301421543N+	290600
CC25FC56										01421541N+	301009
CC25FC66			078085211							05111001520240N+	310759
CC26FC05		C99104431								05617001100024N+	400000
CC26FC15										05413401000023N+	410009
CC26FC25		C90078422								07815001000021N+	420000
CC30FC05										09408541105210501122822N+	410059
CC30FC15										02023421N+	420259
CC30FC25	085075111									08413402023219N+	430359
CC33FC05										01817468N+	101009
CC33FC15										01218067N+	111009
CC33FC19	085094412									10312001217067N+	110959
CC33FC29										09413801518865N+	130909
CC33FC32										01519065N+	130959
CC34FC05		C7C078412								05209202013473N+	50250
CC34FC15										09216602000071N+	69999
CC34FC25		C00C59422								13015001615670N+	70309

PAS NBR				
PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN				
NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDO				
CC34FC32				06613001200070N+ 8C009
CC34FC42		C59061412		09013001219265N+130900
CC34FC52				08820201420464N+140309
CC34FC62		C63C67422		08220001418063N+15005C
CC34FC69				05620801419462N+160059
CC35FC06		CC0C67422		04209002009874N+ 20609
CC35FC16				03007401815273N+ 30509
CC35FC26063C63412				04009701916072N+ 50909
CC35FC41				09221201320063N+150409
CC35FC51		C82C90431		06221201100062N+160000
CC35FC61				07221701200061N+170009
CC35FC68		082085431		05019001000060N+180000
CC36FC05		C72072412		04013601220063N+150100
CC36FC15				03312001217462N+160059
CC36FC25		C67C72411		03210801217561N+17035C
CC36FC35				03614201200059N+180009
CC36FC45		C90085413		04819501200058N+20000C
CC36FC55				08818201219456N+210609
CC36FC65				01219855N+221009
CC36FC75				01221053N+231009
CC36FC85				01220652N+251009
CC36FC95				01221050N+261009
CC36F105		C94C99112		03008001222446N+300050
CC36F115				07010401221244N+310755
CC36F126				01221842N+921009
CC37FC07	094075411			03707801310572N+ 50609
CC37FC17				03706801314771N+ 60989
CC37FC27	094082412			07910401416570N+ 8040C
CC37FC37				05414101500069N+ 90009
CC37FC47			104111411	07315101309068N+10030C
CC37FC59				05214201320855N+230609
CC37FC69	072067412			05215701419553N+240859
CC37FC79				04119301421052N+250609
CC37FC95		085072432		06514601300040N+34000C
CC37F105				03210701400039N+350009
CC37F115		C94C99421		03415801400037N+36000C
CC37F125				03412401400036N+370009
CC37F140		104104111		03813401522126N+43055C
CC37F15C				04615101421024N+440259
CC37F160				01321522N+440509
CC38FC05				01417072N+ 50909
CC38FC14			C72067412	05408801818071N+ 60909
CC38FC24				01816570N+ 70809
CC38FC34				01816869N+ 91009
CC38FC44				01619267N+101009
CC38FC54				05706341211412801218066N+120959
CC38FC64				11216001216265N+130989
CC38FC76		C85078421		04618201200056N+21000C
CC38FC86				08418801200055N+220009
CC38FC96		C94082121		03012501016054N+23003C

1012-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN

NBR NBRHWAAASTQHWAAASTQHHWAAASTQHHWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOC

	CC38F106										04716201220552N+250109
01	CC38F120			C63059131							03218201200043N+320000
11	CC38F130										04015801200042N+330009
21	CC38F14C	067059411									09814401200040N+340009
	CC39FC05										01016470N+ 80509
	CC39FC15										01814069N+ 90509
	CC39FC17			104111112							07209001817469N+ 90609
	CC39FC27										05807201818067N+110809
	CC39FC37		078070412								06508401818060N+180309
	CC39FC47										01218359N+191009
	CC39FC57										01219457N+211009
	CC39FC59		094078411								03605401218657N+210909
	CC39FC72										04107001218853N+240409
	CC39FC82		067078112								04809001217052N+250500
	CC39FC92										03814001220450N+270609
	CC39F107		094085422								05210001220049N+280809
	CC39F112										09614001217047N+290909
	CC39F122		111104111								07814801219446N+300050
	CC39F131										09013801200045N+310009
	CC39F141			C85078111							05613601200040N+350000
	CC39F151										03614401200037N+360009
	CC39F158			111118111							06213001200037N+360000
	CC40FC05										01320361N+[illegible]
	CC40FC15										01319860N+181009
	CC40FC25										01318459N+191009
	CC40FC35										00916157N+201009
	CC40FC45										01114456N+220959
	CC40FC55						072078112	033	05501	115954N+230959	
	CC40FC65							025	09501	418453N+240169	
	CC40FC75			118094111				026	07201	518152N+250250	
	AC41FC05										012 39S-379999
	CC41FC05										01319354N+231009
	CC41FC15										01320053N+251009
	CC41FC25										01320851N+261009
	CC41FC27			C78082211							05509401320051N+260075
	CC41FC40										01320943N+321009
	CC41FC50										08411201321242N+330989
	CC41FC51					085085111					C7014401321742N+330909
	CC41FC61										08113401322440N+340909
	CC42FC05			104094111							10917401320132N+390029
	CC42FC19										08514400900030N+410009
	CC46FC05			111118111							04713201918038N+350050
	CC46FC15										04615202100037N+360009
	CC46FC19			104111111							04615702100036N+370000
12	CC47FC05			104094121							02918201400037N+350000
11	CC47FC15										03914401300036N+370009
10	CC47FC25			118094111							04615901300034N+380000
9	CC47FC35										06519201319632N+390209
8	CC47FC39			C94094431							05717901318532N+390100
7	MC49FC05										01700075N+ 09999

S	PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUM
	NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ						MIN	MAX	B+F	MAX	LATELECLDC
	MC49FC15							039	068	02	100	74N+ 29999
	MC49FC24			C67C00412				044	064	02	110	474N+ 30100
	MC49FC30							047	C70	02	014	773N+ 40309
	MCC1ACC5							036	048	02	000	075N+ 10009
	MCC1AC11							040	053	02	000	074N+ 20009
	CC02AC05			C67059412				062	102	02	014	074N+ 40300
	CCC2AC15							068	110	02	016	273N+ 50400
	CCC2AC24							065	063	412	064	082022164 72N+ 60900
	CCC2AC34							020	182	71		N+ 81009
	CCC2AC44							018	170	70		N+ 90099
	CC02AC48							016	180	69		N+109999
	CC03AC05			070070431				030	132	012	190	63N+16005
	CCC3AC15							050	160	016	000	62N+17000
	CCC3AC25			C82078431				078	220	020	000	60N+18000
	CC03AC42							018	214	55		N+22100
	CCC3AC52							013	210	53		N+23100
	CCC3AC62							012	220	52		N+24100
	CCC4AC05			072000222				058	150	011	170	60N+18030
	CCC4AC15							062	158	017	162	59N+20015
	CCC4AC25				085078121			054	190	018	000	57N+21000
	CC04AC35							048	210	018	000	55N+22000
	CCC4AC47				C78090111			046	148	019	000	51N+25000
	CC04AC57							030	194	019	210	50N+26015
	CCC4AC67						085	078	111	036	140	019208 48N+27030
	CCC5AC06	043	049411					094	124	019	210	53N+23098
	CC05AC15							062	114	020	204	52N+24090
	CC05AC25		078	078112				068	148	019	174	51N+25070
	CCC5AC35							058	158	020	000	49N+26000
	CCC5AC49			C82085411				082	158	020	000	42N+30000
	CCC5AC59							054	140	019	000	41N+31000
	CCC5AC69			C9CC90121				037	156	020	C00	40N+32C00
	CCC5AC79								019	000	38	N+33000
	CC05AC90								020	226	37	N+35010
	CCC6ACC5								018	186	57	N+20100
	CCC6AC14			C63067412				112	160	012	196	56N+21065
	CCC6AC24								012	204	55	N+22100
	CCC6AC35			C67C67411				062	146	012	004	1N+31C00
	CC06AC45							062	193	012	004	0N+32000
	CCC6AC55			C78078421				049	162	018	224	37N+34005
	CC06AC65							050	108	018	232	35N+35070
	CCC6AC75			063070422				054	128	018	224	33N+36075
	CCC6AC85							028	085	016	122	32N+37060
	CCC6AC95	C72	063431					058	150	018	226	30N+38095
	CC06A1C5							102	134	018	230	28N+38050
12	CCC7ACC5								015	160	69	N+10100
11	CCC7AC15								012	152	68	N+11100
10	CC07AC25								012	164	67	N+12100
9	CCC7AC35								012	168	65	N+13100
8	CCC7AC43							072	072	413	096	216012190 64N+15098
7	CC07AC53								012	180	62	N+16100

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN
NBR NBRWWAAASTQWWAAASTQWWAAASTQWWAAASTQWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDC
CCC7AC63 078078411 02608201216861N+170909
CC07AC72 03411801720460N+180109
CCC7AC82 C94C99111 03613801816456N+210010
CC07AC92 04608801817455N+230039
CC07AC98 C9C094111 04809401821054N+23005C
CCC8ACC5 01921660N+181009
CCC8AC15 01921059N+191009
CCC8AC25 02019857N+201009
CCC8AC35 02020256N+211009
CCC8AC45 C75088111 04814002118452N+230020
CCC8AC55 06213602021451N+250509
CCC8AC65 05505941211613402121249N+260939
CCC8AC75 10113002021648N+270959
CCC8AC83 14018001921847N+280959
ACC9ACC5 02000038N-329999
CCC9AC05 01822657N+201009
CC09AC13 134104112 04407601220256N+210859
CCC9AC23 07010001819255N+220659
CCC9AC33 104118112 07612201821353N+230859
CCC9AC43 06009601821852N+240209
CCC9AC53 C94085112 07014001823050N+250301
CC09AC63 06809601822749N+260909
CC14AC05 C61078413 04712001821423N+600500
CC14AC15 05013601822422N+610509
CC14AC25 01822020N+421009
CC15ACC5 01923035N+351009
CC15AC15 01522234N+361009
CC15AC19 01322133N+371009
CC18ACC6053057412 04011801219070N+ 90709
CC18AC16 06211001218669N+100909
CC18AC26 063072112 07210201218468N+110509
CC18AC32 06019801416067N+110809
CC2CAC05 C9C072412 04414701317868N+100950
CC2CAC15 03913901300067N+120009
CC2CAC25 C94078412 05615901517866N+130150
CC2CAC35 08217401917564N+140109
CC20AC45 C67075411 06417101918463N+150450
CC2CAC55 07115601813561N+160709
CC20AC65 078078411 06117801819160N+170809
CC2CAC78 09721901920452N+230909
CC2CAC88099094111 04722701915851N+240100
CC20AC98 03815201918449N+250059
CC2CA108 111118111 03817701920148N+260150
CC2CA118 03021701900046N+280009
CC21ACC5 C94094411 07015401821052N+230500
CC21AC15 08615401821851N+240909
CC21AC25 06706742208419001822149N+250959
CC21AC35 01822633N+361009
CC21AC45 09409441106212201219431N+370959
CC21AC55 01722229N+381009

1012-1

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SDL
ABR ABRWWAAASTQWWAAASTQWWAAASTQWWAAASTQWWAAASTQMINMAXB+FMAXLATELECLDOL
CC21AC65 C78085112 08211801822528N+3809099
CC21AC7C 08812201822627N+3907099
CC22AC05 01815270N+ 910099
CC22AC15 01818069N+1010099
CC22AC18 C85C82412 09614901817869N+1009599
CC22AC25 01820268N+1110099
CC22AC36 C85085311 06619401820857N+2001007
CC22AC46 09419801820856N+2100599
CC22AC56 06706331210113001619254N+2209899
CC22AC66 03221001422045N+2301099
CC22AC76 104099431 05615201200044N+2400000
CC22AC86 04821801413642N+3000599
CC22AC96 C67C67332 06015201300040N+3100000
CC22A1C0 04813001416440N+3100599
CC23AC05 099099111 05013601817159N+1704000
CC23AC15 04210501800058N+1900099
CC23AC25 118111111 06010001819056N+2004599
CC23AC35 06810602020955N+2108099
CC23AC45 104C90111 05612801813653N+2206099
CC23AC55 04812601821252N+2308599
CC23AC65 094090211 07013401820450N+2408599
CC23AC75 01720949N+2510099
CC23AC85 072070112 07614601821247N+2608599
CC23AC95 05817801822246N+2708599
CC23A102 078072212 07019401822844N+2808599
CC23A112 04021701818441N+3101099
CC23A122 CS9085111 05221001800039N+3200000
CC24AC05 01821158N+1810099
CC24AC15 01820957N+2010099
CC24AC25 01821855N+2110099
CC24AC33 C78082112 08115201820654N+2209599
CC24AC43 09011001821452N+2309899
CC24AC53 01821551N+2410099
CC24AC6C 01821050N+2510C99
AC25ACC5 01900039N-3799999
CC25AC05 09613801220649N+2509899
CC25AC15 01221148N+2610099
CC25AC25 01221046N+2710099
CC25AC35 09409911206410001222845N+2809599
CC25AC45 06812001823043N+2909099
CC25AC55 104099111 10215601822242N+3009599
CC25AC65 12214201721840N+3109599
CC26AC05 104094431 07018201200025N+4000000
CC26AC15 06018201200024N+4100099
CC26AC25 082090431 08218001200022N+4200000
CC30AC05 118111211 03013201219023N+4101599
CC30AC15 01620222N+4201099
CC30AC25 01722620N+4304099
CC33AC05 01816669N+ 91009
CC33AC15 085075432 07313801414768N+1108599

1012-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRWWAAASTQWWAAASTQWWAAASTQWWAAASTQWWAAASTQ									MINMAXB+FMAXLATELECLDC	
CC33AC25										093133014158 67N+120859	
CC33AC32		118111432								038203018175 66N+120759	
CC34AC05		C94072411								034054016097 74N+ 40609	
CC34AC15										037098016112 72N+ 50759	
CC34AC25		078070421								090122016124 71N+ 60250	
CC34AC33										101149016162 70N+ 70359	
CC34AC43				085070422						088162014176 66N+120909	
CC34AC53										050182012164 65N+140109	
CC34AC63		C75C75432								048196012180 64N+150100	
CC35AC09				059065423						030088016072 74N+ 10509	
CC35AC19										046094016092 73N+ 30609	
CC35AC29	063063413									034078016122 72N+ 50600	
CC35AC41										072170013168 64N+140409	
CC35AC51		C65C67433								066193012000 63N+150000	
CC35AC61										086208012000 62N+160009	
CC35AC68		C85C99423								078204012000 61N+170001	
CC36AC05		C94C99431								064158014000 64N+140000	
CC36AC15										058166016000 63N+150059	
CC36AC25		104104431								046120016178 62N+160200	
CC36AC35										046155017000 60N+180009	
CC36AC45		118118431								040188017000 59N+190001	
CC36AC55										094198017000 57N+200009	
CC36AC65										01620056N+221009	
CC36AC75										01219654N+231009	
CC36AC85										01220153N+241009	
CC36AC95										01219851N+261009	
CC36A1C5		134104112								062C92016189 46N+300609	
CC36A115										112156017204 45N+310909	
CC36A125				C85104112						078130018216 44N+320859	
CC37AC05										01817073N+ 51009	
CC37AC15										01714072N+ 61009	
CC37AC25	094085411									080122017150 71N+ 70909	
CC37AC35										01714870N+ 91009	
CC37AC45		085072412								078135016000 69N+100009	
CC37AC59										040096011198 55N+220859	
CC37AC69				C63063412						055120012190 54N+230909	
CC37AC79										036140012190 52N+230859	
CC37AC85		C94C99111								044122011210 52N+250859	
CC37AC95										038108012000 40N+330009	
CC37A105		104094111								029118012000 39N+350000	
CC37A115										048130017000 38N+360009	
CC37A125		C94094211								060133017170 36N+370010	
CC37A131										048142016000 36N+370009	
CC37A142		104104411								062132016222 25N+430759	
CC37A152										062160016222 24N+440859	
CC37A161										01721223N+450509	
CC38AC05										01808973N+ 51009	
CC38AC15										01811871N+ 61009	
CC38AC25										01814670N+ 71009	
CC38AC35										01814469N+ 90989	

1012-1

	RESAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D'LTH	SUR
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL									
CC38AC45									01818368N+1010099	
CC38AC55									01418567N+1210099	
CC38AC65		C66C45412							07413801417666N+1307507	
CC38AC76		C67075122							04515401800057N+2100003	
CC38AC86		C59075412							07416601800056N+2200008	
CC38AC96									10419401800055N+2300099	
CC38A106		085C79211							05918001818253N+2400509	
CC38A126		C65C72431							05619801800043N+3200007	
CC38A136									05017201600041N+3300099	
CC38A142			065060212						08614801200041N+3400005	
CC39AC05									01411171N+ 71009	
CC39AC15									01815770N+ 81009	
CC39A025									01818069N+101009	
CC39AC35						111118111			04808001818861N+170989	
CC39AC45									05008901819560N+180989	
CC39AC55									01820259N+191009	
CC39AC62									01820258N+201009	
CC39AC73		C94C90111							06410601820453N+2409C9	
CC39AC83									04610601815652N+250609	
CC39AC93	072070112								04512901817250N+260909	
CC39A103									06214801820649N+270909	
CC39A113						085094111			08018201620047N+280909	
CC39A123									04314001218844[redacted]	
CC39A131		104104111							04214601200045N+290009	
CC39A141									03314901200040N+300009	
CC39A151		104104111							03814001100037N+360000	
CC39A158									03014601100037N+360009	
CC4CAC05									01118462N+161009	
CC40AC15									01120561N+171009	
CC40AC25									01218060N+181009	
CC40AC35									01217858N+191009	
CC40AC45									01218757N+211009	
CC40AC55									04807001216455N+220959	
CC40AC65		C72070212							04012001818054N+230450	
CC40AC75		C77072112							04310001817253N+240100	
AC41AC05									01900037N-389999	
CC41AC05	104078112								11113901922155N+220759	
CC41AC15									01920754N+241009	
CC41AC25									01820952N+251009	
CC41AC40									01821744N+311009	
CC41AC50									01921943N+321009	
CC41AC57	085085112								07812301922642N+330959	
CC41AC64									01922641N+340989	
CC42AC05		C94094431							05118001519933N+390010	
CC42AC15									01300032N+400009	
CC42AC19									01300031N+400009	
CC46AC05		111118111							04812401600039N+350000	
CC46AC15									05013501914838N+360059	
CC46AC20		1C4118111							04613202000037N+360000	
CC47AC05	099104111								05618801600038N+350000	

1012-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRHWHAAASTQHWHAAASTQHWHAAASTQHHWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL										
CC47AC15										04815801200037N+3600095	
CC47AC25			104099111							04616201200035N+37C0008	
CC47AC35										04516201217234N+3801095	
CC47AC39				09C094211						08218801620733N+38005C8	
MC49ACC5										01800075N+ 09999S	
MC49AC15										01800074N+ 19999S	
MC49AC23										01900073N+ 29999S	
MC49AC30										04304702108173N+ 30109S	
8 F										N+-0	

1012-2

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUM
NBR	NBRHWAAASTQWHWAAASTQHHWAAASTQHHWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL										
CC5CFC10		C75085422								05014001300070N+	700006
CC5CFC20										05817401317069N+	901599
CC5CFC30		C78094422								04211801200067N+	1000006
CC50FC40										05417001213066N+	1202599
CC50FC50				078078422						09815802018465N+	1309099
CC5CFC60										02218063N+	1410099
CC50F070				063059422						12022202219462N+	1608599
CC50FC78										08222602200061N+	1700099
CC51FC05										02221052N+	2410099
CC51FC15										02020551N+	2610099
CC51FC25										01420250N+	2709099
DC51FC35										01418748N+	2808099
CC51FC45										01421247N+	2905099
CC52FCC5										01217454N+	2310099
CC52FC15										01015553N+	2410099
CC52FC25		072072412								06411001016152N+	2509599
CC52FC35										01419850N+	2610099
CC52FC45										01218449N+	2810099
CC52FC51		085090112								06412101621848N+	2809599
CC52FC61										05610402219946N+	3006599
CC52FC71			C99104111							05413002219245N+	3100200
CC53FCC5			C67070113							07420202419655N+	2200100
CC53FC15										04617402400054N+	2300099
CC53FC25				094090113						05822602400053N+	2400099
CC53FC35										07823202400051N+	2600099
CC53FC45			C59057333							05221802400050N+	2700000
CC53FC55										06221802400049N+	2800099
CC53FC65						094099111				03814601600040N+	3400099
CC53FC75										05215801400039N+	3600099
CC53FC82	094099111									05813201217238N+	3604099
CC53FC92										01419419N+	4804099
CC53F1C2										01223417N+	4909599
CC53F112										01321616N+	5010099
CC54FCC5										01017356N+	2110099
CC54FC15						085082112	069	108	01015955N+	2309099	
CC54FC25										05109202309254N+	2400199
CC54FC35			111104111							05510702215652N+	2501000
CC54FC45										05510602319751N+	2606099
CC54FC55			C94099111							05913902218949N+	2701500
CC54FC65										06918002217848N+	2801099
CC54FC75						099090111	073	127	01722347N+	3008599	
CC54FC85										C7015201400037N+	3700099
CC54FC95			C9C085431							04214201221736N+	3807500
CC54F1C5										04718001320434N+	3905099
CC54F115				C94085431						04221201319333N+	4000200
CC54F125										03322201200032N+	4100099
CC54F135			C75082431							03022001300030N+	4200000
CC54F145										03221801318629N+	4300299
CC54F155			C78082421							05223001222427N+	4409099
CC54F160										09215801223026N+	4509599

TABLE 9-2

1G12-2

* PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
	NBR	NBRHWHAAASTQHWHAAASTQHHWAAASTQHWHAAASTQWWHAAASTQMINMAXB+FMAXLATELECLOG							
	CC56FC05							01221460N+171009	
	CC56FC15							01220659N+191009	
	CC56FC25		C94104111					04607601721058N+200659	
	CC56FC35							04009202020056N+210209	
	CC56FC45		111118111					04610202018655N+220409	
	CC56FC55							04809302012053N+240019	
	CC56FC65		118104111					C4411802000052N+250000	
	CC56FC75							04309402012850N+260019	
	CC56FC85		111104111					05211802000049N+270000	
	CC56FC95							04913102012647N+280019	
	CC56F105		104104111					06816802000046N+300009	
	CC56F115							06016602000045N+310009	
	CC56F125							02019443N+320509	
	AC57FC05							01600040S-389999	
	CC57FC05							01423209S+541009	
	CC57FC15						08207811208814201422611S+540359		
	CC57FC25							09614201323413S+530509	
	CC58FC05		104C94111					03411601011431N+410010	
	CC58FC15							07116401019829N+420509	
	CC58F018		C67065422					09719001220829N+430159	
	CC63FC05		118111111					04918702000038N+360000	
	CC63FC15							05115501900037N+370000	
	CC63FC25		104111111					05417801900035N+380000	
	CC63FC35							07715101919234N+390389	
	CC63FC40			094082122				06313201921233N+400609	
	CC66FC05							02100074N+ 09999	
	CC66FC15							02000073N+ 29999	
	CC66FC25	09C07C422						03007802012073N+ 30409	
	CC66FC32							03213402014072N+ 30309	
	CC66FC42	082111422						08422002117068N+ 90459	
	CC66FC52							07019401717666N+110409	
	CC66FC62		C99067422					06818201315065N+130150	
	CC66FC72							05218401213064N+140309	
	CC66FC8C	C59078422						04019601415063N+150809	
	CC66FC9C							01421255N+231009	
	CC66F1CC							01420654N+241009	
	CC66F11C							01422052N+251009	
	CC66F117							01421451N+261009	
	CC67FC05		C63C65422					06412102306772N+ 40250	
	CC67FC15							06214502200071N+ 50009	
	CC67FC25		1C4094422					05613002114870N+ 70200	
	CC67FC35							06513602200069N+ 80009	
	CC67FC45		C70065422					06913902200067N+100000	
	CC67FC60							04911202222053N+240409	
12	CC67FC7C		C85118122					06412102223252N+260859	
11	CC67FC8C							08017602122350N+270959	
10	CC67FC9C		C9C065122					06114102222849N+280709	
9	CC67F10C							05514202122347N+290709	
8	CC68FC05		C85094111					07020001419052N+250300	
7	CC68FC15							05018001218051N+270409	

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIN	SUM
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ									MINMAXB+FMAXLATELECLOCL	
CC68FC25			111104111							035176012200 49N+2802008	
CC68FC35										072200014210 48N+2907599	
CC68FC45			118111111							040120020180 46N+3000107	
CC68FC55										068146021000 45N+3200099	
CC68FC65			1C4C99111							046141016206 43N+3301507	
CC68FC75										038130014138 42N+3402599	
CC68FC85										013218 40N+3510099	
CC68FC95					104104111	033	1	4	2	013216 39N+3709099	
CC68F1C3										047C89013204 38N+3809099	
CC69FC05										012174 58N+2010099	
CC69FC15	C90C72422									112180012182 57N+2109599	
CC69FC25										106174012186 55N+2208099	
CC69FC35					057063422	096	1	6	6	012199 54N+2408099	
CC69FC45										040204016162 52N+2500599	
CC69FC55			C82072422							042218021206 51N+2600507	
CC69FC72										070166014000 42N+3400099	
CC69FC82			C94085422							078166012000 41N+35C0006	
CC69FC92										050142013000 39N+3600099	
CC69F1C2										012212 31N+4210099	
CC69F112										012220 29N+4310099	
CC69F122										013214 27N+4510099	
CC69F132										013226 26N+4610099	
CC69F142										013210 [redacted]	
CC69F147				078072111						084168014212 24N+[redacted]	
CC69F157										064130012214 22N+4809099	
CC7CFCC5				059078422						055082012198 51N+2609599	
CC7CFC15										036073012183 50N+2704099	
CC7CFC25			C90C99122							032101012206 48N+2804099	
CC7CFC35										052133012209 47N+3009099	
CC7CFC45					063067422	067	1	1	9	012218 45N+3109599	
CC7CFC55										016219 44N+3210099	
CC71FCC5					094118112	048	0	8	3	020190 63N+1507599	
CC71FC15										037077020184 62N+1605099	
CC71FC25	094099112									046088020200 60N+1706599	
CC71FC35										040080020218 59N+1804599	
CC71FC45			C78085112							038110020220 58N+2002507	
CC71FC55										056083016200 56N+2102599	
CC71FC65										012212 55N+2210099	
CC71FC70	063055112									046113012206 54N+2309599	
CC71FC8C										054130022186 52N+2400299	
CC71FC9C					082078112	070	1	2	0	020510 51N+2608599	
CC71F1C0										078132020204 50N+2706099	
CC71F11C			1C4118111							066178020000 48N+2800007	
CC71F119										058180022000 47N+2900099	
CC73FCC5										020000 03S+5799999	
CC73FC15										020000 05S+5799999	
CC73FC25										020000 07S+5799999	
CC50AC1C			C85C67413							050128021097 71N+ 60050	
CC50AC20										063185021000 70N+ 80009	
CC5CAC30			C67C75413							075183021000 68N+ 9C000	

1C12-2

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRhhWAAASTQhhhAAASTQhhWAAASTChhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOCL										
CC50AC40										08217102000067N+1100099	
CC50AC50			C72078413							06514202215066N+1202508	
CC50AC60										09617102116264N+1305099	
CC50AC70		063061412								09917602118363N+1509599	
CC50AC79										09921102116962N+1601099	
CC51AC05										01519953N+2410099	
CC51AC15										01119652N+2510099	
CC51AC25										01620151N+2610099	
CC51AC35										02020949N+2810099	
CC51AC45										01921448N+2910099	
CC52AC05			C67065412							11716601518755N+2208599	
CC52AC15										01318754N+2310099	
CC52AC25										01319553N+2509899	
CC52AC28	078075312									09617301318752N+2509599	
CC52AC38										09515901319051N+2609599	
CC52AC48	078072312									09414401319549N+2709599	
CC52AC58										05111001921548N+2909099	
CC52AC68			C99094111							04713402021246N+3004008	
CC52AC75										05814302021245N+3101099	
CC53AC05			C94C99113							07019302018156N+2101006	
CC53AC15										05018902000055N+2300099	
CC53AC25				094085111						04123001920354N+2401016	
CC53AC35										05922802000052N+2500099	
CC53AC45			C9CC85311							04622602013251N+2600106	
CC53AC55										06522002000050N+2800099	
CC53AC65			C94085321							09818201900041N+3400099	
CC53AC75										10918701900040N+3500099	
CC53AC82			C63078112							08417001900039N+3500099	
CC53AC92										02022720N+4807099	
CC53A102										02021818N+4908599	
CC53A112										01823116N+5009899	
CC54AC05										01319457N+2110099	
CC54AC15										01620656N+2210099	
CC54AC20				070067312						12618501919555N+2209599	
CC54AC30										05112002310554N+2400199	
CC54AC40			104C99111							05810602317752N+2500208	
CC54AC5C										05217302220850N+2601599	
CC54AC60				099094111						05016802217749N+2800107	
CC54AC70										08119802215047N+2907599	
CC54AC80										07818001720239N+3610099	
CC54AC90										05510501200037N+3700099	
CC54A1CC			CS4094431							05617801722536N+3804005	
CC54A110										07219602122534N+3905599	
CC54A120		094085311								06121402100033N+4000099	
CC54A130										05320802100031N+4100099	
CC54A140			C94099311							06123302100030N+4200007	
CC54A150										05021402100028N+4300099	
CC54A160			C72070312							07923302122827N+4306099	
CC56AC05										02018060N+1710099	
CC56AC15										01819259N+1910099	

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIN	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ									MIN	MAXB+FMAXLATELECLDOL
CC56AC25											01620358N+2010099
CC56AC30		078078111									05408902021457N+2108099
CC56AC40											03709002017855N+2201099
CC56AC50			C85082111								04512402021654N+2304099
CC56AC60											04009301900053N+2400099
CC56AC70			C94082111								04013601900051N+250001C
CC56AC80											04215402015650N+2702099
CC56AC90			C82C90111								04314602014048N+28003C9
CC56A100											04811602000047N+2900099
CC56A110			C94082111								06017402000045N+3000009
CC56A120											07012802000044N+3100099
CC56A125							07207841109414802021043N+3203099				
AC57AC05											01700038S-3999995
CC57AC05							08207531109413501422808S+5408095				
CC57AC15											11416001823410S+5403095
CC57AC25		072000212									11416801923612S+5302010
CC58ACC5											10717502123131N+4109895
CC58AC06			C85085112								11318602123031N+4103095
CC58AC16											09317802019630N+4204095
CC58AC19			C65C63432								12718902019730N+4207095
CC63AC05			104111111								04815802000039N+3500006
CC63AC15											05315601900038N+3700095
CC63AC25			118118111								05115601900036N+3900005
CC63AC35											05518002023235N+3903095
CC63AC41			C94085422								11016602018034N+4002095
CC66ACC5											02100075N- 19999
CC66AC15											02000074N+ 19999
CC66AC25											03004802007073N+ 20059
CC66AC32		00C072412									04408802009972N+ 30309
CC66AC43			C67C78431								07720702018668N+ 90400
CC66AC53											07520202011667N+100309
CC66AC63			C72C67431								07022202016566N+12015C
CC66AC73											06922102015464N+140259
CC66AC89			C82090432								05223002021855N+220800
CC66AC99											02021454N+231009
CC66A109											02022053N+240909
CC66A117											02020652N+251009
CC67ACC5											06007902016973N+ 31009
CC67AC10			C72072421								04509002000072N+ 40000
CC67AC20											05213002100071N+ 50009
CC67AC3C			C78085421								05212202010670N+ 70040
CC67AC4C											05510402000069N+ 90009
CC67AC50			C75070421								06213602113068N+10005C
CC67AC6C											04518802222053N+240409
CC67AC7C			C78070421								04810002022252N+25060C
CC67AC8C											05612102022351N+260859
CC67AC9C							07206743206819002021849N+280909				
CC67A1C0											05611102022348N+290309
CC68ACC5			1C4C94111								06520202119452N+240010
CC68AC15											09020601920851N+260159

1C12-2

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D	LIM	SUN
NBR	NBRhhWAAASTQhhWAAASTQhhWAAASTChhWAAASTQHHWAAASTQMINMAXB+FMAXLATELECLDOL									
CC68AC25		C85C90111								04618802019450N+2700208
CC68AC35										08018202021448N+2808599
CC68AC45				085078311						04618002021247N+2901508
CC68AC55										04416201900045N+3100099
CC68AC65		111104111								08814802000044N+3200008
CC68AC75										10815201821043N+3307599
CC68AC85		118111111								06214002100041N+3460007
CC68AC95										02122040N+3610099
CC68A103						072067212110140022200039N+3706599				
CC69AC05										01419458N+2010099
CC69AC15										01217857N+2110099
CC69AC25										09612601319255N+2209899
CC69AC27		C94094411								07513001218455N+2309010
CC69AC37										01920253N+2410099
CC69AC47		C72075211								07122202021452N+2501508
CC69AC57										03822602021050N+2701099
CC69AC72		C72078422								07318802000042N+3400007
CC69AC82										09617802019841N+3500599
CC69AC92		C99111423								10620202019239N+3600507
CC69A102										01622431N+4210099
CC69A112										01222429N+4310099
CC69A122										01221427N+4410099
CC69A132										01020026N+4510099
CC69A142										01020024N+4710099
CC69A152										04806801020023N+4809099
CC69A153	078072411									04812001020223N+4809099
CC7CAC05										01519652N+2510099
CC7CAC15		118104111								06611802221051N+2700507
CC7CAC25										06511202119049N+2806099
CC7CAC35	C85094112									07012902121748N+2909099
CC7CAC45										10013002122646N+3009099
CC7CAC55		C90000212								11014902021845N+3109599
CC71AC05										04410202117063N+1409999
CC71AC10				090090112						04610102118363N+1408599
CC71AC20										04006602117761N+2108599
CC71AC30		104C99111								04609002019860N+1707599
CC71AC40										03909802122259N+1808099
CC71AC50		104099111								03710602122857N+2005007
CC71AC60										07010002122056N+2109899
CC71AC70										02121754N+2310099
CC71AC80	085078112									04310302020653N+2406099
CC71AC90										05010602021852N+2500599
CC71A1CC	104C99111									09811502120750N+2709099
CC71A110										04914602200049N+2800099
CC71A119		C78C85111								07014002200048N+2900010
CC73ACC5										02023802S+5710099
CC73AC15										02023304S+5710099
CC73AC25										02023506S+5710099
8 F										N+-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
1012-1	FWD	Predicted	0	64	36
		Reported	7	56	37
		Computed	0	66	34
1012-1	AFT	Predicted	0	64	36
		Reported	0	33	67
		Computed	0	49	51
1012-2	FWD	Predicted	0	77	23
		Reported	6	44	50
		Computed	0	49	51
1012-2	AFT	Predicted	0	77	23
		Reported	3	15	82
		Computed	0	10	90

The tabulations of density frequency distributions for Missions 1012-1 and 1012-2 are shown in Tables 9-3 through 9-6. The graphical presentation of the density distribution are computer plotted in Figures 9-1 through 9-38. Analysis of these plots and the associated mean and median density values show that no significant variation in density was present in Mission 1012-1 and 1012-2.

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 noticeable but essentially all of these values are above 0.30 density. The percentage of under and over processed film is significant and cause 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.

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MISSION • 1012-1 • INSTRUMENT • FWD 2-09-64 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
C.C1	0	0	0	0	0	0	0	0	0	0	0	0
C.C2	0	0	0	0	0	0	0	0	0	0	0	0
C.C3	0	0	0	0	0	0	0	0	0	0	0	0
C.C4	0	0	0	0	0	0	0	0	0	0	0	0
C.C5	0	0	0	0	0	0	0	0	0	0	0	0
C.C6	0	0	0	0	0	0	0	0	0	0	0	0
C.C7	0	0	0	0	0	0	0	0	0	0	0	0
C.C8	0	0	0	0	0	0	0	0	0	0	0	0
C.C9	0	0	0	0	0	0	0	0	0	0	0	0
C.10	0	0	0	0	0	0	0	0	0	0	0	0
C.11	0	0	0	0	0	0	0	0	0	0	0	0
C.12	0	0	0	0	0	0	0	0	0	0	0	0
C.13	0	0	0	0	0	0	0	0	0	0	0	0
C.14	0	0	0	0	0	0	0	0	0	0	0	0
C.15	0	0	0	0	0	0	0	0	0	0	0	0
C.16	0	0	0	0	0	0	0	0	0	0	0	0
C.17	0	0	0	0	0	0	0	0	0	0	0	0
C.18	0	0	0	0	0	0	0	0	0	0	0	0
C.19	0	0	0	0	0	0	0	0	0	0	0	0
C.20	0	0	0	0	0	0	0	0	0	0	0	0
C.21	0	0	0	0	0	0	0	0	0	0	0	0
C.22	0	0	0	0	0	0	0	0	0	0	0	0
C.23	0	0	0	0	0	0	0	0	0	0	0	0
C.24	0	0	0	0	0	0	0	0	0	0	0	0
C.25	0	0	0	0	0	0	0	0	0	0	0	0
C.26	0	0	0	0	0	0	0	0	0	0	0	0
C.27	0	0	0	0	0	0	0	0	0	0	0	0
C.28	0	0	0	0	0	0	0	0	0	1	0	0
C.29	0	0	0	0	0	0	0	0	0	0	0	0
C.30	0	0	0	0	0	0	1	0	0	1	0	0
C.31	0	0	0	0	0	0	0	0	0	3	0	0
C.32	0	0	0	0	0	0	2	0	0	1	0	0
C.33	0	0	0	0	0	0	0	0	0	6	0	0
C.34	0	0	0	0	0	0	3	0	0	2	0	0
C.35	0	0	0	0	0	0	0	0	0	7	0	0
C.36	0	0	0	0	0	0	0	0	0	4	0	0
C.37	0	0	0	0	0	0	2	0	0	6	0	0
C.38	0	0	0	0	0	0	3	0	0	8	0	0
C.39	0	0	0	0	0	0	1	0	0	3	0	0
C.40	0	0	0	0	0	0	0	0	0	4	0	0
C.41	0	0	0	0	0	0	2	0	0	2	0	0
C.42	0	0	0	0	0	0	0	0	0	0	0	0
C.43	0	0	0	0	0	0	2	0	0	3	0	0
C.44	0	0	0	0	0	0	1	0	0	3	0	0
C.45	0	0	0	0	0	0	4	0	0	8	0	0
C.46	0	0	0	0	0	0	3	0	0	6	0	0
C.47	0	0	0	0	0	0	0	0	0	4	0	0
C.48	0	0	0	0	0	0	4	0	0	4	0	0
C.49	0	0	0	0	0	0	0	0	0	0	0	0
C.50	0	0	0	0	0	0	0	0	0	4	0	0
SUBTOTAL	0	0	0	56	0	0	28	0	0	84	0	0

[redacted]

TABLE 9-3

[redacted]

[redacted]

MISSION • 1012-1 • INSTRUMENT • FWD 2-09-64 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
C.51	C	C	0	2	C	0	0	0	0	2	0	0
C.52	C	C	0	5	0	0	1	3	0	6	0	0
C.53	C	C	0	1	0	0	3	1	0	4	0	0
C.54	C	C	0	2	1	0	1	1	0	3	1	0
C.55	C	C	0	1	C	0	1	0	0	2	1	0
C.56	C	C	0	5	0	0	0	1	0	5	1	0
C.57	C	C	0	2	C	0	1	1	0	3	1	0
C.58	C	C	0	C	C	0	1	0	0	1	0	0
C.59	C	C	0	C	1	0	0	1	0	0	1	0
C.60	C	C	0	2	C	0	1	0	0	3	0	0
C.61	C	C	0	4	C	0	0	0	0	4	0	0
C.62	C	C	0	4	C	0	0	0	0	4	0	0
C.63	C	C	0	C	0	0	0	1	0	0	1	0
C.64	C	C	0	2	0	0	2	1	0	4	1	0
C.65	C	C	0	2	2	0	1	0	0	3	2	0
C.66	C	C	0	2	C	0	1	1	0	3	1	0
C.67	C	C	0	C	1	0	1	2	0	1	3	0
C.68	C	C	0	1	3	0	1	0	0	2	3	0
C.69	C	C	0	1	2	0	2	2	0	3	4	0
C.70	C	C	0	1	0	0	1	0	0	2	0	0
C.71	C	C	0	1	2	0	2	0	0	3	2	0
C.72	C	C	0	2	1	0	2	2	0	4	3	0
C.73	C	C	0	1	0	0	2	2	0	3	2	0
C.74	C	C	0	1	0	0	2	2	0	3	2	0
C.75	C	C	0	C	2	0	2	2	0	2	4	0
C.76	C	C	0	C	2	0	2	2	0	2	4	0
C.77	C	C	0	C	4	0	2	0	0	2	4	0
C.78	C	C	0	2	2	0	2	0	0	4	2	0
C.79	C	C	0	2	2	0	1	0	0	3	2	0
C.80	C	C	0	2	1	0	0	0	0	2	1	0
C.81	C	C	0	1	3	0	0	1	0	1	4	0
C.82	C	C	0	C	3	0	1	2	0	1	5	0
C.83	C	C	0	C	C	0	2	0	0	2	0	0
C.84	C	C	0	2	C	0	0	1	0	2	1	0
C.85	C	C	0	2	C	0	1	0	0	3	0	0
C.86	C	C	0	2	C	0	1	1	0	3	1	0
C.87	C	C	0	1	1	0	1	1	0	2	2	0
C.88	C	C	0	1	1	0	1	0	0	2	1	0
C.89	C	C	0	1	1	0	0	1	0	1	2	0
C.90	C	C	0	1	C	0	0	1	0	1	1	0
C.91	C	C	0	1	1	0	0	1	0	1	2	0
C.92	C	C	0	1	1	0	0	1	0	1	2	0
C.93	C	C	0	1	1	0	0	1	0	1	2	0
C.94	C	C	0	1	1	0	0	1	0	1	2	0
C.95	C	C	0	1	1	0	0	1	0	1	2	0
C.96	C	C	0	1	1	0	0	1	0	1	2	0
C.97	C	C	0	1	1	0	0	1	0	1	2	0
C.98	C	C	0	1	C	0	0	1	0	1	1	0
C.99	C	C	0	1	C	0	0	1	0	1	1	0
1.CC	C	C	0	C	3	0	0	1	0	0	4	0
SUBTOTAL	1	C	0	58	26	1	35	16	1	94	42	2

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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	1	0	0	0	0	1	1	0	1
1.02	0	0	0	0	0	0	0	0	0	0	0	0
1.03	0	0	0	1	0	0	0	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	0	0	0	1	0	0
1.06	0	0	0	1	0	0	0	0	0	1	0	0
1.07	0	0	0	1	0	0	0	0	0	1	0	0
1.08	0	0	0	1	0	0	0	0	0	1	0	0
1.09	0	0	0	1	0	0	0	0	0	1	0	0
1.10	0	0	0	1	0	0	0	0	0	1	0	0
1.11	0	0	0	1	0	0	0	0	0	1	0	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	1	0	0	0	0	0	1	0	0
1.15	0	0	0	1	0	0	0	0	0	1	0	0
1.16	0	0	0	1	0	0	0	0	0	1	0	0
1.17	0	0	0	1	0	0	0	0	0	1	0	0
1.18	0	0	0	1	0	0	0	0	0	1	0	0
1.19	0	0	0	1	0	0	0	0	0	1	0	0
1.20	0	0	0	1	0	0	0	0	0	1	0	0
1.21	0	0	0	1	0	0	0	0	0	1	0	0
1.22	0	0	0	1	0	0	0	0	0	1	0	0
1.23	0	0	0	1	0	0	0	0	0	1	0	0
1.24	0	0	0	1	0	0	0	0	0	1	0	0
1.25	0	0	0	1	0	0	0	0	0	1	0	0
1.26	0	0	0	1	0	0	0	0	0	1	0	0
1.27	0	0	0	1	0	0	0	0	0	1	0	0
1.28	0	0	0	1	0	0	0	0	0	1	0	0
1.29	0	0	0	1	0	0	0	0	0	1	0	0
1.30	0	0	0	1	0	0	0	0	0	1	0	0
1.31	0	0	0	1	0	0	0	0	0	1	0	0
1.32	0	0	0	1	0	0	0	0	0	1	0	0
1.33	0	0	0	1	0	0	0	0	0	1	0	0
1.34	0	0	0	1	0	0	0	0	0	1	0	0
1.35	0	0	0	1	0	0	0	0	0	1	0	0
1.36	0	0	0	1	0	0	0	0	0	1	0	0
1.37	0	0	0	1	0	0	0	0	0	1	0	0
1.38	0	0	0	1	0	0	0	0	0	1	0	0
1.39	0	0	0	1	0	0	0	0	0	1	0	0
1.40	0	0	0	1	0	0	0	0	0	1	0	0
1.41	0	0	0	1	0	0	0	0	0	1	0	0
1.42	0	0	0	1	0	0	0	0	0	1	0	0
1.43	0	0	0	1	0	0	0	0	0	1	0	0
1.44	0	0	0	1	0	0	0	0	0	1	0	0
1.45	0	0	0	1	0	0	0	0	0	1	0	0
1.46	0	0	0	1	0	0	0	0	0	1	0	0
1.47	0	0	0	1	0	0	0	0	0	1	0	0
1.48	0	0	0	1	0	0	0	0	0	1	0	0
1.49	0	0	0	1	0	0	0	0	0	1	0	0
1.50	0	0	0	1	0	0	0	0	0	1	0	0
SUBTOTAL	0	1	0	8	52	5	2	21	8	10	74	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
1.51	0	0	0	0	3	0	0	0	0	0	3	0
1.52	0	0	0	0	0	1	0	0	2	0	1	3
1.53	0	0	0	0	0	0	0	1	1	0	0	1
1.54	0	0	0	0	2	0	0	0	1	0	3	1
1.55	0	0	0	0	0	0	0	1	1	0	1	1
1.56	0	0	0	0	0	1	0	1	1	0	1	1
1.57	0	0	0	0	1	1	0	1	0	0	2	1
1.58	0	0	0	0	2	1	0	0	1	0	2	1
1.59	0	0	0	0	1	1	0	0	1	0	2	2
1.60	0	0	0	0	1	2	0	0	1	0	2	2
1.61	0	0	1	0	2	0	0	0	2	0	2	3
1.62	0	0	0	0	1	0	0	0	2	0	3	0
1.63	0	0	0	0	0	1	0	0	0	0	1	0
1.64	0	0	0	0	1	1	0	0	0	0	1	2
1.65	0	0	0	0	0	1	0	0	2	0	1	2
1.66	0	0	0	0	1	0	0	0	2	0	2	1
1.67	0	0	0	0	1	1	0	0	0	0	1	1
1.68	0	0	0	0	1	0	0	0	1	0	1	1
1.69	0	0	0	0	0	1	0	0	0	0	1	0
1.70	0	0	0	0	1	0	0	0	1	0	2	1
1.71	0	0	0	0	0	6	0	0	0	0	0	6
1.72	0	0	0	0	1	1	0	0	1	0	1	2
1.73	0	0	0	0	0	1	0	0	0	0	1	1
1.74	0	0	0	0	1	1	0	0	0	0	1	1
1.75	0	0	0	0	0	0	0	0	2	0	0	2
1.76	0	0	0	0	0	0	0	0	1	0	0	1
1.77	0	0	0	0	0	0	0	0	1	0	0	1
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	3	0	0	0	0	1	3
1.81	0	0	0	0	0	1	0	0	1	0	1	1
1.82	0	0	0	0	0	2	0	0	0	0	0	2
1.83	0	0	0	0	0	2	0	0	0	0	0	2
1.84	0	0	0	0	0	2	0	0	0	0	0	2
1.85	0	0	0	0	0	2	0	0	0	0	0	2
1.86	0	0	0	0	0	2	0	0	0	0	0	2
1.87	0	0	0	0	0	2	0	0	0	0	0	2
1.88	0	0	0	0	0	2	0	0	0	0	0	2
1.89	0	0	0	0	0	2	0	0	0	0	0	2
1.90	0	0	0	0	0	2	0	0	0	0	0	2
1.91	0	0	0	0	0	2	0	0	0	0	0	2
1.92	0	0	0	0	0	2	0	0	0	0	0	2
1.93	0	0	0	0	0	2	0	0	0	0	0	2
1.94	0	0	0	0	0	2	0	0	0	0	0	2
1.95	0	0	0	0	0	2	0	0	0	0	0	2
1.96	0	0	0	0	0	2	0	0	0	0	0	2
1.97	0	0	0	0	0	2	0	0	0	0	0	2
1.98	0	0	0	0	0	2	0	0	0	0	0	2
1.99	0	0	0	0	0	2	0	0	0	0	0	2
2.00	0	0	0	0	0	2	0	0	0	0	0	2
SUBTOTAL	0	0	1	0	33	64	0	19	28	0	52	93

[redacted]

 [redacted]

[redacted] [redacted] [redacted]

MISSION = 1012-1 * INSTRUMENT * FWD 2-09-64 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	3	0	0	1	0	0	4
2.02	0	0	0	0	1	4	0	0	1	0	1	5
2.03	0	0	0	0	0	2	0	0	1	0	1	3
2.04	0	0	0	0	0	2	0	0	2	0	0	4
2.05	0	0	0	0	0	1	0	0	2	0	0	1
2.06	0	0	0	0	0	2	0	0	2	0	0	4
2.07	0	0	0	0	0	2	0	0	2	0	0	4
2.08	0	0	0	0	0	5	0	0	2	0	0	5
2.09	0	0	0	0	0	1	0	0	1	0	0	1
2.10	0	0	0	0	0	8	0	0	1	0	0	9
2.11	0	0	0	0	0	4	0	0	1	0	0	5
2.12	0	0	0	0	0	3	0	0	3	0	0	6
2.13	0	0	0	0	0	2	0	0	1	0	0	2
2.14	0	0	0	0	0	3	0	0	1	0	0	4
2.15	0	0	0	0	0	3	0	0	2	0	0	4
2.16	0	0	0	0	0	2	0	0	2	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	1	0	0	2
2.19	0	0	0	0	0	2	0	0	0	0	0	2
2.20	0	0	0	0	0	4	0	0	1	0	0	4
2.21	0	0	0	0	0	1	0	0	1	0	0	1
2.22	0	0	0	0	0	0	0	0	1	0	0	1
2.23	0	0	0	0	0	3	0	0	2	0	0	3
2.24	0	0	0	0	0	1	0	0	2	0	0	3
2.25	0	0	0	0	0	0	0	0	1	0	0	1
2.26	0	0	0	0	0	0	0	0	2	0	0	2
2.27	0	0	0	0	0	0	0	0	2	0	0	2
2.28	0	0	0	0	0	1	0	0	4	0	0	5
2.29	0	0	0	0	0	0	0	0	1	0	0	1
2.30	0	0	0	0	0	1	0	0	0	0	0	1
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	5	0	0	5
2.33	0	0	0	0	0	0	0	0	1	0	0	1
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	1	0	0	1
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	1	0	0	1
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	1	0	0	1	0	0	1
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
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	11	59	0	9	37	0	20	96

[redacted] [redacted] [redacted]

[redacted]

MISSION • 1012-1 • INSTRUMENT • FWD 2-09-64 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMECIATE MIN	INTERMECIATE MAX	INTERMECIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	C	C	0	C	C	0	0	0	0	0	0	0
2.52	C	C	0	C	C	0	0	0	0	0	0	0
2.53	C	C	0	C	C	0	0	0	0	0	0	0
2.54	C	C	0	C	C	0	0	0	0	0	0	0
2.55	C	C	0	C	C	0	0	0	0	0	0	0
2.56	C	C	0	C	C	0	0	0	0	0	0	0
2.57	C	C	0	C	C	0	0	0	0	0	0	0
2.58	C	C	0	C	C	0	0	0	0	0	0	0
2.59	C	C	0	C	C	0	0	0	0	0	0	0
2.60	C	C	0	C	C	0	0	0	0	0	0	0
2.61	C	C	0	C	C	0	0	0	0	0	0	0
2.62	C	C	0	C	C	0	0	0	0	0	0	0
2.63	C	C	0	C	C	0	0	0	0	0	0	0
2.64	C	C	0	C	C	0	0	0	0	0	0	0
2.65	C	C	0	C	C	0	0	0	0	0	0	0
2.66	C	C	0	C	C	0	0	0	0	0	0	0
2.67	C	C	0	C	C	0	0	0	0	0	0	0
2.68	C	C	0	C	C	0	0	0	0	0	0	0
2.69	C	C	0	C	C	0	0	0	0	0	0	0
2.70	C	C	0	C	C	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	C	C	0	0	0	0	0	0	0
TOTAL	1	1	1	122	122	129	65	65	74	188	188	204

MISSION 1012-1 INSTR - FWD 2-09-64 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	1	C PC	0 PC	100 PC	0 PC	0 PC
INTERMECIATE	122	C PC	26 PC	64 PC	10 PC	0 PC
FULL	65	17 PC	0 PC	74 PC	9 PC	0 PC
ALL LEVELS	188	6 PC	17 PC	68 PC	10 PC	0 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-C.05	0.01-C.13	0.14-0.39	0.40-0.90	----------	0.91 AND
INTERMED	0.10-C.17	C.01-C.2C	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	C.18 AND UP	C.01-C.3S	----------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

[redacted]

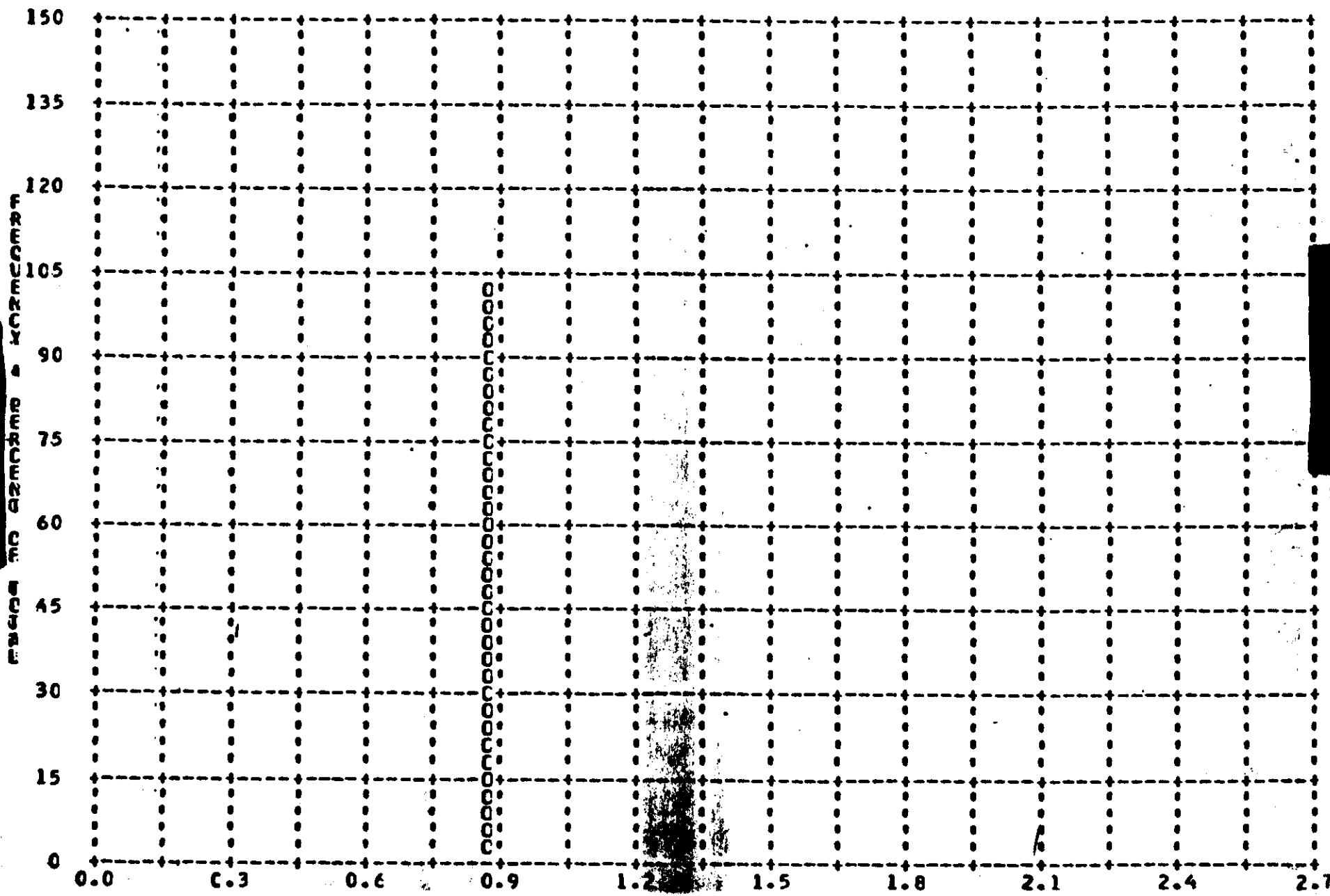


FIGURE 9-1

[redacted]

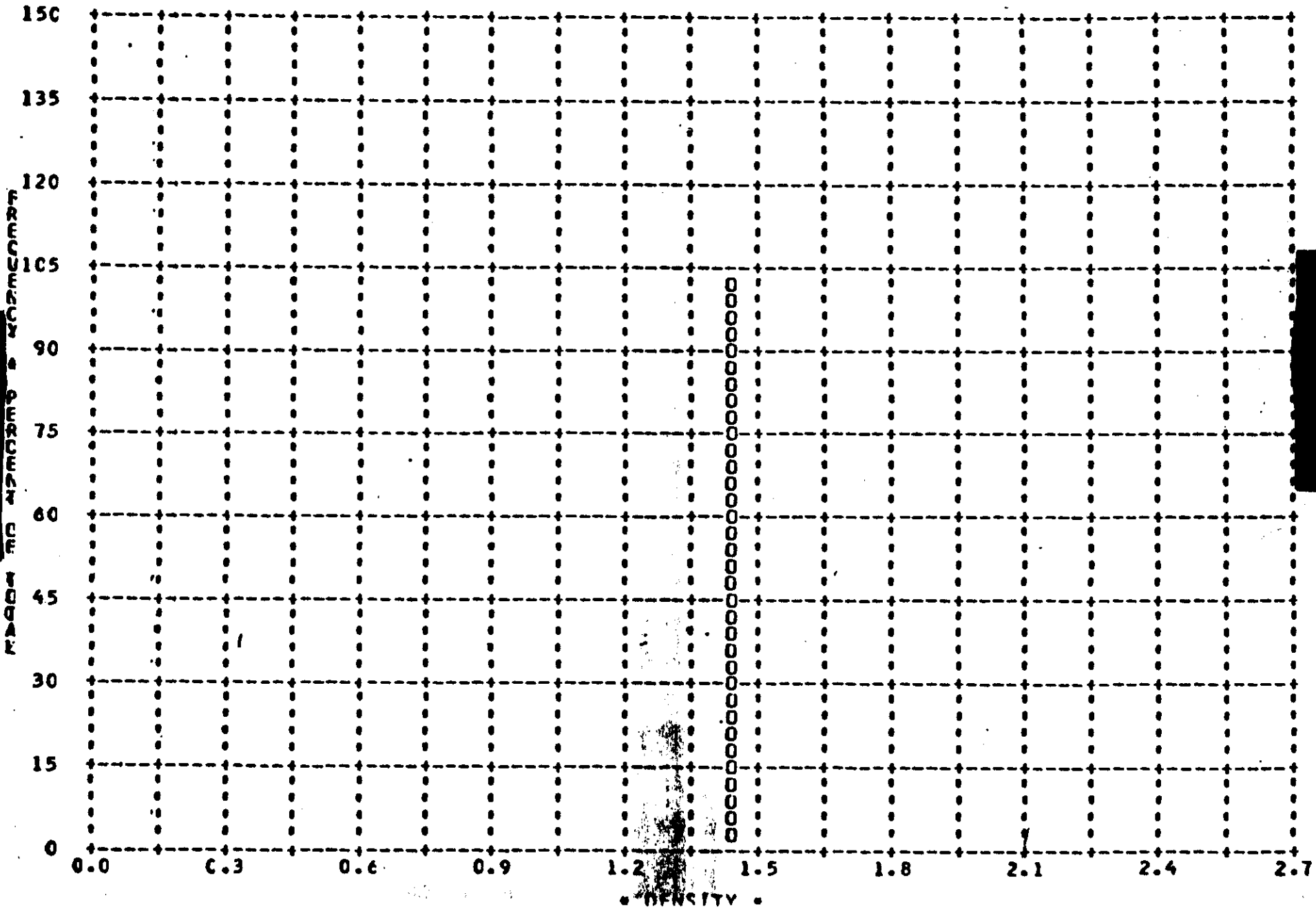

MISSION • 1012-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • PRIMARY
WRITH MEAN • 1.44 • MEDIAN • 1.44 • STD DEV • 0.00 • RANGE • 1.44 TO 1.44 WITH 1 SAMPLES
150
135
120
105
90
75
60
45
30
15
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 9-2

[redacted]

MISSION • 1012-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • PRIMARY

BRIGHTNESS • 1.61 • MEDIAN • 1.61 • STD DEV • 0.00 • RANGE • 1.61 TO 1.61 WITH 1 SAMPLES

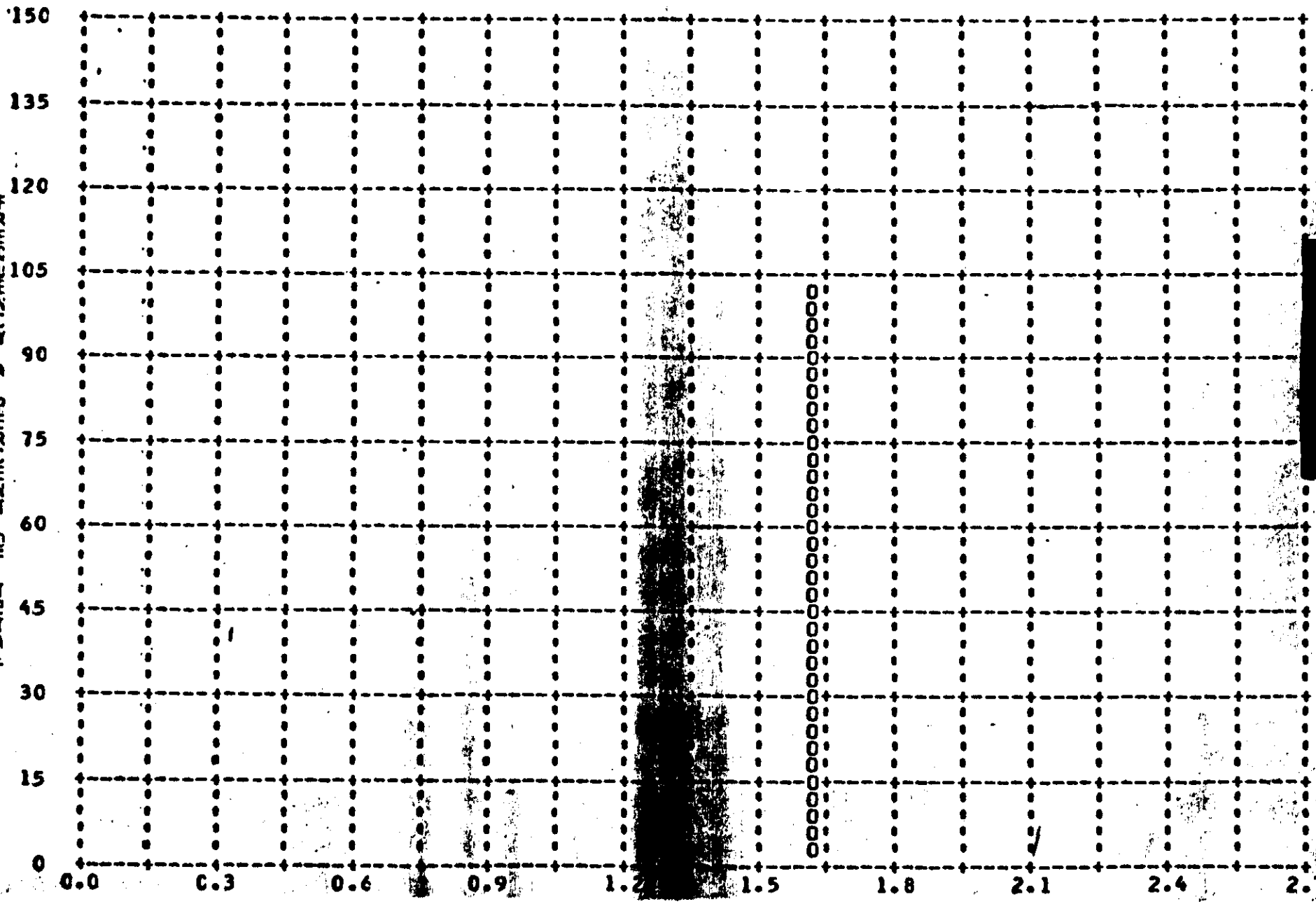
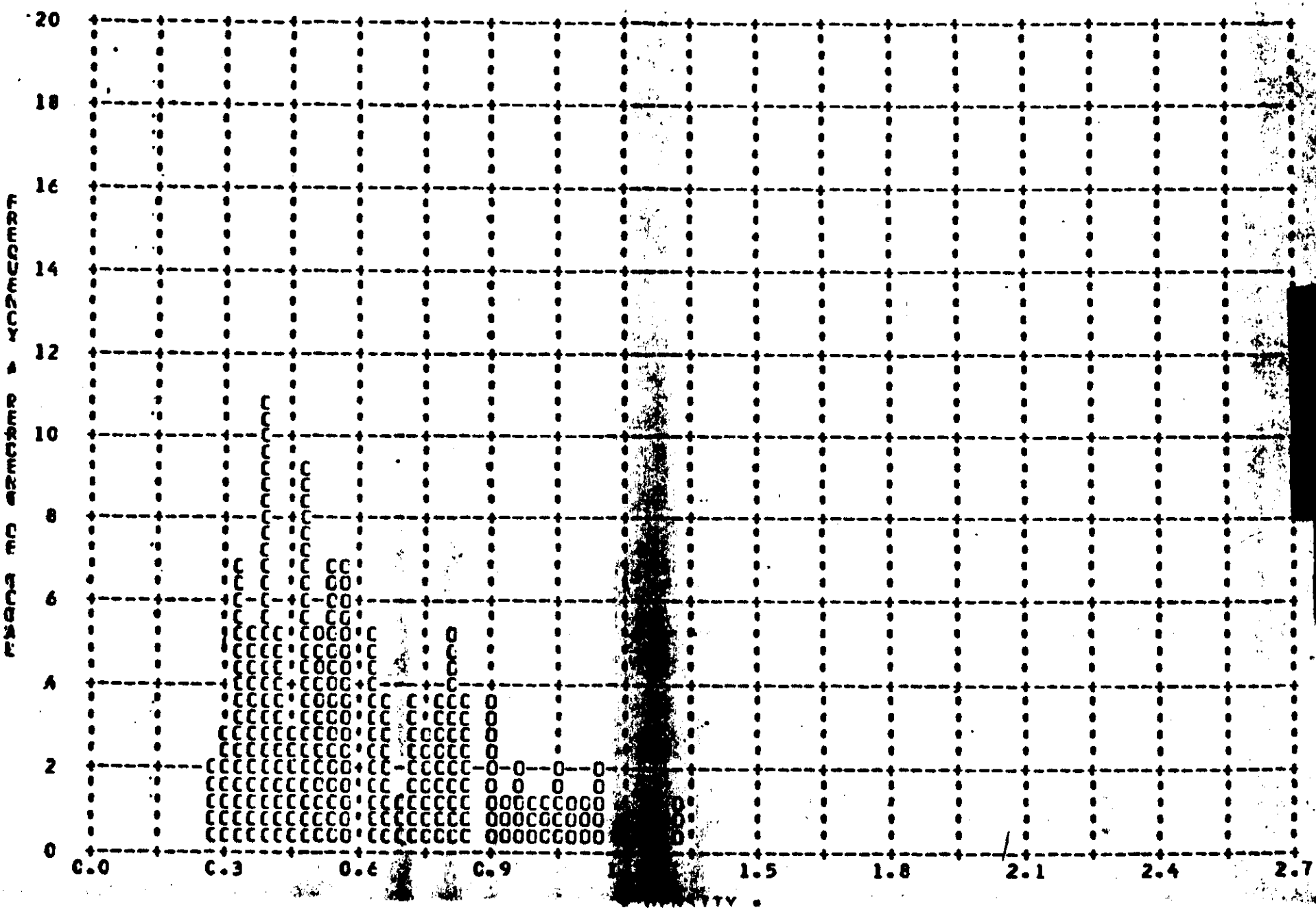


FIGURE 9-3

[redacted]

[redacted]



[redacted]

FIGURE 9-4

[redacted]

MISSION • 1012-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.35 • MEDIAN • 1.42 • STD DEV • 0.42 • RANGE • 0.54 TO 2.21 WITH 122 SAMPLES

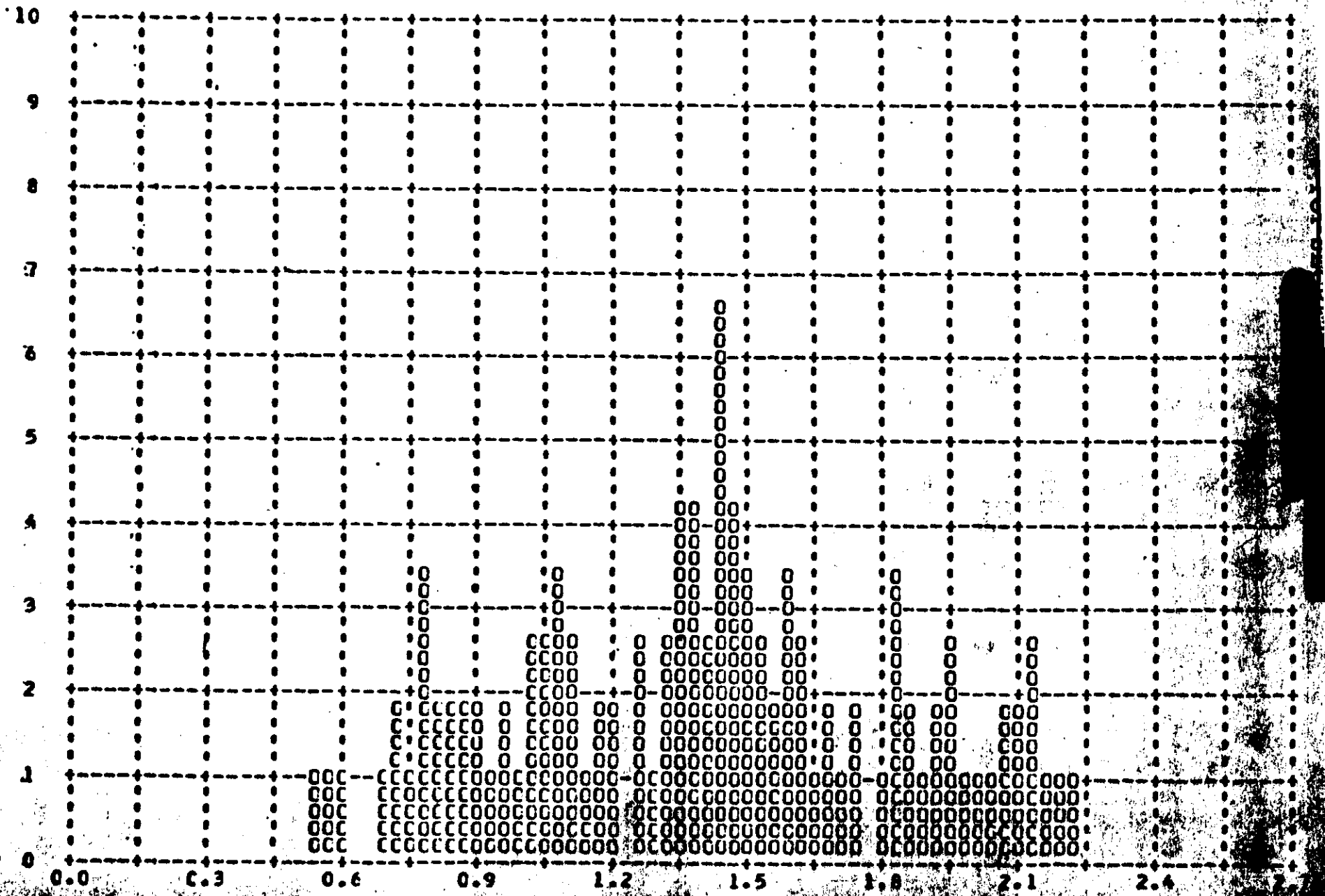


FIGURE 9.5

[redacted]

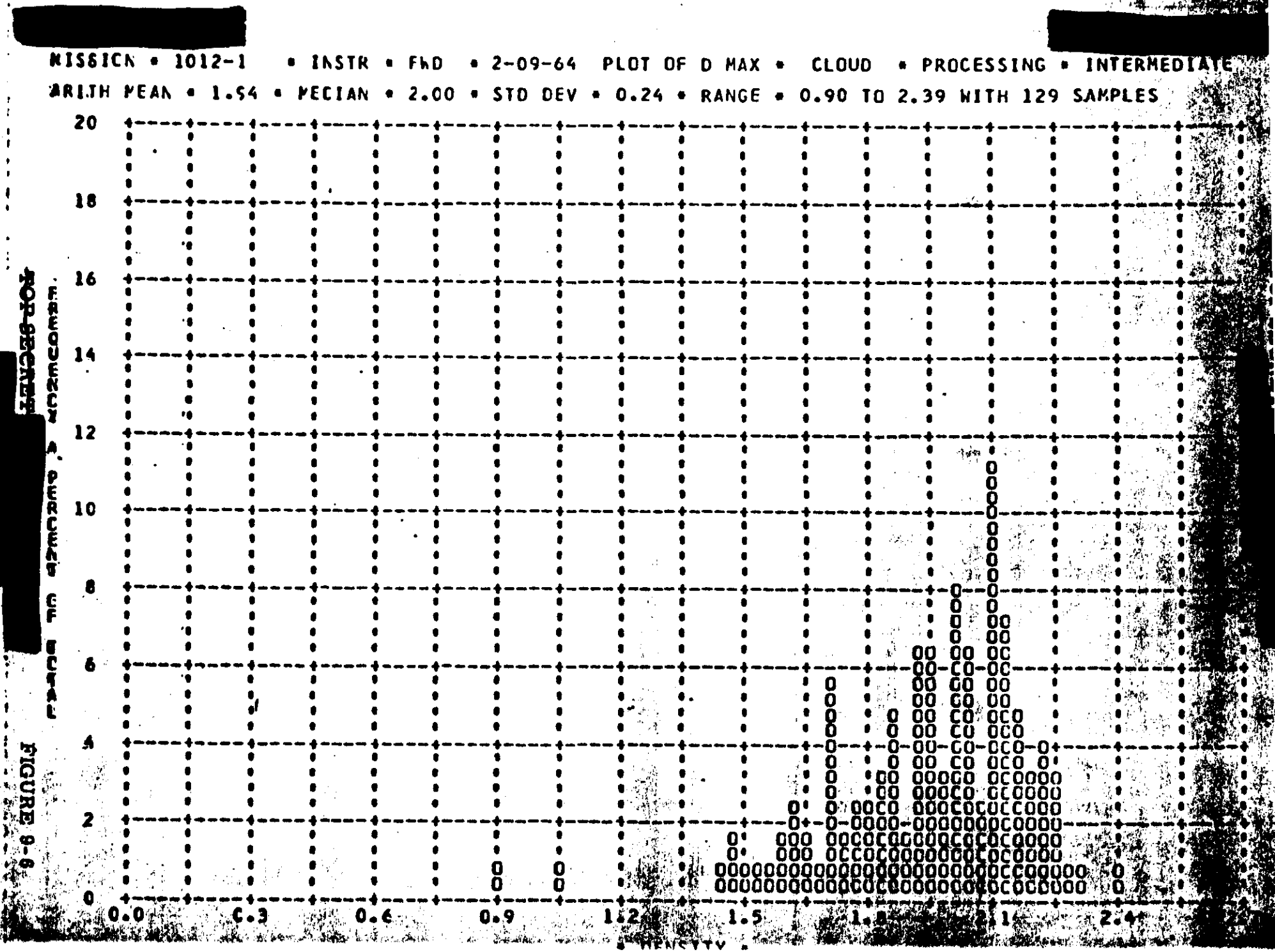

MISSION • 1012-1 • INSTR • FHD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.54 • MEDIAN • 2.00 • STD DEV • 0.24 • RANGE • 0.90 TO 2.39 WITH 129 SAMPLES
FRAME TO FRAME VARIATION
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
DENSITY

FIGURE 6-6

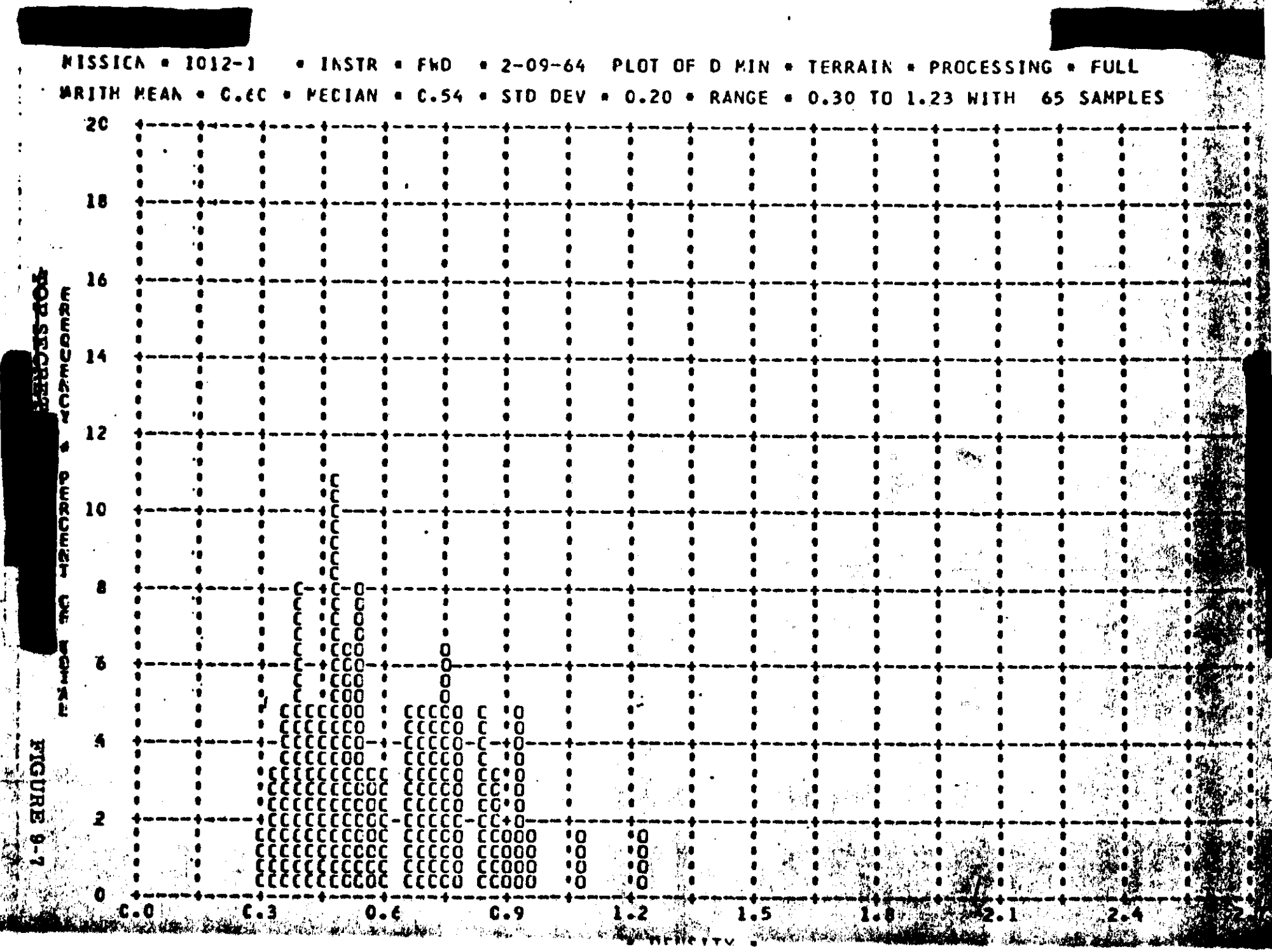

MISSICA • 1012-1 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
MRITH MEAN • C.CC • MECIAN • C.54 • STD DEV • 0.20 • RANGE • 0.30 TO 1.23 WITH 65 SAMPLES
FREQUENCY • OBSERVED ONE MINUS
20
18
16
14
12
10
8
6
4
2
0
C.0
C.3
0.6
C.9
1.2
1.5
1.8
2.1
2.4

FIGURE 9-7

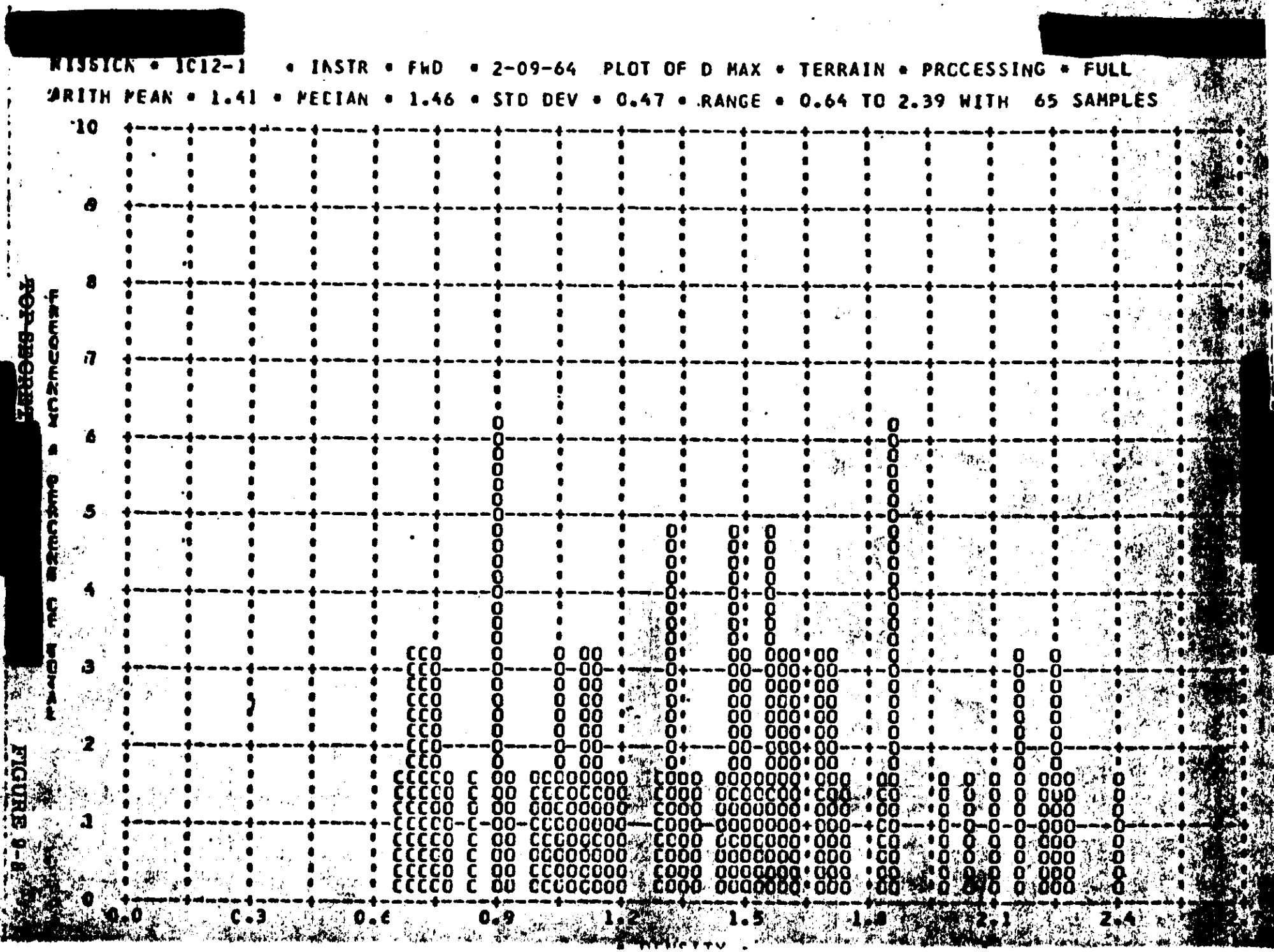

MISSICK • IC12-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.41 • MEDIAN • 1.46 • STD DEV • 0.47 • RANGE • 0.64 TO 2.39 WITH 65 SAMPLES
NUMBER OF OCCURRENCES PER INCREMENT
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 8-8

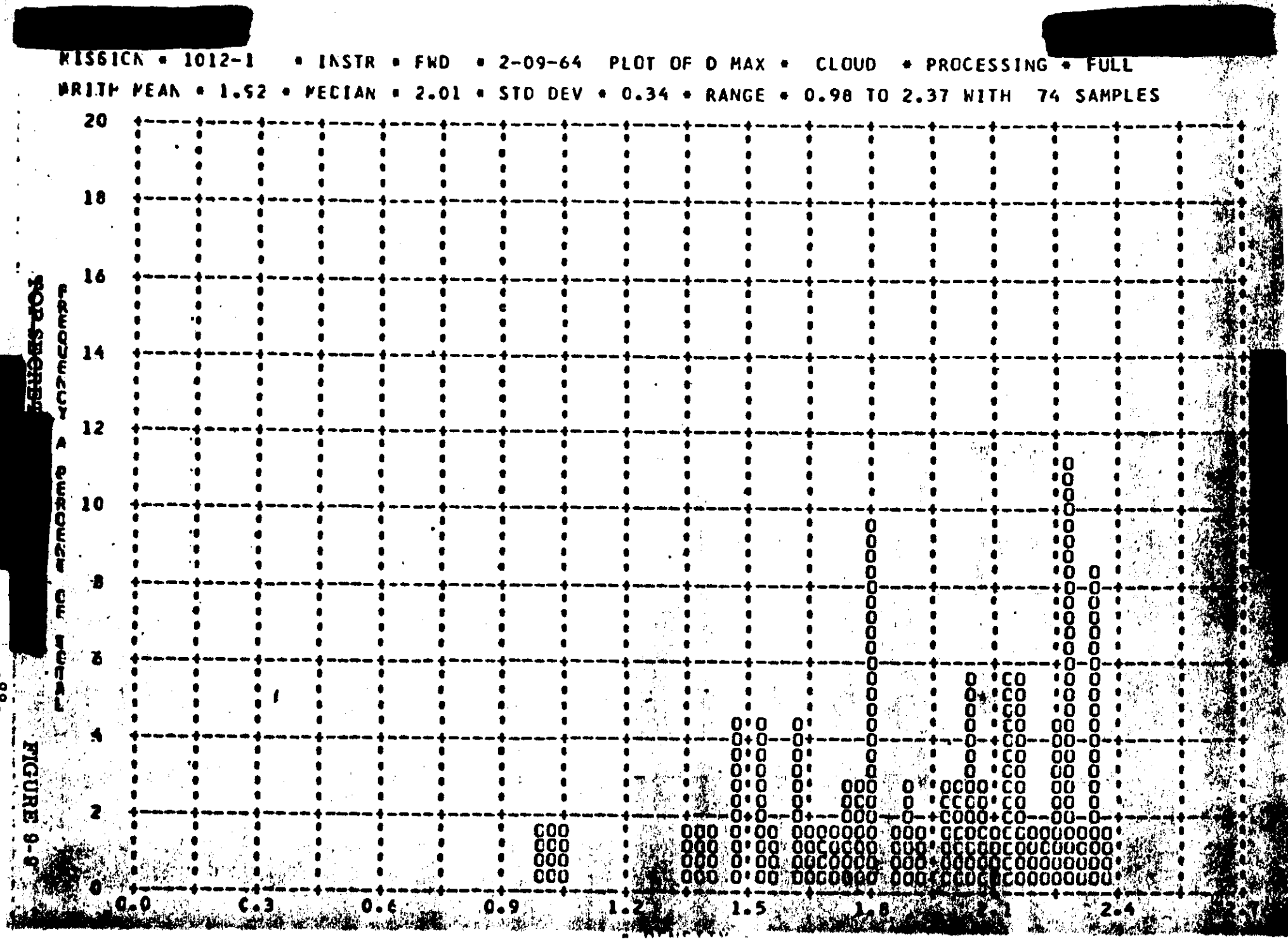

MISSION • 1012-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • FULL
WITH MEAN • 1.52 • MEDIAN • 2.01 • STD DEV • 0.34 • RANGE • 0.98 TO 2.37 WITH 74 SAMPLES
FREQUENCY A OBSERVED OR MODEL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 8-8

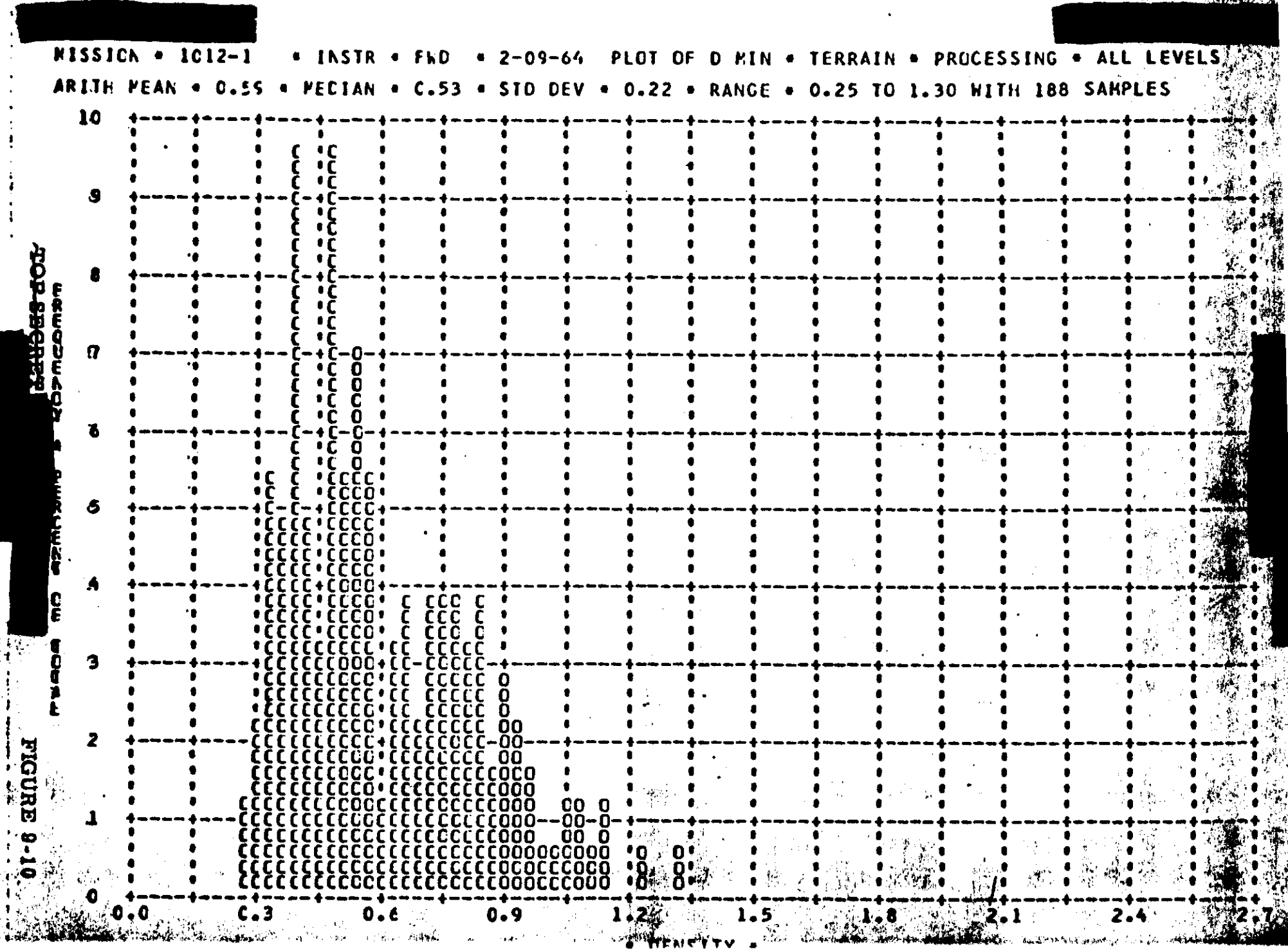


FIGURE 8-10

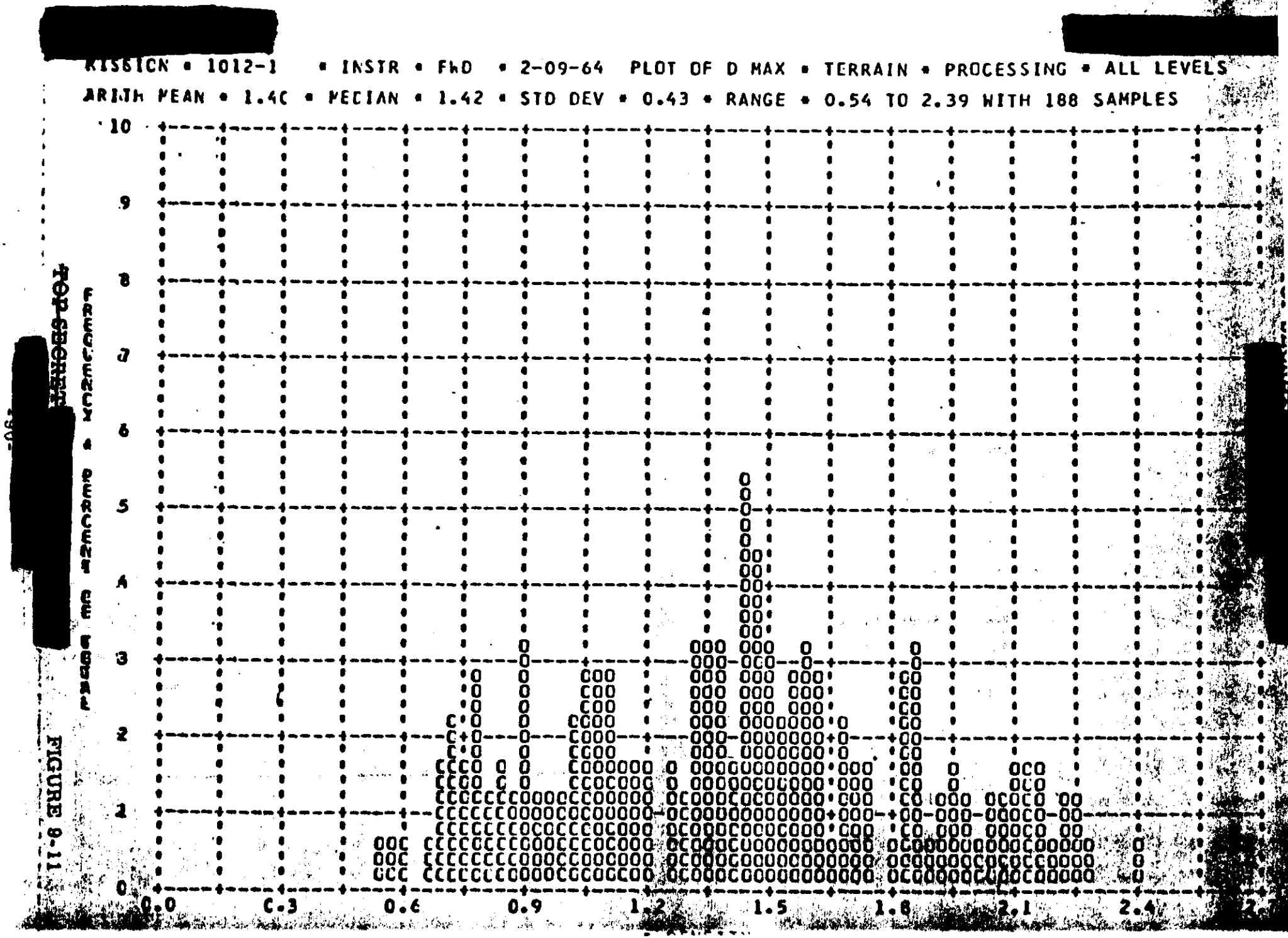

MISSION • 1012-1 • INSTR • FHD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.40 • MEDIAN • 1.42 • STD DEV • 0.43 • RANGE • 0.54 TO 2.39 WITH 188 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 8-11

[redacted]

MISSION • 1C12-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.53 • MEDIAN • 2.00 • STD DEV • 0.28 • RANGE • 0.90 TO 2.39 WITH 204 SAMPLES

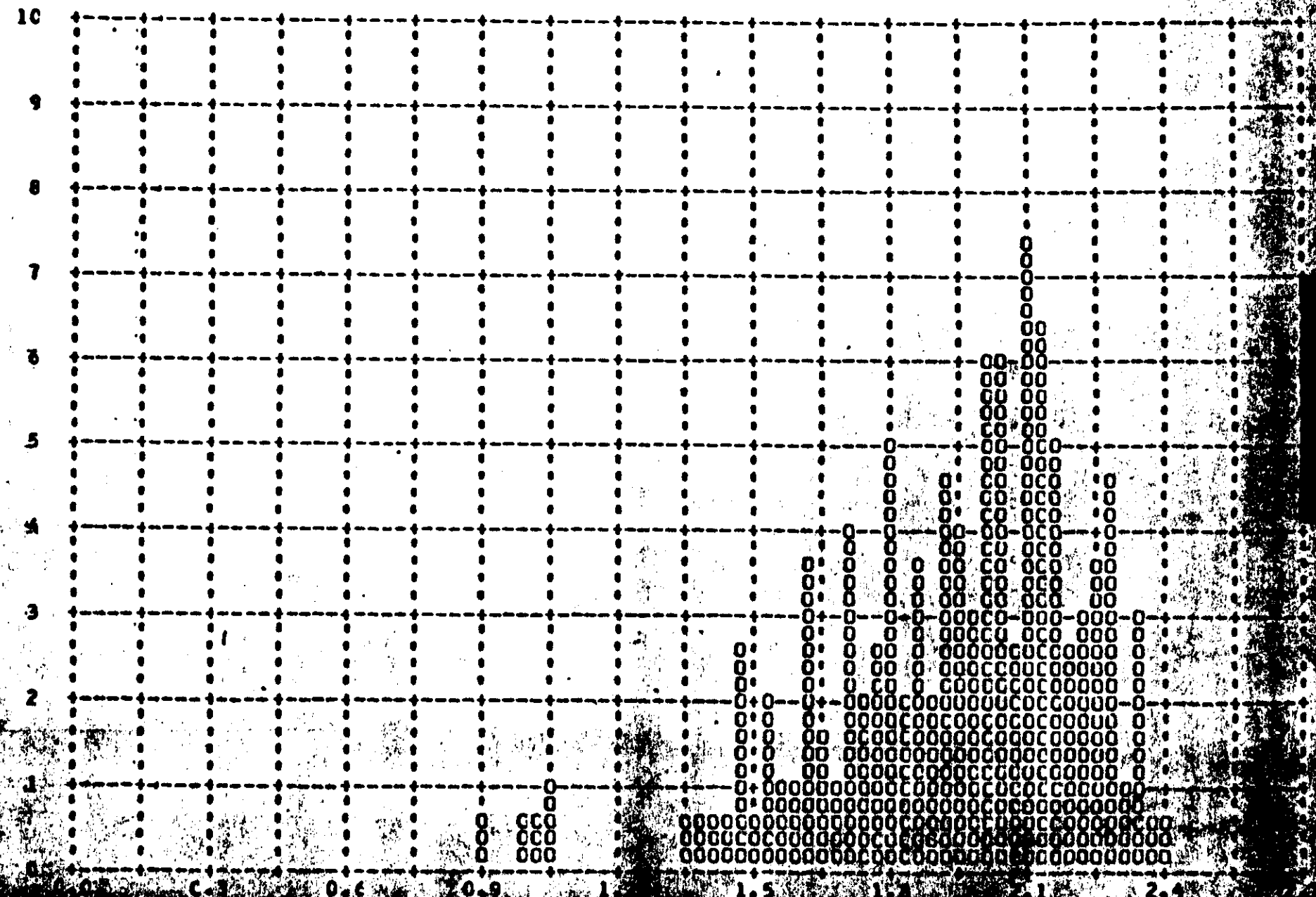


FIGURE 21-6

[redacted]

MISSION • 1012-1 • INSTRUMENT • AFT 2-09-64 DENSITY FREQ SYST

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
C.C1	0	0	0	0	0	0	0	0	0	0	0	0
C.C2	0	0	0	0	0	0	0	0	0	0	0	0
C.C3	0	0	0	0	0	0	0	0	0	0	0	0
C.C4	0	0	0	0	0	0	0	0	0	0	0	0
C.C5	0	0	0	0	0	0	0	0	0	0	0	0
C.C6	0	0	0	0	0	0	0	0	0	0	0	0
C.C7	0	0	0	0	0	0	0	0	0	0	0	0
C.C8	0	0	0	0	0	0	0	0	0	0	0	0
C.C9	0	0	0	0	0	0	0	0	0	0	0	0
C.10	0	0	0	0	0	0	0	0	0	0	0	0
C.11	0	0	0	0	0	0	0	0	0	0	0	0
C.12	0	0	0	0	0	0	0	0	0	0	0	0
C.13	0	0	0	0	0	0	0	0	0	0	0	0
C.14	0	0	0	0	0	0	0	0	0	0	0	0
C.15	0	0	0	0	0	0	0	0	0	0	0	0
C.16	0	0	0	0	0	0	0	0	0	0	0	0
C.17	0	0	0	0	0	0	0	0	0	0	0	0
C.18	0	0	0	0	0	0	0	0	0	0	0	0
C.19	0	0	0	0	0	0	0	0	0	0	0	0
C.20	0	0	0	0	0	0	0	0	0	0	0	0
C.21	0	0	0	0	0	0	0	0	0	0	0	0
C.22	0	0	0	0	0	0	0	0	0	0	0	0
C.23	0	0	0	0	0	0	0	0	0	0	0	0
C.24	0	0	0	0	0	0	0	0	0	0	0	0
C.25	0	0	0	0	0	0	0	0	0	0	0	0
C.26	0	0	0	0	0	0	0	0	0	1	0	0
C.27	0	0	0	0	0	0	0	0	0	0	0	0
C.28	0	0	0	0	0	0	0	0	0	1	0	0
C.29	0	0	0	0	0	0	0	0	0	1	0	0
C.30	0	0	0	0	0	0	0	0	0	6	0	0
C.31	0	0	0	0	0	0	0	0	0	0	0	0
C.32	0	0	0	0	0	0	0	0	0	1	0	0
C.33	0	0	0	0	0	0	0	0	0	1	0	0
C.34	0	0	0	0	0	0	0	0	0	3	0	0
C.35	0	0	0	0	0	0	0	0	0	0	0	0
C.36	0	0	0	0	0	0	0	0	0	4	0	0
C.37	0	0	0	0	0	0	0	0	0	2	0	0
C.38	0	0	0	0	0	0	0	0	0	5	0	0
C.39	0	0	0	0	0	0	0	0	0	1	0	0
C.40	0	0	0	0	0	0	0	0	0	6	0	0
C.41	0	0	0	0	0	0	0	0	0	0	0	0
C.42	0	0	0	0	0	0	0	0	0	2	0	0
C.43	0	0	0	0	0	0	0	0	0	3	0	0
C.44	0	0	0	0	0	0	0	0	0	3	0	0
C.45	0	0	0	0	0	0	0	0	0	0	0	0
C.46	0	0	0	0	0	0	0	0	0	8	0	0
C.47	0	0	0	0	0	0	0	0	0	2	0	0
C.48	0	0	0	0	0	0	0	0	0	3	0	0
C.49	0	0	0	0	0	0	0	0	0	1	0	0
C.5C	0	0	0	0	0	0	0	0	0	8	0	0
SUBTOTAL	0	0	0	41	0	0	34	2	0	75	2	0

[redacted]

TABLE 9-4

[redacted]

MISSION • 1012-1 • INSTRUMENT • AFT 2-09-64 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	0	0	0	1	0	0
0.52	0	0	0	0	0	0	1	0	0	1	0	0
0.53	0	0	0	0	0	0	0	1	0	0	1	0
0.54	0	0	0	0	1	0	0	0	0	0	1	0
0.55	0	0	0	1	0	0	3	0	0	3	1	0
0.56	0	0	0	0	0	0	0	2	0	0	0	0
0.57	0	0	0	1	0	0	2	0	0	3	0	0
0.58	0	0	0	0	0	0	0	0	0	0	0	0
0.59	0	0	0	2	0	0	3	0	0	5	0	0
0.60	0	0	0	0	0	0	0	0	0	0	0	0
0.61	0	0	0	4	0	0	1	2	0	1	6	0
0.62	0	0	0	0	0	0	0	0	0	0	0	0
0.63	0	0	0	8	0	0	4	0	0	12	0	0
0.64	0	0	0	0	0	0	0	0	0	0	0	0
0.65	0	0	0	2	0	0	3	0	0	5	0	0
0.66	0	0	0	0	0	0	0	0	0	0	0	0
0.67	0	0	0	1	0	0	1	0	0	2	0	0
0.68	0	0	0	0	0	0	0	0	0	0	0	0
0.69	0	0	0	1	0	0	5	0	0	5	0	0
0.70	0	0	0	0	1	0	0	0	0	0	1	0
0.71	0	0	0	2	0	0	1	0	0	3	0	0
0.72	0	0	0	1	0	0	0	0	0	1	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	1	0	0	1	0	0	2	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	2	0	0	2	0	0	4	0	0
0.77	0	0	0	0	1	0	0	0	0	0	1	0
0.78	0	0	0	2	0	0	3	0	0	5	0	0
0.79	0	0	0	2	0	0	0	1	0	2	1	0
0.80	0	0	0	2	0	0	1	0	0	3	0	0
0.81	0	0	0	2	0	0	3	0	0	5	0	0
0.82	0	0	0	2	0	0	1	0	0	3	0	0
0.83	0	0	0	2	0	0	1	0	0	3	0	0
0.84	0	0	0	2	0	0	0	1	0	2	1	0
0.85	0	0	0	2	0	0	1	0	0	3	0	0
0.86	0	0	0	2	0	0	0	1	0	2	1	0
0.87	0	0	0	1	0	0	1	0	0	2	0	0
0.88	0	0	0	1	0	0	0	1	0	1	1	0
0.89	0	0	0	1	0	0	1	0	0	2	0	0
0.90	0	0	0	1	0	0	0	1	0	1	1	0
0.91	0	0	0	1	0	0	0	0	1	1	0	1
0.92	0	0	0	1	0	0	2	0	0	3	0	0
0.93	0	0	0	1	0	0	0	2	0	1	2	0
0.94	0	0	0	2	0	0	1	0	0	3	0	0
0.95	0	0	0	1	0	0	0	0	1	1	0	1
0.96	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	41	12	3	50	11	2	91	23	5

[redacted]

[redacted]

MISSION • 1G12-1 • INSTRUMENT • AFT • 2-09-64 DENSITY FREQ DIST

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	1	0	0	3	0	0
1.02	0	0	0	2	0	0	2	0	0	3	2	0
1.03	0	0	0	0	0	0	2	0	0	2	0	0
1.04	0	0	0	0	0	0	1	0	0	1	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	1	0	0	1	0
1.07	0	0	0	0	0	0	0	1	0	0	1	0
1.08	0	0	0	0	0	0	0	2	0	0	2	0
1.09	0	0	0	0	0	0	0	2	0	0	2	0
1.10	0	0	0	0	0	0	0	3	0	0	3	0
1.11	0	0	0	0	0	0	1	0	0	1	0	0
1.12	0	0	0	2	0	0	2	0	0	2	0	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	0	1	0	0	1	0
1.17	0	0	0	0	0	0	0	1	0	0	1	0
1.18	0	0	0	3	0	0	0	1	0	0	4	0
1.19	0	0	0	0	2	0	0	3	0	0	5	0
1.20	0	0	0	1	4	0	0	2	1	0	6	1
1.21	0	0	0	0	1	0	0	1	0	0	2	0
1.22	0	0	0	0	0	0	0	2	0	0	2	0
1.23	0	0	0	0	0	0	0	1	0	0	1	0
1.24	0	0	0	0	0	0	0	2	1	0	2	1
1.25	0	0	0	0	0	0	0	1	2	0	1	2
1.26	0	0	0	0	0	0	0	2	1	0	2	1
1.27	0	0	0	0	0	0	0	1	0	0	1	0
1.28	0	0	0	0	0	0	0	2	1	0	2	1
1.29	0	0	0	0	0	0	0	1	2	0	1	2
1.30	0	0	0	0	0	0	0	2	1	0	2	1
1.31	0	0	0	0	0	0	0	1	0	0	1	0
1.32	0	0	0	0	0	0	0	2	1	0	2	1
1.33	0	0	0	0	0	0	0	1	2	0	1	2
1.34	0	0	0	0	0	0	0	2	1	0	2	1
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	2	1	0	2	1
1.37	0	0	0	0	0	0	0	1	2	0	1	2
1.38	0	0	0	0	0	0	0	2	1	0	2	1
1.39	0	0	0	0	0	0	0	1	0	0	1	0
1.40	0	0	0	0	0	0	0	2	1	0	2	1
1.41	0	0	0	0	0	0	0	1	2	0	1	2
1.42	0	0	0	0	0	0	0	2	1	0	2	1
1.43	0	0	0	0	0	0	0	1	0	0	1	0
1.44	0	0	0	0	0	0	0	2	1	0	2	1
1.45	0	0	0	0	0	0	0	1	2	0	1	2
1.46	0	0	0	0	0	0	0	2	1	0	2	1
1.47	0	0	0	0	0	0	0	1	0	0	1	0
1.48	0	0	0	0	0	0	0	2	1	0	2	1
1.49	0	0	0	0	0	0	0	1	2	0	1	2
1.50	0	0	0	0	0	0	0	2	1	0	2	1
SUBTOTAL	0	0	0	5	39	10	7	43	7	12	82	17

[redacted]

[redacted]

MISSION = 1012-1 * INSTRUMENT * AFT 2-09-64 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	0	0	0	2	1	0	0	0
1.53	0	0	0	0	0	0	0	3	0	0	4	2
1.54	0	0	0	0	0	0	0	3	0	0	3	0
1.55	0	0	0	0	1	0	0	3	0	0	1	0
1.56	0	0	0	0	1	0	0	2	0	0	1	0
1.57	0	0	0	0	3	1	0	2	0	0	1	0
1.58	0	0	0	0	3	1	0	1	0	0	0	0
1.59	0	0	0	0	2	0	0	1	0	0	0	0
1.60	0	0	0	0	3	0	0	1	0	0	0	0
1.61	0	0	0	0	2	0	0	1	0	0	0	0
1.62	0	0	0	0	4	0	0	0	0	0	0	0
1.63	0	0	0	0	3	0	0	2	0	0	0	0
1.64	0	0	0	0	2	0	0	1	0	0	0	0
1.65	0	0	0	0	1	0	0	1	0	0	0	0
1.66	0	0	0	0	1	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	1	0	0	0	0
1.68	0	0	0	0	1	0	0	1	0	0	0	0
1.69	0	0	0	0	1	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	1	0	0	0	0
1.71	0	0	0	0	0	0	0	1	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	31	48	0	27	35	0	58	83

[redacted]

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[redacted]

MISSION • 1012-1 • INSTRUMENT • AFT 2-09-64 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	1	0	0	1	0	0	2
2.02	0	0	0	0	0	2	0	0	4	0	0	6
2.03	0	0	0	0	0	3	0	1	0	0	1	9
2.04	0	0	0	0	1	0	0	4	0	0	1	1
2.05	0	0	0	0	1	1	0	0	2	0	1	3
2.06	0	0	0	0	1	2	0	0	1	0	1	5
2.07	0	0	0	0	1	3	0	0	3	0	1	8
2.08	0	0	0	0	2	0	0	0	6	0	2	4
2.09	0	0	0	0	2	1	0	0	3	0	2	7
2.10	0	0	0	0	2	2	0	0	1	0	2	8
2.11	0	0	0	0	2	3	0	0	4	0	2	12
2.12	0	0	0	0	3	0	0	0	1	0	3	0
2.13	0	0	0	0	3	1	0	0	4	0	3	4
2.14	0	0	0	0	3	2	0	0	1	0	3	5
2.15	0	0	0	0	3	3	0	0	3	0	3	8
2.16	0	0	0	1	0	0	0	0	2	0	4	0
2.17	0	0	0	1	0	1	0	0	4	0	4	4
2.18	0	0	0	1	0	2	0	0	1	0	4	5
2.19	0	0	0	1	0	3	0	0	3	0	4	8
2.20	0	0	0	1	1	0	0	0	1	0	5	0
2.21	0	0	0	1	1	1	0	0	2	0	5	2
2.22	0	0	0	1	1	2	0	0	4	0	5	6
2.23	0	0	0	1	1	3	0	0	2	0	5	8
2.24	0	0	0	1	2	0	0	0	3	0	6	3
2.25	0	0	0	1	2	1	0	0	1	0	6	4
2.26	0	0	0	1	2	2	0	0	1	0	6	5
2.27	0	0	0	1	2	3	0	0	1	0	6	6
2.28	0	0	0	1	3	0	0	0	1	0	6	7
2.29	0	0	0	1	3	1	0	0	1	0	6	8
2.30	0	0	0	1	3	2	0	0	1	0	6	9
2.31	0	0	0	1	3	3	0	0	1	0	6	10
2.32	0	0	0	2	0	0	0	0	1	0	6	11
2.33	0	0	0	2	0	1	0	0	1	0	6	12
2.34	0	0	0	2	0	2	0	0	1	0	6	13
2.35	0	0	0	2	0	3	0	0	1	0	6	14
2.36	0	0	0	2	1	0	0	0	1	0	6	15
2.37	0	0	0	2	1	1	0	0	1	0	6	16
2.38	0	0	0	2	1	2	0	0	1	0	6	17
2.39	0	0	0	2	1	3	0	0	1	0	6	18
2.40	0	0	0	2	2	0	0	0	1	0	6	19
2.41	0	0	0	2	2	1	0	0	1	0	6	20
2.42	0	0	0	2	2	2	0	0	1	0	6	21
2.43	0	0	0	2	2	3	0	0	1	0	6	22
2.44	0	0	0	2	3	0	0	0	1	0	6	23
2.45	0	0	0	2	3	1	0	0	1	0	6	24
2.46	0	0	0	2	3	2	0	0	1	0	6	25
2.47	0	0	0	2	3	3	0	0	1	0	6	26
2.48	0	0	0	3	0	0	0	0	1	0	6	27
2.49	0	0	0	3	0	1	0	0	1	0	6	28
2.50	0	0	0	3	0	2	0	0	1	0	6	29
SUBTOTAL	0	0	0	3	0	3	0	0	1	0	6	30
[redacted]				3	1	0	0	0	1	0	6	31
				3	1	1	0	0	1	0	6	32
				3	1	2	0	0	1	0	6	33
				3	1	3	0	0	1	0	6	34
				3	2	0	0	0	1	0	6	35
				3	2	1	0	0	1	0	6	36
				3	2	2	0	0	1	0	6	37
				3	2	3	0	0	1	0	6	38
				3	3	0	0	0	1	0	6	39
				3	3	1	0	0	1	0	6	40
				3	3	2	0	0	1	0	6	41
				3	3	3	0	0	1	0	6	42
				4	0	0	0	0	1	0	6	43
				4	0	1	0	0	1	0	6	44
				4	0	2	0	0	1	0	6	45
				4	0	3	0	0	1	0	6	46
				4	1	0	0	0	1	0	6	47
				4	1	1	0	0	1	0	6	48
				4	1	2	0	0	1	0	6	49
				4	1	3	0	0	1	0	6	50
				4	2	0	0	0	1	0	6	51
				4	2	1	0	0	1	0	6	52
				4	2	2	0	0	1	0	6	53
				4	2	3	0	0	1	0	6	54
				4	3	0	0	0	1	0	6	55
				4	3	1	0	0	1	0	6	56
				4	3	2	0	0	1	0	6	57
				4	3	3	0	0	1	0	6	58
				5	0	0	0	0	1	0	6	59
				5	0	1	0	0	1	0	6	60
				5	0	2	0	0	1	0	6	61
				5	0	3	0	0	1	0	6	62
				5	1	0	0	0	1	0	6	63
				5	1	1	0	0	1	0	6	64
				5	1	2	0	0	1	0	6	65
				5	1	3	0	0	1	0	6	66
				5	2	0	0	1	0	0	7	0
				5	2	1	0	1	1	0	7	1
				5	2	2	0	1	2	0	7	3
				5	2	3	0	1	3	0	7	6
				5	3	0	0	1	4	0	7	10
				5	3	1	0	1	5	0	7	15
				5	3	2	0	1	6	0	7	21
				5	3	3	0	1	7	0	7	28
				6	0	0	0	1	8	0	7	36
				6	0	1	0	1	9	0	7	45
				6	0	2	0	1	10	0	7	55
				6	0	3	0	1	11	0	7	66
				6	1	0	0	1	12	0	7	78
				6	1	1	0	1	13	0	7	91
				6	1	2	[redacted]			[redacted]		
				6	1	3						
				6	2	0						
				6	2	1						
				6	2	2						
				6	2	3						
				6	3	0						
				6	3	1						
				6	3	2						
				6	3	3						
				7	0	0						
				7	0	1						
				7	0	2						
				7	0	3						
				7	1	0						
				7	1	1						
				7	1	2						
				7	1	3						
				7	2	0						
				7	2	1						
				7	2	2						
				7	2	3						
				7	3	0						
				7	3	1						
				7	3	2						
				7	3	3						

[redacted]

MISSION • 1012-1 • INSTRUMENT • AFT 2-09-64 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	C	C	0	C	C	0	0	0	0	0	0	0
2.52	C	C	0	C	C	0	0	0	0	0	0	0
2.53	C	C	0	C	C	0	0	0	0	0	0	0
2.54	C	C	0	C	C	0	0	0	0	0	0	0
2.55	C	C	0	C	C	0	0	0	0	0	0	0
2.56	C	C	0	C	C	0	0	0	0	0	0	0
2.57	C	C	0	C	C	0	0	0	0	0	0	0
2.58	C	C	0	C	C	0	0	0	0	0	0	0
2.59	C	C	0	C	C	0	0	0	0	0	0	0
2.60	C	C	0	C	C	0	0	0	0	0	0	0
2.61	C	C	0	C	C	0	0	0	0	0	0	0
2.62	C	C	0	C	C	0	0	0	0	0	0	0
2.63	C	C	0	C	C	0	0	0	0	0	0	0
2.64	C	C	0	C	C	0	0	0	0	0	0	0
2.65	C	C	0	C	C	0	0	0	0	0	0	0
2.66	C	C	0	C	C	0	0	0	0	0	0	0
2.67	C	C	0	C	C	0	0	0	0	0	0	0
2.68	C	C	0	C	C	0	0	0	0	0	0	0
2.69	C	C	0	C	C	0	0	0	0	0	0	0
2.70	C	C	0	C	C	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	C	C	0	0	0	0	0	0	0
TOTAL	C	C	0	87	87	86	91	91	110	178	178	196

MISSION 1012-1 INSTR - AFT 2-09-64 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	C	C PC	0 PC	0 PC	0 PC	0 P
INTERMEDIATE	87	C PC	20 PC	70 PC	10 PC	0 P
FULL	91	10 PC	0 PC	78 PC	12 PC	0 P
ALL LEVELS	178	5 PC	10 PC	74 PC	11 PC	0 P

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	C.01-C.09	C.01-C.13	0.14-0.39	0.40-0.90	----------	0.91 AND
INTERMED	C.10-C.17	C.01-C.2C	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	0.18 AND UP	C.01-0.39	----------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

[redacted]

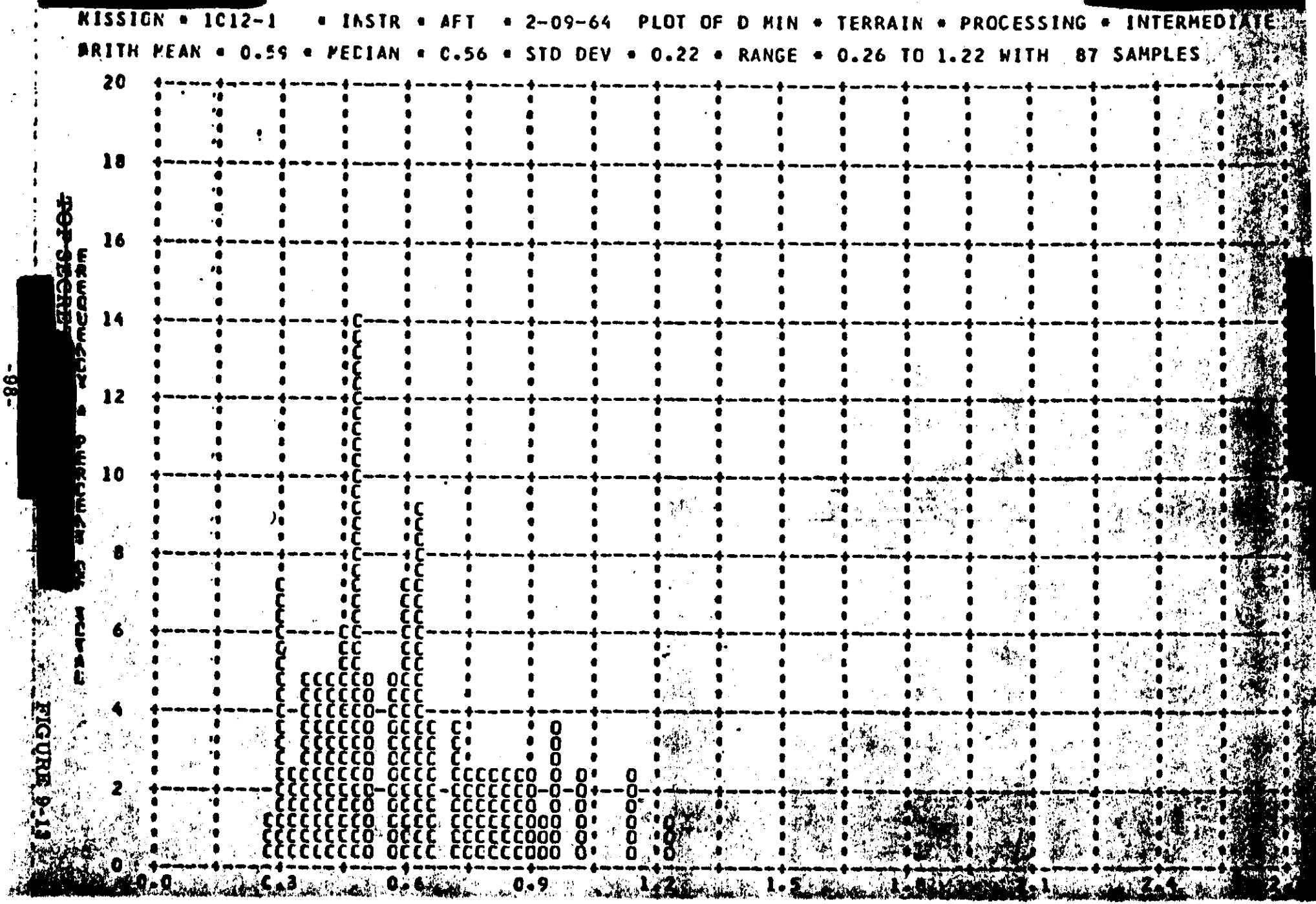

MISSION • 1C12-1 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
BRITH MEAN • 0.59 • MEDIAN • 0.56 • STD DEV • 0.22 • RANGE • 0.26 TO 1.22 WITH 87 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 8-19

[redacted] [redacted]

MISSICK • 1012-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.45 • MEDIAN • 1.46 • STD DEV • 0.36 • RANGE • 0.54 TO 2.18 WITH 87 SAMPLES

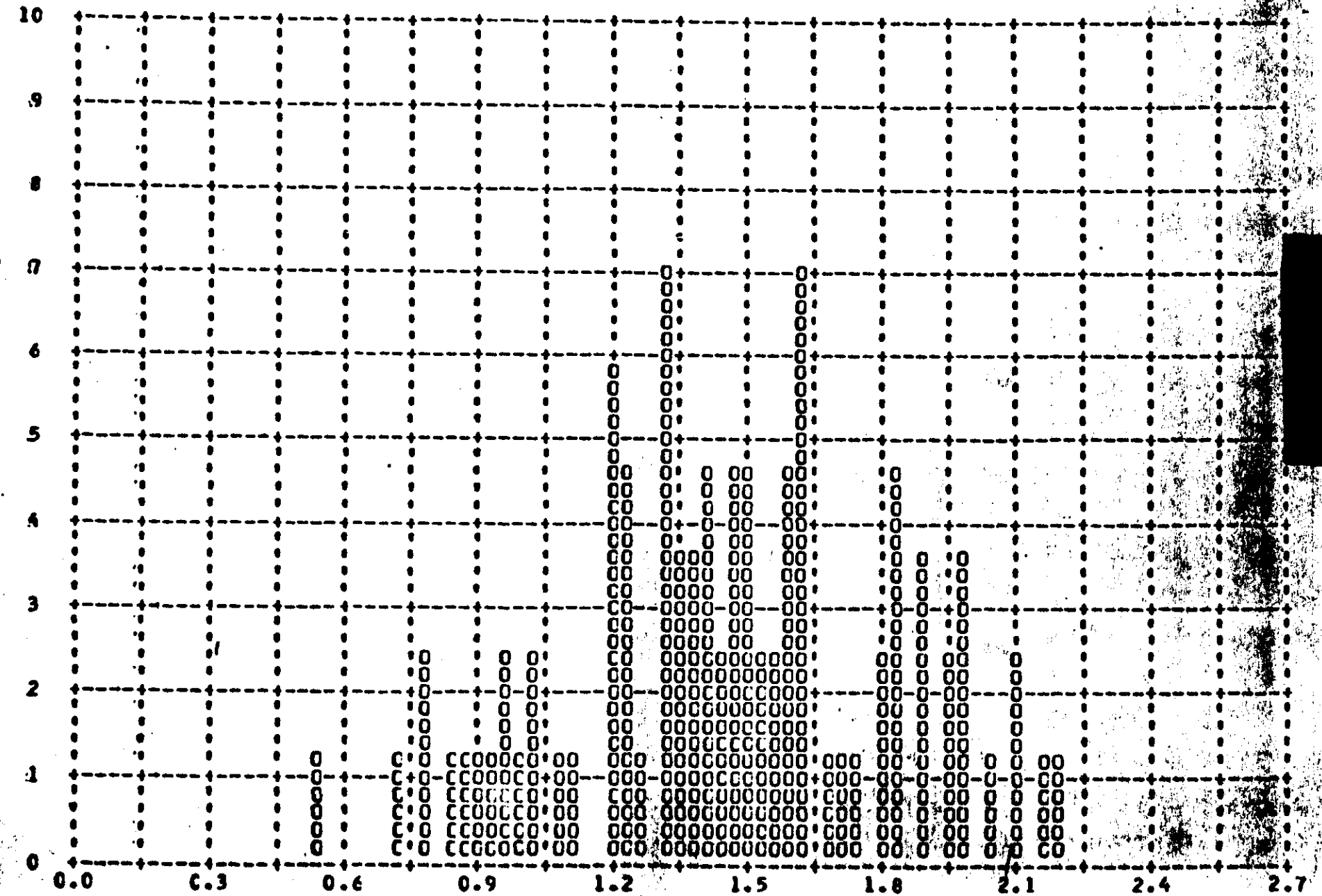


FIGURE 9-14

[redacted]

MISSION • 1012-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.80 • MEDIAN • 1.87 • STD DEV • 0.32 • RANGE • 0.72 TO 2.28 WITH 86 SAMPLES

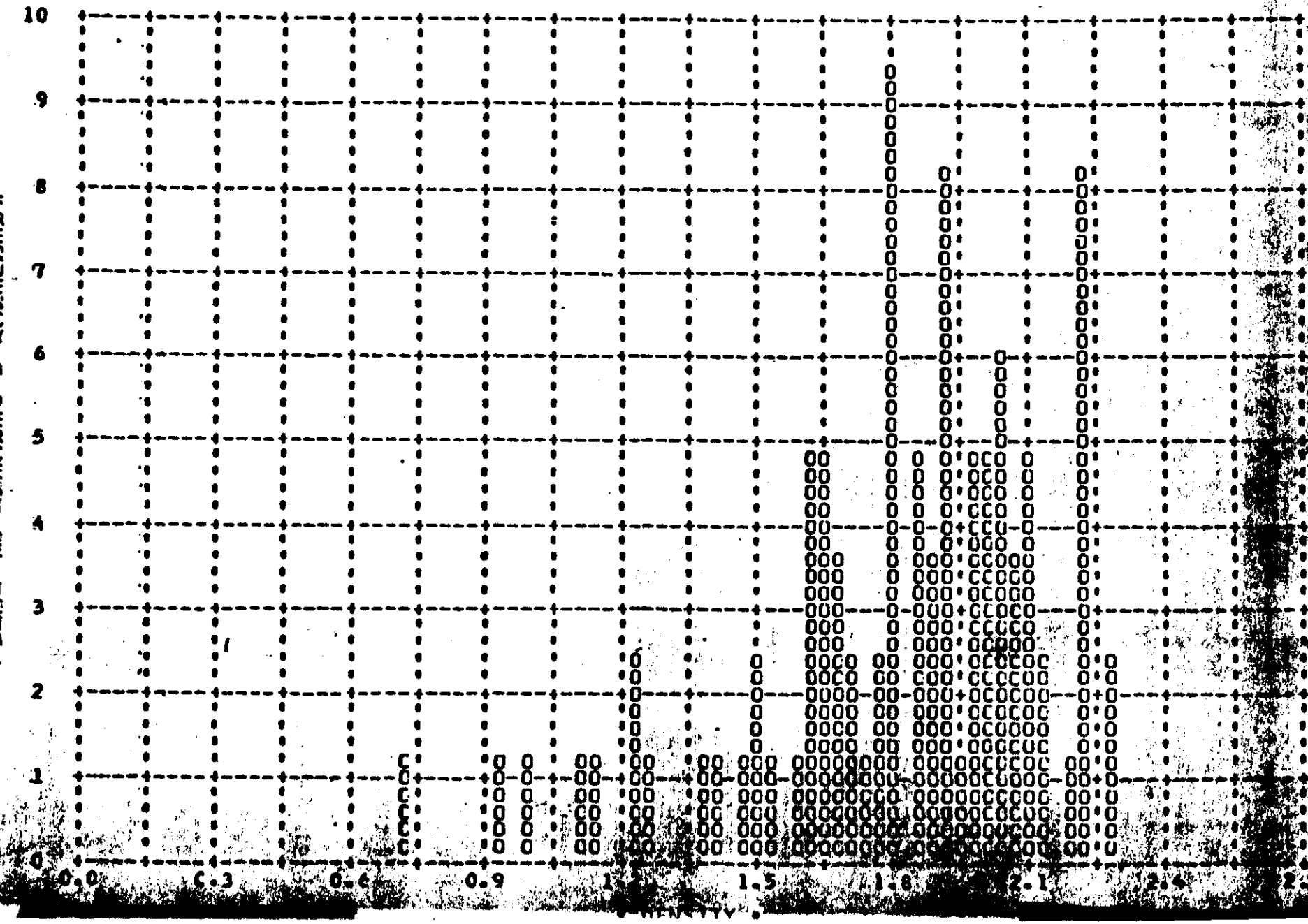


FIGURE 9-15

[redacted]

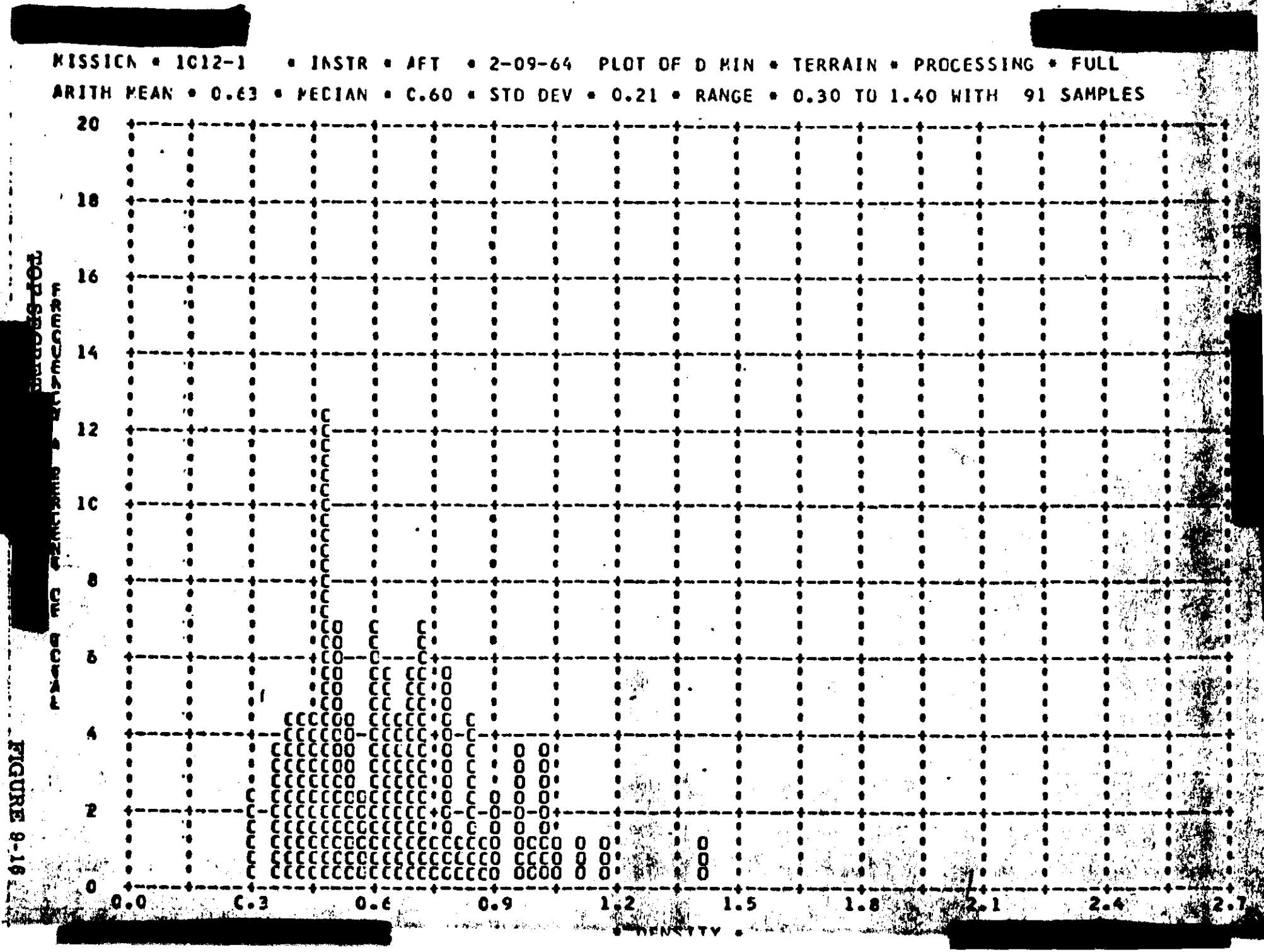

MISSION • 1012-1 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.63 • MEDIAN • 0.60 • STD DEV • 0.21 • RANGE • 0.30 TO 1.40 WITH 91 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY

FIGURE 8-18

[redacted]

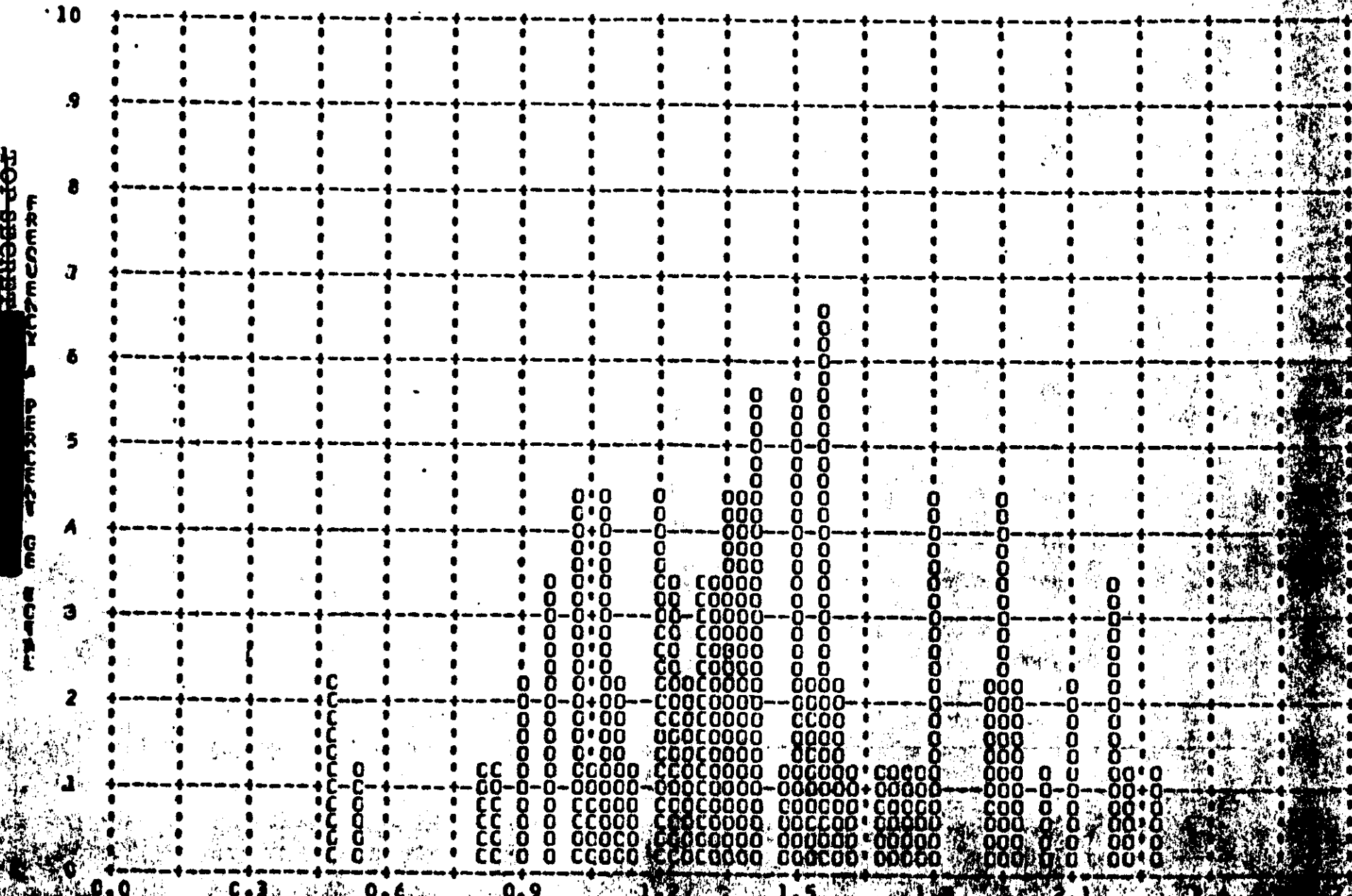


FIGURE 6-12

MISSION • 1C12-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.56 • MEDIAN • 2.07 • STD DEV • 0.30 • RANGE • 0.81 TO 2.32 WITH 110 SAMPLES

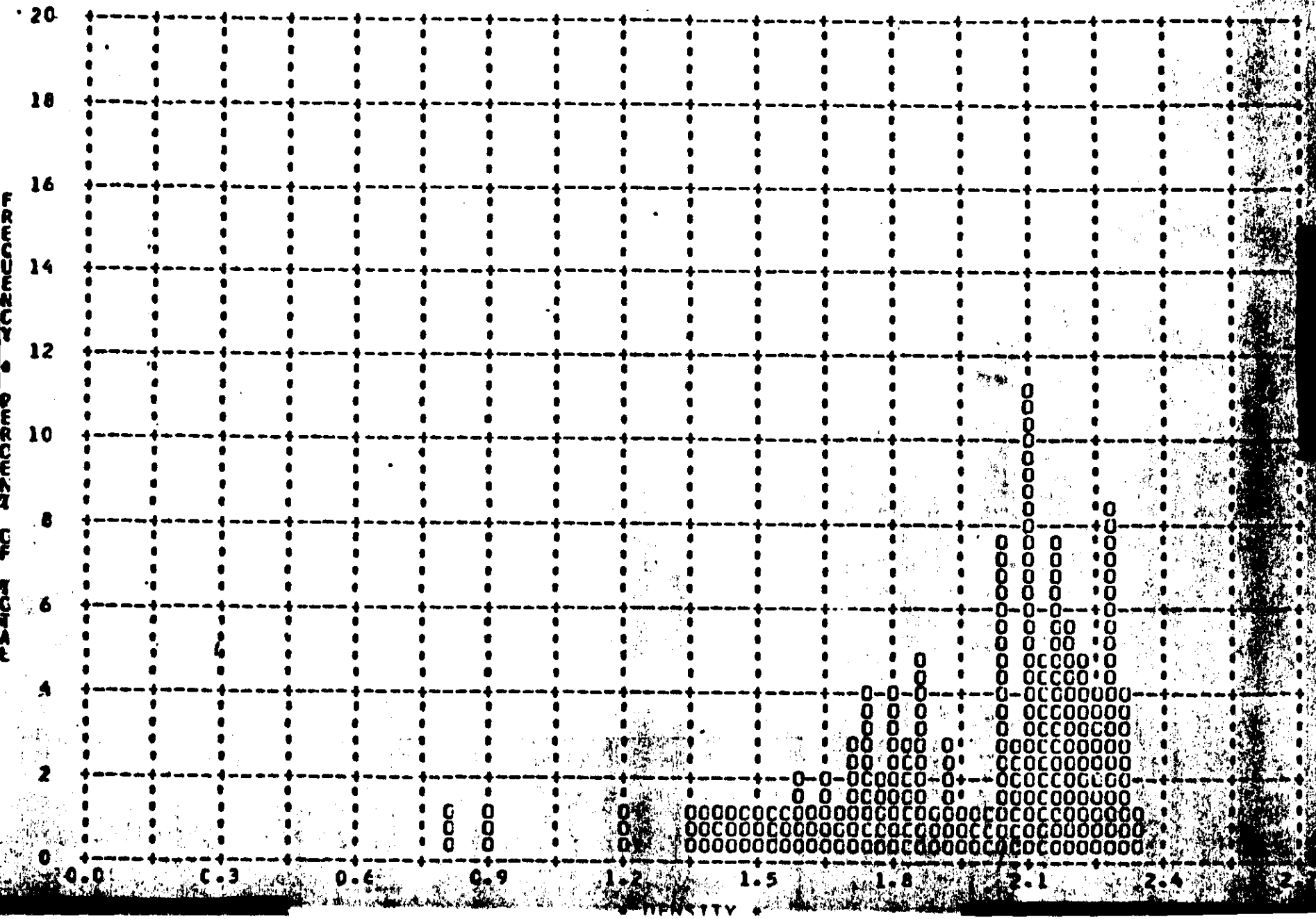


FIGURE 0-18

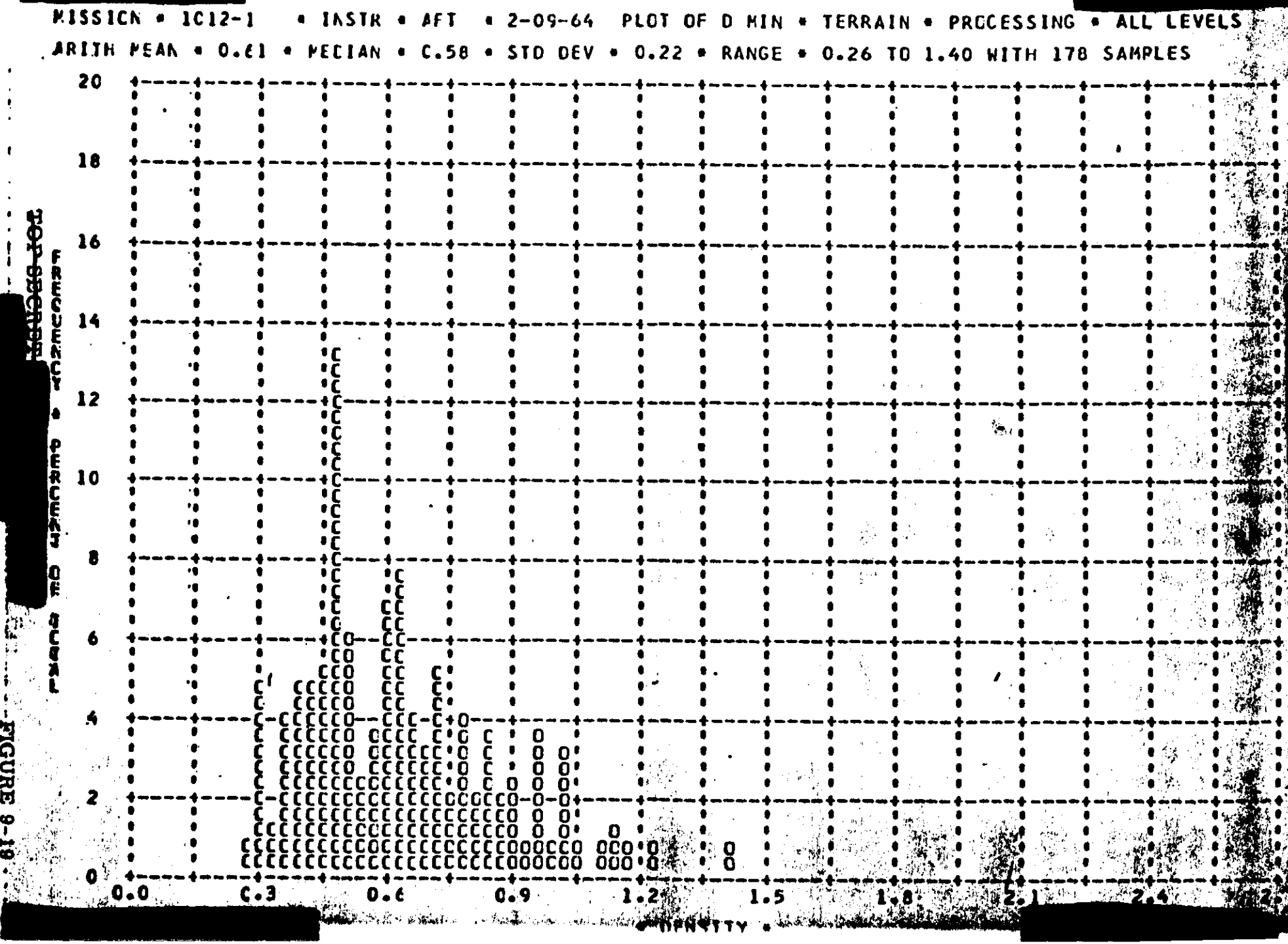

MISSION • 1C12-1 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.61 • MEDIAN • 0.58 • STD DEV • 0.22 • RANGE • 0.26 TO 1.40 WITH 178 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
DENSITY

FIGURE 8-18

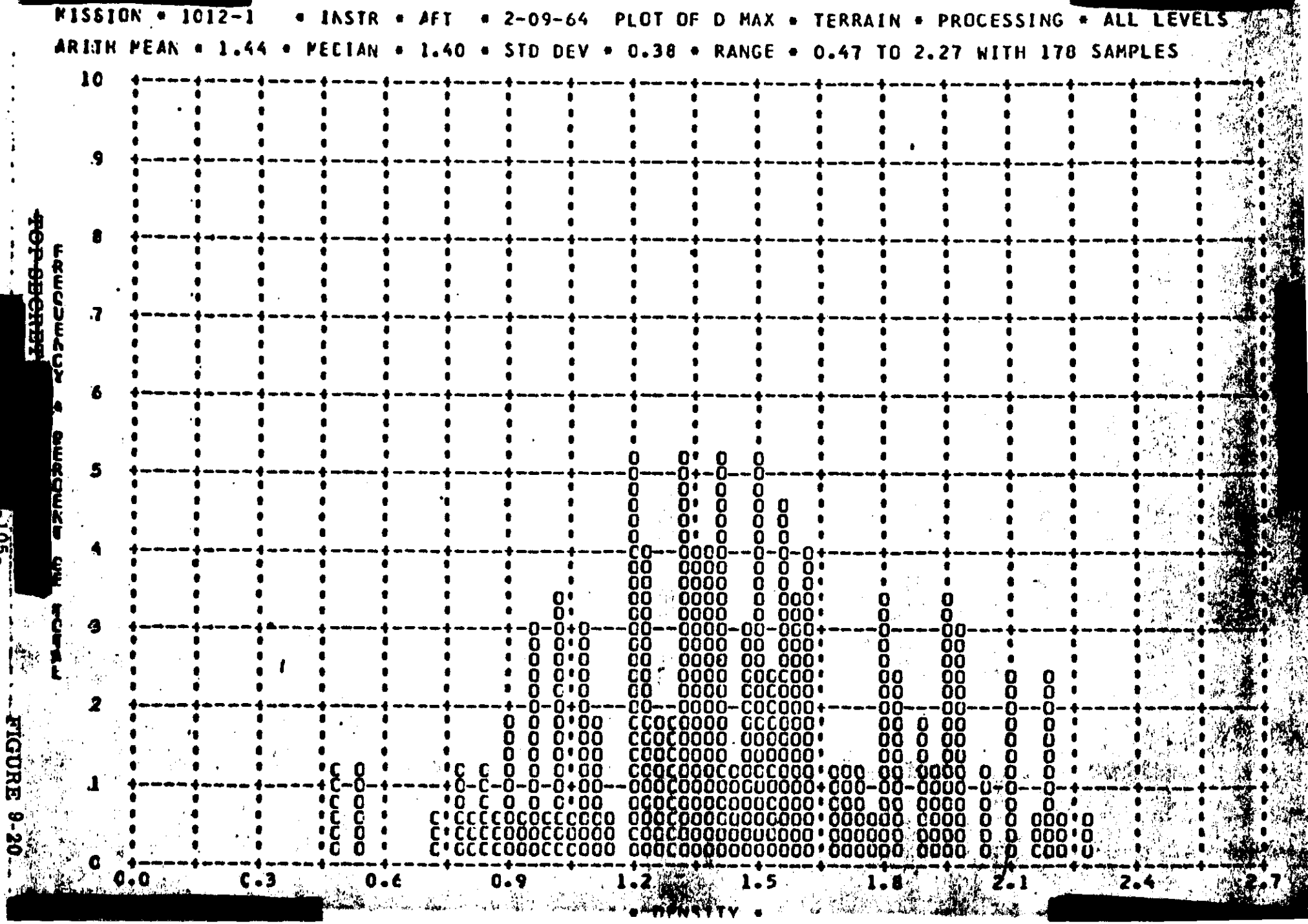
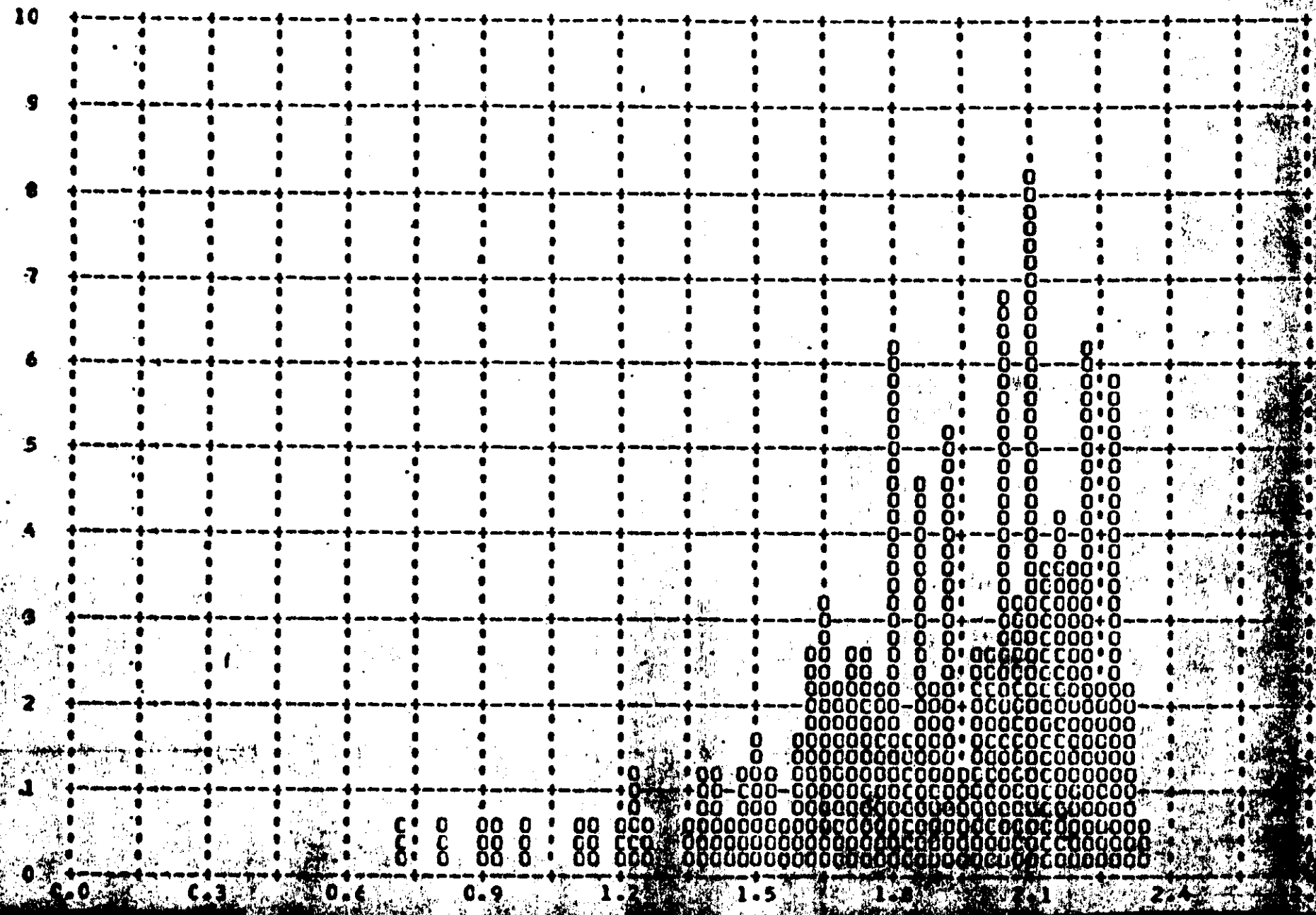

MISSION • 1012-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.44 • MEDIAN • 1.40 • STD DEV • 0.38 • RANGE • 0.47 TO 2.27 WITH 170 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE 8-20

[redacted]

MISSION • IC12-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.85 • MEDIAN • 1.96 • STD DEV • 0.32 • RANGE • 0.72 TO 2.32 WITH 196 SAMPLES



[redacted]

FIGURE 9-41

[redacted]

MISSION • 1012-2 • INSTRUMENT • FWD 2-09-64 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMECIATE MIN	INTERMECIATE MAX	INTERMECIATE 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	1	0	0	2	0	0
0.31	0	0	0	2	0	0	0	0	0	2	0	0
0.32	0	0	0	1	0	0	1	0	0	1	0	0
0.33	0	0	0	1	0	0	0	0	0	1	0	0
0.34	0	0	0	1	0	0	1	0	0	1	0	0
0.35	0	0	0	2	0	0	1	0	0	3	0	0
0.36	0	0	0	2	0	0	3	0	0	5	0	0
0.37	0	0	0	3	0	0	1	0	0	4	0	0
0.38	0	0	0	3	0	0	1	0	0	1	0	0
0.39	0	0	0	3	0	0	1	0	0	1	0	0
0.40	0	0	0	3	0	0	3	0	0	6	0	0
0.41	0	0	0	2	0	0	2	0	0	2	0	0
0.42	0	0	0	3	0	0	3	0	0	3	0	0
0.43	0	0	0	3	0	0	0	0	0	3	0	0
SUBTOTAL	0	0	0	23	0	0	18	0	0	41	0	0

[redacted]

TABLE 9-5

[redacted] [redacted] [redacted]

MISSION • 1C12-2 • INSTRUMENT • FWD 2-09-64 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
.51	0	0	0	0	0	0	2	0	0	2	0	0
.52	0	0	0	0	0	0	2	0	0	6	0	0
.53	0	0	0	0	0	0	2	0	0	4	0	0
.54	0	0	0	0	0	0	3	0	0	4	0	0
.55	0	0	0	0	0	0	2	0	0	3	0	0
.56	0	0	0	0	0	0	2	0	0	4	0	0
.57	0	0	0	0	0	0	1	0	0	1	0	0
.58	0	0	0	0	0	0	1	0	0	2	0	0
.59	0	0	0	0	0	0	1	0	0	1	0	0
.60	0	0	0	0	0	0	1	0	0	2	0	0
.61	0	0	0	0	0	0	1	0	0	1	0	0
.62	0	0	0	0	0	0	1	0	0	1	0	0
.63	0	0	0	0	0	0	1	0	0	1	0	0
.64	0	0	0	0	0	0	1	0	0	1	0	0
.65	0	0	0	0	0	0	1	0	0	1	0	0
.66	0	0	0	0	0	0	1	0	0	1	0	0
.67	0	0	0	0	0	0	1	0	0	1	0	0
.68	0	0	0	0	0	0	1	0	0	1	0	0
.69	0	0	0	0	0	0	1	0	0	1	0	0
.70	0	0	0	0	0	0	1	0	0	1	0	0
.71	0	0	0	0	0	0	1	0	0	1	0	0
.72	0	0	0	0	0	0	1	0	0	1	0	0
.73	0	0	0	0	0	0	1	0	0	1	0	0
.74	0	0	0	0	0	0	1	0	0	1	0	0
.75	0	0	0	0	0	0	1	0	0	1	0	0
.76	0	0	0	0	0	0	1	0	0	1	0	0
.77	0	0	0	0	0	0	1	0	0	1	0	0
.78	0	0	0	0	0	0	1	0	0	1	0	0
.79	0	0	0	0	0	0	1	0	0	1	0	0
.80	0	0	0	0	0	0	1	0	0	1	0	0
.81	0	0	0	0	0	0	1	0	0	1	0	0
.82	0	0	0	0	0	0	1	0	0	1	0	0
.83	0	0	0	0	0	0	1	0	0	1	0	0
.84	0	0	0	0	0	0	1	0	0	1	0	0
.85	0	0	0	0	0	0	1	0	0	1	0	0
.86	0	0	0	0	0	0	1	0	0	1	0	0
.87	0	0	0	0	0	0	1	0	0	1	0	0
.88	0	0	0	0	0	0	1	0	0	1	0	0
.89	0	0	0	0	0	0	1	0	0	1	0	0
.90	0	0	0	0	0	0	1	0	0	1	0	0
.91	0	0	0	0	0	0	1	0	0	1	0	0
.92	0	0	0	0	0	0	1	0	0	1	0	0
.93	0	0	0	0	0	0	1	0	0	1	0	0
.94	0	0	0	0	0	0	1	0	0	1	0	0
.95	0	0	0	0	0	0	1	0	0	1	0	0
.96	0	0	0	0	0	0	1	0	0	1	0	0
.97	0	0	0	0	0	0	1	0	0	1	0	0
.98	0	0	0	0	0	0	1	0	0	1	0	0
.99	0	0	0	0	0	0	1	0	0	1	0	0
1.	0	0	0	0	0	0	1	0	0	1	0	0
SUBTOTAL	0	0	0	25	5	0	37	9	2	66	14	2

[redacted] [redacted] [redacted]

[redacted]

MISSION * 1C12-2 * INSTRUMENT * FWD 2-09-64 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	1	0	0	0	0	0	1	0
1.02	0	0	0	0	1	0	0	1	0	0	1	0
1.03	0	0	0	0	1	0	0	1	0	0	1	0
1.04	0	0	0	0	1	0	0	1	0	0	1	0
1.05	0	0	0	0	1	0	0	1	0	0	1	0
1.06	0	0	0	0	1	0	0	1	0	0	1	0
1.07	0	0	0	0	1	0	0	1	0	0	1	0
1.08	0	0	0	0	1	0	0	1	0	0	1	0
1.09	0	0	0	0	1	0	0	1	0	0	1	0
1.10	0	0	0	0	1	0	0	1	0	0	1	0
1.11	0	0	0	0	1	0	0	1	0	0	1	0
1.12	0	0	0	0	1	0	0	1	0	0	1	0
1.13	0	0	0	0	1	0	0	1	0	0	1	0
1.14	0	0	0	0	1	0	0	1	0	0	1	0
1.15	0	0	0	0	1	0	0	1	0	0	1	0
1.16	0	0	0	0	1	0	0	1	0	0	1	0
1.17	0	0	0	0	1	0	0	1	0	0	1	0
1.18	0	0	0	0	1	0	0	1	0	0	1	0
1.19	0	0	0	0	1	0	0	1	0	0	1	0
1.20	0	0	0	0	1	0	0	1	0	0	1	0
1.21	0	0	0	0	1	0	0	1	0	0	1	0
1.22	0	0	0	0	1	0	0	1	0	0	1	0
1.23	0	0	0	0	1	0	0	1	0	0	1	0
1.24	0	0	0	0	1	0	0	1	0	0	1	0
1.25	0	0	0	0	1	0	0	1	0	0	1	0
1.26	0	0	0	0	1	0	0	1	0	0	1	0
1.27	0	0	0	0	1	0	0	1	0	0	1	0
1.28	0	0	0	0	1	0	0	1	0	0	1	0
1.29	0	0	0	0	1	0	0	1	0	0	1	0
1.30	0	0	0	0	1	0	0	1	0	0	1	0
1.31	0	0	0	0	1	0	0	1	0	0	1	0
1.32	0	0	0	0	1	0	0	1	0	0	1	0
1.33	0	0	0	0	1	0	0	1	0	0	1	0
1.34	0	0	0	0	1	0	0	1	0	0	1	0
1.35	0	0	0	0	1	0	0	1	0	0	1	0
1.36	0	0	0	0	1	0	0	1	0	0	1	0
1.37	0	0	0	0	1	0	0	1	0	0	1	0
1.38	0	0	0	0	1	0	0	1	0	0	1	0
1.39	0	0	0	0	1	0	0	1	0	0	1	0
1.40	0	0	0	0	1	0	0	1	0	0	1	0
1.41	0	0	0	0	1	0	0	1	0	0	1	0
1.42	0	0	0	0	1	0	0	1	0	0	1	0
1.43	0	0	0	0	1	0	0	1	0	0	1	0
1.44	0	0	0	0	1	0	0	1	0	0	1	0
1.45	0	0	0	0	1	0	0	1	0	0	1	0
1.46	0	0	0	0	1	0	0	1	0	0	1	0
1.47	0	0	0	0	1	0	0	1	0	0	1	0
1.48	0	0	0	0	1	0	0	1	0	0	1	0
1.49	0	0	0	0	1	0	0	1	0	0	1	0
1.50	0	0	0	0	1	0	0	1	0	0	1	0
SUBTOTAL	0	0	0	2	21	6	1	26	6	3	47	12

[redacted]

[redacted]

MISSION = 1012-2 * INSTRUMENT = FWD 2-09-64 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	1	0	0	1	0
1.52	0	0	0	0	0	0	0	0	0	0	0	0
1.53	0	0	0	0	0	0	0	0	0	0	0	0
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	1	0	0	1	0
1.56	0	0	0	0	0	0	0	1	0	0	1	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	0	0	0	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	0	0	0	0	0
1.63	0	0	0	0	0	0	0	0	0	0	0	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	1	0	0	1	0
1.67	0	0	0	0	0	0	0	0	0	0	0	0
1.68	0	0	0	0	0	0	0	0	0	0	0	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	0	0	0	0	0
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	22	26	0	12	21	0	34	47

[redacted]

[redacted]

MISSION • 1C12-2 • INSTRUMENT • FWD 2-09-64 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.C1	0	0	0	0	0	1	0	1	0	0	1	0
2.C2	0	0	0	0	1	0	0	1	0	0	1	1
2.C3	0	0	0	0	1	2	0	1	0	0	1	3
2.C4	0	0	0	0	1	0	0	1	1	0	1	1
2.C5	0	0	0	0	0	5	0	1	1	0	1	6
2.C6	0	0	0	0	0	0	0	1	0	0	1	6
2.C7	0	0	0	0	0	1	0	1	0	0	1	7
2.C8	0	0	0	0	0	0	0	1	0	0	1	7
2.C9	0	0	0	0	0	1	0	1	0	0	1	8
2.10	0	0	0	0	0	3	0	1	0	0	1	11
2.11	0	0	0	0	0	0	0	1	0	0	1	11
2.12	0	0	0	0	1	0	0	1	0	0	1	11
2.13	0	0	0	0	0	5	0	1	0	0	1	16
2.14	0	0	0	0	0	0	0	1	0	0	1	16
2.15	0	0	0	0	0	4	0	1	0	0	1	16
2.16	0	0	0	0	0	2	0	1	0	0	1	16
2.17	0	0	0	0	0	1	0	1	0	0	1	16
2.18	0	0	0	0	0	3	0	1	0	0	1	16
2.19	0	0	0	0	0	1	0	1	0	0	1	16
2.2C	0	0	0	0	0	2	0	1	0	0	1	16
2.21	0	0	0	0	0	0	0	1	0	0	1	16
2.22	0	0	0	0	0	2	0	1	0	0	1	16
2.23	0	0	0	0	0	0	0	1	0	0	1	16
2.24	0	0	0	0	0	1	0	1	0	0	1	16
2.25	0	0	0	0	0	0	0	1	0	0	1	16
2.26	0	0	0	0	0	2	0	1	0	0	1	16
2.27	0	0	0	0	0	0	0	1	0	0	1	16
2.28	0	0	0	0	0	0	0	1	0	0	1	16
2.29	0	0	0	0	0	1	0	1	0	0	1	16
2.3C	0	0	0	0	0	0	0	1	0	0	1	16
2.31	0	0	0	0	0	1	0	1	0	0	1	16
2.32	0	0	0	0	0	0	0	1	0	0	1	16
2.33	0	0	0	0	0	2	0	1	0	0	1	16
2.34	0	0	0	0	0	0	0	1	0	0	1	16
2.35	0	0	0	0	0	0	0	1	0	0	1	16
2.36	0	0	0	0	0	0	0	1	0	0	1	16
2.37	0	0	0	0	0	0	0	1	0	0	1	16
2.38	0	0	0	0	0	0	0	1	0	0	1	16
2.39	0	0	0	0	0	0	0	1	0	0	1	16
2.40	0	0	0	0	0	0	0	1	0	0	1	16
2.41	0	0	0	0	0	0	0	1	0	0	1	16
2.42	0	0	0	0	0	0	0	1	0	0	1	16
2.43	0	0	0	0	0	0	0	1	0	0	1	16
2.44	0	0	0	0	0	0	0	1	0	0	1	16
2.45	0	0	0	0	0	0	0	1	0	0	1	16
2.46	0	0	0	0	0	0	0	1	0	0	1	16
2.47	0	0	0	0	0	0	0	1	0	0	1	16
2.48	0	0	0	0	0	0	0	1	0	0	1	16
2.49	0	0	0	0	0	0	0	1	0	0	1	16
2.5C	0	0	0	0	0	0	0	1	0	0	1	16
SUBTOTAL	0	0	0	0	6	39	0	9	12	0	15	51

[redacted]

[redacted]

MISSION • 1012-2 • INSTRUMENT • FWD 2-09-64 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	C	C	0	C	C	0	0	0	0	0	0	0
2.52	C	C	0	C	C	0	0	0	0	0	0	0
2.53	C	C	0	C	C	0	0	0	0	0	0	0
2.54	C	C	0	C	C	0	0	0	0	0	0	0
2.55	C	C	0	C	C	0	0	0	0	0	0	0
2.56	C	C	0	C	C	0	0	0	0	0	0	0
2.57	C	C	0	C	C	0	0	0	0	0	0	0
2.58	C	C	0	C	C	0	0	0	0	0	0	0
2.59	C	C	0	C	C	0	0	0	0	0	0	0
2.60	C	C	0	C	C	0	0	0	0	0	0	0
2.61	C	C	0	C	C	0	0	0	0	0	0	0
2.62	C	C	0	C	C	0	0	0	0	0	0	0
2.63	C	C	0	C	C	0	0	0	0	0	0	0
2.64	C	C	0	C	C	0	0	0	0	0	0	0
2.65	C	C	0	C	C	0	0	0	0	0	0	0
2.66	C	C	0	C	C	0	0	0	0	0	0	0
2.67	C	C	0	C	C	0	0	0	0	0	0	0
2.68	C	C	0	C	C	0	0	0	0	0	0	0
2.69	C	C	0	C	C	0	0	0	0	0	0	0
2.70	C	C	0	C	C	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	0	0	0	0	0	0	0	0	0
TOTAL	C	C	0	54	54	71	56	56	41	110	110	112

MISSION 1012-2 INSTR - FWD 2-09-64 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	C	C PC	0 PC	0 PC	0 PC	0 P
INTERMEDIATE	54	C PC	19 PC	70 PC	11 PC	0 P
FULL	56	7 PC	0 PC	89 PC	4 PC	0 P
ALL LEVELS	110	4 PC	9 PC	80 PC	7 PC	0 P

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0.01-C.09	C.01-C.13	0.14-0.39	0.40-0.90	----------	0.91 AND
INTERMED	C.1C-C.17	C.01-C.2C	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND
FULL	C.18 AND UP	C.01-C.39	----------	0.40-0.90	0.91-1.69	1.70 AND

[redacted]

 [redacted]

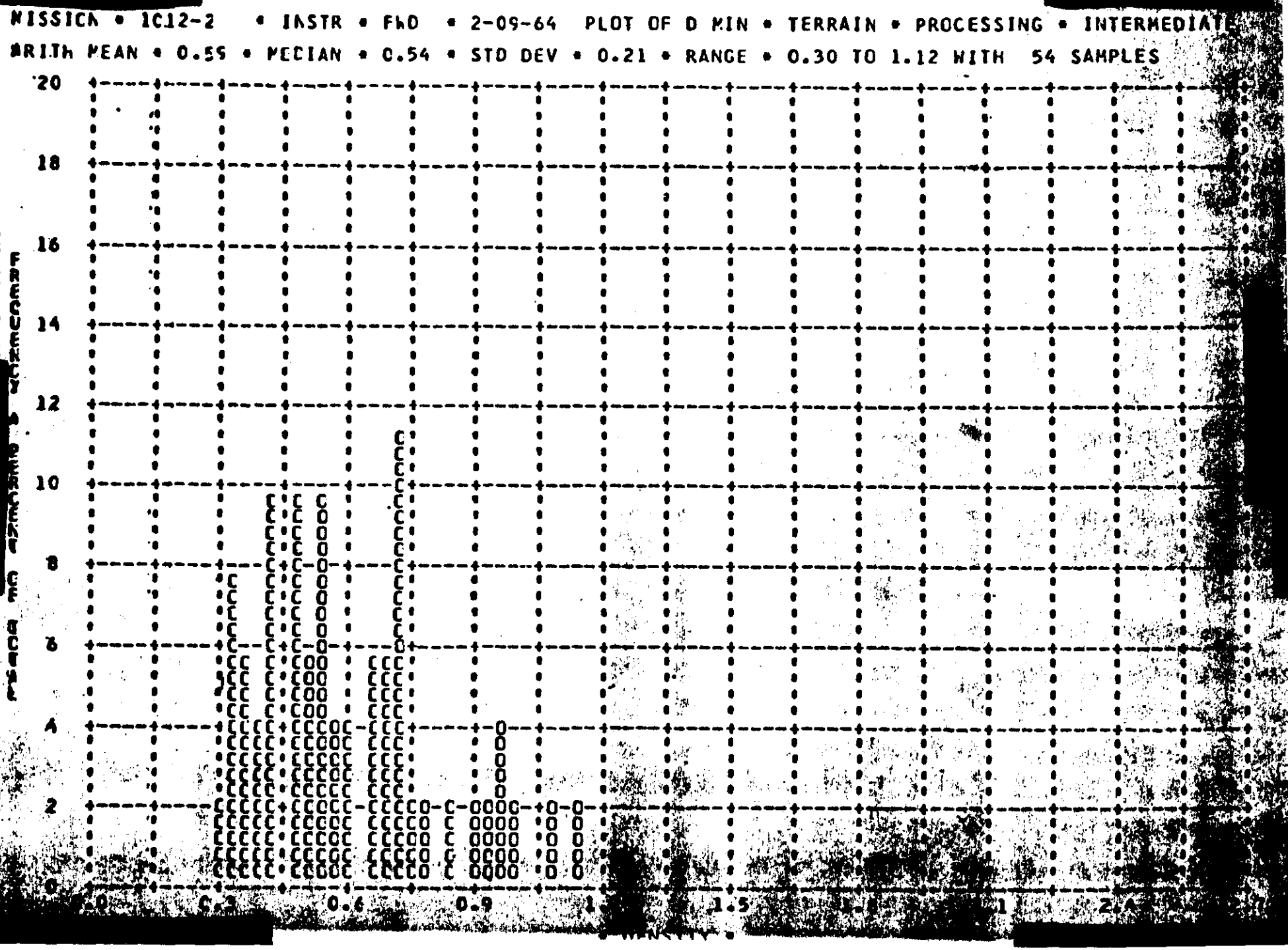

MISSION • 1C12-2 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 0.55 • MEDIAN • 0.54 • STD DEV • 0.21 • RANGE • 0.30 TO 1.12 WITH 54 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.3
0.6
0.9
1
1.5
2

FIGURE 9-22

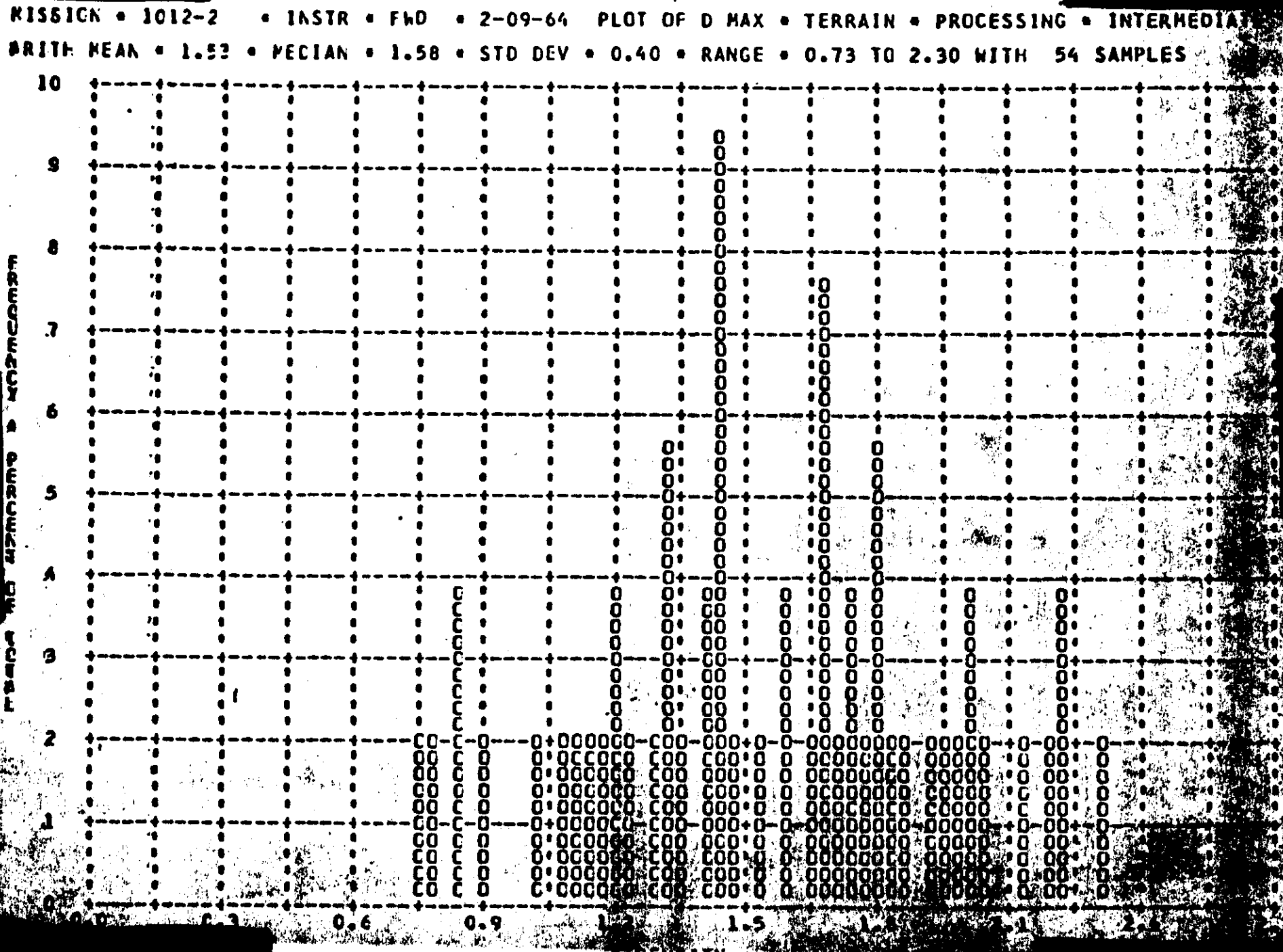


FIGURE 9-28

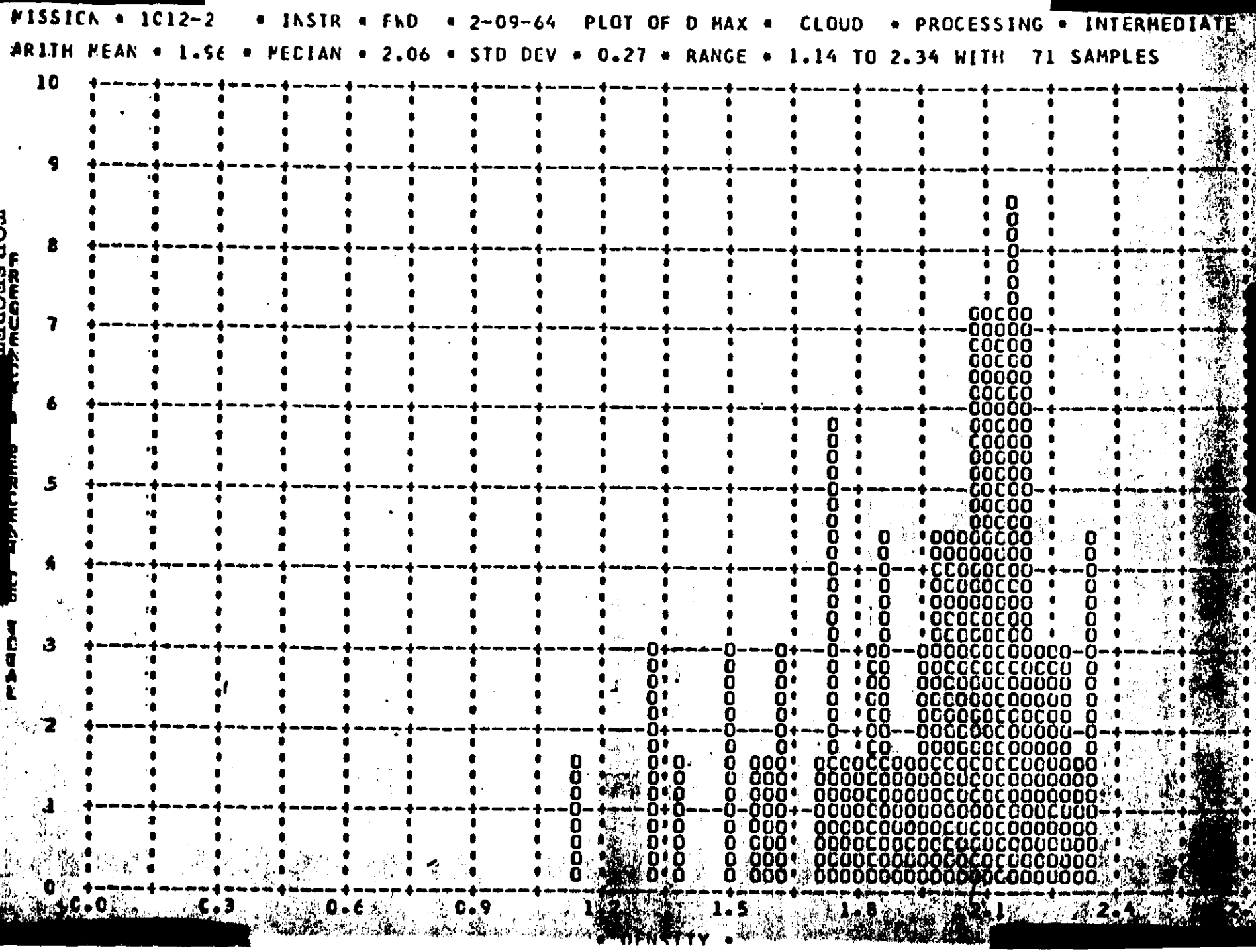

MISSION • 1012-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.56 • MEDIAN • 2.06 • STD DEV • 0.27 • RANGE • 1.14 TO 2.34 WITH 71 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY

FIGURE 9-24

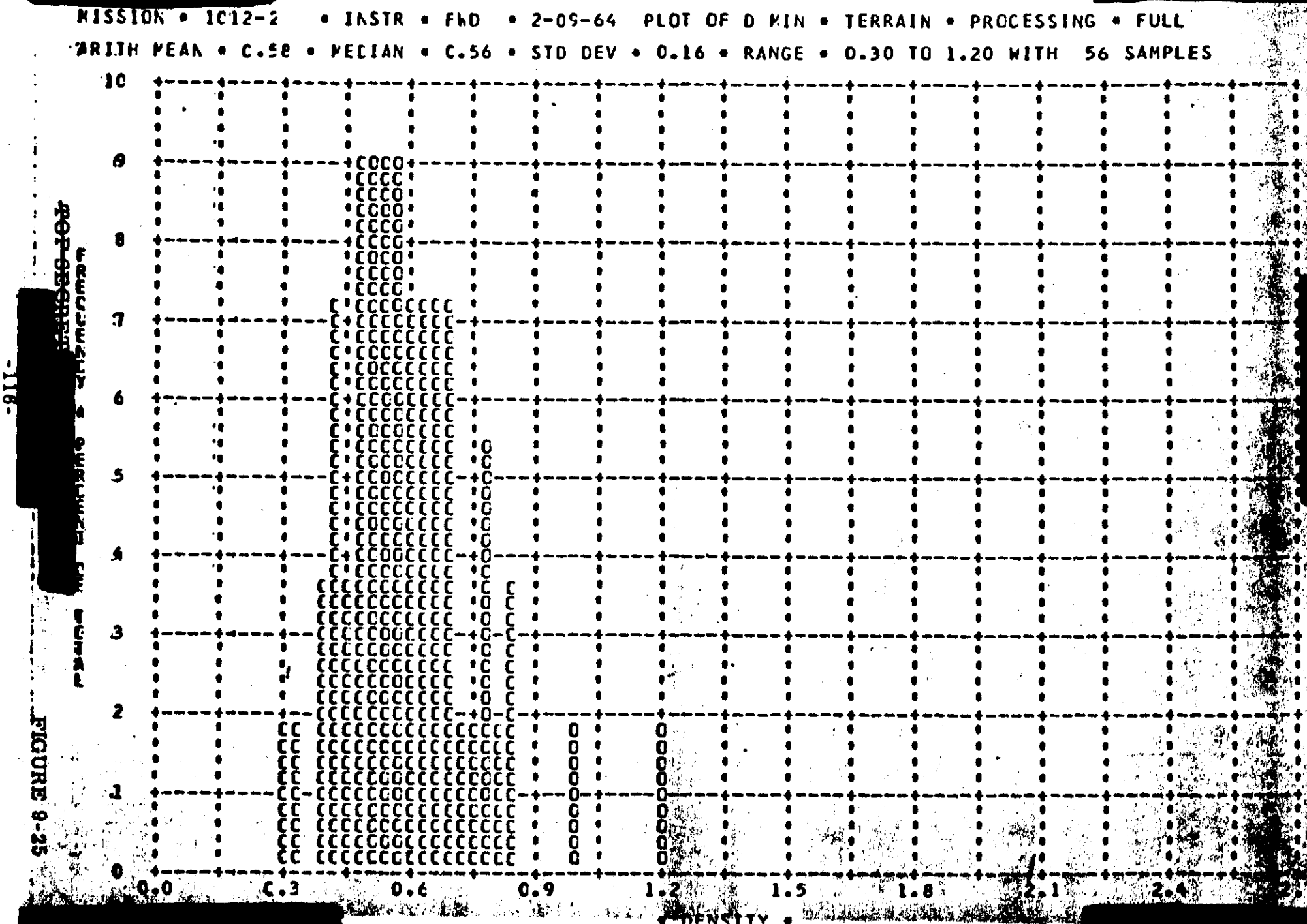

MISSION • 1012-2 • INSTR • FHD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.58 • MEDIAN • 0.56 • STD DEV • 0.16 • RANGE • 0.30 TO 1.20 WITH 56 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY

FIGURE 8-25

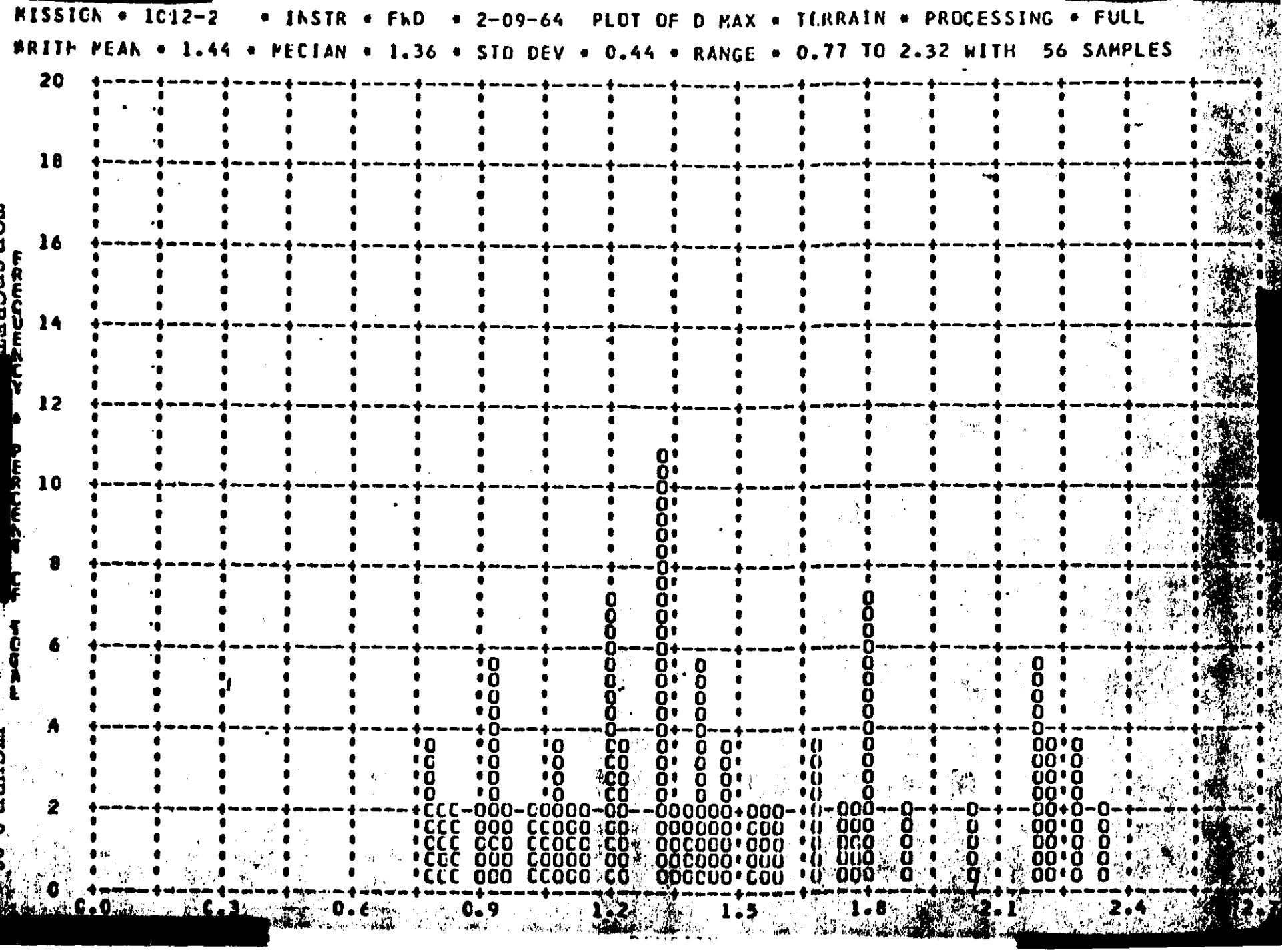

MISSION • 1C12-2 • INSTR • FHD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
WITH MEAN • 1.44 • MEDIAN • 1.36 • STD DEV • 0.44 • RANGE • 0.77 TO 2.32 WITH 56 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 6-26

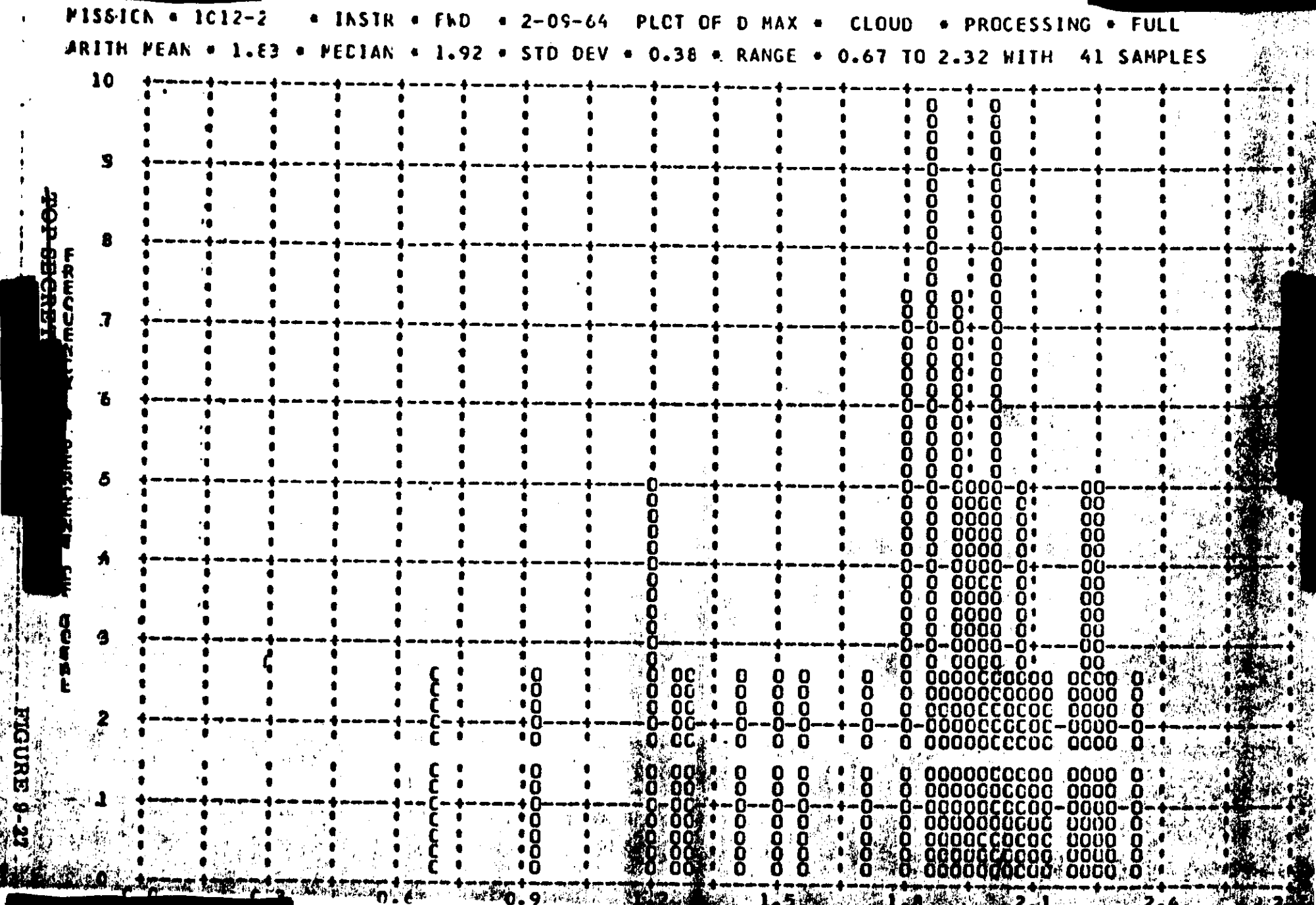

MISSION • 1C12-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • FULL
ARITH MEAN • 1.83 • MEDIAN • 1.92 • STD DEV • 0.38 • RANGE • 0.67 TO 2.32 WITH 41 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 6-27

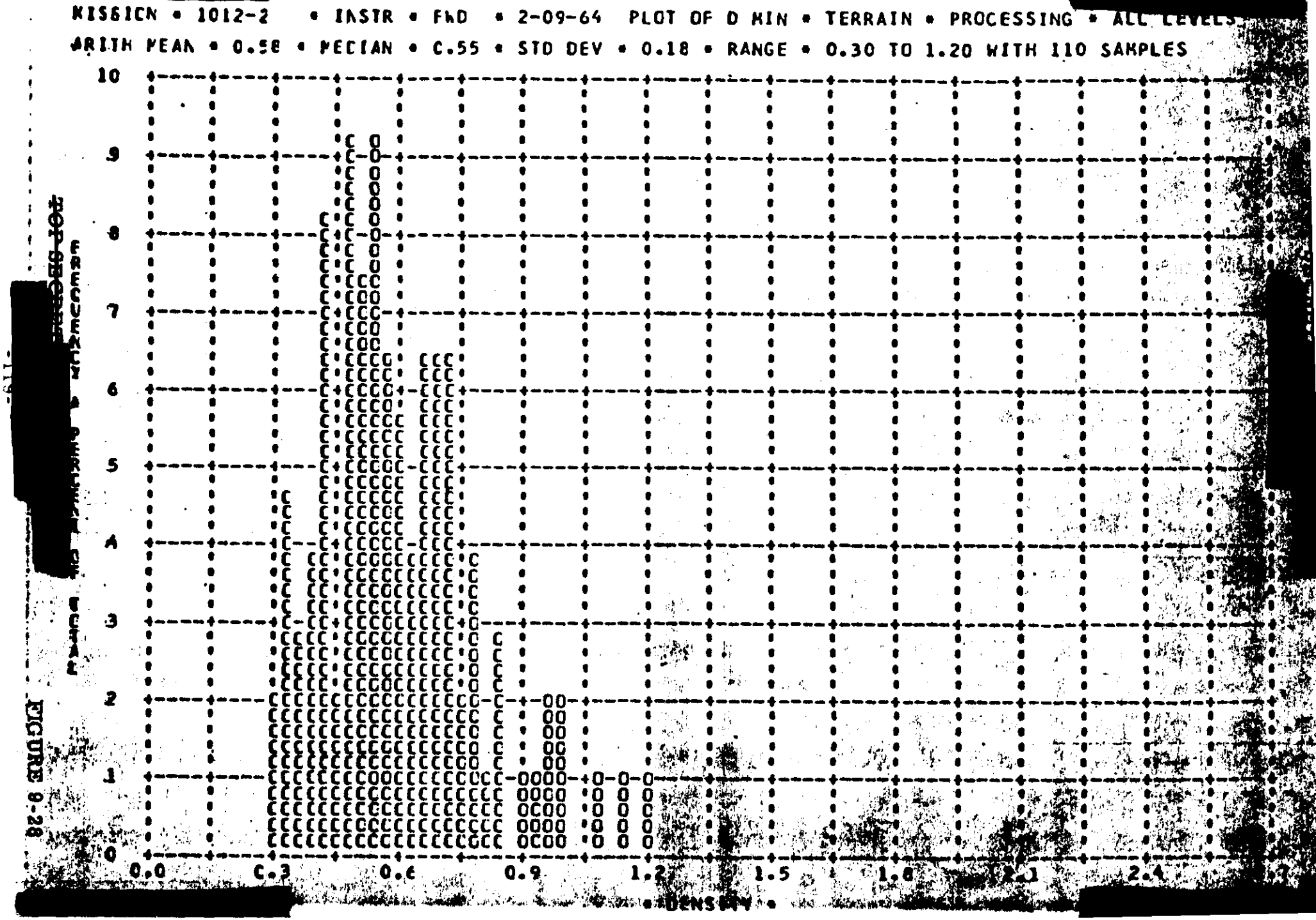

MISSION • 1012-2 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.58 • MEDIAN • 0.55 • STD DEV • 0.18 • RANGE • 0.30 TO 1.20 WITH 110 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
• DENSITY •

FIGURE 8-28

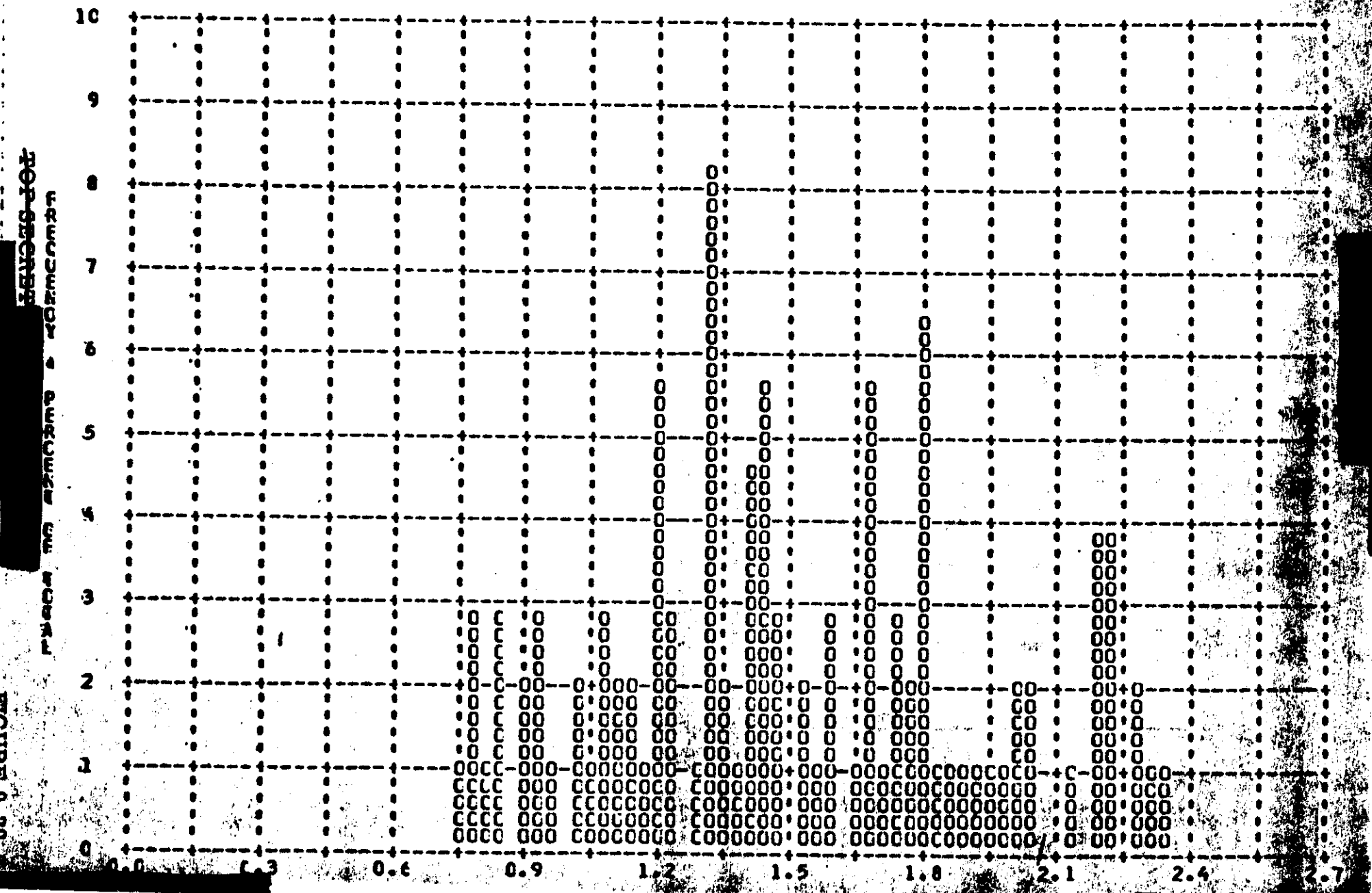

MISSION • 1012-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.45 • MEDIAN • 1.42 • STD DEV • 0.42 • RANGE • 0.73 TO 2.32 WITH 110 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 0-20

MISSION • 1012-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.51 • MEDIAN • 2.00 • STD DEV • 0.32 • RANGE • 0.67 TO 2.34 WITH 112 SAMPLES

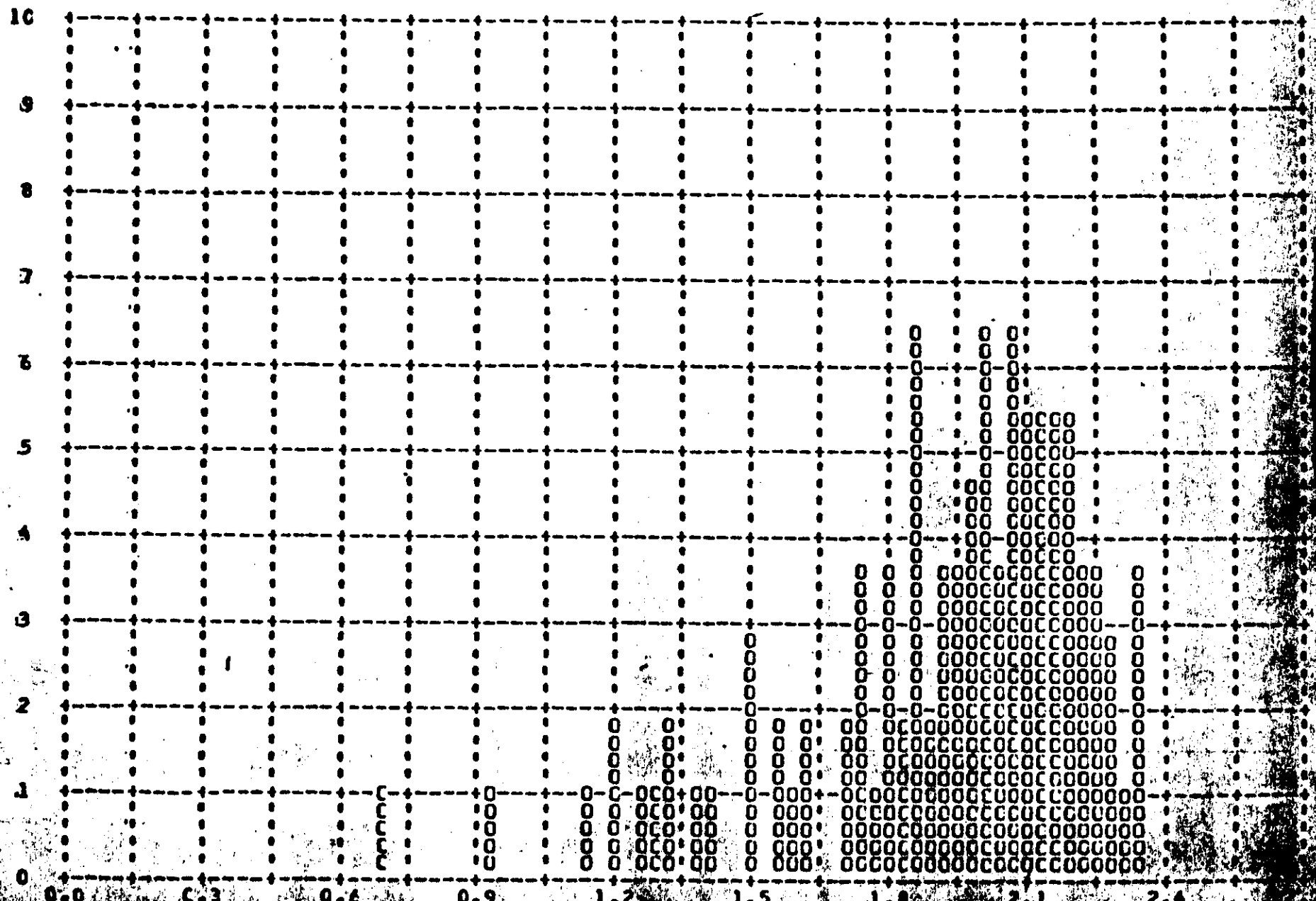


FIGURE 9-30

[redacted]

MISSION • 1012-2 • INSTRUMENT • AFT 2-09-64 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
C.C1	0	0	0	0	0	0	0	0	0	0	0	0
C.C2	0	0	0	0	0	0	0	0	0	0	0	0
C.C3	0	0	0	0	0	0	0	0	0	0	0	0
C.C4	0	0	0	0	0	0	0	0	0	0	0	0
C.C5	0	0	0	0	0	0	0	0	0	0	0	0
C.C6	0	0	0	0	0	0	0	0	0	0	0	0
C.C7	0	0	0	0	0	0	0	0	0	0	0	0
C.C8	0	0	0	0	0	0	0	0	0	0	0	0
C.C9	0	0	0	0	0	0	0	0	0	0	0	0
C.10	0	0	0	0	0	0	0	0	0	0	0	0
C.11	0	0	0	0	0	0	0	0	0	0	0	0
C.12	0	0	0	0	0	0	0	0	0	0	0	0
C.13	0	0	0	0	0	0	0	0	0	0	0	0
C.14	0	0	0	0	0	0	0	0	0	0	0	0
C.15	0	0	0	0	0	0	0	0	0	0	0	0
C.16	0	0	0	0	0	0	0	0	0	0	0	0
C.17	0	0	0	0	0	0	0	0	0	0	0	0
C.18	0	0	0	0	0	0	0	0	0	0	0	0
C.19	0	0	0	0	0	0	0	0	0	0	0	0
C.20	0	0	0	0	0	0	0	0	0	0	0	0
C.21	0	0	0	0	0	0	0	0	0	0	0	0
C.22	0	0	0	0	0	0	0	0	0	0	0	0
C.23	0	0	0	0	0	0	0	0	0	0	0	0
C.24	0	0	0	0	0	0	0	0	0	0	0	0
C.25	0	0	0	0	0	0	0	0	0	0	0	0
C.26	0	0	0	0	0	0	0	0	0	0	0	0
C.27	0	0	0	0	0	0	0	0	0	0	0	0
C.28	0	0	0	0	0	0	0	0	0	0	0	0
C.29	0	0	0	0	0	0	0	0	0	0	0	0
C.30	0	0	0	0	0	0	0	0	0	0	0	0
C.31	0	0	0	0	0	0	0	0	0	0	0	0
C.32	0	0	0	0	0	0	0	0	0	0	0	0
C.33	0	0	0	0	0	0	0	0	0	0	0	0
C.34	0	0	0	0	0	0	0	0	0	0	0	0
C.35	0	0	0	0	0	0	0	0	0	0	0	0
C.36	0	0	0	0	0	0	0	0	0	0	0	0
C.37	0	0	0	0	0	0	0	0	0	0	0	0
C.38	0	0	0	0	0	0	0	0	0	0	0	0
C.39	0	0	0	0	0	0	0	0	0	0	0	0
C.40	0	0	0	0	0	0	0	0	0	0	0	0
C.41	0	0	0	0	0	0	0	0	0	0	0	0
C.42	0	0	0	0	0	0	0	0	0	0	0	0
C.43	0	0	0	0	0	0	0	0	0	0	0	0
C.44	0	0	0	0	0	0	0	0	0	0	0	0
C.45	0	0	0	0	0	0	0	0	0	0	0	0
C.46	0	0	0	0	0	0	0	0	0	0	0	0
C.47	0	0	0	0	0	0	0	0	0	0	0	0
C.48	0	0	0	0	0	0	0	0	0	0	0	0
C.49	0	0	0	0	0	0	0	0	0	0	0	0
C.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	2	0	0	33	1	0	35	1	0

[redacted]

TABLE 9-6

[redacted]

MISSION • 1012-2 • INSTRUMENT • AFT 2-09-64 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	0	0	0	3	0	0	3	0	0
0.52	0	0	0	0	0	0	4	0	0	4	0	0
0.53	0	0	0	0	0	0	2	0	0	2	0	0
0.54	0	0	0	0	0	0	1	0	0	1	0	0
0.55	0	0	0	0	0	0	3	0	0	3	0	0
0.56	0	0	0	0	0	0	2	0	0	2	0	0
0.57	0	0	0	0	0	0	2	0	0	2	0	0
0.58	0	0	0	0	0	0	2	0	0	2	0	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	0	0	0	2	0	0	2	0	0
0.61	0	0	0	0	0	0	2	0	0	2	0	0
0.62	0	0	0	0	0	0	2	0	0	2	0	0
0.63	0	0	0	0	0	0	1	0	0	1	0	0
0.64	0	0	0	0	0	0	0	0	0	0	0	0
0.65	0	0	0	0	0	0	4	0	0	4	0	0
0.66	0	0	0	0	0	0	1	0	0	1	0	0
0.67	0	0	0	0	0	0	0	0	0	0	0	0
0.68	0	0	0	0	0	0	1	0	0	1	0	0
0.69	0	0	0	0	0	0	1	0	0	1	0	0
0.70	0	0	0	0	0	0	0	0	0	0	0	0
0.71	0	0	0	0	0	0	1	0	0	1	0	0
0.72	0	0	0	0	0	0	6	0	0	6	0	0
0.73	0	0	0	0	0	0	1	0	0	1	0	0
0.74	0	0	0	0	0	0	1	0	0	1	0	0
0.75	0	0	0	0	0	0	1	0	0	1	0	0
0.76	0	0	0	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	2	0	0	2	0	0
0.78	0	0	0	0	0	0	0	0	0	0	0	0
0.79	0	0	0	0	0	0	1	0	0	1	0	0
0.80	0	0	0	0	0	0	1	0	0	1	0	0
0.81	0	0	0	0	0	0	1	0	0	1	0	0
0.82	0	0	0	0	0	0	1	0	0	1	0	0
0.83	0	0	0	0	0	0	0	0	0	0	0	0
0.84	0	0	0	0	0	0	1	0	0	1	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	0	0	0	1	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	1	0	0	1	0	0
0.90	0	0	0	0	0	0	1	0	0	1	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	0	0	0	1	0	0	1	0	0
0.93	0	0	0	0	0	0	1	0	0	1	0	0
0.94	0	0	0	0	0	0	0	0	0	0	0	0
0.95	0	0	0	0	0	0	1	0	0	1	0	0
0.96	0	0	0	0	0	0	1	0	0	1	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	1	0	0	1	0	0
0.99	0	0	0	0	0	0	1	0	0	1	0	0
1.00	0	0	0	0	0	0	2	0	0	2	0	0
SUBTOTAL	0	0	0	0	0	0	59	11	3	68	12	3

[redacted]

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MISSION • 1C12-2 • INSTRUMENT • AFT 2-09-64 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	1	0	0	1	0
1.02	0	0	0	0	0	0	0	1	0	0	1	0
1.03	0	0	0	0	0	0	0	1	0	0	1	0
1.04	0	0	0	0	0	0	0	1	0	0	1	0
1.05	0	0	0	0	0	0	0	1	0	0	1	0
1.06	0	0	0	0	0	0	0	1	0	0	1	0
1.07	0	0	0	0	0	0	0	1	0	0	1	0
1.08	0	0	0	0	0	0	0	1	0	0	1	0
1.09	0	0	0	0	0	0	0	1	0	0	1	0
1.10	0	0	0	0	0	0	0	1	0	0	1	0
1.11	0	0	0	0	0	0	0	1	0	0	1	0
1.12	0	0	0	0	0	0	0	1	0	0	1	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	0	1	0	0	1	0
1.17	0	0	0	0	0	0	0	1	0	0	1	0
1.18	0	0	0	0	0	0	0	1	0	0	1	0
1.19	0	0	0	0	0	0	0	1	0	0	1	0
1.20	0	0	0	0	0	0	0	1	0	0	1	0
1.21	0	0	0	0	0	0	0	1	0	0	1	0
1.22	0	0	0	0	0	0	0	1	0	0	1	0
1.23	0	0	0	0	0	0	0	1	0	0	1	0
1.24	0	0	0	0	0	0	0	1	0	0	1	0
1.25	0	0	0	0	0	0	0	1	0	0	1	0
1.26	0	0	0	0	0	0	0	1	0	0	1	0
1.27	0	0	0	0	0	0	0	1	0	0	1	0
1.28	0	0	0	0	0	0	0	1	0	0	1	0
1.29	0	0	0	0	0	0	0	1	0	0	1	0
1.30	0	0	0	0	0	0	0	1	0	0	1	0
1.31	0	0	0	0	0	0	0	1	0	0	1	0
1.32	0	0	0	0	0	0	0	1	0	0	1	0
1.33	0	0	0	0	0	0	0	1	0	0	1	0
1.34	0	0	0	0	0	0	0	1	0	0	1	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	1	0	0	1	0
1.37	0	0	0	0	0	0	0	1	0	0	1	0
1.38	0	0	0	0	0	0	0	1	0	0	1	0
1.39	0	0	0	0	0	0	0	1	0	0	1	0
1.40	0	0	0	0	0	0	0	1	0	0	1	0
1.41	0	0	0	0	0	0	0	1	0	0	1	0
1.42	0	0	0	0	0	0	0	1	0	0	1	0
1.43	0	0	0	0	0	0	0	1	0	0	1	0
1.44	0	0	0	0	0	0	0	1	0	0	1	0
1.45	0	0	0	0	0	0	0	1	0	0	1	0
1.46	0	0	0	0	0	0	0	1	0	0	1	0
1.47	0	0	0	0	0	0	0	1	0	0	1	0
1.48	0	0	0	0	0	0	0	1	0	0	1	0
1.49	0	0	0	0	0	0	0	1	0	0	1	0
1.50	0	0	0	0	0	0	0	1	0	0	1	0
SUBTOTAL	0	0	0	1	6	0	12	35	8	13	41	8

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MISSION • 1C12-2 • INSTRUMENT • AFT 2-09-64 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	0	0	0	1	0	0	1	0
1.53	0	0	0	0	0	0	0	1	0	0	1	0
1.54	0	0	0	0	0	0	0	1	0	0	1	0
1.55	0	0	0	0	0	0	0	2	0	0	2	0
1.56	0	0	0	0	0	0	0	1	0	0	1	0
1.57	0	0	0	0	0	0	0	1	0	0	1	0
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	0	0	0	1	0	0	1	0
1.60	0	0	0	0	0	0	0	1	0	0	1	0
1.61	0	0	0	0	0	0	0	1	0	0	1	0
1.62	0	0	0	0	0	0	0	1	0	0	1	0
1.63	0	0	0	0	0	0	0	1	0	0	1	0
1.64	0	0	0	0	0	0	0	1	0	0	1	0
1.65	0	0	0	0	0	0	0	1	0	0	1	0
1.66	0	0	0	0	0	0	0	2	0	0	2	0
1.67	0	0	0	0	0	0	0	2	0	0	2	0
1.68	0	0	0	0	0	0	0	2	0	0	2	0
1.69	0	0	0	0	0	0	0	2	1	0	2	1
1.70	0	0	0	0	0	0	0	1	2	0	1	2
1.71	0	0	0	0	0	0	0	2	0	0	2	0
1.72	0	0	0	0	0	0	0	2	1	0	2	1
1.73	0	0	0	0	0	0	0	1	1	0	1	1
1.74	0	0	0	0	0	0	0	1	1	0	1	1
1.75	0	0	0	0	0	0	0	1	1	0	1	1
1.76	0	0	0	0	0	0	0	3	1	0	3	1
1.77	0	0	0	0	0	0	0	1	0	0	1	0
1.78	0	0	0	0	0	0	0	3	2	0	3	2
1.79	0	0	0	0	0	0	0	2	0	0	2	0
1.80	0	0	0	0	0	0	0	3	2	0	3	2
1.81	0	0	0	0	0	0	0	2	1	0	2	1
1.82	0	0	0	0	0	0	0	2	1	0	2	1
1.83	0	0	0	0	0	0	0	2	0	0	2	0
1.84	0	0	0	0	0	0	0	2	1	0	2	1
1.85	0	0	0	0	0	0	0	1	0	0	1	0
1.86	0	0	0	0	0	0	0	2	1	0	2	1
1.87	0	0	0	0	0	0	0	1	3	0	1	3
1.88	0	0	0	0	0	0	0	2	1	0	2	1
1.89	0	0	0	0	0	0	0	1	0	0	1	0
1.90	0	0	0	0	0	0	0	2	0	0	2	0
1.91	0	0	0	0	0	0	0	2	0	0	2	0
1.92	0	0	0	0	0	0	0	2	0	0	2	0
1.93	0	0	0	0	0	0	0	2	0	0	2	0
1.94	0	0	0	0	0	0	0	2	0	0	2	0
1.95	0	0	0	0	0	0	0	1	0	0	1	0
1.96	0	0	0	0	0	0	0	1	0	0	1	0
1.97	0	0	0	0	0	0	0	1	0	0	1	0
1.98	0	0	0	0	0	0	0	1	0	0	1	0
1.99	0	0	0	0	0	0	0	1	0	0	1	0
2.00	0	0	0	0	0	3	0	0	1	0	0	1
SUBTOTAL	0	0	0	0	5	17	0	37	28	0	42	45

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MISSION • 1012-2 • INSTRUMENT • AFT 2-09-64 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	1	0	0	0	0	0	1
2.02	0	0	0	0	0	2	0	0	1	0	0	3
2.03	0	0	0	0	0	1	0	0	1	0	0	2
2.04	0	0	0	0	0	0	0	0	0	0	0	0
2.05	0	0	0	0	0	0	0	0	1	0	0	1
2.06	0	0	0	0	0	0	0	0	2	0	0	3
2.07	0	0	0	0	0	0	0	0	1	0	0	1
2.08	0	0	0	0	0	0	0	0	2	0	0	2
2.09	0	0	0	0	0	0	0	0	1	0	0	1
2.10	0	0	0	0	0	0	0	0	4	0	0	4
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	3	0	0	3
2.13	0	0	0	0	0	0	0	0	0	0	0	0
2.14	0	0	0	0	0	1	0	0	5	0	0	6
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	0	0	0	0
2.18	0	0	0	0	0	0	0	0	0	0	0	0
2.19	0	0	0	0	0	0	0	0	1	0	0	1
2.20	0	0	0	0	0	0	0	0	0	0	0	0
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	0	0	0	0
2.29	0	0	0	0	0	0	0	0	0	0	0	0
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
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	0	10	0	20	51	0	20	61

[redacted]

[redacted]

MISSION • 1012-2 • INSTRUMENT • AFT 2-09-64 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	C	C	0	C	C	0	0	0	0	0	0	0
2.52	C	C	0	C	C	0	0	0	0	0	0	0
2.53	C	C	0	C	C	0	0	0	0	0	0	0
2.54	C	C	0	C	C	0	0	0	0	0	0	0
2.55	C	C	0	C	C	0	0	0	0	0	0	0
2.56	C	C	0	C	C	0	0	0	0	0	0	0
2.57	C	C	0	C	C	0	0	0	0	0	0	0
2.58	C	C	0	C	C	0	0	0	0	0	0	0
2.59	C	C	0	C	C	0	0	0	0	0	0	0
2.60	C	C	0	C	C	0	0	0	0	0	0	0
2.61	C	C	0	C	C	0	0	0	0	0	0	0
2.62	C	C	0	C	C	0	0	0	0	0	0	0
2.63	C	C	0	C	C	0	0	0	0	0	0	0
2.64	C	C	0	C	C	0	0	0	0	0	0	0
2.65	C	C	0	C	C	0	0	0	0	0	0	0
2.66	C	C	0	C	C	0	0	0	0	0	0	0
2.67	C	C	0	C	C	0	0	0	0	0	0	0
2.68	C	C	0	C	C	0	0	0	0	0	0	0
2.69	C	C	0	C	C	0	0	0	0	0	0	0
2.70	C	C	0	C	C	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	C	C	0	0	0	0	0	0	0
TOTAL	C	C	0	12	12	27	104	104	90	116	116	117

MISSION 1012-2 INSTR - AFT 2-09-64 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	C	C PC	0 PC	0 PC	0 PC	0 P
INTERMEDIATE	12	C PC	0 PC	50 PC	50 PC	0 P
FULL	104	5 PC	0 PC	75 PC	20 PC	0 P
ALL LEVELS	116	4 PC	0 PC	72 PC	23 PC	0 P

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0.01-0.05	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AN
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AN
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70 AN

[redacted]

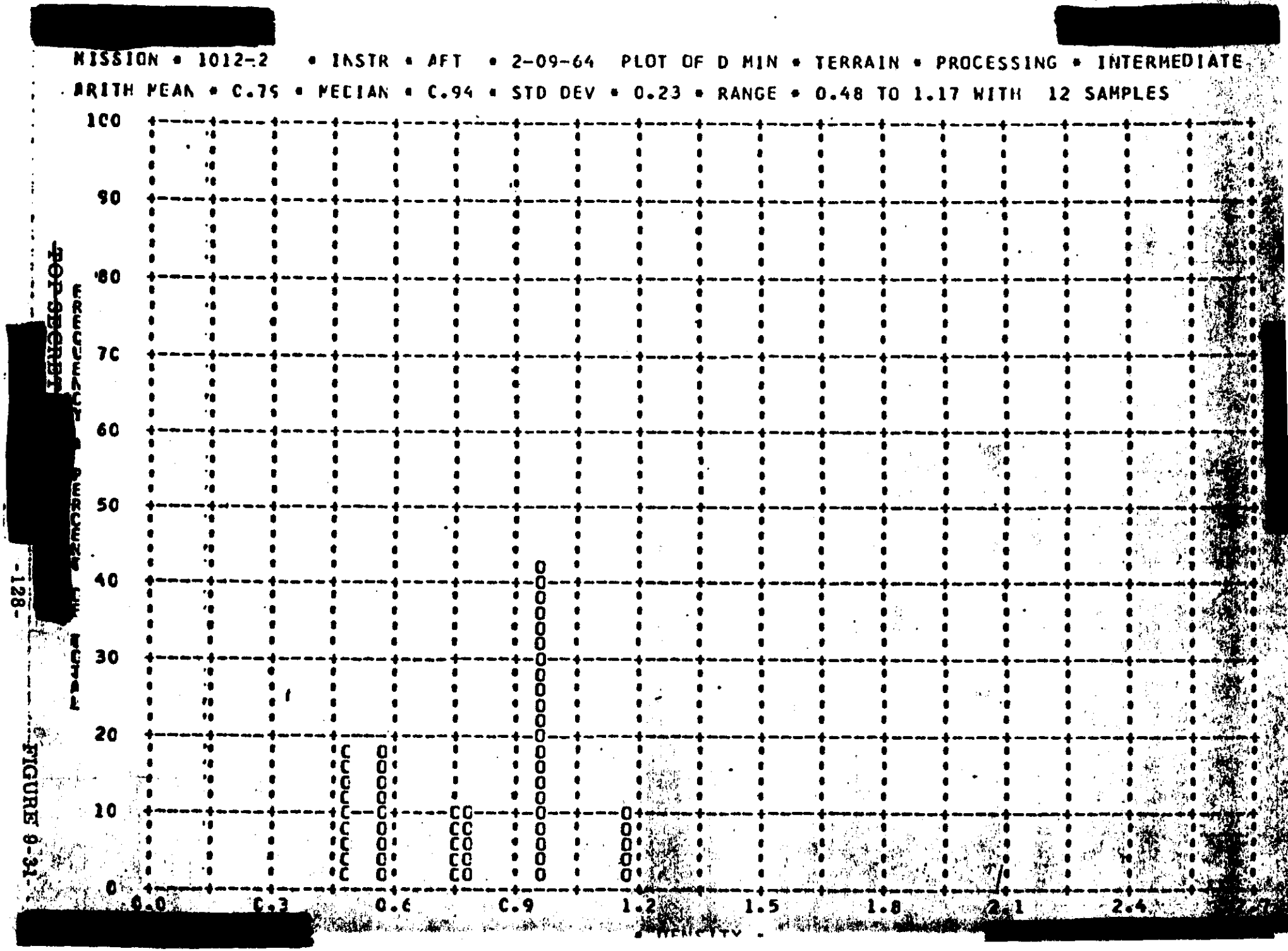

MISSION • 1012-2 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • C.75 • MEDIAN • C.94 • STD DEV • 0.23 • RANGE • 0.48 TO 1.17 WITH 12 SAMPLES
100
90
80
70
60
50
40
30
20
10
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 8-31

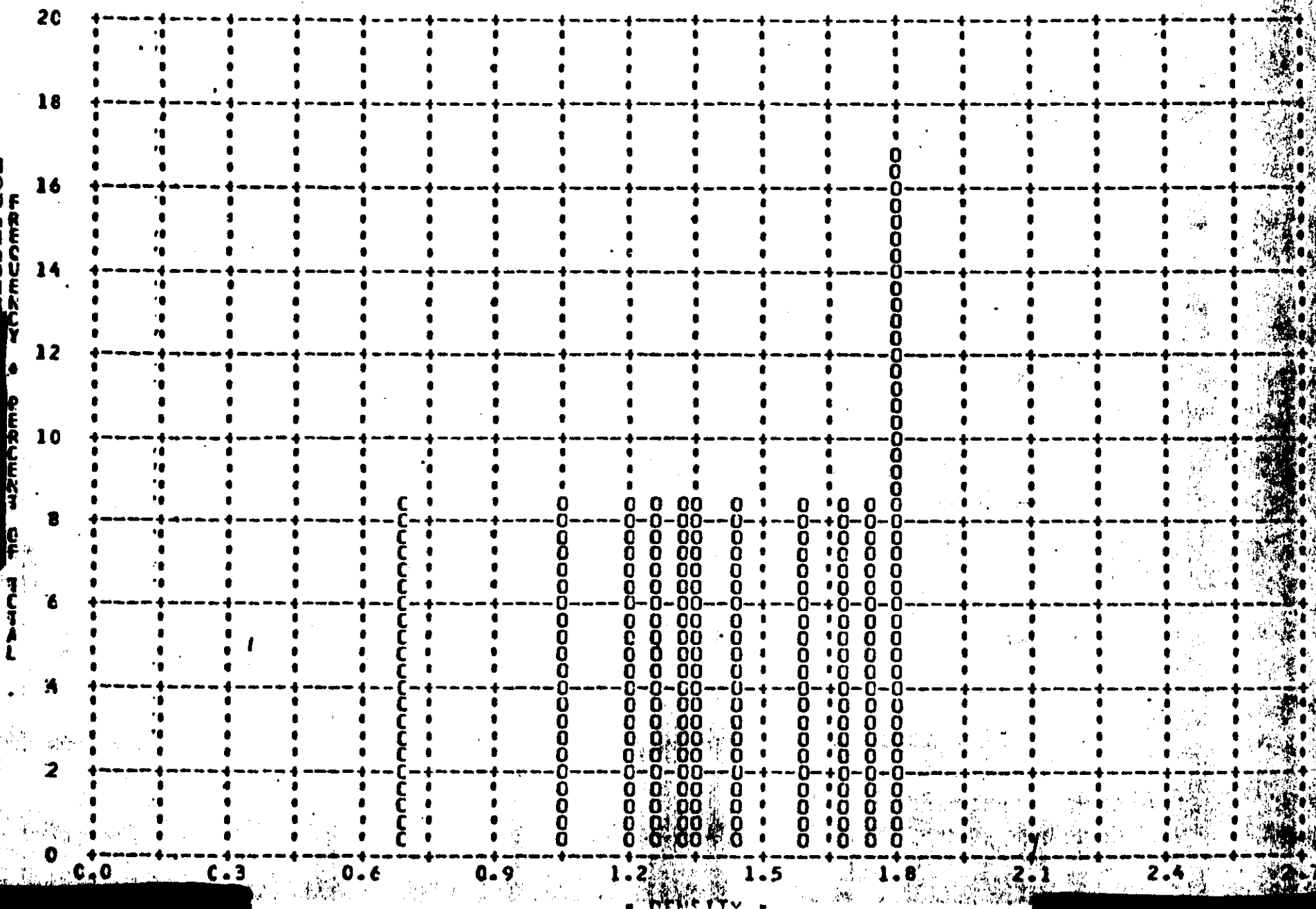

MISSION • IC12-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.40 • MEDIAN • 1.44 • STD DEV • 0.33 • RANGE • 0.68 TO 1.80 WITH 12 SAMPLES
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-32.

[redacted]

[redacted]

FIGURE 6-31

-130-

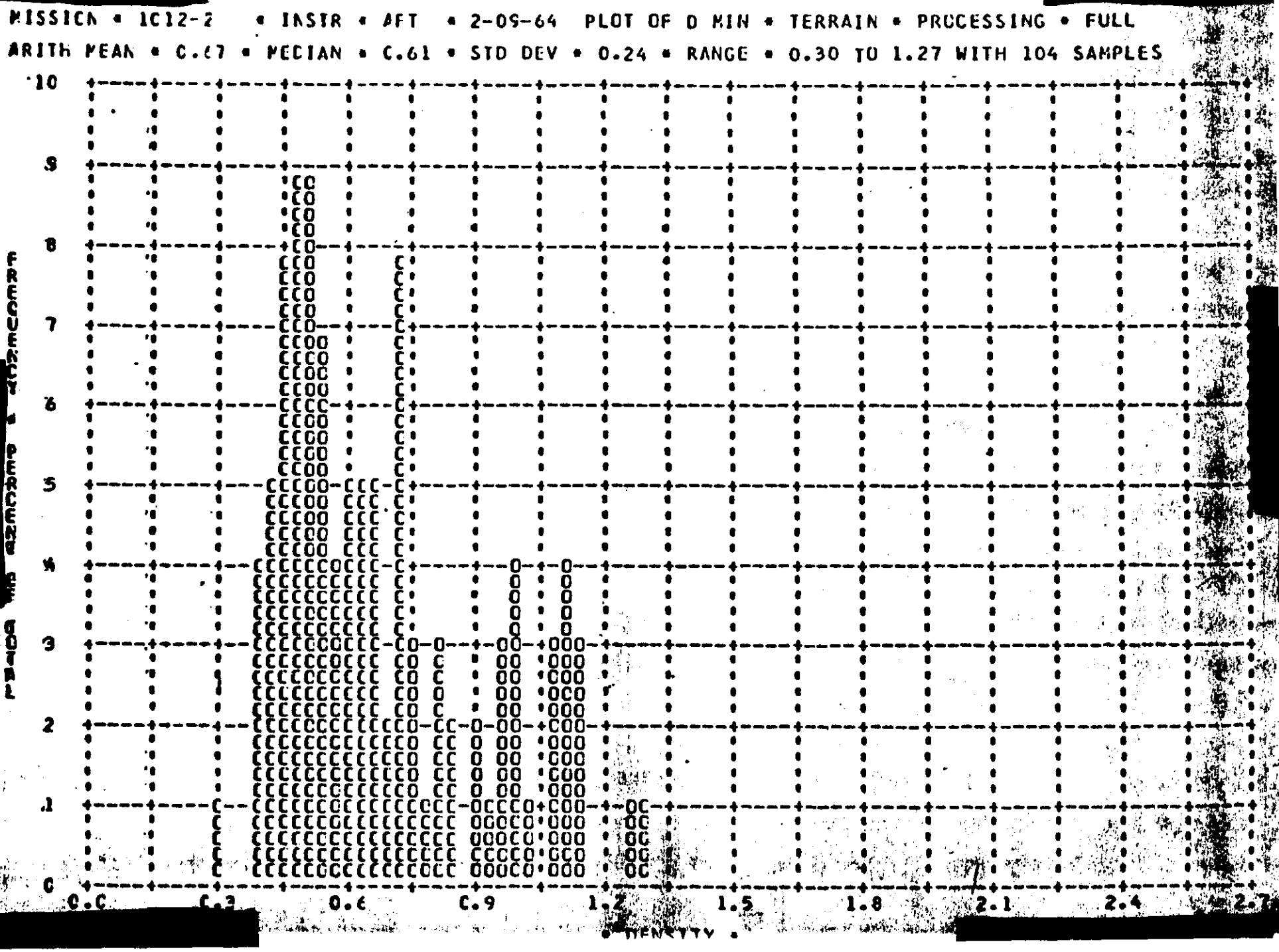

MISSION • 1C12-2 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.67 • MEDIAN • 0.61 • STD DEV • 0.24 • RANGE • 0.30 TO 1.27 WITH 104 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY

FIGURE 8-34

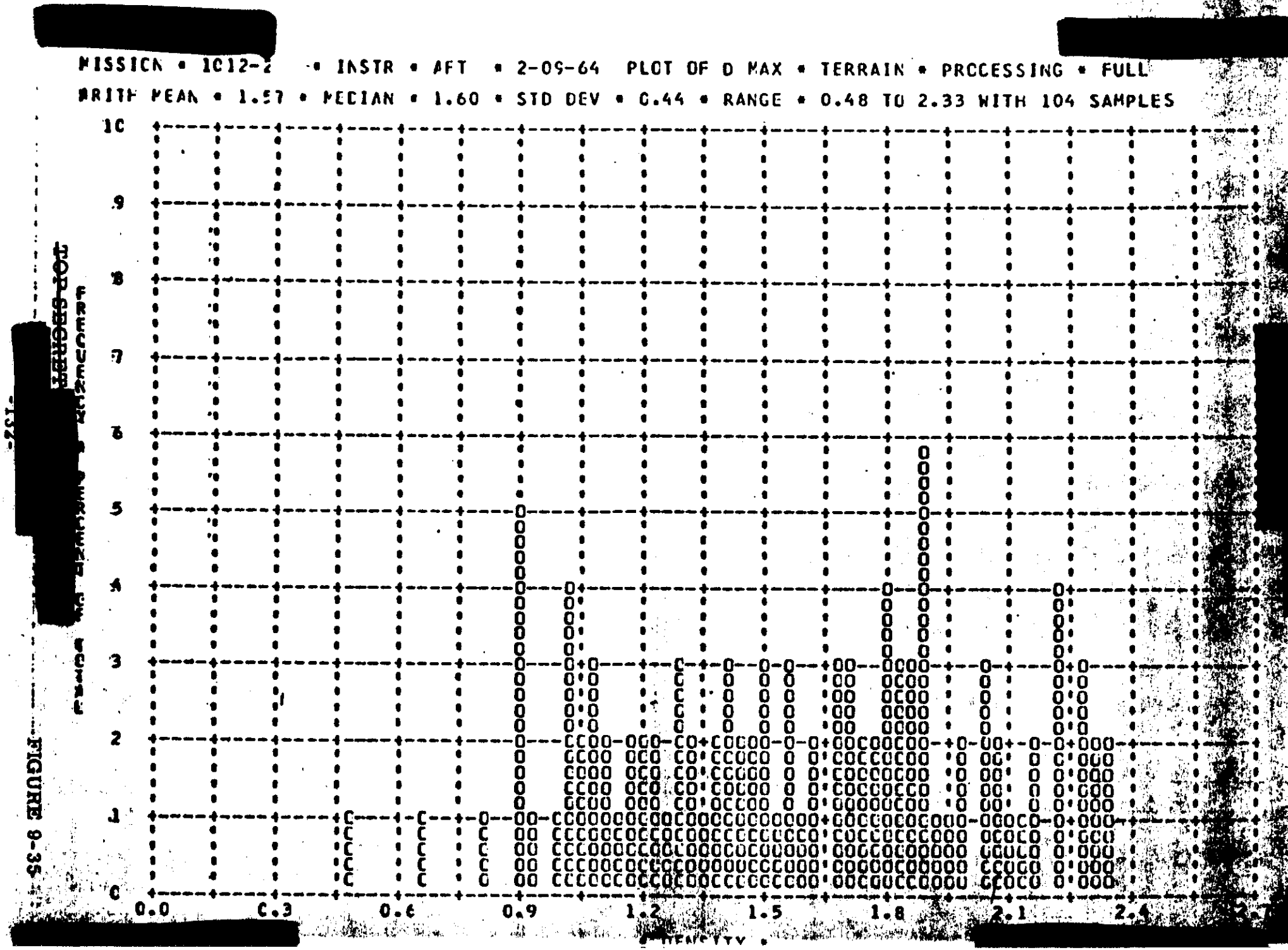

MISSION • 1012-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
BRITE MEAN • 1.57 • MEDIAN • 1.60 • STD DEV • 0.44 • RANGE • 0.48 TO 2.33 WITH 104 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 0-35

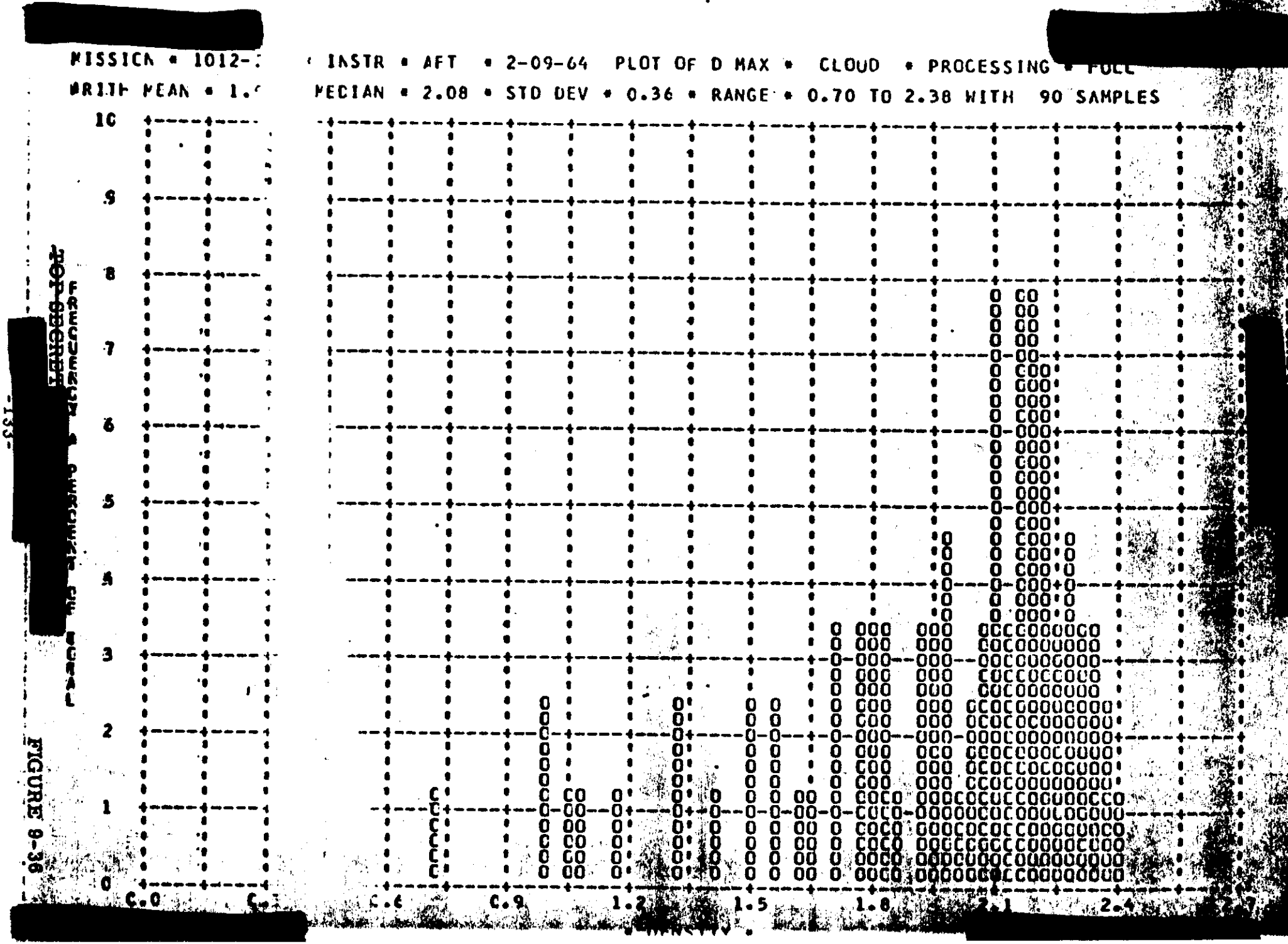

MISSION • 1012-
INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING •
MEAN • 1.
MEDIAN • 2.08 • STD DEV • 0.36 • RANGE • 0.70 TO 2.38 WITH 90 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 8-36

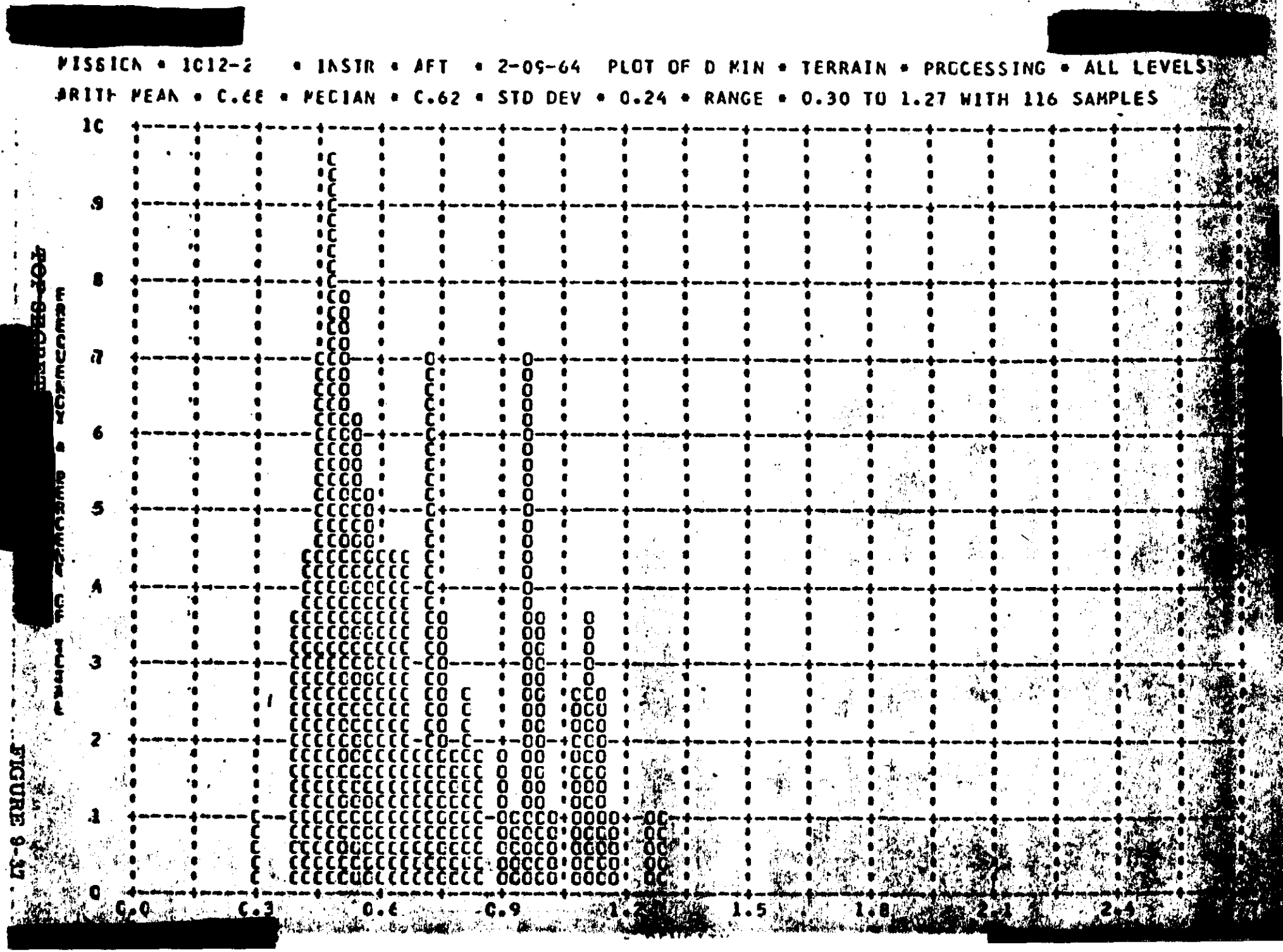

MISSION • 1012-2 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.66 • MEDIAN • 0.62 • STD DEV • 0.24 • RANGE • 0.30 TO 1.27 WITH 116 SAMPLES
NUMBER OF OCCURRENCES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 8-17

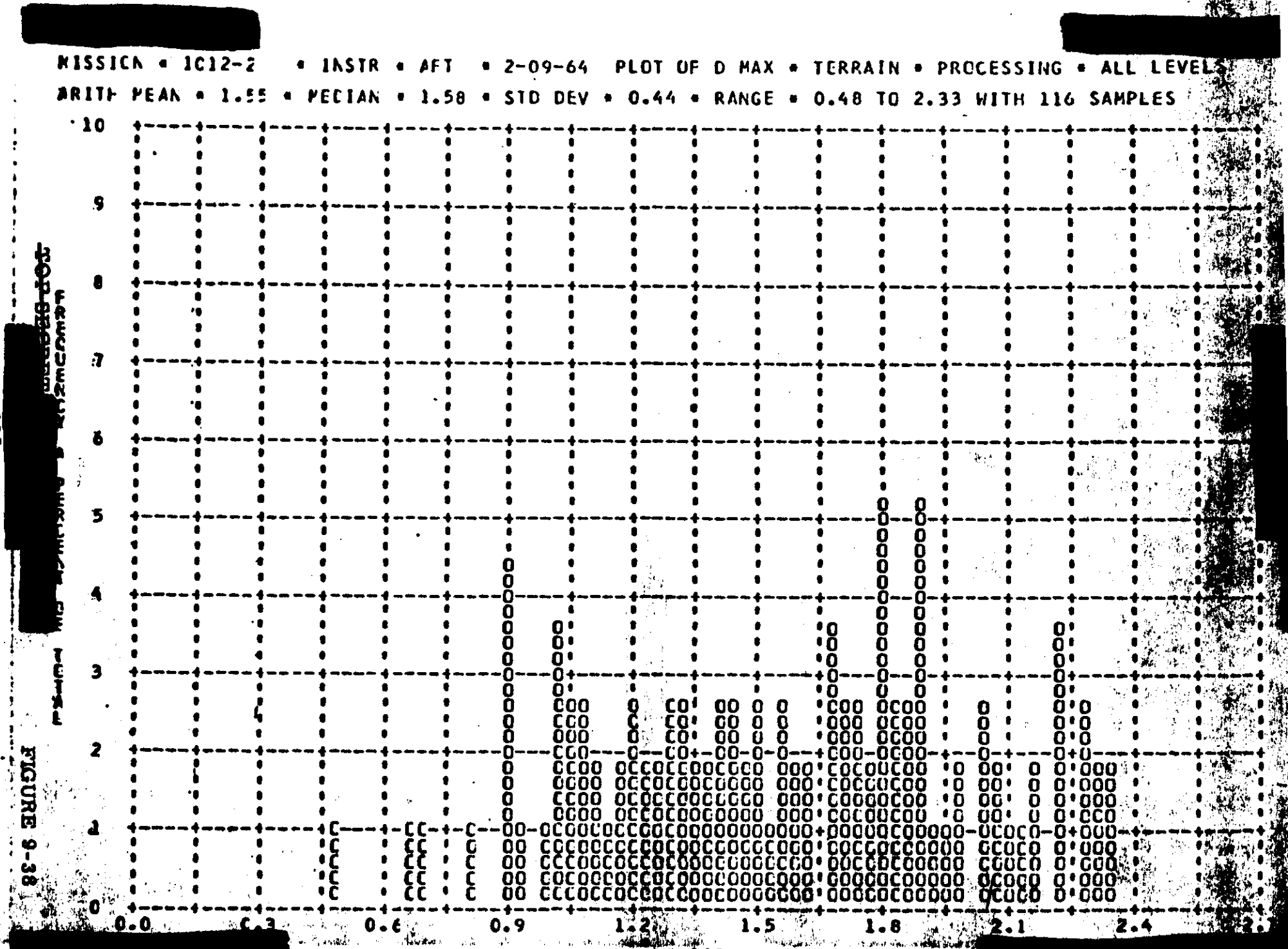

MISSION • 1C12-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.55 • MEDIAN • 1.58 • STD DEV • 0.44 • RANGE • 0.48 TO 2.33 WITH 116 SAMPLES
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 9-38

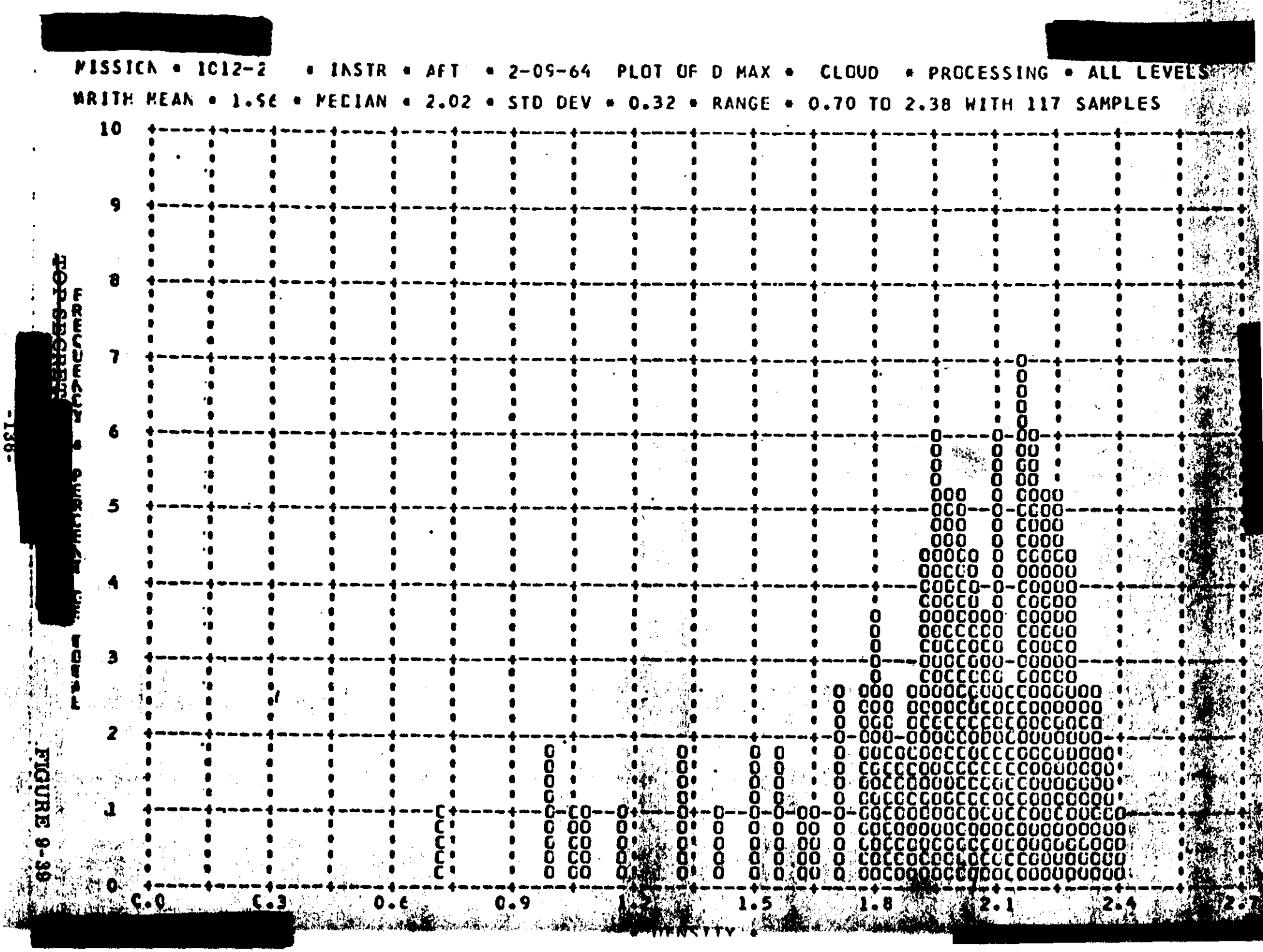

MISSION • 1012-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS
WRITH MEAN • 1.56 • MEDIAN • 2.02 • STD DEV • 0.32 • RANGE • 0.70 TO 2.38 WITH 117 SAMPLES
FREQUENCY OF OCCURRENCE
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY

FIGURE 8-30

TABLE 9-7

MISSION 1012-1 INSTR - FWD 2-09-64 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	1	0 PC	0 PC	100 PC	0 PC	0 PC
INTERMEDIATE	122	0 PC	26 PC	64 PC	10 PC	0 PC
FULL	65	17 PC	0 PC	74 PC	9 PC	0 PC
ALL LEVELS	188	6 PC	17 PC	68 PC	10 PC	0 PC

MISSION 1012-1 INSTR - AFT 2-09-64 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	87	0 PC	20 PC	70 PC	10 PC	0 PC
FULL	91	10 PC	0 PC	78 PC	12 PC	0 PC
ALL LEVELS	178	5 PC	10 PC	74 PC	11 PC	0 PC

MISSION 1012-2 INSTR - FWD 2-09-64 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	54	0 PC	19 PC	70 PC	11 PC	0 PC
FULL	56	7 PC	0 PC	89 PC	4 PC	0 PC
ALL LEVELS	110	4 PC	9 PC	80 PC	7 PC	0 PC

MISSION 1012-2 INSTR - AFT 2-09-64 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	12	0 PC	0 PC	50 PC	50 PC	0 PC
FULL	104	5 PC	0 PC	75 PC	20 PC	0 PC
ALL LEVELS	116	4 PC	0 PC	72 PC	23 PC	0 PC

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1012-1 and 1012-2 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
1012-1	FWD	92	91	84	98
1012-1	AFT	91	87	89	100
1012-2	FWD	91	89	84	91
1012-2	AFT	89	96	85	98

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 Mission 1012-1 and 1012-2 are included in this report.

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-1

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

Arithmetic Mean	86.1 l/mm
Standard Deviation	20.4 l/mm
Coefficient of Dispersion	24%
Number of Edges	94
M.I.P. Frame	120 l/mm

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

Arithmetic Mean	10.1 μ
Standard Deviation	3.7 μ
Coefficient of Dispersion	36%
Number of Edges	94
M.I.P. Frame	6.7 μ

TABLE 10-1

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-1

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	84.1 l/mm	88.6 l/mm	83.5 l/mm	88.0 l/mm
Standard Deviation	22.0 l/mm	18.3 l/mm	22.8 l/mm	18.6 l/mm
Coefficient of Dispersion	26%	21%	27%	21%
Number of Edges	51	43	39	55

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

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	10.7 μ	9.4 μ	10.7 μ	9.7 μ
Standard Deviation	4.4 μ	2.4 μ	4.8 μ	2.3 μ
Coefficient of Dispersion	41%	26%	45%	27%
Number of Edges	51	43	39	55

TABLE 10-2

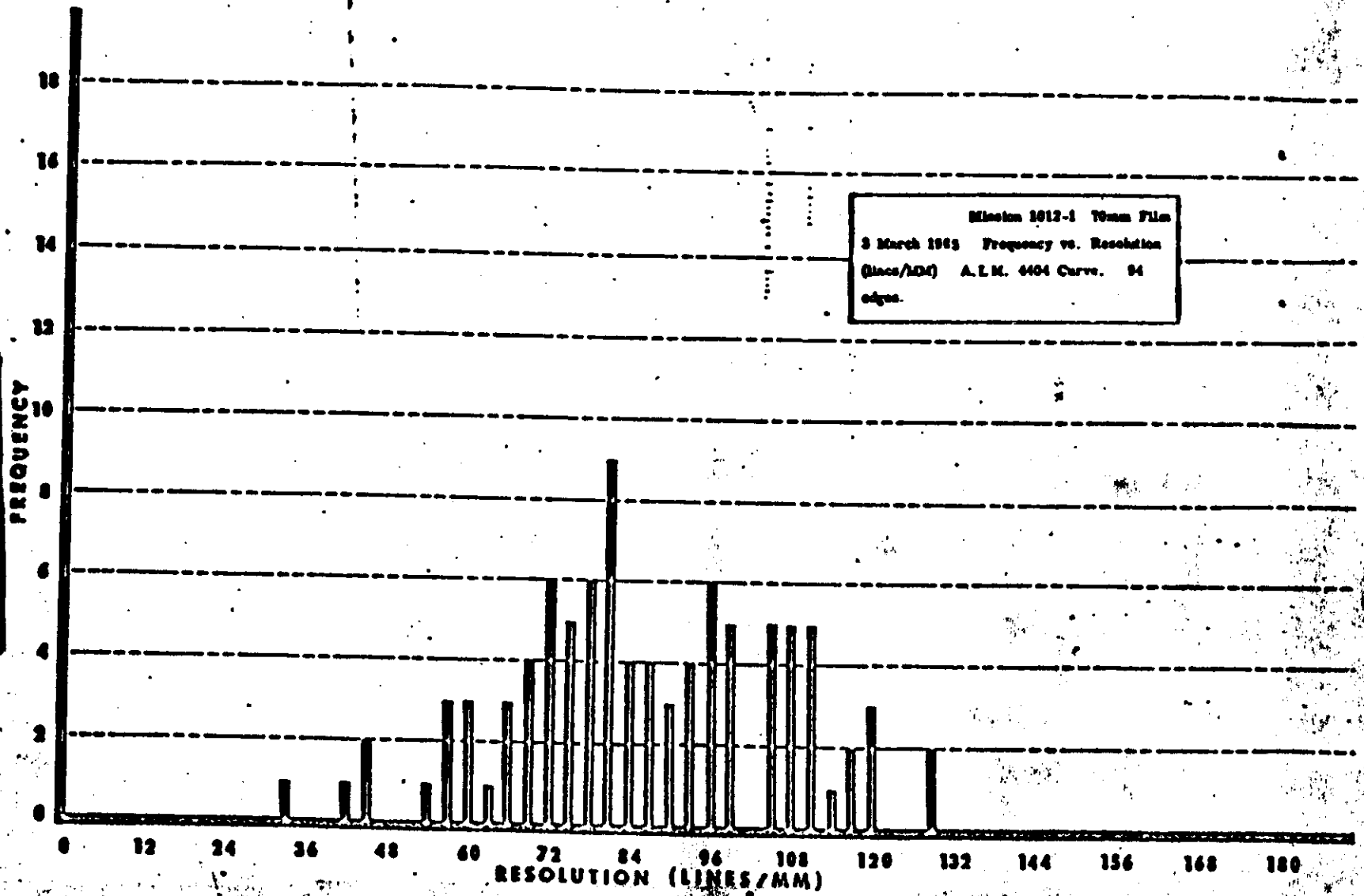

Ilfochrom 1012-1 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.L.M. 4404 Curve. 94
edges.
FREQUENCY
0
2
4
6
8
10
12
14
16
18
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
RESOLUTION (LINES/MM)

FIGURE 10-1

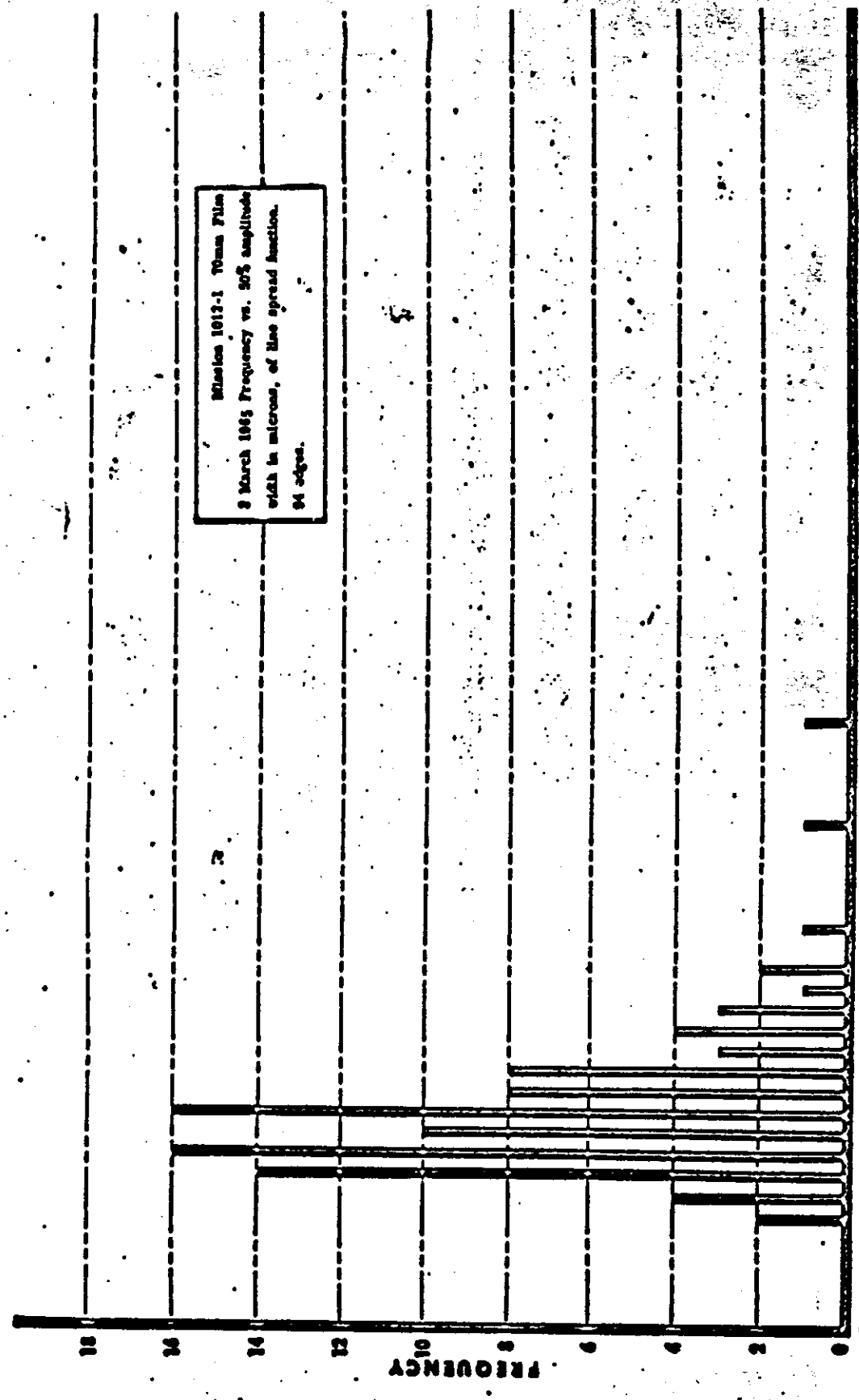

Mission 1012-1 70mm Film
2 March 1965 Frequency vs. 90% amplitude width in microns, of line spread function.
94 edges.
90% AMPLITUDE WIDTH IN MICRONS
FREQUENCY

FIGURE 10-2

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-04	057	X24.0 Y10.5	045	Airfield	13.5	58
D-04	057	X24.0 Y10.5	045	Airfield	5.4	110
D-05	014	X42.8 Y12.1	110	Bridge	13.6	76
D-05	014	X42.8 Y12.1	110	Bridge	12.3	59
D-05	029	X29.8 Y12.8	030	Buildings	11.2	65
D-05	029	X29.8 Y12.8	030	Buildings	7.6	106
D-05	029	X29.8 Y12.8	030	Buildings	6.0	129
D-05	029	X29.8 Y12.8	030	Buildings	10.3	79
D-05	035	X69.0 Y13.0	070	Airfield	16.9	74
D-05	035	X69.0 Y13.0	070	Airfield	29.0	32
D-05	035	X69.0 Y13.0	070	Airfield	7.2	99
D-05	053	X74.5 Y11.0	110	Airfield	23.7	41
D-05	053	X74.5 Y11.0	110	Airfield	12.7	71
D-05	054	X13.8 Y11.3	110	Airfield	7.4	109
D-05	054	X13.8 Y11.3	110	Airfield	9.9	68
D-05	054	X13.8 Y10.8	120	Buildings	12.6	71
D-05	054	X13.8 Y10.8	120	Buildings	7.9	100
D-05	066	X18.3 Y11.6	125	Airfield	11.8	68
D-05	066	X18.3 Y11.6	125	Airfield	6.0	121
D-05	067	X18.1 Y10.6	089	Airfield	8.8	90
D-05	067	X18.1 Y10.6	089	Airfield	7.5	97
D-06	038	X41.8 Y 9.4	060	Airfield	10.4	90
D-06	038	X41.8 Y 9.4	060	Airfield	8.3	94
D-07	079	X58.5 Y11.5	050	Buildings	17.4	45
D-07	079	X58.5 Y11.5	050	Buildings	15.8	73

TABLE 10-3

Mission 1012-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-07	087	X41.3 Y12.2	110	Buildings	11.5	62
D-07	087	X41.3 Y12.2	110	Buildings	9.0	85
D-07	087	X41.3 Y12.2	110	Buildings	9.7	85
D-07	088	X51.3 Y10.5	110	Buildings	12.0	71
D-07	088	X51.3 Y10.5	110	Buildings	10.3	82
D-07	088	X51.3 Y10.5	110	Buildings	10.3	74
D-07	095	X57.3 Y10.7	178	Buildings	8.1	104
D-07	095	X57.3 Y10.7	178	Buildings	11.5	68
D-07	095	X57.3 Y10.7	178	Buildings	8.5	95
D-08	043	X38.6 Y11.4	075	Buildings	8.3	80
D-08	043	X38.6 Y11.4	075	Buildings	9.7	86
D-25	042	X80.2 Y13.6	160	Airfield	15.3	56
D-25	042	X80.2 Y13.6	160	Airfield	7.2	111
D-37	128	X38.0 Y10.0	115	Bridge	7.6	90
D-37	128	X38.0 Y10.0	115	Bridge	19.4	45
D-37	130	X38.6 Y13.4	110	Buildings	10.0	80
D-37	130	X38.6 Y13.4	110	Buildings	11.0	81
D-37	130	X38.6 Y13.4	110	Buildings	7.4	106
D-47E	007	X45.3 Y12.2	060	Buildings	9.3	82
D-47E	007	X45.3 Y12.2	060	Buildings	9.6	86
D-47E*	008	X40.5 Y13.5	135	Airfield	8.2	98
D-47E*	008	X40.5 Y13.5	135	Airfield	6.7	120
D-47E	008	X40.5 Y14.1	100	Buildings	10.5	79
D-47E	008	X40.5 Y14.1	100	Buildings	8.1	109
D-47E	009	X48.6 Y12.1	020	Buildings	8.4	112
D-47E	009	X48.6 Y12.1	020	Buildings	7.3	118

*M.I.P. Frame

TABLE 10-3

Mission 1012-1

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-04	063	X67.8 Y13.3	045	Airfield	8.2	95
D-04	063	X67.8 Y13.3	045	Airfield	12.3	69
D-05	035	X61.3 Y10.3	030	Buildings	11.2	74
D-05	035	X61.3 Y10.3	030	Buildings	9.1	80
D-05	035	X61.3 Y10.3	030	Buildings	8.4	116
D-05	035	X61.3 Y10.3	030	Buildings	8.7	88
D-05	041	X22.7 Y10.0	055	Airfield	9.0	94
D-05	041	X22.7 Y10.0	055	Airfield	8.1	82
D-05	059	X16.8 Y12.6	110	Airfield	14.0	60
D-05	059	X16.8 Y12.6	110	Airfield	11.5	67
D-05	060	X78.0 Y12.3	120	Airfield	7.2	99
D-05	060	X78.0 Y12.3	120	Airfield	9.6	73
D-05	060	X70.7 Y12.5	090	Buildings	10.7	82
D-05	060	X70.7 Y12.5	090	Buildings	6.4	107
D-05	064	X42.2 Y13.3	080	Buildings	12.0	86
D-05	064	X42.2 Y13.3	080	Buildings	9.5	92
D-05	072	X73.2 Y11.5	120	Airfield	8.1	100
D-05	072	X73.2 Y11.5	120	Airfield	6.5	106
D-05	073	X73.7 Y12.7	097	Airfield	5.1	115
D-05	073	X73.7 Y12.7	097	Airfield	10.9	77
D-06	044	X49.5 Y13.5	065	Airfield	5.9	121
D-06	044	X49.5 Y13.5	065	Airfield	7.8	97
D-07	094	X40.2 Y13.2	130	Buildings	6.6	109
D-07	094	X40.2 Y13.2	130	Buildings	9.9	85
D-07	094	X40.2 Y13.2	130	Buildings	9.0	76

TABLE 10-4

Mission 1012-1

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-07	101	X33.9 Y12.9	178	Buildings	7.3	97
D-07	101	X33.9 Y12.9	178	Buildings	7.4	112
D-07	101	X33.9 Y12.9	178	Buildings	10.1	79
D-08	049	X52.3 Y11.5	080	Buildings	7.5	94
D-08	049	X52.3 Y11.5	080	Buildings	11.0	72
D-25	048	X35.0 Y12.5	030	Airfield	13.0	65
D-25	048	X35.0 Y12.5	030	Airfield	13.5	60
D-37	127	X22.3	115	Dam	10.0	85
D-47E	011	X45.3 Y11.3	070	Buildings	9.6	110
D-47E	011	X45.3 Y11.3	070	Buildings	6.5	106
D-47E*	012	X49.8 Y10.0	140	Airfield	10.8	81
D-47E*	012	X49.8 Y10.0	140	Airfield	14.6	54
D-47E*	012	X50.5 Y 9.8	100	Buildings	7.3	107
D-47E	013	X41.9 Y11.5	020	Buildings	8.5	78
D-47E	013	X41.9 Y11.5	020	Buildings	10.3	95
D-47E	025	X44.3 Y14.3	080	Buildings	6.5	128
D-47E	034	X67.3 Y13.3	150	Airfield	14.6	58
D-47E	034	X67.3 Y13.3	150	Airfield	9.0	78

TABLE 10-4

*M.I.P. Frame

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-2

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	21.6 l/mm
Coefficient of Dispersion	26%
Number of Edges	101
M.I.P. Frame	117 l/mm

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

Arithmetic Mean	10.1 μ
Standard Deviation	3.2 μ
Coefficient of Dispersion	31%
Number of Edges	101
M.I.P. Frame	5.0 μ

TABLE 10-5

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-2

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	83.8 l/mm	84.8 l/mm	80.6 l/mm	91.2 l/mm
Standard Deviation	24.1 l/mm	18.9 l/mm	22.0 l/mm	19.3 l/mm
Coefficient of Dispersion	29%	22%	27%	21%
Number of Edges	52	49	66	35

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

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	10.4 μ	9.7 μ	10.7 μ	8.9 μ
Standard Deviation	3.6 μ	2.6 μ	3.4 μ	2.2 μ
Coefficient of Dispersion	35%	26%	31%	25%
Number of Edges	52	49	66	35

TABLE 10-6

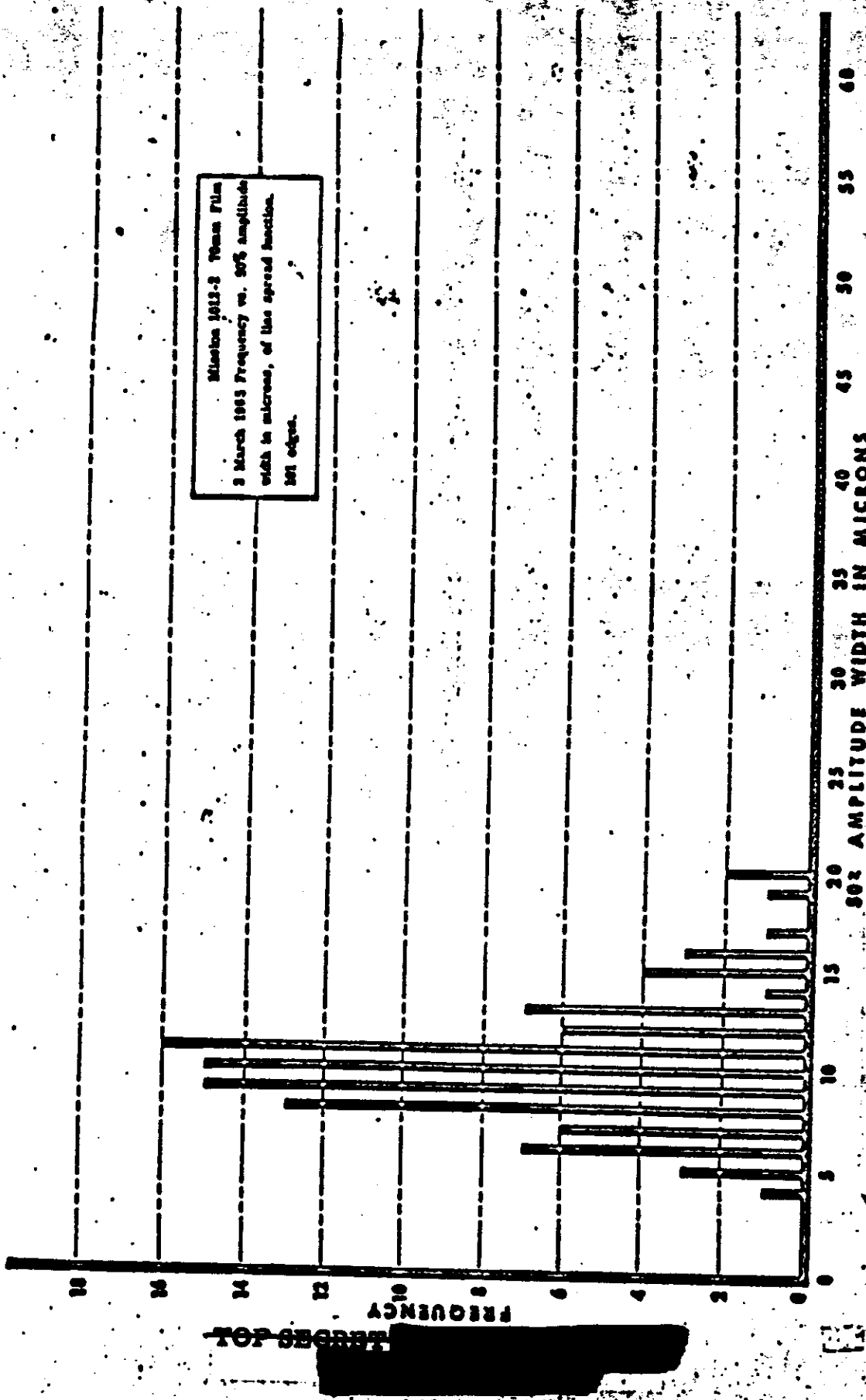

Mission 1015-2 70mm Film
2 March 1963 Frequency vs. 80% amplitude width in microns, of the spread function. 501 edges.
80% AMPLITUDE WIDTH IN MICRONS
FREQUENCY
0
5
10
15
20
25
30
35
40
45
50
55
60
2
4
6
8
10
12
14
16

FIGURE 10-3

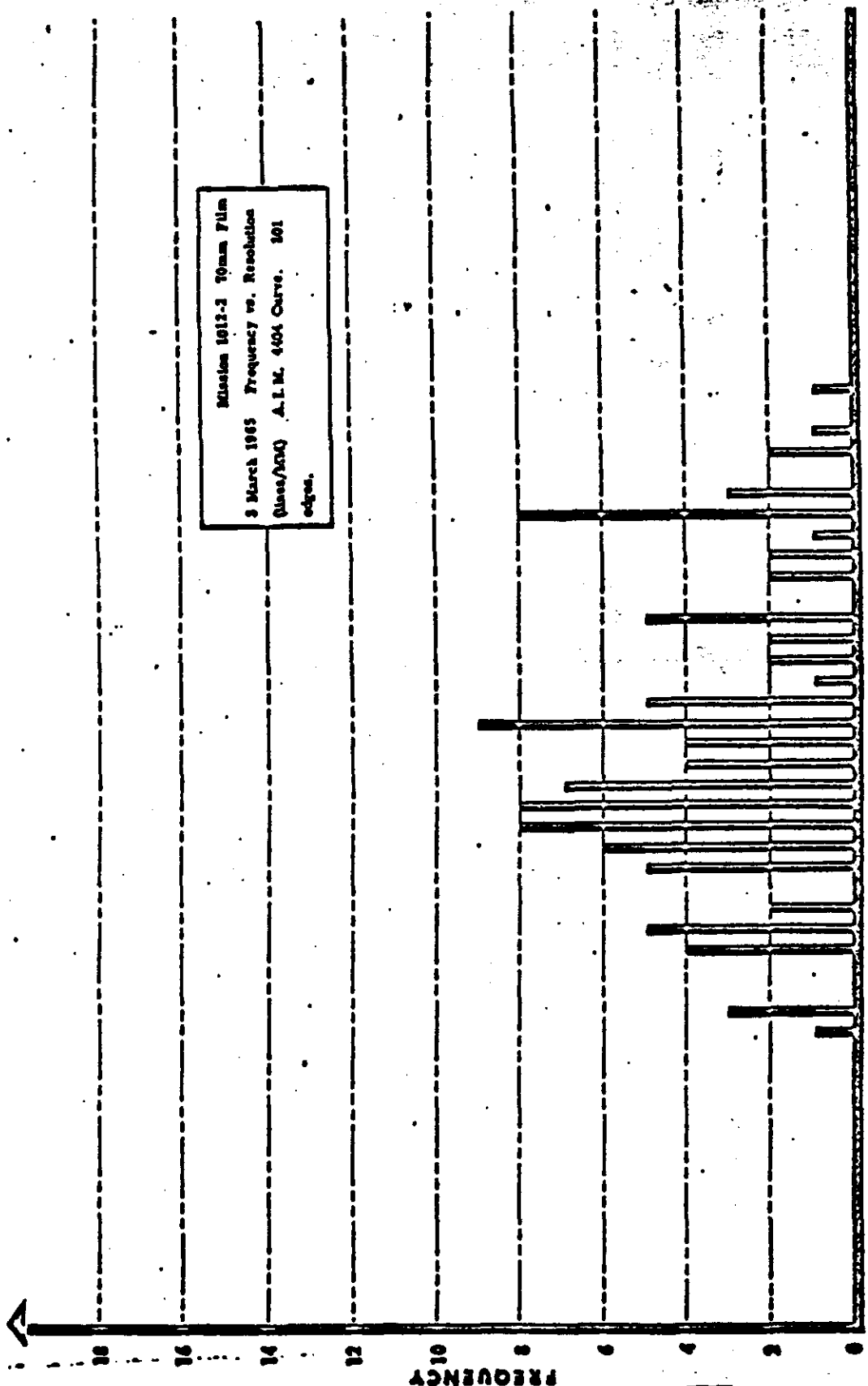

Mission 1013-2 70mm Film
3 March 1965 Frequency vs. Resolution
(Lines/MM) A.I.M. 4:4 Curve. 101
edge.
FREQUENCY
RESOLUTION (LINES/MM)
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180
2.0
1.8
1.6
1.4
1.2
1.0
.8
.6
.4
.2
0

FIGURE 10-4

Analysis of Photographic Image to Evaluate System Performance

Mission 1012-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-52	071	X39.8 Y12.3	089	Buildings	12.9	81
D-52	071	X39.8 Y12.3	089	Buildings	11.4	89
D-52	073	X41.6 Y10.0	093	Airfield	12.4	78
D-52	073	X41.6 Y10.0	093	Airfield	7.8	90
D-54	036	X38.7 Y14.2	035	Buildings	6.3	119
D-54	036	X38.7 Y14.2	035	Buildings	8.1	86
D-56	047	X49.4 Y11.2	085	Airfield	14.9	56
D-56	047	X49.4 Y11.2	085	Airfield	12.8	72
D-56	052	X35.2 Y10.7	165	Airfield	9.0	89
D-56	052	X35.2 Y10.7	165	Airfield	11.3	68
D-56	054	X68.5 Y12.3	130	Airfield	16.4	54
D-56	054	X68.5 Y12.3	130	Airfield	13.4	74
D-56	061	X36.8 Y11.7	105	Airfield	15.8	57
D-56	061	X36.8 Y11.7	105	Airfield	12.1	66
D-56	066	X29.5 Y13.5	035	Airfield	8.5	117
D-56	066	X29.5 Y13.5	035	Airfield	12.7	66
D-56	069	X34.2 Y10.0	110	Airfield	19.9	46
D-56	069	X34.2 Y10.0	110	Airfield	14.8	44
D-56	079	X55.1 Y10.2	080	Airfield	11.1	70
D-56	079	X55.1 Y10.2	080	Airfield	12.1	75
D-56	090	X31.3 Y13.3	075	Buildings	8.1	87
D-56	090	X31.3 Y13.3	075	Buildings	7.1	109
D-56	090	X59.4 Y13.2	035	Buildings	6.0	136
D-56	090	X59.4 Y13.2	035	Buildings	7.8	98

TABLE 10-7

Mission 1012-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-56	091	X28.2 Y10.0	100	Airfield	10.2	74
D-56	091	X28.2 Y10.0	100	Airfield	9.6	74
D-56	106	X21.9 Y10.9	075	Airfield	9.5	75
D-56	106	X21.9 Y10.9	075	Airfield	10.6	60
D-56	106	X21.9 Y10.9	075	Airfield	10.9	68
D-56	106	X21.9 Y10.9	075	Airfield	9.1	88
D-56	107	X17.8 Y13.1	075	Airfield	9.7	71
D-56	107	X17.8 Y13.1	075	Airfield	9.6	94
D-56	111	X59.0 Y10.5	089	Airfield	15.3	55
D-56	111	X59.0 Y10.5	089	Airfield	11.3	69
D-63	008	X14.0 Y10.2	085	Airfield	6.8	102
D-63	008	X14.0 Y10.2	085	Airfield	8.2	103
D-63	009	X46.4 Y14.3	025	Buildings	10.8	96
D-63	009	X46.4 Y14.3	025	Buildings	9.9	73
D-63	010	X35.9 Y12.9	030	Buildings	6.6	116
D-63	010	X35.9 Y12.9	030	Buildings	6.8	117
D-63	010	X35.7 Y11.0	070	Airfield	5.8	126
D-63	010	X35.7 Y11.0	070	Airfield	12.5	68
D-63*	011	X49.7 Y10.5	075	Airfield	5.0	117
D-63*	011	X49.7 Y10.5	075	Airfield	6.1	114
D-63*	011	X46.1 Y11.7	065	Buildings	8.0	112
D-63	014	X13.7 Y13.8	035	Buildings	7.7	102
D-63	014	X13.7 Y13.8	035	Buildings	6.4	130
D-63	015	X58.0 Y12.3	025	Buildings	9.0	88
D-63	015	X58.0 Y12.3	025	Buildings	8.1	87
D-63	017	X65.1 Y12.7	025	Buildings	8.6	88

*M.I.P. Frame

TABLE 10-7

Mission 1012-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A. L. M. Resolution
D-68	066	X68.0 Y10.0	130	Airfield	20.1	42
D-68	066	X68.0 Y10.0	130	Airfield	18.8	44

TABLE 10-7

4,5

Mission 1012-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-52	070	X70.2 Y 9.8	080	Buildings	7.7	102
D-52	070	X70.2 Y 9.8	080	Buildings	11.0	72
D-52	077	X50.7 Y11.3	090	Buildings	8.8	73
D-52	077	X50.7 Y11.3	090	Buildings	5.6	117
D-52	079	X50.0 Y13.8	092	Airfield	4.2	119
D-52	079	X50.0 Y13.8	092	Airfield	8.5	83
D-54	041	X52.3 Y14.6	045	Buildings	8.9	103
D-54	041	X52.3 Y14.6	045	Buildings	9.2	77
D-56	067	X53.8 Y11.4	130	Airfield	9.8	74
D-56	067	X53.8 Y11.4	130	Airfield	11.5	82
D-56	072	X60.6 Y10.2	040	Airfield	9.2	86
D-56	072	X60.6 Y10.2	040	Airfield	9.8	111
D-56	075	X56.5 Y13.6	130	Airfield	8.8	83
D-56	075	X56.5 Y13.6	130	Airfield	11.4	77
D-56	085	X35.2 Y13.5	075	Airfield	5.9	118
D-56	085	X35.2 Y13.5	075	Airfield	12.7	70
D-56	096	X58.8 Y10.3	080	Buildings	9.5	72
D-56	097	X62.5 Y13.7	100	Airfield	10.2	91
D-56	097	X62.5 Y13.7	100	Airfield	10.5	71
D-56	112	X69.1 Y13.0	088	Airfield	10.6	67
D-56	112	X69.1 Y13.0	088	Airfield	10.2	88
D-56	114	X78.3 Y11.8	091	Airfield	13.7	65
D-56	114	X78.3 Y11.8	091	Airfield	13.2	107
D-56	117	X31.1 Y13.5	080	Airfield	7.8	97
D-63	008	X53.4 Y12.5	045	Buildings	8.7	76
D-63	008	X53.4 Y12.5	045	Buildings	8.6	90

Mission 1012-2

AFT CAMERA

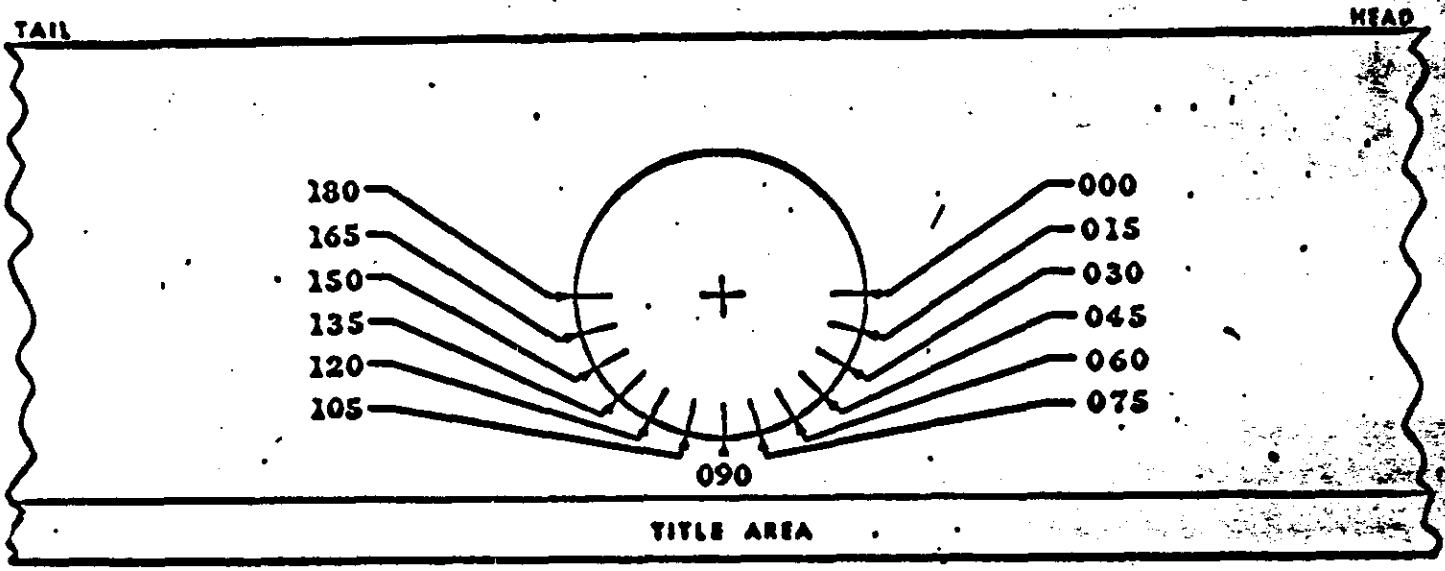
Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-63	014	X77.5 Y13.4	095	Airfield	10.3	58
D-63	014	X77.5 Y13.4	095	Airfield	15.4	55
D-63	014	X77.5 Y13.4	095	Airfield	9.6	80
D-63	014	X77.5 Y13.4	095	Airfield	11.3	77
D-63	016	X54.8 Y12.6	070	Airfield	6.5	116
D-63	016	X54.8 Y12.6	070	Airfield	6.6	117
D-63	016	X54.6 Y10.7	025	Buildings	8.2	84
D-63	016	X54.6 Y10.7	025	Buildings	9.8	77
D-63*	017	X44.3 Y11.8	045	Buildings	8.1	88
D-63*	017	X44.3 Y11.8	045	Buildings	10.7	78
D-63*	017	X40.5 Y13.5	070	Airfield	11.6	70
D-63*	017	X40.5 Y13.5	070	Airfield	8.3	84
D-63*	017	X40.5 Y13.5	070	Airfield	9.3	72
D-63	021	X32.5 Y11.5	120	Buildings	11.6	75
D-63	021	X32.5 Y11.5	120	Buildings	16.7	54
D-63	022	X27.2 Y13.2	055	Buildings	10.7	82
D-63	022	X27.2 Y13.2	055	Buildings	10.5	78
D-68	072	X22.0 Y14.4	100	Airfield	9.6	98
D-68	072	X22.0 Y14.4	100	Airfield	10.9	56
D-68	083	X42.8 Y11.8	105	Airfield	6.3	119
D-68	083	X42.8 Y11.8	105	Airfield	8.5	82
D-71	085	X29.0 Y13.0	140	Airfield	5.2	126
D-71	085	X29.0 Y13.0	140	Airfield	15.9	58

Table 10-8

*M.I.P. Frame

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

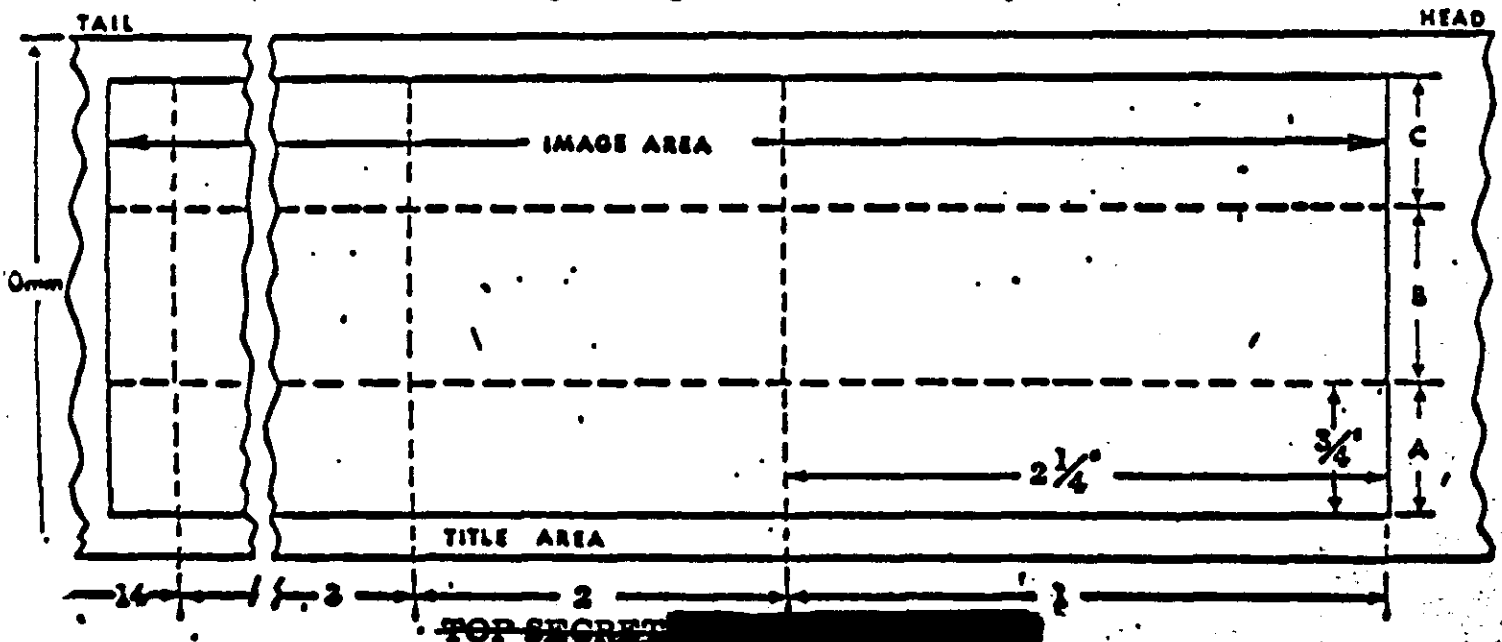


FIGURE 10-5

SECTION 11

OBSERVED DATA

Mission 1012 cameras were activated for descending (daylight) Passes 15, 46, 47, and 63.

On Pass 15, solid cloud cover was encountered.

Pass 46 was over Missouri and Arkansas with less than 10% cloud cover and very little noticeable haze. At Fort Leonard Wood, Missouri, 6" east of C/F, runway numbers were clearly read, aircraft nacelles seen and autos distinguished from trucks. The 2 foot spray from the rotating arms on sewage disposal tanks could be seen. Springfield, Missouri was very clear 8" west of C/F. Individual cars in a parking lot could be singled out easily. At Little Rock AFB KC 135's nacells could not be seen, but their shadow could.

Pass 47 covered fixed CORN targets at Indian Springs and Pahrump. At Indian Springs target, the Group 5 was resolved along track and cross track in aft photography while the forward photography could not resolve the largest group. This indicates ground resolution of 7 feet for the aft camera. A few miles away at Pahrump target, the aft camera resolved Group 4 and the forward Group 3. This indicates the aft camera performance at 9 - 10 feet and the forward at 11 - 12 feet. Southwest from Hoover Dam, 3 rows of high voltage line towers could be seen clearly, out to the end of the format.

Pass 63 centered down the San Joaquin Valley of California. The San Francisco Bay area was covered on the west end of the format and thus afforded a splendid opportunity for extensive field checking.

The Bay Area had considerable haze or smog that day with ground visability less than 3 miles. The only evidence of this haze in the photography was a slight softness in the Bay Area compared to a sharp, crisp appearance of the Central Valley. However, this did not contribute appreciably to the edge spread or diffusion in this case.

For example, where the Hetch-Hetchy aqueduct crosses Highway 17 east of Newark, it is carried overhead in a pipe 42 inches in diameter, and has an aluminum paint finish. With the projected scale micrometer, it measures slightly more than 6 feet. The 24 inch spray arms at the Palo Alto sewage plant measure 5 feet. Several 10 foot wide house trailers measure 14 feet. The Golden Gate Bridge cables are 36 1/2 inches but

measure 6 feet. A Sunnyvale City Water Dept. surge tank 4 feet diameter measures nearly 8 feet. Note that all of these measurements were made of objects of known dimensions, under haze conditions, and range from 4 to 6 feet larger than a known dimension. Compare this with a measurement made on a B52 at Travis AFB in the San Joaquin Valley under clear conditions, its' 185 foot wingspan measures 189 feet.

Water surfaces usually look dark (on positives) in aft photography, and light in foreward in the westward part of a format for a positive sun azimuth. This probably accounts for the fact that a 23 foot diameter swimming pool measured 28 feet in the foreward and 24 feet in the aft.

This pass over the Bay Area has been highly valuable. It has permitted many field checks at no cost. It would be equally valuable to have at least one short burst of the A/P area on each mission for field checks during mission evaluation.

The final report on Mission 1011 noted a consistant discrepancy between geodetic coordinates given in the frame ephermis and the actual photography. The source of this error was found to be the use of geocentric latitude and longitude in place of geodetic in computer generation of the frame ephemeris. This has been corrected and checked against current photography. The error was found to be less than one mile without corrections for vehicle attitude.

SECTION 12

MISSION 1012-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-51
Index Reseau	51
Stellar Reseau	47

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

A. Stellar Camera

The stellar camera did not appear to work in orbit. No stellar photographs were present in the 13.5 feet of stellar material that was removed from SRV #1 and subsequently processed. 12.5 feet of this material was pre-flight leader used to thread up the SRV,

stellar chute, and stellar camera prior to flight. The last one foot was the only film actually from the flight spool.

A quantitative analysis of VAFB pre-flight stellar camera operations show that ground operations are responsible for moving the recovered film onto the take-up spool in SRV #1 with the possible exception of the last 7 inches of film. The last 7 inches of film is either 3 to 4 frames of stellar film transported in orbit after which failure occurred or represents film transported on the ground and not accounted for due to inaccuracies in accounting for all photography generated on the ground.

B. Index Camera

The index camera, like the stellar camera, does not appear to have worked in orbit. No index photography containing terrain imagery was recovered in the 27.7 feet of index camera material that was subsequently processed. 21.7 feet of the recovered index camera material was pre-flight thread up leader. The last 6 feet was the only film actually from the flight spool. Quantitative analysis shows that at least 4 of the 6 feet of index camera film was transported into SRV #1 prior to launch. The remaining film appears to have been transported in orbit prior to failure.

The final splice, jointing the index flight film to the leader ahead of it, was poorly made.

The film edges at the splice were mis-aligned. Mis-alignment was 2.1 degrees. Splice fold over occurred during film transport, probably when the splice passed the metering roller. No physical damage to the remainder of the recovered film is traceable to the poor splice. Analysis shows that the poor splice was transported into SRV #1 prior to launch. Index camera telemetry on the ground indicated normal film movement and camera operation. The defective splice does not appear to be associated with the Stellar/Index camera failure.

Minor physical damage along several feet of one of the edges of recovered index film was traced to mistracking in [redacted] processing equipment subsequent to the flight.

SECTION 13

MISSION 1012-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-46
Index Reseau	52
Stellar Reseau	53

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

A. Stellar Camera

The camera produced 208 frames of stellar photography during the mission. Approximately 80 stars were recorded in each format with adequate geometry for vehicle attitude reduction.

Frames 204 thru 208 were grossly overexposed from earth light due to loss of attitude control. These frames were all black and contained no stars due to vehicle attitude difficulties that caused

over exposure from earth light. The camera worked well throughout the mission. Fiducials and reseau grid recording was good. Emulsion cracks within the stellar formats caused minor degradation during the later portion of the mission.

B. Index Camera

The camera produced 208 frames of index photography during the mission. Overall quality and information content was good. Resolution was good. The last four frames of photography contained horizon imagery due to vehicle attitude difficulties. Correlation lamp recording was good. No corona discharge or dendritic static was evident.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1012-1 and 1012-2 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 14-4 show these distributions for Mission 1012-1 and Figures 14-5 through 14-10 for Mission 1012-2.

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 1012-1		Mission 1012-2	
Value	90%	Range	90%	Range
Pitch Error (^{o})	0.65	-0.65 to +1.10	0.97	-0.90 to +1.50
Roll Error (^{o})	0.51	-0.80 to +0.60	0.77	-0.30 to +1.75
Yaw Error (^{o})	Not Available		0.51	-1.45 to + .75
Pitch Rate (^{o}/hr.)	47.06	-95 to +90	45.2	-90 to + 60
Roll Rate (^{o}/hr.)	33.21	-85 to +65	30.7	-45 to + 56
Yaw Rate (^{o}/hr.)	Not Available		20.36	-34 to + 74

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.

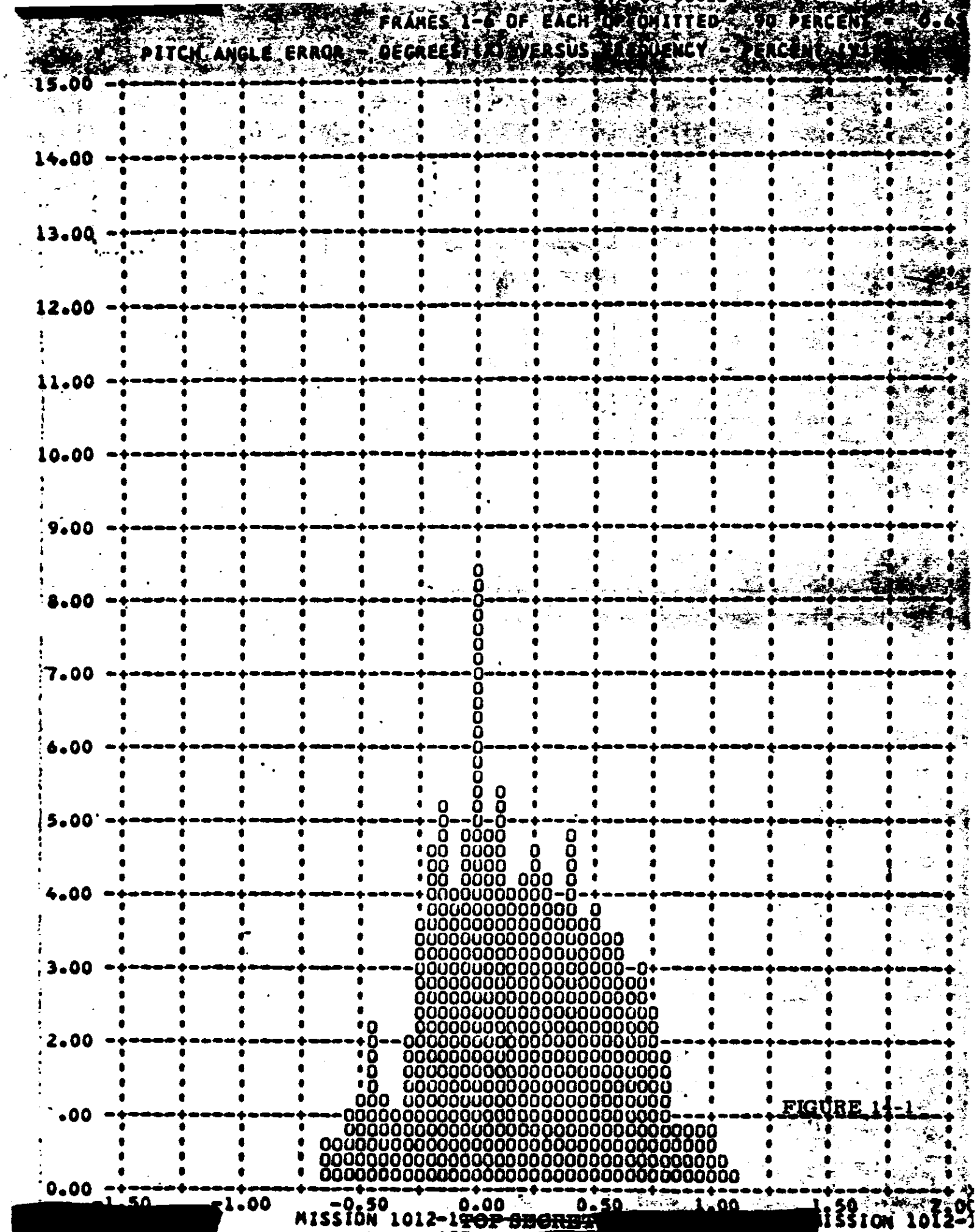

FRAMES 1-6 OF EACH OMITTED - 90 PERCENT - 0.6
PITCH ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
.00
0.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00

FIGURE 14-1

[redacted] FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.51

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

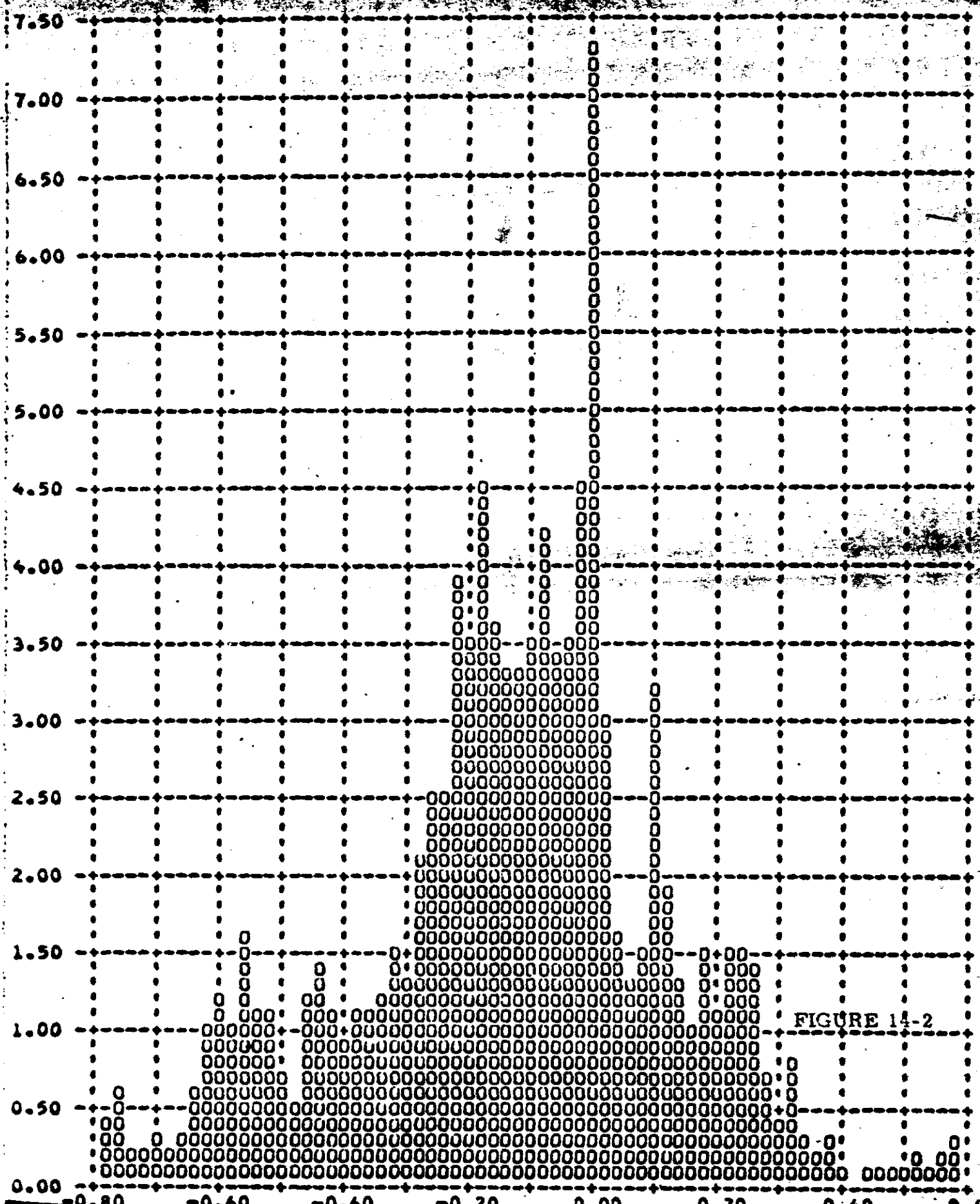


FIGURE 14-2

FRAMES 1-6 OF EACH OF OMITTED = 90 PERCENT = 47.0

PITCH RATE ERROR-2 DEG/HOUR (X) VERSUS FREQUENCY PERCENT (Y)

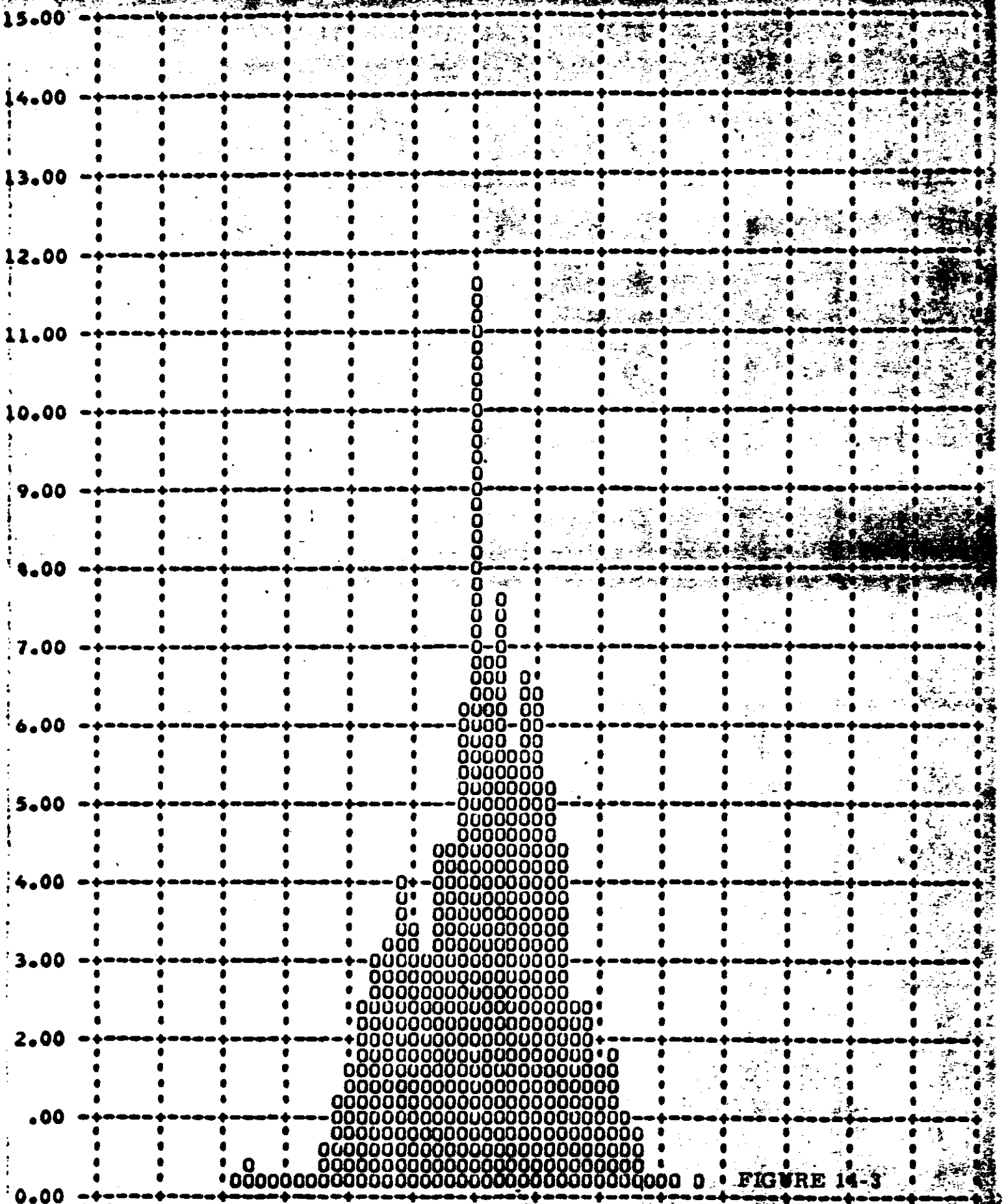


FIGURE 14-3

[redacted] FRAMES 1-6 OF EACH OF OMITTED . 90 PERCENT = 33.2[illegible]

[redacted] ERROR -DEG/HOUR (X) VERSUS FREQUENCY OF PERCENT (Y) [illegible]

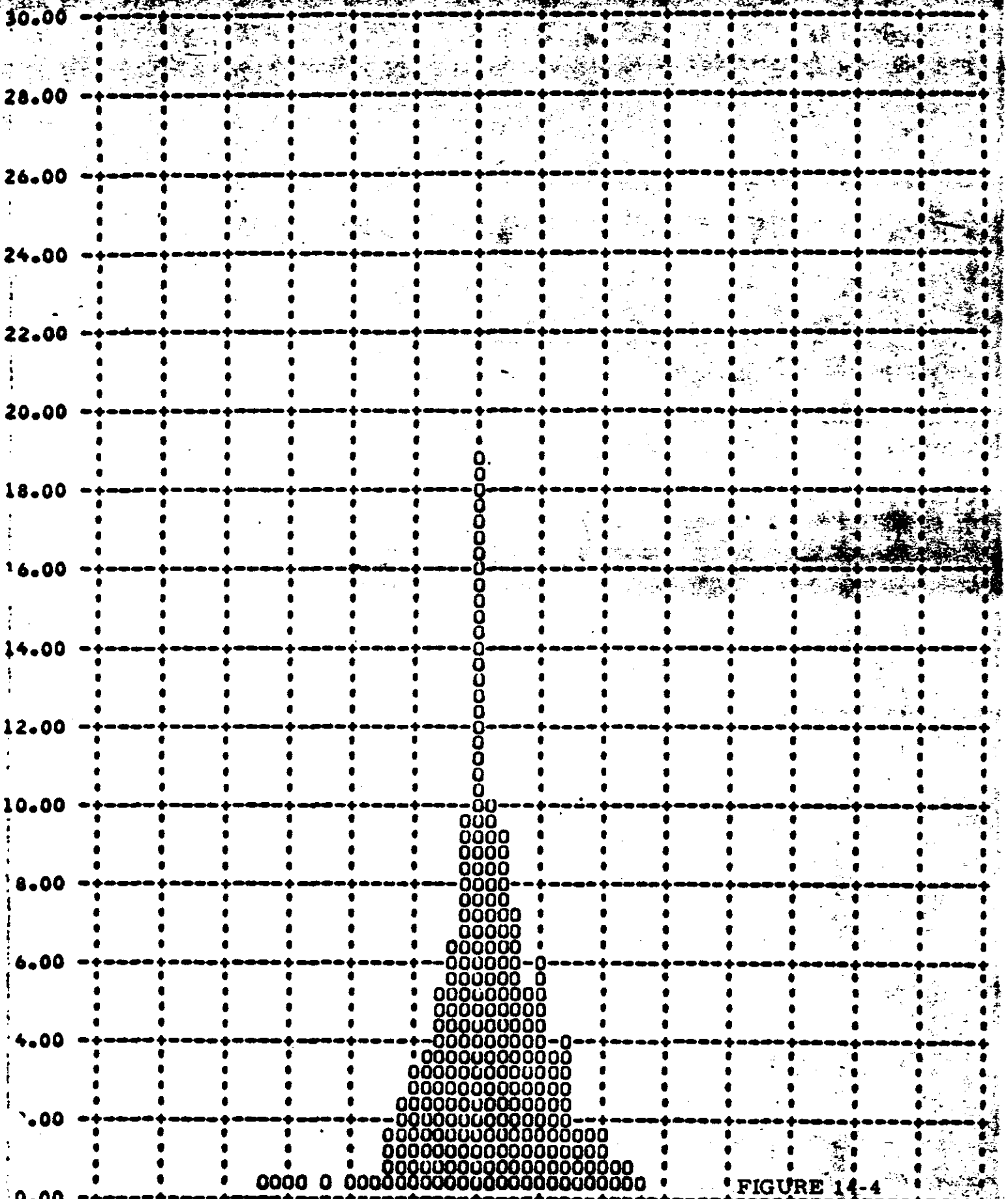
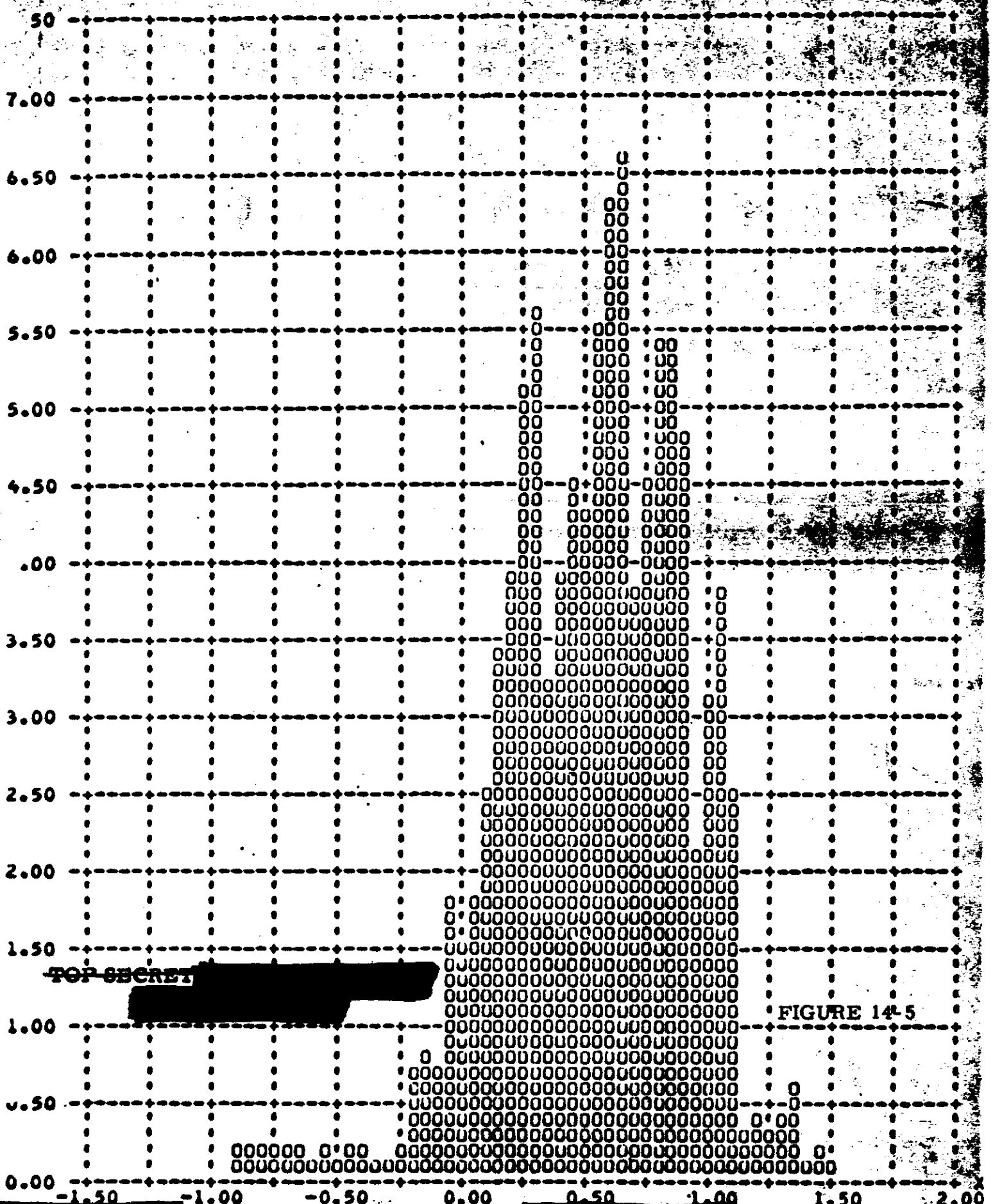


FIGURE 14-4

FRAMES 1-6 OF EACH OF UNITED 90 PERCENT [redacted]

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



[redacted]

FIGURE 14-5

[redacted] FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.77

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

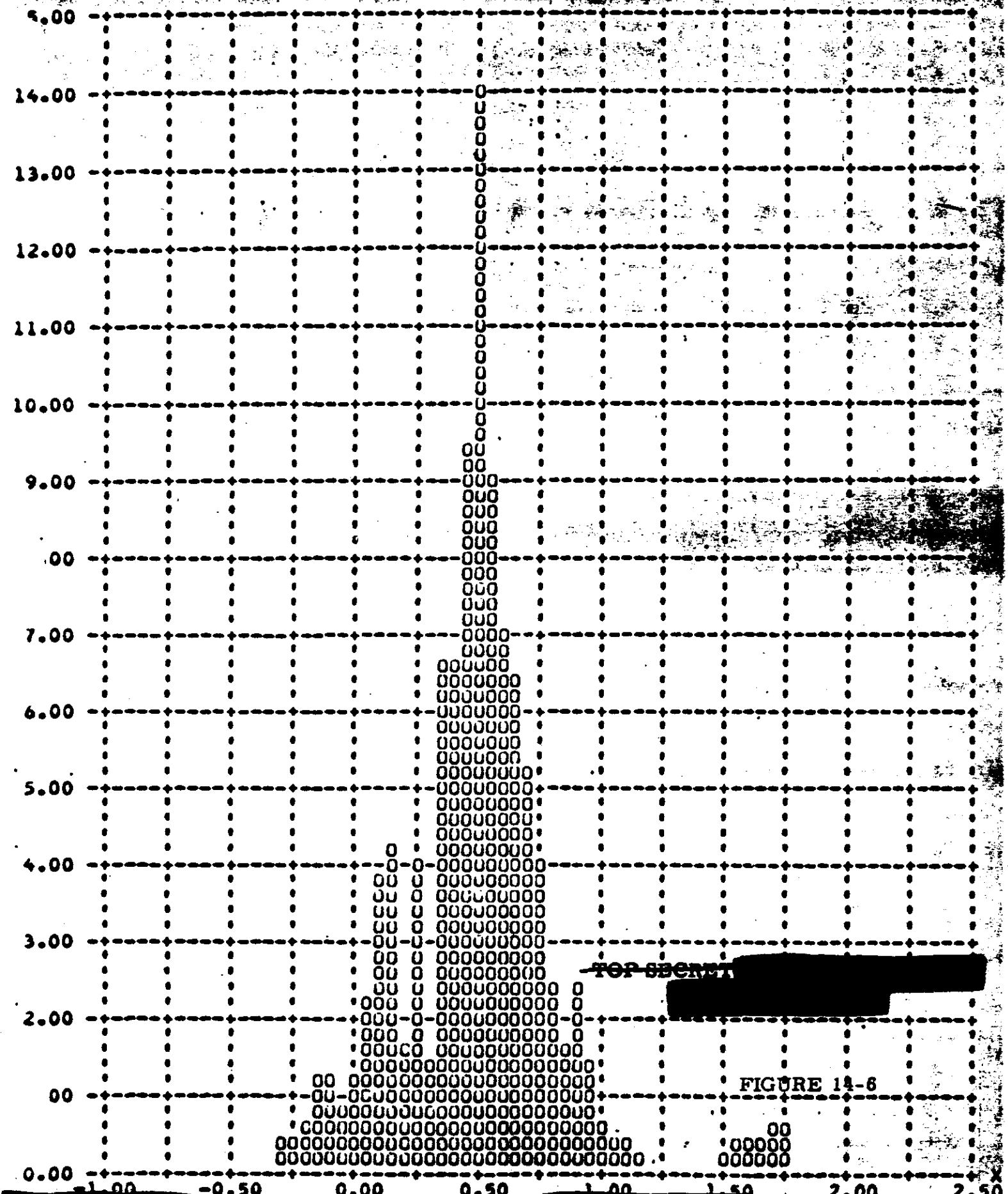


FIGURE 14-6

[redacted]

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.51

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

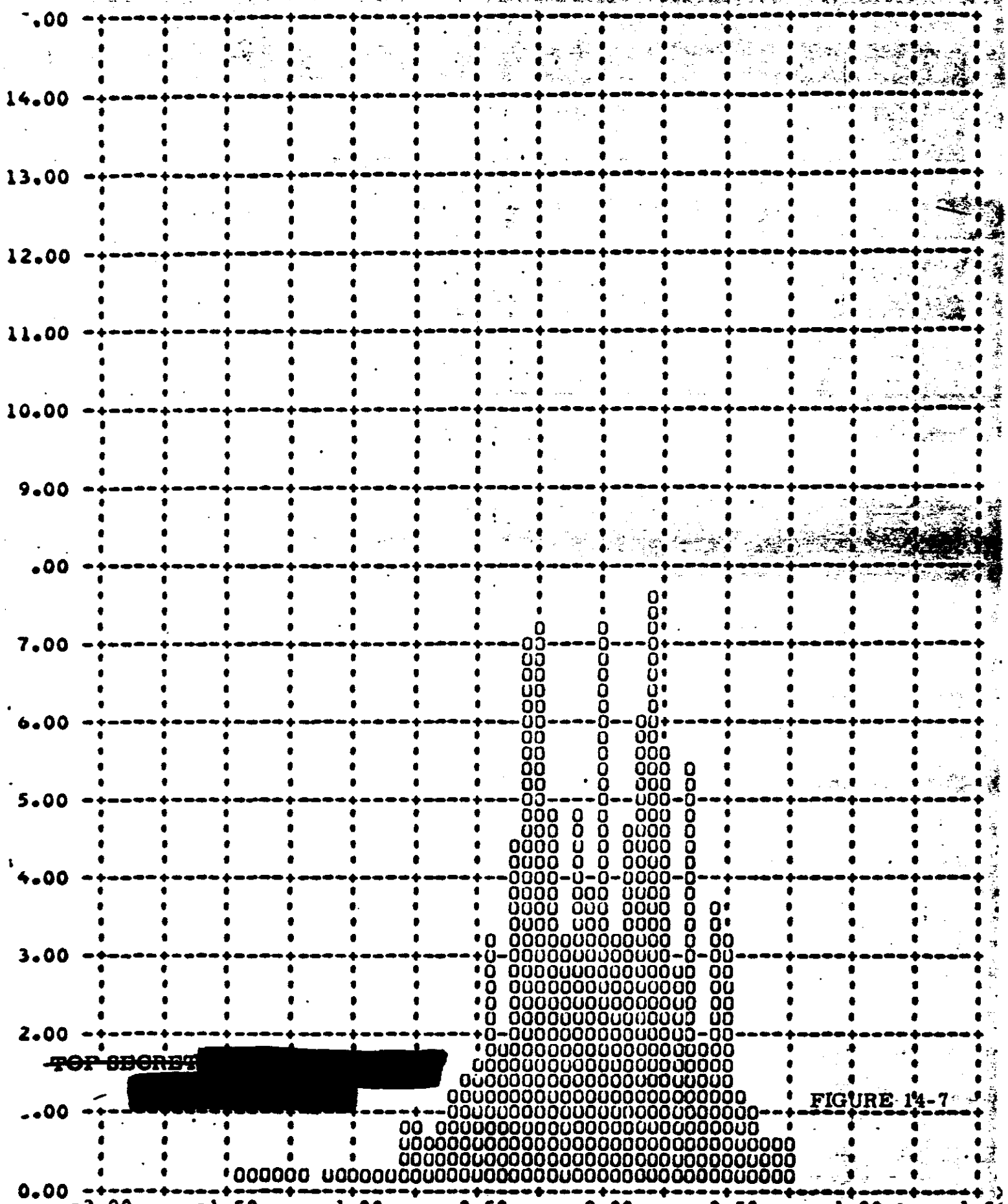
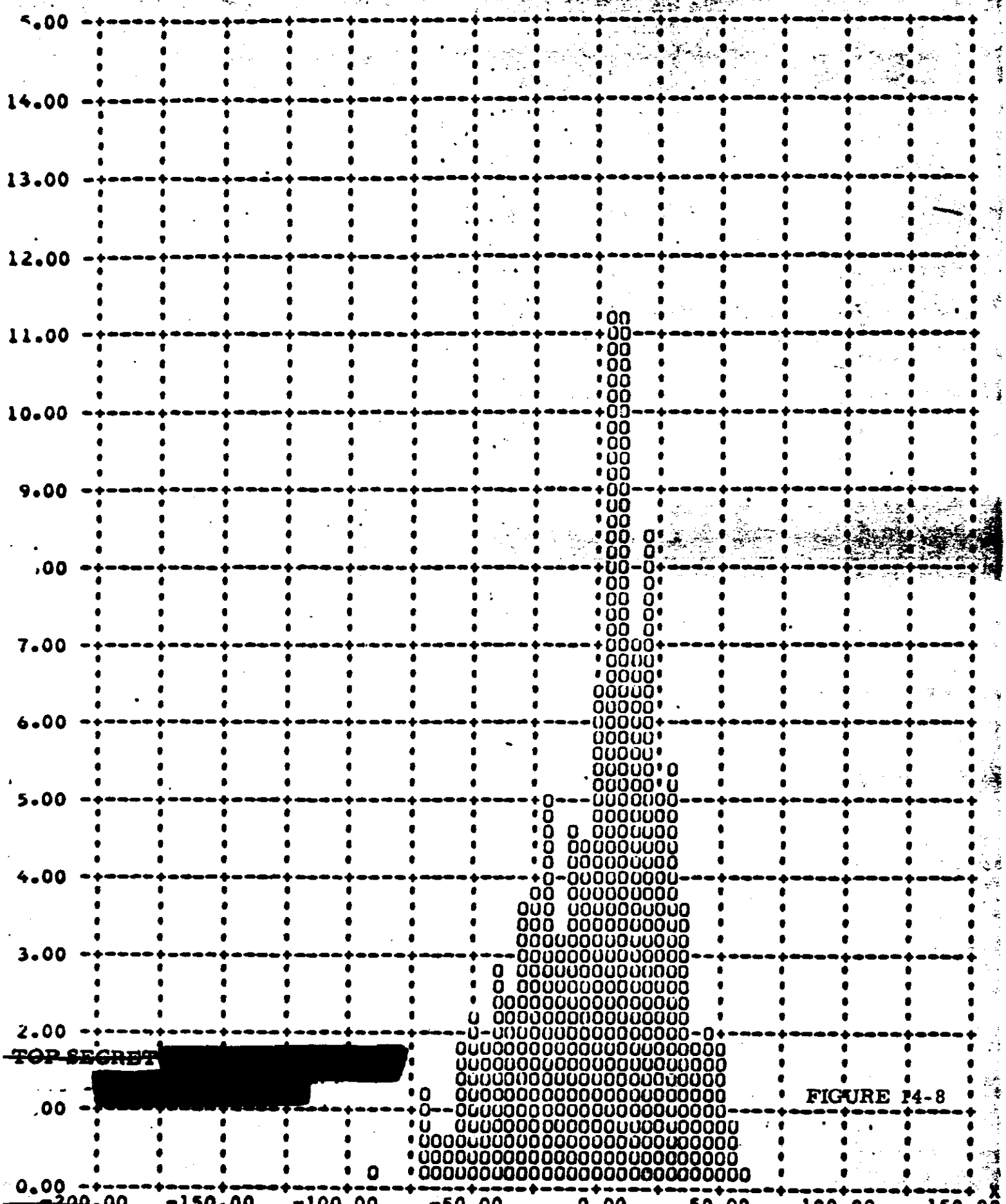


FIGURE 14-7

[redacted]

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 45.24

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



[redacted]

FIGURE P4-8

[redacted] FRAMES 1-4 OF EACH DP OMITTED - 90 PERCENT = 30.69

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

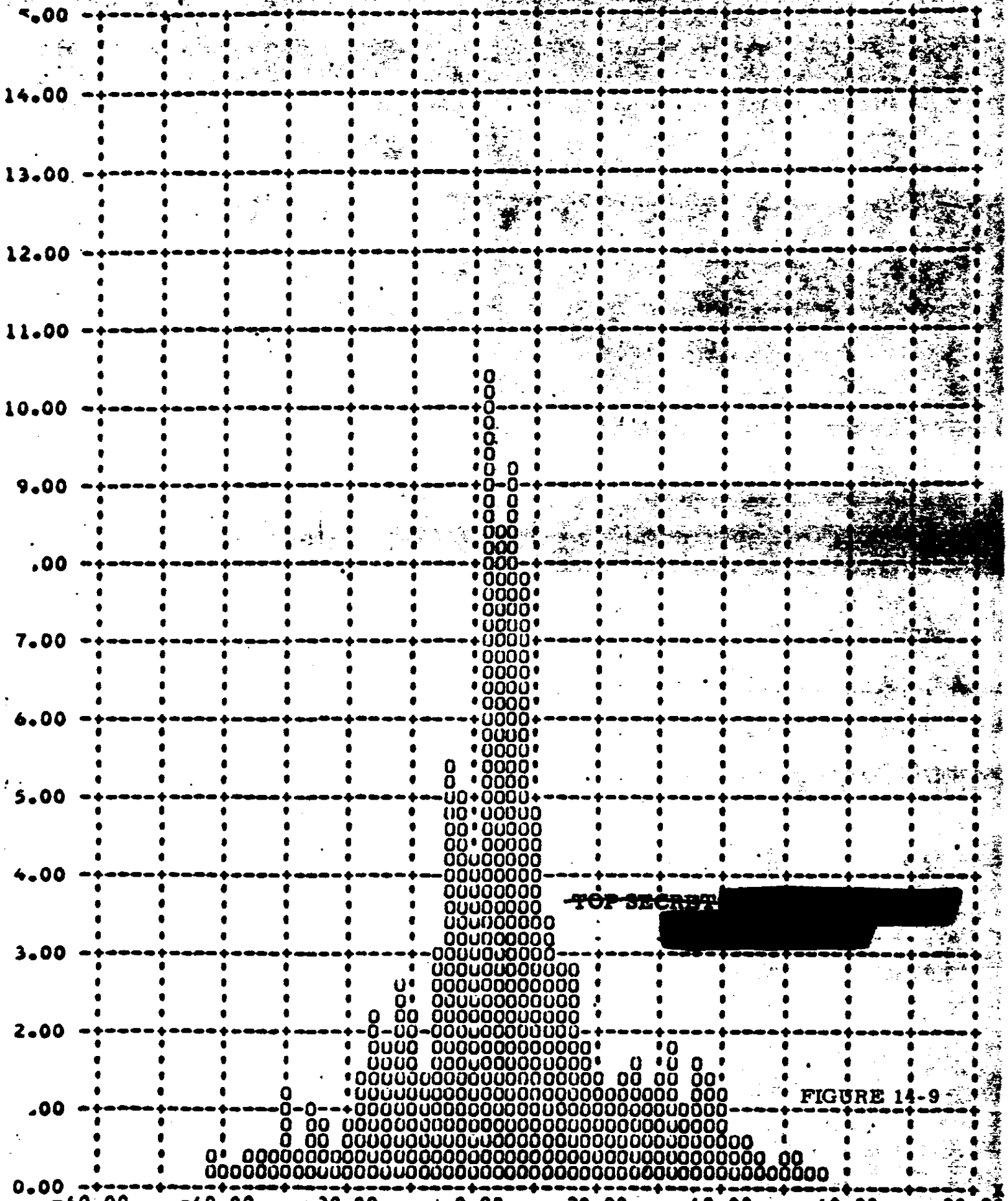


FIGURE 14-9

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 20.36

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

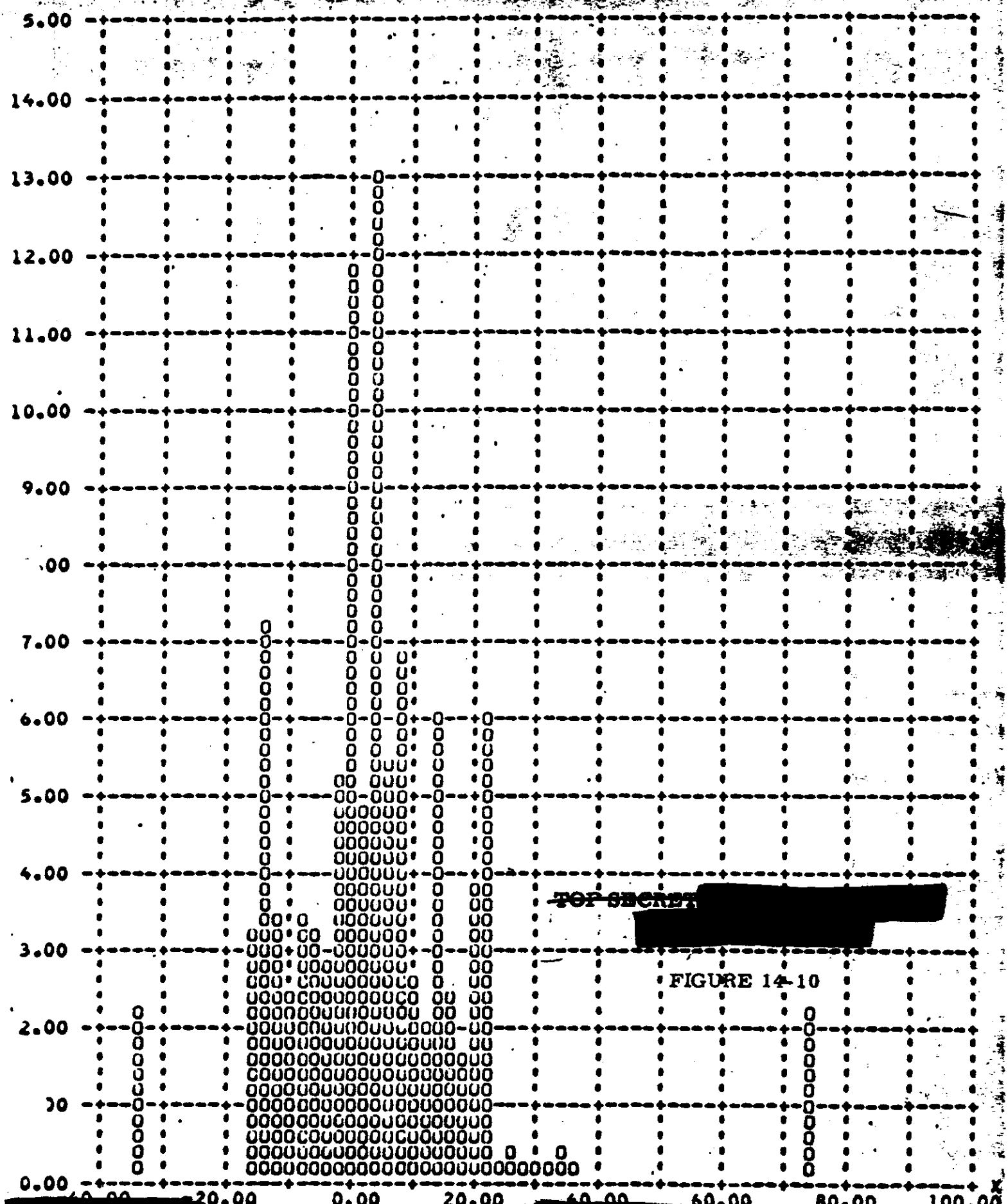


FIGURE 14-10

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 15-5.

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.

Value	Mission 1012-1 90%	Mission 1012-1 Range	Mission 1012-2 90%	Mission 1012-2 Range
V/h Ratio Error (%)	1.5	-5.8 to +2.6	5.9	-8.6 to +3.0
Along Track Resolution Limit (ft.)	4.8	0 to 5.8	3.3	0 to 9.0
Cross Track Resolution Limit (ft.)	N/A	N/A	5.9	0 to 11.6

The V/h ratio errors are attributed to the low orbital altitude attained during the missions life. The low altitude required the V/h programmer to be operated at its highest designed voltage limit. The V/h voltage limit was not sufficient to cycle the cameras fast enough to stop all image motion at the lowest orbital altitudes.

During portions of Mission 1012, the attitude of the vehicle in the yaw direction was altered in a controlled way to reduce the image degrading affect due to earth rotation. It was expected that terrain definition might be improved if yaw steering compensated for earth rotational effects. To prove this, identical terrain photography generated with and without yaw steering was microscopically compared.

A final comparison was made between terrain in frame 75, pass D-04 (with yaw steering) at 47 degrees North latitude, 104 n. m. altitude and the same terrain area in frame 101, pass 67 (with no yaw steering) at 96 n. m. both from the forward camera. These frames were compared and used for final analysis after many other frame combinations were compared and eliminated because of obvious weather differences such as snow and cloud formations that made analysis impossible.

The frame with no yaw steering control appeared to contain more ground detail than the frame with yaw steering control. Certain objects were detectable and others were sometimes recognizable in the photography generated with no yaw steering control. The above mentioned objects were not present in the photography generated with yaw control operating.

After examination of orbital parameters and illumination associated with the photography selected for determining the effect of yaw steering control, it is concluded that the photography generated without yaw steering was of better definition because of greater scene brightness range during exposure and a smaller scale. The scale of photography generated without yaw steering was approximately 1 to 292,000 and 1 to 312,000 with yaw steering.

During pass D-57, at approximately 10° South latitude, the main cameras were operated with the Yaw Programmer disabled so that the vehicle was not yaw steered to compensate for image smear caused by the earths rotation during exposure.

Photography produced during pass D-57 was extensively examined for image smear degradation in the cross track direction. The examination revealed no obvious degradation of terrain imagery in the cross track direction. Straight edged imagery was difficult to find for this evaluation since pass D-57 contained no cultural areas. However, further analysis left the photo-interpreter with the impression that ground detail was smeared in the cross track direction. The computed cross track resolution limit was in excess of 11 feet. The high ground resolution limitation in the cross track direction during pass D-57 is attributed principally to the combined effect of uncompensated earth rotation of -3.4 degrees and yaw error of -1.4 degrees at a nominal exposure time of 1/274 seconds.

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 1.5

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

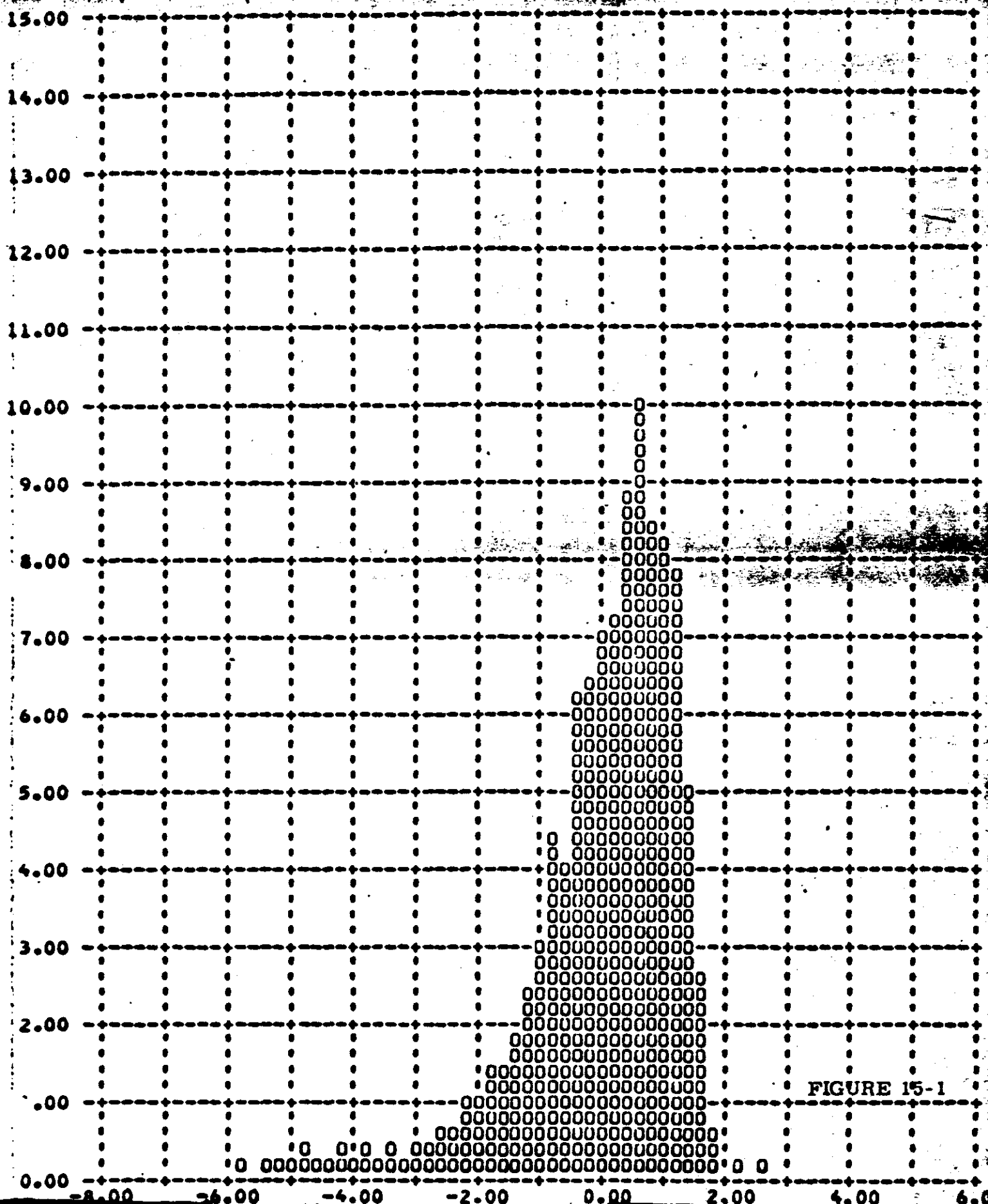


FIGURE 15-1

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 4.85

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

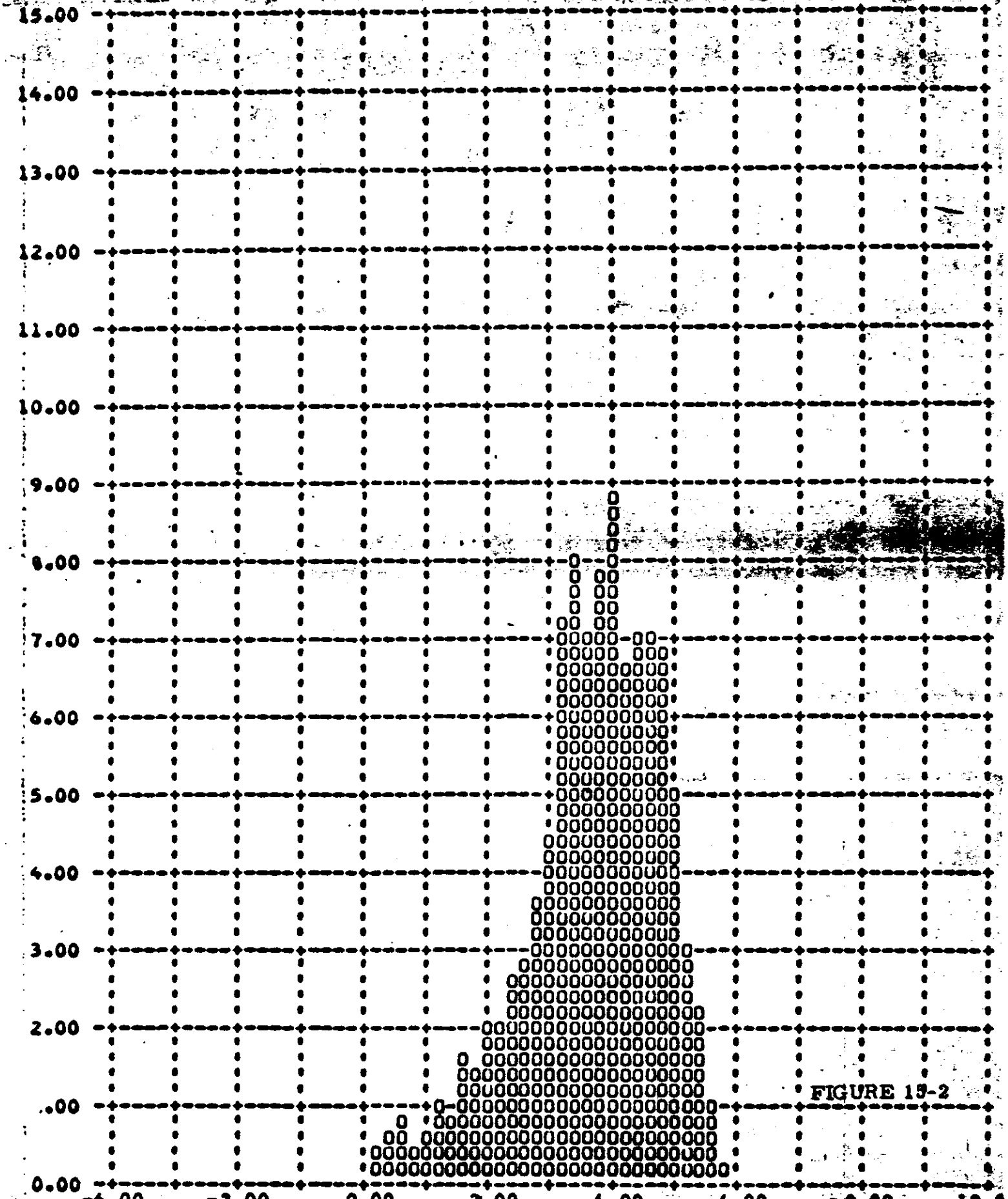
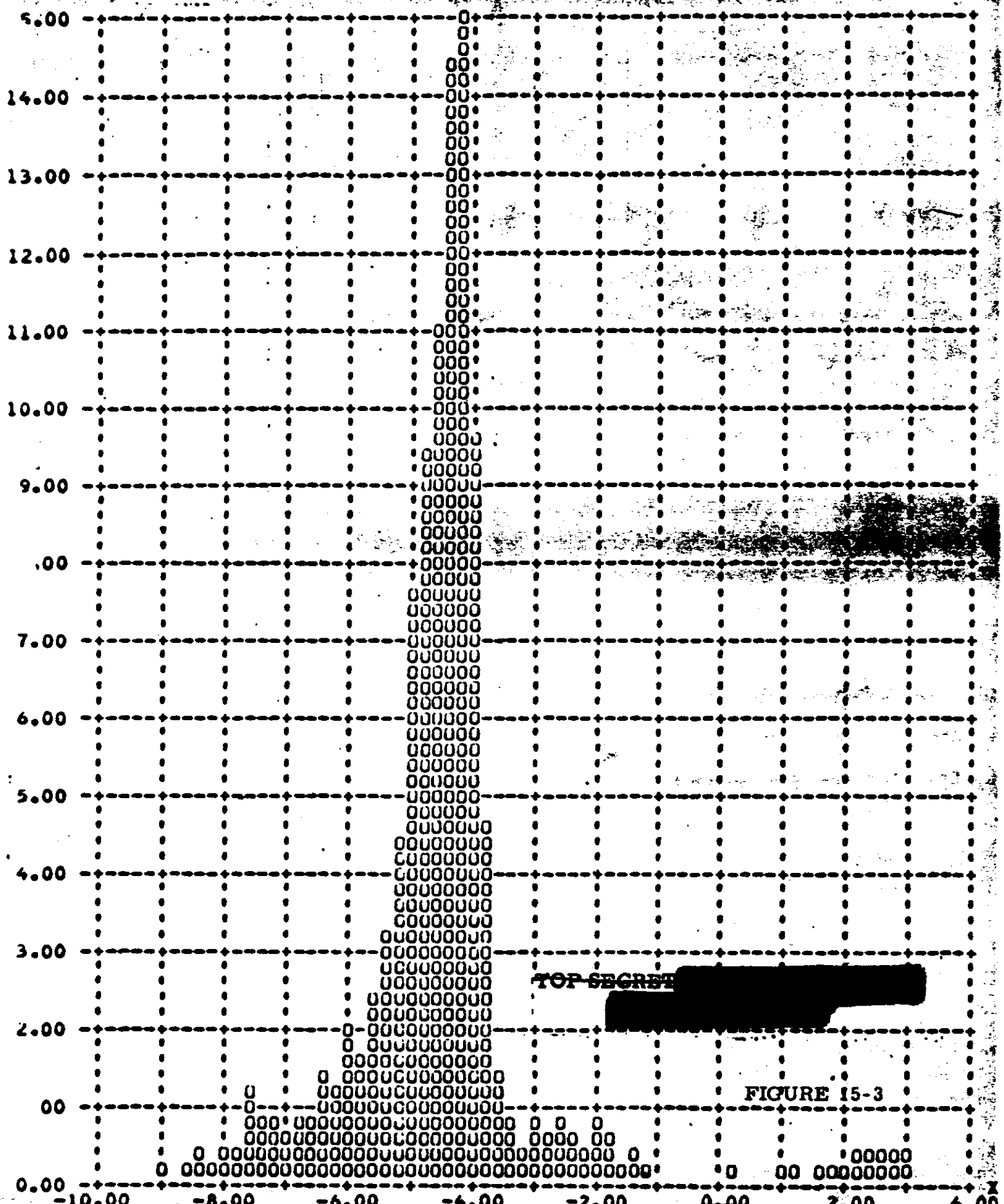


FIGURE 15-2

[redacted]

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 5.94

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



TOP SECRET [redacted]

FIGURE 15-3

[redacted] FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.32

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

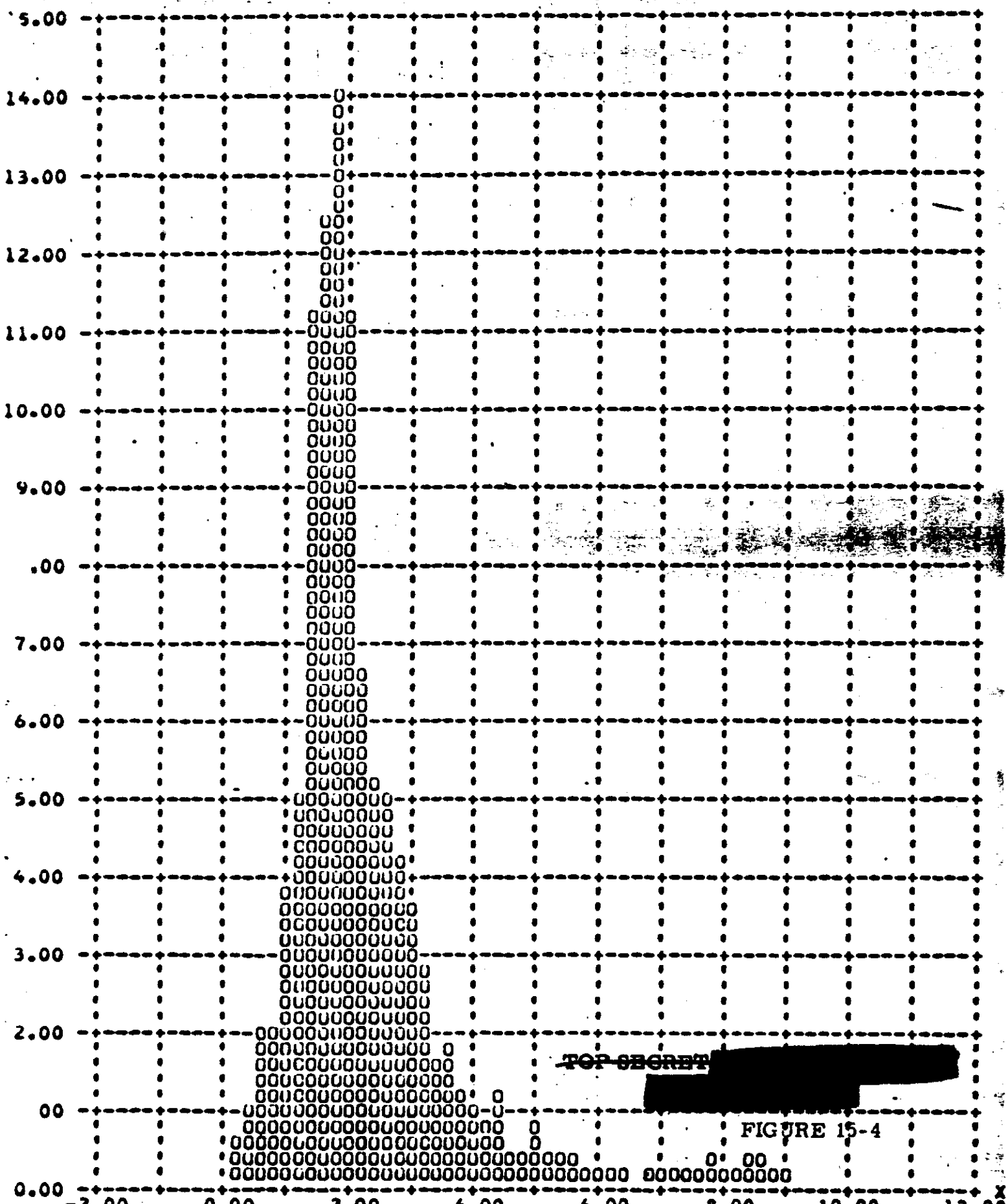


FIGURE 15-4

[redacted] FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 5.8

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

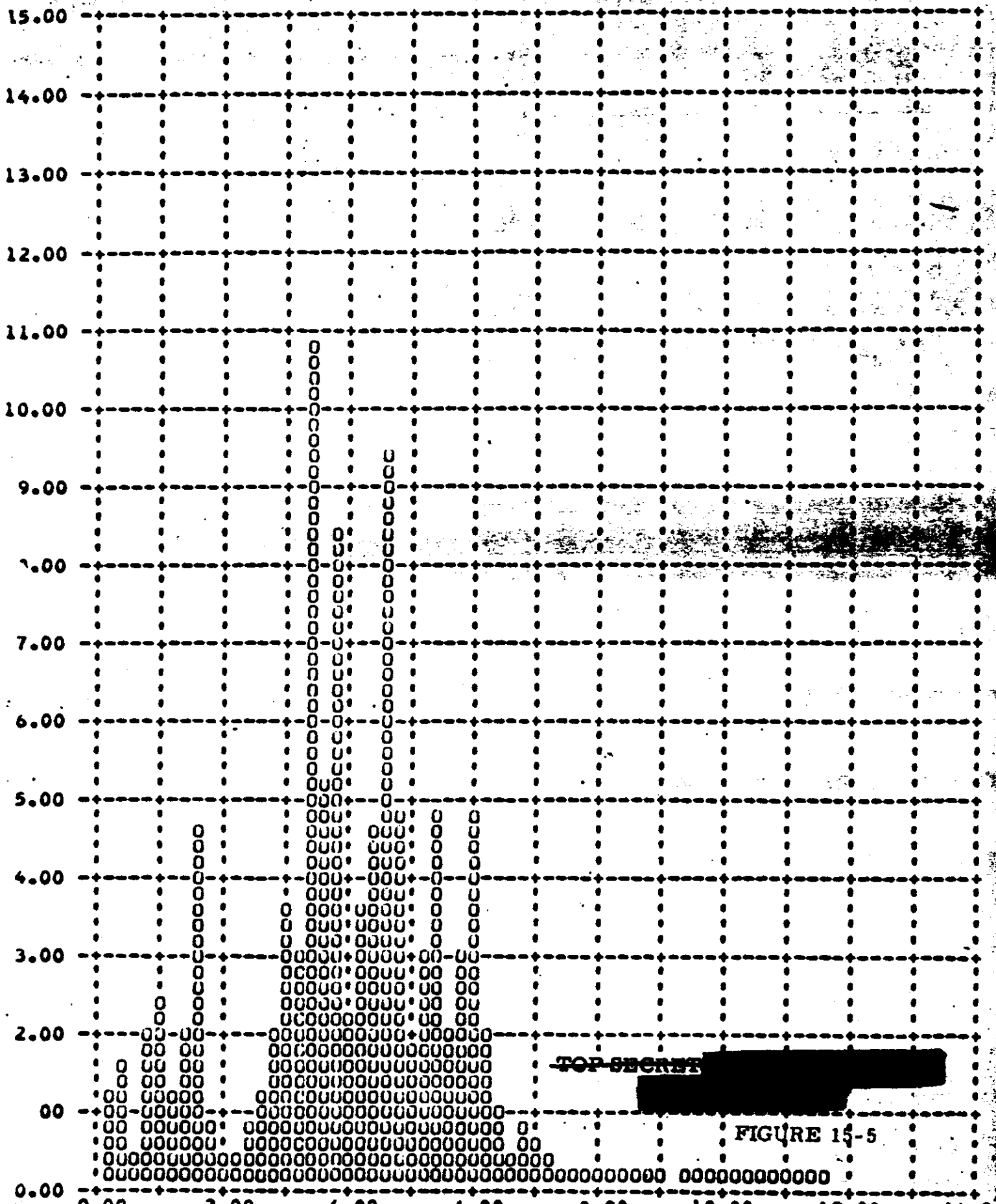


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FIGURE 15-5

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 1012-1		Mission 1012-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 4401	0.17	0.5 R	0.19	0.6 R
Royal X Pan	0.19	0.5 R	0.21	0.6 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.

Beginning with Mission 1012, the reliability estimates have been determined on a basis identical to that incorporated by the Agena vehicle. The criteria for acceptance or rejection of samples, and the calculations of the reliability estimates are therefore now directly correlated with the vehicle system.

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 - 76 opportunities to operate.
One failure - capping shutter on slave instrument on system M-7.
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 97.8% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 30 vehicles x 2 doors = 60 opportunities to operate.
Estimated Reliability = 98.9% at 50% confidence level.

Payload Command and Control

Sample Size - 3720 hours operation in sample
No failures
Estimated Reliability = 98.2% at 50% confidence level

Payload Clock Reliability

Sample Size - 3720 hours operation in sample.
No failures
Estimated Reliability = 98.2% at 50% confidence level.

Estimated Reliability of Payload Functioning on orbit = 96.9% at 50% confidence level.

Recovery System Reliability

26 opportunities to recover
1 failure - improper separation due to water seal - cutter failure.
Estimated Reliability = 93.5% at 50% confidence level.

Stellar-Index Camera Reliability

Sample begins with J5
Sample size = 6,375 cycles
No failures
Estimated Reliability = 95.4% at 50% confidence

Horizon Camera Reliability

Sample begins with J5 - 16 samples
Estimated Reliability of Single Camera = 95.8% at 50% confidence level.
Estimated Reliability of Four Horizon Cameras at a Parallel Redundant System = 99.8% 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

TOP SECRET [redacted]

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-05	1174	2/15/64	2138 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	029/29/29 / 042/42/45
1006	J-09	1176	6/4/64	2259 Z	79.9	84.0	63.2	65 / 128	148	0.200	W-21	149	0.200	W-21	049/53/42 / 048/47/45
1007	J-07	1609	6/19/64	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 / 033/28/33
1009	J-12	1605	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
1010	J-11	1178	9/14/64	2254 Z	84.9	97.4	42.5	65 / 144	152	0.175	W-21	153	0.175	W-21	041/41/41 / 044/46/44
1011	J-3X	1170	10/5/64	2150 Z	79.9	99.3	20.9	65 / —	160	0.175	W-21	161	0.175	W-21	030/30/30 / 057/57/57
1012	J-13	1179	10/17/64	2202 Z	75.0	96.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	051/51/47 / 046/52/53

TOP SECRET [redacted]

TABLE 18-1

PERFORMANCE SUMMARY

~~TOP SECRET~~ [redacted]

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPL - MTF/AIM				MTF/AIM			90% ATTITUDE ERROR (°)			90% ATTITUDE RATES (°/HR)			90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET)	
					SLIT (μ)	AVERAGE	SLIT (μ)	AVERAGE	SLIT (μ)	AVERAGE ALL	AVERAGE HIGH	PITCH	ROLL	YAW	PITCH	ROLL	YAW		ALONG TRACK	CROSS TRACK
1004-1	FWD	124	85	78	350	97	43	109	320	115	127	0.48	0.42	1.06	30.0	25.0	21.0	5.1	7.7	6.1
	AFT			86		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	8.8
	AFT			73		83		106		89	95									
1006-1	FWD	148	90	78	350	68	43	88	320	84	97	0.41	0.42	1.14	26.6	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	11.6	10.1	7.0
	AFT			83		72		90		87	94									
1007-1	FWD	144	85	80	350	60	43	87	320	82	91	0.88	0.46	1.43	37.6	23.8	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	180	85	80	350	80	43	95	320	81	89	0.99	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	181	85	82		84		96		83	92	0.68	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	0.60	0.65	0.71	29.2	22.7	27.6	3.3	5.3	8.6
	AFT			89		89				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	9.9
	AFT			87		87				72	79									
1010-1	FWD	152	85	90	350	90	80	88	80	87	96	0.93	0.30	0.87	39.1	23.6	30.8	4.8	2.3	6.4
	AFT			88		86		80		92	103									
1010-2	FWD	153	85	92		81		82		82	93	0.89	0.70	1.21	46.4	23.6	30.7	4.6	7.8	3.8
	AFT			90		82		85		87	98									
1011-1	FWD	160	90	84	350	78	80	96	80	78	87	0.77	0.39	0.97	43.1	28.9	31.1	2.3	5.3	8.6
	AFT	161		84		77		86		83	93									
1012-1	FWD	186	85	92	—	—	80	91	80	84	98	0.68	0.51	—	47.1	33.2	—	1.8	4.8	—
	AFT			91				87		89	100									
1012-2	FWD	187	85	91				89		84	91	0.97	0.77	0.81	48.2	30.7	20.4	8.9	3.3	8.8
	AFT			89				96		85	98									

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-186-

TABLE 18-2

EXPOSURE - PROCESSING SUMMARY

TOP SECRET [redacted]

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
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	35
	AFT	-3	61	25	124	5	74	21	4	79	17	0	80	20	0.22	1.56	0.76	0.70	0.93	2.45	1.92	1.94	1.08	2.43	1.98	2.03	1	4	67	26	3	35
1004-2	FWD	-4	68	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	35
	AFT	-4	68	10	131	7	76	17	37	50	13	4	77	19	0.29	1.91	0.81	0.73	0.38	2.39	1.89	1.99	0.43	2.46	1.89	1.98	0	4	67	20	9	35
1006-1	FWD	38	86	82	140	1	99	0	1	51	48	0	51	49	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	5	72	21	1	60
	AFT	38	86	82	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	80
1006-2	FWD	32	64	36	147	2	98	0	30	41	29	11	59	30	0.21	1.14	0.53	0.50	0.86	2.28	1.49	1.50	1.30	2.33	2.11	2.16	2	21	72	4	0	45
	AFT	32	64	36	147	2	98	0	35	40	25	21	54	25	0.26	1.34	0.62	0.58	0.65	2.19	1.48	1.47	1.56	2.50	2.12	2.16	0	11	77	9	3	45
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0.26	1.22	0.52	0.47	0.62	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	1.54	2.39	2.20	2.24	1	13	80	5	1	60
1007-2	FWD	32	87	43	112	0	25	75	3	28	69	0	26	74	0.26	1.23	0.51	0.48	0.70	2.32	1.44	1.40	0.90	2.37	2.15	2.20	18	9	71	2	0	65
	AFT	31	87	38	111	0	100	0	19	41	40	3	88	9	0.24	1.56	0.60	0.56	0.64	2.27	1.50	1.52	0.84	2.41	2.17	2.25	1	16	74	9	1	65
1008-1	FWD	30	81	50	102	0	100	0	4	32	64	1	35	64	0.32	1.48	0.66	0.62	0.78	2.24	1.55	1.54	1.46	2.35	2.21	2.24	2	2	86	8	1	45
	AFT	30	81	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	45
1008-2	FWD	29	56	42	105	0	100	0	3	31	66	0	27	73	0.14	1.81	0.76	0.72	0.87	2.10	1.84	1.55	1.09	2.40	2.20	2.25	2	1	73	23	1	65
	AFT	29	56	42	105	0	100	0	3	30	67	0	29	71	0.32	1.64	0.77	0.76	0.73	2.10	1.55	1.55	1.10	2.35	2.18	2.22	1	3	69	27	0	65
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	5	4	77	14	0	50
	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	5	73	20	0	50
1009-2	FWD	23	38	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	2.45	2.25	2.30	4	4	74	17	0	55
	AFT	23	38	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	2.50	2.31	2.34	1	4	77	18	0	55
1010-1	FWD	18	47	45	83	0	21	79	0	13	87	0	9	91	0.28	1.14	0.52	0.47	0.43	2.32	1.38	1.32	1.11	2.42	2.16	2.20	18	3	75	4	0	48
	AFT	18	47	45	83	0	21	79	0	19	81	0	16	84	0.27	1.25	0.57	0.52	0.78	2.42	1.45	1.41	0.98	2.46	2.20	2.26	9	4	81	6	0	48
1010-2	FWD	15	52	38	76	0	50	50	0	16	84	0	13	87	0.26	1.51	0.55	0.50	0.68	2.36	1.41	1.38	1.00	2.44	2.14	2.20	22	4	67	6	0	45
	AFT	15	52	38	76	0	50	50	0	23	77	0	25	75	0.20	1.48	0.59	0.56	0.70	2.40	1.47	1.45	1.29	2.48	2.18	2.22	13	3	76	8	0	45
1011-1	FWD	2	55	33	66	0	64	36	2	23	75	2	23	75	0.18	0.99	0.50	0.46	0.76	2.36	1.48	1.43	0.78	2.40	2.07	2.16	17	11	70	2	0	40
	AFT	2	55	33	66	0	67	33	3	47	50	0	37	63	0.24	1.48	0.60	0.56	0.80	2.35	1.57	1.55	0.74	2.37	2.11	2.18	3	7	81	8	0	40
1012-1	FWD	0	45	38	71	0	64	36	7	56	37	0	65	35	0.25	1.30	0.59	0.53	0.64	2.39	1.40	1.42	0.90	2.39	1.93	2.00	6	17	68	10	0	60
	AFT	0	45	38	71	0	64	36	0	33	67	0	49	51	0.26	1.40	0.81	0.58	0.47	2.27	1.44	1.40	0.72	2.32	1.89	1.96	5	10	74	11	0	60
1012-2	FWD	0	57	34	106	0	77	23	6	44	50	0	49	51	0.30	1.20	0.58	0.55	0.73	2.32	1.49	1.42	0.67	2.34	1.91	2.00	4	9	80	7	0	40
	AFT	0	57	34	106	0	77	23	3	15	82	0	10	90	0.30	1.27	0.68	0.62	0.48	2.33	1.55	1.58	0.70	2.38	1.96	2.02	4	0	72	23	0	40

TABLE 18-3

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Distribution

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