CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1010-1 and 1010-2

FTV 1178; J-11

28 May 1965

Approved: [redacted]
Mgr.
Advanced Projects

Approved: [redacted]
Mgr.
Program [redacted]

FOREWORD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1178.

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 1010-1 and 1010-2 which was launched on 14 September 1964.

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INTRODUCTION

This report presents the final performance evaluation of Missions 1010-1 and 1010-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-1 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 1010, placed into orbit by Flight Test Vehicle #1178 and SLV-2A booster #405, 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-11 payload system. This Corona "J" system is designed to acquire search and reconnaissance photography of selected areas of the earth from orbital altitudes. The planned mission was two, four day photographic periods separated by a seven day inactive period.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 2253:43 Z (3:53:43 PDT) on 14 September 1964. Ascent and injection were normal and the achieved orbit within nominal tolerances. Tracking and command support was effected by the Air Force Satellite Control Facility consisting of tracking and command stations at [redacted] under central control of the Satellite Test Center at Sunnyvale, California. Mission 1010-1 consisted of four days operation and was completed by air recovery on 18 September 1964. Mission 1010-2 was completed with an air recovery on 23 September 1964 following five days of photographic operations. Mission 1010 was the first nine day Corona operation.

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

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1010

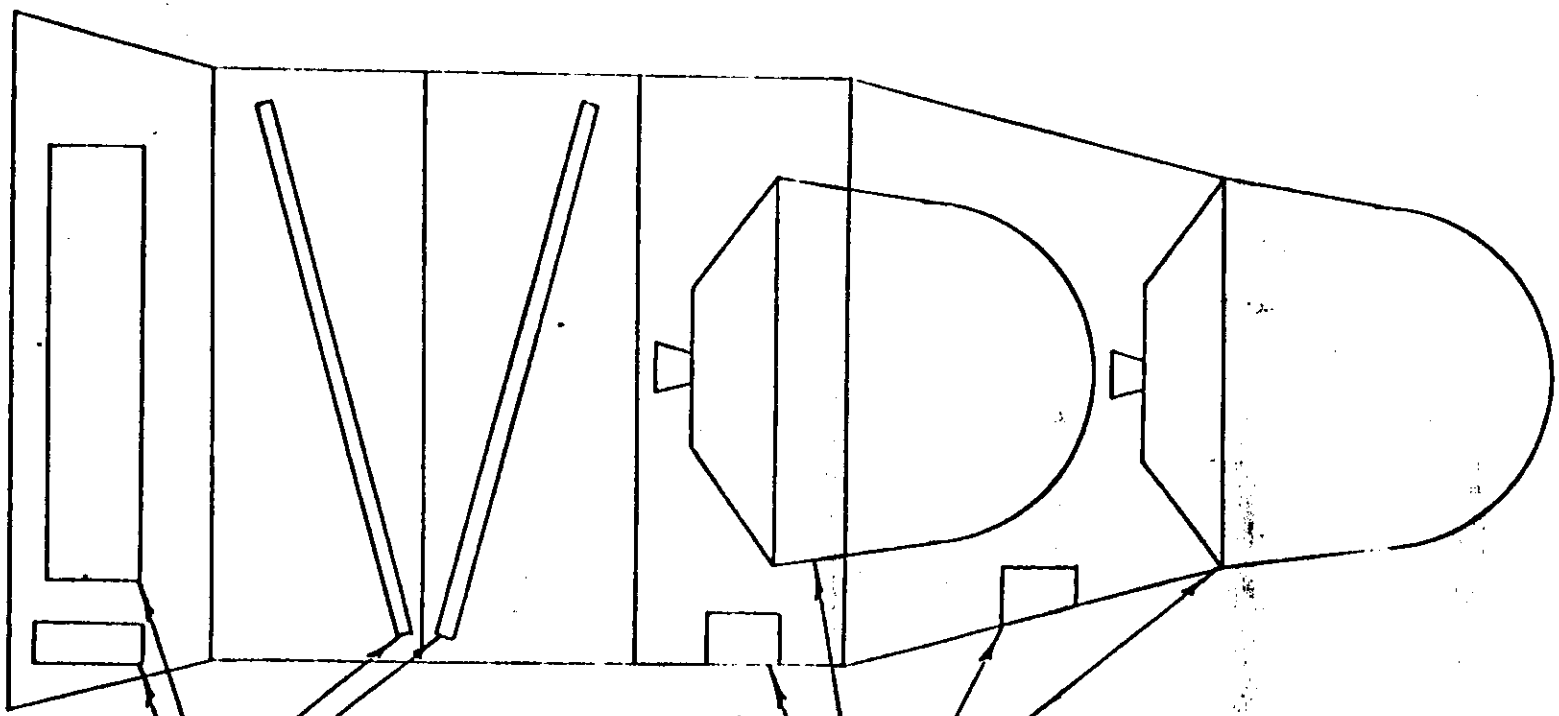


FIGURE 1-1

ORBIT PARAMETERS

Parameter	Predicted	Orbit 1 Actuals
Period (Min.)	91.06	90.97
Perigee (N.M.)	99.98	97.45
Apogee (N.M.)	206.29	259.19
Inclination (Deg.)	84.99	84.96
Perigee Latitude (Deg.N.)	39.99	42.58
Eccentricity	0.02221	0.02236

The achieved orbit was within the 3 sigma dispersions from nominal. The Agena vehicle was not deactivated after the completion of Mission 1010-2. VHF command exercises were conducted until the vehicle power was depleted. All contact was lost by orbit 166.

C. PANORAMIC CAMERAS

The Master and Slave panoramic cameras operated throughout both missions with no significant problems and produced excellent photographic coverage. The cloud cover and atmospheric haze observed in the photography was high. A small area on the Master camera formats of Mission 1010-1 contained a small soft focus area which was not present during Mission 1010-2.

D. STELLAR-INDEX CAMERAS

The Stellar-Index cameras operated properly through both missions. Double star images were observed intermittently during both missions. This anomaly has been traced to the unbalance of the panoramic cameras during non-synchronous operation. The unbalance imparts a small roll motion to the satellite.

E. OTHER SUB-SYSTEMS

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

F. CONCLUSIONS

Mission 1010-1 and 1010-2 achieved the objective of acquiring high quality search and reconnaissance photography from orbital altitudes.

G. RECOMMENDATIONS

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

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

2. Utilize the higher level exposure criteria on future Corona missions.

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-11 payload system was tested for pressure, thermal and corona discharge effects in the TASC chamber starting May 20, 1964. The test consisted of three days active operation with the "A" bucket; one day of de-active soak and three days of active operation with the "B" bucket. The J-11 system contained the first flight type pressure make-up system and corona markings were reported to be acceptable for flight.

Several abnormalities in system performance were evident during the test. Component replacement after the completion of the environmental test corrected all observed problems.

3. Thermal Environment

The TASC chamber thermal environment was programmed to simulate the on-orbital temperature conditions that the J-11 payload system would experience in flight. Typical instrument temperatures recorded through the test are as follows:

Orbit	Master Camera	Slave Camera
6	78°	81°
17	83°	86°
33	84°	87°
48	82°	87°
59	67°	67°
69	61°	62°
79	51°	52°

Two self-heating tests were conducted during the soak period. One test was deemed invalid due to a change in the steady state temperature in the chamber, but the other test was valid and the results are included in Figure 2-1.

4. Pressure Environment

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

5. Panoramic Camera Performance

Evaluation of the test film showed that both the Master and Slave cameras produced intermittent start-up corona discharge. The resulting fogging was well within the acceptance criteria hence the J-11 system was recommended for flight.

The panoramic cameras operated normally during the test phase with the exception that the cycle rate errors were excessive. Component replacement and adjustment corrected this anomaly.

6. Stellar-Index Camera Performance

The Stellar-Index Cameras installed in the J-11 system during

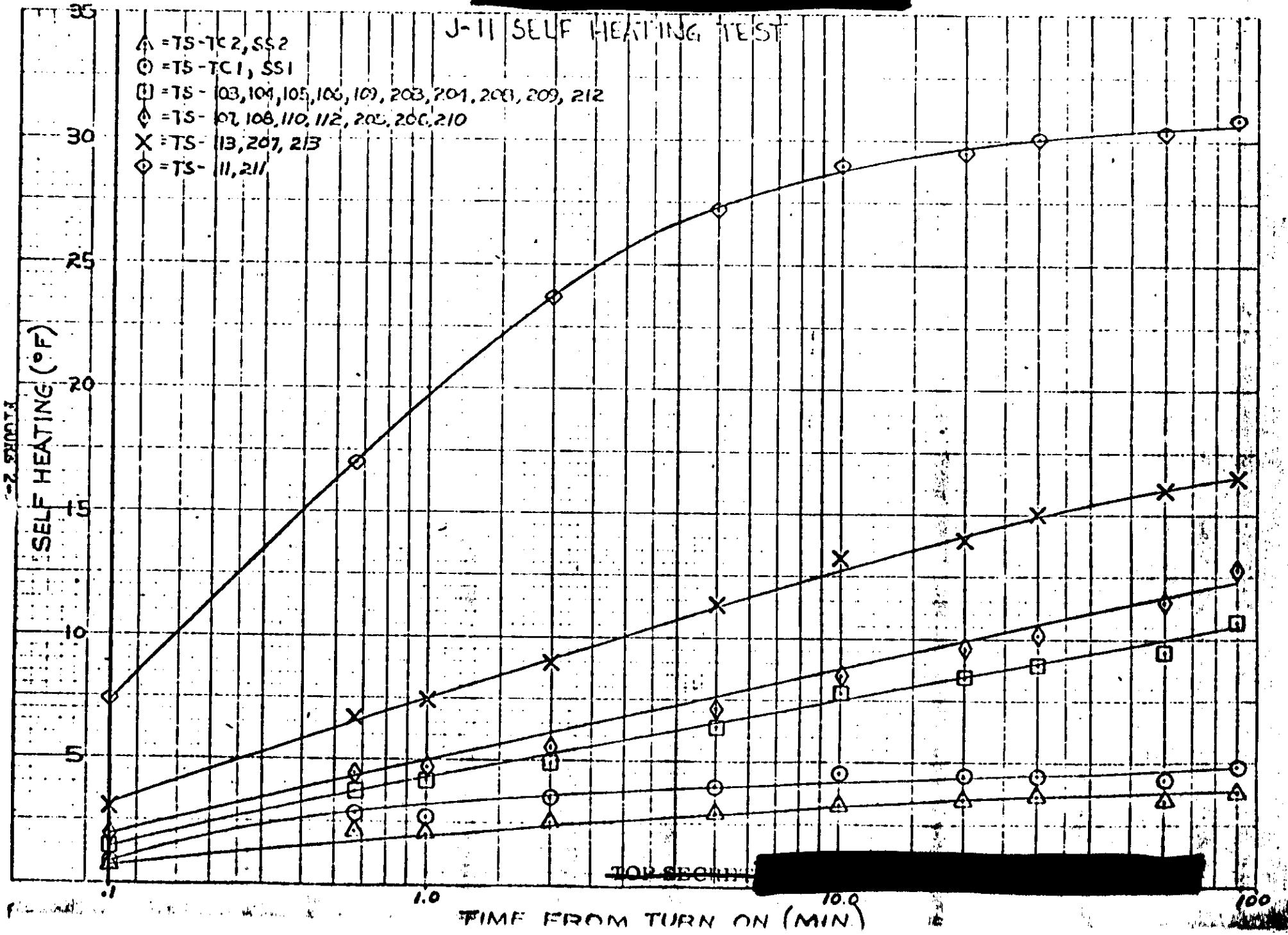
the environmental test were replaced prior to flight. The flight cameras were environmentally tested as components and found acceptable for flight.

B. RESOLUTION TEST

The dynamic resolution test of the J-11 payload system was performed at the A/P facility on 5 June 1964. Each panoramic camera photographed high and low contrast resolution targets. The resulting through focus resolution data is shown in Figure 2-2 for the Master camera and in Figure 2-3 for the Slave camera.

C. LIGHT LEAK TEST

The examination of the film threaded in the J-11 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.



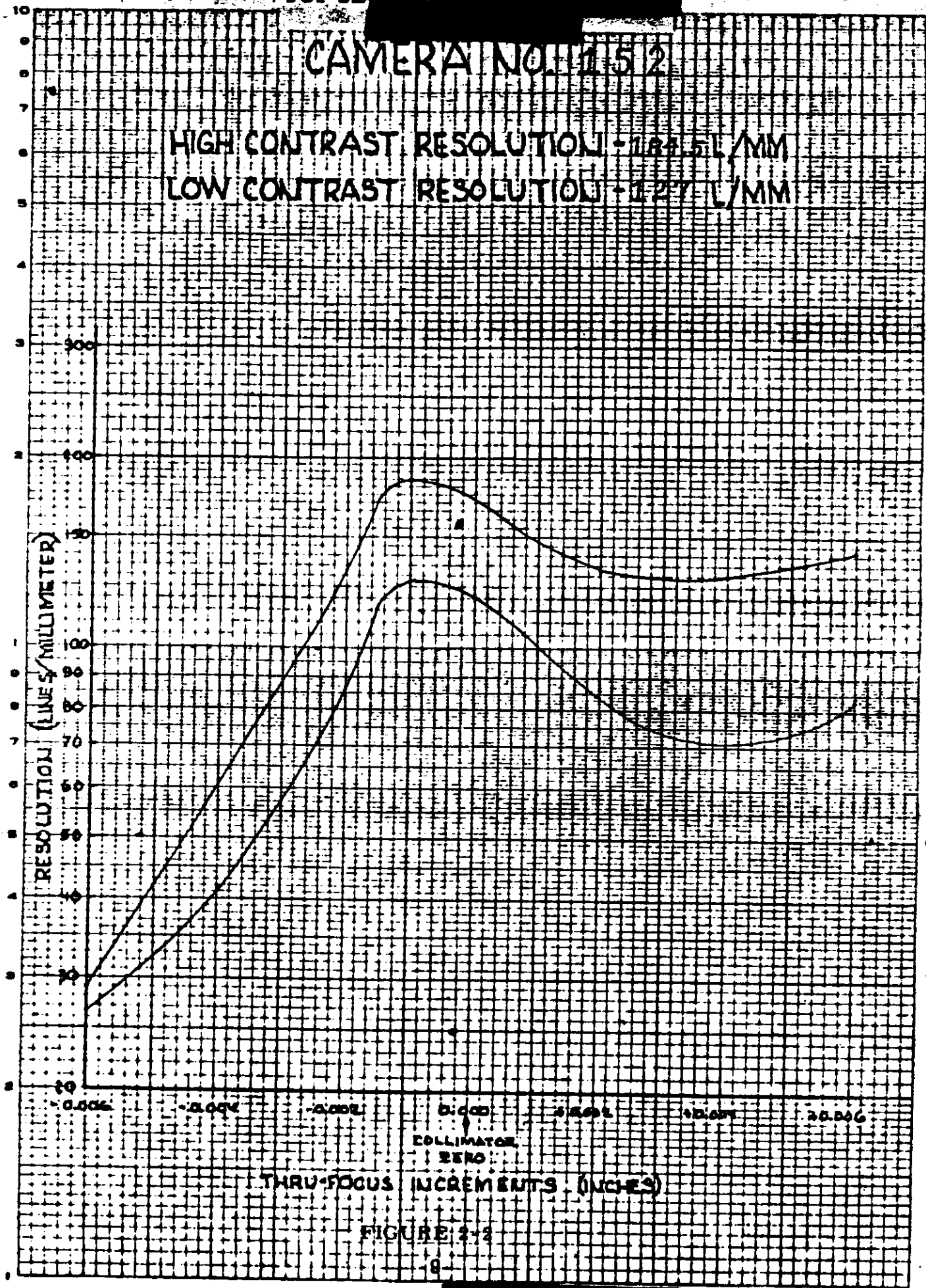

CAMERA NO. 152
HIGH CONTRAST RESOLUTION - 114.5 L/MM
LOW CONTRAST RESOLUTION - 127 L/MM
RESOLUTION (LINES/MILLIMETER)
300
200
100
90
80
70
60
50
40
30
20
10
-0.006
-0.004
-0.002
0.000
0.002
0.004
0.006
COLLIMATOR ZERO
THRU-FOCUS INCREMENTS (INCHES)

FIGURE 2-2

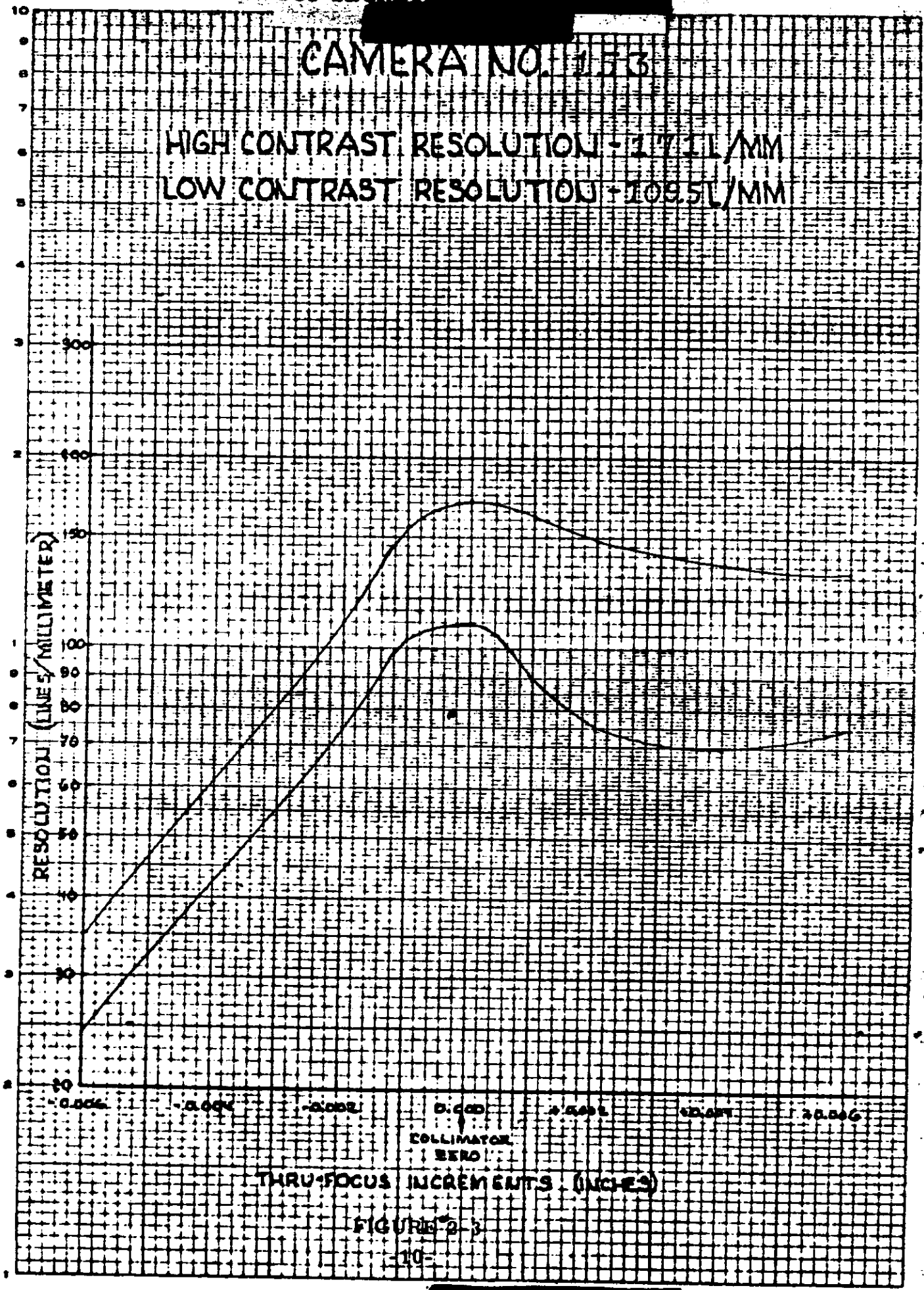

CAMERA NO. 1E3
HIGH CONTRAST RESOLUTION - 117.1 L/MM
LOW CONTRAST RESOLUTION - 109.5 L/MM
RESOLUTION (LINES/MILLIMETER)
300
200
150
100
90
80
70
60
50
40
30
20
-0.006
-0.004
-0.002
0.000
+0.002
+0.004
+0.006
COLLIMATOR ZERO
THRU-FOCUS INCREMENTS (INCHES)

FIGURE 2-5

SECTION 3

FLIGHT OPERATIONS

A. COMMAND & INSTRUMENTATION PERFORMANCE

No commanding problems of serious consequence were encountered during the mission. There was one instance in which an H-timer reset deleted a V/H programmer start delay step. This deletion caused the V/H programmer to start late. The reset deletion occurred during the [redacted] orbit 9 acquisition. The orbit 1 [redacted] tracking station data was bad, and due to communications problems during orbits 5 and 6 the [redacted] tracking station was unable to provide tracking data.

Acquisitions during orbit 8 resulted in revisions in the ephemeris predictions. The earlier STC computer predictions for the ephemeris were heavily weighted with poor orbit 1 data and nominal orbital predictions. The revised orbital predictions necessitated a 35-second reset during the orbit 9 [redacted] acquisition. During the 35-second reset two functions were missed: A V/H programmer delay step and a clock interrogate. The deletion of the delay step caused the V/H programmer to start a maximum of 50 seconds late. This late start was not deleterious to system performance during orbit 9. The IMC error introduced by the late programmer start was less than .5%.

B. PANORAMIC CAMERA PERFORMANCE

Telemetry data, acquired during the engineering operations over [redacted] indicated nominal panoramic camera operations.

Three flight ramps were used: 8-3, 8-2, and 7-2. The nominal flight plan called for the 8-3 ramp for launch. In orbit 6 the flight ramp was changed from 8-3 to 8-2. In orbit 71 the flight ramp was changed from 8-2 to 7-2. The changes in the V/H ramp settings were made to allow the V/H programmer to better match the vehicle orbit. Camera cycle rate performance is summarized as follows:

DEVIATIONS BETWEEN PREDICTED AND ACTUAL PANORAMIC INSTRUMENT CYCLE RATES

ORBIT NUMBER	RAMP	TIME UP RAMP	PERCENTAGE ERROR MASTER	PERCENTAGE ERROR SLAVE
9 (Night)	8-2	445 Secs.	- 1.6	- 2.0
31 (Day)	8-2	2130 Secs.	- 0.7	- 1.6
47 (Day)	8-2	2160 Secs.	- 0.4	- 2.0
56 (Night)	8-2	645 Secs.	- 0.5	- 2.0
71 (Night)	8-2	705 Secs.	- 0.7	- 2.2
103 (Night)	7-2	785 Secs.	- 0.3	- 2.4

Approximately 6080 frames were exposed by the master and slave cameras during the nine-day mission.

C. STELLAR/INDEX CAMERA PERFORMANCE

The T/M data from the engineering operations over [redacted] indicated satisfactory performances from the two S/I units. Daytime and nighttime acquisitions were included in these engineering operations. All S/I metering and shutter pulses appeared to be normal.

D. PRESSURE MAKE-UP SYSTEM PERFORMANCE

Pressure make-up system (PMU) performance was monitored by two functions: a pressure monitor that showed the pressure in the nitrogen supply bottle; and a pirani gage that measured the pressure in the vicinity of the panoramic instruments. The PMU system was commanded ON and OFF by camera ON/OFF commands. This was the second PMU system employed in the Corona J reconnaissance program.

The pirani gage T/M data from the engineering operations are presented in Figures 3-1 through 3-3. The nitrogen supply pressure is shown in Figure 3-4. These data indicate satisfactory PMU system performance.

E. CLOCK PERFORMANCE

The performance of the clock was satisfactory for the 9-day mission. Table 3-1 presents the clock/systems time correlation data.

F. THERMAL ENVIRONMENT SUMMARY

All thermal data from the [redacted] acquisitions are presented in Tables 3-2 and 3-3. The panoramic cameras, supply spools, and thrust cone temperatures were corrected for self-heating. The self-heating characteristics for the aforementioned sensors were determined from the results of a special temp sensor self-heating test conducted in the TASC chamber.

Table 3-4 presents these calibration data. The predicted and in-flight temperatures for Mission 1010-1 are compared in Figures 3-5 through 3-7.

G. RECOVERY SYSTEM PERFORMANCE

A. Mission 1010-1 Recovery

The Mission 1010-1 recovery capsule was retrieved with a successful air catch on orbit 65. The physical condition of the capsule and the recovery sequence indicated the recovery events were normal in all aspects.

B. Mission 1010-2 Recovery

The Mission 1010-2 recovery capsule was retrieved with a successful air catch on orbit 144. The recovery events were normal in all aspects.

No deactivation period was initiated after the Mission 1010-2 recovery. VHF command exercises were conducted until the vehicle power was depleted. All contact was lost by orbit 166. All A/P tape events were utilized by orbit 144.

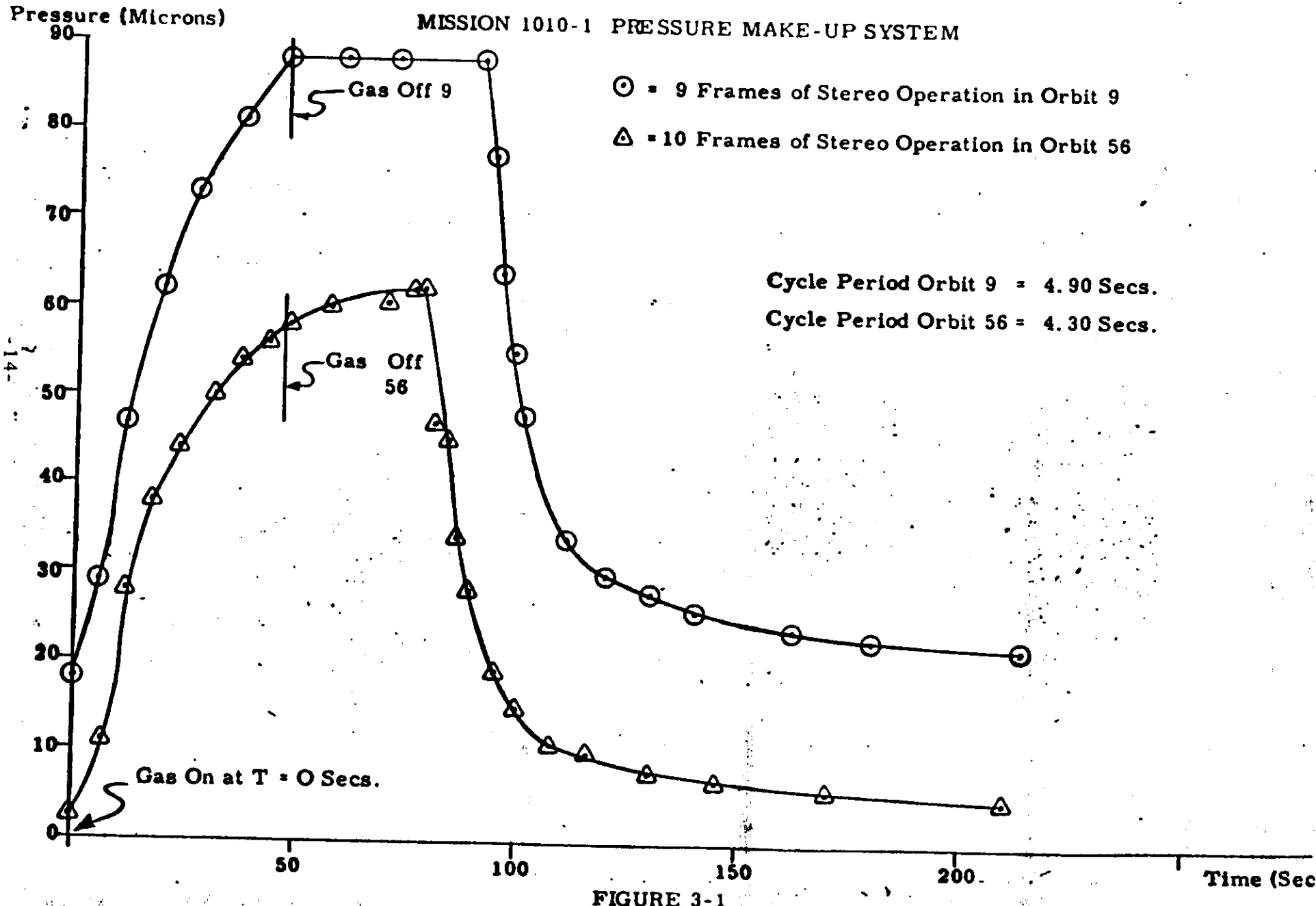
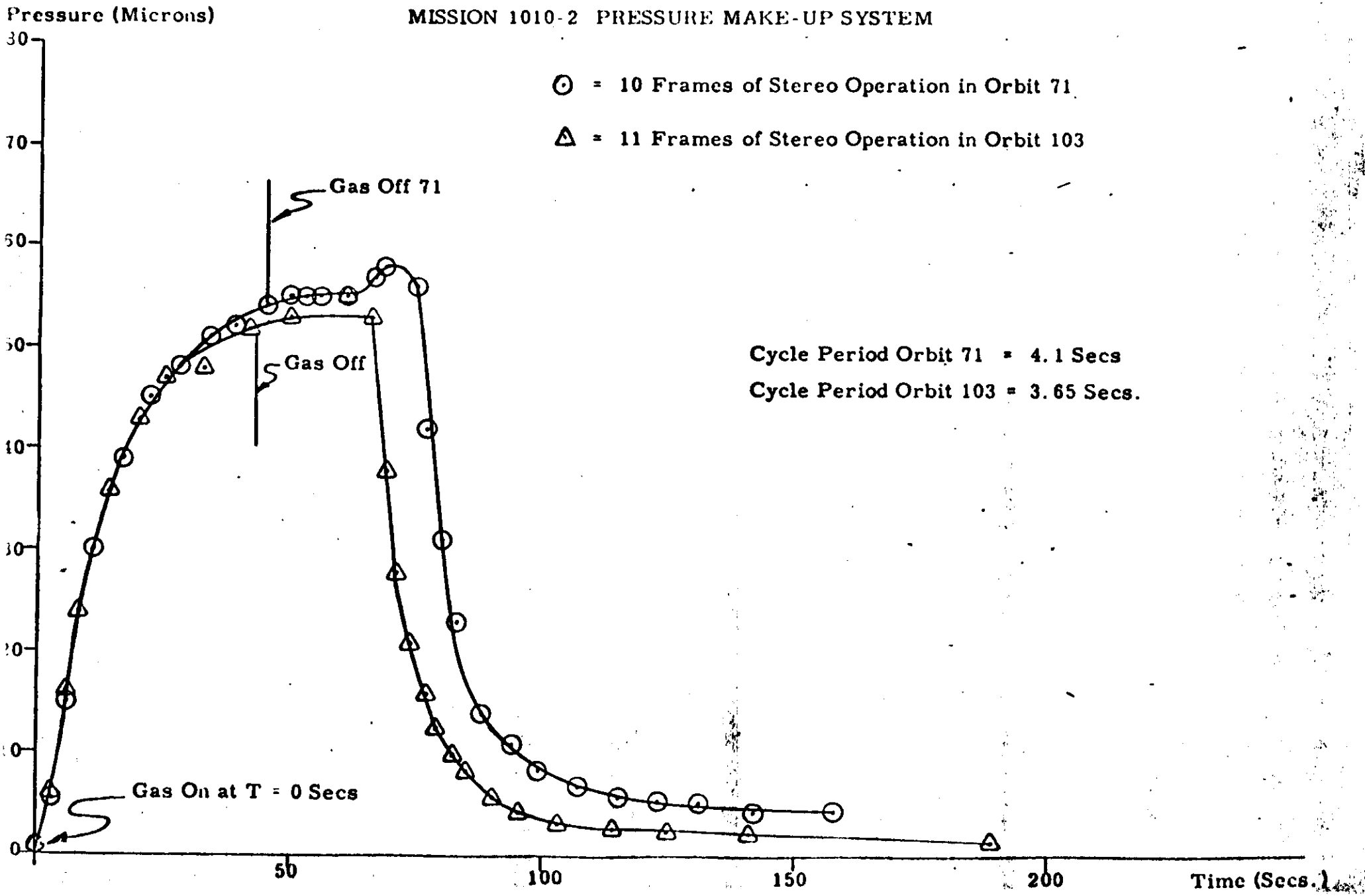

MISSION 1010-1 PRESSURE MAKE-UP SYSTEM
Pressure (Microns)
90
80
70
60
50
40
30
20
10
0
⊙ = 9 Frames of Stereo Operation in Orbit 9
△ = 10 Frames of Stereo Operation in Orbit 56
Cycle Period Orbit 9 = 4.90 Secs.
Cycle Period Orbit 56 = 4.30 Secs.
Gas Off 9
Gas Off 56
Gas On at T = O Secs.
50
100
150
200
Time (Secs.)

FIGURE 3-1

MISSION 1010-2 PRESSURE MAKE-UP SYSTEM



MISSION 1010 PRESSURE SUMMARY

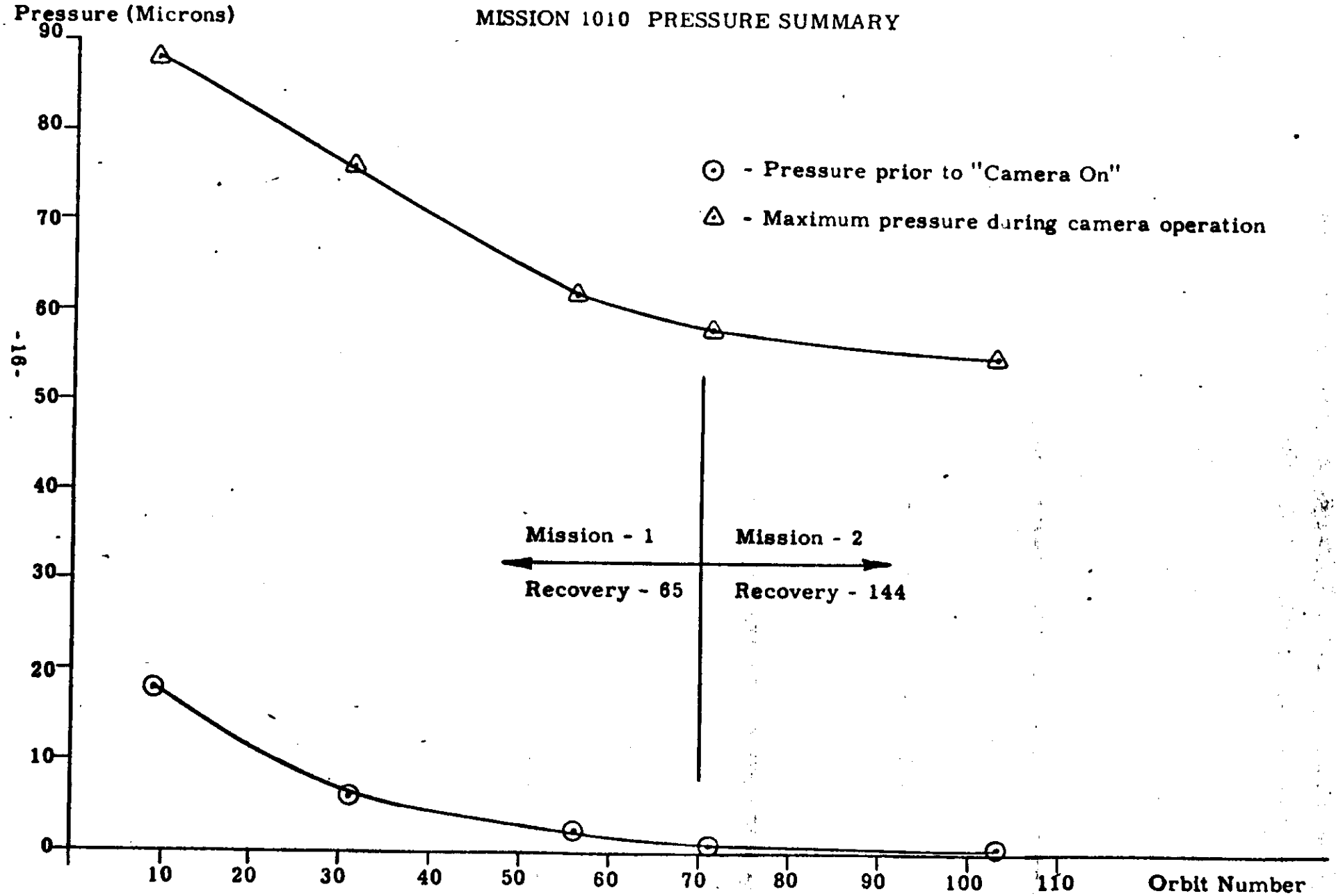


FIGURE 3-3

MISSION 1010 NITROGEN SUPPLY PRESSURE

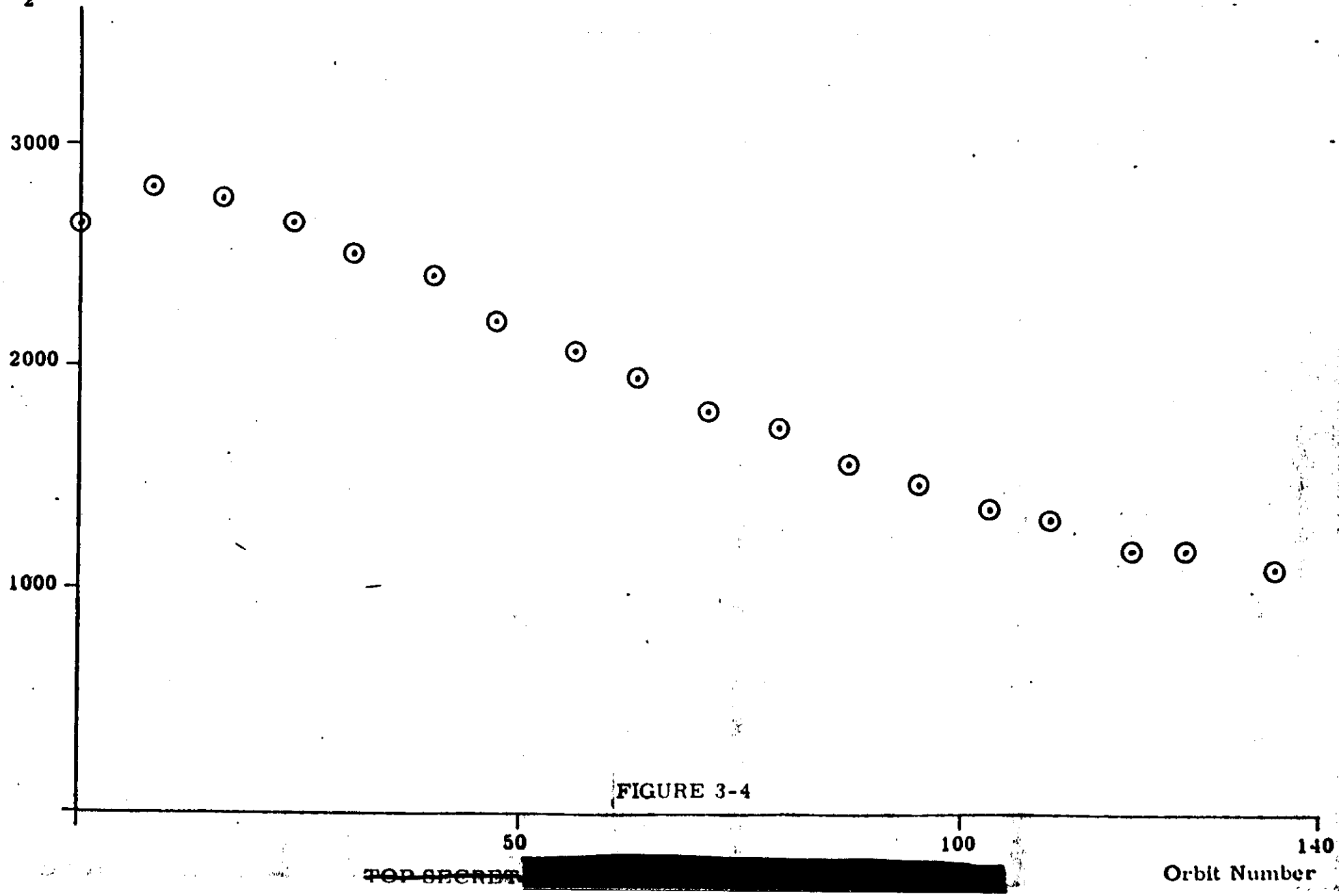
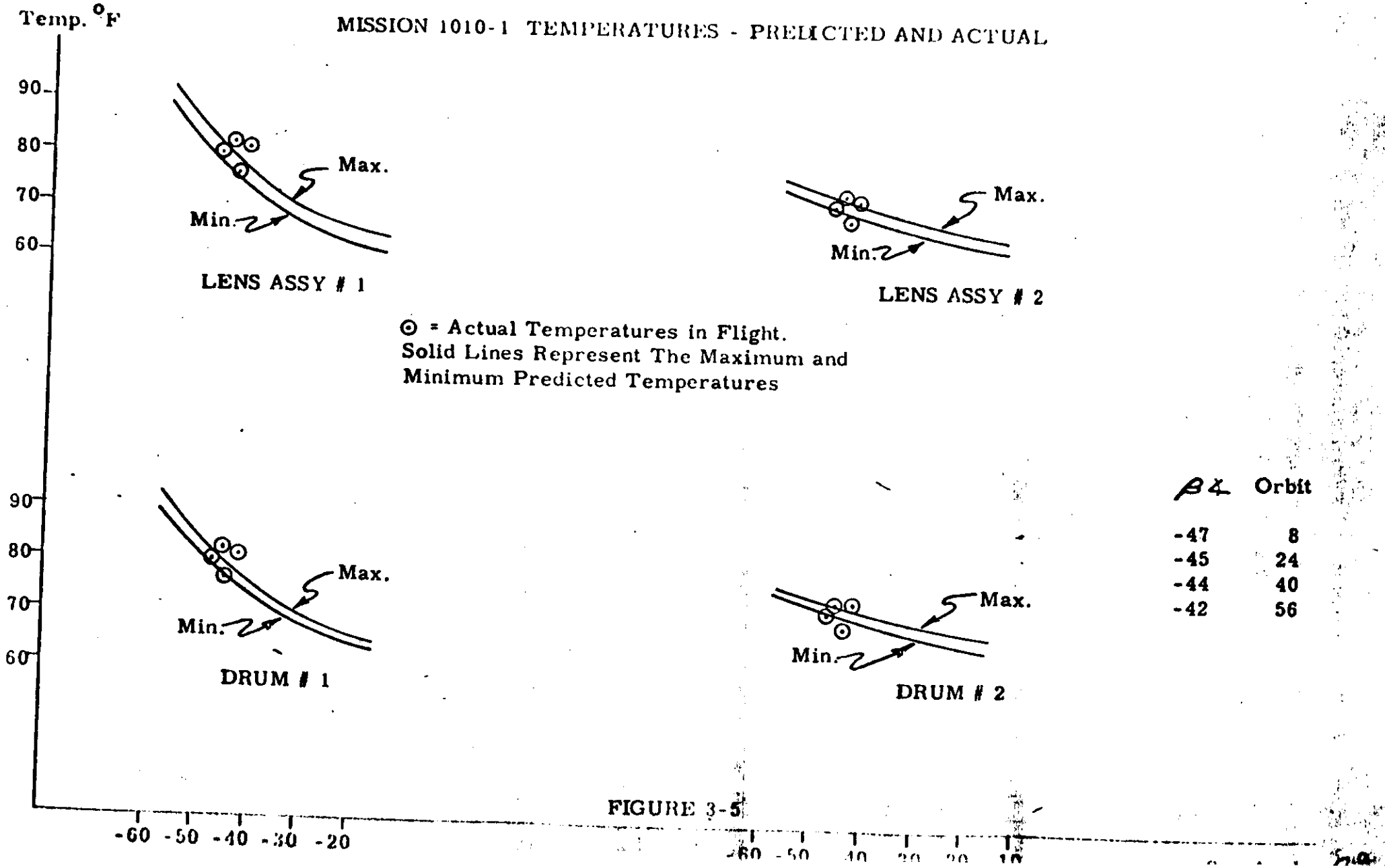


FIGURE 3-4

MISSION 1010-1 TEMPERATURES - PREDICTED AND ACTUAL



β	Orbit
-47	8
-45	24
-44	40
-42	56

FIGURE 3-5

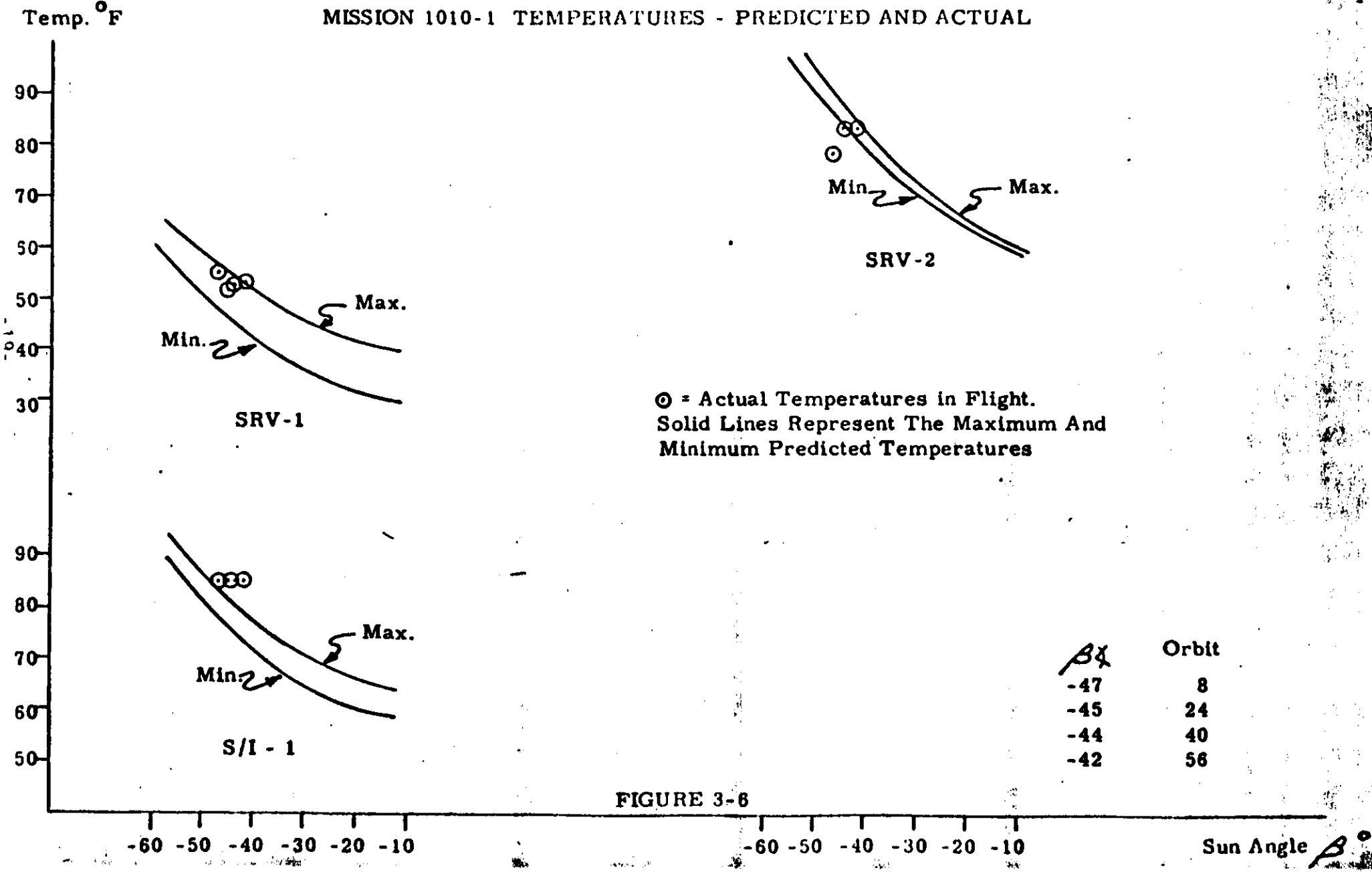

Temp. °F
MISSION 1010-1 TEMPERATURES - PREDICTED AND ACTUAL
90
80
70
60
50
40
30
SRV-1
Max.
Min.
SRV-2
Max.
Min.
⊙ = Actual Temperatures in Flight.
Solid Lines Represent The Maximum And
Minimum Predicted Temperatures
S/I - 1
Max.
Min.
β°
Orbit
-47 8
-45 24
-44 40
-42 56
-60 -50 -40 -30 -20 -10
-60 -50 -40 -30 -20 -10
Sun Angle β°

FIGURE 3-6

MISSION 1010-2 TEMPERATURES - PREDICTED AND ACTUAL

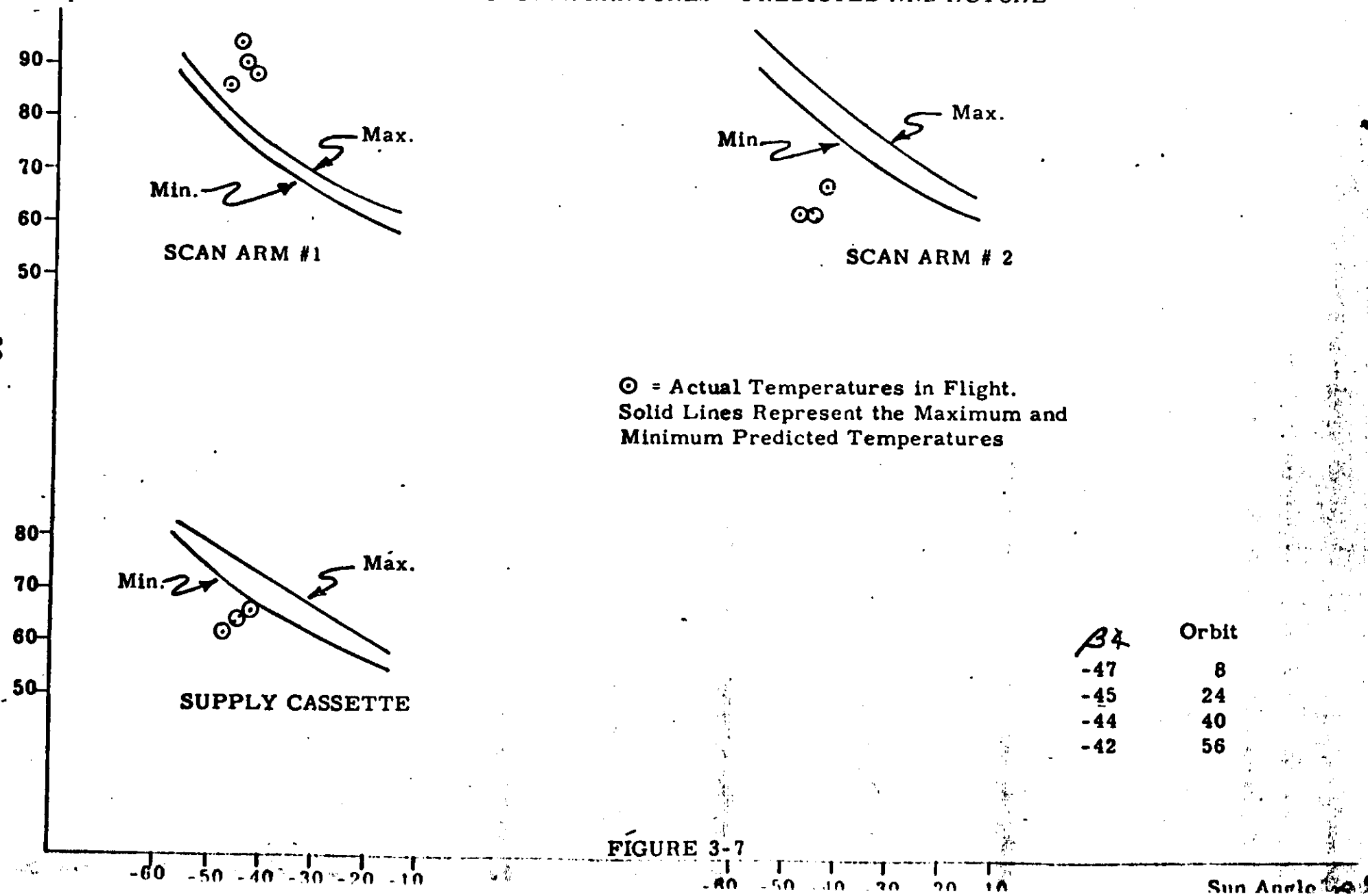


FIGURE 3-7

TABLE 3-1

J-11 CLOCK/SYSTEM TIME CORRELATION

ORBIT	SYSTEM TIME RAW DATA	CLOCK TIME	SMOOTHED SYSTEM TIME	DELTA DIFFERENCE
	MISSION 1			
1	1350.885	207900.436	1350.895	.010 +
8	38009.975	244559.533	38009.983	.008 +
9	43827.135	250376.691	43827.139	.004 +
16	83682.870	290232.430	83682.868	.002 -
24	39183.430	332133.002	39183.430	.000
31	79059.551	372009.132	79059.550	.001 -
40	40256.317	419605.907	40256.313	.004 -
47	79901.820	459251.416	79901.812	.008 -
56	41024.535	506774.146	41024.531	.004 -
63	80804.910	9683.618	80804.905	.005 -
	MISSION 2			
71	36047.032	51325.748	36047.025	.007 -
79	81666.305	96945.037	81666.302	.003 -
87	36833.560	138512.302	36833.557	.003 -
95	82471.728	184150.486	82471.730	.002 +
103	38027.710	226106.472	38027.705	.005 -
110	77807.472	265886.248	77807.472	.000
119	38865.991	313344.785	38865.997	.006 +
126	78273.005	352751.807	78273.009	.004 +
135	39496.435	400375.253	39496.443	.008 +

Smoothed System Time = -206549.490 + .999999752917070 x Clock Time

Delta Difference = Smoothed System Time - Raw System Time

TABLE 3-2

J-11 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																	
Master Camera	0	9	16	24	31	40	47	56	63	71	79	87	95	103	110	119	126	135
3	66	60	57	63	56	59	54	62	52	53	48	50	47	47	47	49	45	58
4	72	69	66	72	65	68	64	72	61	62	56	59	53	56	56	58	52	56
5	68	75	70	77	69	74	67	76	67	68	61	66	60	63	60	64	58	62
6	65	85	80	85	80	82	78	85	74	77	71	74	67	70	67	71	66	68
7	66	78	73	78	73	74	72	79	69	69	65	67	64	63	64	64	62	62
8	71	76	71	77	71	73	68	78	66	67	60	64	59	62	59	62	58	60
9	69	84	78	84	77	79	63	82	72	75	68	72	65	70	66	70	64	66
10	66	71	70	71	67	66	65	72	63	59	59	59	58	54	58	57	56	54
11	100	86	91	94	86	90	83	88	86	75	79	80	78	69	62	75	73	77
12	73	65	60	67	60	63	58	68	57	57	51	55	50	53	51	53	49	52
13	68	80	78	82	76	76	73	81	73	67	67	63	65	60	59	61	62	58
AVG.	68	74	70	76	69	71	66	77	65	65	61	63	59	60	59	61	57	60
Slave Camera																		
3	62	80	77	81	76	78	73	81	72	74	70	73	68	69	66	69	64	66
4	63	74	69	77	70	74	66	77	66	71	64	69	62	67	61	67	59	63
5	64	71	67	73	66	69	66	76	64	67	62	65	60	61	58	62	58	60
6	60	66	61	66	63	64	62	68	58	60	56	58	54	54	54	55	53	53
7	62	69	66	71	56	66	63	71	63	61	60	59	58	55	58	57	56	54
8	64	70	63	71	64	69	62	72	62	66	59	63	57	61	56	62	56	59
9	67	63	58	65	57	62	57	66	57	59	55	57	52	54	52	56	51	54
10	65	70	68	71	68	65	64	71	64	62	61	59	59	56	59	58	56	55
11	94	63	57	63	60	62	60	68	58	62	56	58	57	60	65	60	56	55
12	66	75	69	77	69	73	68	78	65	69	64	68	62	65	60	65	60	62
13	67	72	69	74	70	69	68	74	68	66	66	63	63	62	68	63	62	59
AVG.	64	70	67	73	66	68	65	73	63	65	61	63	59	60	59	61	57	58
Supply Spools																		
1	60	58	57	61	61	62	61	64	59	61	58	58	56	56	56	57	56	55
2	60	66	63	67	64	68	64	68	63	65	62	64	59	63	58	62	58	59

Notes: All data corrected for self-heating except injection.
Camera averages do not include sensor #11.

TABLE 3-3

J-11 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																	
Fairing ("A")																		
Barrel #1 ("B")	0	9	16	24	31	40	47	56	63	71	79	87	95	103	110	119	126	1
1	OBH	48	76	51	70	48	67	51	70	4	78	1	14	1	14	4	7	
2	OBH	18	15	21	15	18	12	18	12	3	-4	-1	-7	-1	-4	-1	-7	-
3	OBH	2	15	5	15	2	12	5	12	19	58	19	61	19	64	16	35	1
4	OBH	83	88	88	86	83	86	86	83	67	122	67	122	63	119	60	97	6
5	OBH	120	153	126	142	120	139	120	134	62	98	65	92	62	86	58	83	5
6	OBH	91	154	94	143	88	138	91	135	-	-	-	-	-	-	-	-	
Barrel #2																		
1	163	67	111	67	106	64	103	64	100	58	97	61	92	54	86	54	83	5
2	158	62	139	65	131	62	126	62	126	62	120	62	120	55	118	55	95	5
3	186	22	66	22	60	19	57	22	60	22	57	22	63	19	63	19	38	1
4	194	4	4	7	4	7	0	7	0	4	0	4	0	4	-3	4	-3	
5	191	16	25	16	22	19	22	19	22	12	19	9	16	9	19	9	12	
Conic Adapter																		
1	162	64	94	67	89	61	86	64	83	55	83	58	80	55	77	52	64	5
Clock																		
1	91	75	71	75	71	77	71	75	71	69	64	66	64	69	62	66	60	5
2	95	75	73	77	73	77	73	77	71	71	64	69	64	69	62	66	62	6
Thrust Cone "A" to "B" SRV																		
1	119	62	58	62	57	60	56	60	56	68	64	65	63	64	62	63	61	6
2	76	86	81	86	80	84	79	84	77	79	74	74	72	72	71	69	67	7
Stellar-Index Camera																		
1	86	92	89	92	89	92	86	92	83	76	70	70	67	67	64	64	64	6
2	64	79	76	79	73	79	73	79	70	69	62	65	59	62	59	62	59	5
Recovery Battery "B" SRV																		
1	68	79	81	84	84	84	82	84	82	81	81	81	79	80	82	80	84	8
Master Cassette																		
1	90	55	48	52	48	53	50	53	50	-	-	-	-	-	-	-	-	

TABLE 3-4

VEHICLE 1177 PAYLOAD J-11 SELF-HEATING TEST

SUMMARY OF SELF-HEATING CORRECTION CURVES

No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No.
TS TC2 TS SS2	TS TC1 TS SS1	TS 203 TS 209 TS 106 TS 109 TS 105 TS 104 TS 208 TS 204	TS 212 TS 103 TS 206 TS 205 TS 108 TS 112 TS 107	TS 110 TS 210 TS 213	TS 207 TS 113	TS 2 TS 1

Time (Min)	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No.
0.10	0.5	0.5	0.9	1.1	1.3	2.0	4.
0.13	0.6	0.6	1.1	1.4	1.6	2.6	5.
0.16	0.7	0.8	1.4	1.8	2.0	3.2	6.
0.20	0.9	1.0	1.6	2.0	2.3	3.6	7.
0.25	1.0	1.2	1.8	2.3	2.5	3.9	9.
0.32	1.1	1.4	2.1	2.5	2.9	4.4	10.
0.40	1.3	1.7	2.4	2.9	3.3	4.9	12.
0.50	1.6	2.0	2.8	3.4	3.8	5.6	14.
0.63	1.9	2.5	3.4	3.9	4.5	6.4	16.
0.79	2.1	2.8	3.7	4.3	5.0	7.0	18.
1.00	2.2	3.0	4.1	4.7	5.4	7.6	20.
1.26	2.3	3.1	4.4	5.0	5.7	8.1	21.
1.58	2.5	3.3	4.7	5.4	6.1	8.6	22.
2.00	2.6	3.5	5.1	5.8	6.6	9.3	23.
2.51	2.7	3.6	5.3	6.1	6.9	9.6	24.
3.16	2.8	3.7	5.6	6.4	7.3	10.1	24.
3.98	2.9	3.8	6.0	6.8	7.7	10.7	25.
5.01	3.0	4.0	6.4	7.3	8.3	11.4	27.
6.31	3.1	4.1	6.7	7.6	8.6	11.8	27.
7.94	3.1	4.1	7.0	7.9	9.1	12.3	28.
10.00	3.2	4.3	7.4	8.4	9.6	13.0	28.
12.59	3.3	4.3	7.6	8.7	9.9	13.4	29.
15.85	3.3	4.4	7.9	9.0	10.4	13.8	29.
19.95	3.4	4.4	8.3	9.5	10.9	14.5	29.
25.12	3.4	4.5	8.6	9.8	11.3	14.9	30.
31.62	3.5	4.5	8.9	10.2	11.8	15.4	30.
39.81	3.5	4.5	9.2	10.5	12.2	15.7	30.
50.12	3.6	4.6	9.5	10.9	12.7	16.2	30.
63.10	3.6	4.6	9.8	11.3	13.2	16.7	30.
79.43	3.7	4.6	10.1	11.7	13.7	17.1	30.
100.00	3.7	4.7	10.4	12.2	14.3	17.7	30.

SECTION 4

MISSION 1010-1 RECOVERY SYSTEM

SRV #644 was received at A/P on 4 October 1963. The receiving weight was 147 pounds. After modifications and incorporation of outstanding E.O.'s, the SRV was delivered to systems test for incorporation into the J-11 system.

The following major modifications were made to SRV #644 during the testing phase at A/P:

1. 10/4/63 - The electronic components in the thrust cone were flowcoated.

2. 10/5/63 - The W-4 cable was found to be damaged at the plug and was replaced.

3. 6/2/64 - FEDR 1310; the water seal gasket was replaced as it had lifted out of its groove.

4. 6/30/64 - The mating studs were reworked as they were not shorted to the thrust cone ring.

The capsule was delivered for shipment to VAFB on 13 July 1964. No components were replaced or repaired at VAFB.

A successful air catch of the capsule was made on orbit 65. 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. Post flight inspection and test showed no anomalies.

MISSION 1010-1

RECOVERY SEQUENCE OF EVENTS

Event	System Time	Delta Time Actual	Delta Time Nominal
Transfer	-	-	-
Electrical Disconnect	-	-	$0.90^{+.43}_{-.40}$
*Separation	4875.50	-	$2.00 \pm .25$
**Spin	4878.00	-	$3.40 \pm .30$
Retro	4885.00	7.00	$7.55 \pm .45$
Despin	-	-	$10.75 \pm .54$
T/C Separation	4897.00	-	$1.50 \pm .15$
Voltage Mon. Closed	4972.32	75.32	$104.00 \pm 44.$
"G" Switch Open	5405.52	433.20	-
Parachute Cover Off	5439.80	34.28	34.00 ± 1.5
Drogue Chute Deployed	5440.54	0.74	$0.75 \pm .08$
Drogue Chute Release	5450.62	10.08	10.05 ± 1.0
Main Chute Deployed	5451.42	0.80	$0.80 \pm .20$
Main Chute Disreefed	5455.61	4.19	4.00 ± 1.7

* From Transfer

** From Elect. Disc.

The event times not recorded were not available due to noise on the T/M channels.

TABLE 4-1

SECTION 5

MISSION 1010-2 RECOVERY SYSTEM

SRV #652 was received at A/P on 30 December 1963 at a receiving weight of 154 pounds. After modification and incorporation of outstanding E.O.'s the capsule was delivered to systems test for incorporation into the J-13 system. The original SRV assigned to J-11B produced a soft wrap during the TASC test. SRV #652 was assigned to J-11 on 19 June 1964.

The following modifications were made to SRV #652 during the test phase at A/P:

1. 6/24/64 - The mating studs were reworked to short to the thrust cone ring.

2. 6/30/64 - A lanyard hole was drilled in the forebody to comply with T22-720, revision B.

The capsule was delivered for shipment to VAFB on 13 July 1964. Testing at VAFB was completed without problems.

The second recovery unit was successfully recovered by air catch on orbit 144. 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.

MISSION 1010-2

RECOVERY SEQUENCE OF EVENTS

Event	System Time	Delta Time Actual	Delta Time Nominal
Transfer	3266.00	-	-
Electrical Disconnect	3266.94	0.94	$0.90^{+.43}_{-.40}$
*Separation	3268.00	2.00	$2.00 \pm .25$
**Spin	3270.35	3.41	$3.40 \pm .30$
Retro	3277.90	7.55	$7.55 \pm .45$
Despin	3288.62	10.72	$10.75 \pm .54$
T/C Separation	3290.20	1.58	$1.50 \pm .15$
Voltage Mon. Closed	3364.22	74.02	$104.00 \pm .44$
"G" Switch Open	3841.14	476.92	-
Parachute Cover Off	3875.28	34.14	34.00 ± 1.5
Drogue Chute Deployed	3876.00	0.72	$0.75 \pm .08$
Drogue Chute Release	3886.00	10.00	10.05 ± 1.0
Main Chute Deployed	3886.62	0.62	$0.80 \pm .20$
Main Chute Disreefed	3890.75	4.13	4.00 ± 1.7

* From Transfer

** From Elect. Disc.

TABLE 5-1

SECTION 6

MASTER (FWD) PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	152
Main Camera Lens	1252435
Supply Horizon Camera	132B
Supply Horizon Camera Lens	812279
Take-up Horizon Camera	132A
Take-up Horixon Camera Lens	812267
Supply Cassette	SC-26

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.175"
Filter Type	Wratten
Film Type	Eastman Type 3404

Supply (Port) Horizon Camera:

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

Take-up (Starboard) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION

The quality of the photography produced by the Master camera was very good throughout both missions. The information content of the photography was considered excellent. The missions were considered approximately equal to Mission 1009. A small soft area was present at the take-up end of the format during Mission 1010-1 however it was not present during Mission 1010-2.

The electro-mechanical operation of the camera system was normal during both missions. Light leaks affected the third frame from start and fifth frame from end of most passes. The magnitude of the fog caused by the leaks correlates with the length of camera sit time. These frames are located between the shutter and input metering roller and near the Recovery Barrel-Fairing interface.

Emulsion scratches were present at each end of the format during both missions. A fine scratch, about two inches long, was at the take-up end near the camera number edge and a series of short scratches were near both format edges under the data block. The data lost by this degradation is exceedingly small however the released emulsion can produce minus density streaks if it becomes deposited on the field flattener or filter. This streaking was observed during thirty-nine frames pass D88.

The emulsion scratches near the data block are attributed to sharp edges on the scan head rollers. Steps have been taken to hone the roller edges on future cameras.

The horizon camera and associated fiducials operated satisfactorily throughout both missions as did the data block, end-of-pass mark and time track. The time track was too close to the format but was usable.

Minor edge static was observed at random intervals through both missions. The character of the static pattern indicated that it could have been produced either on the ground or in flight. No corona discharge was observed.

SECTION 7

SLAVE (AFT) PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	153
Main Camera Lens	1282435
Supply Horizon Camera	164B
Supply Horizon Camera Lens	813527
Take-up Horizon Camera	166A
Take-up Horizon Camera Lens	814014
Supply Cassette	SC-26

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5
Slit Width	0.175"
Filter Type	Wratten 21
Film Type	Eastman Type 3404

Supply (Starboard) Horixon Camera:

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

Take-up (Port) Horizon Camera:

Lens	55mm 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 by the minor effects of the usual light leaks and minus density streaks.

The formats were also degraded by emulsion scratching but to a lesser degree than the Master camera. Scratching was limited to the take-up end, data block edge, where fine scratches and some abrasion was present. The largest scratch was about four inches long.

A minus density streak of variable length was present from pass D04 to D07. It was about 1/2 inch wide and varied from six to thirty inches long however the photographic effect was minor. It is postulated that a piece of material became lodged in the filter area and was in the slit area intermittently through pass D07 when it fell away.

Intermittent dendritic static was noted in a few random frames originating at the film edge. As in the case of the Master camera, the marking could have been created in flight or on the ground.

The horizon cameras and fiducials operated satisfactorily throughout both missions. The data block functioned properly during the missions as did the end-of-pass mark.

The time track was very good during both missions with the exception of the first frame of passes D06, D07 and A09E. In these cases the time track was continuous for the first frame however the 200 cycle pulse could be detected.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The exposure parameters for both cameras were a 0.175 inch wide slit and a Wratten 21 filter. Historically a 0.200 inch wide slit has been incorporated in cameras flown during September. The narrower slit was selected to achieve a better match of camera and film processing as well as reducing the sensitivity of the system to image motion.

The illumination conditions during both missions were slightly lower than experienced during recent missions. The frequency distributions of the solar elevations and solar azimuths encountered during the photographic operations are shown in Figures 8-1 to 8-4.

The nominal exposure times are shown as a function of latitude for passes D-08, D-72 and D-136 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]

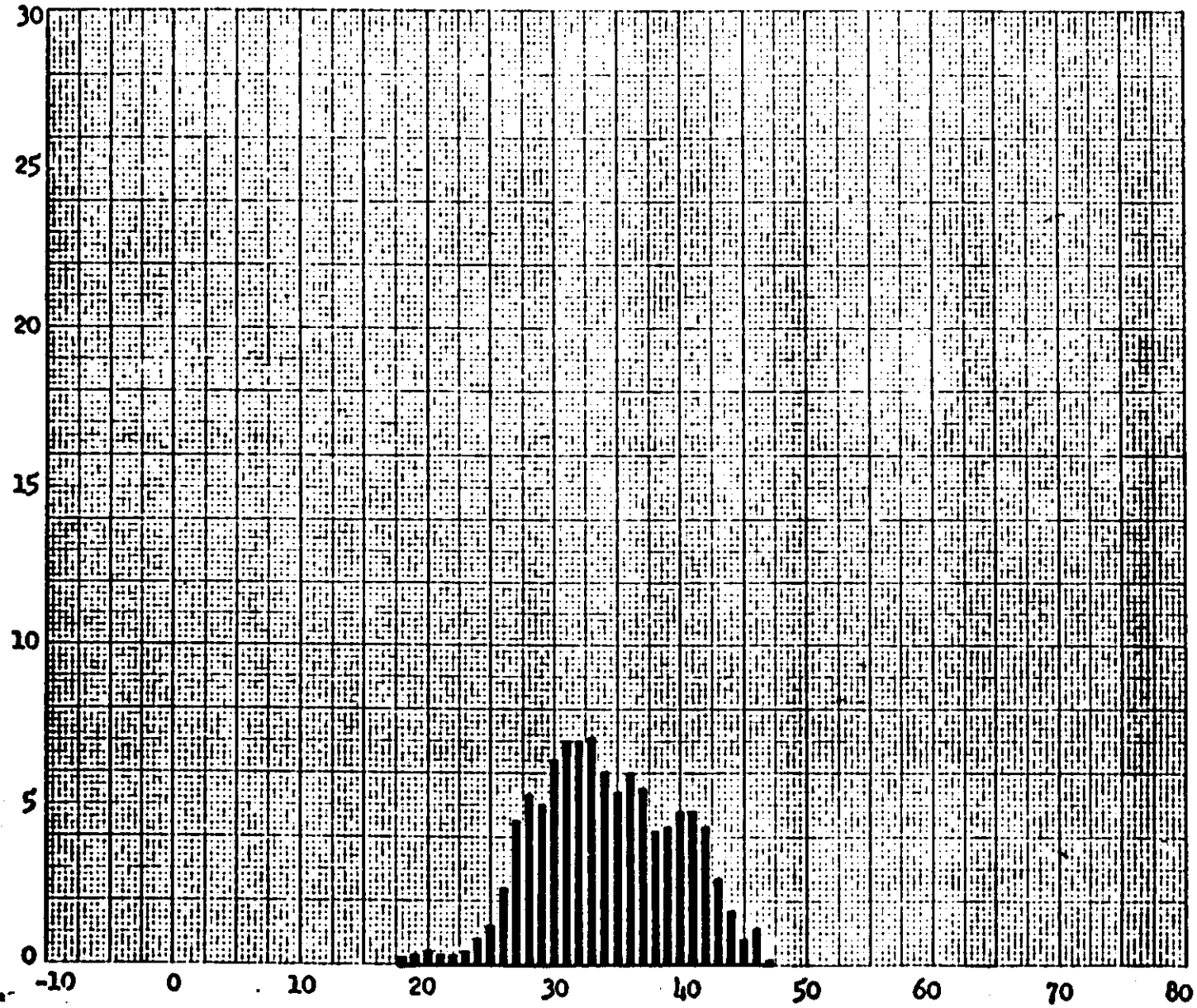
Mission	Camera		Primary	Intermediate	Full
1010-1	FWD	Predicted	0	21	79
		Reported	0	13	87
1010-1	AFT	Predicted	0	21	79
		Reported	0	19	81
1010-2	FWD	Predicted	0	50	50
		Reported	0	16	84
1010-2	AFT	Predicted	0	50	50
		Reported	0	23	77

The variation between the predicted and reported processing levels is significantly less than observed during recent missions. The use of the narrower camera slit did provide a better exposure - processing match.

A comparison was made between the exposure time calculated from the time word displayed by the Binary Data Block and the exposure time derived from the 200 cycle time track. The exposure time from these two sources was determined for engineering passes D-47 and D-93 and plotted on Figure 8-8.

The exposure time from all three sources match each other to a much closer degree than observed in recent missions. Normally the Binary Data Block exposure time is approximately 6% slower than the Time Track exposure time.

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1010-1

Payload No: J-11

Camera No: 152

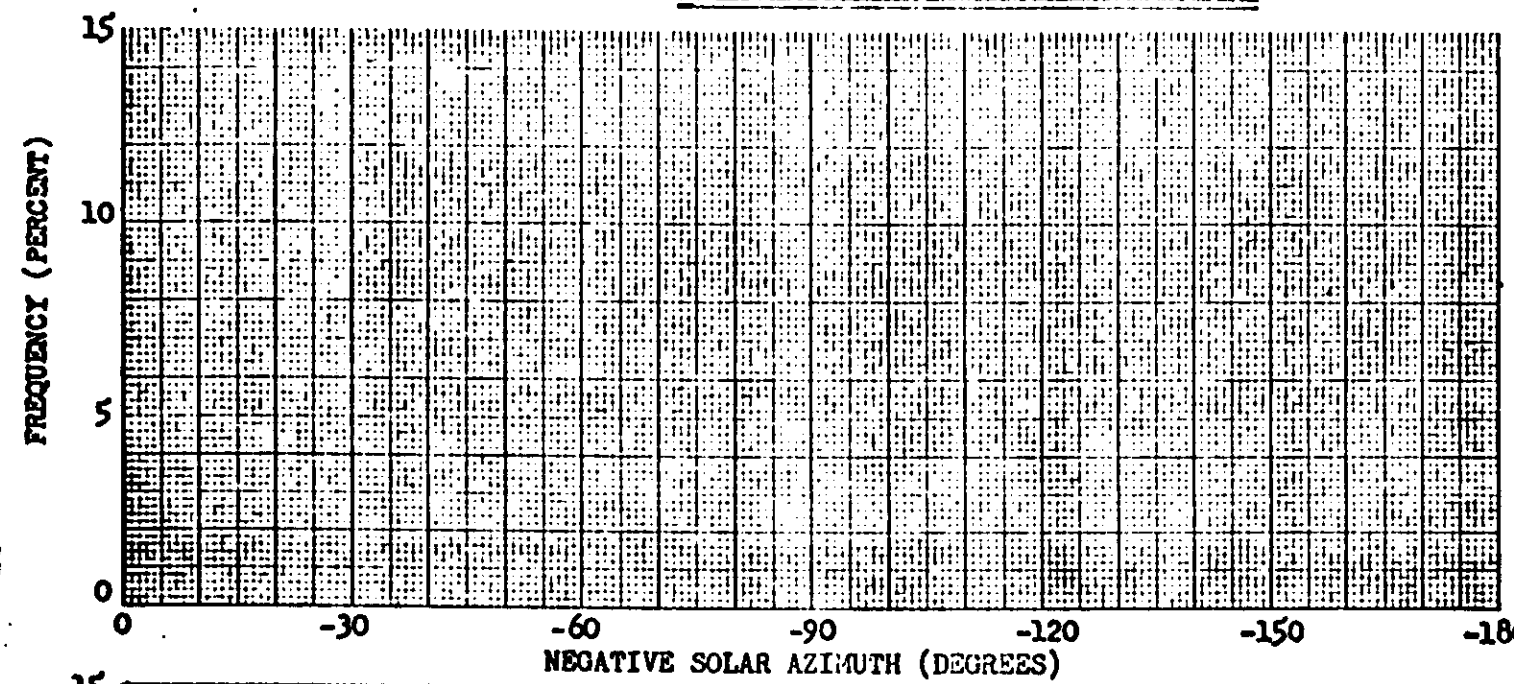
Launch Date: 9/14/64

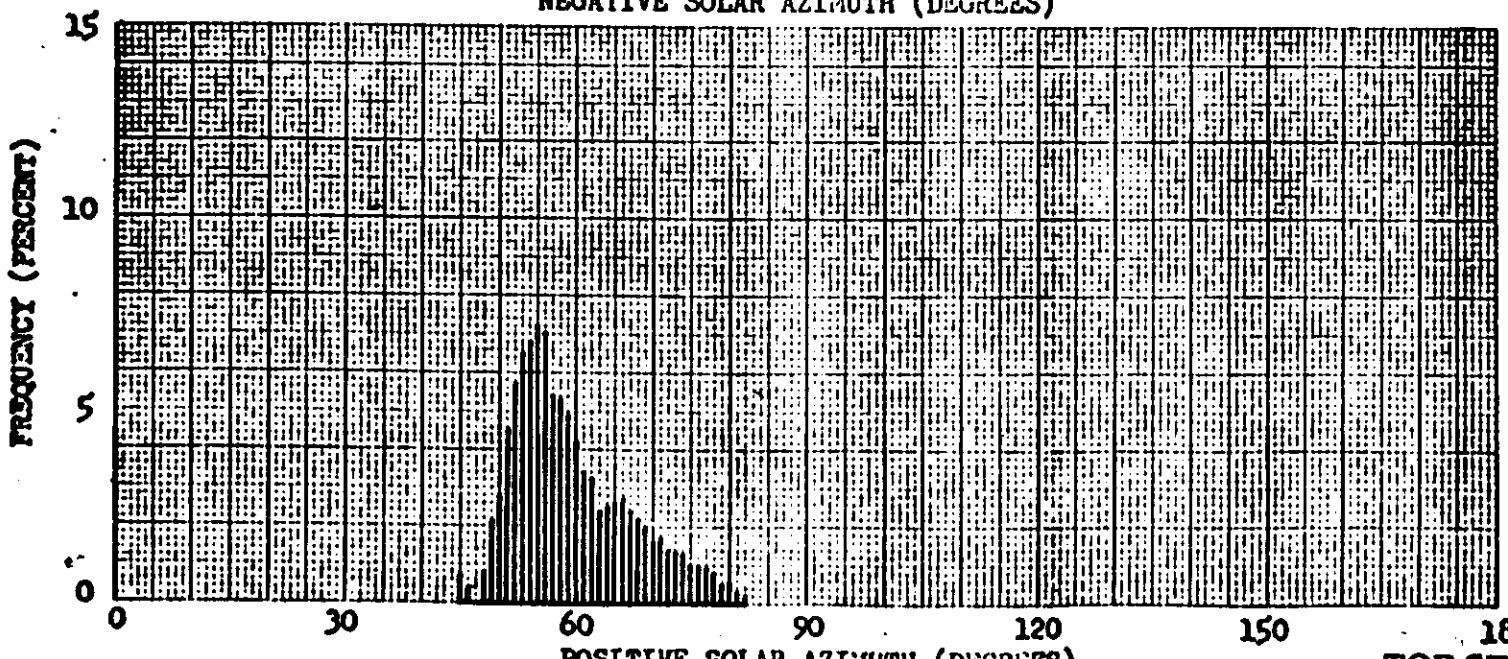
Launch Time: 2254 Z

Inclination: 84.9°

FIGURE 8-1

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1010-1

Payload No: J-11

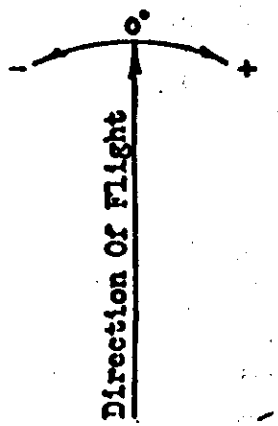
Camera No: 152

Launch Date: 9/14/64

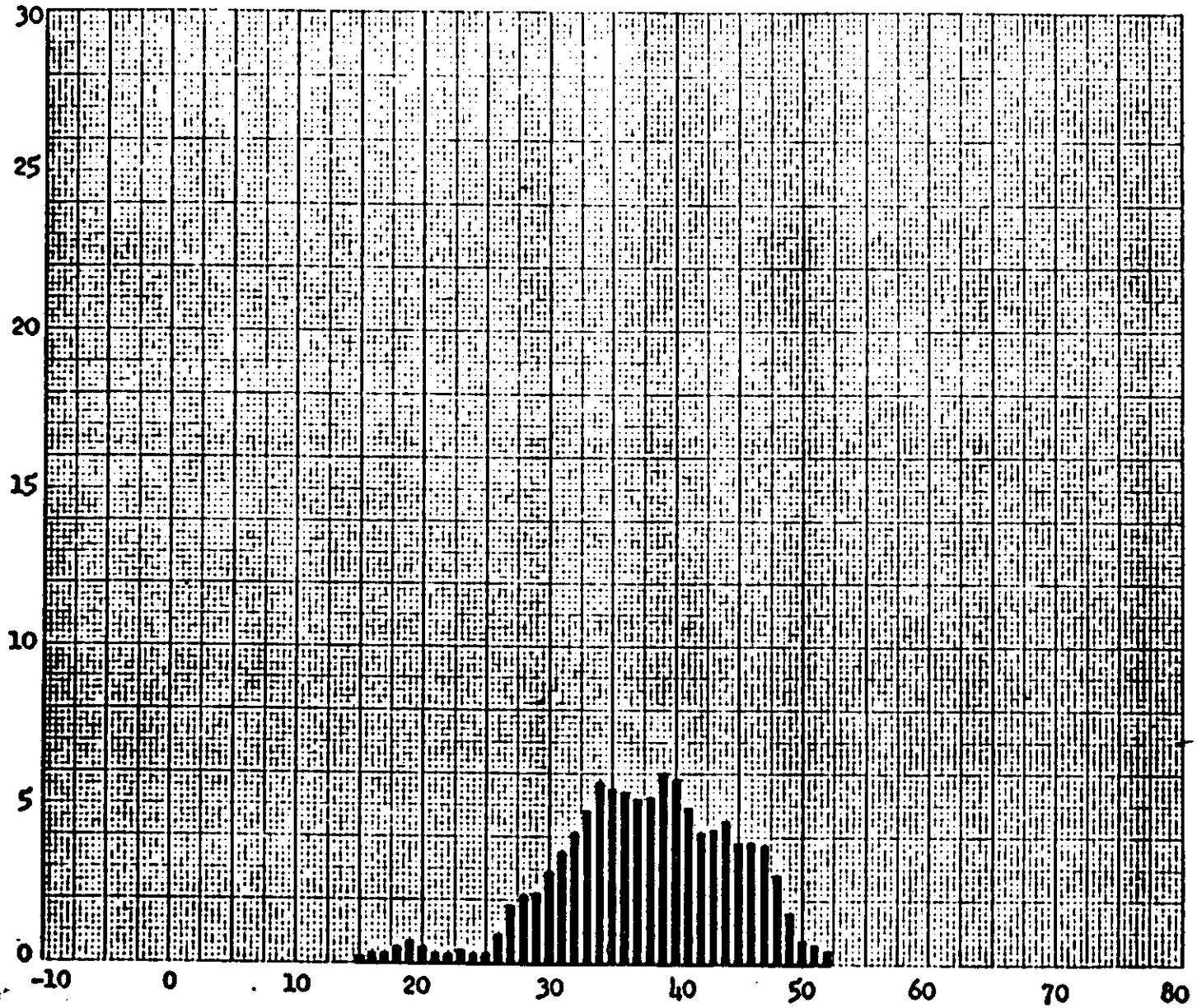
Launch Time: 2254 Z

Inclination: 84.9°

SIGN NOTATION



SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1010-2

Payload No: J-11

Camera No: 152

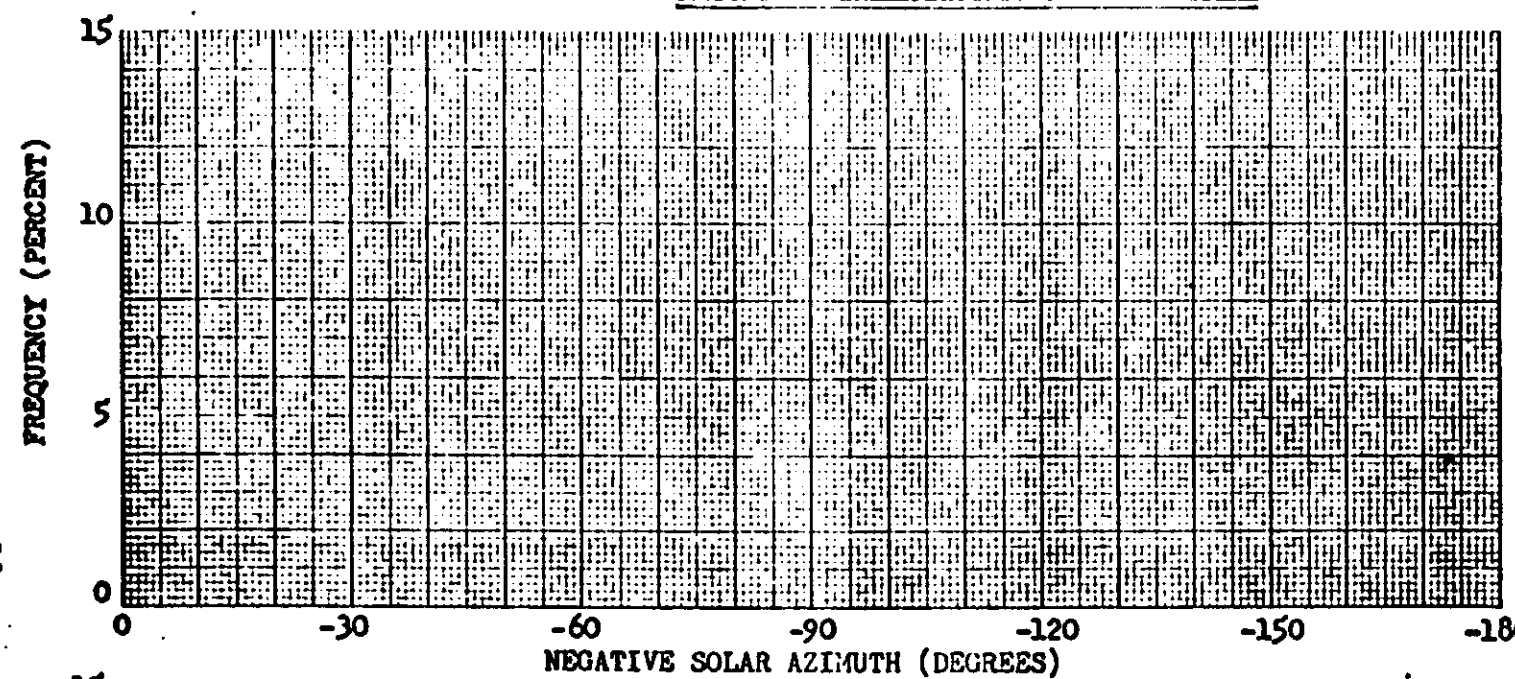
Launch Date: 9/14/64

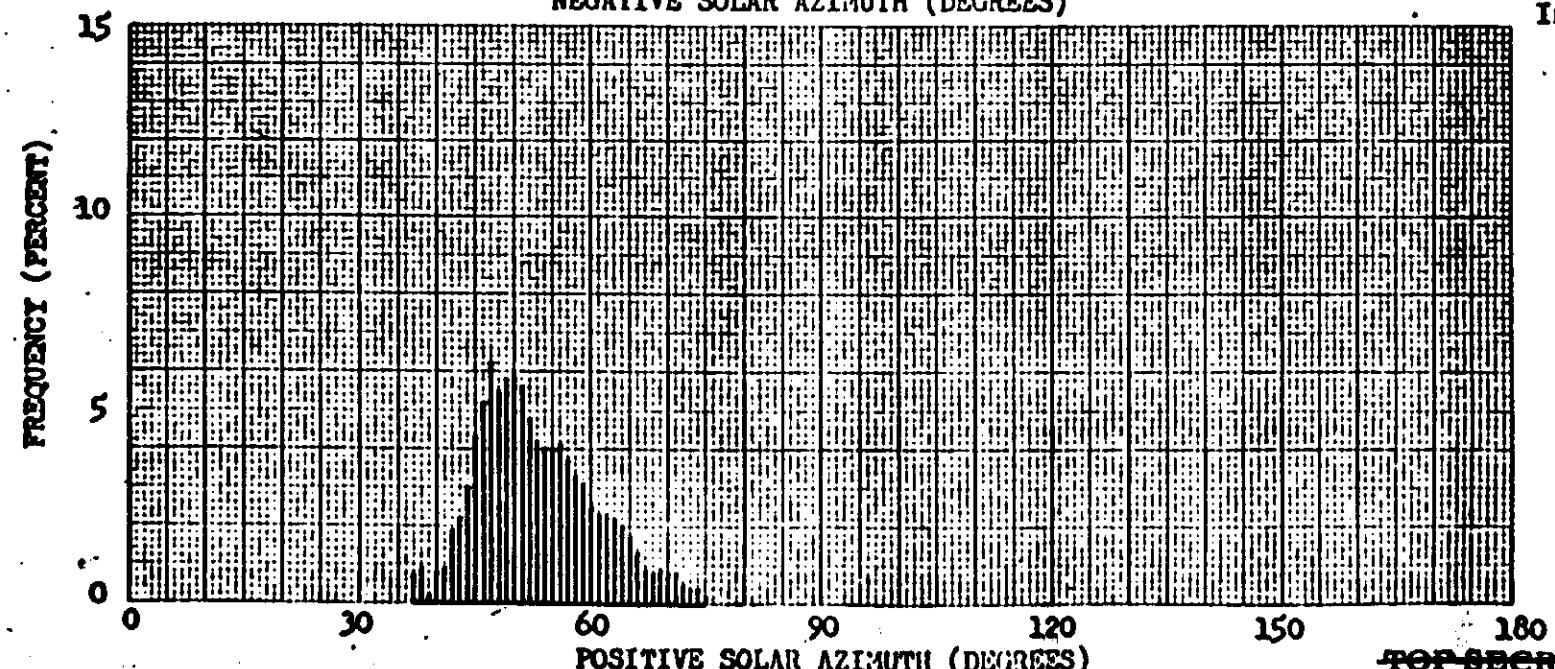
Launch Time: 2254 Z

Inclination: 84.9°

FIGURE 8-3

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1010-2

Payload No: J-11

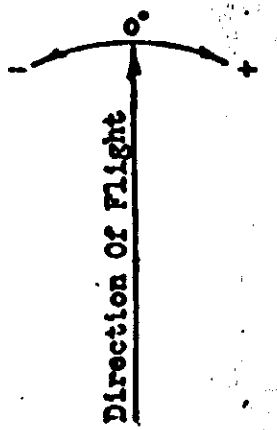
Camera No: 152

Launch Date: 9/14/64

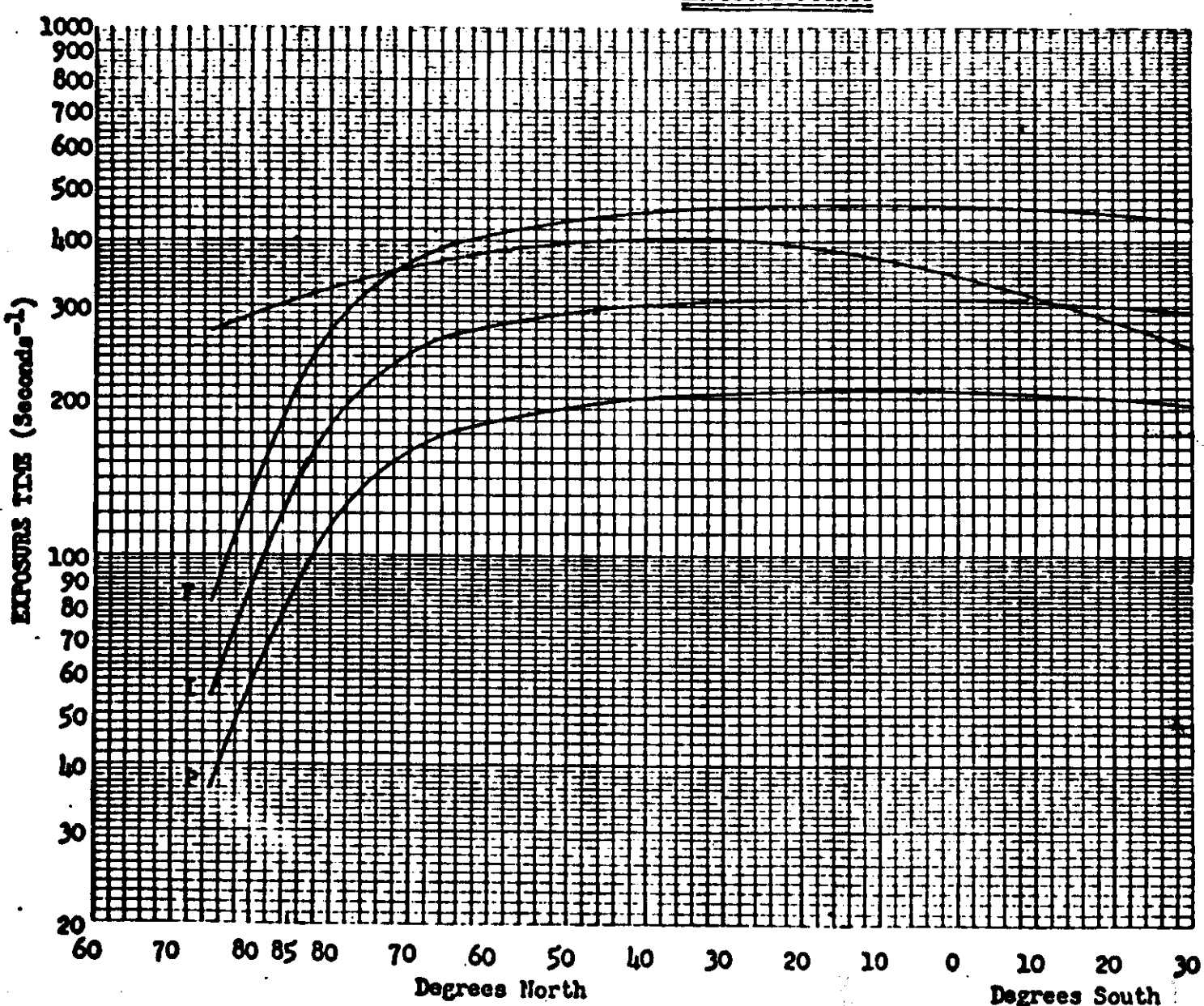
Launch Time: 2254 Z

Inclination: 84.9°

SIGN NOTATION



EXPOSURE POINTS



Mission No: 1010

Payload No: J-11

Camera No: 152 - 153

Pass No: 8

Launch Date: 9/14/64

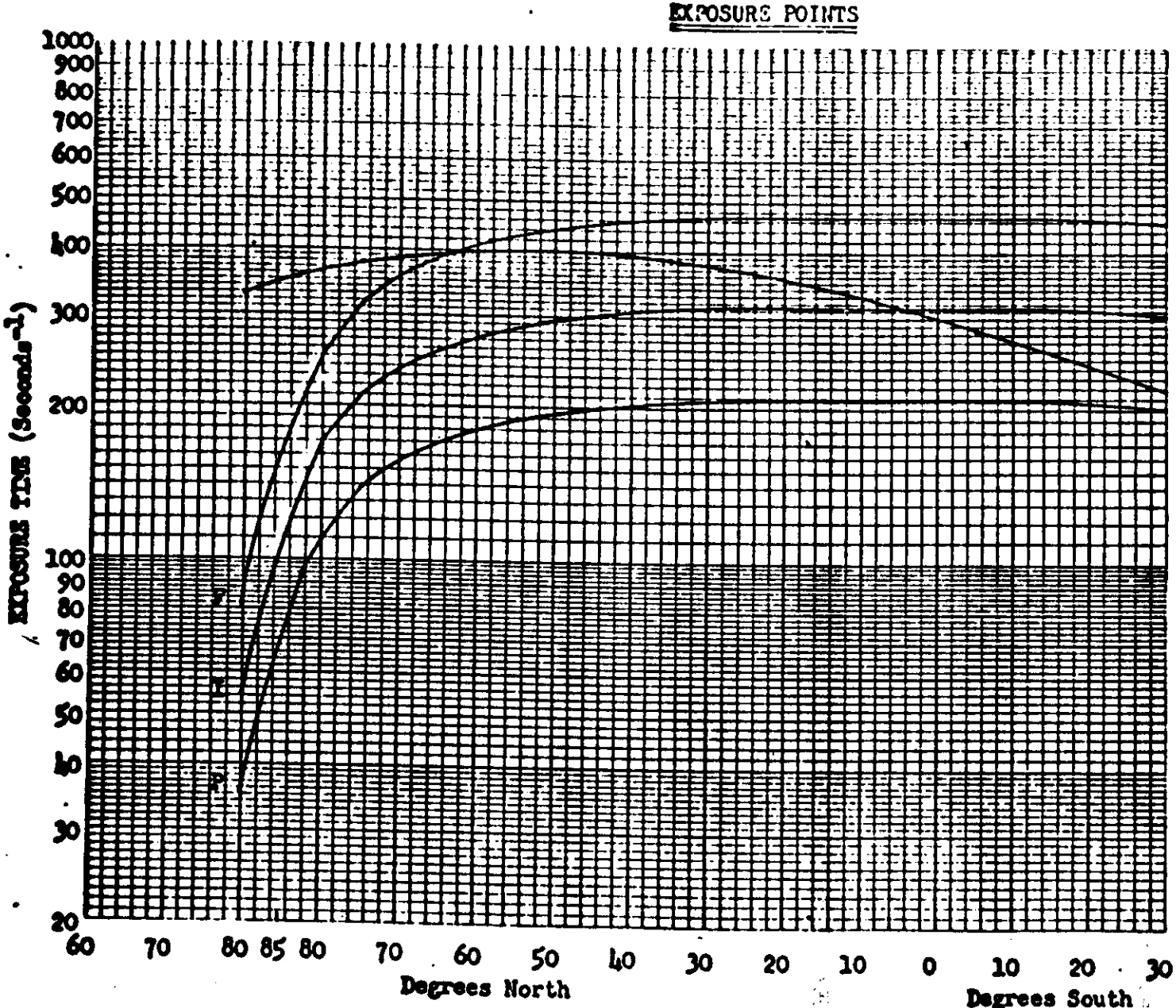
Launch Time: 2253 Z

Slit Width: .175

Filter Type: Wratten 21

Film Type: 4404

FIGURE 8.5



Mission No: 1010

Payload No: J-11

Camera No: 152 - 153

Pass No: 72

Launch Date: 9/14/64

Launch Time: 2253 Z

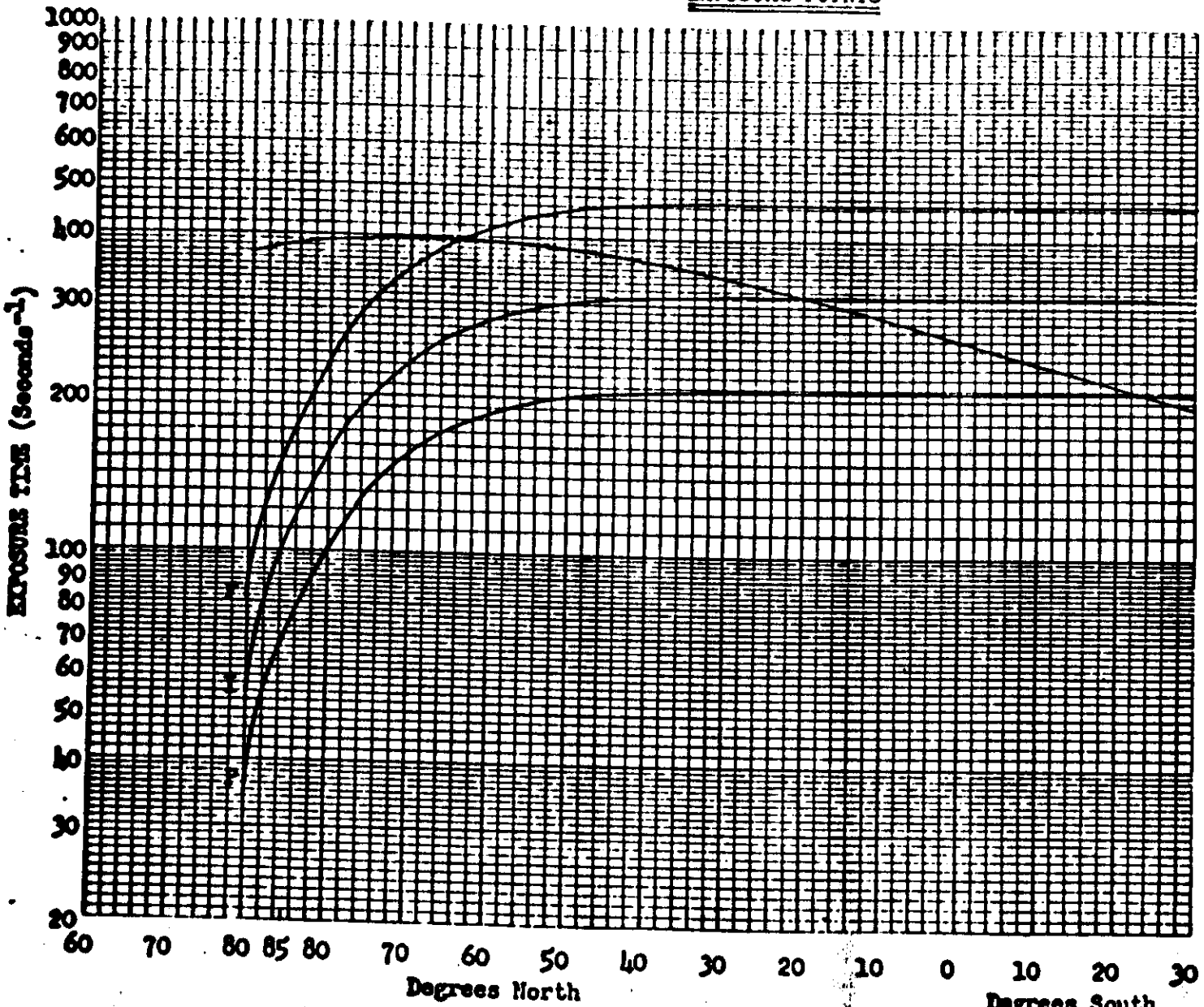
Slit Width: .175

Filter Type: Wratten 21

Film Type: 4404

FIGURE 8-6

EXPOSURE POINTS



Mission No: 1010

Payload No: J-11

Camera No: 152 - 153

Pass No: 136

Launch Date: 9/14/64

Launch Time: 2253 Z

Slit Width: .175

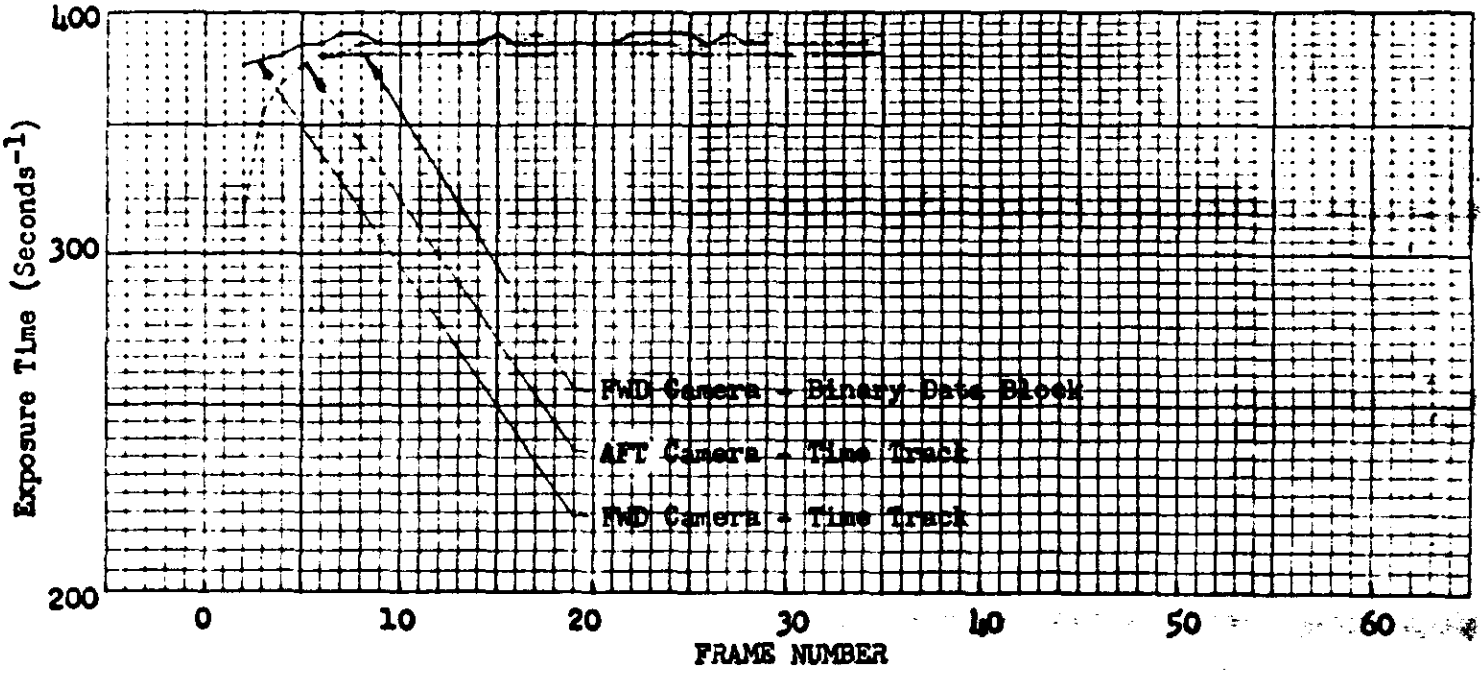
Filter Type: Wratten 21

Film Type: 4404

FIGURE 8-7

EXPOSURE TIME VARIATION

MISSION 1010-1
PASS D47



MISSION 1010-2
PASS D93

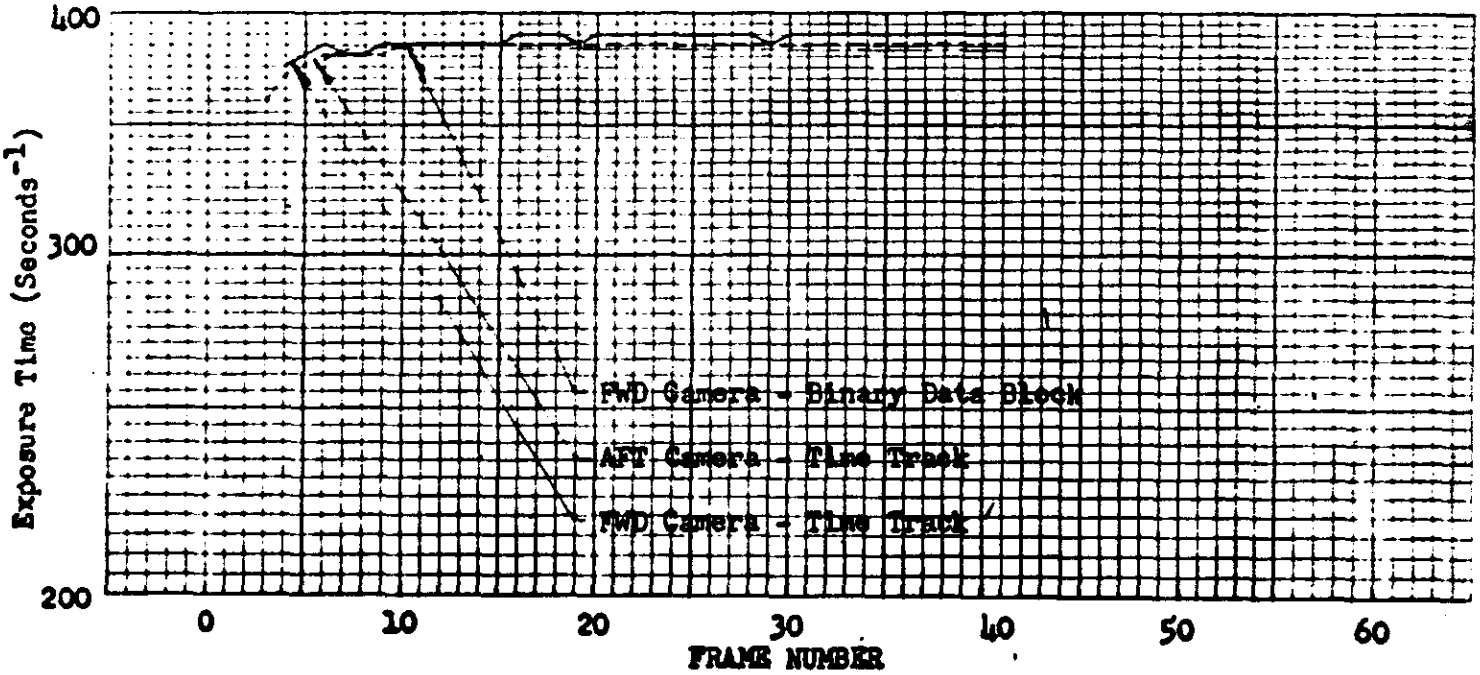


FIGURE 8-8

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

101C-1

TABLE 9-1

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

NBR NBRhhhAAASTQhhhAAASTQhhhAAASTQhhhAAASTQWWWAAASTQMINMAXB+FMAXLATELECLUOL

```
CCC1FCC5                                                    01221056N+2710099
CCC1FCC8                                                    01421855N+2810099
CCC4FCC5                    C78C61431                       04221601419461N+2403000
CCC4FC15                                                    03423202121260N+25   99
CCC4FC25                                                    019   58N+2600099
CCC4FC36                                                    02200056N+2800199
CCC5FC07                              078078412             05309702021852N+2906099
CCC5FC17                                                    05111102021950N+30   99
CCC5FC27                                          065072411063106021349N+3109099
CCC5FC37                                                    04712302022647N+32   99
CCC5FC47                    C94094111                       04612202023146N+3300505
CCC5FC57                                                    04811402024044N+33   99
CCC5FC67                    C94C85111                       04518002020042N+3400105
CCC5FC77                                                    03110202015241N+35   99
CCC5FC87                    C94C94111                       03718802018039N+3500504
CCC5FC97                                                    02021637N+36   99
CCC5F107                                                    01422136N+3710099
CCC5F115                                                    01422134N+3809699
CCC6FCC5                    C67C63421                       05814201600041N+3500002
CCC6FC15                                                    03614201422840N+3600499
CCC6FC25                    C94C85121                       04020602223038N+3600506
CCC6FC35                                                    04017702224037N+3602599
CCC6FC45                    C94104131                       03216402223535N+3701005
CCC6FC55                                                    03215402222434N+3700599
CCC6FC65                    085099431                       03413002224232N+3802506
CCC6FC75                                                    04017302224031N+3802099
CCC6FC85                                                    02223729N+3910099
CCC6FC95                                                    01522527N+3910099
CCC6F1C4          C78072431                                 04710701822626N+3909099
CCC6F114                                                    04012802123924N+4004099
CCC6F124                    C75C82421                       03813602124223N+4004507
CCC6F134                                                    04710902123421N+4103099
CCC6F144                    C85078121                       04308702123820N+4103508
CCC6F154                                                    06211702122218N+4204099
CCC7FCC5                    C7CC67411                       04007502218858N+2600105
CCC7FC15                                                    04509002200057N+2799999
CCC7FC25                    C82078111                       04610002200055N+2899907
CCC7FC35                                                    05008502200054N+2999999
CCC7FC45                    C85085111                       05416602200052N+3099907
CCC7FC55                                                    05815502200050N+3199999
CCC7FC65                    C72C67421                       06019002200049N+3200006
CCC7FC75                                                    07816402200047N+3299999
CCC7FC85                    C85078421                       06018202000045N+3300005
CCC7F1C1                                                    08614201600039N+3699999
CCC7F111078078111                                           06313801400037N+3700099
CCC7F121                                                    04119401523936N+3799999
CCC7F131                    C78C82421                       04620202023434N+3805099
CCC7F141                                                    04321602023033N+3899999
CCC7F151                    C9CC90431                       04721702024231N+3902004
CCC7F161                                                    06111102024230N+3999999
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PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN

NBR NBRhhhAAASTQhhHAAASTQhhHAAASTChhHAAASTQHHHAAASTQMINMAXB+FMAXLATELECLDOLI

CCC7F171			02023228N+3910099
CCC7F18C			06506312211114202023427N+4008599
ACC9FCC5			017 40N+2699999
CCC9FCC5			01219863N+2310099
CCC9FC15			01219462N+2410099
CCC9FC25			01219660N+2510099
CCC9FC35			01220259N+2610099
CCC9FC38	C7C072112		0430900141975 8N+2609599
CCC9F048			05008802121157N+2708599
CCC9FC58	1C4104111		03412002015655N+2801008
CCC9FC68			04011002019453N+2902099
CCC9FC78	118104111		03613202000052N+3000008
CCC9FC88			04216002000050N+3100099
CCC9FC98	111C85121		03613602000049N+3100007
CCC9F1C8			04314002000047N+3200099
CCC9F118			07007812107517502012045N+3300399
CCC9F133			02019043N+3401099
CC21FC05	C75078423		05016902422952N+2904099
CC21FC15			06013602121851N+3008599
CC21FC25			02121149N+3110099
CC21FC34072078112			06312202122248N+3208599
CC21FC44			05114302122147N+3204599
CC21FC54	C78094111		04315102119245N+3300305
CC21FC64			042126021 44N+3400099
CC21FC74	C78084121		037184021 42N+3500006
CC21FC84			03612802120041N+3500399
CC21FC94			02123539N+3610099
CC21F1C4C85C90112			07015002122838N+3703099
CC21F11C			05412802124037N+3802599
CC21F12C	C75C73112		08012602124030N+4008599
CC21F130			04313802124028N+4104099
CC21F14C	C94C90111		04211802122827N+4103008
CC21F15C			04615502122525N+4104099
CC21F16C			02024024N+4205099
CC21F163		085094112	08815202023823N+4107C99
CC21F173			06409002013422N+4306099
CC21F179			02123421N+4305099
CC22FCC5	C78078111		035C6402119956N+2700505
CC22FC15			030C9002121455N+2899999
CC22FC25	C82C75421		03219902122653N+2903005
CC22FC35			04407602122852N+3099999
CC22FC45	C72C72421		04610202121851N+3108006
CC22FC55			05214402121849N+3199999
CC22FC68	C72C72411		07516602121041N+3501202
CC22FC78			08015302123640N+3699999
CC22FC88		C67072421	07216802122738N+3708099
CC22FC98			05820202122637N+3899999
CC22F1C8	C85C82431		04819902100035N+3800003
CC22F118			05314402122434N+3999999
CC22F128			02122833N+4010099

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PAS NBR	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRhhhAAASTQhhhAAASTQhhhAAASTQhhhAAASTQWWWAAASTQMINMAXB+FMAXLATELECLUULF										
CC23FCC5						065072411	04816002120460N+2507099				
CC23FC15							04807202122359N+2699999				
CC23FC25			C75C82111				05011002121857N+2705007				
CC23FC35							07012602121956N+2899999				
CC23FC45				C72072112			06012402119454N+2909999				
CC23FC55							06215002122153N+2999999				
CC23FC65				078072112			07013802122451N+3008599				
CC23FC75							06811002122349N+3199999				
CC23FC85						063067412	07812202121848N+3209799				
CC23FC95							05119202121246N+3399999				
CC23F1C5			C70072411				04816602100045N+3400005				
CC23F115							06015002100043N+3499999				
CC25FCC6				078072112			07008402121258N+2609899				
CC25FC16							04507102121357N+2799999				
CC25FC26			C94094111				04811302116955N+2800205				
CC25FC36							04107902111153N+2999999				
CC25FC46			C99094111				04011802100052N+3000006				
CC25FC56							04013802100050N+3199999				
CC25FC66			C99C99111				03411002100049N+3200005				
CC25FC76							03411002121147N+3299999				
CC25FC86			C94104111				03211802118246N+3300006				
CC25FC96							04812002017844N+3499999				
CC25F1C6			C94C99111				03910602118642N+3504005				
CC25F116							04513002021241N+3699999				
CC25F123			C85C88411				05212802021040N+3700505				
CC31FCC5			C67070122				04215202023035N+3805500				
CC31FC15							03617602024033N+3999999				
CC31FC25			C5C063421				04419902021631N+4001004				
CC31FC32			C82C90122				03816002222030N+4101504				
CC36FCC5						099094111	04519702120652N+3008099				
CC36FC15							04720202121851N+3105099				
CC36FC25			C94104112				04410702122049N+3205005				
CC36FC35							04211102122648N+3304599				
CC36FC45		07807C112					04819702022547N+3404099				
CC36FC55							04208702022545N+3503099				
CC36FC65							01921743N+3501099				
CC36FC75							01921841N+3602099				
CC36FC78							01922041N+3704099				
CC37FCC5							01821259N+2510099				
CC37FC15							01520058N+2699999				
CC37FC25							01420657N+2709599				
CC37FC35			C94C90431				04422402200055N+2800006				
CC37FC45							04222602021854N+2999999				
CC37FC55		C5507C213					05210002123052N+3008099				
CC37FC65							04009802122051N+3199999				
CC37FC75							02222249N+3209999				
CC37FC85							04612402221848N+3299999				
CC37FC95		052056431					06814202123430N+4107099				
CC37F1C5							04017802222828N+4299999				
CC37F115			C64C72112				04612202122627N+4205006				

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

NBR NBRhhhAAASTQhhhAAASTQhhhAAASTChhhAAASTQhhhAAASTQMINMAXB+FMAXLATELECLDOLF

CC37F125		04812802121225N+4399999
CC37F135	C78065133	08017002122023N+4306506
CC37F145		02122222N+4399999
CC37F154		02121421N+4410099
CC38FCC5C67C65111		03808202000057N+2600005
CC38FC15		03209502000056N+2799999
CC38FC25	C75078411	02808002000054N+2800005
CC38FC35		02811002000053N+2999999
CC38FC45	C85078411	02814702017652N+3000105
CC38FC55		03210402022050N+3199999
CC38FC65	C85C85111	03815402022849N+3200505
CC38FC75		04014802022847N+3399999
CC38FC88	C7CC72421	03411401621441N+3600503
CC38FC98		04014001417640N+3799999
CC38F1C8	C78082431	03816401200038N+3800003
CC38F118		02819201200037N+3899999
CC38F128	C94094421	03821801200035N+3900004
CC38F138		02820001200034N+4000099
CC38F148	C82C90121	03422001821032N+4000504
CC38F158		04018001822831N+4199999
CC38F168	C94099121	04615602023029N+4105005
CC38F178		02023028N+4299999
CC38F186	C82C90421	05809002023027N+4309005
CC39FC06		067072412052068O1821559N+2509599
CC39FC16		01822058N+2699999
CC39FC26		01222256N+2710099
CC39FC39063067412		04608601220254N+2909999
CC39FC49		07012801921953N+2999999
CC39FC59	C78080411	05911801922951N+3006006
CC39FC69		07912001922250N+3199999
CC39FC83	C82C80411	08612501922348N+3309506
CC39FC93		08015501921746N+3399999
CC39F1C3	C85C85412	09118201921245N+3406005
CC39F113		07015601922343N+3599999
CC39F123	090094111	07018501921242N+3601505
CC39F133		06016901921440N+3799999
CC39F137	C78C85112	06816101821840N+3802005
CC40FCC5		01821265N+2110099
CC40FC19	CCC078411	03204301621263N+2308599
CC40FC29		03407502022262N+2499999
CC40FC39	C75C75111	02806202020760N+2501006
CC40FC49		02021259N+2699999
CC40FC63	C67C72112	04811402020957N+2707506
CC40FC73		06012802019855N+2899999
CC40FC83	C82C82111	03610602000054N+2900006
CC40FC93		03613602000052N+3000099
CC40F103	C85082111	03609802000051N+3100006
CC40F113		04514502000049N+3200099
CC40F123	C78078111	05015002000048N+3300005
CC40F133		05814502000046N+3300099

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PAS NBR	FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES NBRhhhAAASTQhhhAAASTQhhhAAASTQhhhAAASTQ	D . D D LIM - SUM HHAAASTQMINMAXB+FMAXLATELECLDOLF
CC4CF143	C94090111	05316002000045N+3400005
CC40F153		04012402000044N+3500099
CC40F163	C9CC82111	04611202022642N+3601005
CC41FC06	C9CC99112	04609802020757N+2602599
CC41FC16		06413202021756N+2702099
CC41FC26	C94104111	03909802021054N+2804506
CC41FC36		05010402021553N+2905099
CC41FC48		09613002022348N+3209099
CC41FC58		07508511207414202021647N+3308599
CC41FC68		04810702021546N+3401599
CC41FC78	C9C099121	04412401920644N+3500305
CC41FC88		C4812201921143N+3600399
CC47FCC5	C85072121	04817802022237N+3800206
CC47FC15		C6015602221036N+3900599
CC47FC25	118C94111	C6618802021634N+4000307
CC47FC35		08920802200032N+4000099
CC52FCC5	C82075411	04207802221153N+3007099
CC52FC15		02021852N+3199999
CC52FC25	094090111	04311002022050N+3206099
CC52FC35		04209402021849N+3399199
CC52FC45	C99094111	04312602022447N+3406004
CC52FC55		03511702021745N+3599999
CC52FC65	C82088112	04212602021444N+3605005
CC52FC75		02021642N+3799999
CC52FC85		02022041N+3710099
CC52FC97		02022239N+3910099
CC53FCC5	C78C72431	03420802015153N+2900102
CC53FC15		03618602019152N+3099999
CC53FC25	C85C85111	03411801800051N+3100005
CC53FC35	C63072432	06817601922743N+3606003
CC53FC48	C63072432	06817601922743N+3606003
CC53FC58		06414601622941N+3799999
CC53FC68	C75070432	05816201922740N+3707099
CC53FC78		05217401923838N+3899999
CC53FC88	C67C65431	04914602023436N+3903505
CC53FC98		05517002023835N+3999999
CC53F108	C63080431	04514202023834N+4006505
CC53F118		04013002124032N+4099999
CC53F128		02023030N+4110099
CC53F138		02213229N+4210099
CC53F148		01923427N+4210099
CC53F158		06610702023625N+4399999
CC53F168	C59C67121	04812802022324N+4304009
CC53F178		06918702022322N+4499999
CC53F188	C66070123	08416102120721N+4502510
CC53F198		08615002022219N+4599999
CC53F2C8		02023218N+4610099
CC53F218		09617802023116N+4799999
CC53F221		02023416N+4706099
CC54FC05		06305941205609402021457N+2709899

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 PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D  D  D LIM   SUN
 NBR NBRhhhAAASTQhhhAAASTChhhAAASTChhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL
CC54FC15                                                    01821856N+2899999
CC54FC32C61C63412                                          05411001421253N+3009999
CC54FC42                                                   07813201922452N+3199999
CC54FC52CC0059412                                          07510602021951N+3109799
CC54FC62                                                   09413402022449N+3299999
CC54FC78                                                      02022247N+3410099
CC54FC87                  C72075411                        07222502023036N+3901003
CC54FC97                                                   09419202023734N+4099999
CC54F107                  C67C72412                        06417502023133N+4104099
CC54F117                                                   05720202023631N+4299999
CC54F127                  C75C75422                        06121402023129N+4206005
CC54F137                                                   06223002023628N+4399999
CC54F145            C63061422                              10118002023127N+4409099
CC55FCC5                        C94094121                  03806202021659N+2506099
CC55FC15                                                   03208202021858N+2602099
CC55FC25                  1C4118111                        03409402021656N+2705006
CC55FC35                                                   03811002022455N+2805099
CC55FC45                        085094111                  05011602022653N+2907099
CC55FC55                                                   05012002021852N+3008599
CC55FC65                        C78072112                  06013802022850N+3107099
CC55FC75                                                   07216202021249N+3202099
CC55FC85                  C72068412                        09016001820447N+3300206
CC55FC95                                                   10215601818846N+3401099
CC55F1C5                        072082411                  11417201800044N+3500005
CC55F121                                                   05016601200038N+3800099
CC55F131C94104111                                          04814201200037N+3900099
CC55F141                                                   04013801200036N+4000099
CC55F151                  C85C82431                        04014201200034N+4100008
AC56FCC5                                                      01400040S-2999999
CC56FCC5                                                      01818471N+1710099
CC56FC12C72072112                                          05008601817770N+1808599
CC56FC22                                                      01819069N+1999999
CC56FC32                                                      01419067N+2010099
CC56FC42                                                   04506001219859N+2610099
CC56FC57                                                05506311203606201219857N+2809599
CC56FC67                                                   04513001821055N+2999999
CC56FC77                  118104111                        04212201819854N+2900208
CC56FC87                                                   04212002015052N+3099999
CC56FC97                  C85C94111                        04212302000051N+3100005
CC56F1C7                                                   04210602000049N+3200099
CC56F117                  C9CC94111                        04312602000048N+3300005
CC56F127                                                   05210002000046N+3400099
CC56F137                  C82C85111                        04410902020545N+3500106
CC56F147                                                   03814202022843N+3599999
CC61FCC5                  118125111                        05212602022142N+3602002
CC61FC15                                                   04411502021941N+3700599
CC61FC22                  C80085112                        06612502020439N+3807099
CC61FC26                                                      02022839N+3810099
CCC1ACC5                                                      02423256N+2710099
CCC1AC08                                                      02222456N+2710099
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PAS FR	AREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
ABR	ABRhhWAAASTQhhWAAASTQhhWAAASTQhhWAAASTQhhWAAASTQWHWAAASTQMINMAXB+FMAXLATELECLDCLF								
CCC4AC05			C7CC72431					06424202421062N+2303000	
CCC4AC15								08423902422261N+2499999	
CCC4AC25			C74C63431					04511002221459N+2500599	
CCC4AC36								02210457N+2700299	
CCC5AC05								02321353N+2910099	
CCC5AC11	C94072412							C7112202123652N+3008500	
CCC5AC21								C7511702124051N+3108099	
CCC5AC31								07911402122649N+3109099	
CCC5AC33				C99104412				05811402123649N+2107599	
CCC5AC43								05011202123847N+3203099	
CCC5AC53				111104111				04514702124446N+3301003	
CCC5AC63								04910902123444N+3402599	
CCC5AC73		078085211						04210902118242N+3500303	
CCC5AC83								03910602118441N+3500299	
CCC5AC93			C78078411					04510502120639N+3603501	
CCC5A103								02119437N+3710099	
CCC5A113								02123036N+3810099	
CCC5A115								02122635N+3810099	
CCC6ACC5			C78090421					06717801600042N+3400002	
CCC6AC15								03917501422941N+3503099	
CCC6AC25			C94C90431					04418301400039N+3500204	
CCC6AC35								03920002223138N+3602099	
CCC6AC45			C90104131					04318402122736N+3600804	
CCC6AC55								03613202323735N+3701599	
CCC6AC65			C78078121					03917102222433N+3701006	
CCC6AC75								04112402122931N+3803099	
CCC6AC85				085094112				07414402123530N+3807099	
CCC6AC95								02124028N+3910099	
CCC6A1C5								02123427N+3910099	
CCC6A1C9		C82085421						07313802123126N+3909599	
CCC6A119								04215702024225N+4002099	
CCC6A129			C85078121					04016202023523N+4004099	
CCC6A139								04110602123921N+4102099	
CCC6A149			C82075421					04811602023620N+4101510	
CCC6A156								06613002223419N+4204099	
CCC7ACC5			C61C52412					05011602221458N+2501002	
CCC7AC15								04810402200057N+2699999	
CCC7AC25			C47C59412					06410402200055N+2700005	
CCC7AC35								05111202300054N+2899999	
CCC7AC45			C59072111					06411502000052N+2900007	
CCC7AC55								06512002100051N+3099999	
CCC7AC65			C59073231					06214302100049N+3000006	
CCC7AC75								07216002100048N+3199999	
CCC7AC85			C72C70222					08516002100046N+3200005	
CCC7AC95								04415001800045N+3399999	
CCC7A105			C73085111					06814801600040N+3600008	
CCC7A115								12514801500038N+3699999	
CCC7A125			C72C83431					04216001521036N+3701502	
CCC7A135								03017001523435N+3799999	
CCC7A145			C67C70431					02719001423433N+3802003	

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PAS NBR	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D	LIM	SUN
	NBRhhWAAASTQhhWAAASTGhhhAAASTGhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDDL									
CCC7A155									02916401322632N+3899999	
CCC7A165			C59C69132						04816601423230N+3906599	
CCC7A175									01421529N+3999999	
CCC7A182									01423027N+4010099	
ACC9ACC5									01400038S-2499999	
CCC9ACC5									01421263N+2210099	
CCC9AC15									01320762N+2310099	
CCC9AC25									01422060N+2410099	
CCC9AC35									01421159N+2509899	
CCC9AC45									06909901920557N+2609599	
CCC9AC55			C75C94112						05213302121756N+2705505	
CCC9AC65									03916202118854N+2801599	
CCC9AC75			C9C094111						04314902218953N+2801005	
CCC9AC85									03814902200051N+2900099	
CCC9AC95			C78078111						03813502100050N+3000006	
CCC9A105									04613402100048N+3100099	
CCC9A115			C85C94111						05111402100047N+3200005	
CCC9A125									07412402212345N+3300599	
CCC9A136									02119244N+3400599	
CC21ACC5			C67C63412						07015302422853N+2909899	
CC21AC15									05812802122452N+3099999	
CC21AC27									0720701120841240222250N+3109799	
CC21AC37									09214002122149N+3299999	
CC21AC47		070067412							06217202123647N+3307599	
CC21AC57									04216002119046N+3399999	
CC21AC67			C9C078111						05013402200044N+3400003	
CC21AC77									04818802100043N+3599999	
CC21AC87			1C4C90111						04016002200041N+3600005	
CC21AC97									05614002122840N+3699999	
CC21A112	C72075111								05815802023038N+3800399	
CC21A122									11416802223630N+4099999	
CC21A132	C82085111								07216002223829N+4109599	
CC21A142									05211002224227N+4199999	
CC21A152		C82082111							06417202223826N+4204099	
CC21A162									08415802224024N+4299999	
CC21A172	C80085111								08216602224223N+4208599	
CC21A18C									06812802224422N+4399999	
CC22ACC5			C67C67111						03612002121257N+2600502	
CC22AC15									04209002221656N+2799999	
CC22AC25			C82C75111						04009802121455N+2801505	
CC22AC35									04916802223253N+2999999	
CC22AC45			C72070431						05613402224052N+3008005	
CC22AC55									07813002223450N+3199999	
CC22AC7C	C72072421								07613601522842N+3509999	
CC22AC8C									04814001423040N+3699999	
CC22AC9C			C78072431						04213601424039N+3707003	
CC22A1CC									06020401423037N+3799999	
CC22A110			C85C78411						04816801400036N+3800004	
CC22A120									03417201422834N+3899999	
CC22A128			C7C072422						06215602023833N+3907004	

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PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
NBR	NBRhhhAAASTQhhMAAASTQhhMAAASTQhhMAAASTQMMMAAASTQMINMAXB+FMAXLATELECLDOLF								
CC23AC05				C65065421				05308202222060N+2406099	
CC23AC15								05010702223059N+2503099	
CC23AC25			C63C67412					04607802222657N+2602008	
CC23AC35								07312402223556N+2705099	
CC23AC45								02222655N+2810099	
CC23AC55				09C085112				07412002223553N+2909599	
CC23AC65								07612402222552N+3007599	
CC23AC75						07507241107714202223550N+3108099			
CC23AC85								02224049N+3210099	
CC23AC95			C94085121					07115002224047N+3204502	
CC23A1C5								08018002222846N+3301099	
CC23A115	C75C82421							07216602200044N+3400005	
CC25ACC5								02221858N+2509599	
CC25AC15						07807811207814002121857N+2609699			
CC25AC25								05810002122155N+2704099	
CC25AC35			C85C82111					05213402215254N+2800202	
CC25AC45								04813002100052N+2900099	
CC25AC55			C94104111					04513002100051N+3000004	
CC25AC65								04412002200049N+3100099	
CC25AC75			C9CC94111					04815002200048N+3100004	
CC25AC85								05012202100046N+3200299	
CC25AC95			1C4C94111					03613302221245N+3300204	
CC25A1C5								05615002219843N+3400299	
CC25A115			C9C104111					05015202221642N+3502005	
CC25A123								05614402223041N+3603099	
CC31ACC5			104094111					06614402424435N+3803304	
CC31AC15								05217602324634N+3904099	
CC31AC25			C67075411					04419602321432N+3900204	
CC31AC32								04217602323731N+4000299	
CC36ACC5			C63C67422					07618202423952N+2908599	
CC36AC15								05919802423051N+3099999	
CC36AC25			C63063422					05415002424449N+3108599	
CC36AC35								04812402323448N+3299999	
CC36AC45			C67C65412					05610002324247N+3306599	
CC36AC55								06209602323845N+3499999	
CC36AC66		078082111						04214002323043N+3500299	
CC36AC78								05413602321042N+3799999	
CC37ACC5								02222660N+2410099	
CC37AC15								02120659N+2510099	
CC37AC25								01620057N+2610099	
CC37AC35			C78090432					07222501920856N+2707099	
CC37AC45								04622602322054N+2899999	
CC37AC55			C82078422					03811902322053N+2905099	
CC37AC65								06617202222651N+3009599	
CC37AC75			C85C90121					06213002221049N+3108599	
CC37AC85								05212802322748N+3207599	
CC37AC98			C67C63112					10220402223230N+4109099	
CC37A108								07015002323528N+4207599	
CC37A118			C78078111					05419802022827N+4206099	
CC37A128								05617802223925N+4308099	

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PAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
ABR ABRhhWAAASTQhhWAAASTQhhWAAASTChhWAAASTQWWWAAASTQM					INMAXB+F	MAXLAT	ELECLDOL	
CC37A138		C85C78111			05217402123623N+4304007			
CC37A148		C75082111			06118302124022N+4404007			
CC38ACC5		C63C67411			03912802300058N+2600003			
CC38AC15					03810402200057N+2700099			
CC38AC25		C85C94111			03711902100055N+2800005			
CC38AC35					03110102100054N+2900099			
CC38AC45		C90094111			03410702100052N+3000005			
CC38AC55					03320802121950N+3100399			
CC38AC65		C78078431			03920702122149N+3100503			
CC38AC75					04116402022847N+3200599			
CC38AC87		C9CC90111			07215901800043N+3500003			
CC38AC97					03915901517341N+3600599			
CC38A107		C75C82411			09716501414239N+3700304			
CC38A117					04716501400038N+3700099			
CC38A127		C78082411			04422601400036N+3800004			
CC38A137					04621101400035N+3900099			
CC38A147		C85C85421			02921201400033N+4000005			
CC38A157					03813701421231N+4002099			
CC38A167		CC0C65211			05723002023630N+4104506			
CC38A177					07123002123228N+4208099			
CC38A186					02223827N+4310099			
CC39ACC5					07807241207216102323560N+2409099			
CC39AC15					07711002223259N+2509599			
CC39AC25					02223257N+2610099			
CC39AC35					02223556N+2710099			
CC39AC4C	C72078412				09013502222555N+2809599			
CC39AC50					09512702222853N+2909099			
CC39AC6C		C85104111			06413502223252N+2904504			
CC39AC7C					07811802223050N+3007599			
CC39AC8C					02122749N+3110099			
CC39AC89		111C82111			08311602023047N+3208003			
CC39AC99					08315302022346N+3308599			
CC39A109		C90094412			10318902021044N+3408004			
CC39A119					06114601622443N+3500399			
CC39A129			094082111		04915601520041N+3602004			
CC39A137					04314601521240N+3704099			
CC4CACC5					01221266N+2010099			
CC4CAC15					01421465N+2110099			
CC4CAC25			CC0078411		04208601821663N+2209599			
CC4CAC35					04013002222262N+2399999			
CC4CAC45		C90C85111			04210002122460N+2401007			
CC4CAC55					02021859N+2599999			
CC4CAC69		C72C75112			05613002222057N+2606006			
CC40AC79					05812602219055N+2799999			
CC40AC89		C75C85111			04212602100053N+2800005			
CC40AC99					04013902200052N+29C0099			
CC40A1C9		C85C85111			04411602200050N+3000005			
CC40A119					05016502200049N+3100099			
CC4CA129		C85C90111			05215602000047N+3200005			
CC40A139					06812602200046N+3300099			

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PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
ABR	ABRhhWAAASTQhhWAAASTQhhWAAASTQhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDUL										
CC4CA149			C85085111							056186022000 44N+34C0005	
CC4CA159										040126022000 43N+3500099	
CC40A165			C78082421							038200021210 42N+3600205	
CC41ACC5										02022658N+2604099	
CC41AC11		085078112								052102020206 58N+2704599	
CC41AC21										060133020229 56N+2801599	
CC41AC31			111C94111							047083020230 55N+2904599	
CC41AC49										100155020232 49N+3208599	
CC41AC59										118145020234 48N+3309099	
CC41AC62							094085112			104159020235 47N+3309099	
CC41AC72										057154020233 45N+3402099	
CC41AC82			C94094112							046144020196 44N+3500206	
CC41AC88										042130020170 43N+3500199	
CC47ACC5			C85085211							054204020000 37N+3800002	
CC47AC15										C701760202143 6N+3900599	
CC47AC25			C78094111							049186018224 35N+4001006	
CC47AC35										048162017210 33N+4000299	
CC52ACC5										048097023224 53N+2907599	
CC52AC15										02021852N+3010099	
CC52AC26		085078112								044110020229 50N+3108599	
CC52AC36										050146020224 49N+3207099	
CC52AC49			C94094111							052116020226 47N+3308099	
CC52AC59										049130020232 45N+3405099	
CC52AC69					C78078111					042136018227 44N+3504003	
CC52AC79										01419542N+3610099	
CC52AC89										01421241N+3710099	
CC52AC97										01822540N+3810099	
CC53ACC5		082075111								035087021000 54N+2900003	
CC53AC15										039192021214 53N+3001099	
CC53AC25					C90085111					033204021000 51N+3100004	
CC53AC35										036146021212 50N+3201099	
CC53AC52					075075421					084169018220 43N+3506599	
CC53AC62										040127014220 41N+3607099	
CC53AC72			C85088111							047161013226 40N+3703505	
CC53AC82										055177019232 38N+3703099	
CC53AC92			C78082431							064168020237 37N+3802006	
CC53A102										062138020237 35N+3904099	
CC53A112			C85085111							051141020229 33N+3901006	
CC53A122										045144021236 32N+4001599	
CC53A132										02122930N+4110099	
CC53A142										02122528N+4110099	
CC53A152										02123627N+4210099	
CC53A16C			C78082111							096124022232 25N+4309706	
CC53A17C										076164022240 24N+4305599	
CC53A18C			C82C82111							063162021237 22N+4405008	
CC53A19C										061147021239 21N+4501599	
CC53A2CC					C67065112					066185021225 19N+4507099	
CC53A21C										091196022235 17N+4609599	
CC53A219										02119916N+4707099	
CC54ACC5					078085412					073116019212 58N+2609099	

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PAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D D D LIM SUN
NBR NBRhhWAAASTQhhWAAASTQhhWAAASTChhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOLP					
CC54AC15					06711001920657N+2709559
CC54AC25					01921955N+2810099
CC54AC35					01921554N+2910099
CC54AC4C078082112					07311401921053N+3009099
CC54AC50					07710901922251N+3109099
CC54AC60C75085112					06711901922750N+3208599
CC54AC7C					09513301921848N+3309099
CC54AC78					01921847N+3310099
CC54AC89		C78C85432			04421001420136N+3902099
CC54AC99					06815601421835N+4009599
CC54A110					03816401422133N+4108599
CC54A112		C72C67432			04419001322833N+4108099
CC54A122					04520501822831N+4207599
CC54A132		C85078432			07023502123029N+4207505
CC54A142					07622002023728N+4308099
CC54A146					02023427N+4409599
CC55ACC5			094090111		05210202020960N+2509599
CC55AC15					04209501920659N+2699999
CC55AC25		C99094111			04009502021057N+2702504
CC55AC35					04010001921056N+2899999
CC55AC45		1C4104111			05012201922054N+2906099
CC55AC55					06613001822652N+3099999
CC55AC65		C78C72412			08814001922651N+3106005
CC55AC75					05711801921049N+3299999
CC55AC85		C78078411			12516502020448N+3300105
CC55AC95					07615001600046N+3400099
CC55A1C5		C9C088111			03914401300045N+3400005
CC55A112					03213401200043N+3600099
CC55A122		C9CC94111			05615201300039N+3700005
CC55A132					07015001100037N+3800099
CC55A142	C9C099111				05211801200036N+3900099
CC55A148					07014501500035N+4000099
AC56ACC5					02200038S-3199999
CC56ACC5					02119271N+1706099
CC56AC15					02116170N+1905099
CC56AC17				1040941110650980202027ON+1906099	
CC56AC27					02020268N+2010099
CC56AC42					01921161N+2510099
CC56AC52					01921159N+2610099
CC56AC62				0650721120951300202165 7N+2709099	
CC56AC72					05213902021756N+2802599
CC56AC82		1C4118111			04215402109654N+2901507
CC56AC92					04913602115053N+3000599
CC56A1C2		C94C75121			04711802012451N+3100205
CC56A112					05414402000050N+3200099
CC56A122		1C4104111			04412402000048N+3300008
CC56A132					04913102100046N+3400099
CC56A142		C99111111			05410902021145N+3500408
CC56A149		C93104111			03910902122044N+3601599
CC61ACC5		C9CC85111			050C9402222043N+3500503

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

ABR ABRbbWAAASTQbbWAAASTCbbbAAASTCbbWAAASTQbWWAAASTQMINMAXB+FMAXLATELECLDOL

CC61AC15 05412602223442N+3703599
CC61AC25 C72094111 07016602220040N+3802505
B F N+-0

1C1C-2

TABLE 9-2

PAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
ABR ABRhhWAAASTQhhhWAAASTChhWAAASTChhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOLF								
CC65FC1C								02123520N+4610099
CC68FCC5		C72068411						05209602222554N+2905000
CC68FC15								C3710502222853N+3004099
CC68FC25				078067411				03808602222051N+3103099
CC68FC35								045C7502221650N+3206599
CC68FC45			C94104111					04310002221848N+3302504
CC68FC55								04410202019446N+3306099
CC68FC65			C72C85111					04712002017045N+3500506
CC68FC75								05007802016043N+3600299
CC68FC85			C9CC78111					03807402122242N+3700507
CC68FC95								058C9502123040N+3806599
CC68F1C5			C78C85112					05611302023239N+3907599
CC68F115								02222837N+3910099
CC69FCC5								02019670N+1710099
CC69FC15			C9C094411					033C9102014069N+1901008
CC69FC25								032C5302000068N+2000099
CC69FC35			C7CC65411					034C6402000066N+2100008
CC69FC45								03207402000065N+2200099
CC69FC64				C78085111				03006802000058N+2700006
CC69FC74								030C9502000057N+2800099
CC69FC84				C85085111				02810002000055N+29C0006
CC69FC94								03408402000054N+3000099
CC69F1C4			C78C85421					03021602200052N+3100008
CC69F114								03222002100051N+3200099
CC69F122			C82C90421					02819501800050N+3200008
CC69F132								03614201420242N+3702099
CC69F142			C67072422					08614001317040N+3800506
CC69F152			C82075432					06815001211439N+3900299
CC69F162								01222437N+4010099
CC69F172								01422235N+4010099
CC69F182								01222534N+4110099
CC69F19C			C51C49432					05310001623033N+4209599
CC69F2C0								C5516802223431N+4209599
CC69F21C			C94C90412					C6413202223230N+4308099
CC69F216								C5012702223629N+4407599
CC7CFC1C					072078212			C7914802222552N+3208099
CC7CFC2C								02222650N+3310099
CC7CFC3C								10015702223048N+3309599
CC7CFC33			C63C55422					C7916302223048N+3409099
CC7CFC43								C7413902222746N+3504099
CC7CFC53			C78078432					08722202222945N+3506599
CC7CFC63								05814302222643N+3607099
CC7CFC73			C75C67431					04422802223542N+37C2005
CC7CFC83								06318602200040N+3800099
CC7CFC93		C67061411						09818302221539N+3904099
CC7CF1C3								11018802221937N+4001099
CC7CF113					055055432			14214022234 35N+4109599
CC7CF123								06522802223234N+4108599
CC7CF133			C94C90431					C4323002223032N+4201007
CC7CF143								04923502223231N+4303099

Note: Underlined Drain values indicate reading made in shadow area.

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

ABR ABRhhWAAASTGhhWAAASTGhhWAAASTGhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOLF

CC7CF153                          085070431          05211402223829N+4406099
CC7CF161                                             06515402223827N+4507099
AC71FCC5                                               02100040S-3100099
CC71FCC5                          085090111          03209302010059N+2500105
CC71FC15                                             03209302020658N+2600299
CC71FC25                  C94104111                  03507502000056N+2700008
CC71FC35                                             03507502000055N+2800099
CC71FC45                  C99C94111                  03506602000053N+2900006
CC71FC55                                             03810002000052N+3000099
CC71FC65                  C94104111                  04810702018450N+3100205
CC71FC75                                             04612702020249N+3200599
CC71FC85                  C63C85112                  05815001819347N+33015C5
CC71FC95                                             08814501817046N+3401099
CC71F1C6                  C59C59412                  08811401500044N+3500099
CC71F116                                             08811501200043N+3600099
CC71F126                  C63C63412                  08015401200041N+3700099
CC71F136                                             05615001200040N+3800099
CC71F146                  C94C94111                  02810501200039N+3900099
CC71F156                                             03014601200037N+4000099
CC71F163                  C94104111                  04413801200036N+4100008
CC84FCC5                  C94C85421                  04020202319954N+2900405
CC84FC15                                             03007502120853N+3001099
CC84FC25                  C75C85421                  03709902021051N+3102507
CC84FC35                                             04311802021750N+3204099
CC84FC45C75078421                                    05610002022048N+3306099
CC84FC55                                             07811802022346N+3409599
CC84FC65                  C72C82421                  04012002021845N+3505006
CC84FC75                                             04615402022643N+3505099
CC84FC85                  C94C99111                  05614002022242N+3602008
CC84FC95                                             05010802022940N+3701599
CC84F1C5                          104090111          05211702022039N+3802599
CC84F115                                             08414202022037N+3909599
CC84F125                                               02022535N+4010099
CC84F135                                               02021634N+4105099
CC84F14CC72085412                                    10216801920233N+4105099
CC84F15C                                             06011602022931N+4205099
CC84F160                  C82070112                  06410702022830N+4309099
CC84F17C                                               02023128N+4309099
CC84F18C                                               02022626N+4405099
CC84F190                                               02023025N+4503099
CC84F198                  C94111111                  05409802022224N+4601010
CC84F2C8                                             04210202024422N+4703099
CC84F218078070111                                    05019202022821N+4802099
CC85FCC5                  1C4078422                  03006002000059N+2500003
CC85FC15                                             03007802000058N+2700099
CC85FC25                  C85C94111                  03909402012857N+2800105
CC85FC35                                             02609002021255N+2903099
CC85FC43                  C85C82431                  03217201919854N+3001505
CC85FC53                                             04021202020047N+3400299
CC85FC63                  C94C85411                  03316702019845N+3500209
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PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN
ABR ABRhhhAAASTChhhAAASTChhhAAASTChhWAAASTChWWAAASTCMINMAXB+FMAXLATELECLDCLF
CC85FC73 05214202000044N+3600099
CC85FC83 1C4C94432 06215801900042N+3700006
CC85FC93 07216801900041N+3700099
CC85F103 C9911143I 04021602022039N+3800510
CC85F113 05718701922438N+3906099
CC85F123 C78090431 08817001821236N+4008506
CC85F133 05815401822534N+4107599
CC85F143 08513401822233N+4209899
CC85F144C82082432 07814601822433N+4209599
CC85F154 04212701823431N+4307099
CC85F164 C72C94432 03815201822830N+4304099
CC85F174 05412601822828N+4406599
CC85F184 01822926N+4509899
CC85F186 C72C72432 09612101822826N+4509799
CC85F196 04911201923425N+4605099
CC85F2C6 C94104432 06611002023723N+4708099
CC85F216 C8412702022221N+4809099
CC85F226 C94072432 C5618801922020N+4905099
CC85F228 05218801923220N+4904099
CC86FCC5C67C85412 03607101819058N+2601004
CC86FC15 03508001820657N+2702599
CC86FC25 C94104112 03807601822655N+2803505
CC86FC35 03610901820554N+2902599
CC86FC45 C99094111 04912001821752N+3005005
CC86FC55 05008001822651N+3107599
CC86FC65 C75104111 06009401820850N+3208099
CC86FC75 04610201921848N+3305599
CC86FC85 C85104111 05615801917447N+3400205
CC86FC95 04315801800045N+3500099
CC86F1C5 C94118111 C6417701800044N+3600006
CC86F115 C3421202022042N+3700299
CC86F125 C82C72432 03720201821241N+3801010
CC86F135 C4222202018639N+3900599
CC86F145 C82104431 04519902022938N+4001010
CC86F155 05822201922436N+4102099
CC87FCC5 02020460N+2510099
CC87FC15 02019659N+2610099
CC87FC18 085094111 04808801821259N+2708599
CC87FC28 C5011602020657N+2808099
CC87FC38 C85104111 C5311402020456N+2907099
CC87FC44 C5008402022455N+2905099
CC87FC55 C94094111 04409001822650N+3203599
CC87FC65 04616801922049N+3302599
CC87FC75 104090111 05116601921848N+3401507
CC87FC85 07616202000C46N+3500099
CC87FC95 C82075111 09219401900045N+3600008
CC87FC99 08517001900044N+3600099
CC88FCC5 1C4C85111 05008202021355N+1905099
CC88FC15 04408801821254N+2107599
CC88FC25 111104111 04812401820652N+2306005

101C-2

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PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D  D  D LIM   SUN
NBR NBRhhhAAASTQhhWAAASTQhhhAAASTQhhhAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOCLI

CC88FC35                                                   05514101822151N+2508099
CC88FC45                    C94104111                      05012001922449N+2806099
CC88FC55                                                   04609201920248N+3002599
CC88FC65                    1C4094111                      04610601921846N+3202506
CC88FC75                                                   04410201921145N+3401099
CC88FC83           1C4104111                               04912301921844N+3601099
CC88FC94                                                         02015032N+4300599
CC88F1C4                    111104111                      05819602000031N+4400099
CC88F114                                                   10318401800029N+4500099
CC88F124                              078090111            0841920180C027N+4600099
CC93FCC5           078078112                               06211102422841N+3807099
CC93FC15                                                   C6313002323440N+39C0099
CC93FC25                    C75C72112                      05111002123238N+4005510
CC93FC35                                                   05010902223037N+4000099
CC93FC37C78082112                                          06014002223037N+4107511
CC98FCC5                    C82C94431                      02816802020254N+2900503
CC98FC15                                                   03621402000053N+3000599
CC98FC25                                                         02000052N+3100099
CC98FC35                                                         01920950N+3206599
CC98FC45                                                         01920549N+3309599
C1CCFCC5                              C94099211            C37C7002C19253N+30C0003
C1CCFC15                                                   C31C9202019452N+3100599
C1CCFC25                    C82C90111                      03416602019450N+3200207
C1CCFC35                                                   03614402020049N+3302099
C1CCFC45                              C85067112            C3814202020247N+3404599
C1CCFC55                                                   C4214802021245N+3503599
C1CCFC65                    C67078111                      C3414602019544N+3601008
C1CCFC75                                                   04315602022242N+3702099
C1CCFC85                    C85C85112                      04013302021441N+3802507
C1CCFC95                                                   03613402021639N+3801099
C1CCF1C5                    118104111                      C5114002000037N+3900009
C1CCF115                                                   C4413602021836N+4000599
C1CCF125                                       065067112C7613402021134N+4108599
C1CCF135                                                   06610102021732N+4208099
C1CCF145                                                         02021131N+4310099
C1CCF155                                                         02021929N+4410099
C1CCF162                              C72075412            06811002021028N+4409599
C1CCF172                                                         02022227N+4510099
C1CCF182           C6707C422                               06415002021725N+4607599
C1CCF192                                                   C4614202022723N+4706599
C1CCF202                    C63C67112                      07017002022422N+4806099
C1CCF212                                                         02022820N+4907599
C1CCF222                                                         02022418N+5006099
C1C1FCC5                                                   15120101822250N+3209899
C1C1FC13                              C82094431            C8117201821549N+3309059
C1C1FC23                                                   04522301621847N+3401099
C1C1FC33                    C72C72431                      05321002021846N+3503099
C1C1FC33                    C72C72431                      C5321002021846N+3503099
C1C1FC43                                                   05312002022444N+3605599
C1C1FC53                    C85C85111                      C4517002021243N+3702099
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FAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
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C1C1FC63							/	C9417802000041N+3800099
C1C1FC73		C78C72412						C9015802000039N+3900099
C1C1FC83								C9413001419438N+4006099
C1C1FC93		C63C65432						07012001320236N+4108599
C1C1FIC3								01422335N+4210099
C1C1F113		C99C94431						03220201222433N+4307599
C1C1F123								C9023201622632N+4408599
C1C1F133		C78C78432						06823001823630N+4408599
C1C1F143								06421501923428N+4509599
C1C1F156			078078111					05210802023226N+4709099
C1C1F166								04807802023425N+4808599
A1C3FC05								02100039S-3400C99
C115FC05		C72C85422						03609002021250N+3206099
C115FC15								C3010601821249N+3405099
C115FC25	10410411							03809301821547N+3505599
C115FC35								03409801821446N+3608505
C115FC45		C94C94111						C3212801822444N+3703599
C115FC55								03011601800043N+3800599
C115FC65								01800041N+3900099
C115FC69								01821741N+3906099
C116FCC5		C85C90411						07714001500043N+3700C08
C116FC15								03011001412842N+3800159
C116FC25		C85078121						05014401419040N+3902011
C116FC35								C6808201422038N+4009899
C116FC45								01421737N+4110099
C116FC55								01222235N+4210099
C116FC65								01422433N+4210099
C116FC75								01322632N+4310099
C116FC85								01322630N+4410099
C116FC95								01322428N+4510099
C116F1C5								01322227N+4610099
C116F115C82C85411								07008801322425N+4709599
C116F125								07510601322823N+4709599
C116F135							07207042206	41000162342ZN+4809099
C116F145								02023820N+4905099
C116F155C72085412								10322902022618N+5001599
C116F165								11316502023617N+5106099
C116F175								02022515N+5206099
C117FC05C65C67431								05223002022051N+3208502
C117FC15								04822802022350N+3302599
C117FC25		C63C61432						04223202022848N+3401503
C117FC35								05016302022247N+3500799
C117FC45								07018802022045N+3600210
C117FC55								05517602022444N+3707099
C117FC65		C61060431						04815602021242N+3800510
C117FC75								10014601520641N+3907599
C117FC85								06013501421039N+4008599
C117FC95								C4415001422437N+4107599
C117F1C5		C72C72412						04619301422636N+4208099
C117F115								03721701423034N+4304099

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

NBR NBRhhhAAASTChhhAAASTChhhAAASTChhhAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDUL

C117F125                   C59070431                 03022401422633N+4404510
C117F135                                             03822701622631N+4500899
C117F145                   C65C65431                 04223602022530N+4601508
C117F155                                             05523302023028N+4702099
C117F165                   C67067111                 04813402023027N+4802010
C118FC05                                                   01919175N+1310099
C118FC15                                   07507543105620002017274N+1509599
C118FC25                                                   02019073N+1610099
C118FC35                                                   02019271N+1710099
C118FC45                                                   02020270N+1810099
C118FC55                                                   02022064N+2210099
C118FC65                                             03105202021163N+2409099
C118FC75         C67072212                           03206702121461N+2507599
C118FC85                                             03408502121060N+2606099
C118FC95         104094111                           03610302020059N+2707099
C118F1C5                                             09811802122257N+2809599
C118F115                                             08610602121655N+2909599
C118F118                   C57C67112                 08612002121755N+2909899
C118F128                                             06609502121853N+3109899
C118F138                                   06707211207811802023152N+3209599
C118F148                                             04113902000050N+3300099
C118F158                   C94078111                 05614402000049N+3400007
C118F168                                             08016501900047N+3500099
C118F178                   111118111                 12017002100046N+3600009
C118F188                                             09016802100044N+3700099
C118F158C67C72111                                    05612601600043N+3800099
C131FC05C94078412                                    04811502122255N+2908599
C131FC15                                             04009402019854N+3000299
C131FC25         111094111                           04408602017252N+3205008
C131FC35                                             04611602000050N+3300099
C131FC44                   118125411                 04007802000049N+3300008
C133FCC5                   C94C99111                 04211002019253N+3000306
C133FC15                                             03611002021052N+3100399
C133FC25                   C82C75431                 04811302021750N+3205510
C133FC35                                             04716402020448N+3300399
C133FC45                   C94C99411                 03817702000047N+3500010
C133FC55                                             04120002022645N+3600599
C133FC65                   C82085211                 05022002013444N+3704510
C133FC75                                             08418002022542N+3808599
C133FC85                                                   02000040N+3900099
C133FC95                                                   01500039N+4000099
C133F1C5         C7C061211                           08814701300037N+4100010
C133F115                                             03622501321835N+4200599
C133F125                   C78C85431                 03122401300034N+4300010
C133F135                                             03020001400032N+4400099
C133F145                   C67C63431                 03623402200031N+4500008
C133F155                                             04823502023529N+4602599
C133F163                   C67C78431                 04215402024028N+4703502
C134FCC5                   C78070212                 07209402020052N+3109004
C134FC15                                             06313002000051N+3300099
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FAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
NBR	NBRhhhAAASTQhhhAAASTQhhhAAASTQhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL								
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C134FC35						05819002000048N+3500099			
CC65AC12						02023420N+4603099			
LC68ACC5			C94085121			05911402123054N+2906599			
CC68AC15						05610602121053N+3005099			
CC68AC25		C78C65411				04111602122051N+3102007			
CC68AC35						04708802022050N+3205099			
CC68AC45		C65070112				06311002022348N+3309099			
CC68AC55						C5812202022247N+3401599			
CC68AC65		C78C94111				04311702019445N+3500305			
CC68AC75						04810502020044N+3601099			
CC68AC85		C9911811l				04408902121042N+3701005			
CC68AC95						05513002023741N+3807099			
CC68A1C5		C94094112				04710002023039N+3906099			
CC68A115						06610402022438N+3909999			
CC69ACC5						02120071N+1710099			
CC69AC15		C78078412				C65C8702121670N+1902007			
CC69AC25						037C7002100069N+2000099			
CC69AC35		C67C75421				04106902100067N+2100007			
CC69AC45						03707502100066N+2200099			
CC69AC62		C67C7541l				04508002100059N+2500002			
CC69AC72						03607402100058N+2600099			
CC69AC82		C72C82411				C3410802100057N+2700007			
CC69AC92						03509502100055N+2800099			
CC69A1C2		1C4118111				03419202100054N+2900007			
CC69A112						04222202100052N+3000099			
CC69A122		C67C78421				04221602100051N+3100005			
CC69A133						06013001522242N+3601099			
CC69A143			C63067411			C6415401419441N+3700599			
CC69A153						C6016001300039N+3800099			
CC69A163	C72072111					03018201317838N+3903399			
CC69A173						01322236N+4010099			
CC69A183						01322835N+4110099			
CC69A195	065072432					C8612701324233N+4209099			
CC69A2C5						05415402024231N+4309599			
CC69A215		C72078112				08013802024230N+4305007			
CC7CACC5						02023052N+3010099			
CC7CAC15						02022851N+3110099			
CC7CAC16				065075112087		14001822051N+3108599			
CC7CAC26						01923349N+3209899			
CC7CAC36						01822048N+3309899			
CC7CAC38		C72C65412				09212201823447N+3309099			
CC7CAC48						08215001823246N+3404599			
CC7CAC58		C55C63432				C8018501923444N+3508099			
CC7CAC68						06412201922743N+3607099			
CC7CAC78		C85C72433				04817001923341N+3701006			
CC7CAC88						07016402000040N+3700099			
CC7CAC98						02021038N+3803099			
CC7CA104		C63C57412				10016802021337N+3904008			
CC7CA114						11017201823236N+4009899			

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PAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D D D LIM SUM
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CC7CA130		C63C59431			06820201821233N+4104006
CC7CA140					05017501823532N+4201099
CC7CA150		C94C82431			C4217802023030N+4301006
CC7CA16C					07413001824229N+4308599
AC71ACC5					02000C38S-3200099
CC71ACC5		C72C78411			05207201823460N+2502503
CC71AC15					C3209401817859N+2600199
CC71AC25		C9CC99111			03810401800057N+2700007
CC71AC35					03809201800056N+2800099
CC71AC45		C75C85111			C3809201800054N+2900007
CC71AC55					03615001800053N+3000099
CC71AC65		C85085111			04810501800051N+3100007
CC71AC75					C6612601800050N+3200099
CC71AC85		C75082421			05514801820049N+3301507
CC71AC95					06019601920247N+3401099
CC71A1C5		C78070421			10219001800046N+3500007
CC71A115					11417401600044N+3600099
CC71A125	C67072411				07615401400043N+3700008
CC71A135					09718501200041N+3800099
CC71A145			C78072411		11016001200033N+4100007
CC71A155					03016001200032N+4200099
CC71A164		C94C82431			05817001500030N+4300009
CC84ACC5		C72072411			04821002021855N+2902502
CC84AC15					03417501921554N+3001099
CC84AC25		C85C99411			035C9401921352N+3101005
CC84AC35					04511001922351N+3204599
CC84AC45		C85078112			04010601921449N+3305005
CC84AC55					07912901921047N+3409899
CC84AC65	C99082411				07312501822146N+3507508
CC84AC75					04613201923544N+3502099
CC84AC85	094094111				05814201923043N+3601508
CC84AC95					04617202022441N+3702599
CC84A1C5	1C41C4111				04014502021040N+3802099
CC84A115					06013501820038N+3901099
CC84A125					01921436N+4010099
CC84A135					01921835N+4110099
CC84A145					01920633N+4107599
CC84A149	104094111				09211401921233N+4207099
CC84A159					06212401922331N+4306099
CC84A169					01923629N+4310099
CC84A179					01923128N+4409999
CC84A189					02024426N+4507599
CC84A199					01824025N+4605099
CC84A2C3		C78082412			09011602022024N+4601599
CC84A213					06015802014522N+4703099
CC85AC05		1C4C94412			03508602019060N+2501502
CC85AC15					03407602000059N+2600099
CC85AC25		C94085412			032C8702000058N+2700005
CC85AC35					03610302017456N+2800599

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PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUN
NBR	NBRhhhAAASTChhhAAASTChhhAAASTChhhAAASTCWWWAAASTCMINMAXB+FMAXLATELECLDUL										
CC85AC45			1C4094412								036120020206 55N+2902005
CC85AC55											050218020206 47N+3400599
CC85AC65			C94C90431								045185020000 46N+3500004
CC85AC75											051192020000 44N+3600099
CC85AC85			C78072732								064173019000 42N+3700099
CC85AC95											053181020000 41N+3700098
CC85A1C5			C94111111								049221019000 39N+3800010
CC85A115											052230019232 38N+3901099
CC85A125							078082412				C971960202303 6N+4004099
CC85A135											078162020231 34N+4107599
CC85A145											081151020238 33N+4108599
CC85A15C	C94078422										C691670192343 2N+4208599
CC85A160											059143019243 30N+4307599
CC85A17C			C78085431								046225020242 29N+4304510
CC85A18C											083164020239 27N+4408099
CC85A190											019243 25N+4509599
CC85A194			C85104112								C991560202462 5N+4508099
CC85A2C4											059150020243 23N+4605099
CC85A214			C85C94422								C851580202452 2N+4707015
CC85A224											108144020242 20N+4809599
CC86ACC5			C72C67412								040075020193 59N+2603099
CC86AC15											036106020232 58N+2701599
CC86AC25			C85078412								036147020230 56N+2802006
CC86AC35											042093020235 55N+2901099
CC86AC45			111118111								050130020232 53N+3001006
CC86AC55											050132020228 52N+3106099
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CC86AC75											054104020232 49N+3308599
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CC86A1C5		118118111									100162018000 45N+3600010
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CC86A145			C67C67431								048240020218 39N+3900208
CC86A155											082236020242 37N+4099999
CC87ACC5	078075112										063095018216 61N+2407099
CC87AC15											019227 60N+2510099
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CC87AC35											046103019232 57N+2708599
CC87AC44					1C4118111						058106019224 56N+2806505
CC87AC55											050100018214 51N+3103099
CC87AC65			C99111111								056134020230 50N+3303006
CC87AC75											060176020224 48N+3402599
CC87AC85			C85104111								070150020230 47N+3501005
CC87AC95											056196021129 45N+3601099
CC88ACC5		C94085121									065108020240 56N+2807099
CC88AC15											048118020232 55N+2904599
CC88AC25			C94078121								C561100202355 3N+3004006
CC88AC35											062138020240 52N+3206099

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

NBR NBRWWWAAASTQWWWAAASTCWWWAAASTCWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL

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CC8AC55                                    05714802024049N+3404099
CC8AC65              C99C90111             05013002023647N+3502507
CC8AC75                                    06412502024046N+3603099
CC8AC85              118C94411             07012202222744N+3702007
CC8AC95                                        02017033N+4200399
CC8A1C5                                        02116231N+4300399
CC8A1C7        078C94412                   14816802218230N+4400599
CC8A117                                    08621402200030N+4400099
CC93ACC5             C78090112             07215802022842N+3706007
CC93AC15                                   06414202124241N+3803099
CC93AC25             C85C94111             06516902124039N+3905008
CC93AC35                                   09914702023937N+4006099
CC98ACC5             1C4C94411             04211802022055N+2902503
CC98AC15                                   05014802000054N+3000099
CC98AC25C85C94431                          03821602000052N+3100099
CC98AC35                                       02015851N+3201599
CC98AC43                                       02020649N+3305599
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C1CCAC15                                   03610202020553N+3000299
C1CCAC25             1C4111111             03911202022051N+3100505
C1CCAC35                                   C3413402020649N+3200299
C1CCAC45             C59C90212             03816002023448N+3304099
C1CCAC55                                   04613602023246N+3407099
C1C0AC65             C9CC82432             05817602023245N+3506599
C1CCAC75                                   04813802023643N+3600099
C1CCAC85             C7C078121             04612001822841N+3703008
C1CCAC95                                   04412401822340N+3802099
C1CCA1C5             C85C94211             04313001821438N+3900510
C1CCA115                                   04012001620937N+4000499
C1CCA125             C94094121             C7414401821835N+4105008
C1CCA135                                   10213401721433N+4207599
C1CCA145C85082111                          08010601621232N+4309099
C1CCA155                                       01221030N+4410099
C1CCA165                         10410441107317301221028N+4509599
C1CCA175                                       01222027N+4510099
C1CCA185                   118111211       05810401520325N+4608099
C1C0A195                                   06414001723024N+4707099
C1C0A2C5             C78C72212             08216001823222N+4805013
C1CCA215                                       01822820N+4908099
C1C0A221             C78C85212             C9317201823219N+5008599
C1C1ACC5       063072431                   08011802022651N+3209099
C1C1AC15                                       01621650N+3310099
C1C1AC25             C85C72433             03621201418648N+3401007
C1C1AC35                                   04322401622047N+3502099
C1C1AC45                                   10817701822445N+3609599
C1C1AC48             C82C70411             07814801820844N+3604008
C1C1AC58                                   05816401621643N+3703099
C1C1AC68             C7CC72411             07413001200041N+3800009
C1C1AC78                                   07013001200040N+3900099
```

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

NBR NBRWWWAAASTQWWWAAASTCWWWAAASTCWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOL

C1C1AC88               C94C85433                     05018001319238N+4001510
C1C1AC98                                             06114001421436N+4104099
C1C1A1C8                                                  01322635N+4210099
C1C1A114                            085072432        07813001322834N+4209099
C1C1A124                                             04021201421632N+4301599
C1C1A134                                                  01423030N+4410099
C1C1A137               C72078422                     07416801523430N+4409099
C1C1A147                                             08215502023028N+4507599
C1C1A157               C61070412                     08214602023125N+4708099
C1C1A165                                             06010401923525N+4707099
A1C3ACC5                                                  01600038S-3800099
C115ACC5               C85078411                     04012002021451N+3205007
C115AC15                                             03610001822050N+3406099
C115AC25               C78075211                     04210501821448N+3504008
C115AC35                                             04008802023046N+3607099
C115AC45               C85C94111                     03512001822045N+3705099
C115AC55                                             03010801822042N+3801099
C115AC65                                                  01800041N+3900099
C115AC69                                                  01815041N+3900599
C116ACC5               C94C99432                     C9216001400044N+3700005
C116AC15                                             C5615501200043N+3800099
C116AC25               C94C94412                     04511601119841N+3902010
C116AC35                                             07414401120139N+4009599
C116AC46                            C85094422        08012201222437N+4109699
C116AC56                                                  01222036N+4210099
C116AC66                                                  01121834N+4310099
C116AC76                                                  01122432N+4310099
C116AC86                                                  01222031N+4410099
C116AC96                                                  01221829N+4510099
C116A1C6                                                  01321927N+4610099
C116A116                                    07208241208812901222425N+4709599
C116A126                                             06612501222224N+4808599
C116A136               C9CC90432                     07618001623422N+4908099
C116A146                                             08217001923020N+4905099
C116A156085094411                                    07017001922019N+5005099
C116A166                                                  01723017N+5104099
C116A171                                                  01722516N+5104599
C117ACC5     078094422                               C9313101921852N+3109599
C117AC15                                             C4122902022451N+3205099
C117AC25               C63072412                     04722602022249N+3304003
C117AC35                                             05523101920547N+3400599
C117AC45               C94C99431                     C5615801221046N+3601007
C117AC55                                             04014901219544N+3705099
C117AC65               C75C85432                     03020501322243N+3802007
C117AC75                                             C3513801221041N+3900599
C117AC85                                             08515001216839N+4099999
C117AC9C     C72075412                               08019201220639N+4009099
C117A1CC                                             C4117301222837N+4104599
C117A11C     078072411                               05716001222735N+4206599
C117A12C                                             05121901222234N+4303099
```

1010-2

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D D D LIM SUN					
ABR ABRhhhAAASTQhhhAAASTQhhhAAASTQhhWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOOL					
C117A13C		C85094411			03922901322732N+4403508
C117A14C					04022201321830N+4501099
C117A15C		C54C75431			03322001322329N+4601508
C117A16C					04223001322927N+4705099
C118ACC5					01615676N+1210099
C118AC15					01818274N+1401599
C118AC21				085065433056206	01818274N+1401599
C118AC41					01917871N+1710099
C118AC51					01921566N+2110099
C118AC61	C72063412				07612501420064N+2209099
C118AC71					02003001320263N+2305099
C118AC81134118111					C3005202021061N+2405099
C118AC91					04007002021660N+2505099
C118A1C1	C94085111				C4012502021858N+2705099
C118A111					01922257N+2810099
C118A121				067063112082	13301922055N+2908099
C118A131					C6514801922054N+3008599
C118A141	C72063112				08613601921852N+3108099
C118A151					07214601920451N+3201599
C118A161		C76C72411			08819601900049N+3300009
C118A171					C6018001400048N+3400099
C118A181		C82070411			07217001200046N+3600010
C118A191					05015401317245N+3700399
C131ACC5					02021056N+2901009
C131AC09C67C85412					06013402019856N+2908003
C131AC19					05209402000054N+3000099
C131AC29		111118111			04811801919052N+3204006
C131AC39					05314001900051N+3300099
C131AC44		111C94112			04414001900050N+3300008
C133ACC5		C78085111			05013402000054N+3000007
C133AC15					06413801921053N+3100299
C133AC25		C59C85121			06813401920051N+3201510
C133AC35					05413401921049N+3401599
C133AC45		C85C85431			04218002022048N+3500509
C133AC55					03415001924846N+3601099
C133AC65		C85C72431			07021801822644N+3701010
C133AC75					07016201522643N+3809099
C133AC85		C72C67422			07015601420241N+3904008
C133AC95					01420440N+4002099
C133A105					01400038N+4100099
C133A115		C85C75433			05120301222436N+4202007
C133A125					04920401300035N+4300099
C133A135		C9CC85433			07219201200033N+4400008
C133A145					07522001200031N+4500099
C133A155		C94C94433			02517601222230N+4601008
C133A16C					04823001423429N+4602099
C134ACC5	078104112				06312001921953N+3006004
C134AC15					07209201820552N+3203099
C134AC25			1C4125111		06018401900050N+3300009
C134AC35					06218702000048N+3400099

1C1C-2

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

ABR ABRhhhAAASTQhhhAAASTChhhAAASTChhhAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDCL

C134AC45 104104421 07014601600047N+3500010
C134AC53 05217801900046N+3600099
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 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
1010-1	FWD	Predicted	0	21	79
		Reported	0	13	87
		Computed	0	9	91
1010-1	AFT	Predicted	0	21	79
		Reported	0	19	81
		Computed	0	16	84
1010-2	FWD	Predicted	0	50	50
		Reported	0	16	84
		Computed	0	13	87
1010-2	AFT	Predicted	0	50	50
		Reported	0	23	77
		Computed	0	25	75

The correlation of the reported and computed percentages at the three processing levels is very good for both missions.

The tabulations of density frequency distributions for Missions 1010-1 and 1010-2 are shown in Tables 9-3 through 9-6. The graphical presentation of the density distribution are computer plotted in Figures 9-1 through 9-36.

Analysis of these plots and the associated mean and median density values show that there was a slight reduction in all values as compared with recent missions. AFSPPL reported this same lower density level and added that the resulting values were within the nominal density range.

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 greater than usually experienced however it is significant to note that less than 2% of the density values were below 0.30 density. It appears reasonable to control processing at the present range of 0.40 to 0.90 density as the unavoidable spread below 0.40 is apparently at a density level that does not produce a detectable loss in information content.

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

[redacted]

MISSION • 1010-1 • INSTRUMENT • FWD 2-09-64 DENSITY FREQ

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	[illegible] MIN	[illegible] MAX	[illegible]
.01	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
.03	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
.05	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
.07	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
.09	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
.11	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
.13	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
.15	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
.17	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
.19	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
.21	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
.23	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
.25	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
.27	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
.29	0	0	0	0	0	0	0	0	0	0	0	0
.30	0	0	0	0	0	0	0	0	0	0	0	0
.31	0	0	0	0	0	0	0	0	0	0	0	0
.32	0	0	0	0	0	0	0	0	0	0	0	0
.33	0	0	0	0	0	0	0	0	0	0	0	0
.34	0	0	0	0	0	0	0	0	0	0	0	0
.35	0	0	0	0	0	0	0	0	0	0	0	0
.36	0	0	0	0	0	0	0	0	0	0	0	0
.37	0	0	0	0	0	0	0	0	0	0	0	0
.38	0	0	0	0	0	0	0	0	0	0	0	0
.39	0	0	0	0	0	0	0	0	0	0	0	0
.40	0	0	0	0	0	0	0	0	0	0	0	0
.41	0	0	0	0	0	0	0	0	0	0	0	0
.42	0	0	0	0	0	0	0	0	0	0	0	0
.43	0	0	0	0	0	0	0	0	0	0	0	0
.44	0	0	0	0	0	0	0	0	0	0	0	0
.45	0	0	0	0	0	0	0	0	0	0	0	0
.46	0	0	0	0	0	0	0	0	0	0	0	0
.47	0	0	0	0	0	0	0	0	0	0	0	0
.48	0	0	0	0	0	0	0	0	0	0	0	0
.49	0	0	0	0	0	0	0	0	0	0	0	0
.50	0	0	0	1	0	0	9	0	0	10	0	0
SUBTOTAL	0	0	0	18	1	0	135	0	0	153	0	0

[redacted]

TABLE 9-3

[redacted] [redacted] [redacted]

MISSION • 1010-1 • 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
0.51	0	0	0	0	0	0	3	0	0	3	0	0
0.52	0	0	0	0	0	0	7	0	0	7	0	0
0.53	0	0	0	0	0	0	3	0	0	3	0	0
0.54	0	0	0	1	0	0	2	0	0	3	0	0
0.55	0	0	0	0	0	0	1	0	0	1	0	0
0.56	0	0	0	0	0	0	1	0	0	1	0	0
0.57	0	0	0	0	0	0	1	0	0	1	0	0
0.58	0	0	0	1	0	0	5	0	0	6	0	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	0	1	0	9	0	0	9	1	0
0.61	0	0	0	0	0	0	2	0	0	2	0	0
0.62	0	0	0	0	1	0	3	0	0	3	0	0
0.63	0	0	0	0	0	0	2	0	0	3	0	0
0.64	0	0	0	1	0	0	3	0	0	4	0	0
0.65	0	0	0	0	0	0	1	0	0	1	0	0
0.66	0	0	0	0	0	0	3	0	0	3	0	0
0.67	0	0	0	0	0	0	0	1	0	0	1	0
0.68	0	0	0	0	0	0	5	0	0	5	0	0
0.69	0	0	0	0	0	0	1	0	0	1	0	0
0.70	0	0	0	0	0	0	7	0	0	7	0	0
0.71	0	0	0	0	0	0	0	1	0	0	1	0
0.72	0	0	0	0	0	0	3	0	0	3	0	0
0.73	0	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
0.75	0	0	0	0	0	0	3	0	0	3	0	0
0.76	0	0	0	0	0	0	0	2	0	0	2	0
0.77	0	0	0	0	0	0	2	1	0	2	1	0
0.78	0	0	0	0	0	0	0	1	0	0	1	0
0.79	0	0	0	0	0	0	3	1	0	3	1	0
0.80	0	0	0	0	0	0	1	1	0	1	1	0
0.81	0	0	0	0	0	0	4	0	0	4	0	0
0.82	0	0	0	0	0	0	0	2	0	0	2	0
0.83	0	0	0	0	0	0	1	1	0	1	1	0
0.84	0	0	0	0	0	0	2	0	0	2	0	0
0.85	0	0	0	0	0	0	0	1	0	0	1	0
0.86	0	0	0	1	0	0	2	0	0	3	0	0
0.87	0	0	0	0	0	0	1	1	0	1	1	0
0.88	0	0	0	0	0	0	1	1	0	1	1	0
0.89	0	0	0	0	0	0	1	0	0	1	0	0
0.90	0	0	0	0	0	0	4	0	0	4	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	0	0	0	1	0	0	1	0	0
0.93	0	0	0	0	0	0	0	3	0	0	3	0
0.94	0	0	0	0	0	0	2	0	0	2	0	0
0.95	0	0	0	0	0	0	2	0	0	2	0	0
0.96	0	0	0	0	0	0	2	0	0	2	0	0
0.97	0	0	0	0	0	0	0	1	0	0	1	0
0.98	0	0	0	0	0	0	4	0	0	4	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	0	0	0	3	0	0	3	0	0
SUBTOTAL	0	0	0	5	4	0	85	36	0	90	40	0

[redacted] [redacted] [redacted]

TABLE 9-3

[redacted]

MISSION • 1C1C-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
1.01	0	0	0	0	0	0	1	0	0	1	0	0
1.02	0	0	0	0	0	0	1	2	0	1	2	0
1.03	0	0	0	0	0	0	0	2	0	0	2	0
1.04	0	0	0	0	0	0	0	2	0	0	2	0
1.05	0	0	0	0	0	0	0	5	0	0	5	0
1.06	0	0	0	0	0	0	0	4	0	0	4	0
1.07	0	0	0	0	0	0	0	4	0	0	4	0
1.08	0	0	0	0	0	0	0	2	0	0	2	0
1.09	0	0	0	0	0	0	0	8	0	0	9	0
1.10	0	0	0	0	0	0	1	3	1	1	3	1
1.11	0	0	0	0	0	0	1	1	0	1	1	0
1.12	0	0	0	0	0	0	0	1	0	0	1	0
1.13	0	0	0	0	0	0	1	2	0	1	3	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	2	0	0	2	0
1.17	0	0	0	0	0	0	0	5	0	0	5	0
1.18	0	0	0	0	0	0	0	5	0	0	5	0
1.19	0	0	0	0	0	0	0	5	1	0	5	1
1.20	0	0	0	0	0	0	0	5	0	0	5	0
1.21	0	0	0	0	0	0	0	6	0	0	6	0
1.22	0	0	0	0	0	0	0	2	0	0	4	0
1.23	0	0	0	0	0	0	0	4	0	0	4	0
1.24	0	0	0	0	0	0	0	2	0	0	2	0
1.25	0	0	0	0	0	0	0	7	0	0	7	0
1.26	0	0	0	0	0	0	0	7	0	0	7	0
1.27	0	0	0	0	0	0	0	8	0	0	8	0
1.28	0	0	0	0	0	0	0	8	0	0	8	0
1.29	0	0	0	0	0	0	0	5	0	0	5	0
1.30	0	0	0	0	0	0	0	5	0	0	5	0
1.31	0	0	0	0	0	0	0	3	0	0	3	0
1.32	0	0	0	0	0	0	0	3	1	0	3	1
1.33	0	0	0	0	0	0	0	1	0	0	1	0
1.34	0	0	0	0	0	0	0	1	1	0	1	1
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	4	0	0	4	0
1.37	0	0	0	0	0	0	0	4	0	0	4	0
1.38	0	0	0	0	0	0	0	4	0	0	6	0
1.39	0	0	0	0	0	0	0	4	0	0	6	0
1.40	0	0	0	0	0	0	0	1	0	0	2	0
1.41	0	0	0	0	0	0	0	1	0	0	2	0
1.42	0	0	0	0	0	0	0	5	0	0	10	0
1.43	0	0	0	0	0	0	0	1	2	0	1	2
1.44	0	0	0	0	0	0	0	2	0	0	2	0
1.45	0	0	0	0	0	0	0	2	1	0	2	1
1.46	0	0	0	0	0	0	0	1	1	0	1	1
1.47	0	0	0	0	0	0	0	1	0	0	1	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	0	0	0	0	1	0	0	1
1.50	0	0	0	0	0	0	0	5	1	0	5	1
SUBTOTAL	0	0	0	0	11	0	4	109	5	4	120	5

[redacted]

TABLE 9-3

[redacted] [redacted] [redacted]

MISSION • 1C10-1 • 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
1.51	0	0	0	0	0	0	0	1	1	0	1	1
1.52	0	0	0	0	0	0	0	2	1	0	2	1
1.53	0	0	0	0	0	0	0	2	1	0	2	1
1.54	0	0	0	0	0	0	0	3	0	0	3	0
1.55	0	0	0	0	0	0	0	4	0	0	4	0
1.56	0	0	0	0	0	0	0	4	0	0	4	0
1.57	0	0	0	0	0	0	0	5	0	0	5	0
1.58	0	0	0	0	0	0	0	5	2	0	5	2
1.59	0	0	0	0	0	0	0	5	2	0	5	2
1.60	0	0	0	0	0	0	0	5	2	0	5	2
1.61	0	0	0	0	0	0	0	5	2	0	5	2
1.62	0	0	0	0	0	0	0	5	2	0	5	2
1.63	0	0	0	0	0	0	0	5	2	0	5	2
1.64	0	0	0	0	0	0	0	5	2	0	5	2
1.65	0	0	0	0	0	0	0	5	2	0	5	2
1.66	0	0	0	0	0	0	0	5	2	0	5	2
1.67	0	0	0	0	0	0	0	5	2	0	5	2
1.68	0	0	0	0	0	0	0	5	2	0	5	2
1.69	0	0	0	0	0	0	0	5	2	0	5	2
1.70	0	0	0	0	0	0	0	5	2	0	5	2
1.71	0	0	0	0	0	0	0	5	2	0	5	2
1.72	0	0	0	0	0	0	0	5	2	0	5	2
1.73	0	0	0	0	0	0	0	5	2	0	5	2
1.74	0	0	0	0	0	0	0	5	2	0	5	2
1.75	0	0	0	0	0	0	0	5	2	0	5	2
1.76	0	0	0	0	0	0	0	5	2	0	5	2
1.77	0	0	0	0	0	0	0	5	2	0	5	2
1.78	0	0	0	0	0	0	0	5	2	0	5	2
1.79	0	0	0	0	0	0	0	5	2	0	5	2
1.80	0	0	0	0	0	0	0	5	2	0	5	2
1.81	0	0	0	0	0	0	0	5	2	0	5	2
1.82	0	0	0	0	0	0	0	5	2	0	5	2
1.83	0	0	0	0	0	0	0	5	2	0	5	2
1.84	0	0	0	0	0	0	0	5	2	0	5	2
1.85	0	0	0	0	0	0	0	5	2	0	5	2
1.86	0	0	0	0	0	0	0	5	2	0	5	2
1.87	0	0	0	0	0	0	0	5	2	0	5	2
1.88	0	0	0	0	0	0	0	5	2	0	5	2
1.89	0	0	0	0	0	0	0	5	2	0	5	2
1.90	0	0	0	0	0	0	0	5	2	0	5	2
1.91	0	0	0	0	0	0	0	5	2	0	5	2
1.92	0	0	0	0	0	0	0	5	2	0	5	2
1.93	0	0	0	0	0	0	0	5	2	0	5	2
1.94	0	0	0	0	0	0	0	5	2	0	5	2
1.95	0	0	0	0	0	0	0	5	2	0	5	2
1.96	0	0	0	0	0	0	0	5	2	0	5	2
1.97	0	0	0	0	0	0	0	5	2	0	5	2
1.98	0	0	0	0	0	0	0	5	2	0	5	2
1.99	0	0	0	0	0	0	0	5	2	0	5	2
2.00	0	0	0	0	0	0	0	5	2	0	5	2
SUBTOTAL	0	0	0	0	5	10	0	63	24	0	68	34

[redacted] [redacted] [redacted]

TABLE 9-3

[redacted]

MISSION • 1010-1 • 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	0	0	0	0	0	0	0
2.02	0	0	0	0	0	2	0	4	0	0	4	2
2.03	0	0	0	0	0	0	0	0	3	0	0	3
2.04	0	0	0	0	0	0	0	0	1	0	0	1
2.05	0	0	0	0	0	1	0	0	2	0	0	3
2.06	0	0	0	0	0	0	0	0	3	0	0	3
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	1	0	0	1
2.09	0	0	0	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	1	0	0	0	0	0	1
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	2	0	0	11	0	0	13
2.13	0	0	0	0	0	0	0	0	2	0	0	2
2.14	0	0	0	0	0	1	0	0	5	0	0	6
2.15	0	0	0	0	0	0	0	0	3	0	0	3
2.16	0	0	0	0	0	1	0	0	7	0	0	7
2.17	0	0	0	0	0	1	0	0	4	0	0	4
2.18	0	0	0	0	0	1	0	0	16	0	0	17
2.19	0	0	0	0	0	0	0	0	5	0	0	5
2.20	0	0	0	0	0	0	0	0	9	0	0	9
2.21	0	0	0	0	0	2	0	0	3	0	0	5
2.22	0	0	0	0	0	1	0	0	10	0	0	11
2.23	0	0	0	0	0	0	0	0	7	0	0	7
2.24	0	0	0	0	0	0	0	1	3	0	1	3
2.25	0	0	0	0	0	1	0	1	8	0	1	8
2.26	0	0	0	0	0	0	0	1	4	0	1	4
2.27	0	0	0	0	0	0	0	0	11	0	0	12
2.28	0	0	0	0	0	1	0	0	2	0	0	3
2.29	0	0	0	0	0	0	0	0	9	0	0	9
2.30	0	0	0	0	0	0	0	0	5	0	0	5
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	8	0	0	8
2.34	0	0	0	0	0	0	0	0	2	0	0	2
2.35	0	0	0	0	0	0	0	0	4	0	0	4
2.36	0	0	0	0	0	0	0	0	2	0	0	2
2.37	0	0	0	0	0	0	0	0	5	0	0	5
2.38	0	0	0	0	0	0	0	0	1	0	0	1
2.39	0	0	0	0	0	0	0	0	9	0	0	9
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	4	0	0	4
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	2	15	0	16	189	0	18	204

[redacted]

TABLE 9-3

[redacted] [redacted] [redacted]

MISSION • 1010-1 • 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
2.51	C	C	0	C	0	0	0	0	0	0	0	0
2.52	C	C	0	C	0	0	0	0	0	0	0	0
2.53	C	C	0	C	0	0	0	0	0	0	0	0
2.54	C	C	0	C	0	0	0	0	0	0	0	0
2.55	C	C	0	C	0	0	0	0	0	0	0	0
2.56	C	C	0	C	0	0	0	0	0	0	0	0
2.57	C	C	0	C	0	0	0	0	0	0	0	0
2.58	C	C	0	C	0	0	0	0	0	0	0	0
2.59	C	C	0	C	0	0	0	0	0	0	0	0
2.60	C	C	0	C	0	0	0	0	0	0	0	0
2.61	C	C	0	C	0	0	0	0	0	0	0	0
2.62	C	C	0	C	0	0	0	0	0	0	0	0
2.63	C	C	0	C	0	0	0	0	0	0	0	0
2.64	C	C	0	C	0	0	0	0	0	0	0	0
2.65	C	C	0	C	0	0	0	0	0	0	0	0
2.66	C	C	0	C	0	0	0	0	0	0	0	0
2.67	C	C	0	C	0	0	0	0	0	0	0	0
2.68	C	C	0	C	0	0	0	0	0	0	0	0
2.69	C	C	0	C	0	0	0	0	0	0	0	0
2.70	C	C	0	C	0	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	C	0	0	0	0	0	0	0	0
TOTAL	C	C	0	23	23	25	224	224	218	247	247	243

MISSION 1010-1 INSTR - FWD 2-09-64 PROCESSING AND EXPOSURE ANAL

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	
PRIMARY	C	C PC	0 PC	0 PC	0 PC	
INTERMEDIATE	23	C PC	35 PC	65 PC	0 PC	0 P
FULL	224	2C PC	0 PC	76 PC	4 PC	0 P
ALL LEVELS	247	18 PC	3 PC	75 PC	4 PC	0 P

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSE
PRIMARY	0.01-C.19	C.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	0.4C-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] [redacted] [redacted]

TABLE 9-3

[redacted]

[redacted]

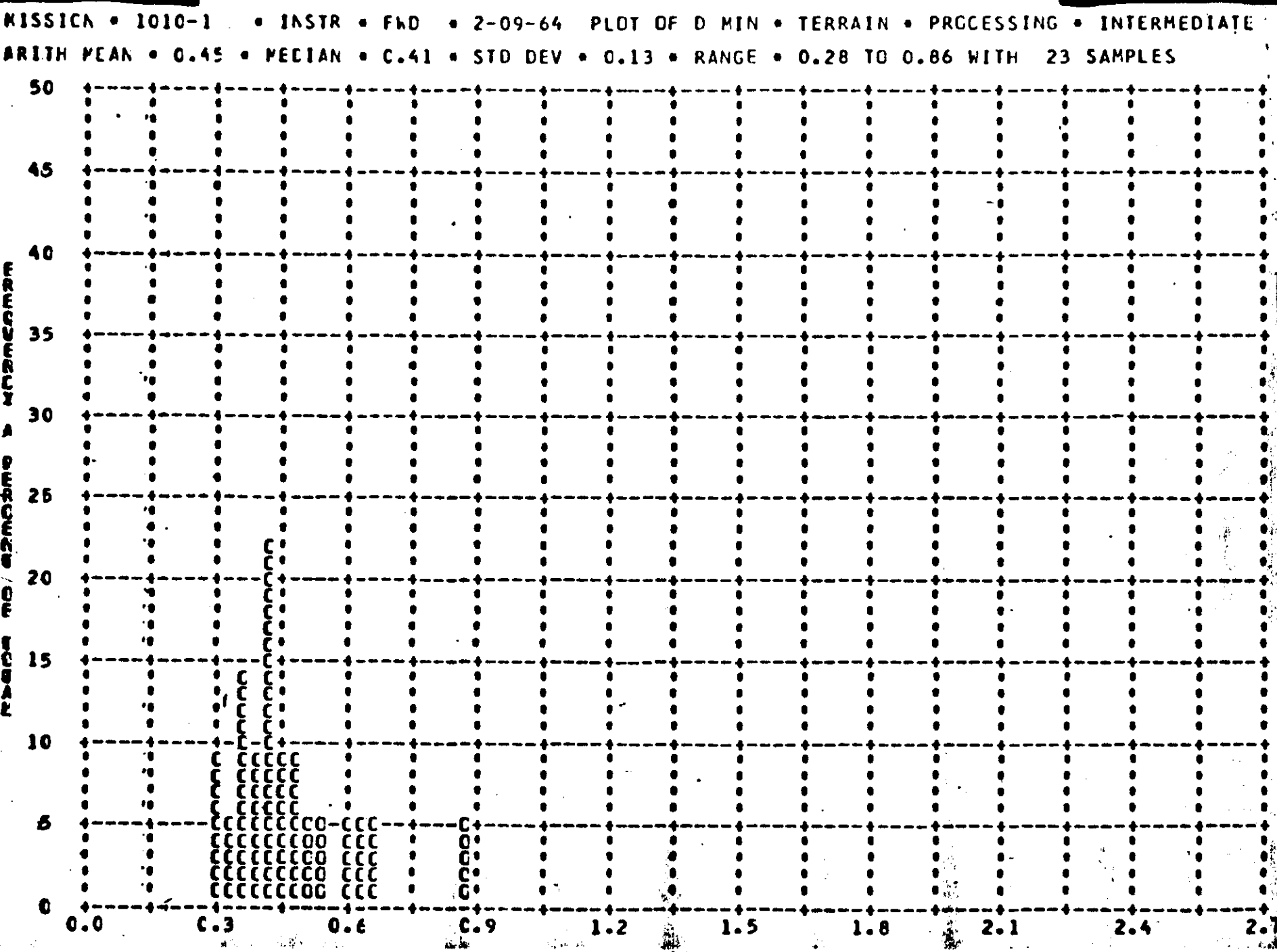


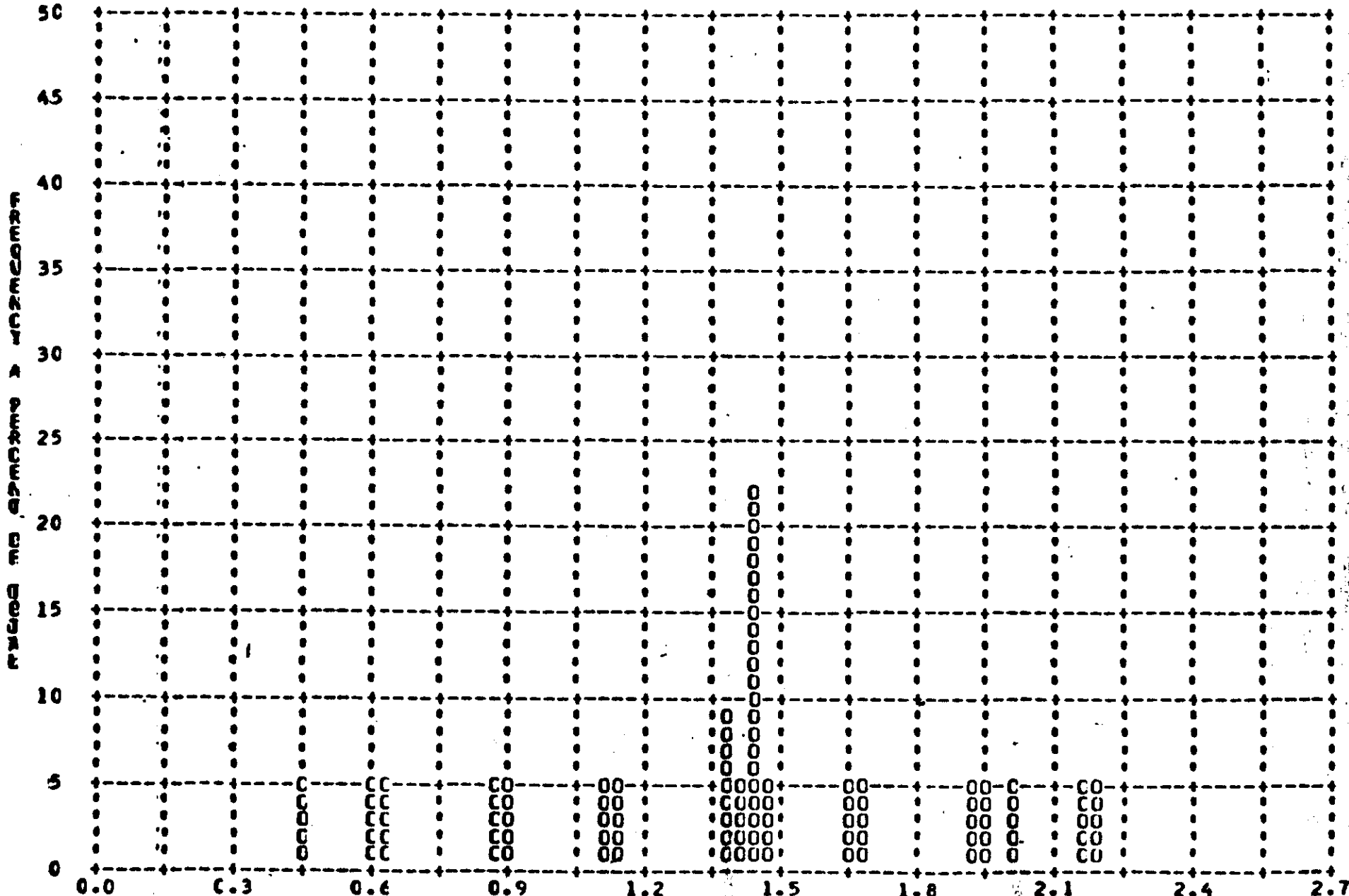
FIGURE 9-1

[redacted]

[redacted]

MISSION • 1C1C-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.35 • MEDIAN • 1.42 • STD DEV • 0.48 • RANGE • 0.43 TO 2.18 WITH 23 SAMPLES



[redacted]

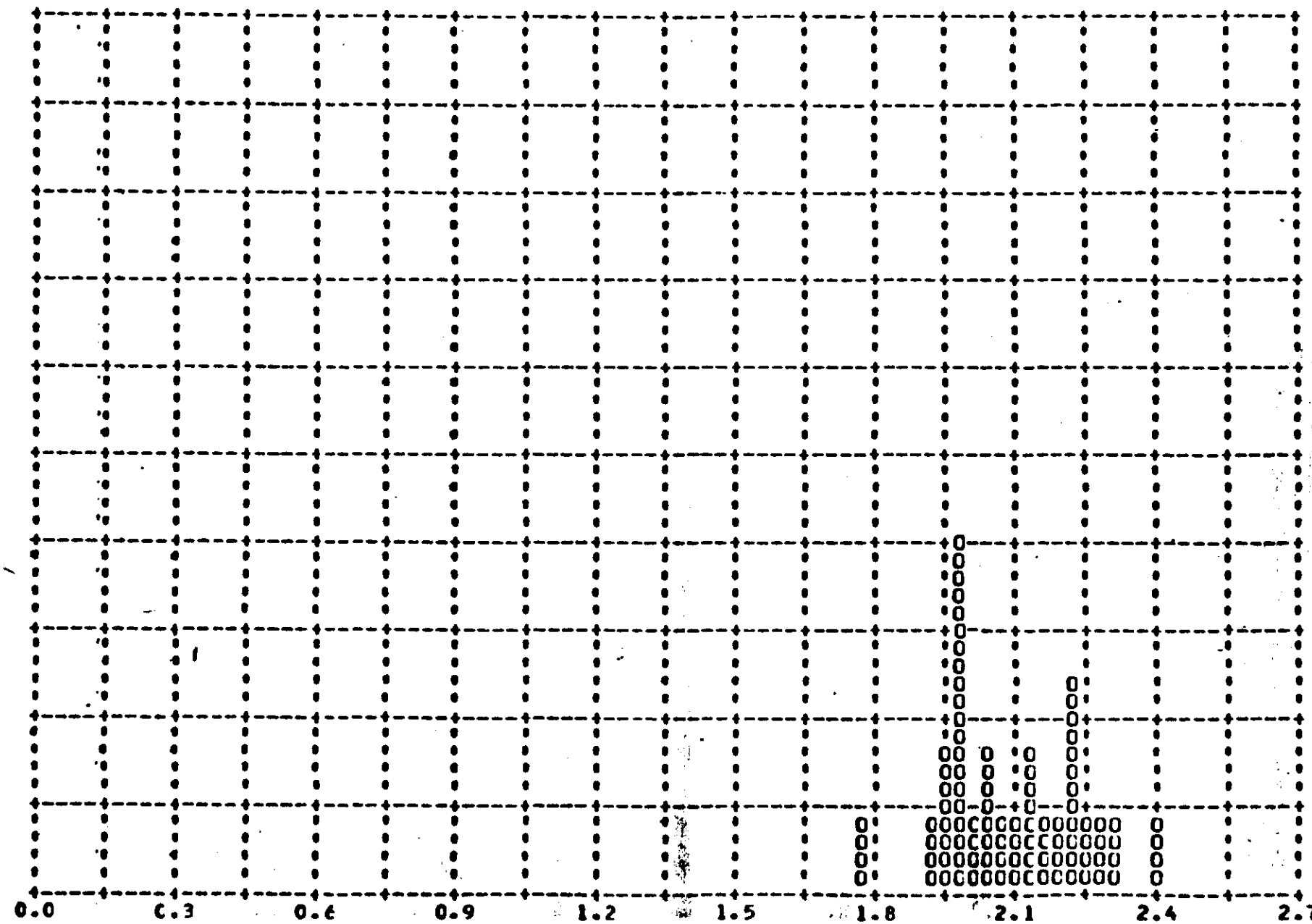
FIGURE 9-2

[redacted]

[redacted]

MISSION • 1010-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

WRITH MEAN • 2.CE • MEDIAN • 2.06 • STD DEV • 0.15 • RANGE • 1.76 TO 2.39 WITH 25 SAMPLES



[redacted]

FIGURE 9-3

[redacted]

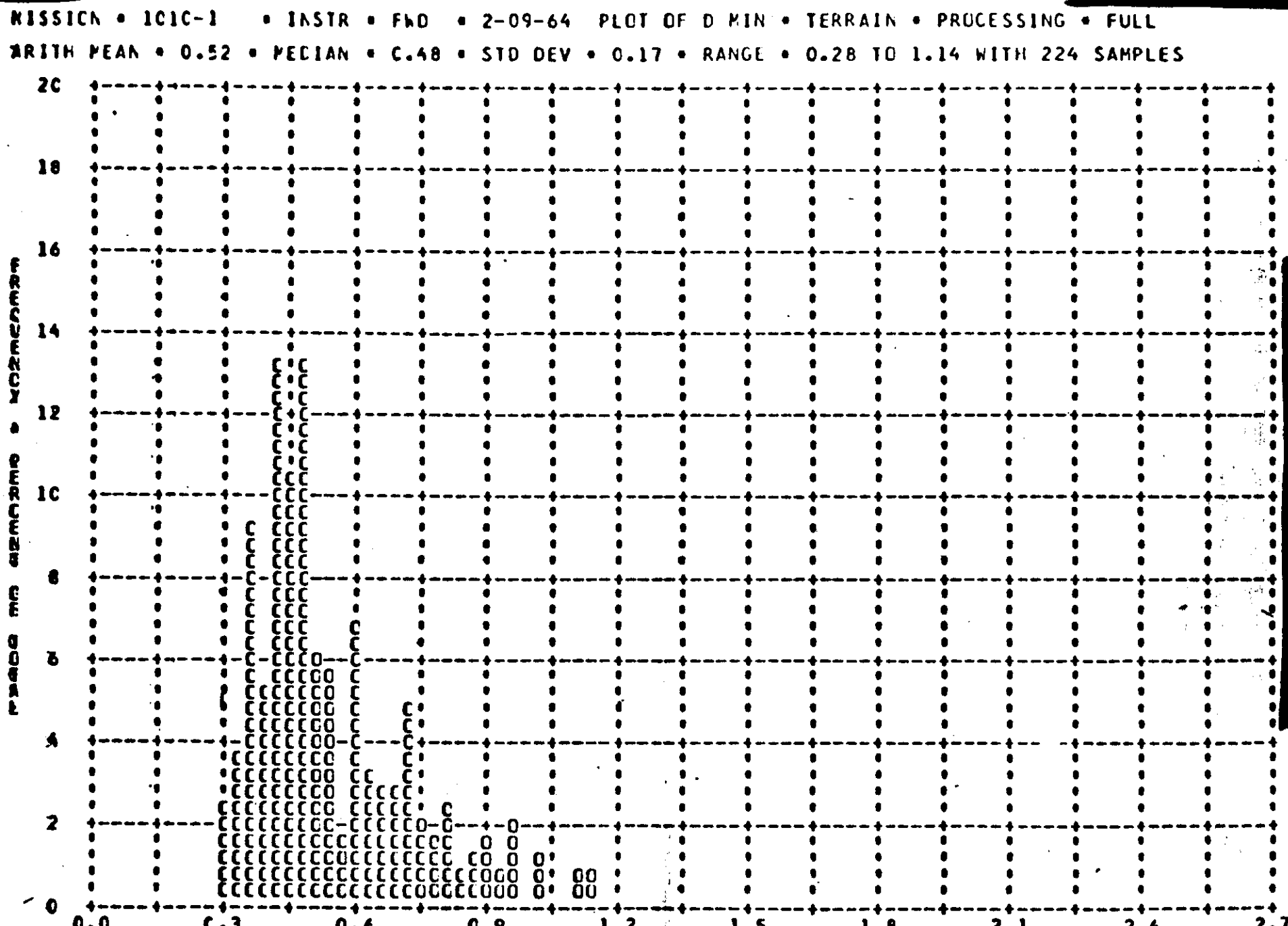


FIGURE 9-4

[redacted]

[redacted]

MISSION • 1010-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.30 • MEDIAN • 1.30 • STD DEV • 0.38 • RANGE • 0.62 TO 2.32 WITH 224 SAMPLES

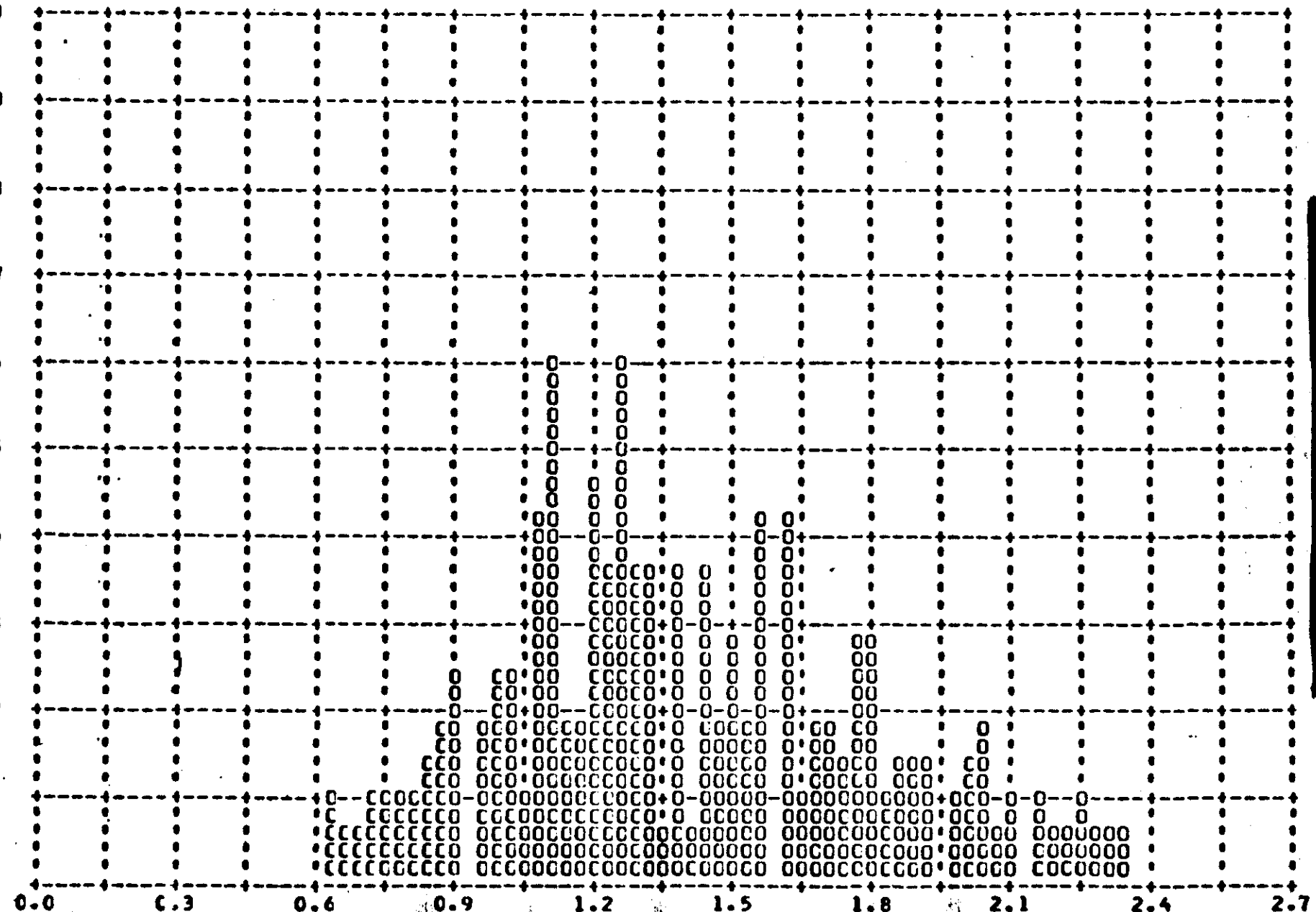


FIGURE 9-5

[redacted]

[redacted]

[redacted]

MISSION • 1010-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • FULL

WRITH MEAN • 2.17 • MEDIAN • 2.20 • STD DEV • 0.21 • RANGE • 1.11 TO 2.42 WITH 218 SAMPLES

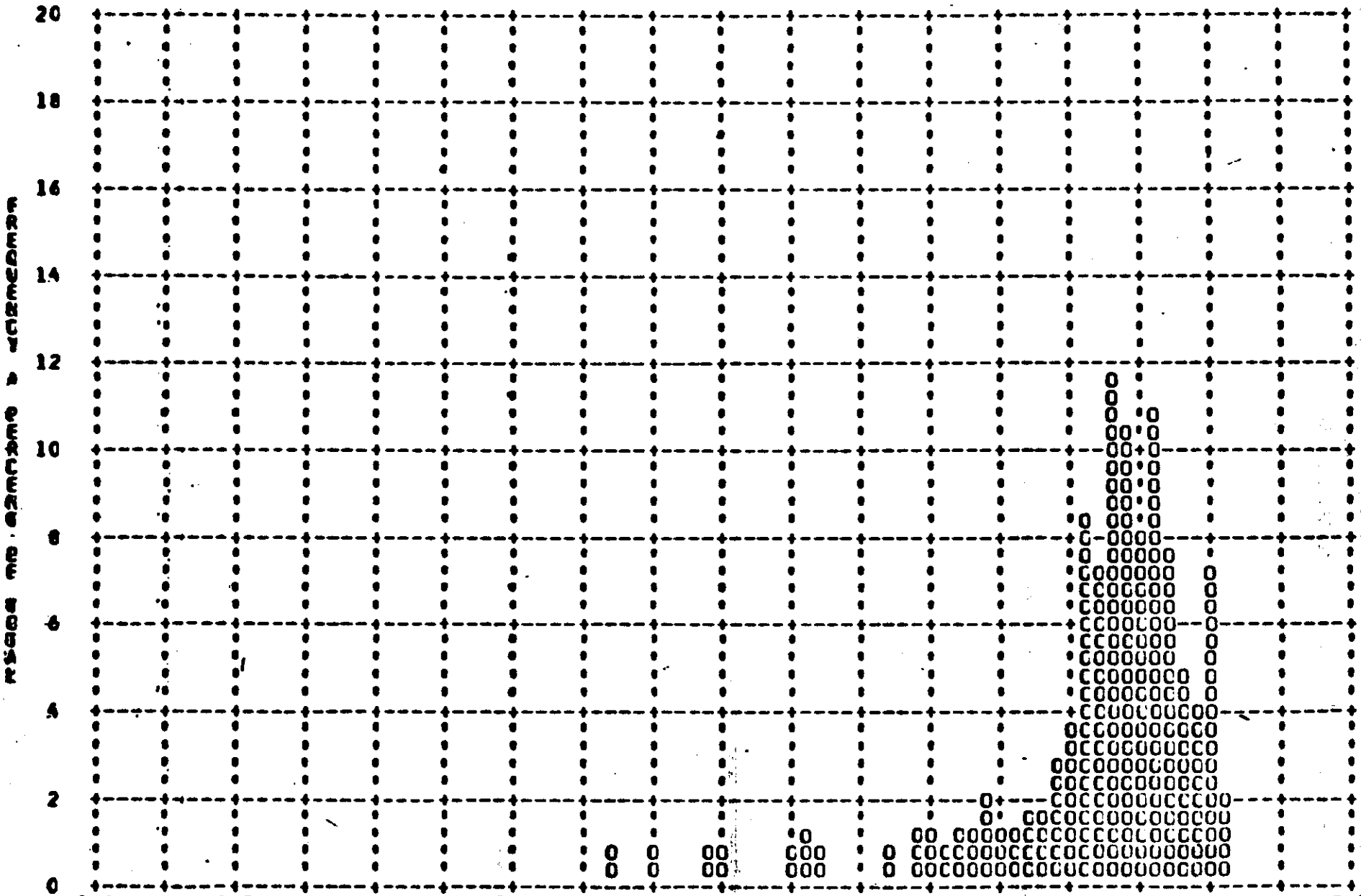
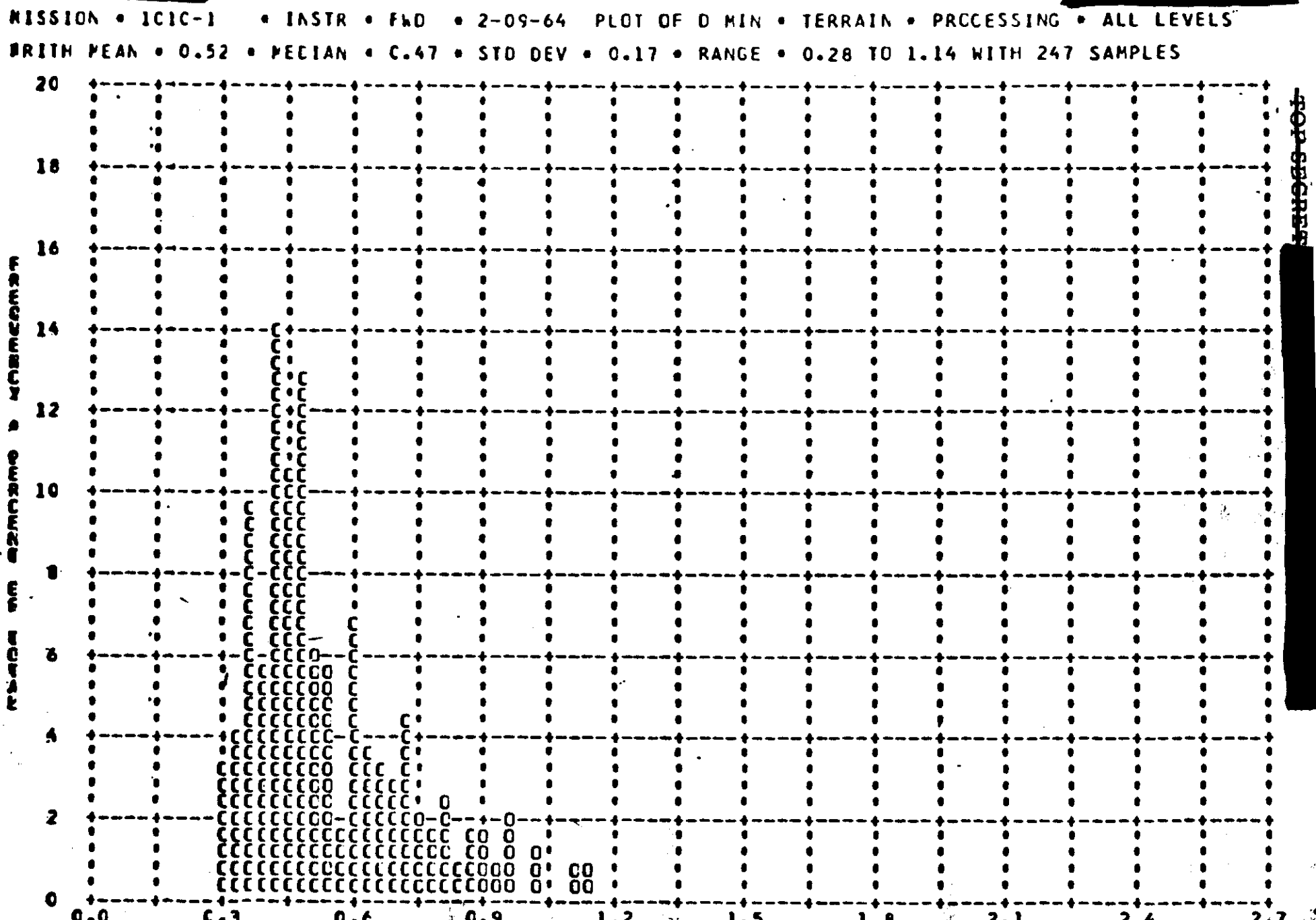


FIGURE 9-6

[redacted]

[redacted]



[redacted]

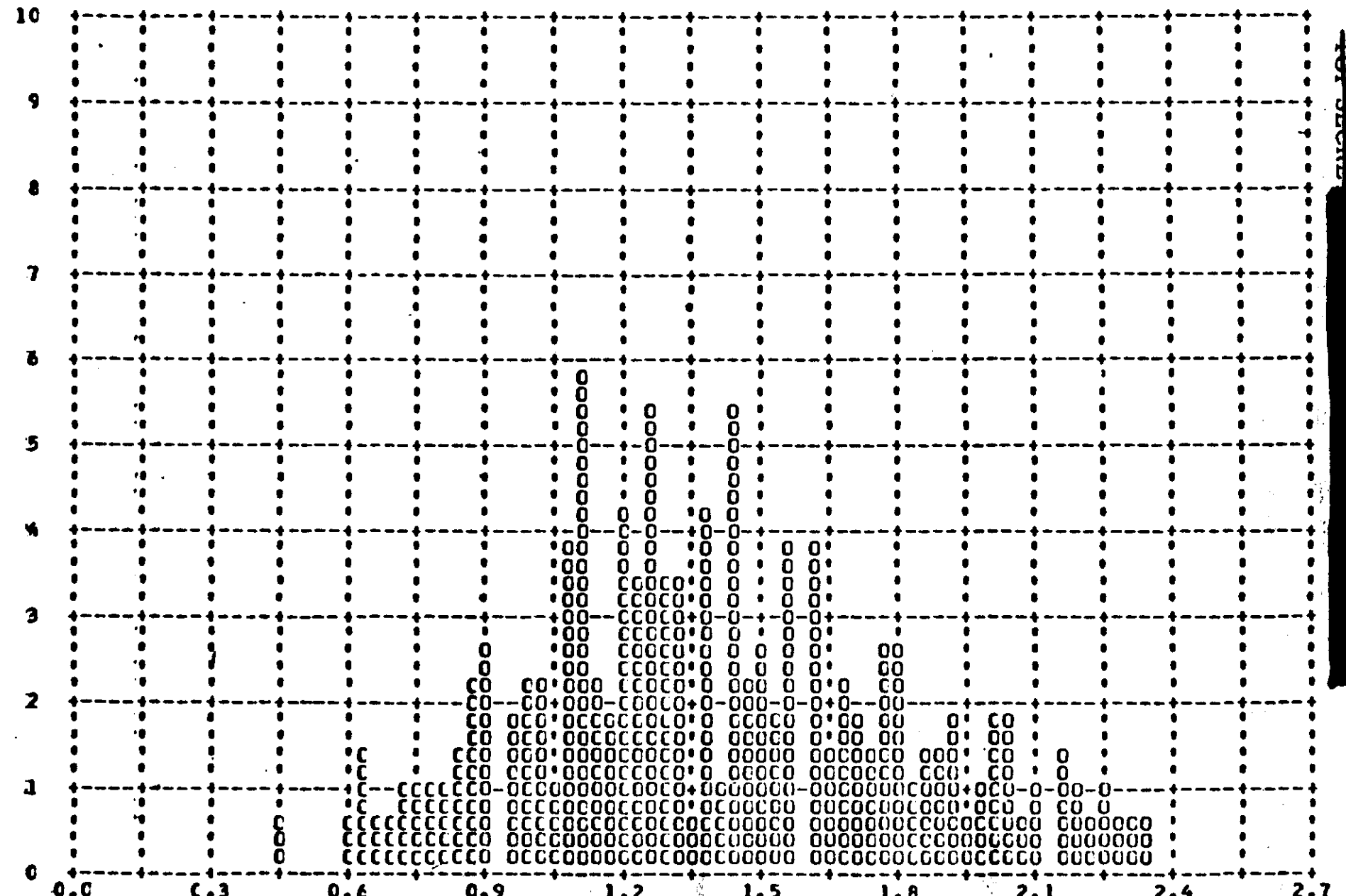
FIGURE 9-7

[redacted]

[redacted]

MISSION • 1C1C-1 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

BRITH MEAN • 1.38 • MEDIAN • 1.32 • STD DEV • 0.39 • RANGE • 0.43 TO 2.32 WITH 247 SAMPLES



[redacted]

FIGURE 9-8

[redacted]

[redacted]

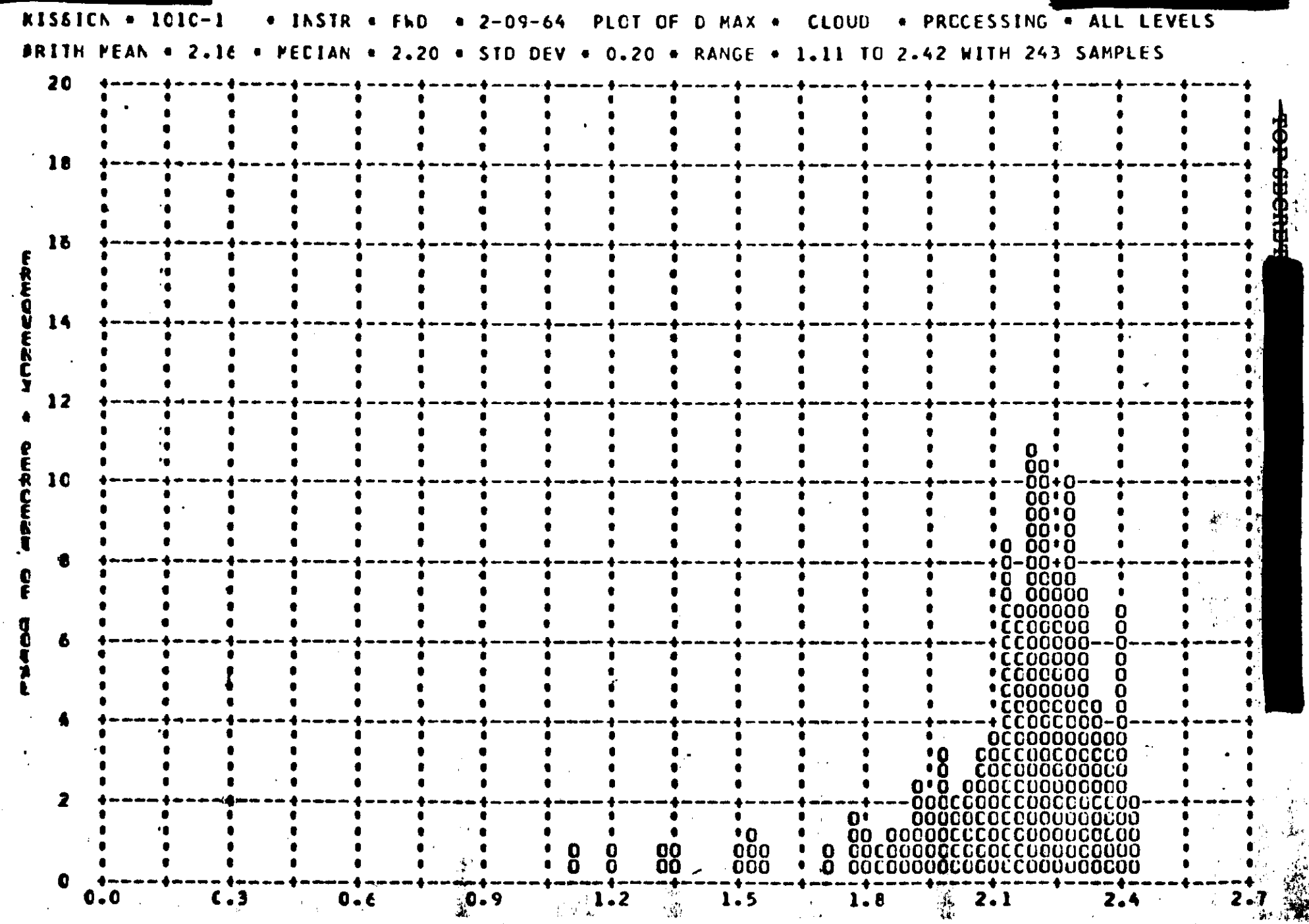


FIGURE 9-6

[redacted]

MISSION • 1010-1 • 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
C.C1	C	C	0	C	C	0	0	0	0	0	0	0
C.C2	C	C	0	C	C	0	0	0	0	0	0	0
C.C3	C	C	0	C	C	0	0	0	0	0	0	0
C.C4	C	C	0	C	C	0	0	0	0	0	0	0
C.C5	C	C	0	C	C	0	0	0	0	0	0	0
C.C6	C	C	0	C	C	0	0	0	0	0	0	0
C.C7	C	C	0	C	C	0	0	0	0	0	0	0
C.C8	C	C	0	C	C	0	0	0	0	0	0	0
C.C9	C	C	0	C	C	0	0	0	0	0	0	0
C.1C	C	C	0	C	C	0	0	0	0	0	0	0
C.11	C	C	0	C	C	0	0	0	0	0	0	0
C.12	C	C	0	C	C	0	0	0	0	0	0	0
C.13	C	C	0	C	C	0	0	0	0	0	0	0
C.14	C	C	0	C	C	0	0	0	0	0	0	0
C.15	C	C	0	C	C	0	0	0	0	0	0	0
C.16	C	C	0	C	C	0	0	0	0	0	0	0
C.17	C	C	0	C	C	0	0	0	0	0	0	0
C.18	C	C	0	C	C	0	0	0	0	0	0	0
C.19	C	C	0	C	C	0	0	0	0	0	0	0
C.2C	C	C	0	C	C	0	0	0	0	0	0	0
C.21	C	C	0	C	C	0	0	0	0	0	0	0
C.22	C	C	0	C	C	0	0	0	0	0	0	0
C.23	C	C	0	C	C	0	0	0	0	0	0	0
C.24	C	C	0	C	C	0	0	0	0	0	0	0
C.25	C	C	0	C	C	0	0	0	0	0	0	0
C.26	C	C	0	C	C	0	0	0	0	0	0	0
C.27	C	C	0	1	C	0	0	0	0	1	0	0
C.28	C	C	0	2	C	0	0	0	0	2	0	0
C.29	C	C	0	1	C	0	0	0	0	1	0	0
C.3C	C	C	0	1	C	0	1	0	0	1	0	0
C.31	C	C	0	1	C	0	2	0	0	2	0	0
C.32	C	C	0	1	C	0	1	0	0	2	0	0
C.33	C	C	0	1	C	0	1	0	0	2	0	0
C.34	C	C	0	1	C	0	4	0	0	4	0	0
C.35	C	C	0	C	C	0	1	0	0	1	0	0
C.36	C	C	0	2	C	0	5	0	0	7	0	0
C.37	C	C	0	3	C	0	8	0	0	11	0	0
C.38	C	C	0	1	C	0	8	0	0	9	0	0
C.39	C	C	0	C	C	0	3	0	0	3	0	0
C.4C	C	C	0	2	C	0	13	0	0	15	0	0
C.41	C	C	0	1	C	0	2	0	0	3	0	0
C.42	C	C	0	4	C	0	6	0	0	10	0	0
C.43	C	C	0	C	C	0	6	0	0	6	0	0
C.44	C	C	0	1	C	0	4	0	0	5	0	0
C.45	C	C	0	2	C	0	2	0	0	4	0	0
C.46	C	C	0	4	C	0	7	0	0	11	0	0
C.47	C	C	0	1	C	0	6	0	0	7	0	0
C.48	C	C	0	C	C	0	10	0	0	10	0	0
C.49	C	C	0	C	C	0	0	0	0	0	0	0
C.5C	C	C	0	C	C	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	27	0	0	90	0	0	117	0	0

[redacted]

TABLE 9-4

[redacted]

MISSION • 1C1C-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
.51	0	0	0	0	0	0	3	0	0	3	0	0
.52	0	0	0	1	0	0	11	0	0	12	0	0
.53	0	0	0	0	0	0	1	0	0	1	0	0
.54	0	0	0	0	0	0	7	0	0	7	0	0
.55	0	0	0	0	0	0	7	0	0	7	0	0
.56	0	0	0	1	0	0	8	0	0	9	0	0
.57	0	0	0	0	0	0	3	0	0	3	0	0
.58	0	0	0	0	0	0	5	0	0	5	0	0
.59	0	0	0	0	0	0	1	0	0	1	0	0
.60	0	0	0	1	0	0	1	0	0	2	0	0
.61	0	0	0	1	0	0	2	0	0	3	0	0
.62	0	0	0	0	0	0	6	0	0	6	0	0
.63	0	0	0	0	0	0	6	0	0	6	0	0
.64	0	0	0	0	0	0	2	0	0	2	0	0
.65	0	0	0	0	0	0	5	0	0	5	0	0
.66	0	0	0	0	0	0	2	0	0	3	0	0
.67	0	0	0	1	0	0	2	0	0	4	0	0
.68	0	0	0	2	0	0	1	0	0	3	0	0
.69	0	0	0	2	0	0	5	0	0	7	0	0
.70	0	0	0	0	0	0	3	0	0	3	0	0
.71	0	0	0	0	0	0	6	0	0	6	0	0
.72	0	0	0	0	0	0	4	0	0	4	0	0
.73	0	0	0	0	0	0	3	0	0	3	0	0
.74	0	0	0	0	0	0	1	0	0	1	0	0
.75	0	0	0	2	0	0	4	0	0	6	0	0
.76	0	0	0	0	0	0	3	0	0	3	0	0
.77	0	0	0	0	0	0	3	0	0	3	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	2	0	0	2	0	0
.83	0	0	0	0	0	0	4	0	0	4	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	3	0	0	3	0	0
.94	0	0	0	0	0	0	2	0	0	2	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	1	0	0	1	0	0	2	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
1.00	0	0	0	0	0	0	1	0	0	1	0	0
SUBTOTAL	0	0	0	12	0	0	119	18	1	131	18	1

[redacted]

TABLE 9-4

[redacted]

MISSION • 1C1C-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
1.01	0	0	0	0	0	0	0	1	0	0	1	0
1.02	0	0	0	0	0	0	0	1	2	0	1	2
1.03	0	0	0	0	0	0	1	2	0	0	1	2
1.04	0	0	0	0	0	0	1	3	1	0	1	3
1.05	0	0	0	0	0	0	1	2	0	0	1	2
1.06	0	0	0	0	0	0	0	2	0	0	2	0
1.07	0	0	0	0	0	0	0	2	0	0	2	0
1.08	0	0	0	0	0	0	0	5	0	0	5	0
1.09	0	0	0	0	0	0	0	5	0	0	5	0
1.10	0	0	0	0	0	0	0	5	0	0	5	0
1.11	0	0	0	0	0	0	0	5	0	0	5	0
1.12	0	0	0	0	0	0	0	2	0	0	2	0
1.13	0	0	0	0	0	0	0	2	0	0	2	0
1.14	0	0	0	0	0	0	0	4	0	0	4	0
1.15	0	0	0	0	0	0	1	4	0	1	4	0
1.16	0	0	0	0	0	0	0	1	6	0	1	6
1.17	0	0	0	0	0	0	0	1	6	0	1	6
1.18	0	0	0	0	0	0	0	1	3	0	1	3
1.19	0	0	0	0	0	0	1	3	0	1	3	0
1.20	0	0	0	0	0	0	0	3	4	0	3	4
1.21	0	0	0	0	0	0	0	4	0	0	4	0
1.22	0	0	0	0	0	0	0	3	0	0	3	0
1.23	0	0	0	0	0	0	0	3	0	0	3	0
1.24	0	0	0	0	0	0	0	8	1	0	8	1
1.25	0	0	0	0	0	0	0	8	0	0	8	0
1.26	0	0	0	1	0	0	1	0	5	2	0	5
1.27	0	0	0	0	1	0	0	5	2	0	5	2
1.28	0	0	0	0	0	0	0	4	0	0	4	0
1.29	0	0	0	0	0	0	0	4	0	0	4	0
1.30	0	0	0	0	0	0	0	11	0	0	11	0
1.31	0	0	0	0	0	0	0	1	1	0	1	1
1.32	0	0	0	0	0	0	0	1	1	0	1	1
1.33	0	0	0	0	0	0	0	4	1	0	4	1
1.34	0	0	0	0	1	0	0	4	4	0	5	4
1.35	0	0	0	0	0	0	0	3	4	0	3	4
1.36	0	0	0	0	2	0	0	3	0	0	5	0
1.37	0	0	0	0	1	0	0	3	0	0	3	0
1.38	0	0	0	0	0	0	0	2	0	0	2	0
1.39	0	0	0	0	0	0	0	2	0	0	2	0
1.40	0	0	0	0	1	0	0	5	0	0	6	0
1.41	0	0	0	0	0	0	0	1	1	0	1	1
1.42	0	0	0	0	0	1	0	1	1	0	1	1
1.43	0	0	0	0	0	0	0	1	1	0	1	1
1.44	0	0	0	0	1	0	0	1	6	0	1	7
1.45	0	0	0	0	1	0	0	1	0	0	2	0
1.46	0	0	0	0	1	0	0	2	0	0	2	0
1.47	0	0	0	0	2	0	0	2	0	0	2	0
1.48	0	0	0	0	2	0	0	2	0	0	2	0
1.49	0	0	0	0	0	0	0	2	0	0	2	0
1.50	0	0	0	0	2	0	0	6	1	0	8	1
SUBTOTAL	0	0	0	1	15	1	6	124	4	7	139	5

[redacted]

TABLE 9-4

[redacted]

MISSION • 1010-1 • 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	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	0	0	0	0	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	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	2	0	2	2	0	2	3
SUBTOTAL	0	0	0	0	20	4	0	59	16	0	79	20

[redacted]

TABLE 9-4

[redacted]

MISSION • 1010-1 • 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	2	0	0	1
2.02	0	0	0	0	0	0	0	0	0	0	0	0
2.03	0	0	0	0	0	1	0	0	2	0	0	1
2.04	0	0	0	0	0	0	0	0	0	0	0	0
2.05	0	0	0	0	0	1	0	0	3	0	0	1
2.06	0	0	0	0	0	0	0	0	1	0	0	1
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	1	0	0	1	0	0	1
2.09	0	0	0	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	1	0	0	1	0	0	1
2.11	0	0	0	0	0	1	0	0	1	0	0	1
2.12	0	0	0	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	0	1	0	0	2	0	0	1
2.14	0	0	0	0	0	0	0	0	0	0	0	0
2.15	0	0	0	0	0	1	0	0	1	0	0	1
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	1	0	0	1	0	0	1
2.19	0	0	0	0	0	0	0	0	0	0	0	0
2.20	0	0	0	0	0	2	0	1	8	0	1	10
2.21	0	0	0	0	0	1	0	0	3	0	0	4
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	1	0	0	1
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	1	0	0	1	0	0	1
2.26	0	0	0	0	0	1	0	1	5	0	1	5
2.27	0	0	0	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	2	0	0	2
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	5	30	0	14	188	0	19	218

[redacted]

TABLE 9-4

[redacted]

MISSION • 1010-1 • 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	.	C	0	0	0	0	0	0	0	0
2.52	C	C	.	C	0	0	0	0	0	0	0	0
2.53	C	C	0	C	0	0	0	0	0	0	0	0
2.54	C	C	0	C	0	0	0	0	0	0	0	0
2.55	C	C	0	C	0	0	0	0	0	0	0	0
2.56	C	C	0	C	0	0	0	0	0	0	0	0
2.57	C	C	0	C	0	0	0	0	0	0	0	0
2.58	C	C	0	C	0	0	0	0	0	0	0	0
2.59	C	C	0	C	0	0	0	0	0	0	0	0
2.60	C	C	0	C	0	0	0	0	0	0	0	0
2.61	C	C	0	C	0	0	0	0	0	0	0	0
2.62	C	C	0	C	0	0	0	0	0	0	0	0
2.63	C	C	0	C	0	0	0	0	0	0	0	0
2.64	C	C	0	C	0	0	0	0	0	0	0	0
2.65	C	C	0	C	0	0	0	0	0	0	0	0
2.66	C	C	0	C	0	0	0	0	0	0	0	0
2.67	C	C	0	C	0	0	0	0	0	0	0	0
2.68	C	C	0	C	0	0	0	0	0	0	0	0
2.69	C	C	0	C	0	0	0	0	0	0	0	0
2.70	C	C	0	C	0	0	0	0	0	0	0	0
SUBTOTAL	C	C	0	0	0	0	0	0	0	0	0	0
TOTAL	C	C	0	40	40	35	215	215	209	255	255	244

MISSION 1010-1 INSTR - AFT 2-09-64 PROCESSING AND EXPOSURE ANA

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	C	C PC	0 PC	0 PC	0 PC	0
INTERMEDIATE	40	C PC	27 PC	67 PC	5 PC	0
FULL	215	11 PC	0 PC	83 PC	6 PC	0
ALL LEVELS	255	9 PC	4 PC	81 PC	6 PC	0

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	0.01-0.19	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]

TABLE 9-4

[redacted]

[redacted]

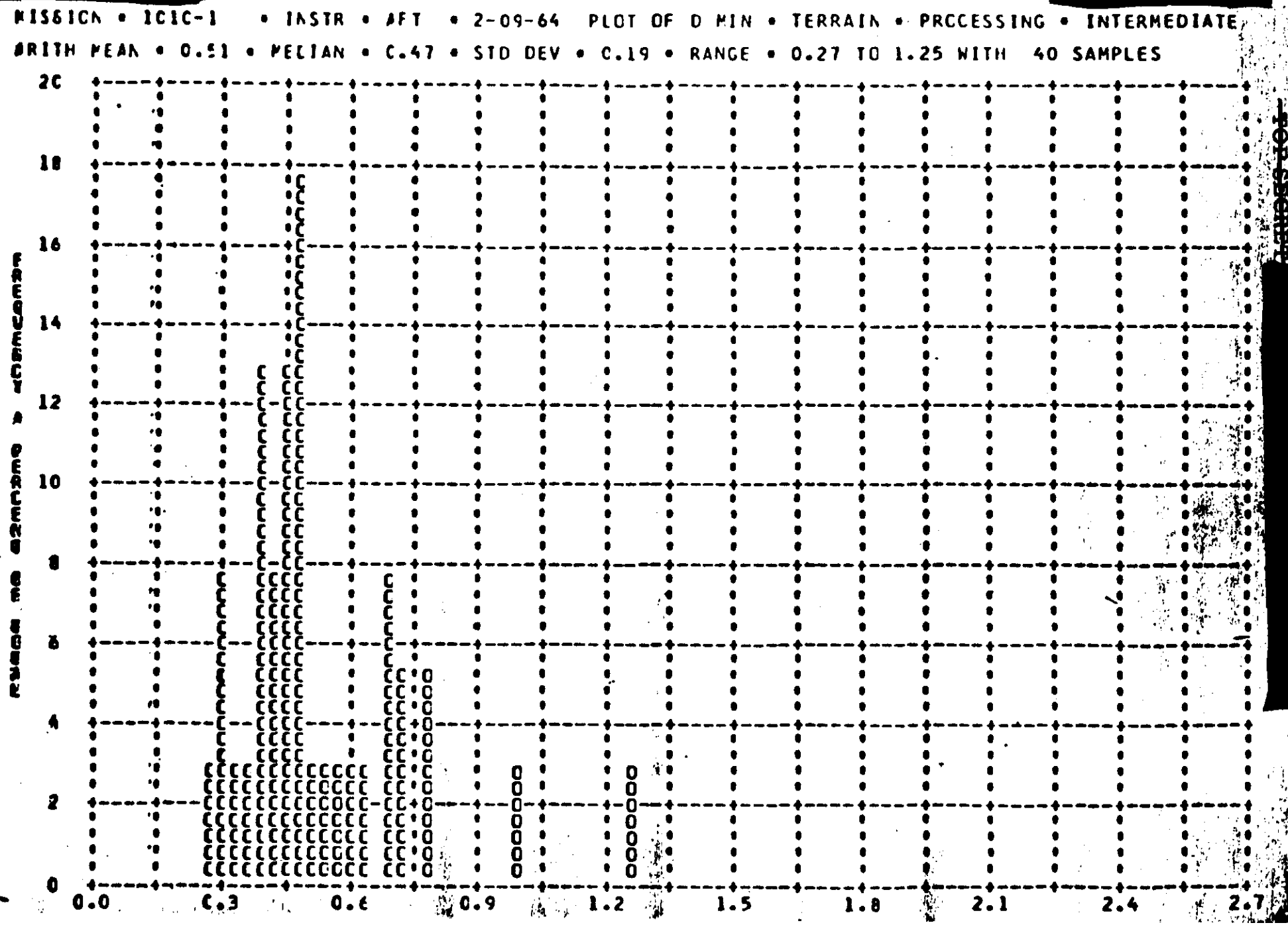
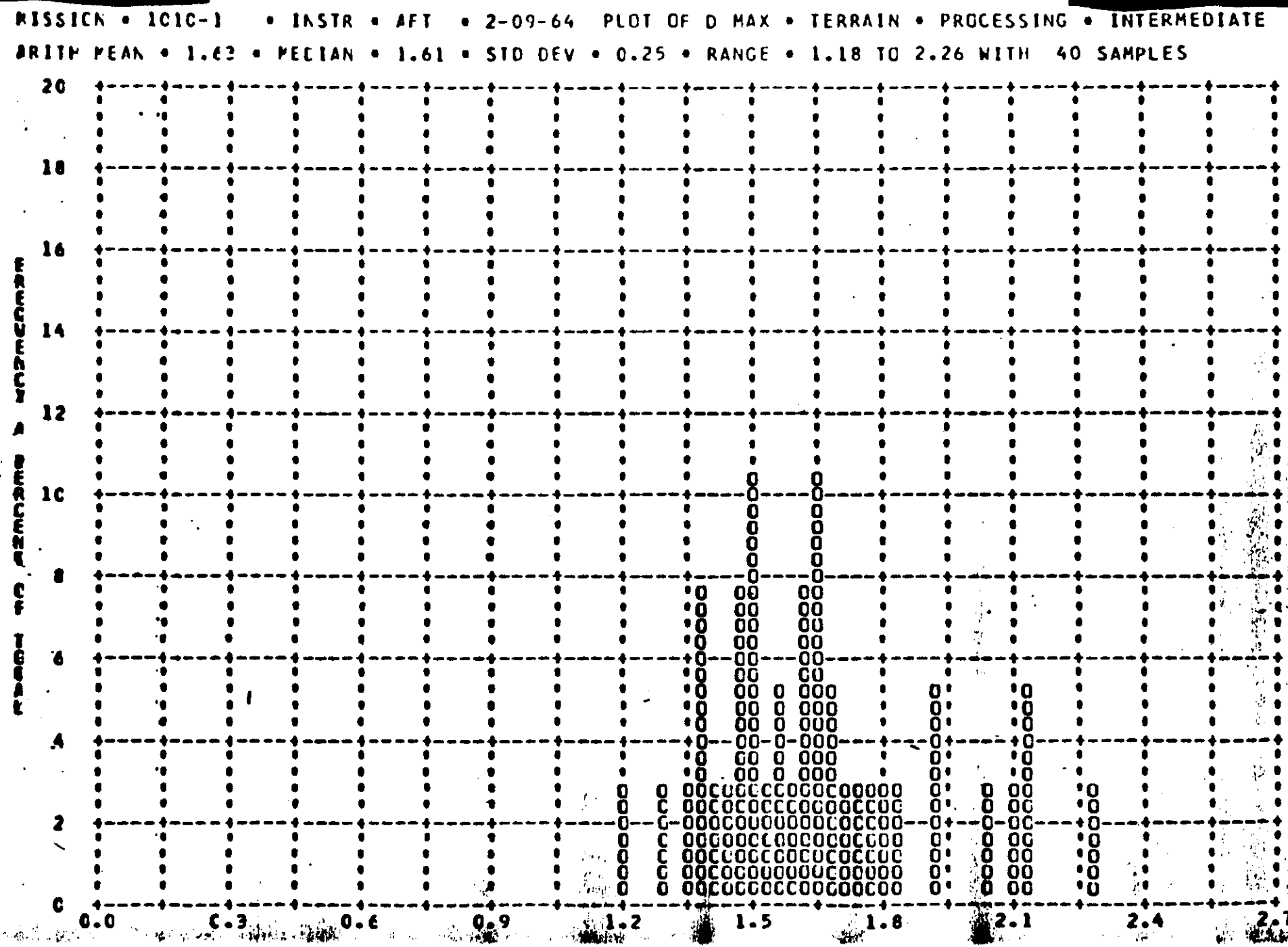


FIGURE 9-10

[redacted]



[redacted]

FIGURE 9-11

[redacted]

[redacted]

MISSION • 1010-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 2.15 • MEDIAN • 2.18 • STD DEV • 0.19 • RANGE • 1.42 TO 2.40 WITH 35 SAMPLES

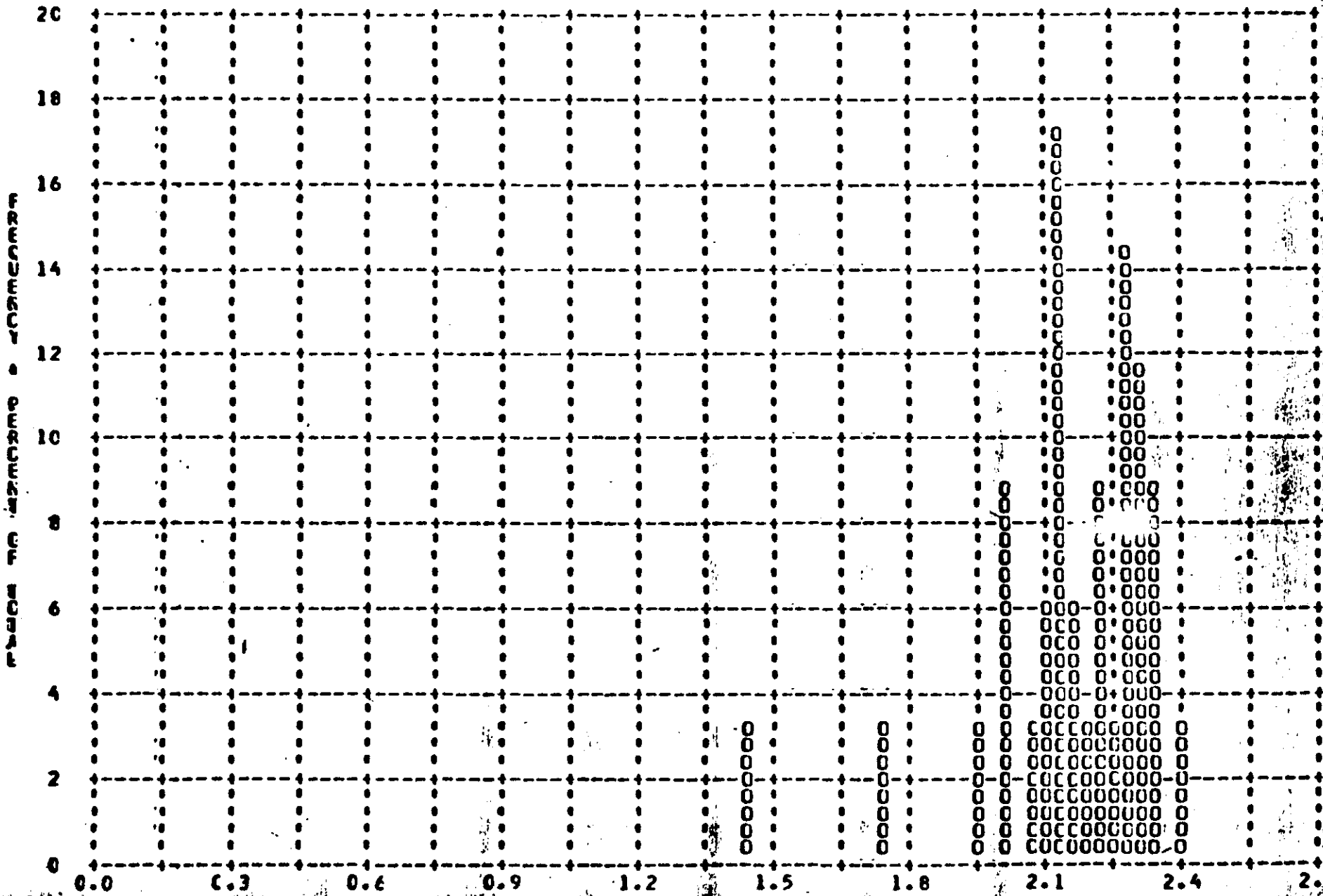


FIGURE 9-12

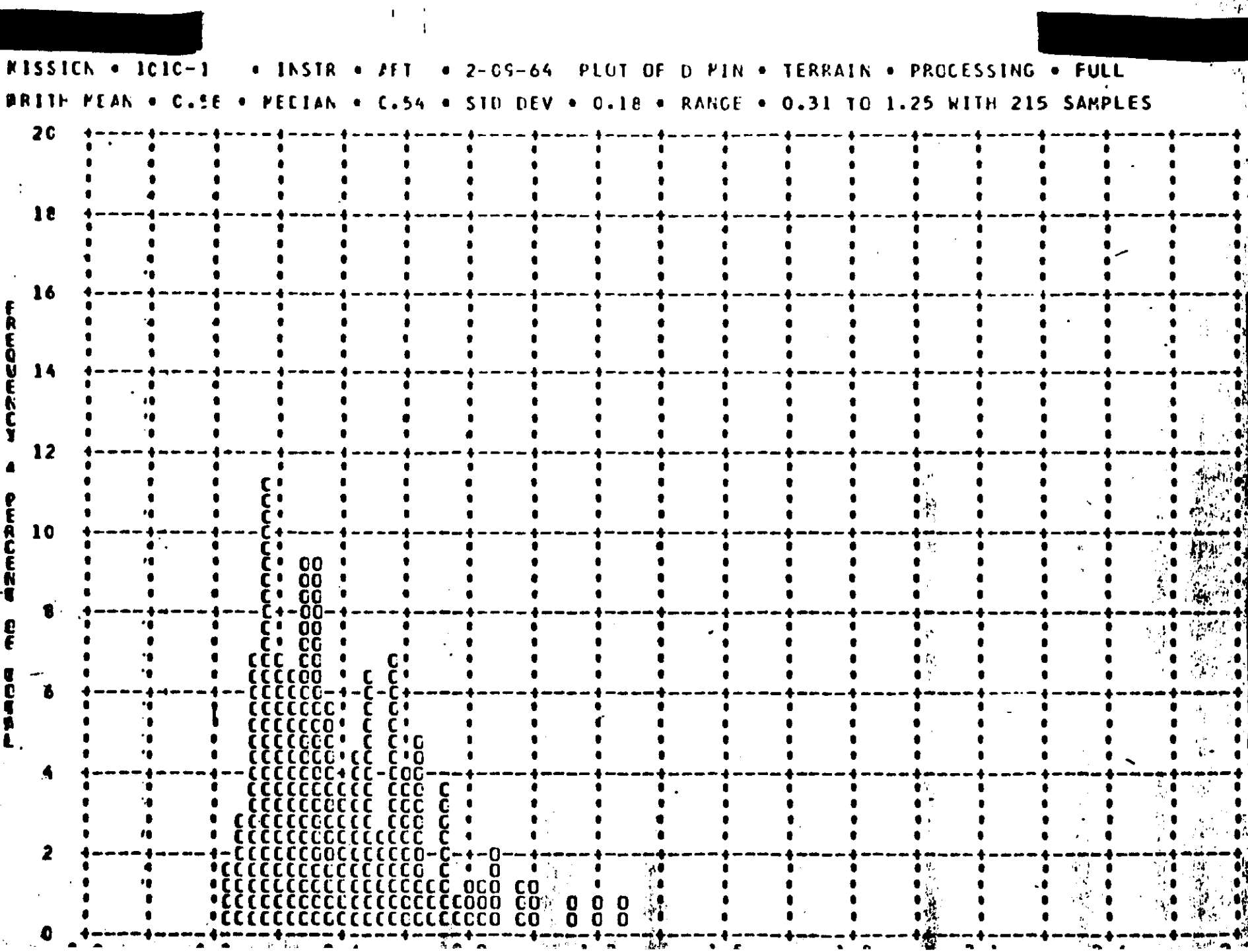

MISSION • 1C1C-1 • INSTR • AFT • 2-09-64 PLOT OF D PIN • TERRAIN • PROCESSING • FULL
BRITH MEAN • 0.58 • MEDIAN • 0.54 • STD DEV • 0.18 • RANGE • 0.31 TO 1.25 WITH 215 SAMPLES
PERCENT OF OBSERVATIONS
20
18
16
14
12
10
8
6
4
2
0

FIGURE 9-13

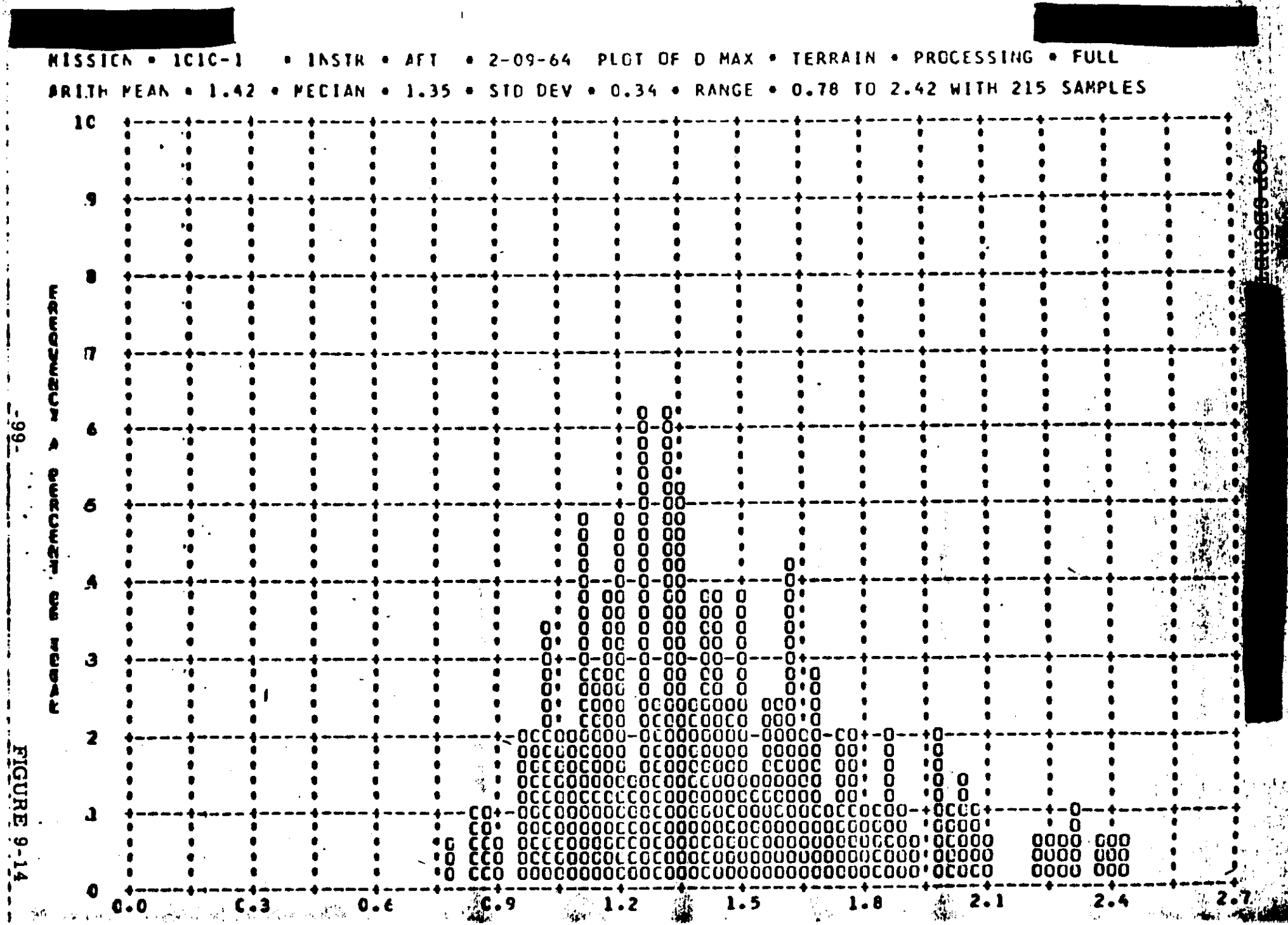

MISSION • 1C1C-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
BRITH MEAN • 1.42 • MEDIAN • 1.35 • STD DEV • 0.34 • RANGE • 0.78 TO 2.42 WITH 215 SAMPLES
NUMBER OF OCCURRENCES PER INCREMENT
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-14

[redacted]

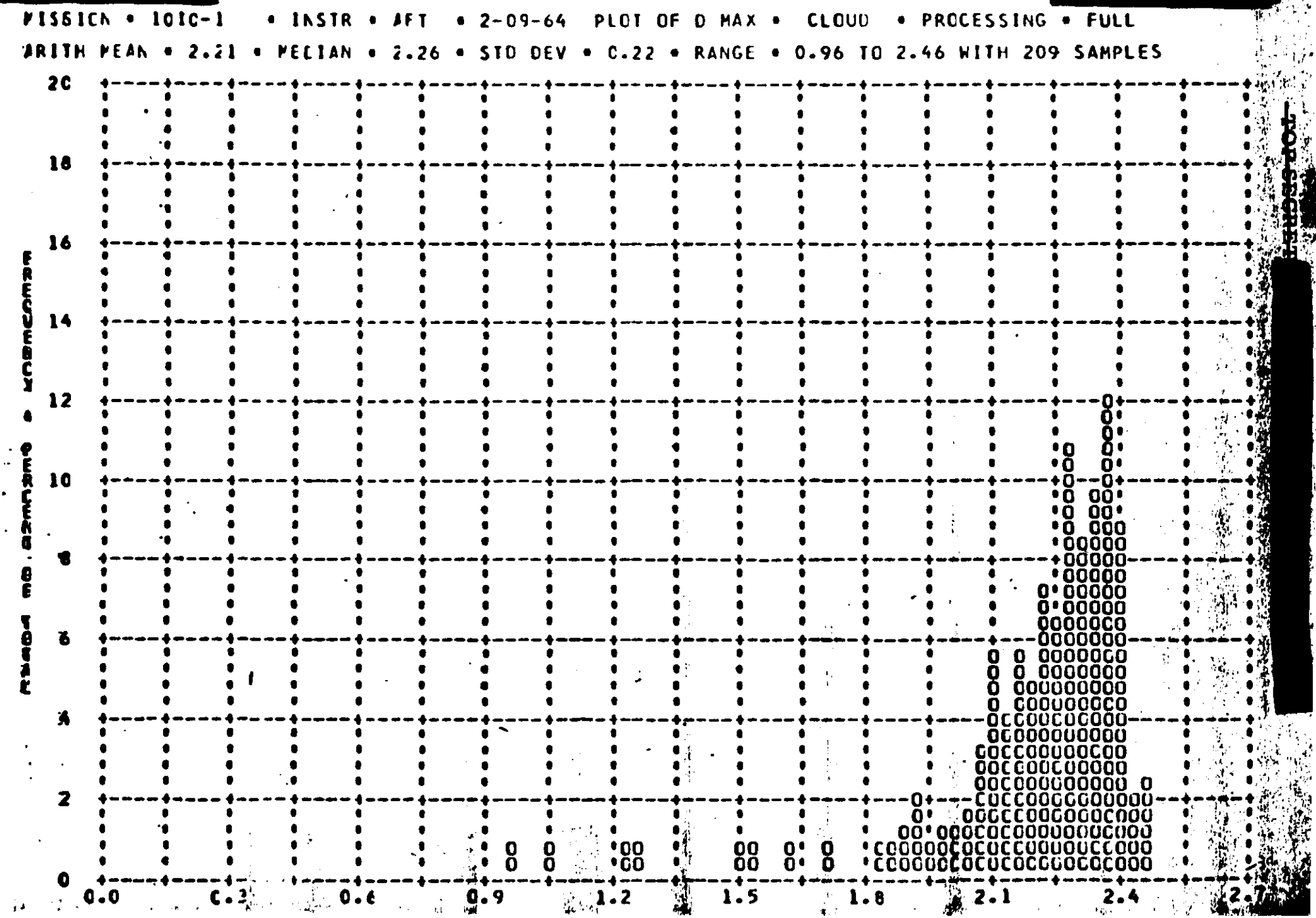


FIGURE 9-15

[redacted]

[redacted]

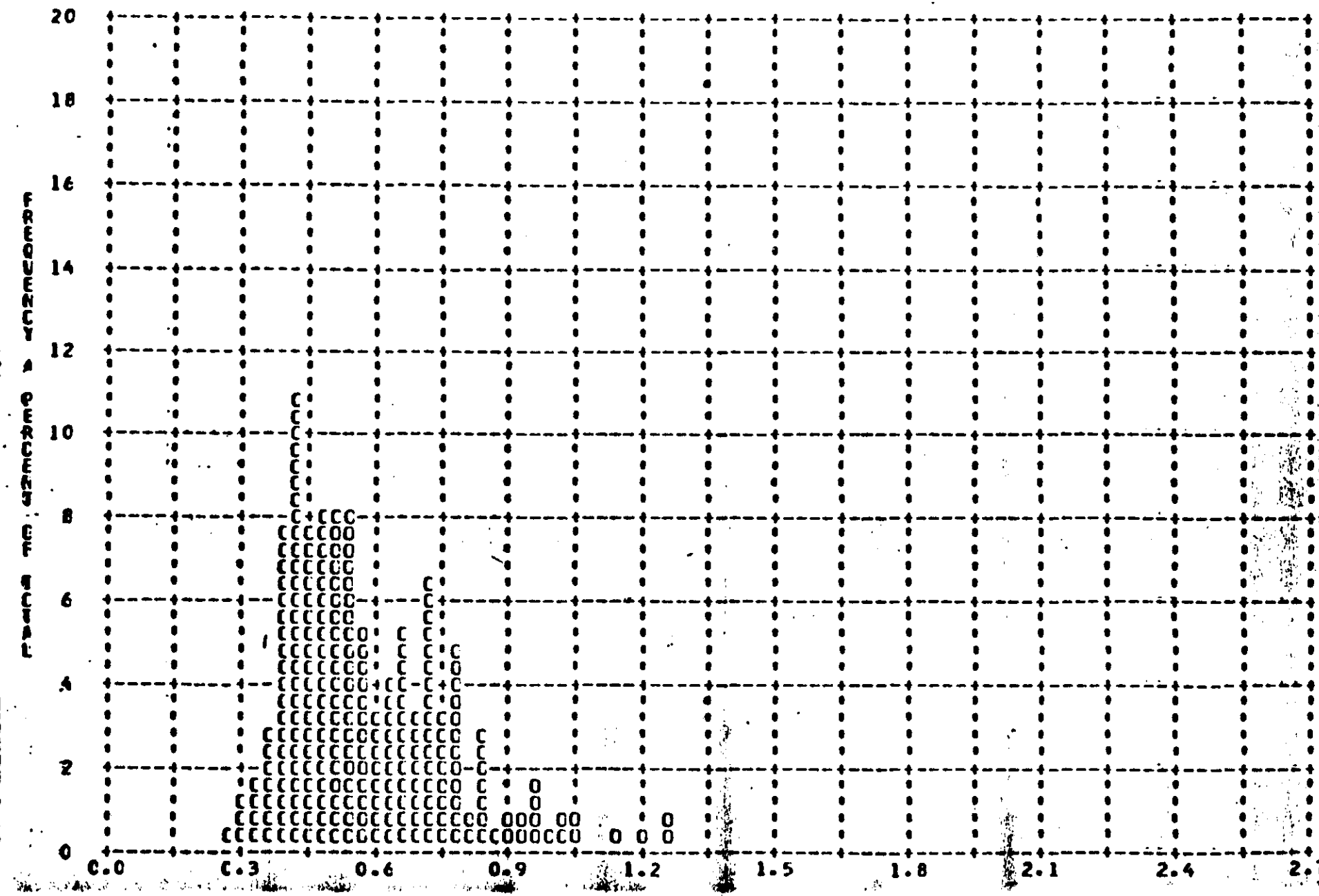


FIGURE 9-16

[redacted]

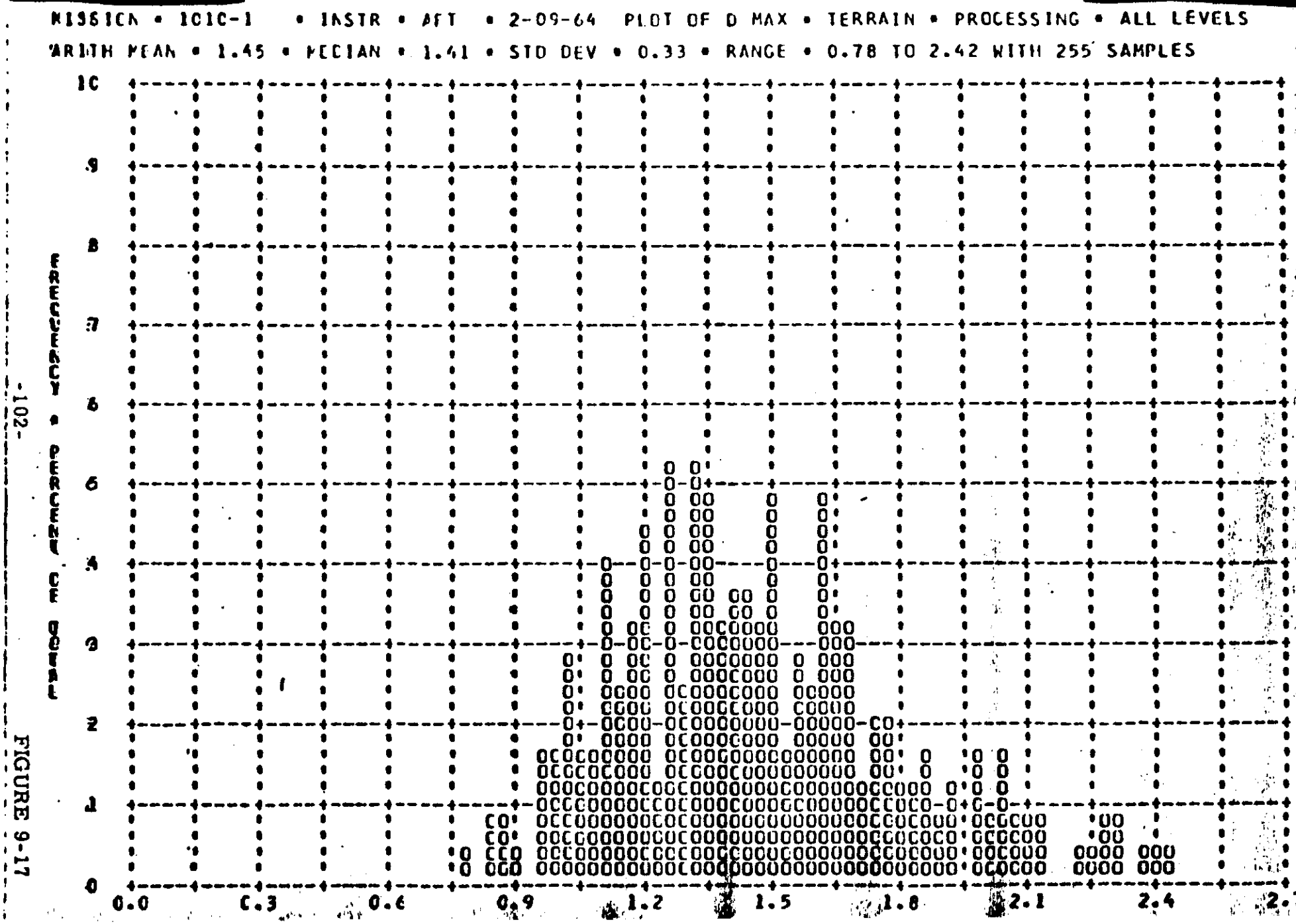

MISSION • 1010-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.45 • MEDIAN • 1.41 • STD DEV • 0.33 • RANGE • 0.78 TO 2.42 WITH 255 SAMPLES
NUMBER • OBSERVED ON BOARD
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-17

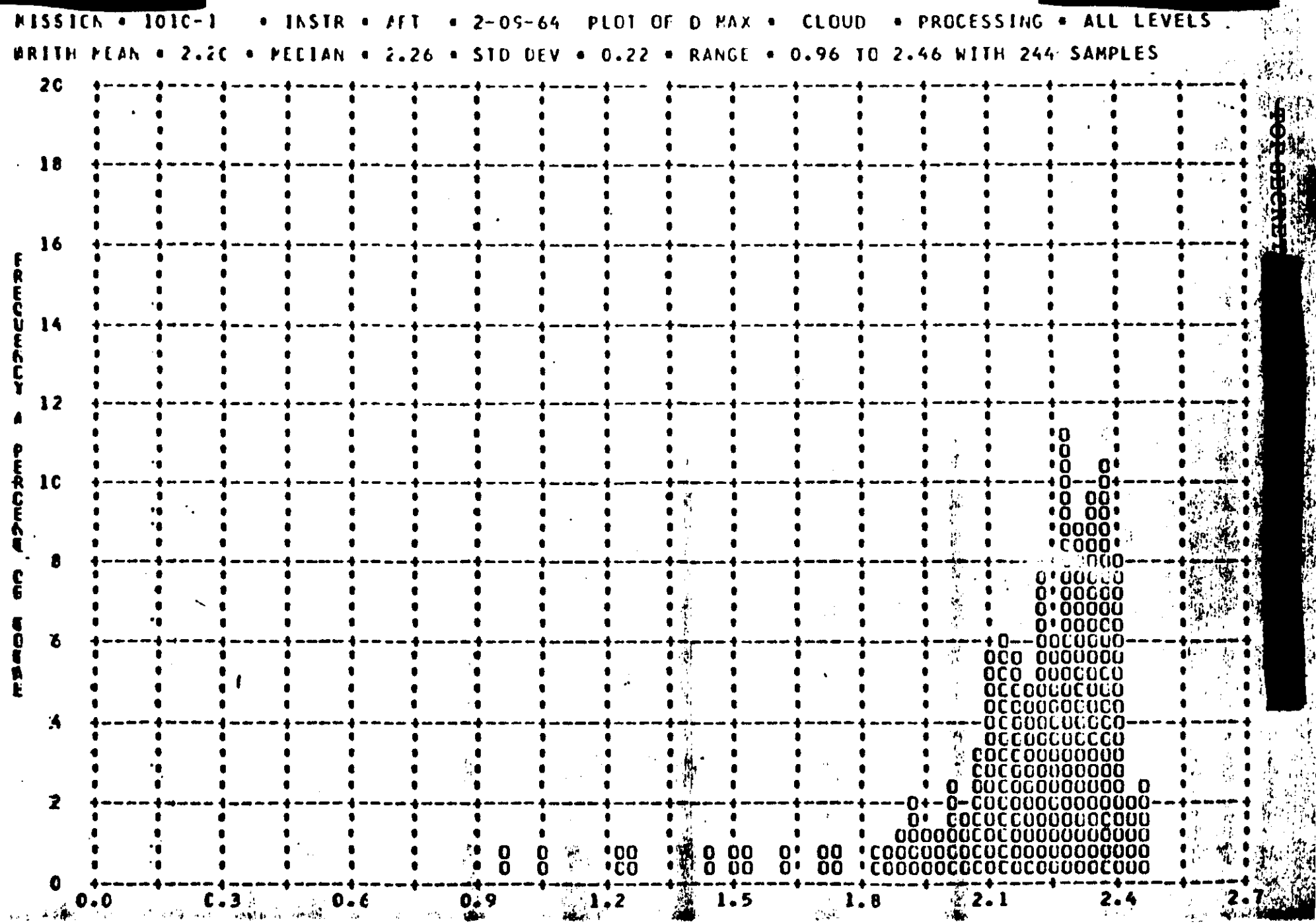

MISSION • 101C-1 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS
WRITH MEAN • 2.20 • MEDIAN • 2.26 • STD DEV • 0.22 • RANGE • 0.96 TO 2.46 WITH 244 SAMPLES
FREQUENCY A PERCENTAGE OF WORST
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-18

[redacted] [redacted] [redacted]

MISSION • 1010-2 • 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
C.C1	C	C	0	C	0	0	0	0	0	0	0	0
C.C2	C	C	0	C	0	0	0	0	0	0	0	0
C.C3	C	C	0	C	0	0	0	0	0	0	0	0
C.C4	C	C	0	C	0	0	0	0	0	0	0	0
C.C5	C	C	0	C	0	0	0	0	0	0	0	0
C.C6	C	C	0	C	0	0	0	0	0	0	0	0
C.C7	C	C	0	C	0	0	0	0	0	0	0	0
C.C8	C	C	0	C	0	0	0	0	0	0	0	0
C.C9	C	C	0	C	0	0	0	0	0	0	0	0
C.10	C	C	0	C	0	0	0	0	0	0	0	0
C.11	C	C	0	C	0	0	0	0	0	0	0	0
C.12	C	C	0	C	0	0	0	0	0	0	0	0
C.13	C	C	0	C	0	0	0	0	0	0	0	0
C.14	C	C	0	C	0	0	0	0	0	0	0	0
C.15	C	C	0	C	0	0	0	0	0	0	0	0
C.16	C	C	0	C	0	0	0	0	0	0	0	0
C.17	C	C	0	C	0	0	0	0	0	0	0	0
C.18	C	C	0	C	0	0	0	0	0	0	0	0
C.19	C	C	0	C	0	0	0	0	0	0	0	0
C.20	C	C	0	C	0	0	0	0	0	0	0	0
C.21	C	C	0	C	0	0	0	0	0	0	0	0
C.22	C	C	0	C	0	0	0	0	0	0	0	0
C.23	C	C	0	C	0	0	0	0	0	0	0	0
C.24	C	C	0	C	0	0	0	0	0	0	0	0
C.25	C	C	0	C	0	0	0	0	0	0	0	0
C.26	C	C	0	C	0	0	1	0	0	1	0	0
C.27	C	C	0	C	0	0	3	0	0	4	0	0
C.28	C	C	0	C	0	0	3	0	0	4	0	0
C.29	C	C	0	C	0	0	8	0	0	12	0	0
C.30	C	C	0	4	0	0	8	0	0	12	0	0
C.31	C	C	0	1	0	0	2	0	0	3	0	0
C.32	C	C	0	1	0	0	8	0	0	9	0	0
C.33	C	C	0	C	0	0	2	0	0	2	0	0
C.34	C	C	0	C	0	0	7	0	0	7	0	0
C.35	C	C	0	C	0	0	4	0	0	4	0	0
C.36	C	C	0	2	0	0	9	0	0	11	0	0
C.37	C	C	0	1	0	0	4	0	0	5	0	0
C.38	C	C	0	1	0	0	8	0	0	9	0	0
C.39	C	C	0	C	0	0	1	0	0	1	0	0
C.40	C	C	0	C	0	0	7	0	0	7	0	0
C.41	C	C	0	C	0	0	2	0	0	2	0	0
C.42	C	C	0	C	0	0	8	0	0	8	0	0
C.43	C	C	0	C	0	0	5	0	0	5	0	0
C.44	C	C	0	2	0	0	7	0	0	9	0	0
C.45	C	C	0	C	0	0	4	0	0	4	0	0
C.46	C	C	0	1	0	0	8	0	0	9	0	0
C.47	C	C	0	C	0	0	2	0	0	2	0	0
C.48	C	C	0	C	0	0	10	0	0	10	0	0
C.49	C	C	0	C	0	0	4	0	0	4	0	0
C.50	C	C	0	1	0	0	12	0	0	13	0	0
SUBTOTAL	C	C	0	15	0	0	126	0	0	141	0	0

[redacted]

TABLE 9-5

[redacted]

MISSION • 1010-2 • 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
0.51	0	0	0	0	0	0	3	0	0	3	0	0
0.52	0	0	0	0	0	0	7	1	0	7	1	0
0.53	0	0	0	1	0	0	4	1	0	5	1	0
0.54	0	0	0	0	0	0	2	0	0	2	0	0
0.55	0	0	0	0	0	0	4	0	0	4	0	0
0.56	0	0	0	2	0	0	7	0	0	9	0	0
0.57	0	0	0	0	0	0	1	0	0	1	0	0
0.58	0	0	0	0	0	0	7	0	0	7	0	0
0.59	0	0	0	0	0	0	0	1	0	0	1	0
0.60	0	0	0	1	0	0	3	1	0	4	1	0
0.61	0	0	0	0	0	0	0	0	0	0	0	0
0.62	0	0	0	0	0	0	2	0	0	2	0	0
0.63	0	0	0	0	0	0	3	0	0	3	0	0
0.64	0	0	0	1	0	0	5	1	0	6	1	0
0.65	0	0	0	0	0	0	2	1	0	2	1	0
0.66	0	0	0	0	0	0	3	1	0	3	1	0
0.67	0	0	0	0	0	0	2	1	0	3	1	0
0.68	0	0	0	0	0	0	2	1	0	4	1	0
0.69	0	0	0	0	0	0	2	1	0	4	1	0
0.70	0	0	0	0	0	0	2	1	0	4	1	0
0.71	0	0	0	0	0	0	2	1	0	4	1	0
0.72	0	0	0	0	0	0	2	0	0	2	0	0
0.73	0	0	0	0	0	0	2	0	0	2	0	0
0.74	0	0	0	0	0	0	2	0	0	2	0	0
0.75	0	0	0	1	0	0	4	1	0	4	1	0
0.76	0	0	0	0	0	0	2	0	0	2	0	0
0.77	0	0	0	0	0	0	4	1	0	4	1	0
0.78	0	0	0	0	0	0	4	0	0	4	0	0
0.79	0	0	0	0	0	0	2	0	0	2	0	0
0.80	0	0	0	0	0	0	2	0	0	2	0	0
0.81	0	0	0	1	0	0	1	0	0	2	0	0
0.82	0	0	0	0	0	0	2	0	0	2	0	0
0.83	0	0	0	0	0	0	2	0	0	2	0	0
0.84	0	0	0	0	0	0	2	0	0	2	0	0
0.85	0	0	0	0	0	0	2	1	0	2	1	0
0.86	0	0	0	0	0	0	2	1	0	2	1	0
0.87	0	0	0	1	0	0	2	0	0	3	0	0
0.88	0	0	0	0	0	0	2	0	0	2	0	0
0.89	0	0	0	0	0	0	2	0	0	2	0	0
0.90	0	0	0	0	0	0	3	1	0	3	1	0
0.91	0	0	0	0	0	0	1	2	0	1	2	0
0.92	0	0	0	0	0	0	1	3	0	1	3	0
0.93	0	0	0	0	0	0	1	4	0	1	4	0
0.94	0	0	0	0	0	0	1	3	0	1	3	0
0.95	0	0	0	0	0	0	1	2	0	1	2	0
0.96	0	0	0	0	0	0	1	0	0	1	0	0
0.97	0	0	0	0	0	0	2	0	0	2	0	0
0.98	0	0	0	0	0	0	1	0	0	1	0	0
0.99	0	0	0	0	0	0	2	0	0	2	0	0
1.00	0	0	0	1	2	0	1	4	1	2	6	1
SUBTOTAL	0	0	0	15	4	0	89	54	1	108	58	1

[redacted]

TABLE 9-5

[redacted] [redacted] [redacted]

MISSION • 1C10-2 • 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	0	0	0	1	0	0	1	0
1.02	0	0	0	0	0	0	0	1	4	0	1	4
1.03	0	0	0	0	0	0	0	1	2	0	1	2
1.04	0	0	0	0	0	0	0	1	0	0	1	0
1.05	0	0	0	0	0	1	0	0	1	0	0	2
1.06	0	0	0	0	0	1	0	0	3	0	0	4
1.07	0	0	0	0	0	0	0	0	2	0	0	2
1.08	0	0	0	0	0	0	0	0	2	0	0	2
1.09	0	0	0	0	0	0	0	0	2	0	0	2
1.10	0	0	0	0	0	0	0	1	5	0	1	6
1.11	0	0	0	0	0	0	0	1	1	0	1	1
1.12	0	0	0	0	0	0	0	1	1	0	1	1
1.13	0	0	0	0	0	0	0	1	2	0	1	2
1.14	0	0	0	0	0	1	0	2	1	0	2	3
1.15	0	0	0	0	0	1	0	0	0	0	0	1
1.16	0	0	0	0	0	0	0	1	4	0	1	4
1.17	0	0	0	0	0	0	0	1	1	0	1	1
1.18	0	0	0	0	0	0	0	1	4	0	1	4
1.19	0	0	0	0	0	0	0	0	4	0	0	4
1.20	0	0	0	0	0	1	0	0	6	0	0	7
1.21	0	0	0	0	0	0	0	1	0	0	1	0
1.22	0	0	0	0	0	0	0	0	1	0	0	1
1.23	0	0	0	0	0	0	0	0	1	0	0	1
1.24	0	0	0	0	0	0	0	0	1	0	0	1
1.25	0	0	0	0	0	0	0	0	1	0	0	1
1.26	0	0	0	0	0	0	0	0	1	0	0	1
1.27	0	0	0	0	0	0	0	0	1	0	0	1
1.28	0	0	0	0	0	1	0	0	0	0	0	2
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	0	0	0	0	0	0	0	0	0
1.31	0	0	0	0	0	0	0	0	0	0	0	0
1.32	0	0	0	0	0	0	0	0	0	0	0	0
1.33	0	0	0	0	0	0	0	0	0	0	0	0
1.34	0	0	0	0	0	0	0	0	0	0	0	0
1.35	0	0	0	0	0	0	0	0	0	0	0	0
1.36	0	0	0	0	0	0	0	0	0	0	0	0
1.37	0	0	0	0	0	0	0	0	0	0	0	0
1.38	0	0	0	0	0	0	0	0	0	0	0	0
1.39	0	0	0	0	0	0	0	0	0	0	0	0
1.40	0	0	0	0	0	0	0	0	0	0	0	0
1.41	0	0	0	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	0	0	0	0	0	0	0	0
1.43	0	0	0	0	0	0	0	0	0	0	0	0
1.44	0	0	0	0	0	0	0	0	0	0	0	0
1.45	0	0	0	0	0	0	0	0	0	0	0	0
1.46	0	0	0	0	0	0	0	0	0	0	0	0
1.47	0	0	0	0	0	0	0	0	0	0	0	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	0	0	0	0	0	0	0	0
1.50	0	0	0	0	3	0	0	2	1	0	5	1
SUBTOTAL	0	0	0	0	20	2	0	81	4	0	101	6

[redacted] [redacted] [redacted]

TABLE 9-5

[redacted] [redacted] [redacted]

MISSION • 1010-2 • 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	1	0	0	1	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	0	0	0	0	0
1.54	0	0	0	0	1	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	0	0	0	0	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	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	3	3	1	57	29	1	60	[redacted]

[redacted] [redacted] [redacted]

TABLE 9-5

[redacted]

MISSION • 1010-2 • 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
2.01	0	0	0	0	0	0	0	1	0	0	1	0
2.02	0	0	0	0	0	0	0	2	0	0	3	0
2.03	0	0	0	0	0	0	0	3	0	0	6	0
2.04	0	0	0	0	0	0	0	4	0	0	8	0
2.05	0	0	0	0	0	0	0	3	0	0	3	0
2.06	0	0	0	0	0	0	0	2	0	0	2	0
2.07	0	0	0	0	0	1	0	4	0	0	5	0
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	2	0	0	2	0
2.10	0	0	0	0	0	0	0	1	0	0	2	0
2.11	0	0	0	0	0	1	0	4	0	0	4	0
2.12	0	0	0	0	0	0	0	2	0	0	2	0
2.13	0	0	0	0	0	0	0	2	0	0	2	0
2.14	0	0	0	0	0	0	0	2	0	0	2	0
2.15	0	0	0	0	0	0	0	1	0	0	1	0
2.16	0	0	0	0	0	0	0	2	0	0	2	0
2.17	0	0	0	0	0	1	0	4	0	0	4	0
2.18	0	0	0	0	0	1	0	7	0	0	8	0
2.19	0	0	0	0	0	1	0	10	0	0	12	0
2.20	0	0	0	0	0	0	0	2	0	0	2	0
2.21	0	0	0	0	0	1	0	11	0	0	12	0
2.22	0	0	0	0	0	0	0	3	0	0	3	0
2.23	0	0	0	0	0	1	0	11	0	0	14	0
2.24	0	0	0	0	0	2	0	10	0	0	13	0
2.25	0	0	0	0	0	1	0	10	0	0	16	0
2.26	0	0	0	0	0	1	0	7	0	0	8	0
2.27	0	0	0	0	0	1	0	9	0	0	15	0
2.28	0	0	0	0	0	0	0	2	0	0	2	0
2.29	0	0	0	0	0	1	0	10	0	0	11	0
2.30	0	0	0	0	0	1	0	5	0	0	5	0
2.31	0	0	0	0	0	0	0	2	0	0	2	0
2.32	0	0	0	0	0	1	0	7	0	0	7	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	7	0	0	8	0
2.35	0	0	0	0	0	0	0	3	0	0	3	0
2.36	0	0	0	0	0	0	0	3	0	0	3	0
2.37	0	0	0	0	0	0	0	1	0	0	1	0
2.38	0	0	0	0	0	0	0	3	0	0	3	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	1	0	0	1	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	7	28	0	31	172	0	38	200

[redacted]

TABLE 9-5

[redacted] [redacted] [redacted]

MISSION • 1010-2 • 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	C	C	0	0	0	0	0	0	0
TOTAL	C	C	0	34	34	33	223	223	206	257	257	239

MISSION 1010-2 INSTR - FWD 2-09-64 PROCESSING AND EXPOSURE ANA

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	C	C PC	0 PC	0 PC	0 PC	0
INTERMEDIATE	34	C PC	32 PC	62 PC	6 PC	0
FULL	223	26 PC	0 PC	68 PC	6 PC	0
ALL LEVELS	257	22 PC	4 PC	67 PC	6 PC	0

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	C.C1-C.1S	C.01-C.13	0.14-0.39	0.40-0.90	---------	0.91 AN
INTERMED	0.10-C.17	C.01-C.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AN
FULL	C.18 AND UP	C.01-C.3S	---------	0.40-0.90	0.91-1.69	1.70 AN

[redacted] [redacted] [redacted]

TABLE 9-5

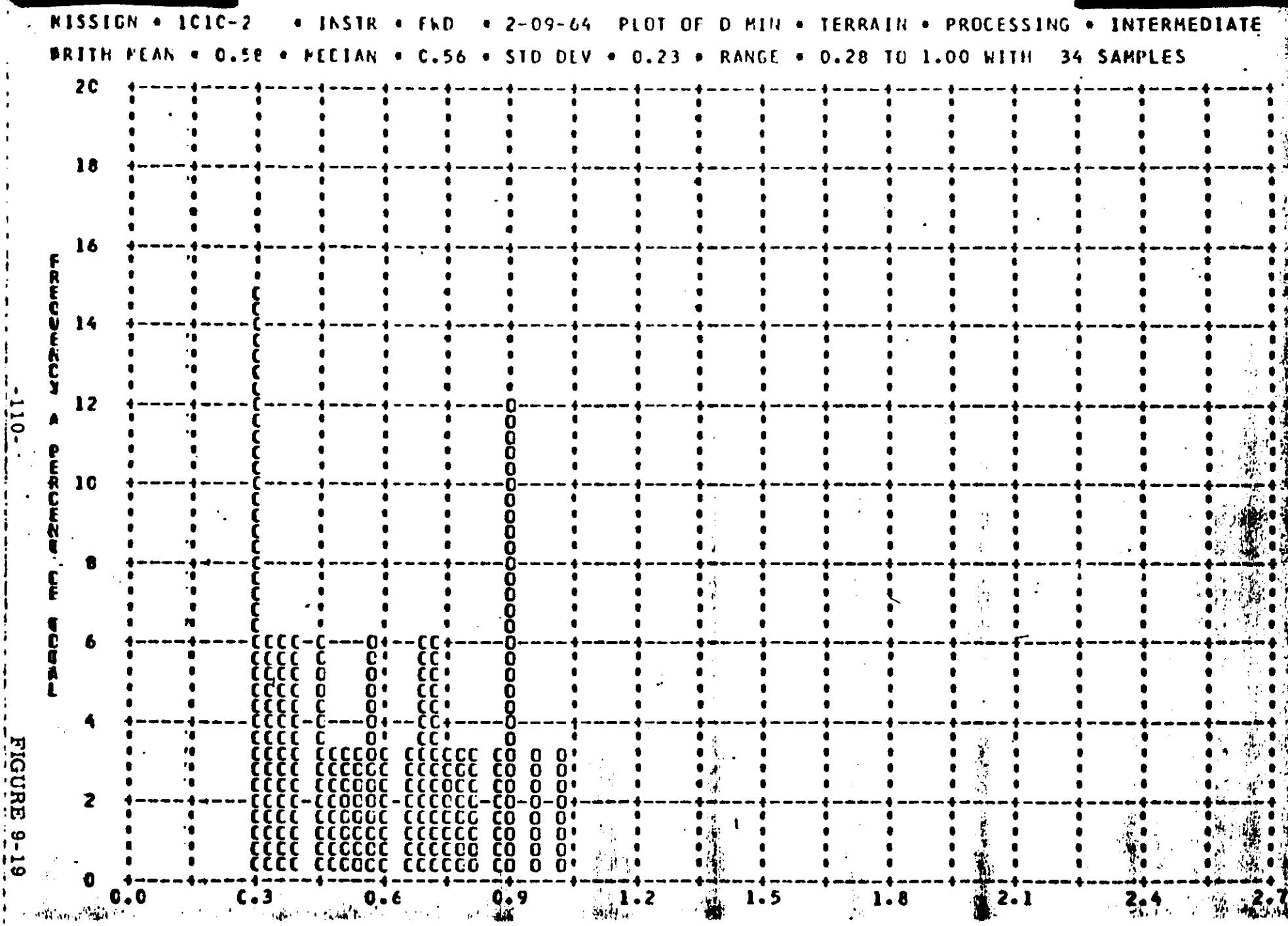

MISSION • 1C1C-2 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
BRITH MEAN • 0.58 • MEDIAN • 0.56 • STD DEV • 0.23 • RANGE • 0.28 TO 1.00 WITH 34 SAMPLES
FREQUENCY A PERCENTAGE PER SCALE
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-19

[redacted]

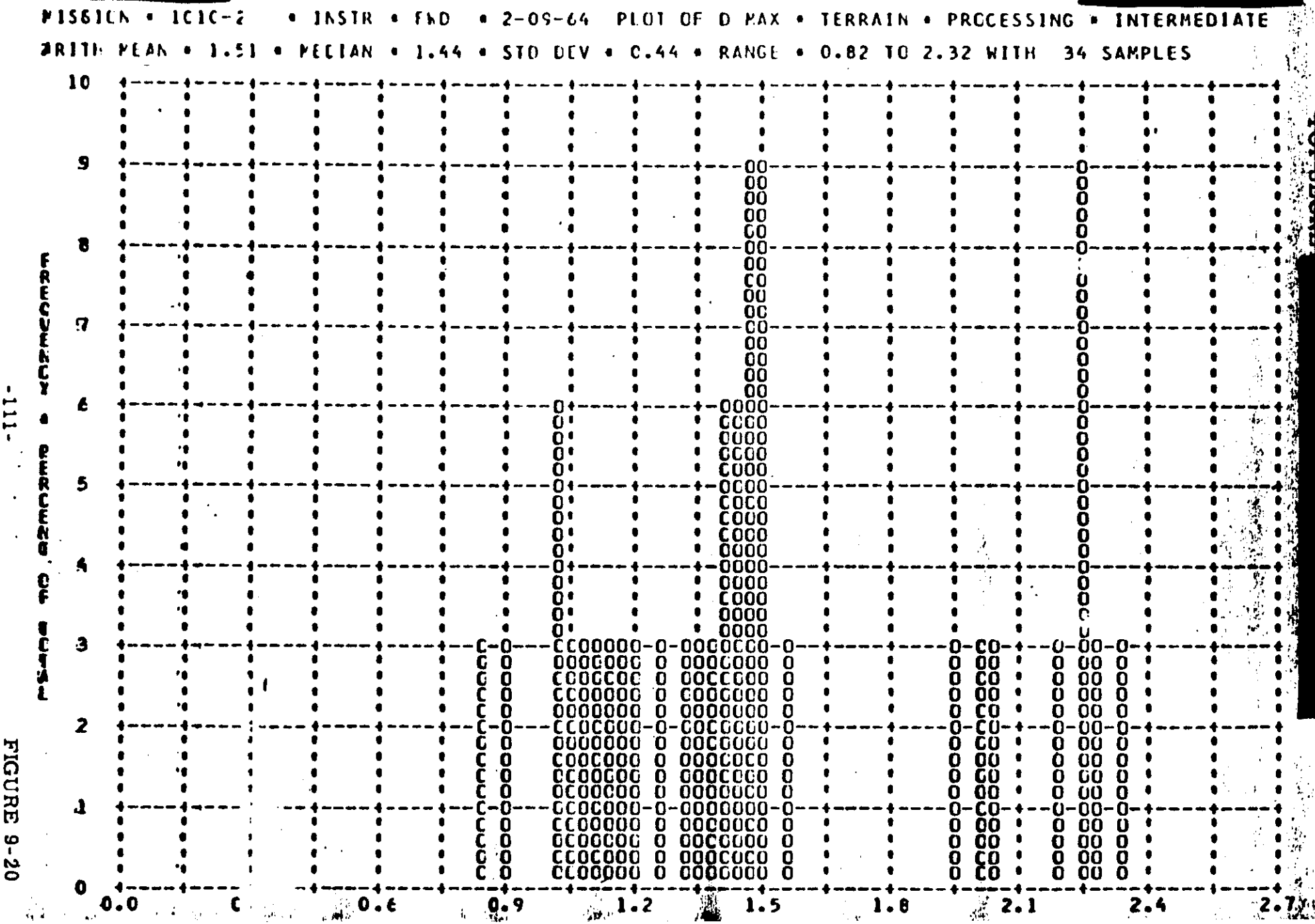


FIGURE 9-20

[redacted]

[redacted]

MISSION • 1010-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

BRITH MEAN • 2.12 • MEDIAN • 2.24 • STD DEV • 0.27 • RANGE • 1.14 TO 2.34 WITH 33 SAMPLES

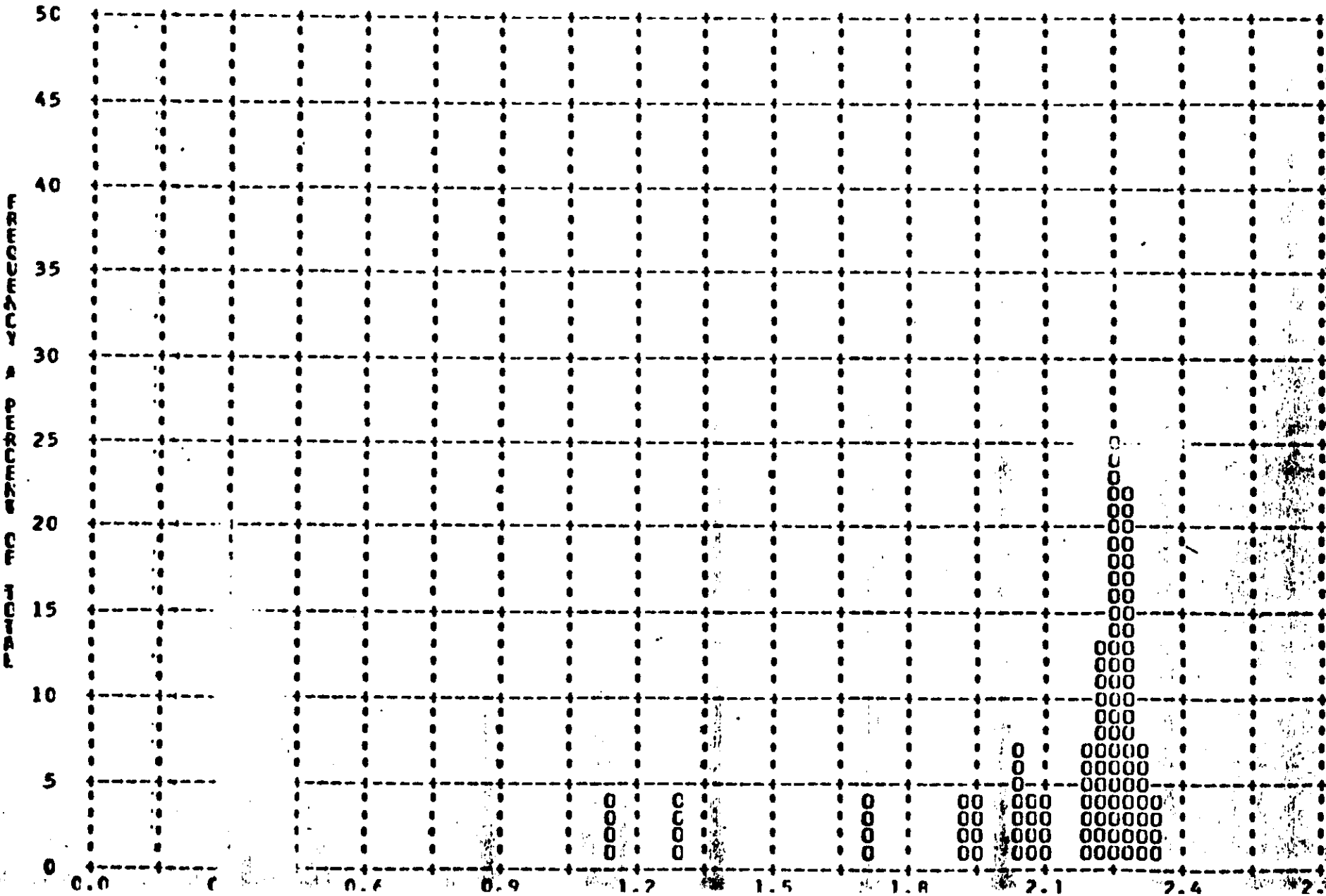


FIGURE 9-21

[redacted]

[redacted]

MISSION • ICIC-2 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.54 • MEDIAN • 0.49 • STD DEV • 0.21 • RANGE • 0.26 TO 1.51 WITH 223 SAMPLES

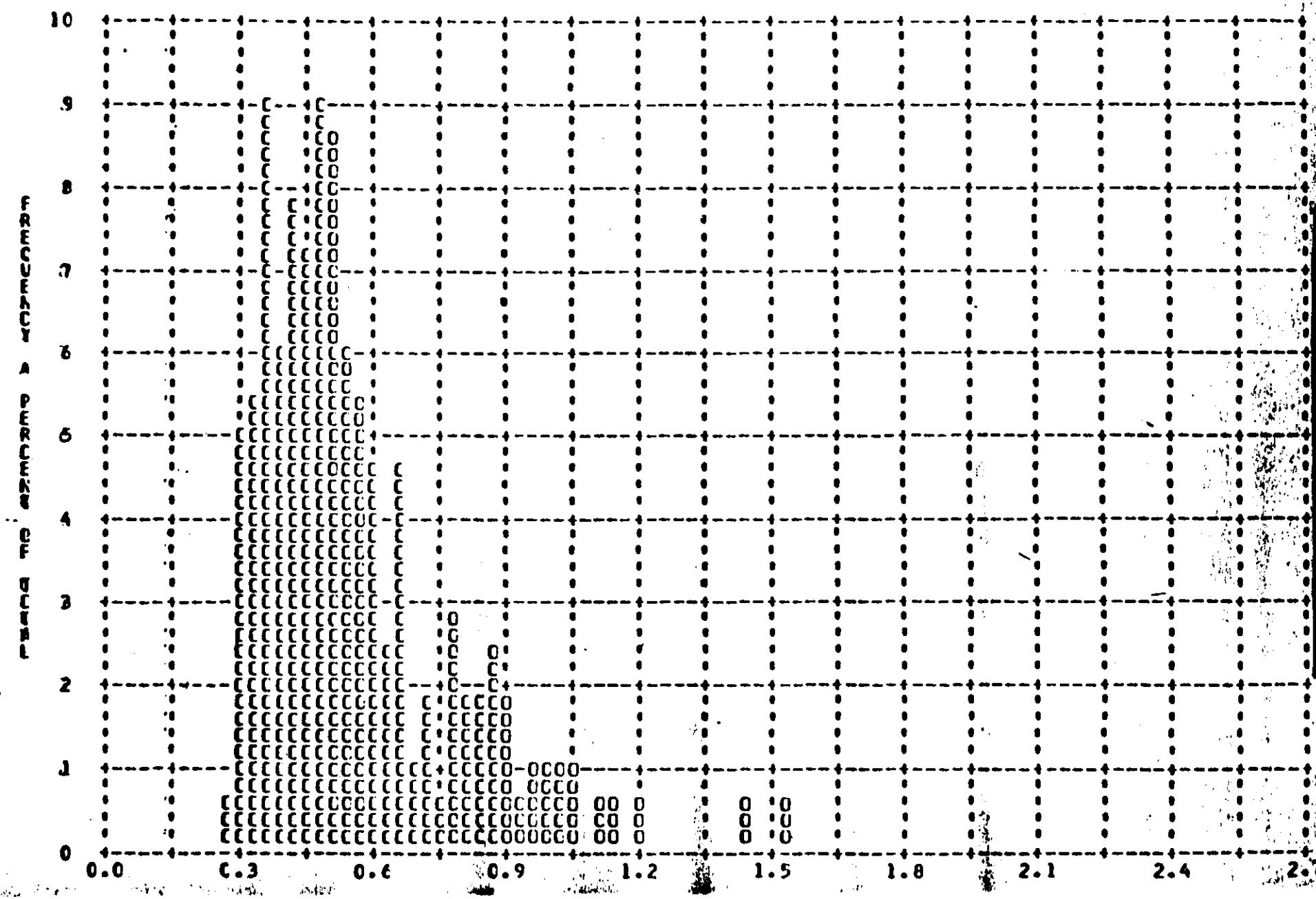


FIGURE 9-22

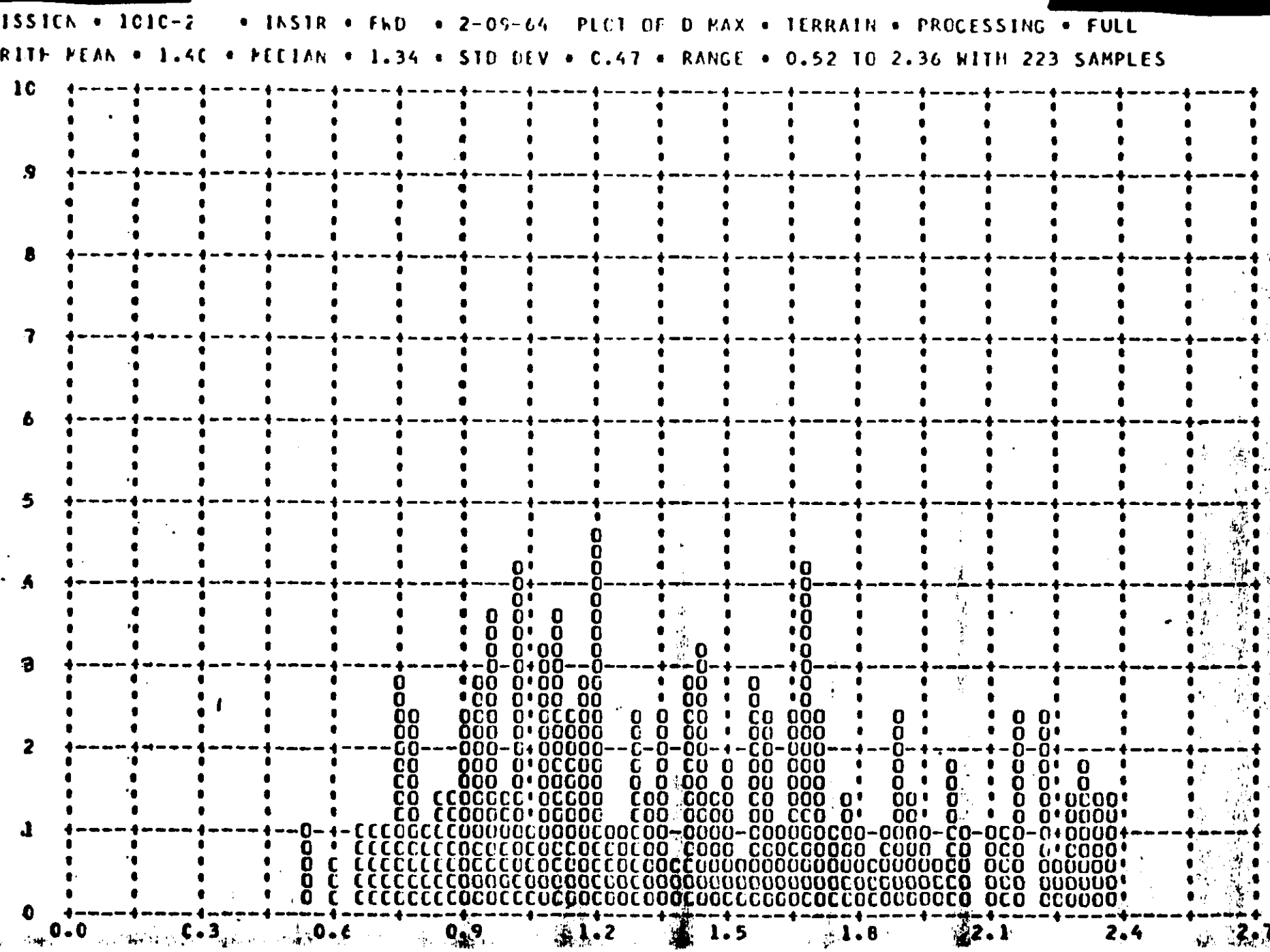

MISSION • 1010-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
BRITE MEAN • 1.40 • MEDIAN • 1.34 • STD DEV • 0.47 • RANGE • 0.52 TO 2.36 WITH 223 SAMPLES
FREQUENCY OF OCCURRENCE
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-23

[redacted]

[redacted]

MISSION • 1C1C-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • FULL

BRITH MEAN • 2.15 • MEDIAN • 2.20 • STD DEV • 0.20 • RANGE • 1.00 TO 2.44 WITH 206 SAMPLES

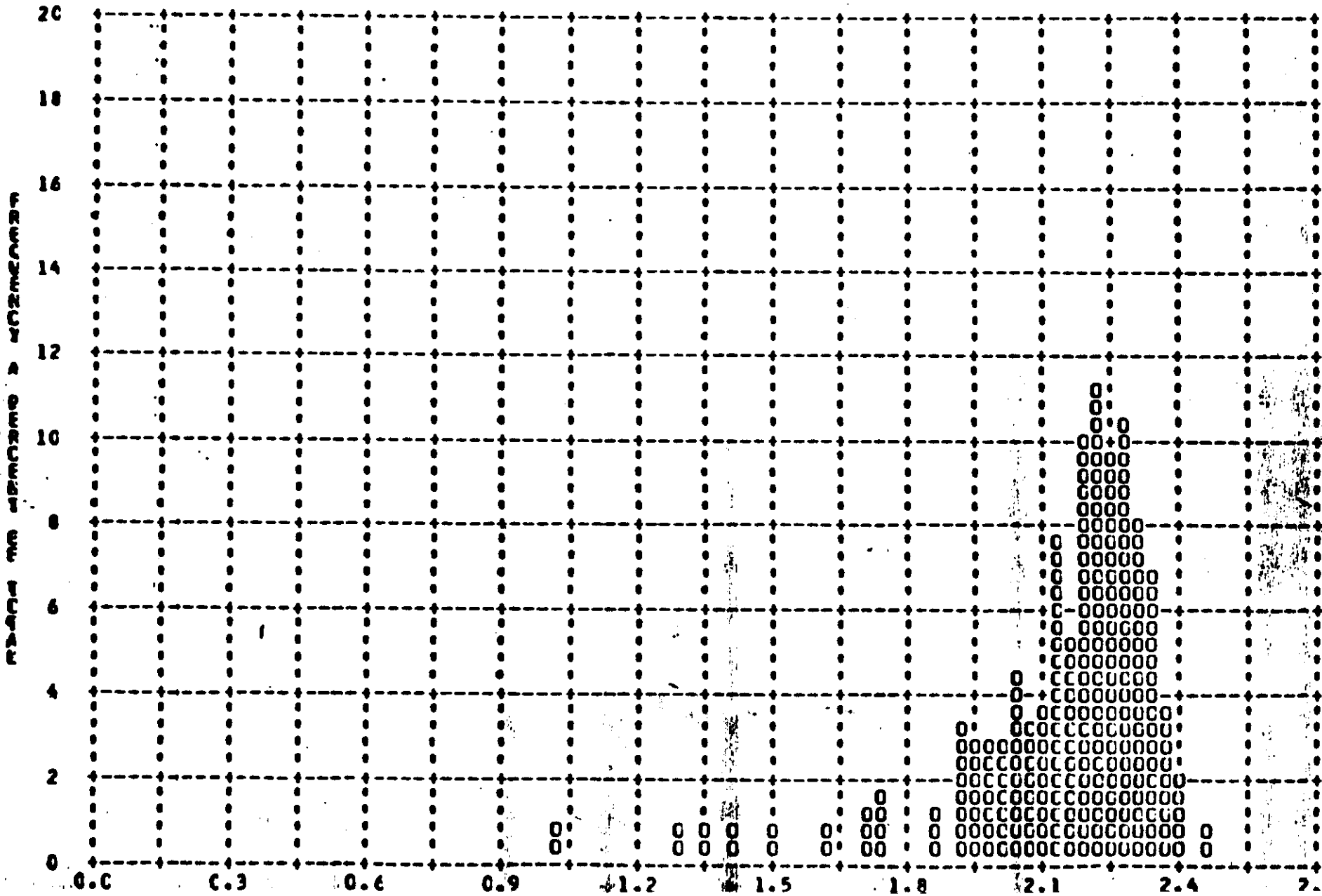


FIGURE 9-24

[redacted]

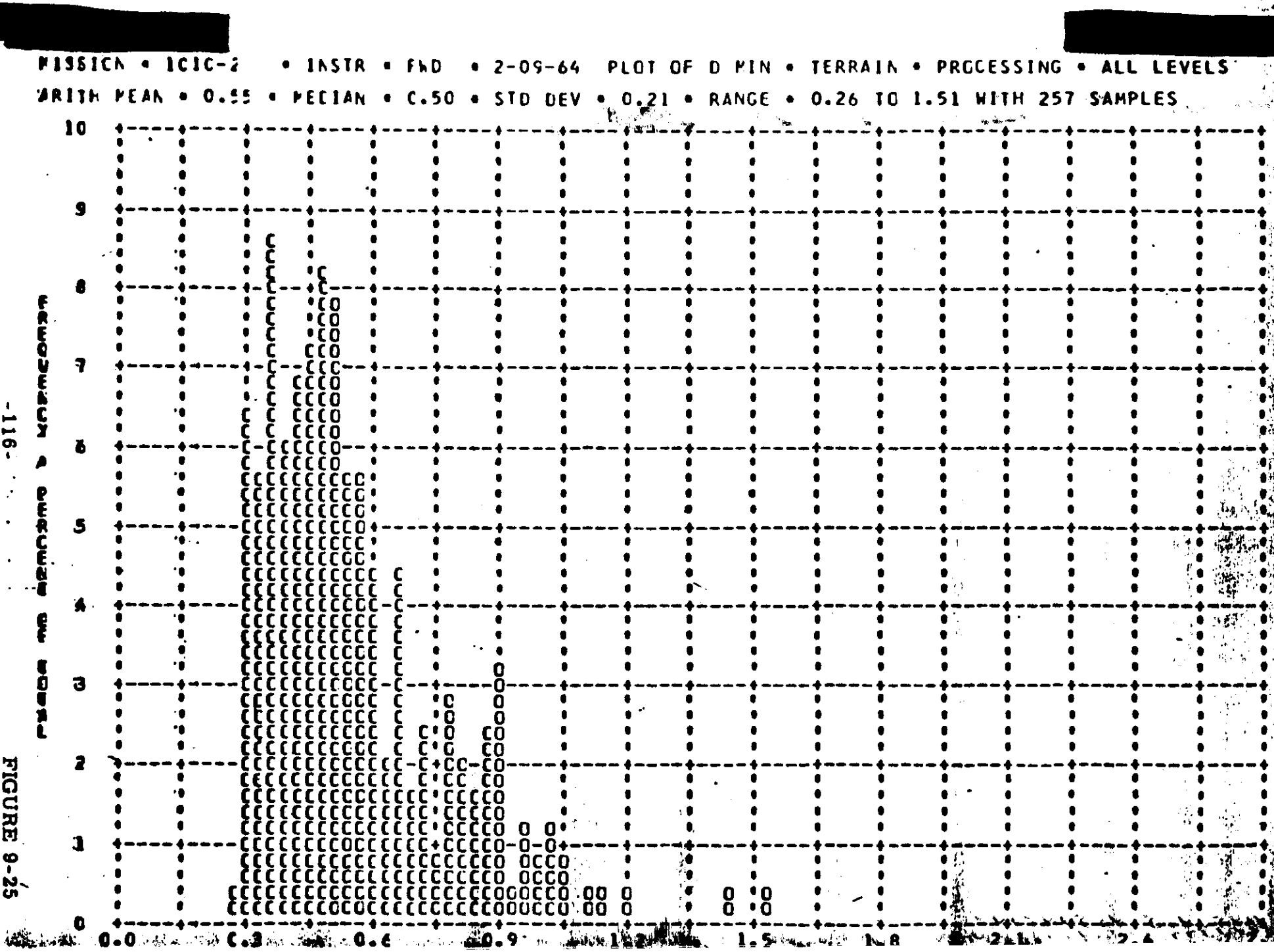

MISSION • ICIC-2 • INSTR • FWD • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
WITH MEAN • 0.55 • MEDIAN • 0.50 • STD DEV • 0.21 • RANGE • 0.26 TO 1.51 WITH 257 SAMPLES
PERCENTAGE OF OBSERVATIONS
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4

FIGURE 9-25

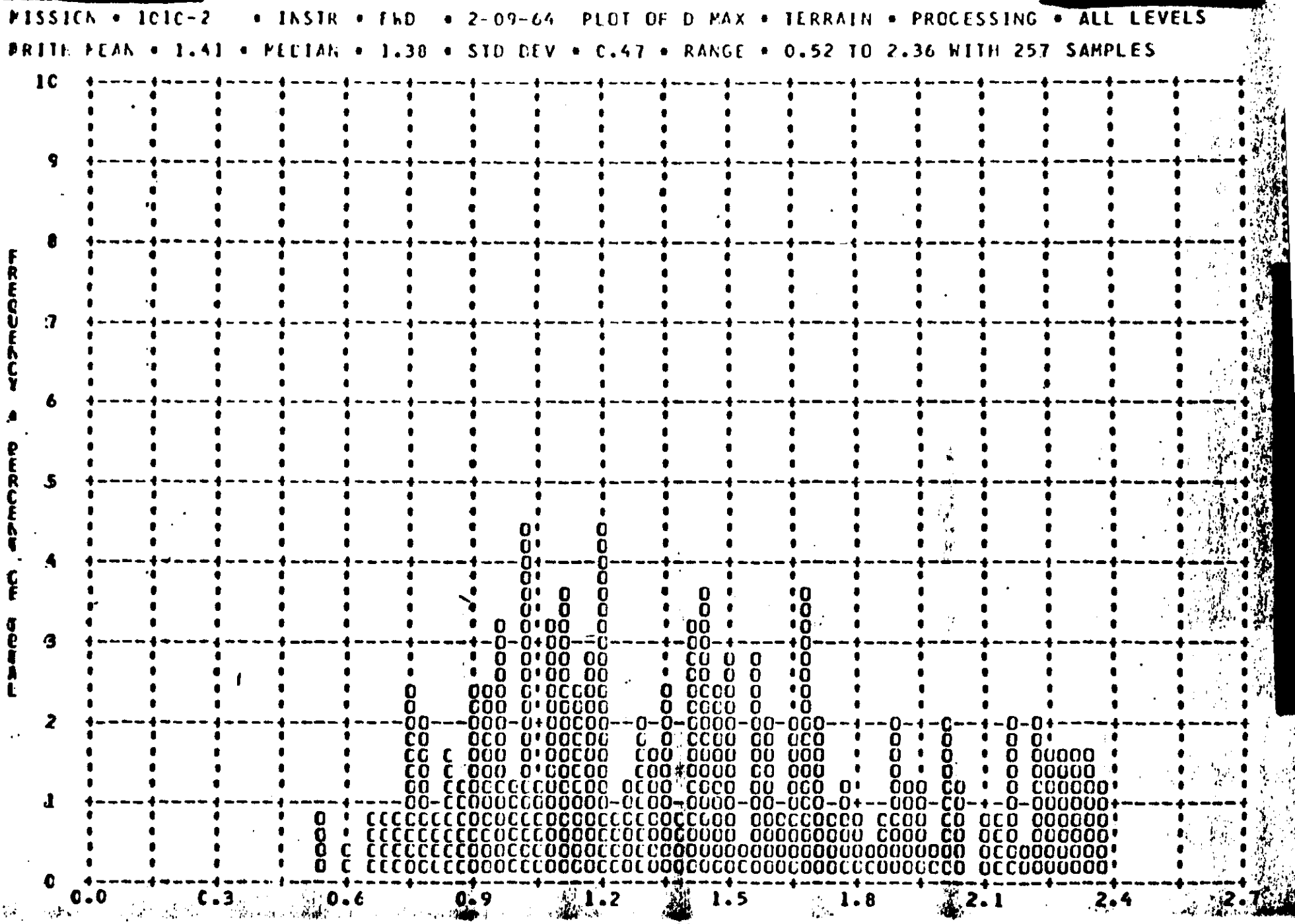

MISSION • 1C1C-2 • INSTR • FHD • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
BRIT MEAN • 1.41 • MEDIAN • 1.38 • STD DEV • 0.47 • RANGE • 0.52 TO 2.36 WITH 257 SAMPLES
FREQUENCY OF OCCURRENCE IN PERCENT
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-26

[redacted]

[redacted]

MISSION • 1010-2 • INSTR • FWD • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

WRITH MEAN • 2.14 • MEDIAN • 2.20 • STD DEV • 0.21 • RANGE • 1.00 TO 2.44 WITH 239 SAMPLES

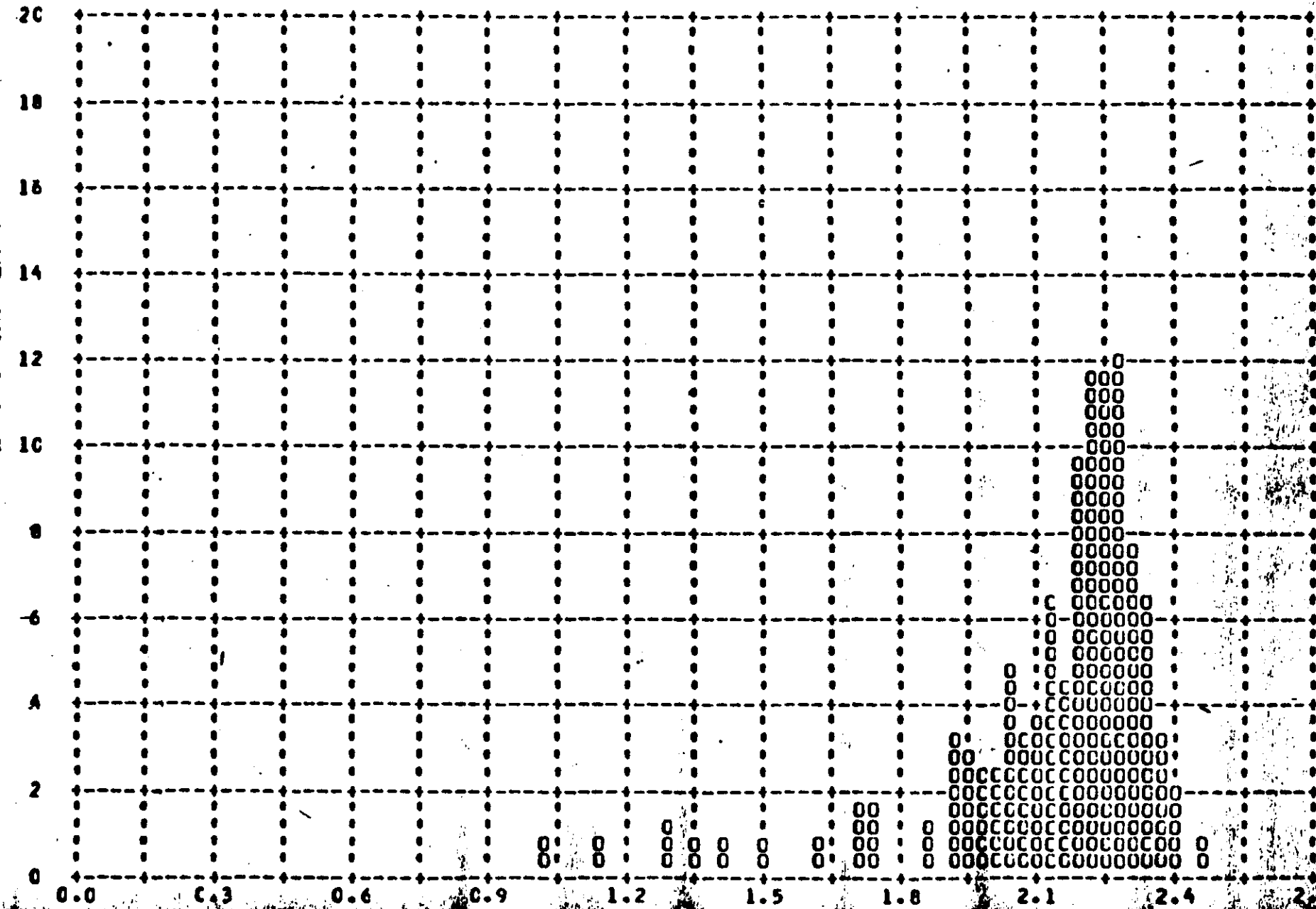


FIGURE 9-27

[redacted]

PISSICA • 1010-2 • 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	C	C	0	C	C	0	0	0	0	0	0	0
C.C2	C	C	0	C	C	0	0	0	0	0	0	0
C.C3	C	C	0	C	C	0	0	0	0	0	0	0
C.C4	C	C	0	C	C	0	0	0	0	0	0	0
C.C5	C	C	0	C	C	0	0	0	0	0	0	0
C.C6	C	C	0	C	C	0	0	0	0	0	0	0
C.C7	C	C	0	C	C	0	0	0	0	0	0	0
C.C8	C	C	0	C	C	0	0	0	0	0	0	0
C.C9	C	C	0	C	C	0	0	0	0	0	0	0
C.1C	C	C	0	C	C	0	0	0	0	0	0	0
C.11	C	C	0	C	C	0	0	0	0	0	0	0
C.12	C	C	0	C	C	0	0	0	0	0	0	0
C.13	C	C	0	C	C	0	0	0	0	0	0	0
C.14	C	C	0	C	C	0	0	0	0	0	0	0
C.15	C	C	0	C	C	0	0	0	0	0	0	0
C.16	C	C	0	C	C	0	0	0	0	0	0	0
C.17	C	C	0	C	C	0	0	0	0	0	0	0
C.18	C	C	0	C	C	0	0	0	0	0	0	0
C.19	C	C	0	C	C	0	0	0	0	0	0	0
C.2C	C	C	0	C	C	0	0	0	0	1	0	0
C.21	C	C	0	C	C	0	0	0	0	0	0	0
C.22	C	C	0	C	C	0	0	0	0	0	0	0
C.23	C	C	0	C	C	0	0	0	0	0	0	0
C.24	C	C	0	C	C	0	0	0	0	0	0	0
C.25	C	C	0	C	C	0	0	0	0	1	0	0
C.26	C	C	0	C	C	0	0	0	0	0	0	0
C.27	C	C	0	C	C	0	0	0	0	0	0	0
C.28	C	C	0	C	C	0	0	0	0	0	0	0
C.29	C	C	0	C	C	0	0	0	0	0	0	0
C.3C	C	C	0	C	C	0	2	0	0	5	1	0
C.31	C	C	0	C	C	0	0	0	0	0	0	0
C.32	C	C	0	C	C	0	2	0	0	2	0	0
C.33	C	C	0	C	C	0	0	0	0	0	0	0
C.34	C	C	0	C	C	0	0	0	0	1	0	0
C.35	C	C	0	C	C	0	0	0	0	0	0	0
C.36	C	C	0	C	C	0	0	0	0	0	0	0
C.37	C	C	0	C	C	0	0	0	0	0	0	0
C.38	C	C	0	C	C	0	0	0	0	0	0	0
C.39	C	C	0	C	C	0	0	0	0	0	0	0
C.4C	C	C	0	C	C	0	0	0	0	0	0	0
C.41	C	C	0	C	C	0	0	0	0	0	0	0
C.42	C	C	0	C	C	0	0	0	0	0	0	0
C.43	C	C	0	C	C	0	0	0	0	0	0	0
C.44	C	C	0	C	C	0	0	0	0	0	0	0
C.45	C	C	0	C	C	0	0	0	0	0	0	0
C.46	C	C	0	C	C	0	0	0	0	0	0	0
C.47	C	C	0	C	C	0	0	0	0	0	0	0
C.48	C	C	0	C	C	0	0	0	0	0	0	0
C.49	C	C	0	C	C	0	0	0	0	0	0	0
C.5C	C	C	0	2	0	0	9	0	0	11	0	0
SUBTOTAL	C	C	0	21	1	0	85	0	0	106	1	0

[redacted]

TABLE 9-6

[redacted]

MISSION • 1010-2 • 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	2	0	0	1	0	0	3	0	0
0.52	0	0	0	2	0	0	4	1	0	4	1	0
0.53	0	0	0	0	0	0	2	0	0	2	0	0
0.54	0	0	0	0	0	0	3	0	0	3	0	0
0.55	0	0	0	2	0	0	5	0	0	7	0	0
0.56	0	0	0	1	0	0	1	0	0	2	0	0
0.57	0	0	0	2	0	0	5	0	0	8	0	0
0.58	0	0	0	3	0	0	7	0	0	10	0	0
0.59	0	0	0	1	0	0	4	0	0	5	0	0
0.60	0	0	0	2	0	0	6	0	0	8	0	0
0.61	0	0	0	0	0	0	5	0	0	5	0	0
0.62	0	0	0	0	0	0	3	0	0	3	0	0
0.63	0	0	0	0	0	0	2	0	0	2	0	0
0.64	0	0	0	0	0	0	1	0	0	1	0	0
0.65	0	0	0	0	0	0	2	0	0	2	0	0
0.66	0	0	0	0	0	0	1	0	0	1	0	0
0.67	0	0	0	0	0	0	1	0	0	1	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	1	0	0	1	0	0
0.72	0	0	0	0	0	0	1	0	0	1	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	1	0	0	1	0	0
0.77	0	0	0	0	0	0	1	0	0	1	0	0
0.78	0	0	0	0	0	0	1	0	0	1	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
0.82	0	0	0	0	0	0	1	0	0	1	0	0
0.83	0	0	0	0	0	0	1	0	0	1	0	0
0.84	0	0	0	0	0	0	1	0	0	1	0	0
0.85	0	0	0	0	0	0	1	0	0	1	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	1	0	0	1	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
SUBTOTAL	0	0	0	38	0	0	99	28	0	137	28	0

[redacted]

TABLE 9-6

~~TOP SECRET~~ [redacted]

[redacted]

MISSION • 1C1C-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	0	0	0	0	0
1.02	0	0	0	0	0	0	0	1	0	0	1	0
1.03	0	0	0	0	0	0	0	2	0	0	2	0
1.04	0	0	0	0	1	0	0	4	0	0	5	0
1.05	0	0	0	0	1	0	0	3	0	0	3	0
1.06	0	0	0	0	1	0	0	5	0	0	6	0
1.07	0	0	0	0	0	0	0	3	0	0	3	0
1.08	0	0	0	0	0	0	2	3	0	2	3	0
1.09	0	0	0	0	0	0	0	3	0	0	3	0
1.10	0	0	0	1	0	0	2	0	0	2	3	0
1.11	0	0	0	0	0	0	1	3	0	2	3	0
1.12	0	0	0	0	0	0	0	1	0	0	1	0
1.13	0	0	0	0	0	0	0	2	0	0	2	0
1.14	0	0	0	1	0	0	0	2	0	1	2	0
1.15	0	0	0	0	0	0	0	3	0	0	3	0
1.16	0	0	0	0	0	0	0	1	0	0	1	0
1.17	0	0	0	0	0	0	0	4	0	0	4	0
1.18	0	0	0	0	0	0	0	0	0	0	0	0
1.19	0	0	0	0	0	0	0	6	0	0	6	0
1.20	0	0	0	0	0	0	0	5	0	0	5	0
1.21	0	0	0	0	0	0	0	0	0	0	0	0
1.22	0	0	0	0	0	0	0	2	0	0	2	0
1.23	0	0	0	0	0	0	0	5	0	0	5	0
1.24	0	0	0	0	0	0	0	1	0	0	1	0
1.25	0	0	0	2	0	0	0	1	0	2	1	0
1.26	0	0	0	0	0	0	0	0	0	0	0	0
1.27	0	0	0	1	0	0	0	1	0	1	1	0
1.28	0	0	0	0	0	0	0	1	0	0	1	0
1.29	0	0	0	1	0	0	0	1	0	1	1	0
1.30	0	0	0	4	0	0	0	5	0	4	5	0
1.31	0	0	0	0	0	0	0	1	0	0	1	0
1.32	0	0	0	0	0	0	0	2	0	0	2	0
1.33	0	0	0	0	0	0	0	1	0	0	1	0
1.34	0	0	0	1	0	0	0	6	0	1	6	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	2	0	0	2	0
1.37	0	0	0	0	0	0	0	1	0	0	1	0
1.38	0	0	0	1	0	0	0	4	0	1	5	0
1.39	0	0	0	0	0	0	0	0	0	0	0	0
1.40	0	0	0	2	0	0	0	3	0	2	5	0
1.41	0	0	0	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	0	0	0	2	0	0	2	0
1.43	0	0	0	0	0	0	0	1	0	0	1	0
1.44	0	0	0	0	0	0	0	2	0	0	2	0
1.45	0	0	0	0	0	0	0	1	0	0	1	0
1.46	0	0	0	1	0	0	0	2	0	1	2	0
1.47	0	0	0	0	0	0	0	0	0	0	0	0
1.48	0	0	0	0	0	0	0	1	0	0	1	0
1.49	0	0	0	1	0	0	0	0	0	1	0	0
1.50	0	0	0	1	1	0	0	0	0	1	1	0
SUBTOTAL	0	0	0	3	21	0	6	95	3	9	116	3

[redacted]

TABLE 9-6

~~TOP SECRET~~ [redacted]

[redacted]

MISSION • 1010-2 • 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	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	1	0	0	1	0
1.54	0	0	0	0	3	0	0	1	0	0	4	0
1.55	0	0	0	0	1	0	0	1	0	0	2	0
1.56	0	0	0	0	1	0	0	1	0	0	2	0
1.57	0	0	0	0	1	0	0	0	0	0	2	0
1.58	0	0	0	0	0	0	0	4	0	0	5	0
1.59	0	0	0	0	1	0	0	2	0	0	3	0
1.60	0	0	0	0	5	0	0	2	0	0	7	0
1.61	0	0	0	0	1	0	0	2	0	0	3	0
1.62	0	0	0	0	0	0	0	2	0	0	2	0
1.63	0	0	0	0	1	0	0	2	0	0	3	0
1.64	0	0	0	0	1	0	0	2	0	0	3	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	1	0	0	2	1	0	3	1
1.68	0	0	0	0	1	0	0	3	1	0	5	1
1.69	0	0	0	0	2	0	0	3	1	0	5	1
1.70	0	0	0	0	2	0	0	3	1	0	5	1
1.71	0	0	0	0	2	0	0	3	1	0	5	1
1.72	0	0	0	0	2	0	0	3	1	0	5	1
1.73	0	0	0	0	2	0	0	3	1	0	5	1
1.74	0	0	0	0	1	0	0	3	1	0	4	1
1.75	0	0	0	0	1	0	0	3	1	0	4	1
1.76	0	0	0	0	1	0	0	3	1	0	4	1
1.77	0	0	0	0	0	0	0	3	1	0	3	1
1.78	0	0	0	0	1	0	0	2	1	0	3	1
1.79	0	0	0	0	0	0	0	2	0	0	2	0
1.80	0	0	0	0	3	0	0	2	1	0	5	1
1.81	0	0	0	0	1	0	0	0	0	0	1	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	1	0	0	1	0
1.84	0	0	0	0	1	0	0	2	0	0	3	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	1	0	0	1	0	0	2	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	1	0	0	1	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	2	0	0	2	0
1.91	0	0	0	0	0	0	0	1	0	0	1	0
1.92	0	0	0	0	2	0	0	2	0	0	4	0
1.93	0	0	0	0	0	0	0	2	0	0	2	0
1.94	0	0	0	0	0	0	0	1	0	0	1	0
1.95	0	0	0	0	0	0	0	1	0	0	1	0
1.96	0	0	0	0	0	0	0	4	0	0	4	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	1	0	0	1	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	1	0	0	5	0	0	6
SUBTOTAL	0	0	0	0	27	10	0	48	21	0	75	31

[redacted]

TABLE 9-6

[redacted] [redacted] [redacted]

MISSION • 1010-2 • 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	0	0	0	3
2.03	0	0	0	0	1	1	0	0	0	0	1	1
2.04	0	0	0	0	1	1	0	0	0	0	1	2
2.05	0	0	0	0	1	0	0	0	0	0	1	3
2.06	0	0	0	0	0	0	0	0	0	0	0	6
2.07	0	0	0	0	0	0	0	0	0	0	0	1
2.08	0	0	0	0	0	0	0	0	0	0	0	1
2.09	0	0	0	0	0	1	0	0	0	0	0	1
2.10	0	0	0	0	0	4	0	0	0	0	0	13
2.11	0	0	0	0	0	0	0	0	0	0	0	3
2.12	0	0	0	0	0	1	0	0	0	0	0	3
2.13	0	0	0	0	0	2	0	0	0	0	0	2
2.14	0	0	0	0	0	0	0	0	0	0	0	8
2.15	0	0	0	0	0	3	0	0	0	0	0	2
2.16	0	0	0	0	0	0	0	0	0	0	0	7
2.17	0	0	0	0	0	3	0	0	0	0	0	7
2.18	0	0	0	0	0	3	0	0	0	0	0	10
2.19	0	0	0	0	1	1	0	0	0	0	1	2
2.20	0	0	0	0	1	4	0	0	1	0	1	18
2.21	0	0	0	0	2	0	0	0	1	0	2	19
2.22	0	0	0	0	1	0	6	1	4	0	2	5
2.23	0	0	0	0	0	1	4	1	6	0	1	10
2.24	0	0	0	0	1	0	0	1	6	0	1	14
2.25	0	0	0	0	0	1	2	2	3	0	1	5
2.26	0	0	0	0	0	0	3	1	3	0	2	12
2.27	0	0	0	0	1	2	0	1	1	0	3	15
2.28	0	0	0	0	2	0	0	1	0	0	3	13
2.29	0	0	0	0	2	0	0	0	0	0	3	13
2.30	0	0	0	0	1	0	0	0	0	0	2	9
2.31	0	0	0	0	0	0	0	0	0	0	0	6
2.32	0	0	0	0	0	0	0	0	0	0	0	3
2.33	0	0	0	0	0	0	0	0	0	0	0	1
2.34	0	0	0	0	0	0	0	0	0	0	0	2
2.35	0	0	0	0	0	0	0	0	0	0	0	1
2.36	0	0	0	0	0	0	0	0	0	0	0	1
2.37	0	0	0	0	0	0	0	0	0	0	0	1
2.38	0	0	0	0	0	0	0	0	0	0	0	1
2.39	0	0	0	0	0	0	0	0	0	0	0	1
2.40	0	0	0	0	0	0	0	0	0	0	0	1
2.41	0	0	0	0	0	0	0	0	0	0	0	1
2.42	0	0	0	0	0	0	0	0	0	0	0	1
2.43	0	0	0	0	0	0	0	0	0	0	0	1
2.44	0	0	0	0	0	0	0	0	0	0	0	1
2.45	0	0	0	0	0	0	0	0	0	0	0	1
2.46	0	0	0	0	0	0	0	0	0	0	0	1
2.47	0	0	0	0	0	0	0	0	0	0	0	1
2.48	0	0	0	0	0	0	0	0	0	0	0	1
2.49	0	0	0	0	0	0	0	0	0	0	0	1
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	13	52	0	19	156	0	32	208

[redacted] [redacted] [redacted]

TABLE 9-6

[redacted]

MISSION • 1010-2 • INSTRUMENT • AFT 2-0 -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	0	0	0	0	0	0	0		0	0	0	0
2.52	0	0	0	0	0	0	0		0	0	0	0
2.53	0	0	0	0	0	0	0		0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	62	62	62	190	190	180	252	252	242

MISSION 1010-2 INSTR - AFT 2-09-64 PROCESSING AND EXPOSURE ANA

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0
INTERMEDIATE	62	2 PC	13 PC	77 PC	8 PC	0
FULL	190	16 PC	0 PC	76 PC	8 PC	0
ALL LEVELS	252	13 PC	3 PC	76 PC	8 PC	0

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPOS
PRIMARY	0.01-0.15	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]

TABLE 9-6

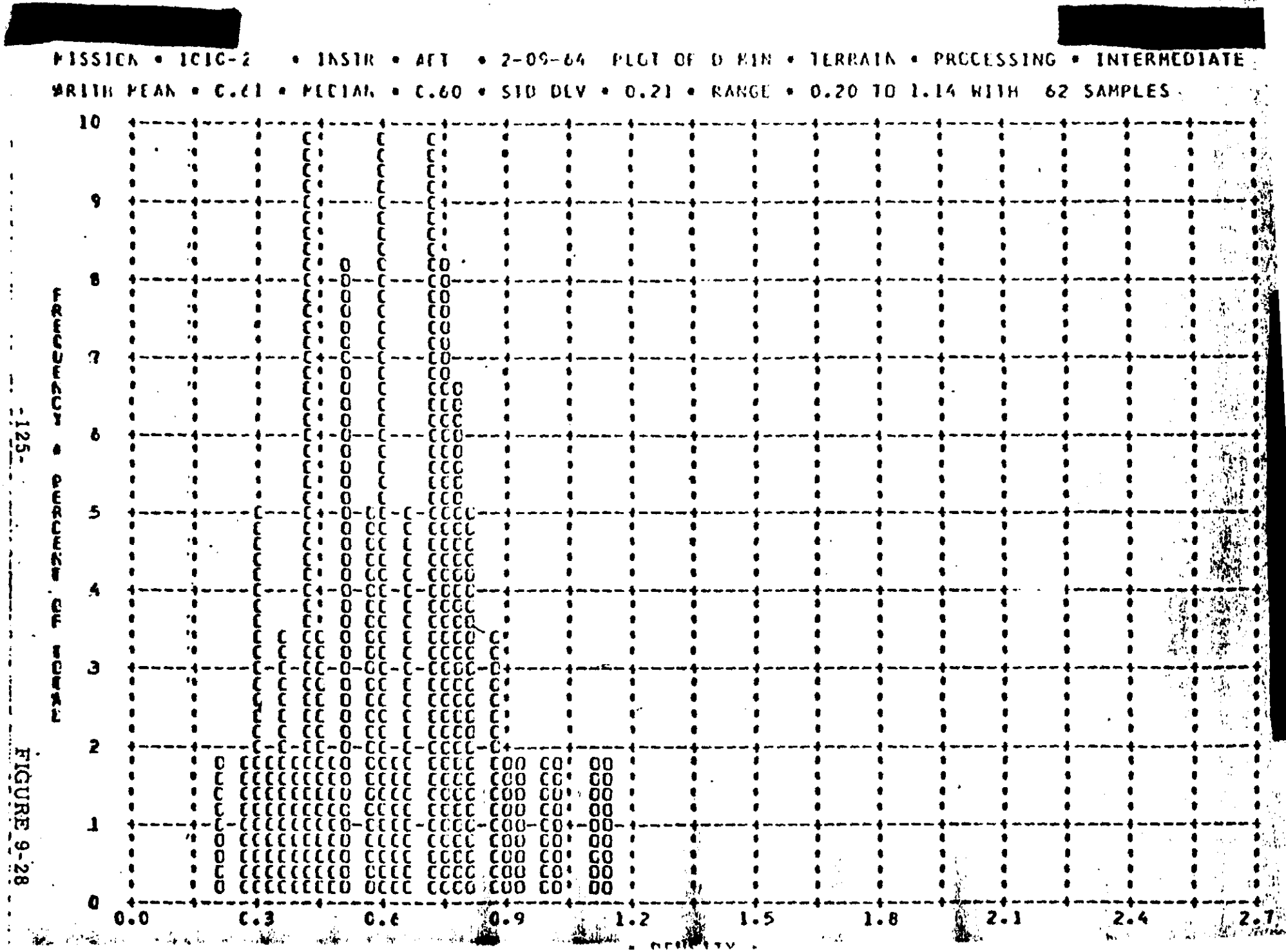

MISSION • ICIC-2 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
WRITH MEAN • 0.61 • MEDIAN • 0.60 • STD DEV • 0.21 • RANGE • 0.20 TO 1.14 WITH 62 SAMPLES
FREQUENCY • OCCURRENCE PER INCREM
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-28

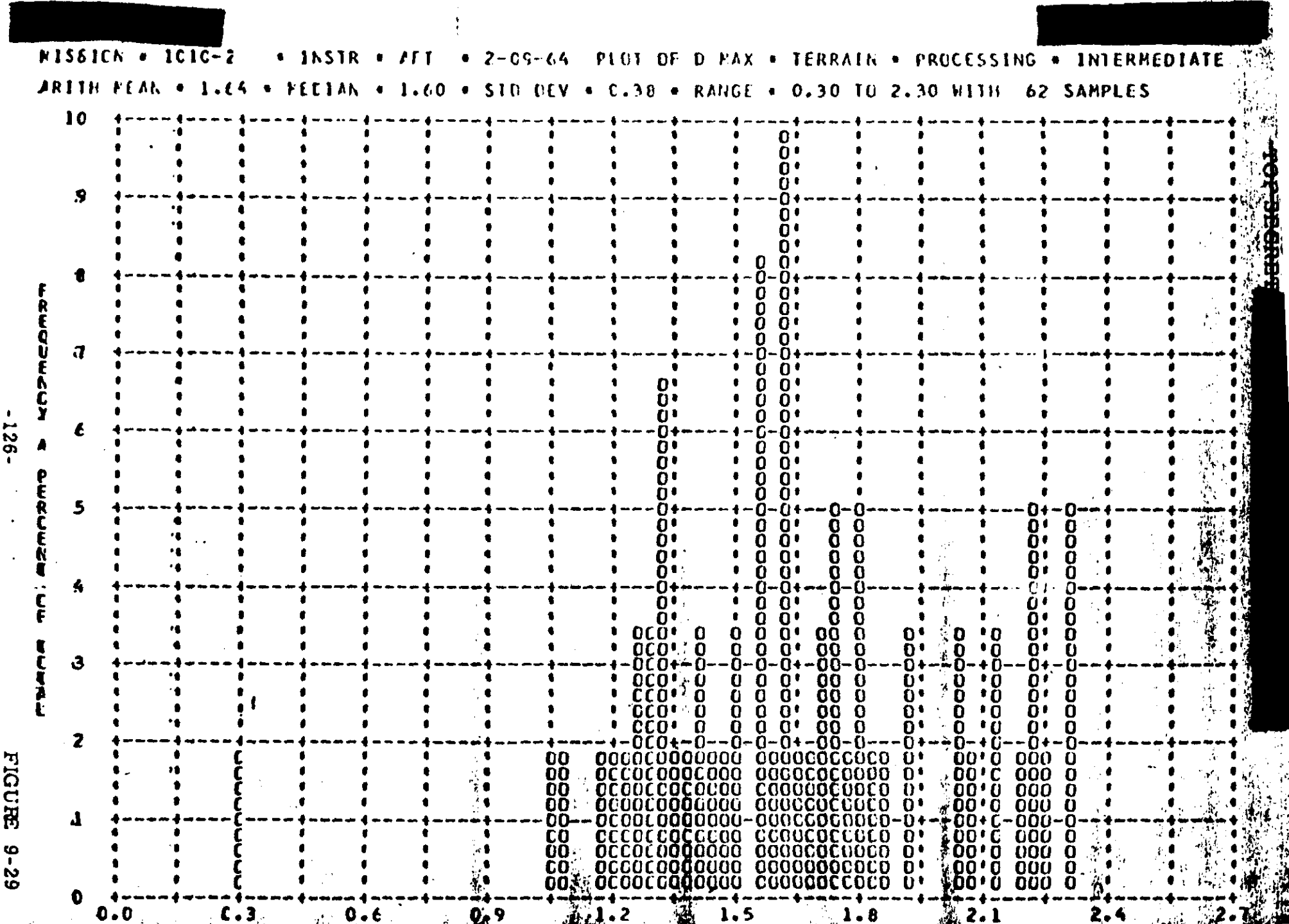

MISSION • ICIC-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.64 • MEDIAN • 1.60 • STD DEV • 0.38 • RANGE • 0.30 TO 2.30 WITH 62 SAMPLES
FREQUENCY OF OCCURRENCE (IN PERCENT)
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE 9-29

[redacted]

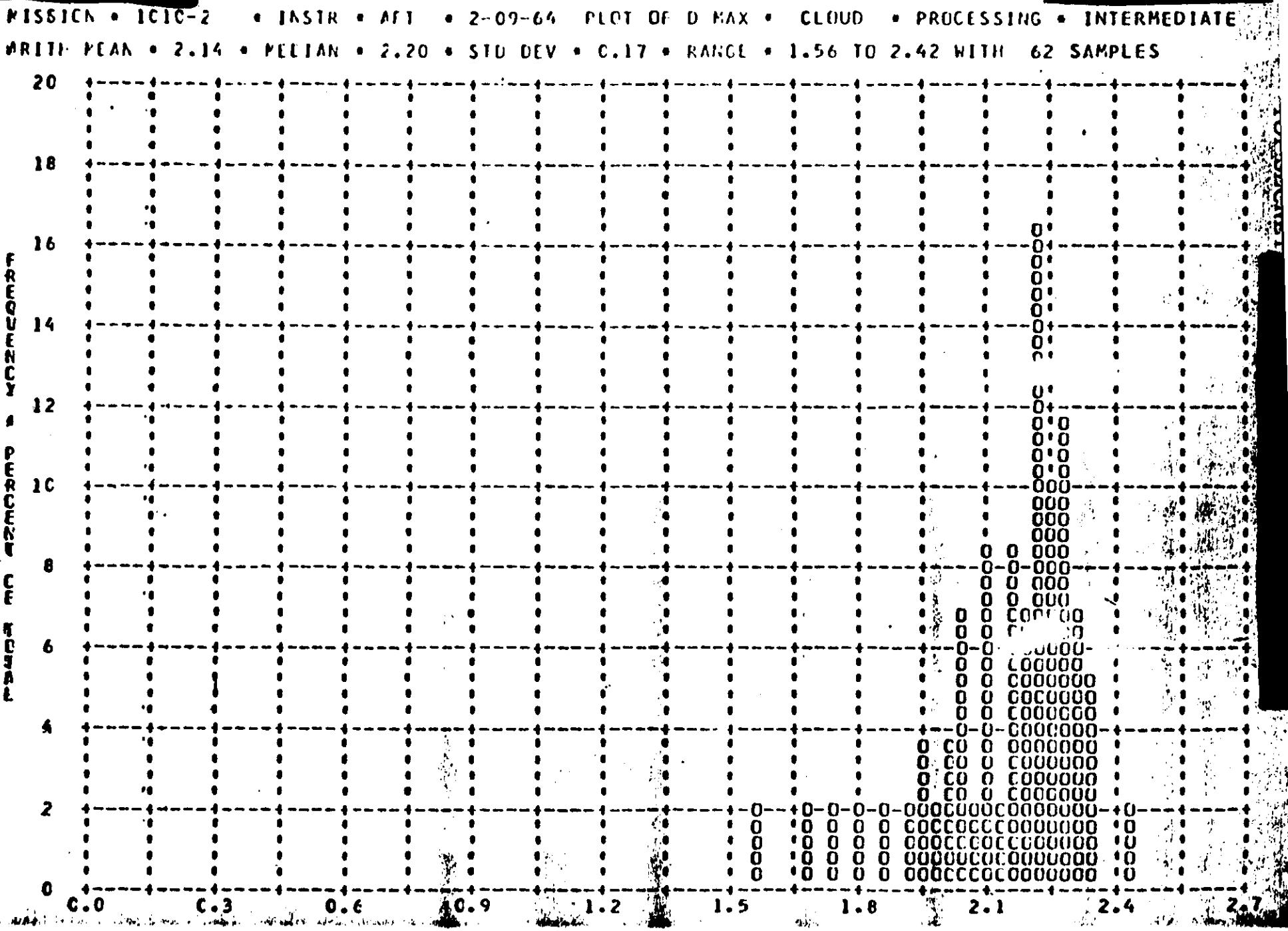


FIGURE 9-30

[redacted]

[redacted]

MISSION • ICIC-2 • INSTR • AFT • 2-09-64 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

WRITH MEAN • C.5E • MEDIAN • C.55 • STD DEV • 0.21 • RANGE • 0.30 TO 1.48 WITH 190 SAMPLES

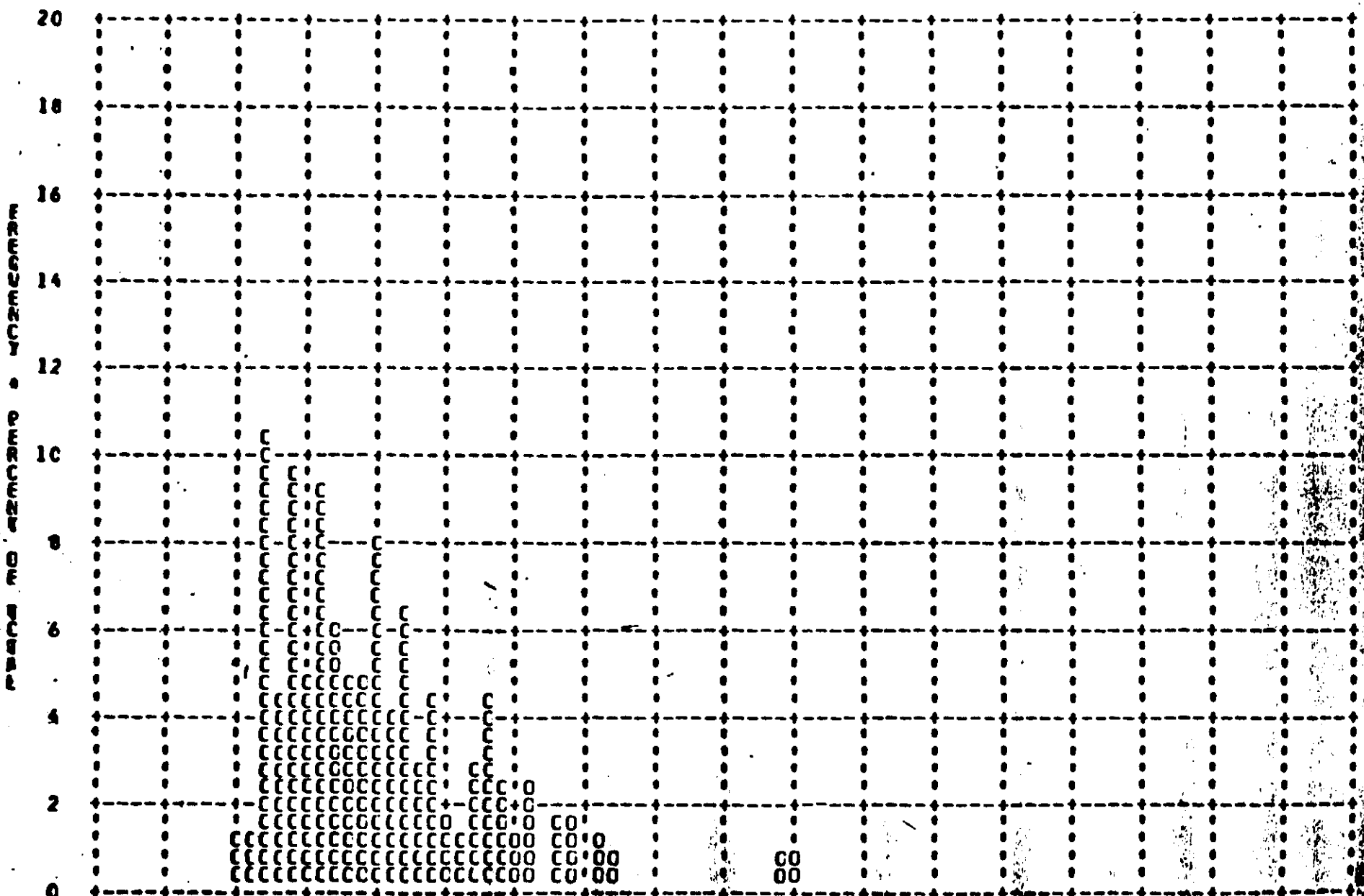
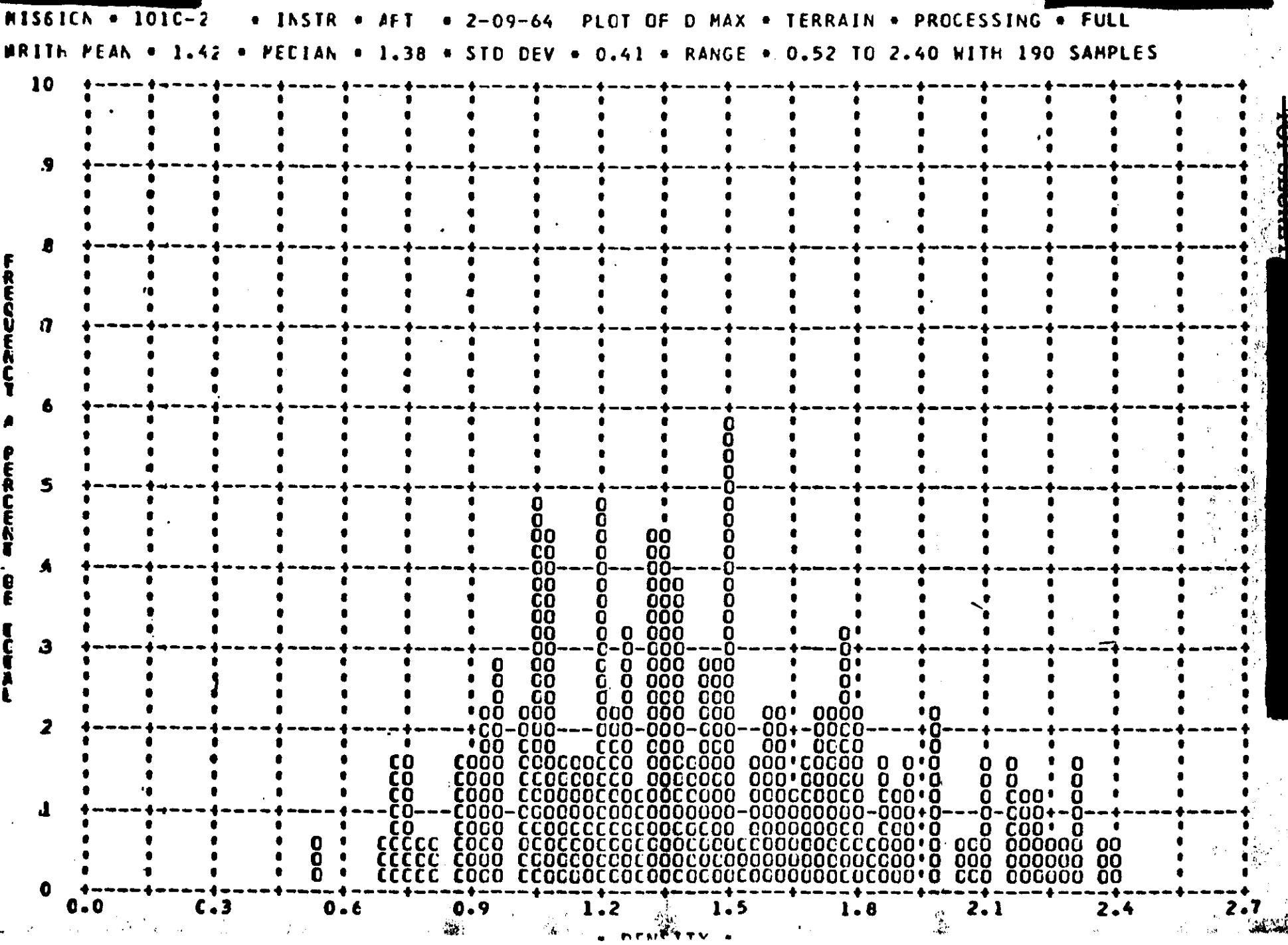


FIGURE 9-31

[redacted]



[redacted]

FIGURE 9-32

[redacted]

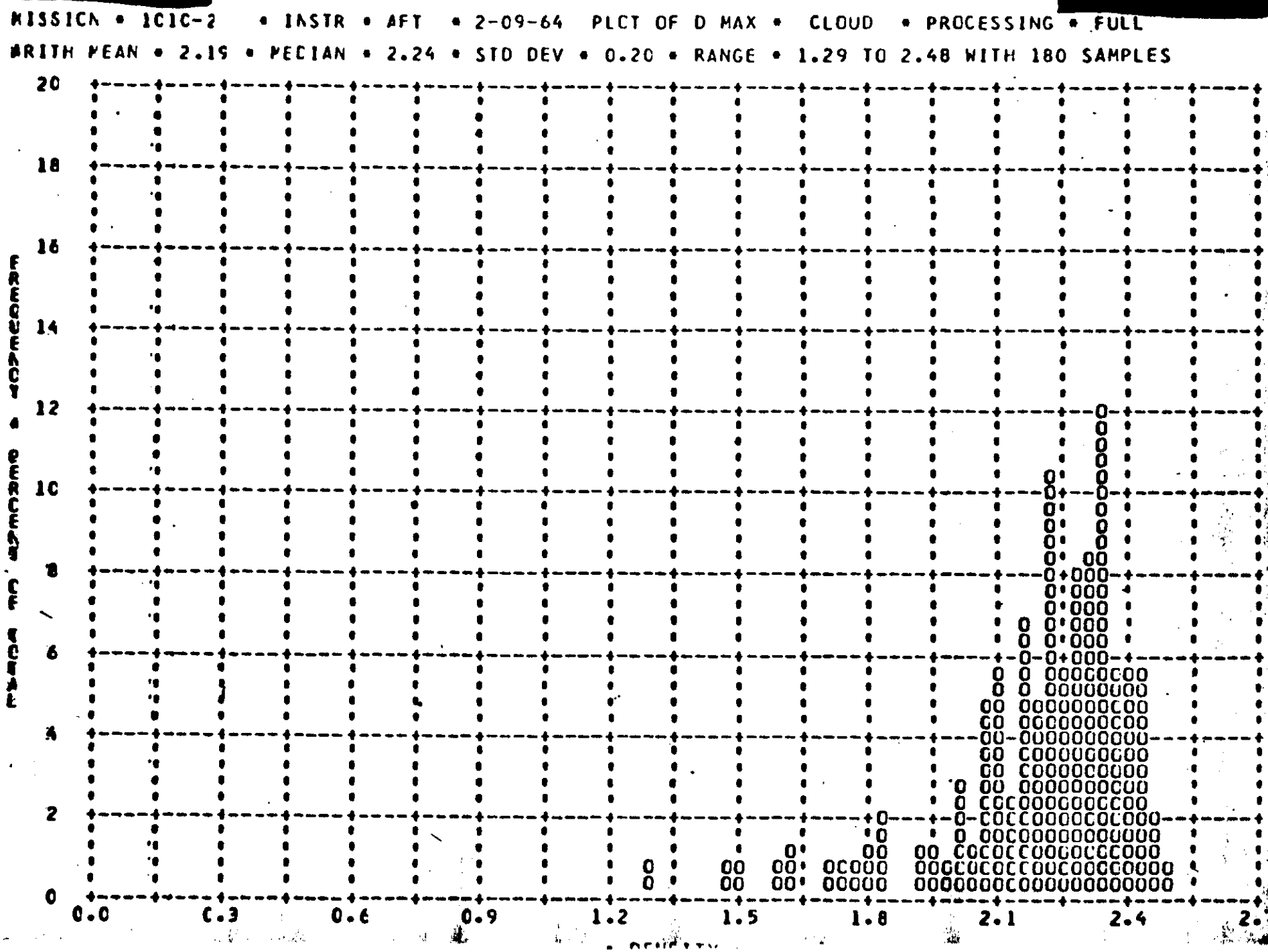


FIGURE 9-33

[redacted]

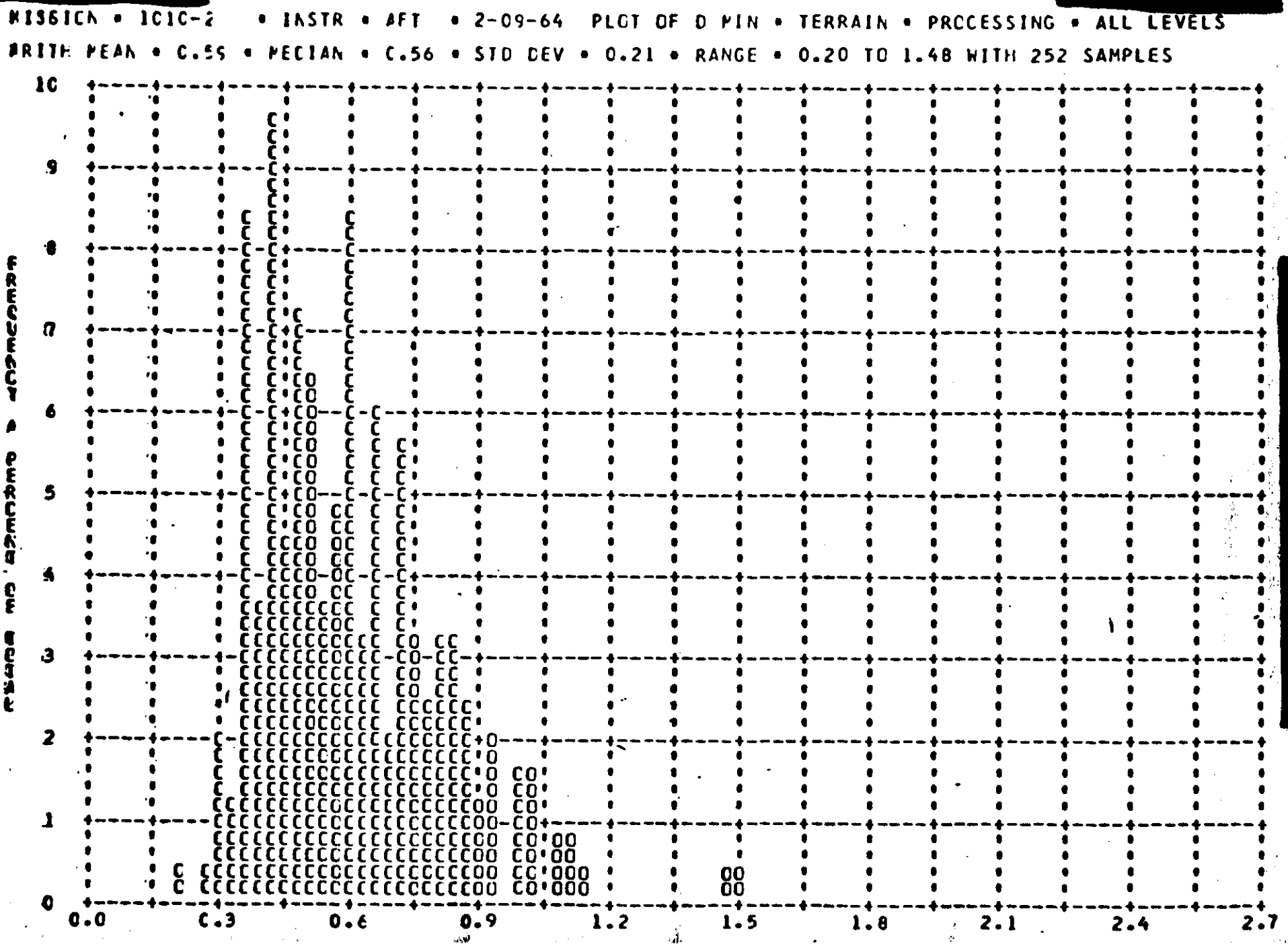


FIGURE 9-34

[redacted] [redacted]

TOP SECRET [redacted]

MISSICN • 101C-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

BRITH MEAN • 1.47 • MEDIAN • 1.45 • STD DEV • C.41 • RANGE • 0.30 TO 2.40 WITH 252 SAMPLES

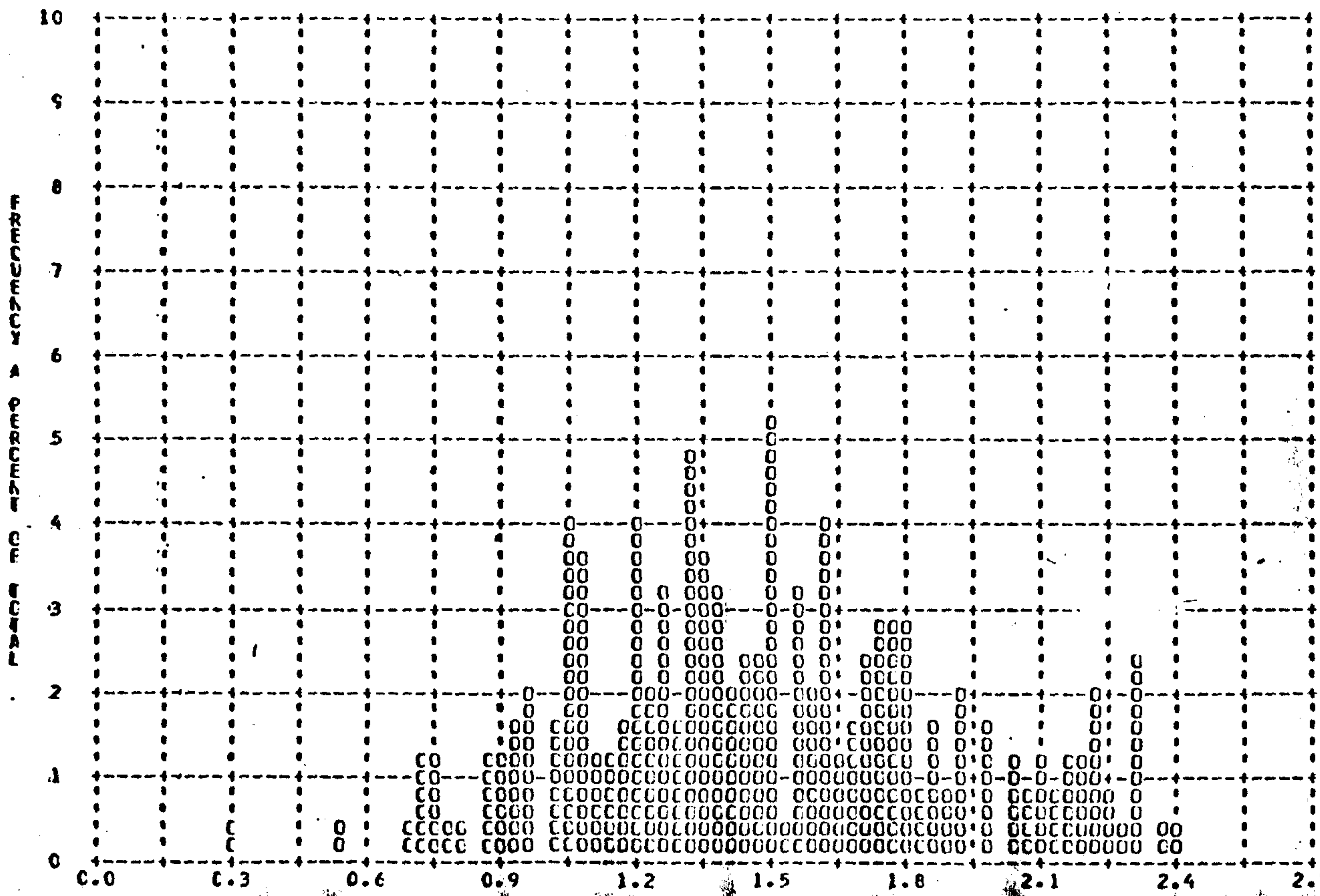


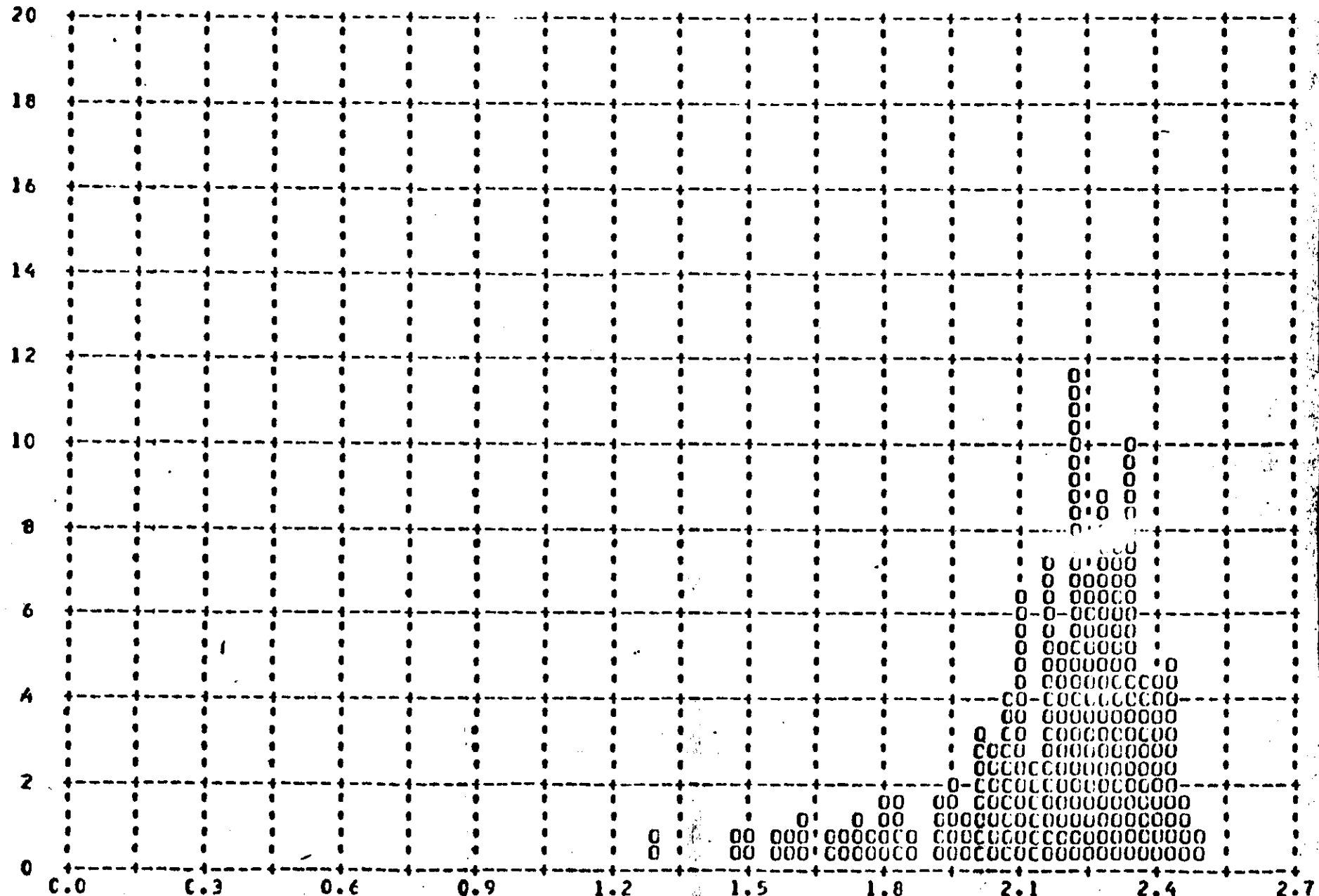
FIGURE 9-35

[redacted]

[redacted]

MISSION • 1010-2 • INSTR • AFT • 2-09-64 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 2.10 • MEDIAN • 2.22 • STD DEV • 0.19 • RANGE • 1.29 TO 2.48 WITH 242 SAMPLES



[redacted]

FIGURE 9-36

MISSION 1010-1 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	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	23	0 PC	35 PC	65 PC	0 PC	0 PC
FULL	224	20 PC	0 PC	76 PC	4 PC	0 PC
ALL LEVELS	247	18 PC	3 PC	75 PC	4 PC	0 PC

MISSION 1010-1 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	40	0 PC	27 PC	67 PC	5 PC	0 PC
FULL	215	11 PC	0 PC	83 PC	6 PC	0 PC
ALL LEVELS	255	9 PC	4 PC	81 PC	6 PC	0 PC

MISSION 1010-2 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	34	0 PC	32 PC	62 PC	6 PC	0 PC
FULL	223	26 PC	0 PC	68 PC	6 PC	0 PC
ALL LEVELS	257	22 PC	4 PC	67 PC	6 PC	0 PC

MISSION 1010-2 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	62	2 PC	13 PC	77 PC	8 PC	0 PC
FULL	190	16 PC	0 PC	76 PC	8 PC	0 PC
ALL LEVELS	252	13 PC	3 PC	76 PC	8 PC	0 PC

TABLE 9-7

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1010-1 and 1010-2 received a MIP rating of 85. A summary is tabulated below of the average visual RES values and MTF/AIM reolustion values measured by AFSPPL and the MTF/AIM resolution values made by [redacted] The length of the microdensimeter slit used by AFSPPL was 350 and 80 microns whereas [redacted] used an 80 micron slit; both slits were one micron wide.

Mission	Camera	Visual RES	AFSPPL 350 μ	AFSPPL 80 μ	[redacted] All	[redacted] High
1010-1	FWD	90	90	88	87	96
1010-1	AFT	88	86	80	92	103
1010-2	FWD	92	81	82	82	93
1010-2	AFT	90	82	85	87	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 Missions 1010-1 and 1010-2 are included in this report.

Analysis of Photographic Image to Evaluate System Performance

Mission 1010-1

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

Arithmetic Mean	89.4 l/mm
Standard Deviation	22.7 l/mm
Coefficient of Dispersion	25%
Number of Edges	119
M.I.P. Frame	134 l/mm

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

Arithmetic Mean	9.8 μ
Standard Deviation	3.3 μ
Coefficient of Dispersion	33%
Number of Edges	119
M.I.P. Frame	5.3 μ

Analysis of Photographic Image to Evaluate System Performance

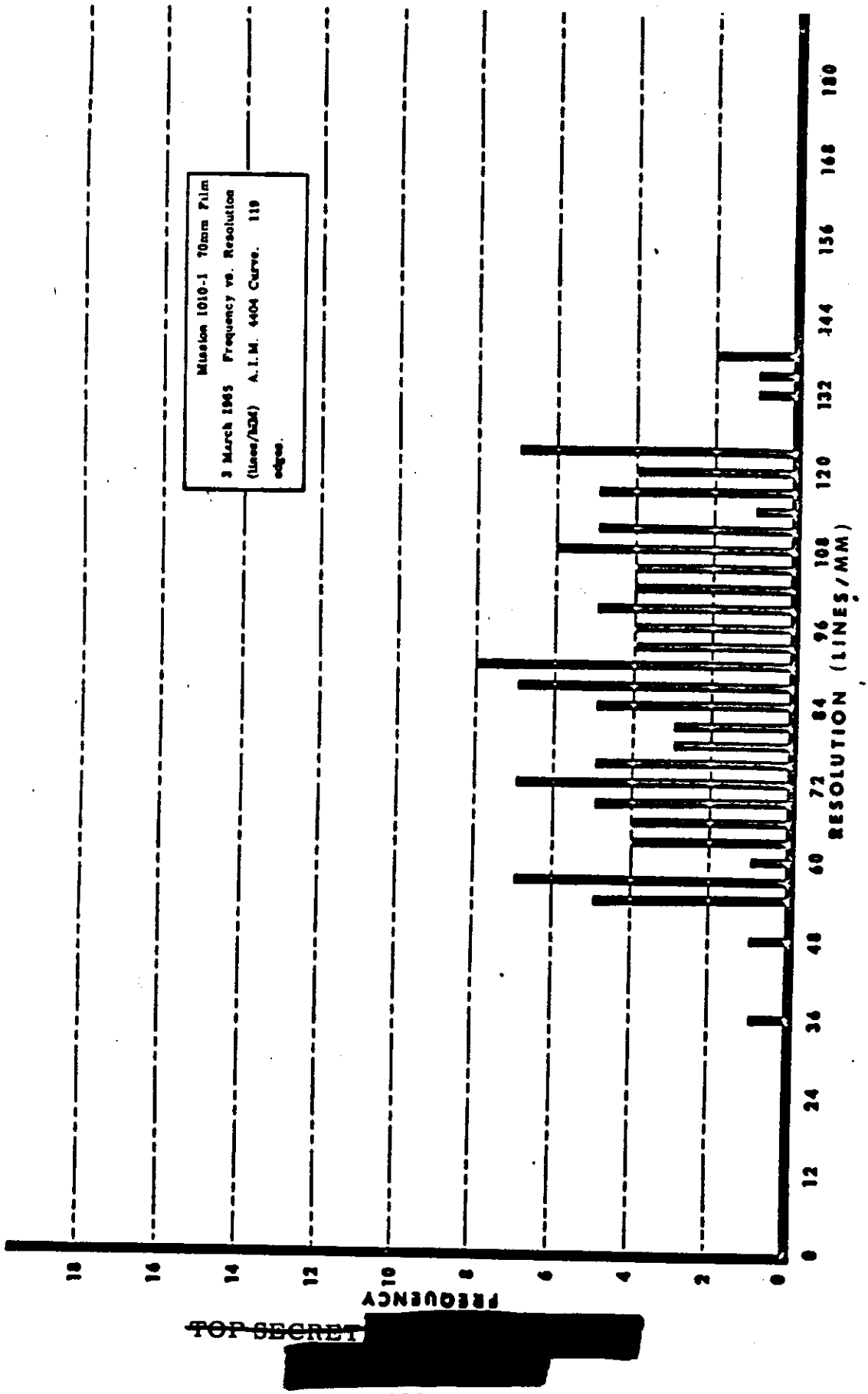
MISSION 1010-1

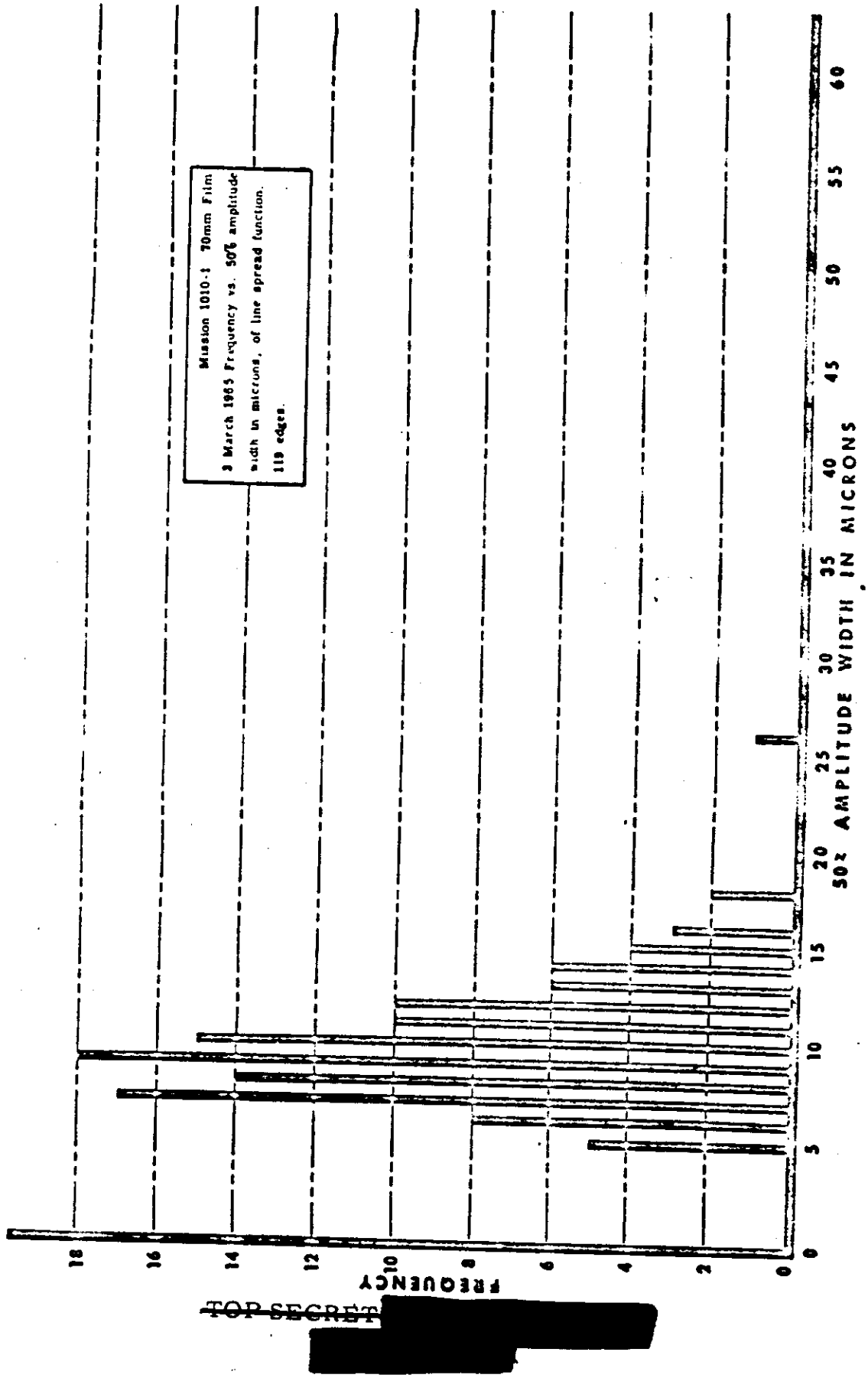
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	87.1 l/mm	92.0 l/mm	87.6 l/mm	94.4 l/mm
Standard Deviation	21.4 l/mm	24.0 l/mm	23.0 l/mm	21.4 l/mm
Coefficient of Dispersion	25%	26%	26%	23%
Number of Edges	63	56	87	32

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

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	9.5 μ	10.2 μ	10.1 μ	9.3 μ
Standard Deviation	3.6 μ	2.8 μ	2.9 μ	4.1
Coefficient of Dispersion	38%	27%	29%	45%
Number of Edges	63	56	87	32


Mission 1010-1 70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4404 Curve. 119 edge.
FREQUENCY
18
16
14
12
10
8
6
4
2
0
RESOLUTION (LINES/MM)
0
12
24
36
48
60
72
84
96
108
120
132
144
156
168
180


Mission 1010-1 70mm Film
3 March 1965 Frequency vs. 50% amplitude width in microns, of line spread function.
119 edges.
FREQUENCY
50% AMPLITUDE WIDTH IN MICRONS
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30
35
40
45
50
55
60

Analysis of Photographic Image to Evaluate System Performance

Mission 1010-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-05	033	B-9	070	Dam	9.3	82
D-05	033	B-9	070	Dam	7.3	98
D-05	033	C-9	100	Building	7.1	118
D-05	033	C-9	100	Building	6.5	122
D-05	060	B-3	025	Airfield	8.0	90
D-05	060	B-3	025	Airfield	9.5	86
D-05	061	B-11	080	Airfield	7.4	102
D-05	062	C-5	110	Buildings next to Airfield	9.0	89
D-05	080	C-8	160	Buildings above Airfield	8.3	98
D-05	080	C-8	160	Buildings above Airfield	9.6	83
D-05	080	C-8	150	Airfield	7.7	90
D-05	080	C-8	150	Airfield	9.4	63
D-05	081	B-9	045	Airfield	5.3	118
D-05	081	B-9	045	Airfield	7.4	91
D-05	085	B-10	075	Airfield	10.6	72
D-05	085	B-10	075	Airfield	5.5	121
D-07	027	C-9	155	Airfield	5.8	122
D-07	027	C-9	155	Buildings	10.3	73
D-07	030	B-6	110	Buildings	6.0	116
D-07	030	B-6	110	Buildings	5.6	123

Mission 1010-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-07	114	B-5	060	Small Dam	18.0	54
D-09	056	B-11	100	Airfield	9.5	68
D-09	056	B-11	100	Airfield	7.6	99
D-09	061	B-11	110	Airfield	5.4	118
D-09	061	B-11	110	Airfield	6.6	105
D-09	084	A-8	075	Airfield	9.1	72
D-09	084	A-8	075	Airfield	6.8	86
D-09	087	C-6	080	Airfield	10.0	83
D-09	087	C-6	080	Airfield	15.7	55
D-09	097	C-3	092	Breakwater	25.9	37
D-09	111	B-9	120	Airfield	10.5	71
D-09	111	B-9	120	Airfield	9.0	95
D-21	114	A-9	100	Airfield	13.9	56
D-21	114	A-9	100	Airfield	6.1	109
D-41	086	A-8	065	Airfield	10.4	82
D-41	086	A-8	065	Airfield	8.1	89
D-41	090	A-2	075	Airfield	10.3	73
D-41	090	A-2	075	Airfield	10.4	70
D-41	090	A-6	030	Dam	7.1	115
D-56	065	C-6	075	Airfield	9.4	89
D-56	065	C-6	075	Airfield	9.7	79
D-56	066	A-8	100	Building	5.9	112
D-56	066	A-8	100	Building next to Airfield	6.9	101

Mission 1010-1

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-56*	067	C-8	050	Airfield	9.9	73
D-56*	067	C-8	050	Airfield	7.3	100
D-56*	067	C-6	170	Airfield	14.6	110
D-56	072	B-3	075	Airfield	10.7	76
D-56	087	B-3	170	Airfield	14.3	57
D-56	087	B-3	170	Airfield	11.5	66
D-56	093	C-4	030	Airfield	13.1	63
D-56	093	C-4	030	Airfield	17.8	47
D-56	105	B-11	085	Airfield	15.0	54
D-56	105	B-11	085	Airfield	13.0	63
D-56	122	B-9	020	Airfield	7.6	96
D-56	122	B-9	020	Airfield	8.3	102
D-56	125	B-11	140	Buildings	6.6	112
D-56	127	B-6	085	Airfield	6.3	106
D-56	127	B-6	085	Airfield	7.8	92
D-56	127	B-6	085	Airfield	11.8	63
D-56	127	B-6	085	Airfield	11.8	78
D-56	137	A-8	105	Buildings next to Airfield	10.0	74
D-56	137	A-8	105	Buildings next to Airfield	7.6	83
D-56	137	B-9	175	Dam	6.6	99

*M.I.P. Frame

Mission 1010-1

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-05	038	A-6	070	Dam	6.8	94
D-05	038	A-6	070	Dam	12.3	82
D-05	065	B-11	030	Airfield	12.2	70
D-05	065	B-11	030	Airfield	15.0	57
D-05	065	B-12	110	Buildings	6.8	121
D-05	066	B-4	065	Airfield	7.0	108
D-05	066	B-4	065	Airfield	8.5	122
D-05	067	A-9	130	Buildings next to Airfield	14.5	79
D-05	067	A-9	130	Buildings next to Airfield	13.8	58
D-05	069	A-7	100	Airfield	10.8	72
D-05	069	A-7	100	Airfield	9.3	119
D-05	073	B-5	155	Airfield	10.5	85
D-05	073	B-5	155	Airfield	11.3	110
D-05	077	A-5	055	Dam	7.4	108
D-05	077	A-5	055	Dam	9.1	93
D-05	077	B-C-2	060	Airfield	14.0	55
D-05	077	B-C-2	060	Airfield	9.9	92
D-05	077	B-C-2	060	Airfield	8.1	122
D-05	077	B-C-2	060	Airfield	12.4	58
D-05	085	A-7	140	Buildings near Airfield	12.2	95
D-05	086	B-5	045	Airfield	11.2	74
D-05	086	B-5	045	Airfield	14.4	59

Mission 1010-1

AFT Camera

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-07	036	C-8	110	Buildings near Airfield	7.5	106
D-09	061	B-4	090	Airfield	11.6	103
D-09	061	B-4	090	Airfield	9.4	119
D-09	066	A-B 3-4	110	Airfield	9.2	88
D-09	066	A-B 3-4	110	Airfield	7.7	108
D-09	089	B-7	065	Airfield	12.7	70
D-09	089	B-7	065	Airfield	9.3	88
D-09	093	B-3	075	Airfield	13.2	65
D-09	093	B-3	075	Airfield	12.6	67
D-09	112	C-2	115	Airfield	11.7	57
D-09	112	C-2	115	Airfield	16.0	54
D-09	116	B-5	110	Airfield	9.5	107
D-09	116	B-5	110	Airfield	8.6	87
D-25	073	C-3	090	Airfield	7.3	116
D-25	073	C-3	090	Airfield	11.1	107
D-25	089	A-6	095	Airfield	9.0	97
D-25	089	A-6	095	Airfield	10.7	75
D-25	109	B-9	105	Airfield	5.6	137
D-25	109	B-9	105	Airfield	13.4	69
D-25	116	C-6	085	Airfield	11.4	66
D-25	116	C-6	085	Airfield	5.2	138
D-25	116	B-7	120	Building	8.3	112
D-25	116	B-7	120	Building	9.7	88

Mission 1010-1

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-56*	073	A-B-9	175	Airfield	9.4	89
D-56*	073	A-B-9	175	Airfield	5.3	134
D-56	073	B-6	040	Airfield	8.1	106
D-56	073	B-6	040	Airfield	9.2	122
D-56	085	C-7	165	Building	9.5	74
D-56	093	B-11	165	Airfield	11.8	84
D-56	093	B-11	165	Airfield	16.1	56
D-56	099	A-10	050	Airfield	8.5	122
D-56	099	A-10	050	Airfield	13.6	91
D-56	111	A-3	075	Airfield	8.9	87
D-56	111	A-3	075	Airfield	4.8	132

*M.I.P. Frame

Analysis of Photographic Image to Evaluate System Performance

Mission 1010-2

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	21.4 l/mm
Coefficient of Dispersion	25%
Number of Edges	110
M.I.P. Frame	136 l/mm

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

Arithmetic Mean	9.8 μ
Standard Deviation	3.2 μ
Coefficient of Dispersion	32%
Number of Edges	110
M.I.P. Frame	5.0 μ

Analysis of Photographic Image to Evaluate System Performance

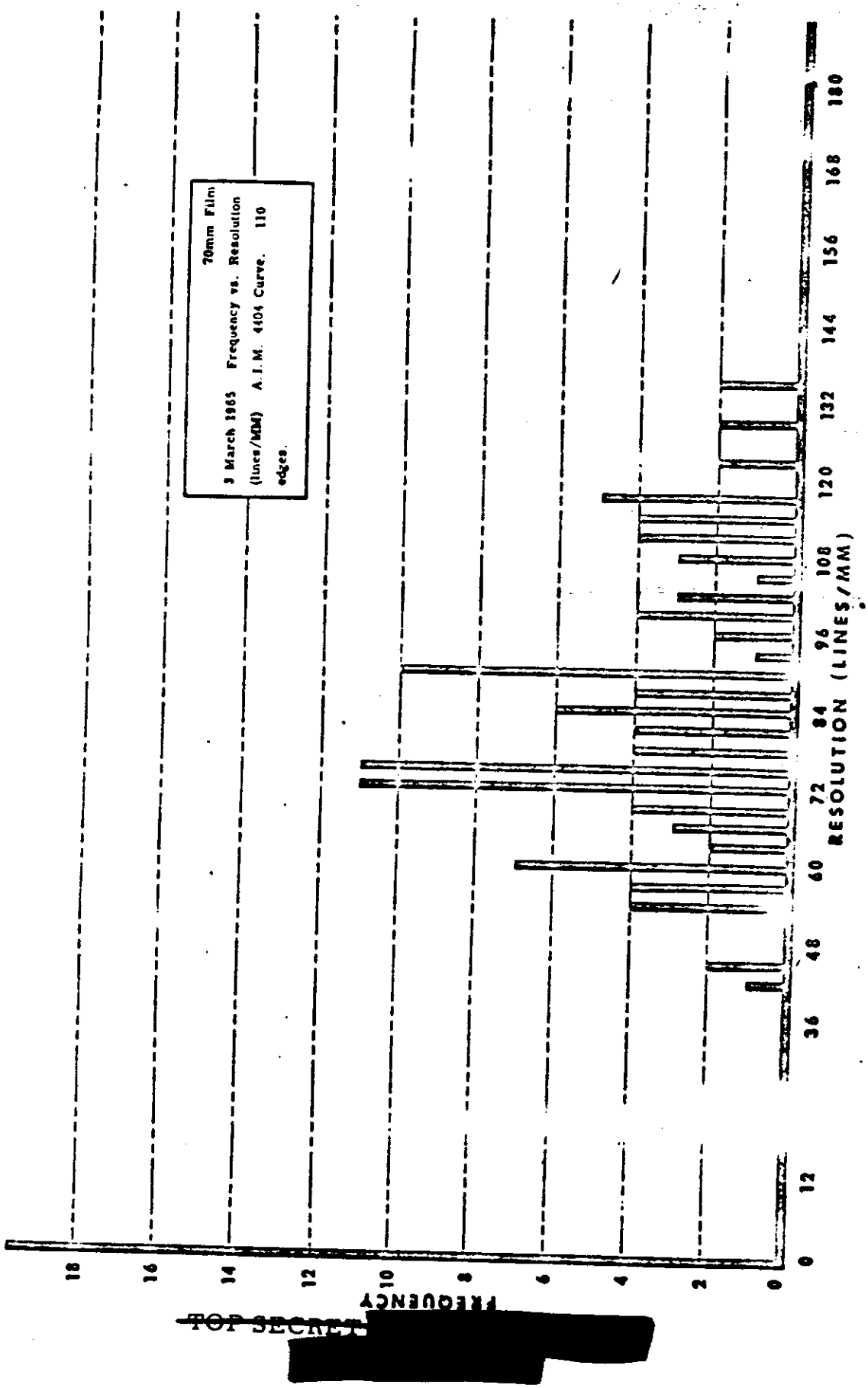
Mission 1010-2

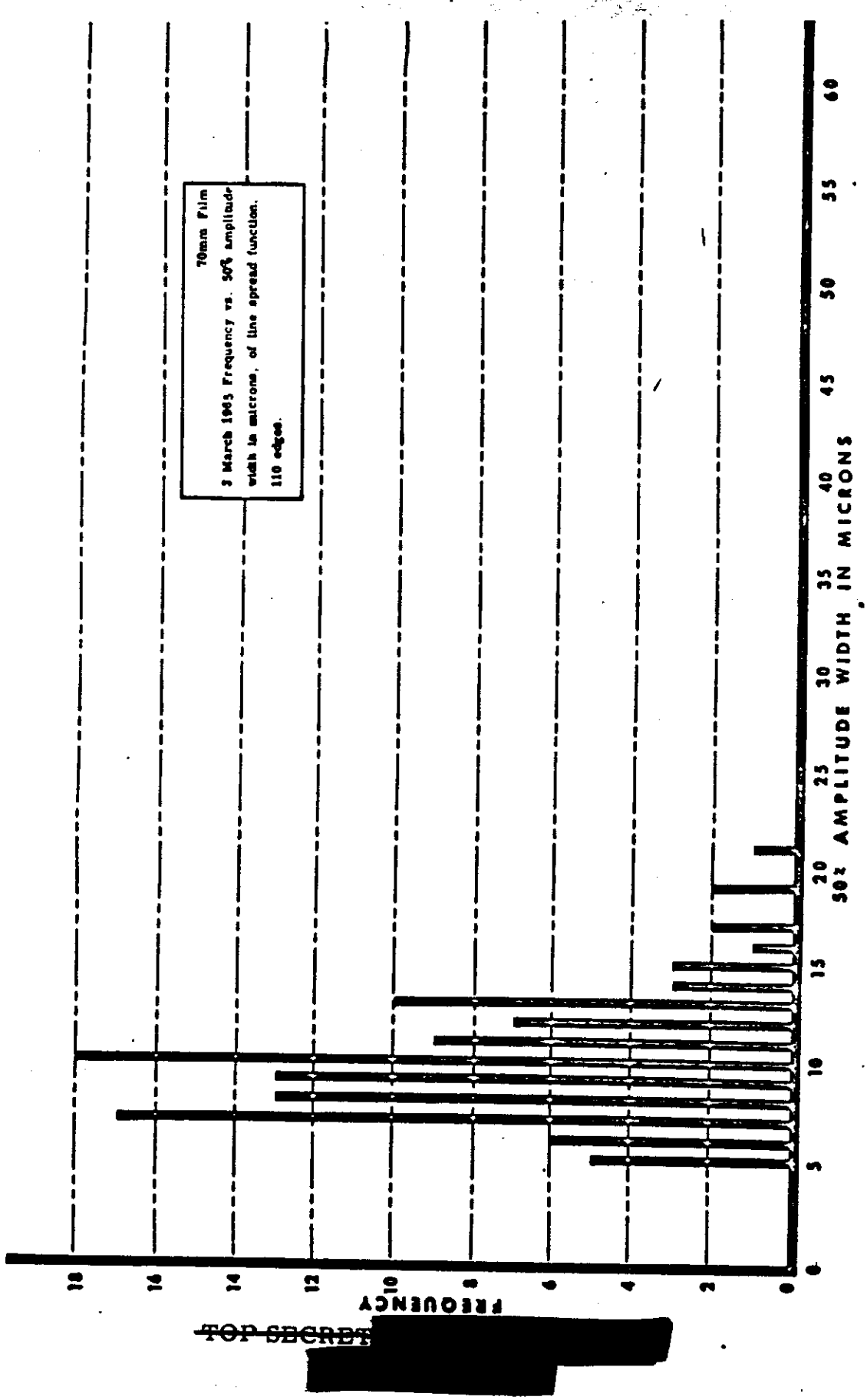
Resolution in lines/mm based on the aerial image modulation - 4404 curve from edge trace data reduced by computer techniques.

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	82.3 l/mm	86.5 l/mm	81.4 l/mm	96.5 l/mm
Standard Deviation	20.5 l/mm	22.2 l/mm	21.2 l/mm	18.0 l/mm
Coefficient of Dispersion	25%	26%	26%	19%
Number of Edges	57	53	89	21

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

	FWD Camera	AFT Camera	Airfields	Buildings
Arithmetic Mean	10.0 μ	9.7 μ	10.2 μ	8.2 μ
Standard Deviation	3.4 μ	2.9 μ	3.2 μ	2.3 μ
Coefficient of Dispersion	34%	30%	32%	28%
Number of Edges	57	53	89	21


70mm Film
3 March 1965 Frequency vs. Resolution
(lines/MM) A.I.M. 4:04 Curve. 110
edges.
FREQUENCY
RESOLUTION (LINES/MM)
0
2
4
6
8
10
12
14
16
18
12
36
48
60
72
84
96
108
120
132
144
156
168
180


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

Analysis of Photographic Image to Evaluate System Performance

Mission 1010-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-68	062	A-2	110	Airfield	7.2	90
D-68	062	A-2	110	Airfield	10.5	68
D-68	068	B-7	150	Buildings	6.5	113
D-68	068	B-7	150	Buildings	6.1	123
D-68	074	B-11	140	Airfield	9.6	81
D-68	074	B-11	140	Airfield	7.9	88
D-68	080	B-8	170	Airfield	10.3	74
D-68	080	B-8	170	Airfield	11.3	73
D-68	083	B-8	035	Airfield	8.3	89
D-68	083	B-8	035	Airfield	9.6	78
D-68	083	A-8	125	Buildings	13.3	61
D-68	083	A-8	125	Buildings	5.6	113
D-71	042	B-6	110	Airfield	19.2	53
D-84	094	C-6	075	Airfield	9.8	82
D-84	094	C-6	075	Airfield	7.6	89
D-84	101	B-12	115	Airfield	12.9	58
D-84	101	B-12	115	Airfield	10.2	86
D-84	106	C-3	085	Airfield	19.3	44
D-84	106	C-3	085	Airfield	12.9	68
D-84	106	C-3	150	Airfield	14.4	59
D-84	106	C-3	150	Airfield	11.7	57

Mission 1010-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-84	107	B-2	090	Airfield	8.5	91
D-84	107	B-2	090	Airfield	12.5	61
D-85	099	B-6	110	Buildings	7.8	90
D-85	099	B-6	110	Buildings	11.4	69
D-86	031	C-6	020	Airfield	14.6	59
D-86	031	C-6	020	Airfield	14.4	54
D-86	037	C-2	105	Buildings	7.0	98
D-86	037	C-2	105	Buildings	7.1	90
D-88	087	C-12	100	Airfield	6.7	100
D-88	087	C-12	100	Airfield	9.6	76
D-88	124	B-6	100	Airfield	12.9	62
D-88	124	B-6	100	Airfield	11.6	82
D-93	017	C-5	080	Ground Test Obj.	8.6	85
D-93	017	C-5	170	Ground Test Obj.	7.2	102
D-93	021	C-7	060	Airfield	10.0	83
D-93	021	C-7	060	Airfield	8.4	85
D-93	028	C-8	120	Airfield	10.0	116
D-93	028	C-8	120	Airfield	9.8	76
D-100	015	A-10	100	Airfield	9.9	79
D-100	015	A-10	100	Airfield	9.1	85
D-101	054	BC-7	025	Airfield	11.6	70
D-101	054	BC-7	025	Airfield	14.9	58
D-115	046	C-11	075	Airfield	6.7	96
D-115	046	C-11	075	Airfield	4.7	110
D-115	047	B-12	170	Airfield	11.6	64
D-115	047	B-12	170	Airfield	6.9	107

Mission 1010-2

FORWARD CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-115	050	C-11	045	Airfield	8.1	84
D-115	050	C-11	045	Airfield	6.4	117
D-115	051	A-12	065	Airfield	6.8	114
D-115	051	A-12	065	Airfield	8.6	84
D-115	051	C-11	070	Airfield	8.6	75
D-115	051	C-11	070	Airfield	5.8	111
D-115*	053	B-8	060	Airfield	10.6	74
D-115*	053	B-8	060	Airfield	5.2	129
D-131	028	C-3	105	Airfield	11.0	66
D-131	028	C-3	105	Airfield	20.7	42

*M.I.P. Frame

Mission 1010-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-68	067	A-12	125	Airfield	10.9	77
D-68	067	A-12	125	Airfield	12.6	66
D-68	074	B-8	150	Buildings	5.9	116
D-68	080	B-3	125	Airfield	12.5	75
D-68	080	B-3	125	Airfield	12.8	58
D-68	086	B-6	175	Airfield	7.0	105
D-68	086	B-6	175	Airfield	7.8	89
D-68	089	C-7	035	Airfield	9.6	90
D-68	089	C-7	035	Airfield	5.1	112
D-68	089	C-7	120	Buildings	8.7	100
D-71	048	BC-8	115	Airfield	5.4	129
D-71	048	BC-8	115	Airfield	8.2	86
D-84	101	C-9	070	Airfield	12.0	71
D-84	101	C-9	070	Airfield	5.5	135
D-84	104	BC-7	110	Airfield	8.4	76
D-84	104	BC-7	110	Airfield	9.3	76
D-84	107	A-2	115	Airfield	9.0	109
D-84	107	A-2	115	Airfield	9.8	72
D-84	112	B-12	080	Airfield	12.8	59
D-84	112	B-12	080	Airfield	11.9	71
D-84	113	B-11	095	Airfield	17.4	76
D-84	113	B-11	095	Airfield	16.6	54
D-85	035	B-7	140	Buildings	7.3	109
D-85	035	B-7	140	Buildings	8.0	101
D-86	037	B-9	020	Airfield	8.1	97
D-86	037	B-9	020	Airfield	7.4	117

Mission 1010-2

AFT Camera

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-86	043	B-12	105	Buildings	8.1	116
D-86	043	B-12	105	Buildings	7.0	102
D-86	108	B-7	155	Dam	10.6	78
D-86	108	B-7	155	Dam	9.0	89
D-93	014	C-5	150	Airfield	10.7	72
D-93	014	C-5	150	Airfield	11.6	66
D-93	023	B-9	070	Ground Test Obj.	6.6	113
D-93	023	B-9	160	Ground Test Obj.	14.0	60
D-93	027	A-7	070	Airfield	6.7	124
D-93	027	A-7	070	Airfield	9.1	91
D-100	020	A-4	100	Airfield	10.4	72
D-100	020	A-4	100	Airfield	10.4	81
D-101	060	B-8	025	Airfield	13.2	60
D-101	060	B-8	025	Airfield	10.0	74
D-115	052	B-3	065	Airfield	15.9	45
D-115	052	B-3	065	Airfield	9.2	75
D-115	053	C-2	140	Airfield	10.3	71
D-115	053	C-2	140	Airfield	8.5	94
D-115	056	B-4	035	Airfield	10.1	73
D-115	056	B-4	035	Airfield	7.8	87
D-115	057	AB-3	170	Airfield	6.7	111
D-115	057	AB-3	170	Airfield	10.3	71
D-115	058	B-3	035	Dock	7.3	99
D-115*	059	C-7	045	Airfield	9.2	73
D-115*	059	C-7	045	Airfield	5.0	136

*M.I.P. Frame

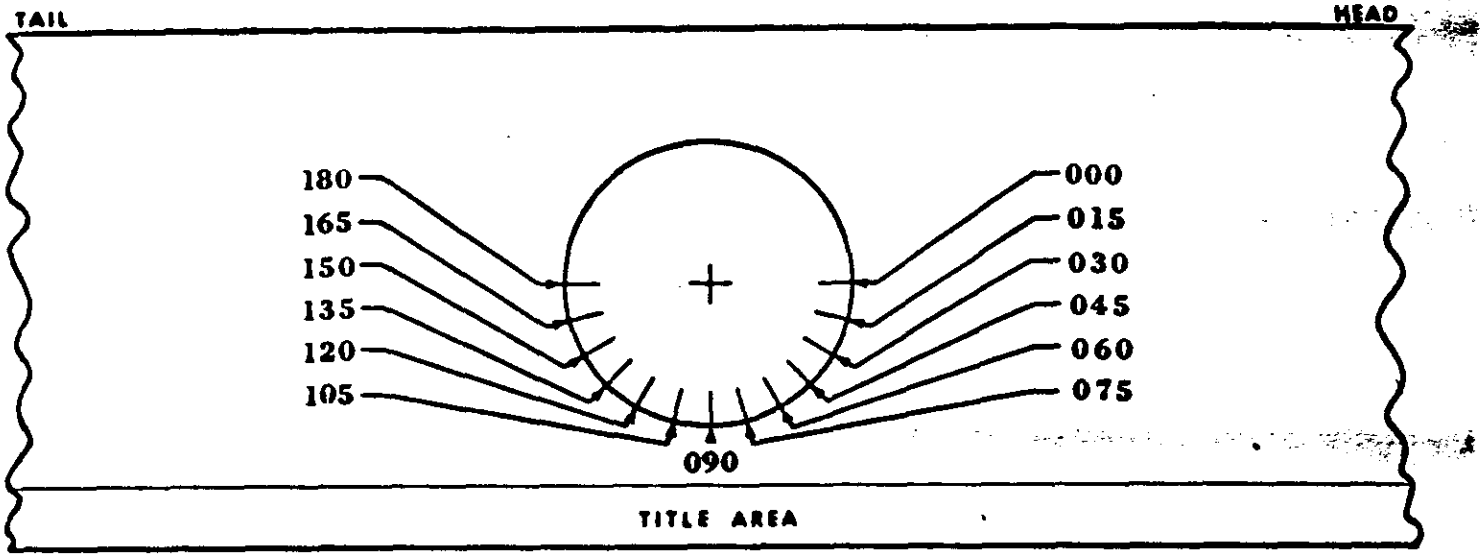
Mission 1010-2

AFT CAMERA

Pass	Frame	Location	Orientation	Subject	50% Amplitude Spread Function Width (Microns)	A.I.M. Resolution
D-131	034	B-11	105	Airfield	10.7	7i
D-131	034	B-11	105	Airfield	14.8	55

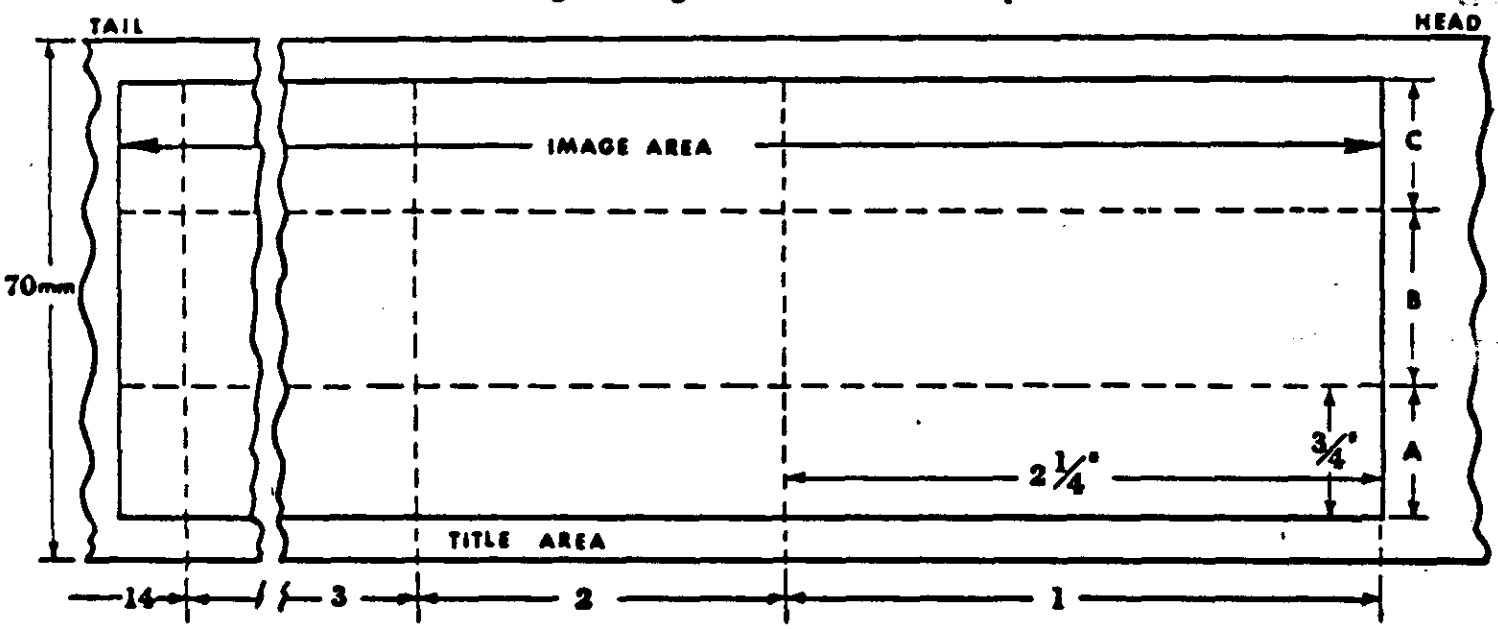
Reference System For Orientation Of C/M/J Mission Edges

original negative - - emulsion up



Grid For Position Of C/M/J Mission Edges

original negative - - emulsion up



SECTION 11

OBSERVED DATA

Photography over the United States was acquired on descending passes 31, 47, 61 and 93. Clouds and haze degraded more than 60% of the total area covered. There was no appreciable difference in quality between fore and aft photography.

Pass D-31 over western New Mexico and eastern Arizona presented a very bright scene with low contrast ground detail. Scattered clouds and haze were present. Even so, numerous ordnance bunkers and pertinent transportation facilities at Fort Wingate, N. M. were easily identified. Individual cars in a parking lot were observed as well as cars and trucks on U.S. Route 66.

Pass 47 over Nevada was very hazy. Indian Springs fixed target was located 12" west of C/F and the largest group could not be resolved. Further south, in the Colorado River Basin, the haze lessened and ground detail in the 10 to 12 foot range could be isolated.

Pass 61 over eastern New York and Pennsylvania was very hazy, starting with 75% cloud cover at the start and 100% by the time it reached central New Jersey. Some holes in the cloud cover and partial clearing yielded some interesting data. Excellent system performance was demonstrated by coverage of the Tappan-Zee Bridge. The entire superstructure of this fabricated steel cantilever bridge could be seen in great detail.

At the Verrazano Narrows Bridge, the suspension cables could be easily seen. These cables are twin 36 inch supports spaced about 3 feet apart. They could not be seen as individual strands. Also some of the hanger cables could be seen, however each hanger is actually a group of 4 cables of unknown size, but probably less than 6 inches, each arranged in a one to two foot square array. It is also interesting to note that the main cables of the Manhattan Bridge with 2 pairs of 21 1/4 inch cables, The Williamsburg Bridge with 2 pairs of 18 3/8 inch cables and the Brooklyn Bridge's single outside cables of 15 3/4 inch diameter could be distinguished.

At NAS Johnsville, clouds and haze rendered the fixed targets unresolvable. However, on the portable target, Group 3 was resolved in the forward unit and Group 2 in the Aft. Due to target orientation, these represent cross track resolution only in the 8 - 12 foot range.

Pass 93, centered on western Ohio and Kentucky, had heavy cloud cover with some hazy holes. Such a hole opened up over WPAFB and the portable T Bar target could be resolved to Group 2. At Frankfort, Kentucky, Capitol City Airport's all weather runway numbers "6" and "24", which seem to conform to FAA standard markings, the 5 foot wide vertical arms were clearly seen even though the visual contrast was low.

SECTION 12

MISSION 1010-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 41
Index Reseau	41
Stellar Reseau	41

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

Lens	85mm f/1.8
Exposure Time	2 seconds
Filter Type	None
Film Type	Eastman Type 3401

Index Camera:

Lens	38mm f/4.5
Exposure Time	1/500 second
Filter Type	Wratten 21
Film Type	Eastman Type 3400

C. POST FLIGHT EVALUATION

The camera functioned properly throughout the mission with no observed equipment or photographic anomalies. Approximately twenty star images were recorded during the mission. One Stellar camera fiducial was over-exposed but usable.

Emulsion cracking was observed in most Stellar frames. It was minor at the start of the mission and became very heavy near the end of the mission. Occasional minor edge static was noted on the camera number edge throughout the mission. The last twenty-two frames were slightly fogged; from frame #412 to #420 the film appeared to be fogged by corona discharge while frame #421 and #422 was probably fogged by light. The fogging is attributed to the camera slew mode and is normally observed in this area of the Stellar film.

Foreign objects in space were imaged in frames #1 through #24 and are attributed to Agena fuel venting. Objects of unknown origin were also noted in frame numbers 31, 39, 40, 42, 46, 52, 68, 81, 84, 87, 142, 167, 231, 242, 258 and 283.

Double stellar imagery was present intermittently throughout the mission. The magnitude of the separation appeared to be cyclic. Frame #12 contained several foreign objects, assumed to be fuel particles, which were not in the straight line pattern normally observed but were in a broken line pattern indicating vehicle roll motion during photography. Double star images were also present in this frame. A sketch of this frame is shown in Figure 12-1. Computer data shows that the Slave camera was lagging the Master camera by 104 degrees. Approximations show that the time base, shown by the broken line, and the displacement, as measured from the double imagery, correspond to a roll rate of 233^{o}/hr. and a corresponding cross track IMC error of 2.7%. The rate lasted for about one second in each direction. It is apparent that in cases where this roll rate motion is additive to earth rotation a total IMC error could result that would limit the system performance. A report covering the detailed analysis of this anomaly has been published by A/P.

The quality of the Index camera was considered to be the best obtained during a Corona mission. All camera functions operated properly throughout the mission.

The frame corners on the camera number edge were slightly distorted outward from the proper position. The reseau line image gave the impression that the film was not flat on the reseau plate.

MISSION 1010-1 STELLAR FORMAT

FRAME #12

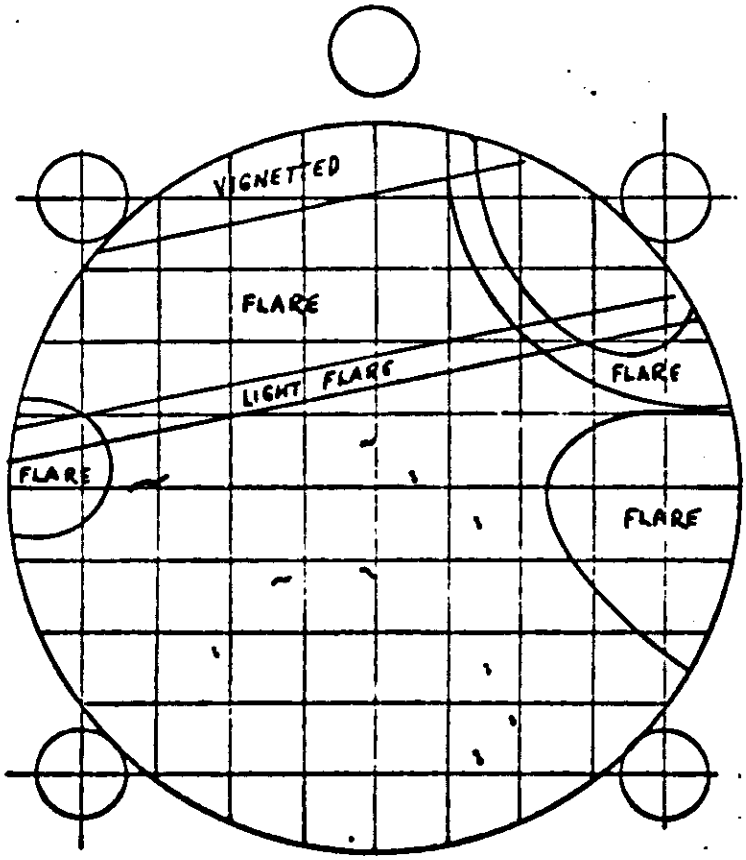


FIGURE 12-1

SECTION 13

MISSION 1010-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 44
Index Reseau	46
Stellar Reseau	44

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:	
Lens	85mm f/1.8
Exposure Time	2 seconds
Filter Type	None
Film Type	Eastman Type 3401
Index Camera:	
Lens	38mm f/4.5
Exposure Time	1/500 second
Filter Type	Wratten 21
Film Type	Eastman Type 3400

C. POST FLIGHT EVALUATION

All camera functions operated properly throughout the mission. Cyclic, double star images were observed on the photography.

Two separate fog patterns produced by light leaks were observed on the stellar film. The first pattern was associated with camera sit time and produced a fog pattern starting at each edge of the film extending into the format area. The location of the fog pattern correlates with the interface of the camera and chute. The second pattern was a faint band of fog

across the entire format about 1.1 inches wide every 5 inches the entire length of the film. This pattern could be detected through frame 92 however it was not considered degrading. The pattern was present but barely detectable after frame 92. The cause of this second pattern is unknown. It is very possible that it is not associated with camera operations.

The stellar film emulsion was cracked throughout the mission; minor near the start and quite heavy near the end. One crack pattern had a 1.6 inch pitch during the entire mission and appears to be associated with camera operations. This problem has been investigated and is attributed to foreign material on the camera platen.

The last ten frames of stellar film were fogged by corona discharge. This is attributed to the film slew at the completion of the mission.

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

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1010-1 and 1010-2 were derived from the reduction of the Stellar camera photography. This attitude data is supplied to A/P by NPIC.

The attitude errors for each frame and the attitude control rates are calculated at the A/P computer facility. The computer also plots the frequency distribution of the rates and errors. Figures 14-1 through 14-6 show these distributions for Mission 1010-1 and Figures 14-7 through 14-12 for Mission 1010-2.

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.

Value	Mission 1010-1 90%	Mission 1010-1 Range	Mission 1010-2 90%	Mission 1010-2 Range
Pitch Error (^{o})	0 93	-0.65 to +1.40	0.59	-2.50 to +0.60
Roll Error (^{o})	0.30	-0.38 to +0.54	0.70	+0.34 to +1.04
Yaw Error (^{o})	0.87	-0.35 to +1.60	1.21	-0.15 to +2.60
Pitch Rate (^{o}/hr)	39.1	- 80 to + 65	45.4	- 95 to + 90
Roll Rate (^{o}/hr)	23.6	- 95 to + 65	23.6	- 70 to + 58
Yaw Rate (^{o}/hr)	30.8	- 70 to + 70	30.7	- 56 to + 46

The performance of the attitude control system is comparable to the control systems used on recent missions. Yaw error was somewhat larger than usual. The panoramic photography was not degraded by the attitude control system.

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.9

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

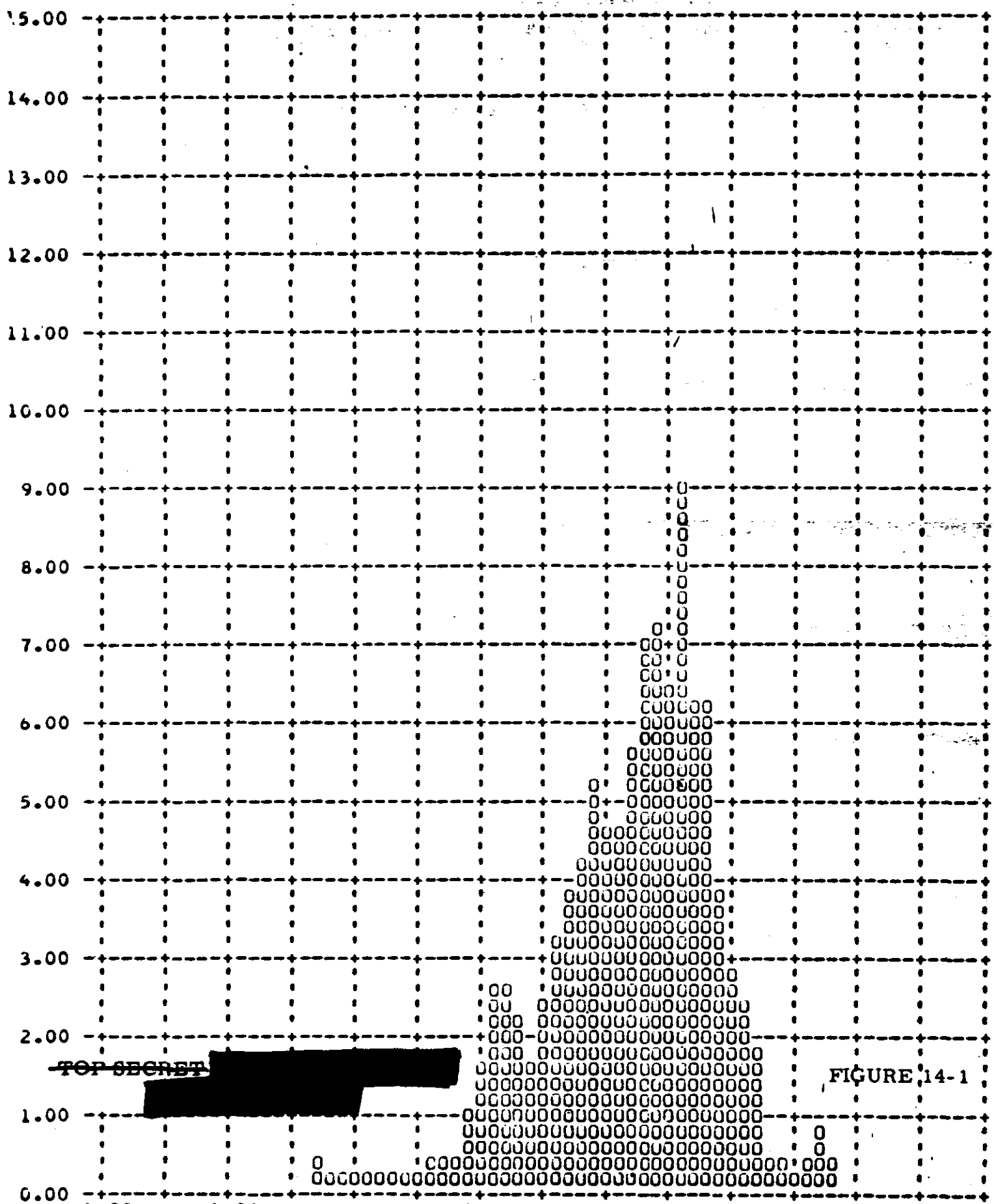


FIGURE 14-1

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.3(

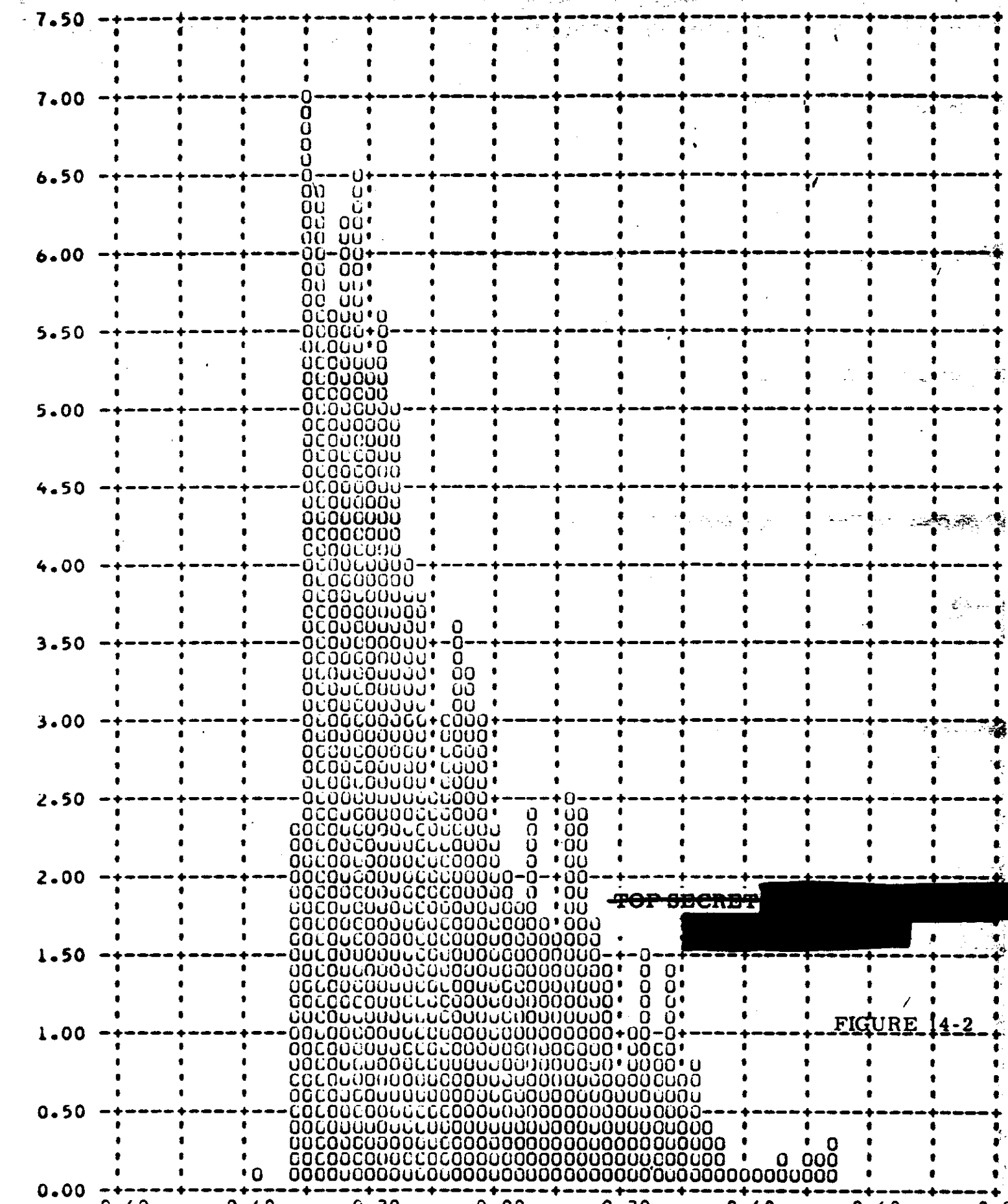


FIGURE 14-2

[redacted] MISSION 1010-1 [redacted] MISSION 1010

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OP UNITTED 90 PERCENT = 0.8

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

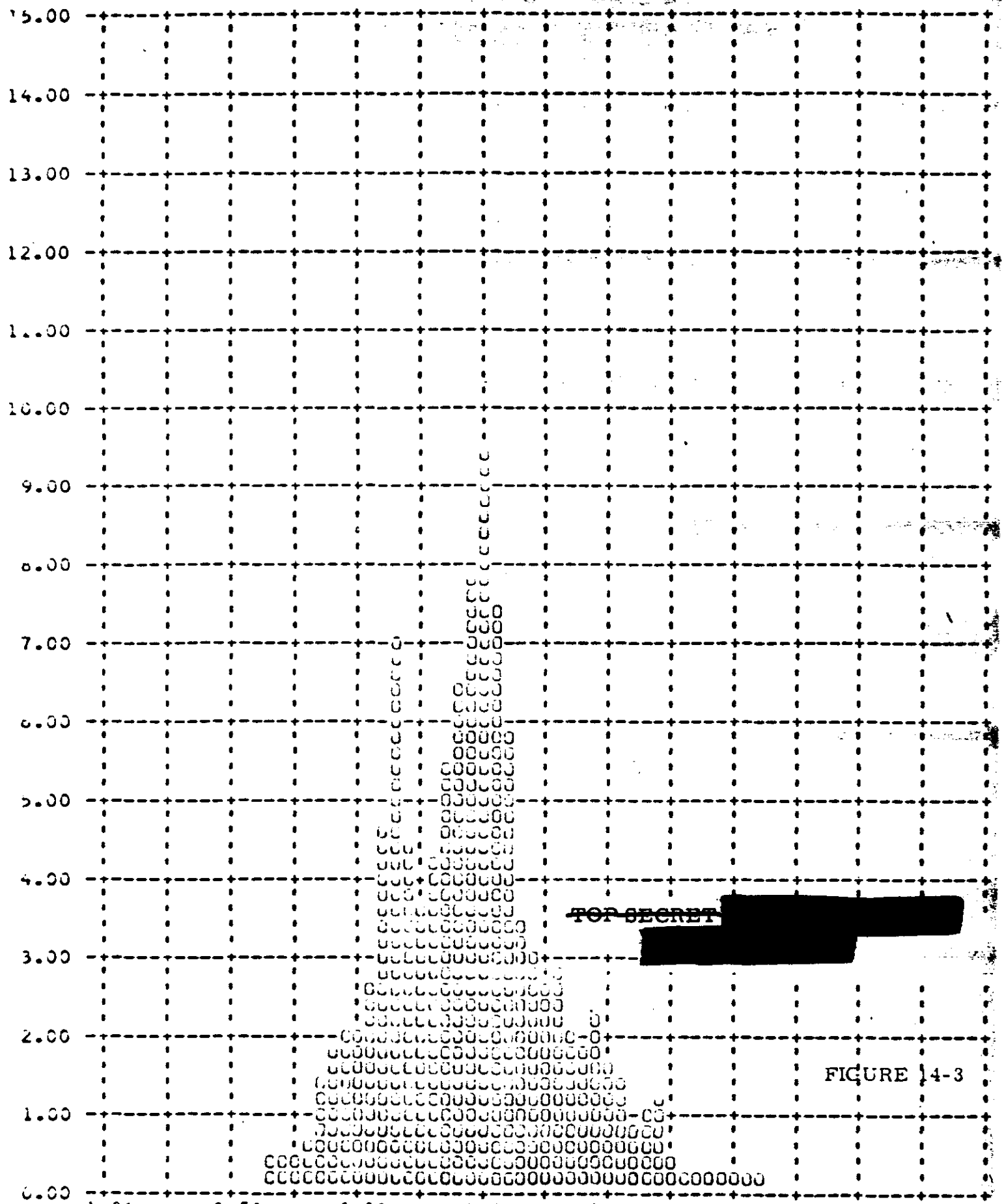


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FIGURE 14-3

2ND 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 39.0

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

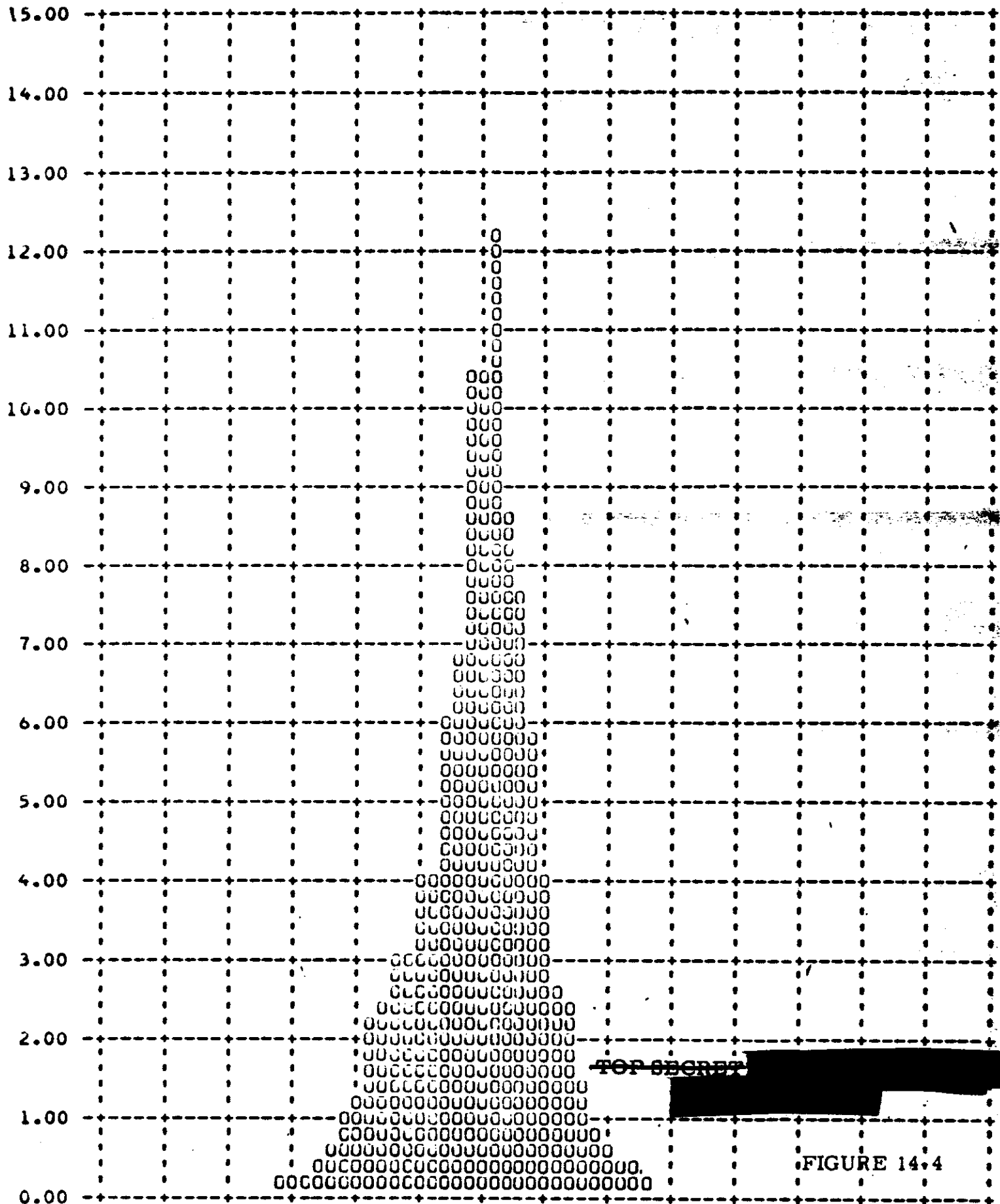

FIGURE 14.4

INST 1 - J11A- V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 23.6

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

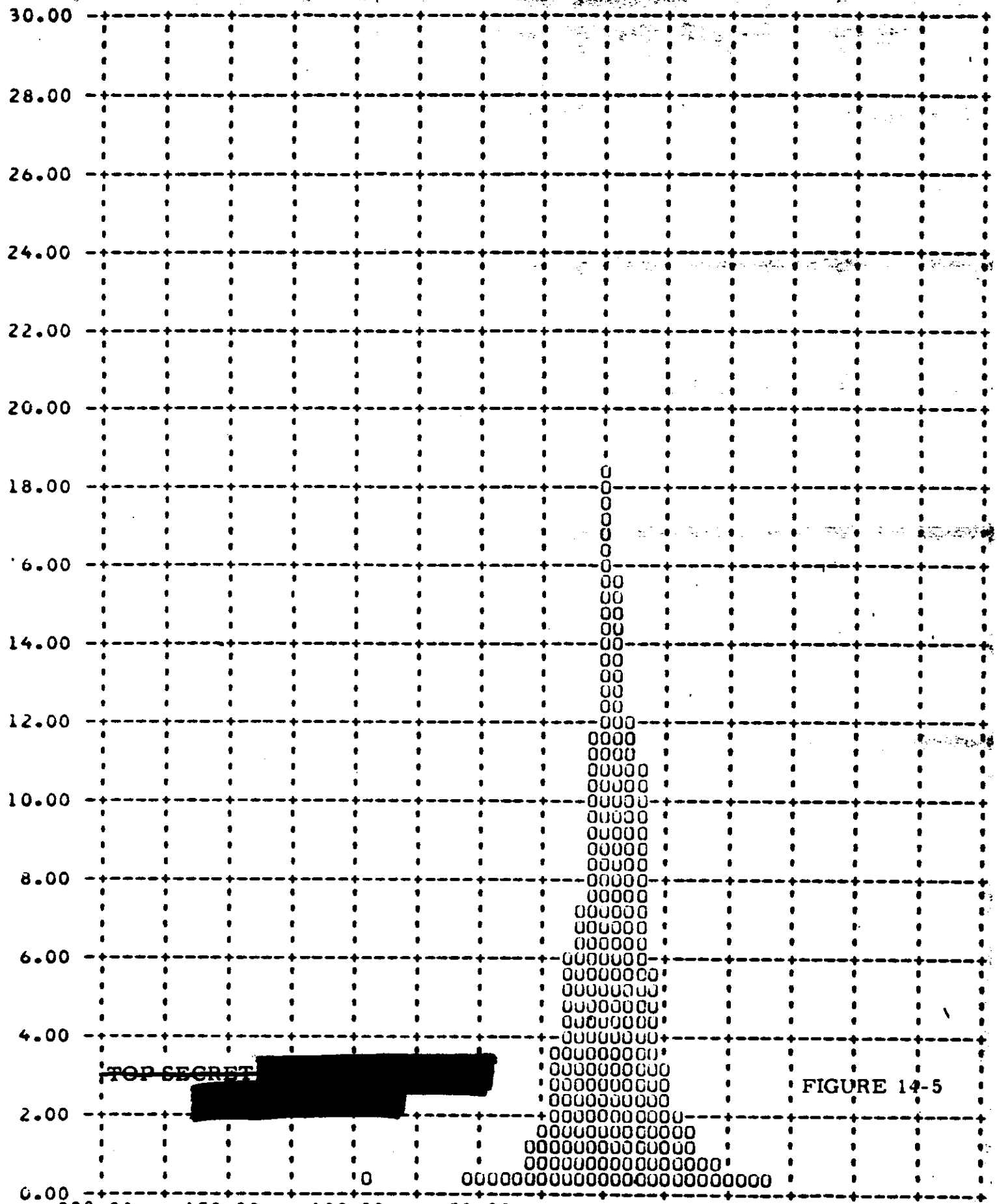

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FIGURE 14-5

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OR OMITTED 90 PERCENT = 30.8

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

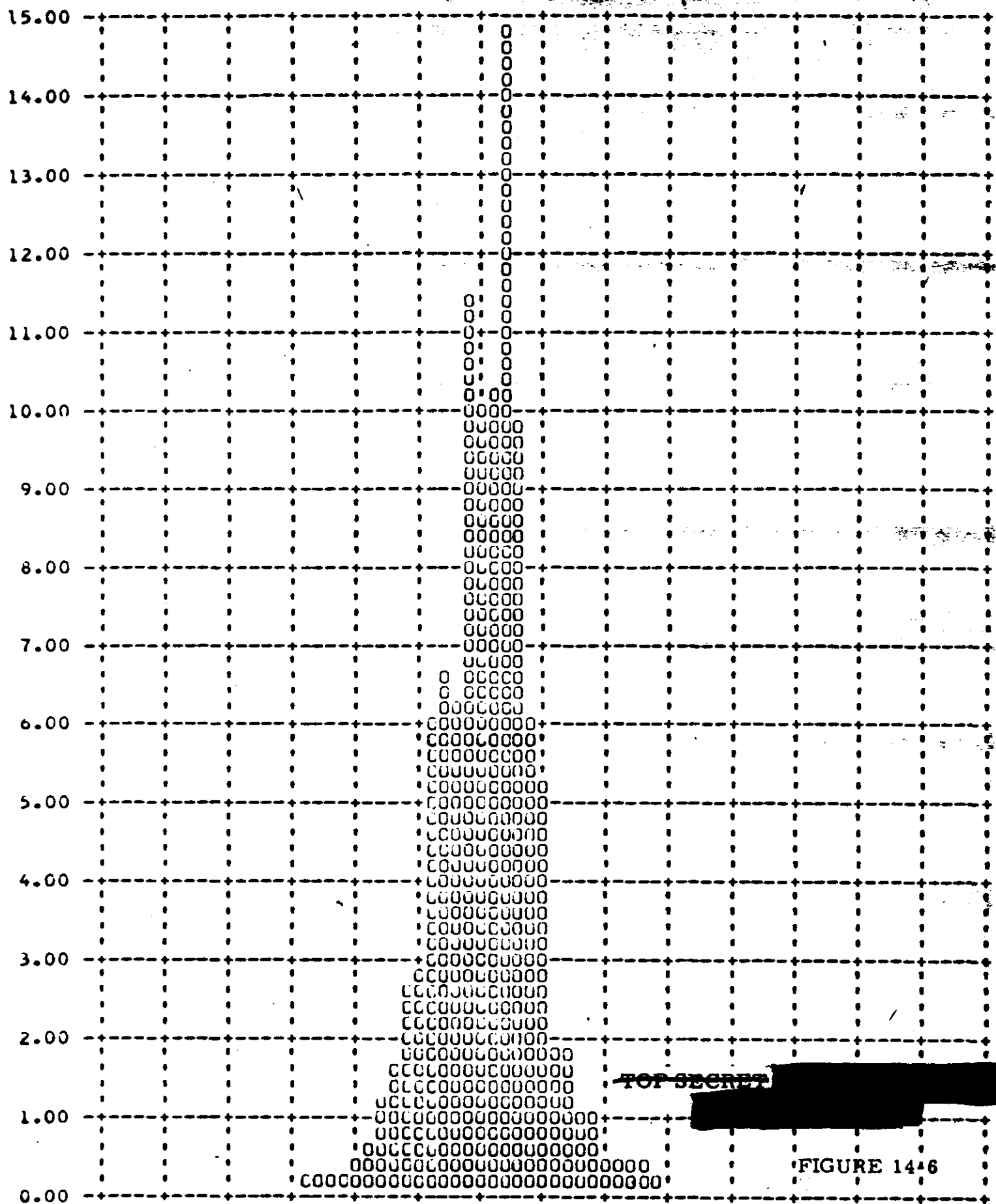


FIGURE 14-6

INST 1 J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.5

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

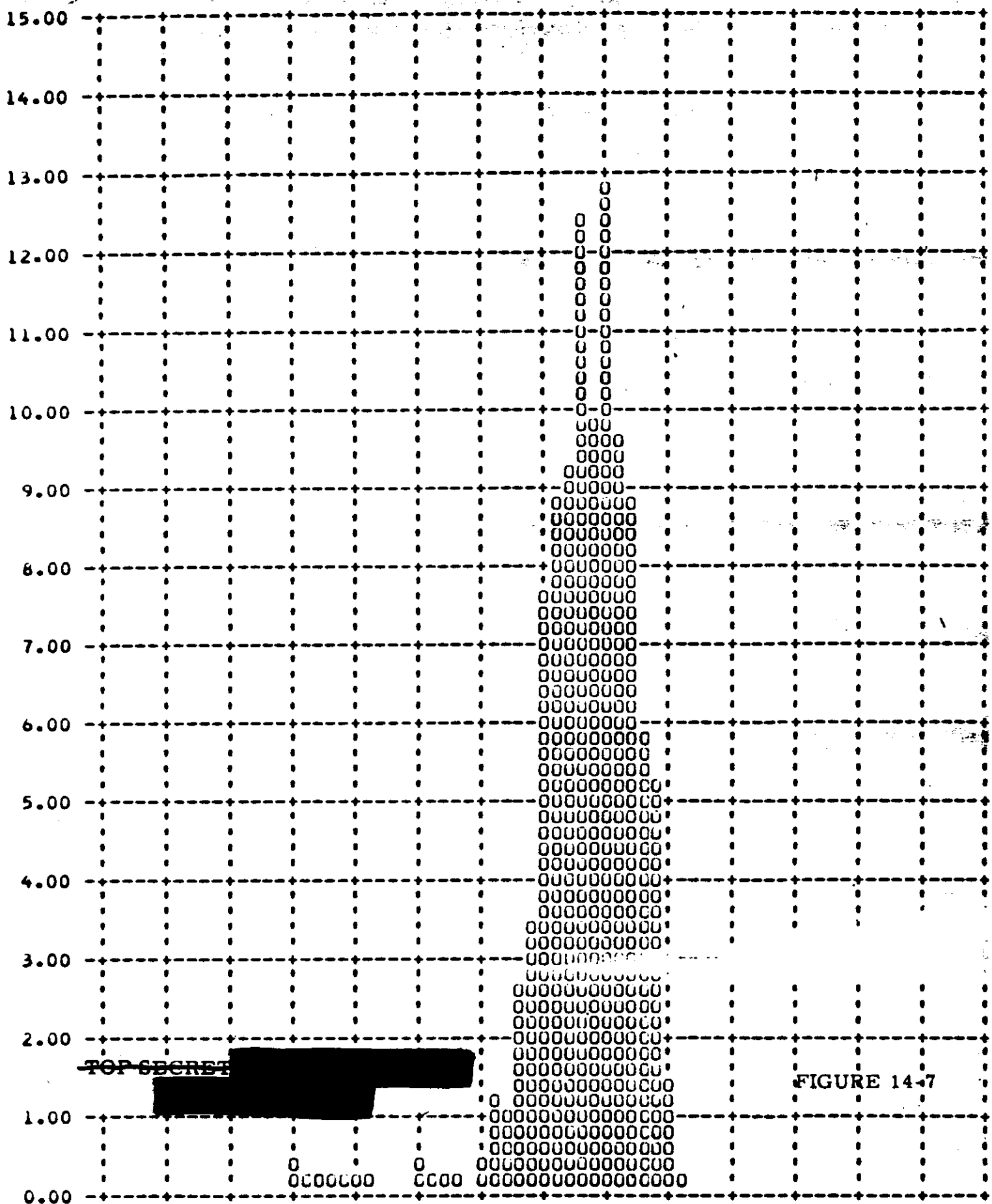


FIGURE 14-7

[redacted] MISSION 1010-2 [redacted] ISSION 1010

INST 1 J11B V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

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

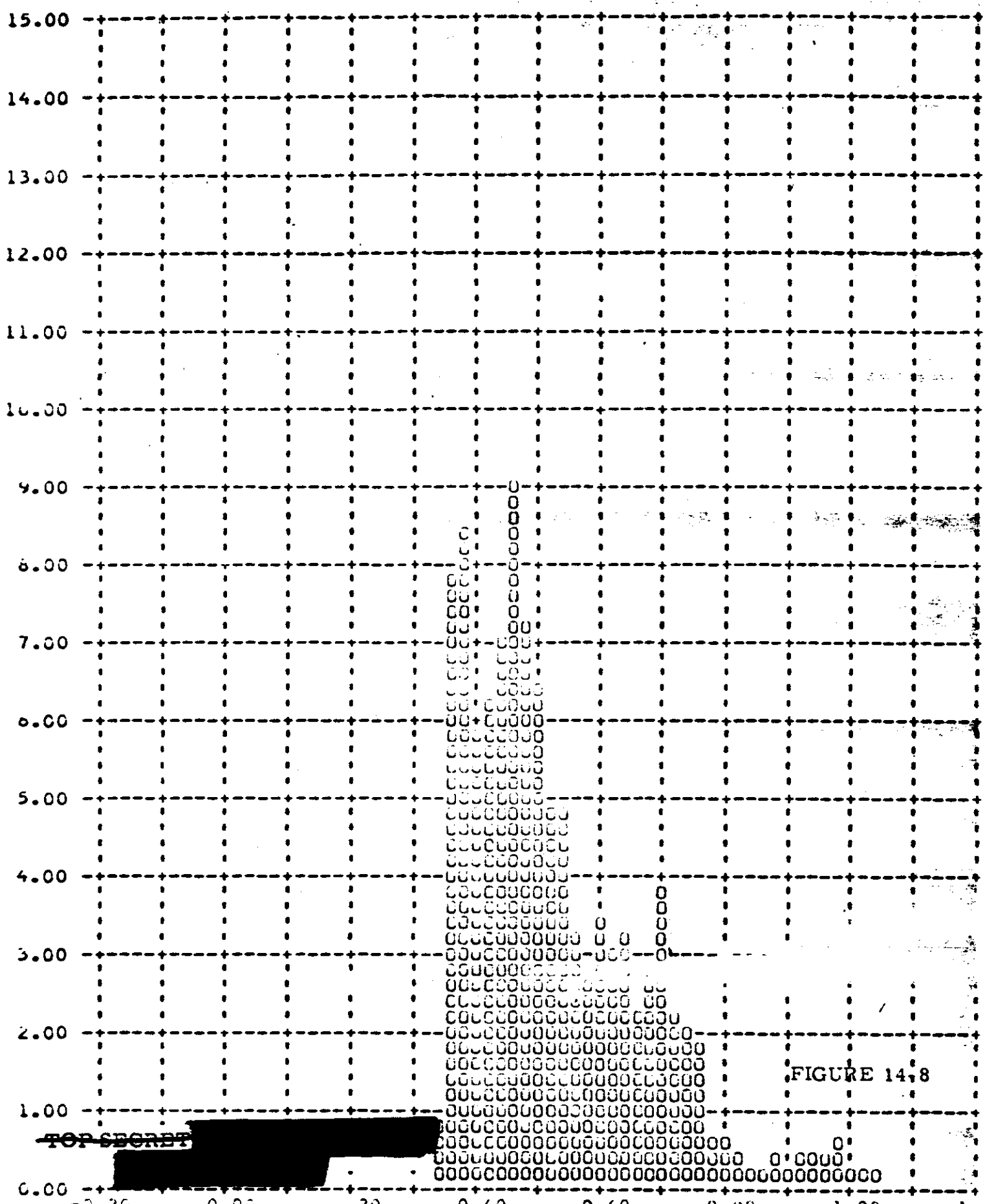


FIGURE 14.8

INST 1 J11B V1178 L 9-14-64 FRAMES 1-6 OF EACH OP UMITTED 90 PERCENT = 1.2

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

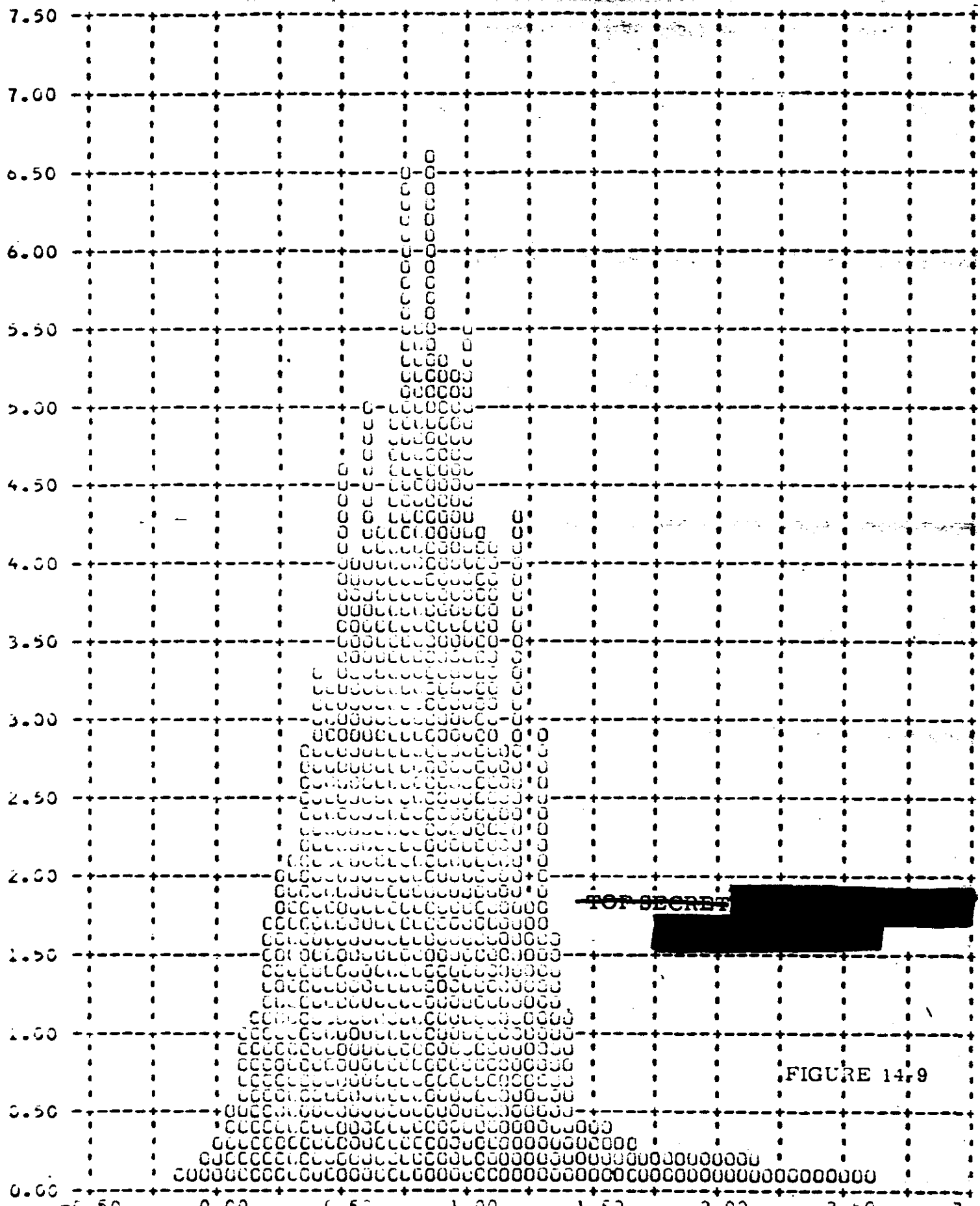
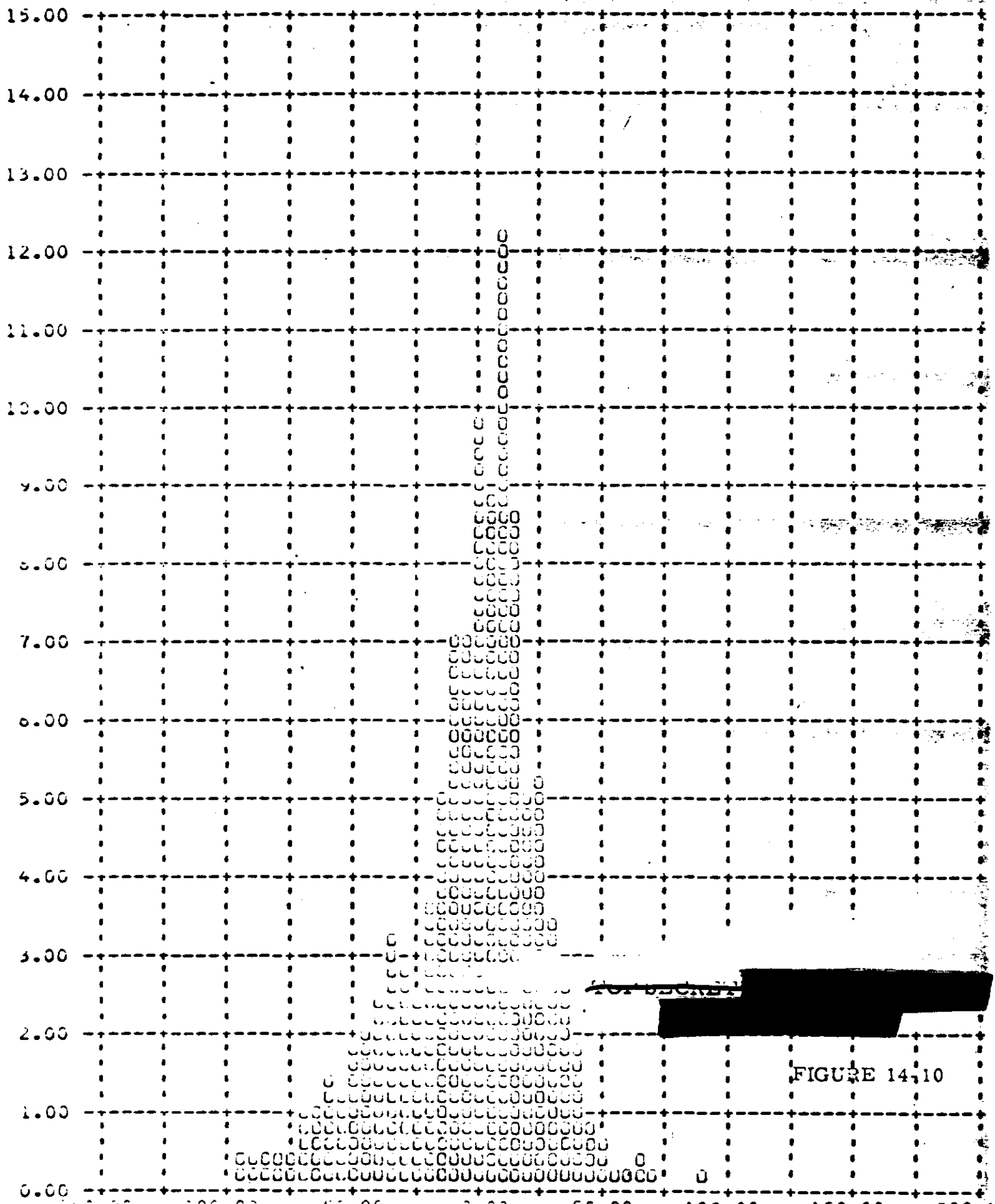


FIGURE 14.9

[redacted] MISSION 1010-2 [redacted] MISSION 1010

INST 1 - J11B V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 45.6

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



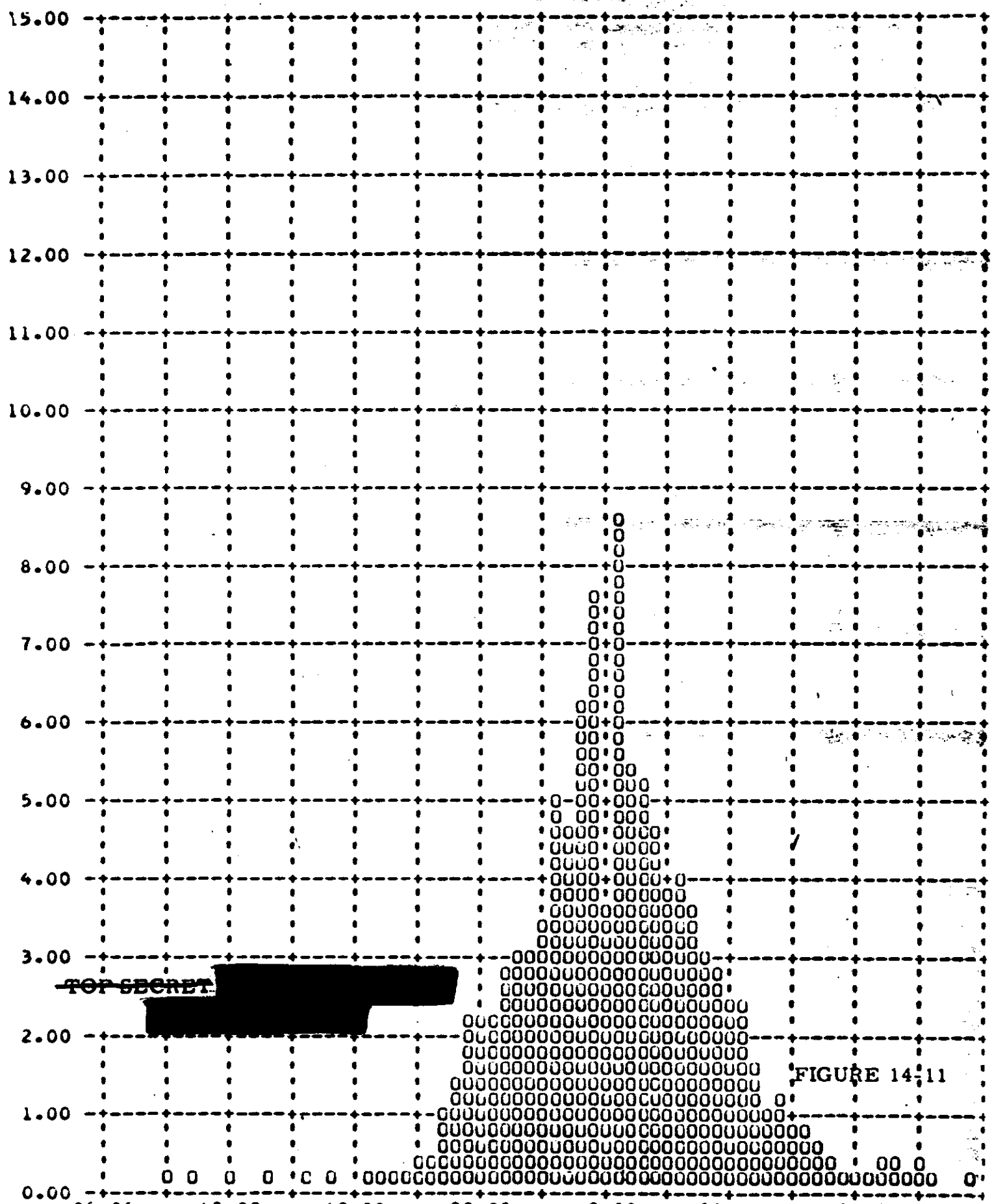
[redacted]

FIGURE 14.10

[redacted] MISSION 1010-2 [redacted] ISSION 1010

INST 1 J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 23.5

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



TOP SECRET [redacted]

FIGURE 14-11

INST 1 J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 30.74

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

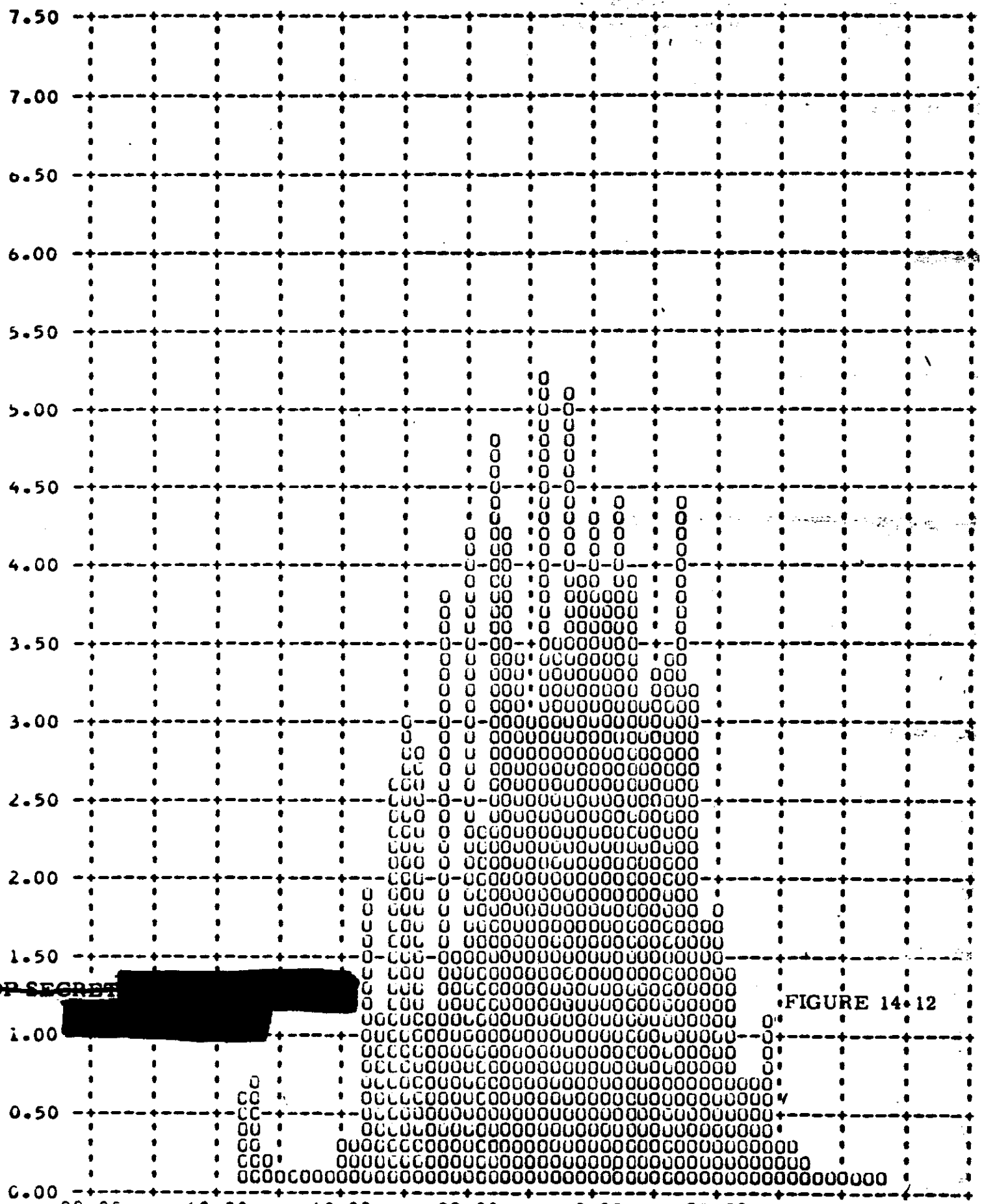


FIGURE 14-12

SECTION 15

IMAGE SMEAR ANALYSIS

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

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

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

Value	Mission 1010-1 90%	Mission 1010-1 Range	Mission 1010-2 90%	Mission 1010-2 Range
V/h Ratio Error (%)	4.5	-8.6 to +1.2	4.6	-5.6 to +6.2
Along Track Resolution Limit (ft.)	2.3	0 to 6.6	7.5	0 to 9.6
Cross Track Resolution Limit (ft.)	4.4	1.1 to 5.9	3.8	0 to 5.6

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH UP UNTITLED 90 PERCENT = 4.5

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

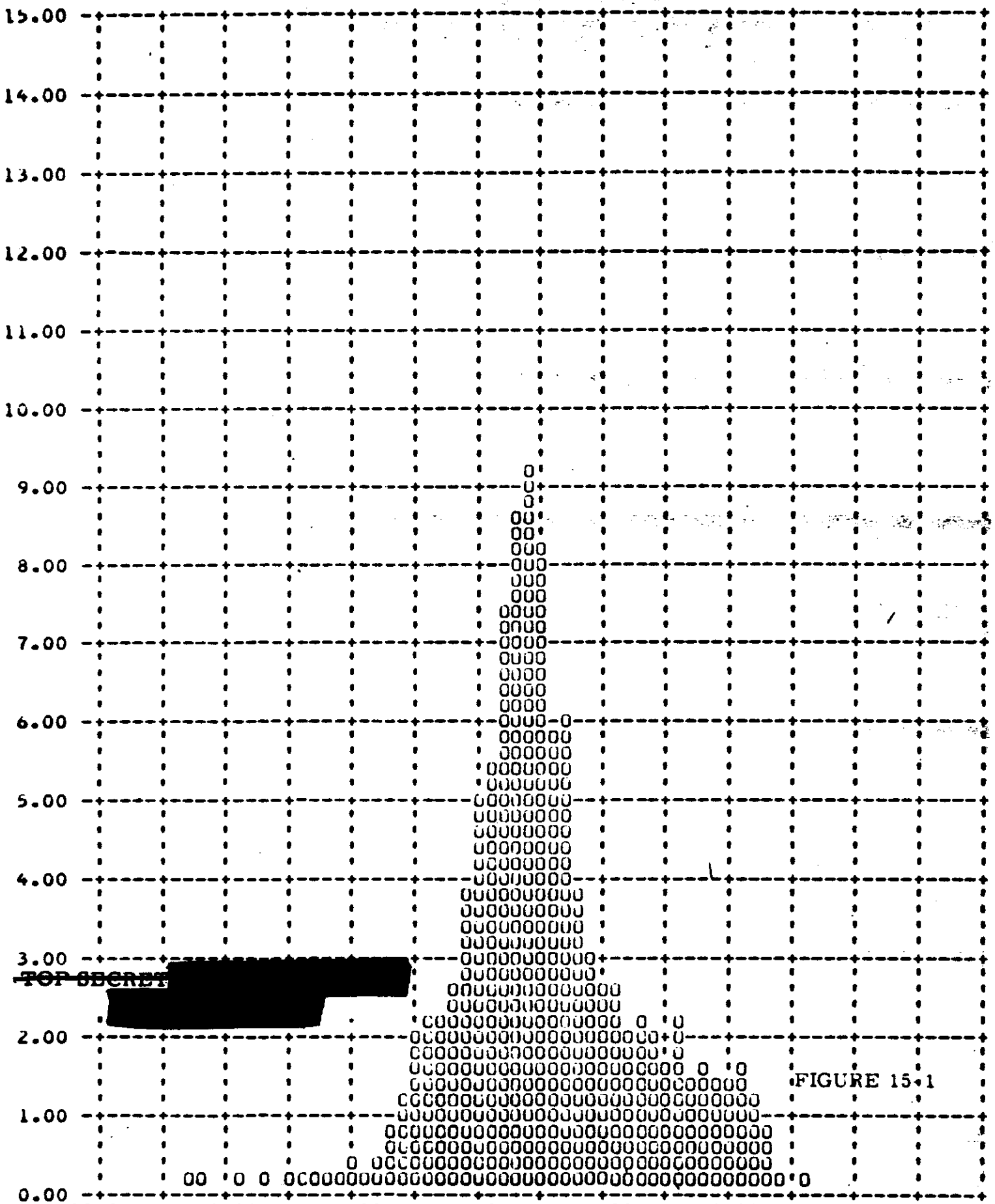


FIGURE 15-1

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH UP OMITTED 90 PERCENT = 2.2

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

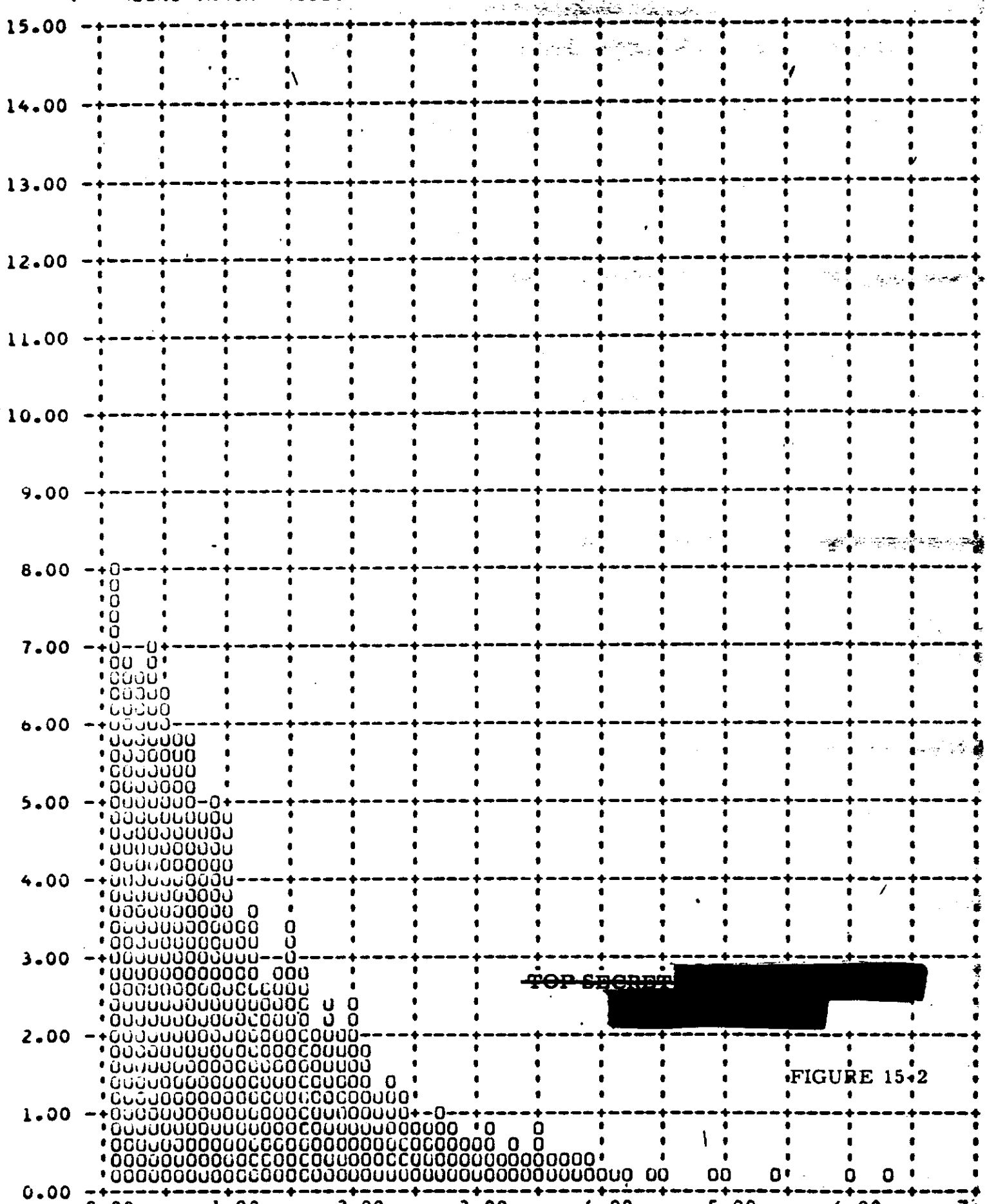


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FIGURE 15-2

INST 1 J11A V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 4.3

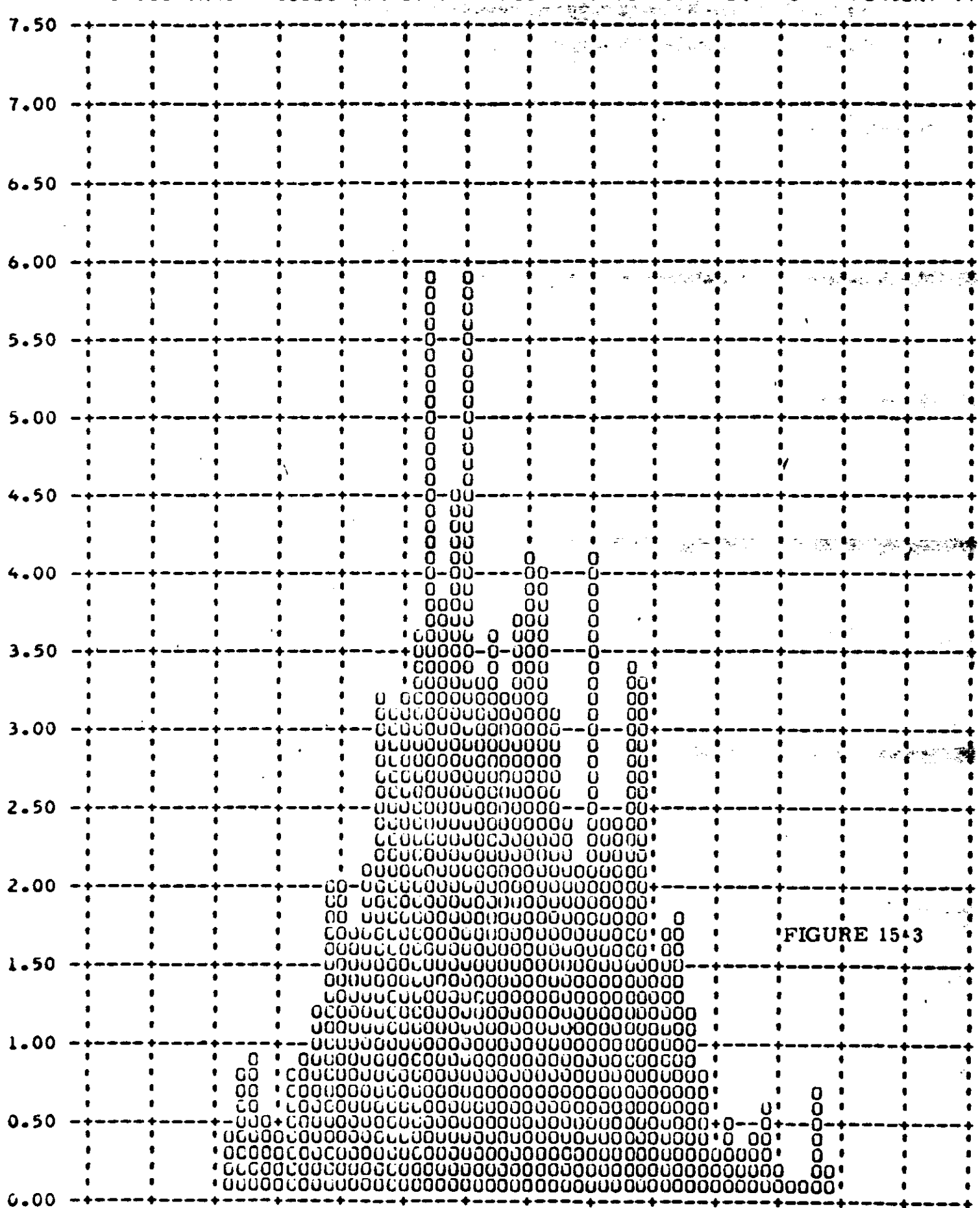

FIGURE 15-3

INST I J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 4.63

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

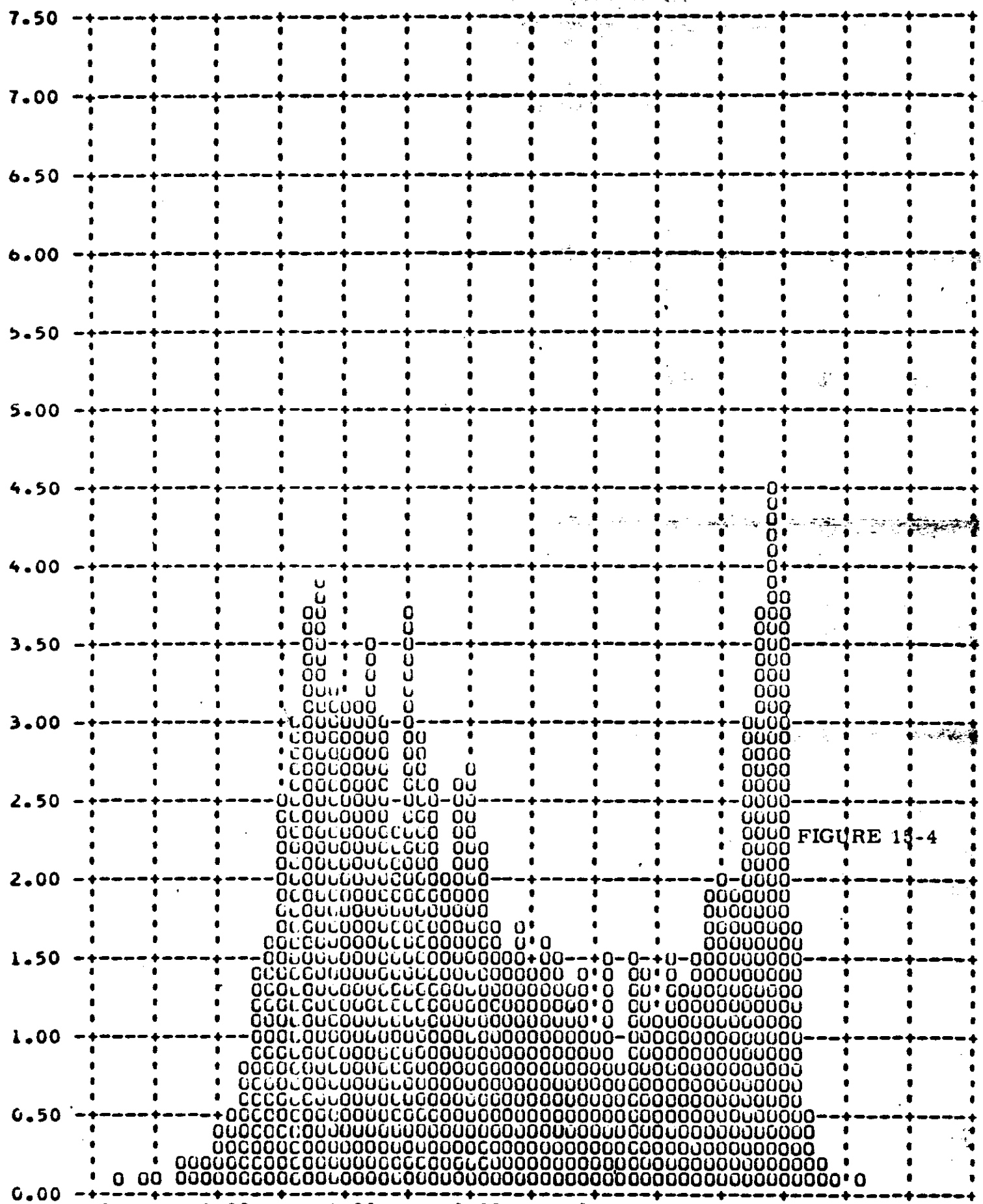

FIGURE 15-4

INST 1 J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 7.50

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

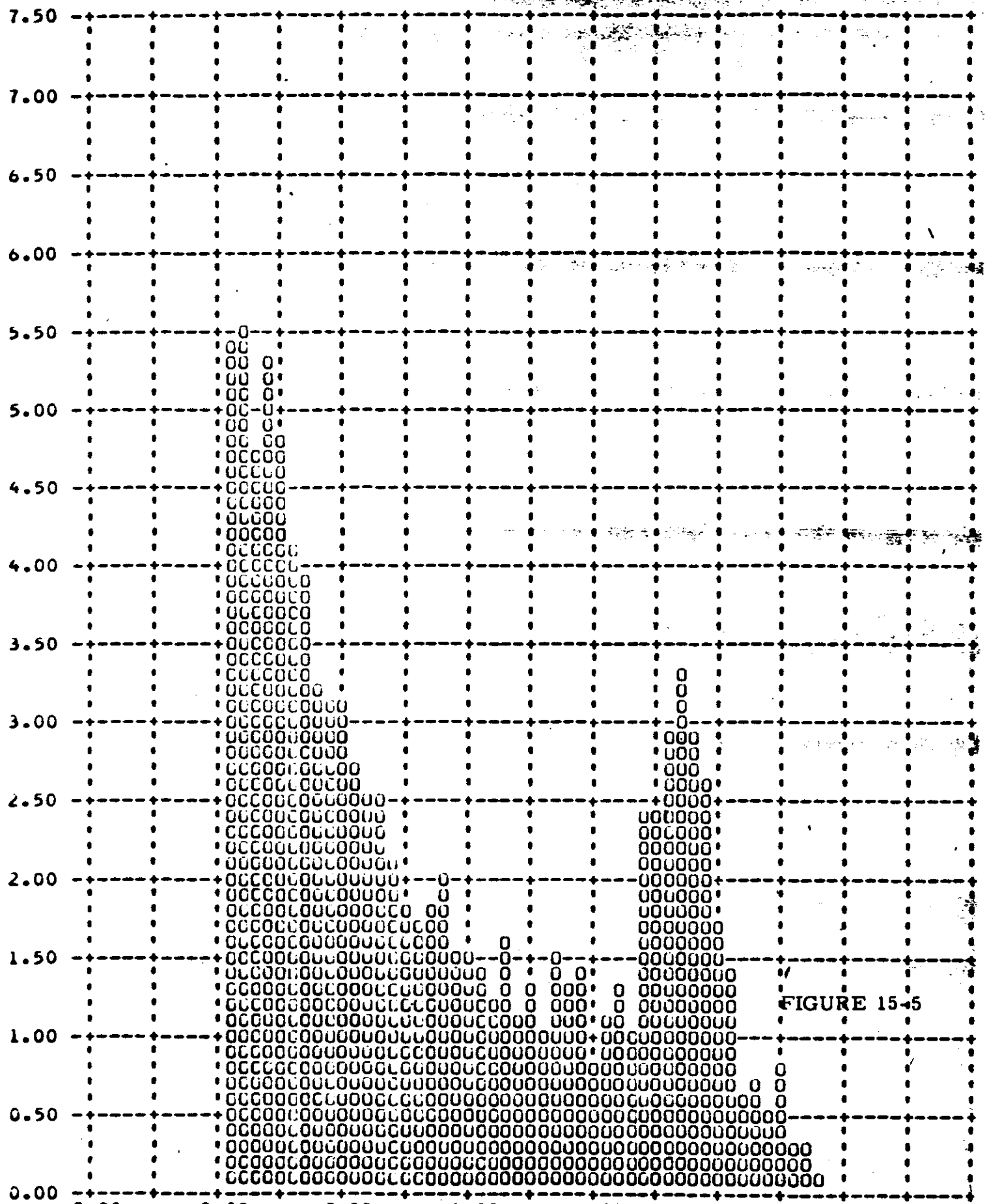

FIGURE 15-5

INST I J118 V1178 L 9-14-64 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.8

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

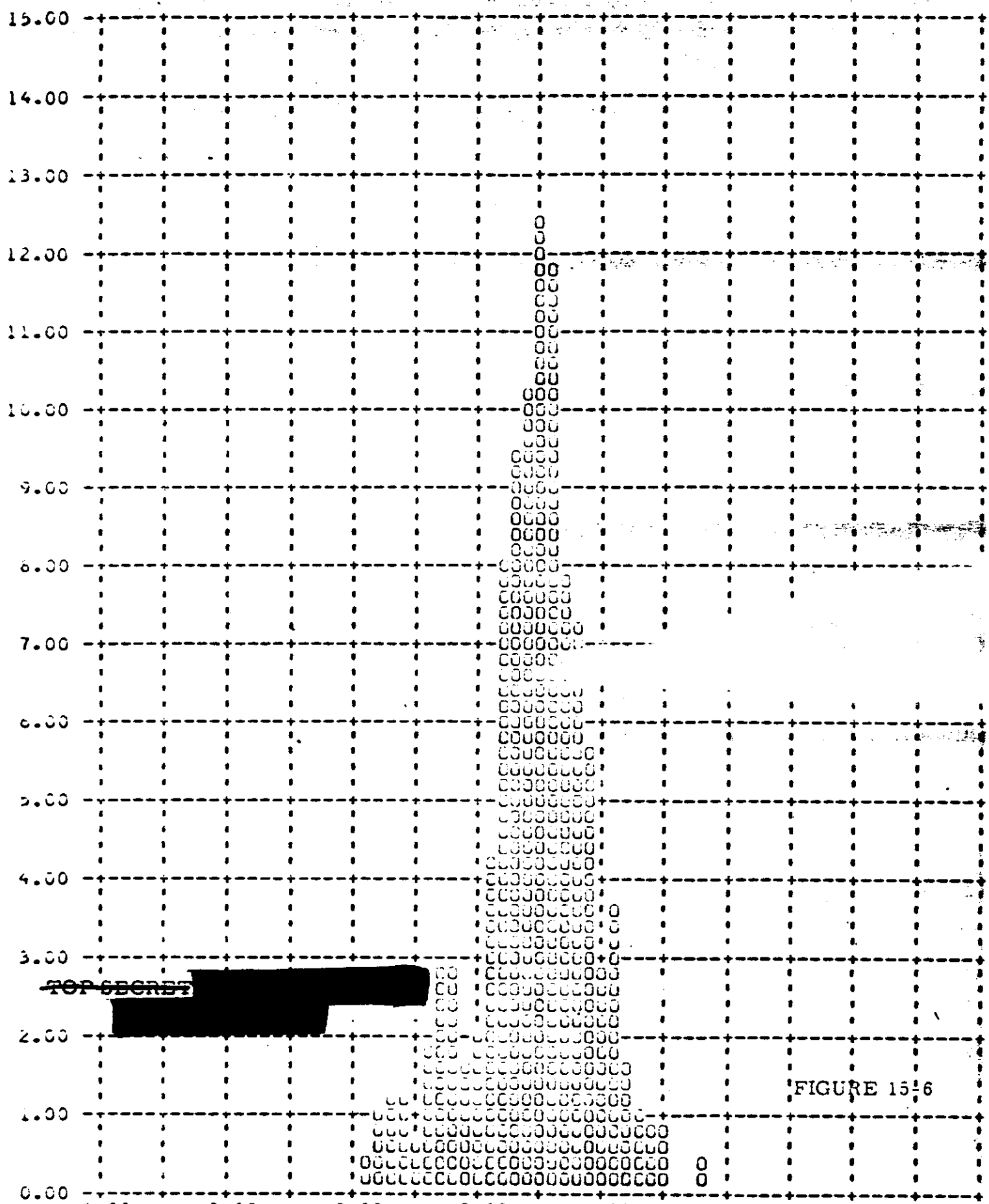

FIGURE 15-6

SECTION 16

RADIATION DOSAGE

Each recovery system flown on a Corona mission contains a sealed packet of Eastman Type 3401 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 1010-1		Mission 1010-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 3401	0.20	0.8 R	0.19	0.7 R
Royal X Pan	0.31	0.6 R	0.27	0.5 R

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

SECTION 17

SYSTEM RELIABILITY

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

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

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

Panoramic Camera Reliability

Sample Size - 64 opportunities to operate.
One failure - capping shutter on slave instrument on system M-7.
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 98.5% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 32 vehicles x 2 doors = 64 opportunities to operate
1 major malfunction, door failed to eject for 7 passes, Mission 9048.
1 minor malfunction, door failed to eject for 2 passes, Mission 1006.
Estimated Reliability = 97.6% at 50% confidence level.

Payload Clock Reliability

Sample Size - 36 completed missions in sample.
No failures.
Estimated Reliability = 98.1% at 50% confidence level.

Estimated Reliability of Payload Functioning on orbit

98.5 x 97.6 x 98.1 = 94.3

Recovery System Reliability

32 opportunities to recover
1 failure - improper separation due to water seal - cutter failure.
Estimated Reliability = 94.8% at 50% confidence level.

Stellar-Index Camera Reliability

Sample begins with M-13
Sample size = 24
Number of failures = 7
Estimated Reliability = 74.8% at 50% confidence.

Horizon Camera Reliability

Sample includes M27, J5A, J5B, J9A, J9B, and up; 13 samples
1 failure - center of format switch, Mission 1006
Estimated Reliability of Single Camera = 92.6% at 50% confidence level.
Estimated Reliability of Four Horizon Cameras at a Parallel Redundant System = 99.4% at 50% confidence level

Horizon Camera Door Reliability

Sample size = 32 x 4 = 128 opportunities to operate
No failures have occurred.
Estimated Reliability = 99.5% reliability at 50% confidence level.

Stellar-Index Camera Door Reliability

Terrain Door, Stellar Door, and deployment of Stellar Baffle are functions considered.
Sample size = 21 x 3 = 63 chances to operate.
One failure - stellar baffle failed to deploy.
Estimated Reliability = 97.7% at 50% confidence level.

SECTION 18

SUMMARY DATA

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

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

MISSION SUMMARY

MISSION NUMBER	PAYLOAD NUMBER	VEHICLE NUMBER	LAUNCH DATE	LAUNCH TIME	ORBIT INCLINATION (°)	PERIGEE ALTITUDE (NM)	PERIGEE LOCATION (°N)	RECOVERY PASS	MASTER CAMERA CAMERA NUMBER	MASTER CAMERA SLIT (")	MASTER CAMERA FILTER TYPE	SLAVE CAMERA CAMERA NUMBER	SLAVE CAMERA SLIT (")	SLAVE CAMERA FILTER TYPE	STELLAR-INDEX CAMERA NUMBER
1009	J-08	1174	8/15/64	2138 Z	74.9	93.9	25.0	49/112	124	0.250	W-21	125	0.250	W-21	D29/29/29 / D42/42/45
1008	J-09	1178	8/24/64	2259 Z	79.9	84.0	83.2	65/128	148	0.200	W-21	149	0.200	W-21	D49/53/42 / D45/47/45
1007	J-07	1002	8/19/64	2318 Z	85.0	93.2	41.5	88/120	144	0.250	W-25	145	0.200	W-21	D43/43/43 / D54/56/51
1003	J-10	1177	9/10/64	2314 Z	85.0	93.4	40.6	49/112	150	0.200	W-21	151	0.200	W-21	D48/45/48 / D33/28/33
1009	J-12	1003	8/5/64	2316 Z	80.1	99.6	39.5	49/120	154	0.200	W-21	155	0.200	W-21	D56/54/56 / D38/38/34
1010	J-11	1176	9/14/64	2254 Z	84.9	97.4	42.5	65/144	152	0.175	W-21	153	0.175	W-21	D41/41/41 / D44/48/44

PERFORMANCE SUMMARY

MISSION [illegible]	[illegible]	SERIAL [illegible]	M.I.P. [illegible]	VISUAL RES	[illegible] SLIT (µ)	[illegible]	[illegible] SLIT (µ)	[illegible]	[redacted] SLIT (µ)	[illegible] ALL	[illegible] HIGH	90% ATTITUDE ERROR (°) PITCH	ROLL	YAW	90% ATTITUDE RATES (°/HR) PITCH	ROLL	YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	CROSS TRACK
1004-1	FWD	124	85	78	350	97	43	109	320	115	127	0.45	0.42	1.08	30.0	25.0	21.0	5.1	7.7	6.1
	AFT			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	6.5
	AFT			73		83		106		87	95									
1006-1	FWD	140	90	78	350	65	43*	88	320	84	97	0.41	0.42	1.14	26.8	28.5	27.8	15.4	13.8	6.7
	AFT			74		71		90		87	92									
1006-2	FWD	149	90	85		64		81		84	90	0.49	0.40	1.08	31.1	27.9	30.0	11.6	10.1	7.0
	AFT			83		72		90		87	94									
1007-1	FWD	144	85	80	350	60	43	87	320	82	91	0.58	0.46	1.43	37.6	23.9	29.9	3.6	3.1	9.4
	AFT			86		63		83		97	110							4.6	2.1	7.6
1007-2	FWD	145	85	79		72		81		68	74	0.64	0.47	—	43.0	25.8	—	3.2	2.4	—
	AFT			81		77		92		74	81							4.2	1.8	—
1008-1	FWD	150	85	80	350	80	43	95	320	81	89	0.59	0.39	0.94	43.8	23.9	29.6	2.9	4.9	5.9
	AFT			76		73		89		86	95									
1008-2	FWD	151	85	82		84		96		83	92	0.63	0.36	0.71	42.9	24.0	32.5	2.8	4.2	5.4
	AFT			79		91		83		85	91									
1009-1	FWD	154	85	92	350	80	—	—	80	75	88	0.65	0.65	0.71	29.2	22.7	27.6	3.3	5.3	5.8
	AFT			89		85				75	83									
1009-2	FWD	155	85	94		85				76	84	0.48	0.65	0.59	33.6	23.9	27.2	2.6	4.9	5.9
	AFT			87		87				72	79									
1010-1	FWD	152	85	90	350	90	80	88	80	87	90	0.93	0.30	0.87	39.1	23.6	30.8	4.5	2.3	4.4
	AFT			88		86		80		92	103									
1010-2	FWD	153	85	92		81		82		82	93	0.59	0.70	1.21	45.4	23.6	30.7	4.6	7.5	3.8
	AFT			90		82		85		87	90									

EXPOSURE - PROCESSING SUMMARY

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°)		SOLAR AZIMUTH RANGE (°)		PREDICTED PROCESSING (%)			REPORTED PROCESSING (%)			COMPUTED PROCESSING (%)			TERRAIN D-MIN RANGE				TERRAIN D-MAX RANGE				CLOUD D-MAX RANGE				UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
		LOW	HIGH	LOW	HIGH	P	I	F	P	I	F	P	I	F	LOW	HIGH	MEAN	MEDIAN	LOW	HIGH	MEAN	MEDIAN	LOW	HIGH	MEAN	MEDIAN						
1004-1	FWD	-3	61	25	124	5	76	19	4	79	17	0	79	21	0 26	1 89	0 83	0 78	0 43	2 43	1 97	2 02	1 00	2 43	2 04	2 08	0	4	60	31	5	35
	AFT	-3	61	25	124	5	74	21	4	79	17	0	80	20	0 22	1 58	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 36	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	92	140	1	99	0	1	51	48	0	51	49	0 23	1 81	0 71	0 68	0 80	2 31	1 98	1 92	1 51	2 40	2 20	2 24	0	5	72	21	1	80
	AFT	38	86	92	140	1	99	0	0	23	77	0	24	76	0 36	1 66	0 87	0 84	0 96	2 35	1 72	1 72	1 14	2 40	2 24	2 28	0	1	58	40	1	80
1006-2	FWD	32	84	36	147	2	98	0	30	41	29	11	39	50	0 21	1 14	0 53	0 50	0 56	2 28	1 49	1 50	1 30	2 33	2 11	2 16	2	21	72	4	0	45
	AFT	32	84	36	147	2	98	0	35	40	25	21	54	25	0 26	1 34	0 82	0 58	0 65	2 19	1 48	1 47	1 56	2 30	2 12	2 16	0	11	77	9	3	45
1007-1	FWD	12	49	90	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 38	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	97	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	66
	AFT	31	87	38	111	0	100	0	19	41	40	3	88	9	0 24	1 56	0 80	0 56	0 44	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 57	2 10	1 54	1 55	1 09	2 40	2 20	2 25	2	1	73	23	1	66
	AFT	29	56	42	105	0	100	0	3	30	67	2	29	71	0 32	1 64	0 77	0 76	0 73	2 10	1 55	1 55	1 10	2 35	2 18	2 22	1	3	69	27	0	66
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	9	73	20	0	50
1009-2	FWD	23	58	35	138	2	98	0	3	21	76	0	40	60	0 29	1 55	0 69	0 64	0 73	2 37	1 53	1 53	1 06	2 45	2 25	2 30	4	4	74	17	0	58
	AFT	23	58	35	138	2	98	0	4	47	49	0	56	44	0 26	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	58
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 96	2 46	2 20	2 26	9	4	81	6	0	48
1010-2	FWD	18	52	38	76	0	50	50	0	16	84	0	13	87	0 26	1 51	0 55	0 50	0 52	2 38	1 41	1 38	1 00	2 44	2 14	2 20	22	4	67	6	0	48
	AFT	18	52	38	76	0	50	50	0	23	77	0	25	75	0 20	1 48	0 59	0 56	0 30	2 40	1 47	1 45	1 29	2 48	2 18	2 22	13	3	76	8	0	48

[redacted]

Distribution

Copy No.	To
[redacted]	[redacted]

[redacted]