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[redacted]

26 October 1966

To: V. Webb
C. Murphy
A. Johnson
[redacted]

Thru: [redacted]

From: [redacted]

Subject: MISSION 1028-1 AND 1028-2 FINAL REPORT

Enclosed is the Final Performance Evaluation Report for Mission 1028-1 and 1028-2.

[redacted]
Advanced Projects

IF ENCLOSURES ARE WITHDRAWN OR NOT ATTACHED THE CLASSIFICATION OF THIS DOCUMENT WILL BE CHANGED TO Unclassified

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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1028-1 and 1028-2

FTV 1610, J-26

9 September 1966

Approved: [redacted]
Mgr.
Advanced Projects

Approved: [redacted]
Mgr.

FOREWARD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1610.

Lockheed Missiles and Space Company has the responsibility for evaluating payload performance under the Level of Effort and "J" System contracts.

This document is the final payload test and performance evaluation report for Missions 1028-1 and 1028-2 which was launched on 24 December 1965.

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INTRODUCTION

This report presents the final performance evaluation of Missions 1028-1 and 1028-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-26 payload system and to identify the source of in-flight anomalies.

The performance evaluation was jointly conducted by representatives of Lockheed Missiles and Space Company (LMSC) and ITEK at the facilities of NPIC and AFSPPF. 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, values and MTF/AIM resolution are produced by AFSPPF. 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 I

SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The payload section of Mission 1028, placed into orbit by Flight Test Vehicle #1610 and LV-2A booster #451, 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-26 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, 5 day photographic periods with no inactive period.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 2106:15 Z (1306:15 PST) on 24 December 1965. Ascent and injection were normal and the achieved orbit was within nominal tolerances. Tracking and command support was effected by the Air Force Satellite Control Facility consisting of tracking and command stations at [redacted] under central control of the Satellite Test Center at Sunnyvale, California. Mission 1028-1 consisted of a five day photographic operation and was air recovered on 29 December 1965. Mission 1028-2 was air recovered, after a four day operation, on 2 January 1966. The -2 mission was limited by battery life.

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

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 1 Actuals
Period (Min.)	90.856	90.84
Perigee (N.M.)	99.99	97.44
Apogee (N.M.)	244.71	244.35
Inclination (Deg.)	79.99	80.01
Perigee Latitude (Deg.N.)	19.11	19.06
Eccentricity	0.02008	0.02033

C. PANORAMIC CAMERAS

The Master and Slave panoramic cameras operated throughout both missions with no significant problems and produced excellent photographic coverage. The cloud cover observed in the photography averaged 30% for the entire flight.

D. STELLAR-INDEX CAMERAS

The S/I Camera #D77 operated satisfactorily on the -1 mission. The stellar photography on S/I #D74 was partially degraded by light fog due to the index camera shutter failing to open throughout the -2 mission.

E. OTHER SUBSYSTEMS

The telemetry instrumentation, command, thermal control, clock, pressure make-up and recovery subsystems performed satisfactorily throughout both missions.

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1028

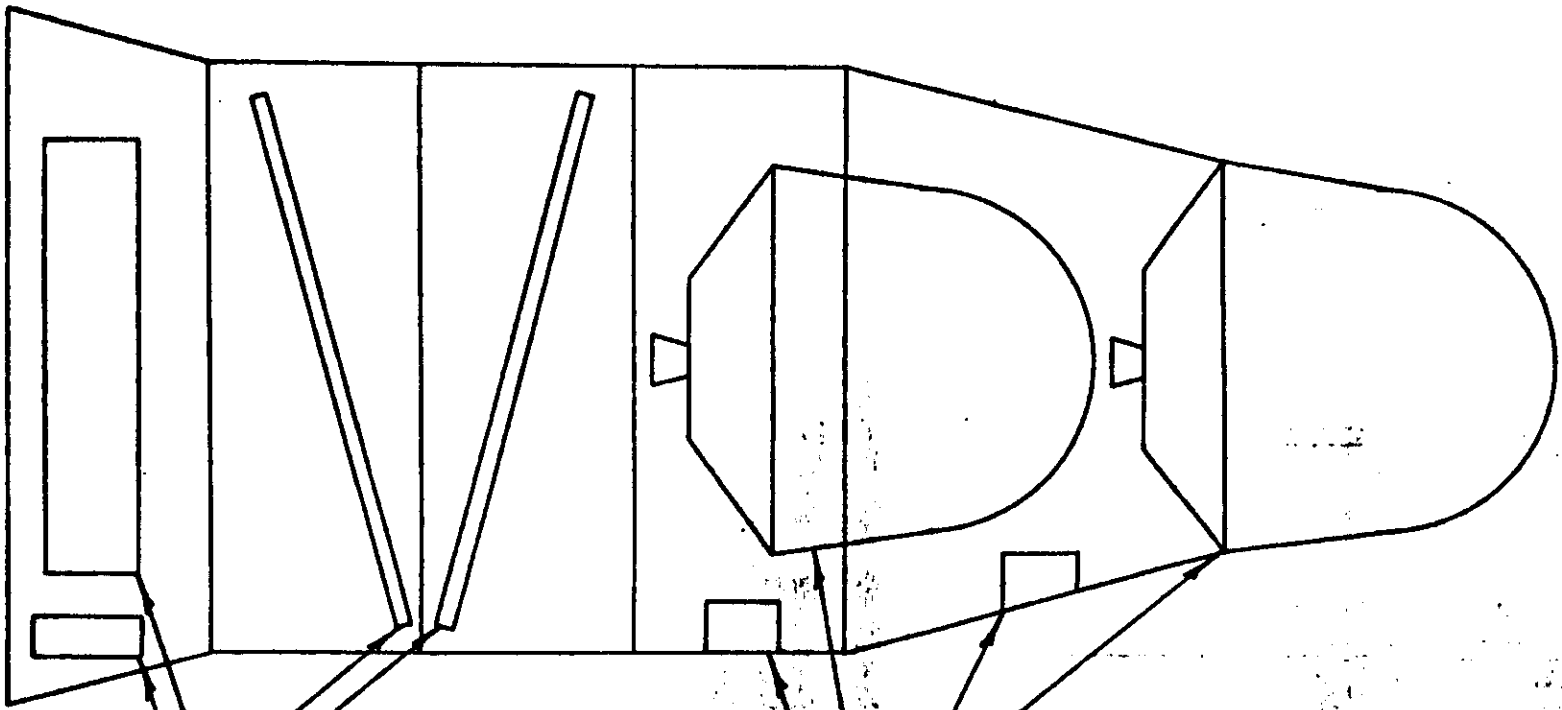

FIGURE 4-1

SECTION 2

PRE-FLIGHT SYSTEMS TEST

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 susceptibility to corona discharge. Such discharge fogs the film thus degrading the operational photography.

2. Test Summary

The J-26 payload system consisting of panoramic instruments 176 and 177 was in the TASC chamber at Sunnyvale for environmental testing during 30 July to 6 August 1965. Testing consisted of 14 orbits of operations in both the "A" and "B" modes with a vehicle deactivate/reactivate sequence conducted in between.

The lowest internal camera pressure experienced was 1.2 microns in the "B" mode. Corona was experienced from the input metering roller, however it did not exceed the specification tolerances.

Dynamic operation of both instruments was satisfactory during both "A" and "B" modes. Cycle rates were within $\pm$ 1.5 percent for the operations in the upper portion of the ramp.

Both stellar/index units performed satisfactorily.

The clock/IRIG "C" correlation indicated a drift of approximately 2 milliseconds/hour during the "A" and "B" modes and a discrepancy of approximately 1 second after the clock recycled.

The TLM instrumentation was satisfactory except for the instrument #2 cycle counter which randomly lost counts during the "B" mode operations.

The pressure-make-up system operated normally with an average gas consumption rate of 6.6 psi/min.

Both "A" and "B" recovery sequences were satisfactory. Both instruments stowed properly for the "A" mode C & W operation.

The deactivate/reactivate capability was successfully demonstrated between the "A" and "B" operations. Both instruments stowed normally for the deactivate operation sequence.

3. Panoramic Camera Performance

The dynamic performance of both panoramic instruments was satisfactory as observed on the TLM monitors for Center of Format switch, lens rotation, 99/101 clutch, and film transport.

The average 99/101 percent clutch ratios for both instruments were 6/6. The ratios did not vary by more than one on either side of the average value during the entire test.

The cycle rate data for all of the stereo operations are listed in Table 2-1. Instrument cycle rate predictability was $\pm$ 1.5 percent for the operations near the top of the ramp and $\pm$ 3 percent overall. The instruments operated within $\pm$ 1 percent of each other. During the "A" operations instrument #2 generally ran faster while for the "B" operations the opposite was true.

The supply metering monitor indicated that the lens of both instruments had an abnormally long coast period during a fast operation in the "A" mode.

The instruments operated for 5 cycles during the deactivate sequence. The cycle periods were 6.850 seconds for instrument #1 and 6.740 seconds for the #2 instrument.

4. Stellar/Index Performance

Normal stellar/index operations were observed on TLM monitors

for both units. The shutter and platen events occurred in proper relation to each metering cycle. Index and stellar metering ratios were consistently 7/3 and 8/3 throughout all operations observed with an occasional 6/3.

5. Clock Performance

Several clock readouts during the test were correlated with the IRIG "C" time. The results are listed on Table 2-2.

The results indicated a large discrepancy (approximately 1 sec.) following the clock (S/N 536) recycle. Also a drift of approximately 2 milliseconds per hour was observed. This clock was replaced by clock S/N 535 for flight.

6. Instrumentation Performance

The TLM instrumentation was satisfactory except for (1) the instrument #2 cycle counter which randomly lost counts during the "B" mode operations, and (2) a dirty commutator on the I/R monitor also observed during "B" operations.

The instrument #2 counter lost counts going from the "9" to the "0" position. The counter dropped 102 counts in approximately 2600 cycles.

7. Pressure Make-up System Performance

Satisfactory operation was observed for the PMU unit. The average consumption for the "A" operations was 6.6 psi/min.

8. Temperature Summary

Average instrument temperature for several orbits in the "A" and "B" mode are listed below:

	"A" Mode			"B" Mode		
ORBIT	1	9	14	1	9	14
Inst. #1	87	81	73	66	45	58
Inst. #2	85	74	69	62	42	62

J-26 176/177 TASC TEST OPERATIONS 7-31 TO 8-5-65

REV/MODE	RAMP	T.U.R.	INST 176 ACT.	INST 176 NUM.	INST 176 DEV.	INST 177 ACT.	INST 177 NOM.	INST 177 DEV.	176/177 DIFF.
1 A	7 7	390	3.490	3.515	0.72	3.500	3.496	-0.11	0.29
1 A	7 7	2275	2.545	2.588	1.66	2.555	2.580	0.96	0.39
2 A	4 1	2130	2.160	2.196	1.64	2.150	2.197	2.12	-0.46
2 A	5 8	725	2.850	2.884	1.17	2.850	2.872	0.75	-0.00
3 A	5 8	1550	2.400	2.445	1.85	2.400	2.439	1.62	-0.00
4 A	7 7	2280	2.550	2.591	1.57	2.550	2.583	1.26	-0.00
4 A	8 2	335	5.000	5.061	1.20	4.980	5.037	1.13	-0.40
5 A	8 2	1725	2.200	2.231	1.38	2.190	2.234	1.98	-0.45
5 A	8 2	2245	2.250	2.291	1.80	2.250	2.288	1.66	0.00
5 A	11 1	1582	2.400	2.446	1.87	2.400	2.440	1.64	-0.00
6 A	11 1	2032	2.260	2.296	1.59	2.260	2.293	1.44	-0.00
6 A	5 8	1091	2.660	2.690	1.13	2.650	2.681	1.15	-0.38
6 A	5 8	1446	2.450	2.487	1.48	2.450	2.480	1.22	-0.00
7 A	7 7	1181	2.845	2.863	0.63	2.840	2.851	0.39	-0.18
7 A	7 7	1591	2.510	2.562	2.04	2.515	2.555	1.55	-0.20
8 A	7 7	2531	2.735	2.768	1.21	2.735	2.758	0.83	-0.00
8 A	4 1	1016	2.690	2.701	0.42	2.685	2.692	0.25	-0.19
9 A	4 1	3211	3.475	3.521	1.31	3.470	3.502	0.92	-0.14
9 A	11 1	891	4.360	4.358	-0.04	4.360	4.334	-0.59	-0.00

[redacted]

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TABLE 2-1

[redacted]

REV/MODE	RAMP	T.U.R.	INST 176 ACT.	INST 176 NOM.	INST 176 DEV.	INST 177 ACT.	INST 177 NOM.	INST 177 DEV.	176/177 DIFF.
10 A	11 1	1881	2.240	2.273	1.43	2.240	2.269	1.30	-0.00
10 A	11 1	2971	4.520	4.571	1.12	4.510	4.547	0.81	-0.22
10 A	7 7	141	3.590	3.625	0.98	3.570	3.606	0.99	-0.56
11 A	7 7	1911	2.450	2.490	1.59	2.450	2.483	1.33	-0.00
11 A	7 7	2281	2.560	2.591	1.20	2.550	2.583	1.28	-0.39
12 A	8 2	1156	2.940	2.936	-0.12	2.940	2.924	-0.56	-0.00
12 A	8 2	846	3.665	3.654	-0.31	3.640	3.633	-0.18	-0.68
13 A	11 1	1978	2.263	2.279	0.72	2.250	2.276	1.16	-0.57
14 A	11 1	3082	5.120	5.123	0.06	5.080	5.099	0.38	-0.78
1 B	7 7	385	3.520	3.518	-0.05	3.515	3.499	-0.45	-0.14
1 B	7 7	2210	2.570	2.556	-0.53	2.560	2.549	-0.44	-0.39
2 B	4 1	2130	2.170	2.196	1.19	2.177	2.197	0.89	0.32
2 B	5 8	732	2.860	2.880	0.70	2.870	2.868	-0.07	0.35
3 B	5 8	1550	2.430	2.445	0.63	2.430	2.439	0.39	-0.00
4 B	7 7	2280	2.610	2.591	-0.75	2.616	2.583	-1.30	0.23
4 B	8 2	341	5.105	5.046	-1.17	5.115	5.022	-1.85	0.20
5 B	11 1	1460	2.636	2.613	-0.89	2.646	2.604	-1.60	0.38
5 B	11 1	2040	2.300	2.300	-0.01	2.317	2.296	-0.90	0.74
6 B	5 8	1090	2.713	2.691	-0.81	2.720	2.682	-1.43	0.26
6 B	5 8	1445	2.497	2.487	-0.39	2.507	2.481	-1.06	0.40
7 B	7 7	1205	2.860	2.840	-0.72	2.875	2.828	-1.66	0.52
7 B	7 7	1591	2.575	2.562	-0.50	2.570	2.555	-0.61	-0.19

TO [redacted] TABLE 3-1

[redacted]

REV/MODE		RAMP		T.U.R.	INST 176 ACT.	INST 176 NOM.	INST 176 DEV.	INST 177 ACT.	INST 177 NOM.	INST 177 DEV.	176/177 DIFF.
8	B	7	7	2531	2.777	2.768	-0.31	2.780	2.758	-0.81	0.11
8	B	4	1	1014	2.740	2.705	-1.30	2.740	2.695	-1.67	-0.00
9	B	4	1	3211	3.545	3.521	-0.67	3.550	3.502	-1.36	0.14
9	B	11	1	891	4.430	4.358	-1.65	4.440	4.334	-2.44	0.23
10	B	11	1	1881	2.290	2.273	-0.77	2.297	2.269	-1.21	0.31
10	B	11	1	2970	4.680	4.567	-2.48	4.680	4.542	-3.03	-0.00
10	B	7	7	140	3.660	3.626	-0.95	3.660	3.606	-1.50	-0.00
11	B	7	7	1910	2.503	2.490	-0.54	2.507	2.483	-0.96	0.16
11	B	7	7	2280	2.610	2.591	-0.75	2.613	2.583	-1.18	0.11
12	B	8	2	1155	2.987	2.939	-1.64	2.997	2.926	-2.43	0.33
12	B	8	2	845	3.710	3.656	-1.47	3.705	3.636	-1.90	-0.13
13	B	4	1	2630	2.425	2.404	-0.88	2.430	2.399	-1.31	0.21
13	B	11	1	1973	2.293	2.278	-0.64	2.290	2.275	-0.65	-0.13
4	B	11	1	3078	5.170	5.102	-1.34	5.170	5.078	-1.82	-0.00
14	B	1	11	3680	2.290	2.283	-0.31	2.287	2.280	-0.32	-0.13

DEV. AND DIFF. ARE IN PERCENT
THE (-) SIGN INDICATES THAT THE INST IS SLOWER THAN PREDICTED OR THAT INST 1 IS SLOWER THAN INST 2

TABLE 2-1

[redacted]

CLOCK/IRIG "C" CORRELATION

"A" MODE

Rev.	IRIG "C" TIME Day	Hour	Min	Sec	CLOCK TIME (Seconds)	ERROR (Seconds)
1	212	8	8	38.840	409,553.463	--
6	213	9	1	20.830	499,115.468	+ .008
11	213	16	5	31.000	526,965.712	.000
12	214	13	58	54.050	66,498.754*	+ .986
14	215	8	39	57.575	133,762.253	+ .959

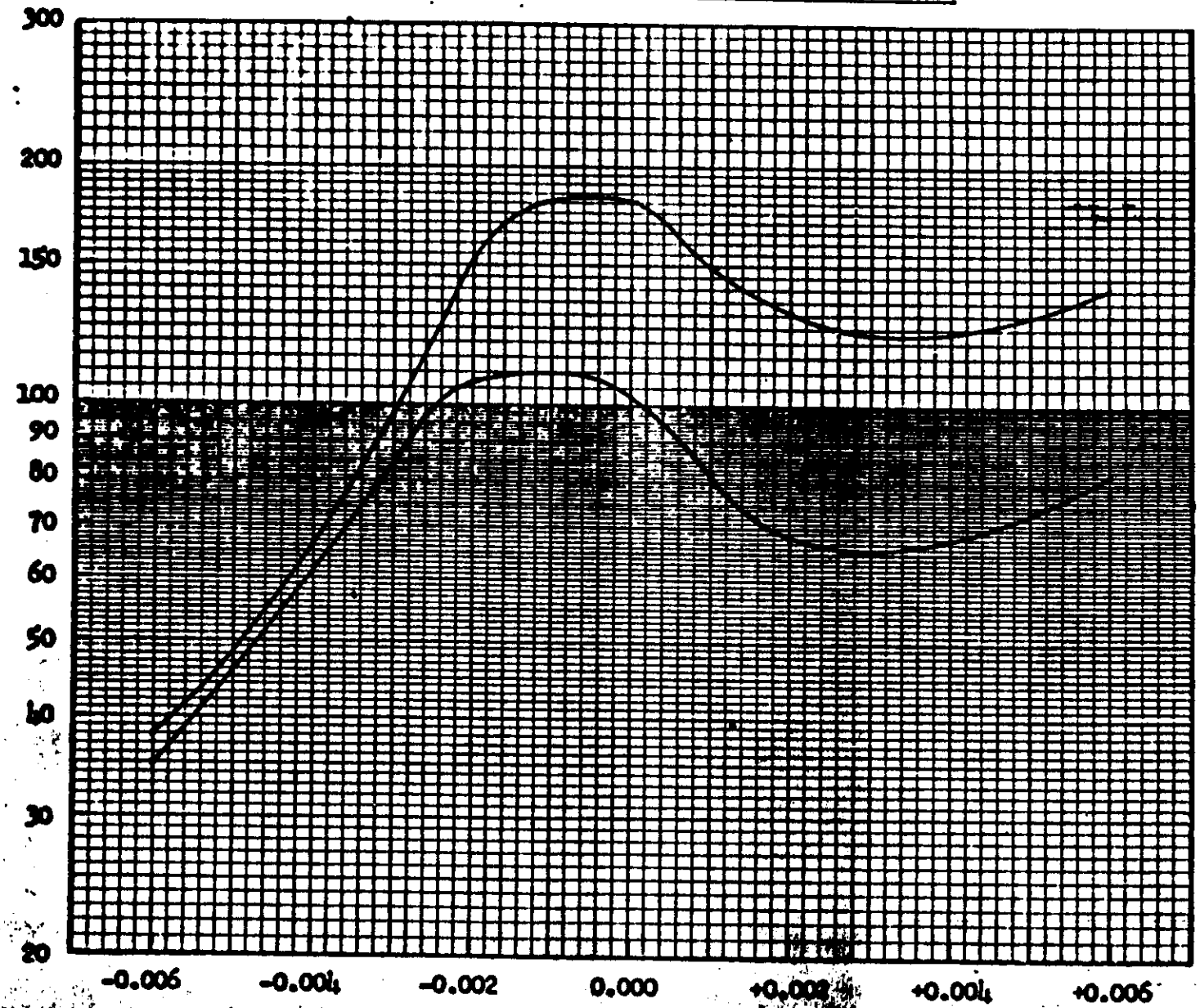
"B" MODE

1	215	12	35	05.320	341,307.323	--
4	216	8	44	42.000	413,889.975	- .033
5	216	11	29	51.030	423,792.795	- .038
6	216	12	59	48.105	429,189.866	- .042
7	216	14	25	38.180	434,339.943	- .040
10	217	8	31	1.275	499,463.001	- .077

*Clock recycled between Rev. 11 and 12.

TABLE 2-2

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 176

Payload No: J-26

Resolution (l/mm)

High Contrast: 180

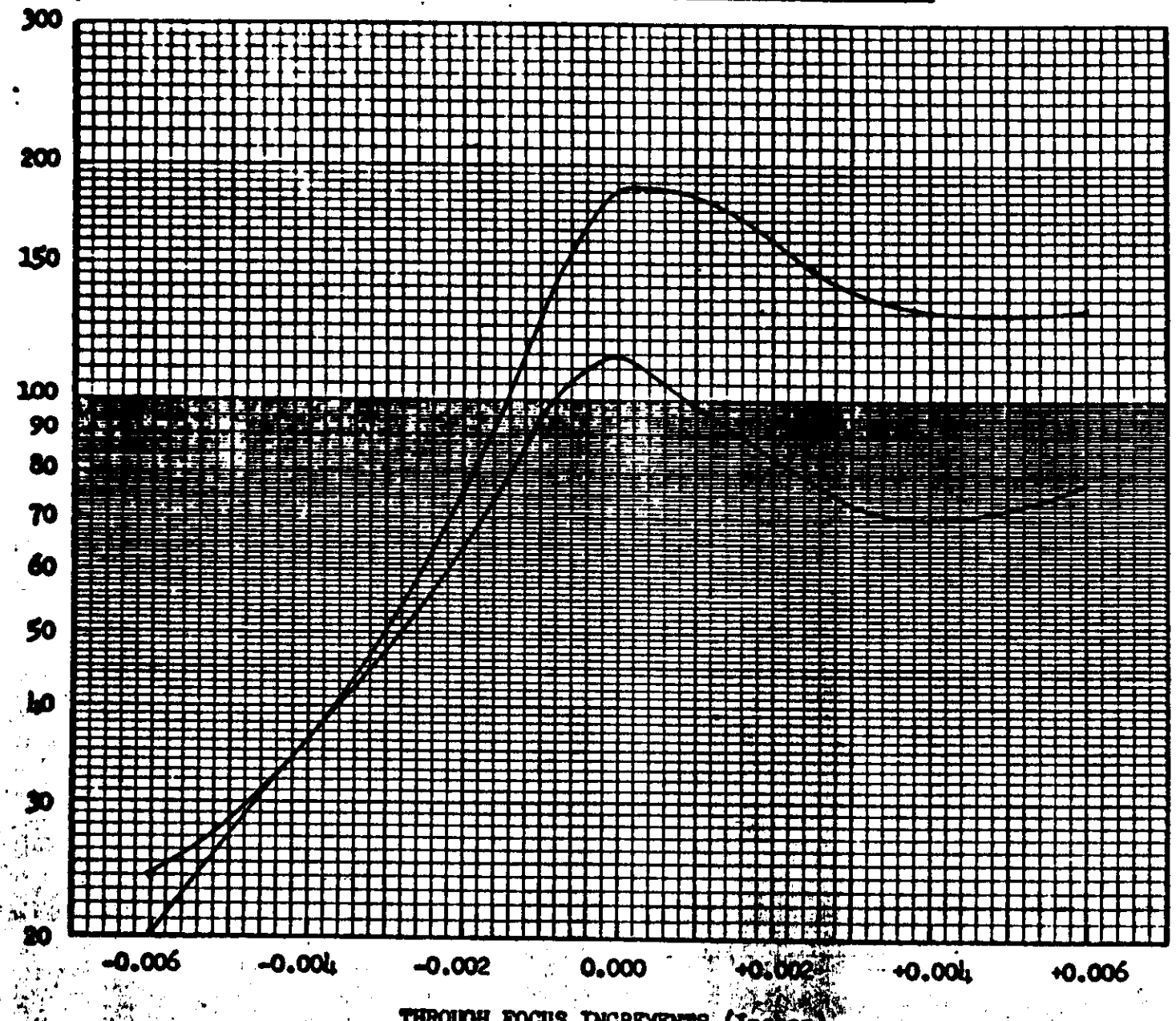
Low Contrast: 109

Film Type: 3404

Test Date: 8/11/65

FIGURE 2-1

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 177

Payload No: J-26

Resolution (1/mm)

High Contrast: 186

Low Contrast: 114

Film Type: 3404

Test Date: 8/11/65

FIGURE 2-2

SECTION 3

FLIGHT OPERATIONS

A. SUMMARY

All launch, ascent and injection events occurred as programmed. Both Thor and Agena propulsion and guidance were normal. The desired orbit was achieved.

Both panoramic instruments operated satisfactorily throughout both missions. Average cycle rate differences from pre-flight calibrations indicated that both instruments ran approximately one percent slow.

The -1 Stellar/Index camera operated satisfactorily.

The -2 Stellar/Index camera operation was abnormal. An index shutter malfunction resulted in excessive over exposure of the index film during the -2 mission.

The clock system, instrumentation and command systems, and the PMU system functioned normally throughout the flight.

Both the -1 and -2 recovery systems were successfully recovered by air catch on orbits 81 and 144, respectively.

Results obtained from a power spectral density analysis of the vibration pickup data indicated overall rms g levels of 3.66 at ignition and 2.35 in the transonic region.

B. PANORAMIC CAMERA PERFORMANCE

Camera system dynamics were observed during several [redacted] acquisitions. Film transport was normal for both instruments. Cycle rate data, as shown on Table 3-1, indicates that both instruments were running approximately 1% slower than pre-flight calibrations. The instruments ran within 1% of each other throughout the flight. Average 99/101 clutch ratios for both instruments were 6 cycles in the 99 position and 6 cycles in the 101 position.

FMC Match

The achieved orbit was near nominal. The FMC match throughout the flight was within tolerance.

Panoramic Film Consumption

These data are based on cycle counter readings and nominal film supply.

	Predicted	Actual Master	Actual Slave
Pre-launch - Frames	100	110	110
-1 Mission - Frames	3000	2979	3007
-2 Mission - Frames	2949	2960	2932
Total Frames	6049	6049*	6049**

* Depletion was predicted during Orbit 135 descending.

** Depletion was predicted during Orbit 134 descending.

C. STELLAR/INDEX CAMERA PERFORMANCE

The -1 Stellar/Index camera operated normally during mission -1.

The -2 Stellar/Index camera did not function properly. The index film was excessively over exposed. Also the stellar film was intermittently fogged.

The TLM monitor for the index shutter, as observed on the day time engineering acquisitions, indicated that the shutter opened in the proper sequence at each seventh frame of panoramic camera operation. However, there is no way to determine from TLM the duration of the shutter open condition.

Smear pulses correlated with the index shutter monitor which indicates that the number 3 programmer and S/I control box were operating in the proper sequence.

D. INSTRUMENTATION AND COMMAND SYSTEM PERFORMANCE

Instrumentation

The instrumentation system performed satisfactorily throughout both missions.

A ± 35 G vibration pickup was installed on the forward pyro electrical box to monitor ascent levels. This special monitor performed satisfactorily.

Command System

The payload system responded normally to all stored and real-time commands. No operational problems were encountered during the flight.

E. CLOCK PERFORMANCE

The payload clock performance was satisfactory. The clock/system time correlation data obtained from the [redacted] acquisitions are included on Table 3-2.

F. PRESSURE MAKE-UP SYSTEM PERFORMANCE

The PMU system operated normally throughout the flight. Average gas consumption was 7.7 psi/min for a total instrument operate time of 245 minutes. The supply pressure dropped from 2660 psig at launch to 780 psig at the end of -2 mission.

The average consumption rate was 6.9 psi/min for the -1 mission and 8.4 psi/min for the -2 mission.

G. THERMAL ENVIRONMENT

The temperature data obtained from the [redacted] acquisitions are contained in Table 3-3. Average panoramic camera temperatures varied from 68 to 86°F during the flight. The actual system temperatures versus the predicted system temperatures for the major components are compared in Figures 3-1 to 3-3.

H. ASCENT VIBRATION

The vibration pick-up was installed on the pyro junction box cover in the recovery barrel. High activity occurred at launch ignition and in the transonic region. Results of a power spectral density analysis show overall rms g levels of 3.66 at ignition and 2.35 in the transonic region.

J-26/1610 MISSION 1028 ENGINEERING OPERATIONS

REV/MODE	RAMP	T.U.R.	INST 176 ACT.	CAL.	DEV.	INST 177 ACT.	CAL.	DEV.	176/177 DIFF.
09 A	8 2	82	5.448	5.560	2.02F	5.394	5.538	2.60F	-0.99
16 A	8 2	1688	2.270	2.232	1.69S	2.250	2.236	0.62S	-0.88
31 A	8 2	1670	2.260	2.234	1.18S	2.245	2.238	0.33S	-0.66
47 A	8 2	1775	2.247	2.228	0.87S	2.237	2.231	0.28S	-0.45
63 A	8 2	1787	2.250	2.227	1.02S	2.240	2.230	0.44S	-0.44
88 B	8 2	322	5.130	5.147	0.33F	5.090	5.123	0.65F	-0.78
94 B	8 2	1920	2.250	2.225	1.11S	2.245	2.228	0.76S	-0.22
95 B	8 2	1910	2.260	2.225	1.56S	2.240	2.228	0.54S	-0.88
110 B	8 2	1904	2.250	2.225	1.11S	2.238	2.228	0.45S	-0.66
126 B	7 3	2034	2.267	2.227	1.78S	2.255	2.230	1.10S	-0.33
142 B	7 3	2080	2.222	2.229	0.33F	2.205	2.233	1.24F	-0.77

DEV. AND DIFF. ARE IN PERCENT
THE (-) SIGN INDICATES THAT INST 1 IS SLOWER THAN INST 2
F=FAST AND S=SLOW

TABLE 3-1

[redacted]

J-26 MISSION 1028 CLOCK/SYSTEM TIME CORRELATION

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.372403830 05	0.2280311360 06	0.3724038970 05	-0.0067	9	
0.770534770 05	0.2678442250 06	0.7705347900 05	-0.0020	16	
0.325942900 05	0.3097850340 06	0.3259428830 05	0.0017	24	
0.722997780 05	0.3494905310 06	0.7229978560 05	-0.0076	31	
0.333097880 05	0.3969005380 06	0.3330979300 05	-0.0050	40	
0.731003830 05	0.4366911210 06	0.7310037630 05	0.0067	47	
0.341006580 05	0.4840913910 06	0.3410064670 05	0.0113	56	
0.737023500 05	0.5236930970 06	0.7370235300 05	-0.0030	63	
0.293404670 05	0.2886026500 05	0.2934045330 05	0.0137	71	
0.745461830 05	0.7406601700 05	0.7454618570 05	-0.0027	79	
0.300515780 05	0.1159714060 06	0.3005157500 05	0.0030	87	
0.697514980 05	0.1556713290 06	0.6975149830 05	-0.0003	94	
0.307275100 05	0.2030473420 06	0.3072751170 05	-0.0017	103	
0.704148930 05	0.2427347210 06	0.7041489100 05	0.0020	110	
0.313985530 05	0.2901183800 06	0.3139855040 05	0.0026	119	
0.710740080 05	0.3297938390 06	0.7107400970 05	-0.0017	126	
0.320318260 05	0.3771516630 06	0.3203183400 05	-0.0080	135	
0.716710680 05	0.4167909190 06	0.7167109030 05	-0.0023	142	

A0=-0.19079074810 06 A1= 0.1000000007770 01

SIGMA=0.00565 NO. POINTS= 18

RATIO OF CLOCK TIME TO SYS TIME= 0.9999999922260 00

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.372403830 05	0.2280311360 06	0.3724038410 05	-0.0011	9	
0.770534770 05	0.2678442250 06	0.7705347530 05	0.0017	16	
0.325942900 05	0.3097850340 06	0.3259428630 05	0.0037	24	
0.722997780 05	0.3494905310 06	0.7229976510 05	-0.0071	31	
0.333097880 05	0.3969005380 06	0.3330979380 05	-0.0058	40	
0.731003830 05	0.4366911210 06	0.7310037810 05	0.0049	47	
0.341006580 05	0.4840913910 06	0.3410064930 05	0.0087	56	
0.737023500 05	0.5236930970 06	0.7370235610 05	-0.0061	63	
0.293404670 05	0.2886026500 05	0.2934045670 05	0.0103	71	
0.745461830 05	0.7406601700 05	0.7454618900 05	-0.0060	79	
0.300515780 05	0.1159714060 06	0.3005157810 05	-0.0001	87	
0.697514980 05	0.1556713290 06	0.6975150100 05	-0.0030	94	
0.307275100 05	0.2030473420 06	0.3072751350 05	-0.0035	103	
0.704148930 05	0.2427347210 06	0.7041489190 05	0.0011	110	
0.313985530 05	0.2901183800 06	0.3139854990 05	0.0031	119	
0.710740080 05	0.3297938390 06	0.7107400780 05	0.0002	126	
0.320318260 05	0.3771516630 06	0.3203183020 05	-0.0042	135	
0.716710880 05	0.4167909190 06	0.7167108470 05	0.0033	142	

A0=-0.19079076860 06 A1= 0.1000000088780 01

A2=-0.66644299460850-13

SIGMA=0.00483 NO. POINTS= 18

TABLE 3-2

TABLE 3-3

J-26 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																	
Master Camera	0	9	16	24	31	40	47	56	63	71	79	87	95	103	110	119	126	142
3	64	80	76	81	75	77	76	78	75	77	75	76	70	78	67	70	65	66
4	62	84	81	85	81	82	80	82	79	82	79	79	72	78	71	75	70	68
5	57	84	79	83	79	82	77	81	77	80	77	77	70	74	68	70	66	66
6	62	91	87	91	87	90	86	87	84	86	85	83	77	69	75	76	73	72
7	62	88	86	89	85	88	84	86	83	85	84	82	77	80	73	75	71	71
8	68	92	88	92	87	91	85	90	85	90	85	86	79	83	76	81	75	74
9	62	92	86	92	85	89	84	89	83	88	83	84	77	81	75	78	73	72
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	65	90	85	90	77	86	81	85	80	78	80	80	71	75	68	72	66	64
12	69	86	81	88	80	84	80	85	80	85	81	82	66	80	73	78	71	71
13	59	87	85	88	81	83	82	82	81	81	81	78	72	74	70	70	67	67
AVG	63	87	83	88	82	85	81	84	81	83	81	81	73	78	72	75	70	69
Slave Camera																		
3	59	86	81	87	80	82	80	82	79	80	78	77	69	73	64	67	62	62
4	65	89	84	89	84	87	83	86	82	86	82	81	75	80	72	75	71	68
5	64	86	87	86	82	86	80	84	81	83	82	81	77	79	72	74	71	70
6	58	81	79	82	79	81	78	79	78	79	79	78	74	78	68	70	66	66
7	61	88	84	88	84	87	82	86	82	85	83	82	78	80	71	73	69	69
8	62	86	83	87	83	85	82	85	82	85	83	82	77	81	74	76	71	70
9	65	88	84	89	83	85	83	87	83	87	85	85	80	84	77	80	75	74
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	67	79	76	80	78	78	76	79	76	81	78	76	70	74	67	69	66	67
12	59	85	78	85	78	81	77	82	76	81	77	78	70	75	67	71	64	63
13	55	77	75	78	75	74	74	74	73	75	76	71	68	69	64	64	61	60
AVG	62	85	81	85	81	83	80	82	79	82	80	79	74	77	70	72	68	67
Supply Spool																		
1	65	72	72	75	74	74	74	76	74	76	76	74	70	72	67	67	65	65
2	66	79	76	80	77	80	76	80	76	79	77	76	71	74	67	69	65	64

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

TABLE 3-3

J-26 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED										"A"	"B"				
Fair ("A") Barrel #1 ("B")	0	9	16	24	31	40	47	56	63	71	79	87	95	103	110
1	*OBH	51	29	51	29	35	25	51	25	48	25	34	78	38	25
2	OBH	17	0	17	0	7	0	20	0	20	0	79	53	76	53
3	OBH	-4	-8	0	-8	-8	-8	-4	-4	0	-4	91	85	88	76
4	217	54	41	54	44	47	41	54	41	51	38	45	42	42	35
5	OBH	75	55	72	52	62	48	68	48	65	45	41	31	34	24
6	231+	76	57	70	50	57	44	67	40	63	40	--	--	--	--
Barrel #2															
1	-131	55	58	52	52	39	48	48	48	45	42	35	29	32	22
2	125	57	67	54	67	41	57	48	57	44	51	44	38	38	31
3	190	83	80	83	83	77	80	83	83	83	83	85	80	83	70
4	212	75	55	71	58	71	58	78	62	78	65	81	58	81	55
5	201	63	60	66	60	60	60	66	66	82	73	66	60	76	43
Conic Adapter															
1	145	58	48	55	45	38	38	51	42	48	38	35	18	[redacted]	
Clock															
1	90	74	70	74	70	67	70	74	70	72	72	65	55	63	[redacted]
2	92	74	67	72	70	67	65	72	65	72	67	65	52	61	[redacted]
Thrust Cone "A" to "B" SRV															
1	110	46	39	45	38	40	37	42	37	42	37	67	61	64	61
2	72	63	56	59	54	55	52	55	52	55	50	74	67	69	[redacted]
Steller/Index "A" to "B"															
1	74	60	54	60	54	51	51	57	54	57	51	64	51	61	51
2	65	62	59	62	56	56	53	59	53	56	53	64	52	58	52
Recovery Battery "B" SRV															
1	72	75	75	75	76	70	74	74	74	73	74	81	84	86	[redacted]
Master Cassette "A" SRV															
2	93	74	70	72	70	64	63	64	63	63	63	--	--	--	--

*Out of Bounds High (OBH)
NOTE: Only Thrust Cone Data corrected for Self-heating.

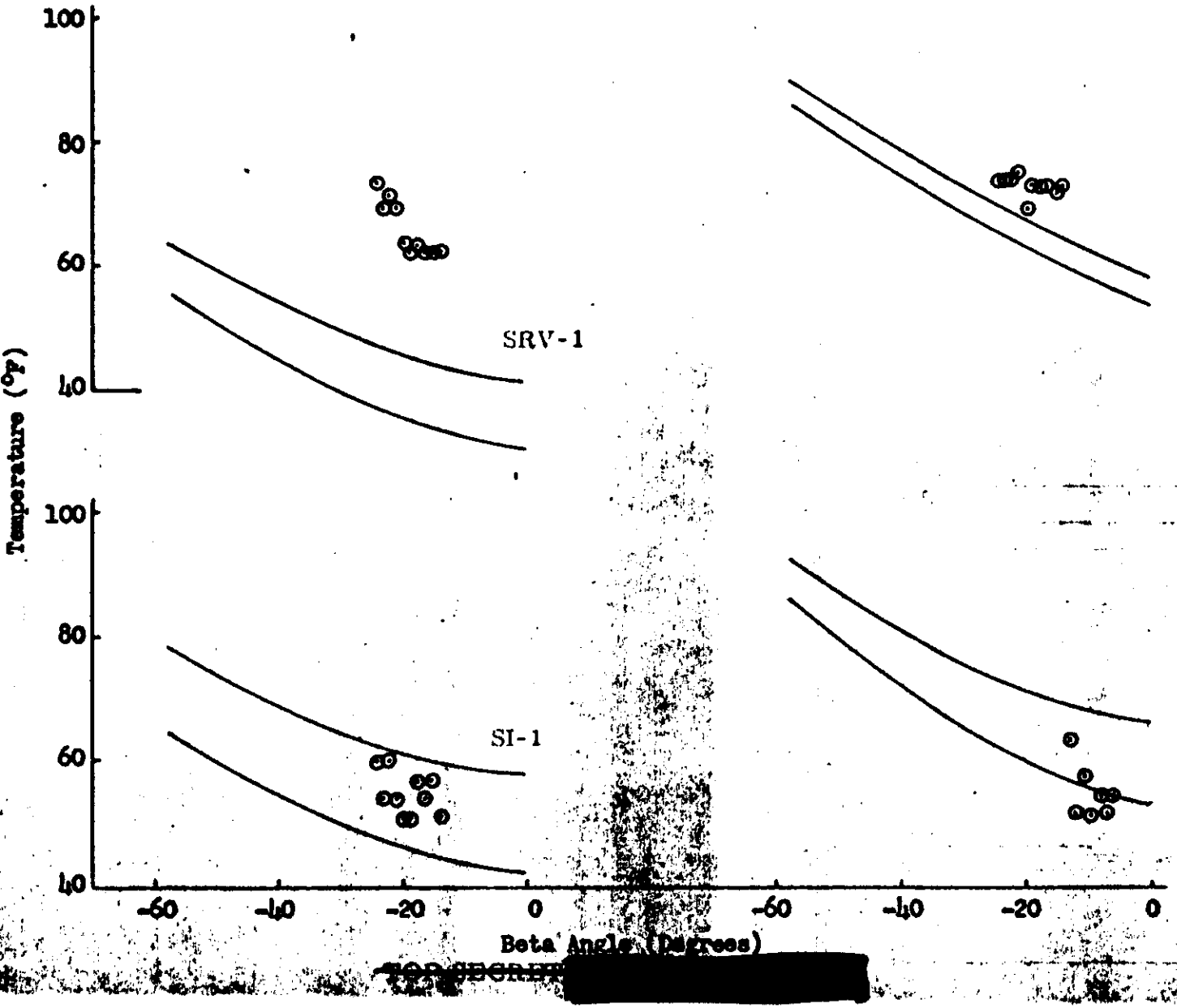

100
80
60
40
SRV-1
SRV-2
SI-1
SI-2
Temperature (°F)
-60
-40
-20
0
Beta Angle (Degrees)

FIGURE 3

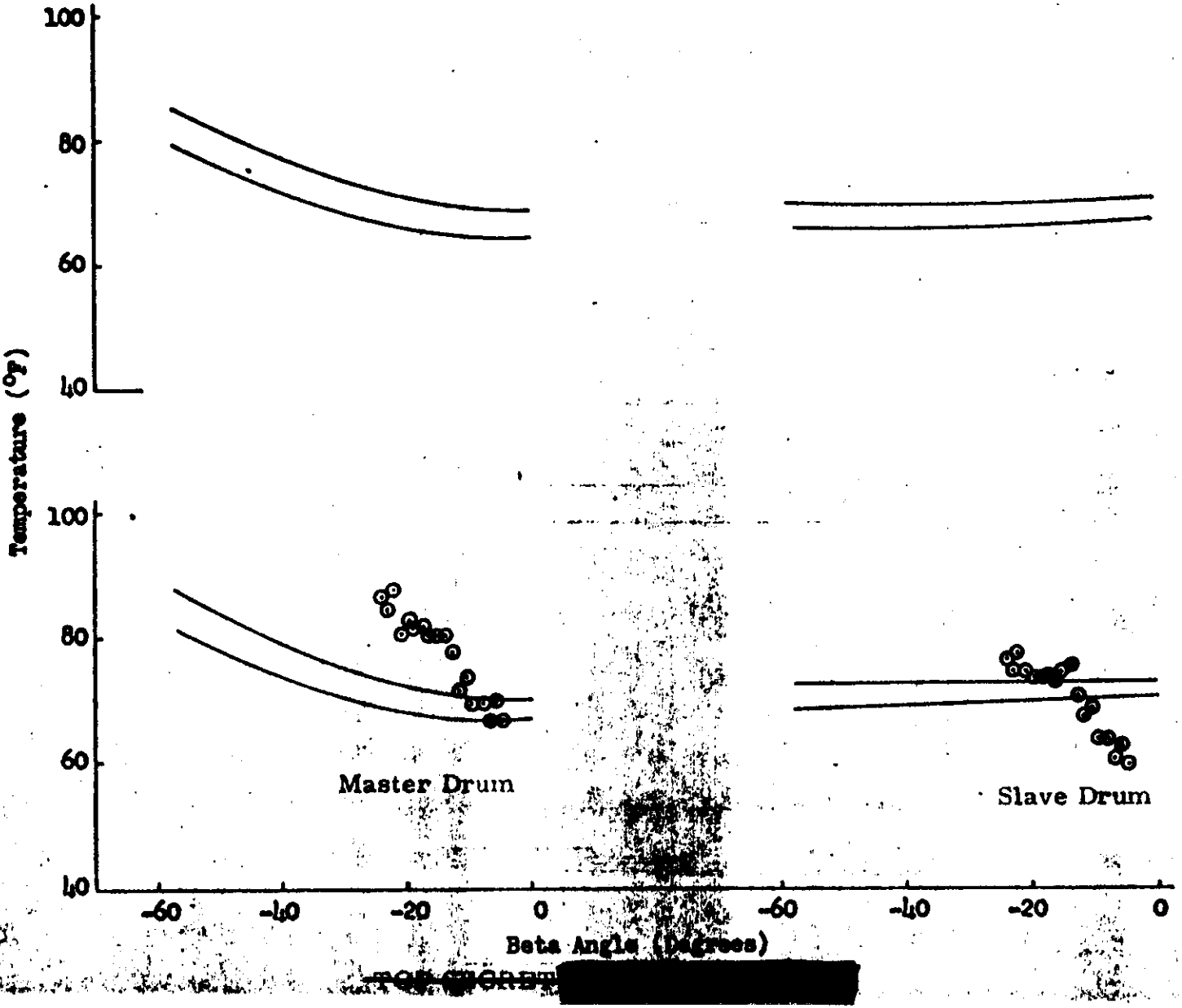

100
80
60
40
Temperature (°F)
Master Drum
Slave Drum
-60
-40
-20
0
Beta Angle (Degrees)

FIGURE 3-

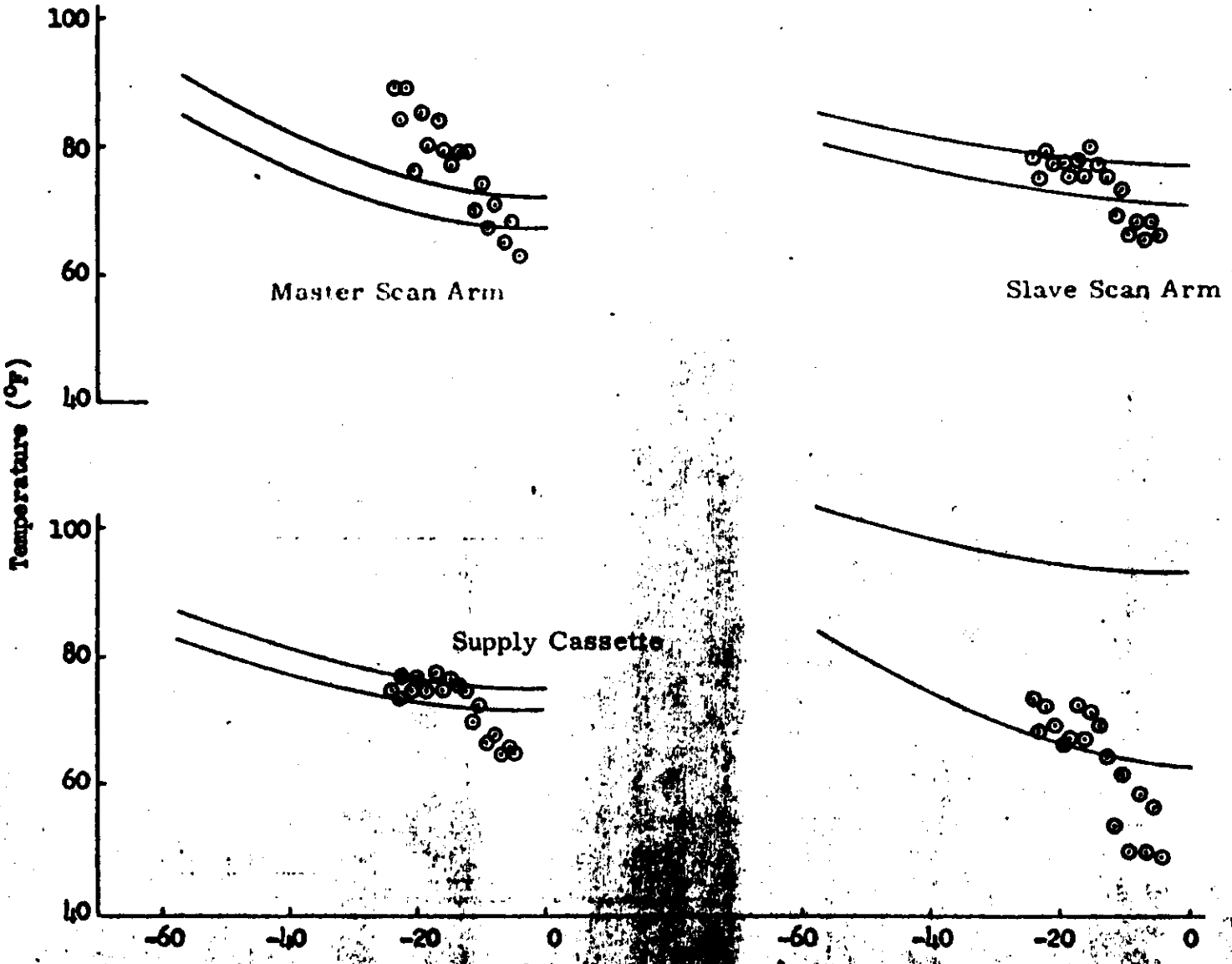


FIGURE [redacted]

SECTION 4

MISSION 1028-1 RECOVERY SYSTEM

SRV #703 was received at A/P on 24 May 1965. The receiving inspection weight was 146.6 pounds. After modifications and incorporation of outstanding Engineering Orders, the unit was delivered to Systems Test for installation into the J-26 system.

The Recovery System was shipped to VAFB on 2 December 1965.

A successful air catch was made during Orbit 81 on 29 December 1965 at 1615 PST. The impact point was within predicted tolerances.

Predicted Impact 23^{o} - 59.6' N 169^{o} - 34.6' W

Actual Impact 23^{o} - 58'N 169^{o} - 42' W

All recovery event times were within the required tolerances. Table 4-1 shows the time sequence of recovery events.

The condition of the recovered capsule was normal.

MISSION 1028-1

RE-ENTRY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
* Arm	N/A	77.0 ± 1.0
** Transfer	N/A	2.0 ± 0.25
Electrical Disconnect	N/A	0.90 + 0.43 − 0.40
Separation	--	--
**Spin	N/A	3.40 ± 0.30
Retro	N/A	7.55 ± 0.45
Despin	10.62	10.75 ± 0.59
T/C Separation	1.51	1.5 ± 0.15
***"G" Switch Open	478.4	490.2 - 512.4
Parachute Cover Off	33.94	34.0 ± 1.5
Drogue Chute Deployed	0.63	0.63 ± 0.08
Main Chute Bag Separate	9.79	10.25 ± 1.5
Main Chute Deployed	0.55	0.52 ± 0.13
Main Chute Disreef	4.68	4.5 ± 0.8

* From Separation
** From Electrical Disconnect
*** From Retro

Spin Rates (RPM)	N/A
Despin Rates (RPM)	N/A
Retro Velocity (Ft./Sec.)	968

TABLE 4-1

SECTION 5

MISSION 1028-2 RECOVERY SYSTEM

SRV #704 was received at A/P on 24 May 1965. The receiving inspection weight was 150.8 pounds. After modifications and incorporation of outstanding Engineering Orders, the unit was delivered to Systems Test for installation into the J-26 System.

The Recovery System was shipped to VAFB on 2 December 1965.

A successful air catch was made during Orbit 144 on 2 January 1966 at 1552 PST. The impact point was within predicted tolerances.

Predicted Impact	22° - 52' N	167° - 18.4' W
Actual Impact	22° - 54' N	167° - 25' W

All recovery event times were within the required tolerances. Table 5-1 shows the time sequence of recovery events.

The condition of the recovered capsule was normal.

MISSION 1028-2

RE-ENTRY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
*Arm	76.77	77.0 ± 1.0
*Transfer	2.04	2.0 ± 0.25
Electrical Disconnect	0.84	0.90 + 0.43 − 0.40
Separation	--	--
**Spin	3.45	3.4 ± 0.30
Retro	7.60	7.55 ± 0.45
Despin	10.68	10.75 ± 0.59
T/C Separation	1.52	1.5 ± 0.15
***"G" Switch Open	511.0	490.2 - 512.4
Parachute Cover Off	33.80	34.0 ± 1.5
Drogue Chute Deployed	0.60	0.63 ± 0.08
Main Chute Bag Separate	9.71	10.25 ± 1.5
Main Chute Deployed	0.55	0.52 ± 0.13
Main Chute Disreef	4.10	4.50 ± 0.80

* From Separation
** From Electrical Disconnect
*** From Retro

Spin Rates (RPM)	6.40
Despin Rates (RPM)	12.75
Retro Velocity (Ft./Sec.)	944

TABLE 5-1

SECTION 6

MASTER PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	176
Main Camera Lens	1772435
Supply Horizon Camera	278-G4
Supply Horizon Camera Lens	E12830
Take-up Horizon Camera	274-G1
Take-up Horizon Camera Lens	816635
Supply Cassette	SC-5

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:	
Lens	24" f/3.5
Slit Width	0.250"
Filter Type	Wratten 25
Film Type	Eastman Type 3404
Supply (Port) Horizon Camera:	
Lens	55 mm f/6.3
Aperture Setting	f/6.3
Exposure Time	1/100 second
Filter Type	Wratten 25

Take-up (Starboard) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION

The image quality produced on this mission was considered by both the PEIR team and PI groups to be the best obtained in recent months. The PI group described the coverage as having a crispness not obtained since last winter. A high contrast resolution target displayed a ground resolution of 7.5 feet along track and 11.5 feet cross track. As has been noted on most missions the Aft camera imagery is slightly better than the Forward looking camera. The MIP rating for the -1 and -2 mission was 85 and the selected frames were from the Aft camera.

The 200 cycle timing light operated intermittently and the smear pulse varied in length. The probable cause was a marginal neon bulb.

Minor light leaks were traced to the felt seals and the laminated strips on the instrument drum.

An out of focus condition occurred during passes D130 and D131. A manufacturing splice was located in this area and probably caused abnormal film tension.

SECTION 7

SLAVE PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	177
Main Camera Lens	1752435
Supply Horizon Camera	279-G4
Supply Horizon Camera Lens	E12865
Take-up Horizon Camera	275-G1
Take-up Horizon Camera Lens	816637
Supply Cassette	SC-8

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) Horizon Camera:

Lens	55 mm f/6.3
Aperture Setting	f/8.0
Exposure Time	1/100 second
Filter Type	Wratten 25

Take-up (Port) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION

The photographic quality and information content of the imagery produced by the Slave camera was excellent. The photography was degraded by the minor effects of the usual light leaks and the following anomalies.

The horizon imagery on the starboard side (supply) was veiled from the start of the mission through pass D68. This veiling did not interfere with the data reduction.

A region of soft imagery was present throughout the mission. It was located along the time track edge of the format and up to one-half inch wide. This condition is possibly due to irregularity in tracking tension.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The Master camera used a 0.250 inch slit and a Wratten 25 filter while the Slave instrument was fitted with a 0.175 inch slit and a Wratten 21 filter. The resulting nominal exposure calls for processing between intermediate and full development of EK type 3404 film.

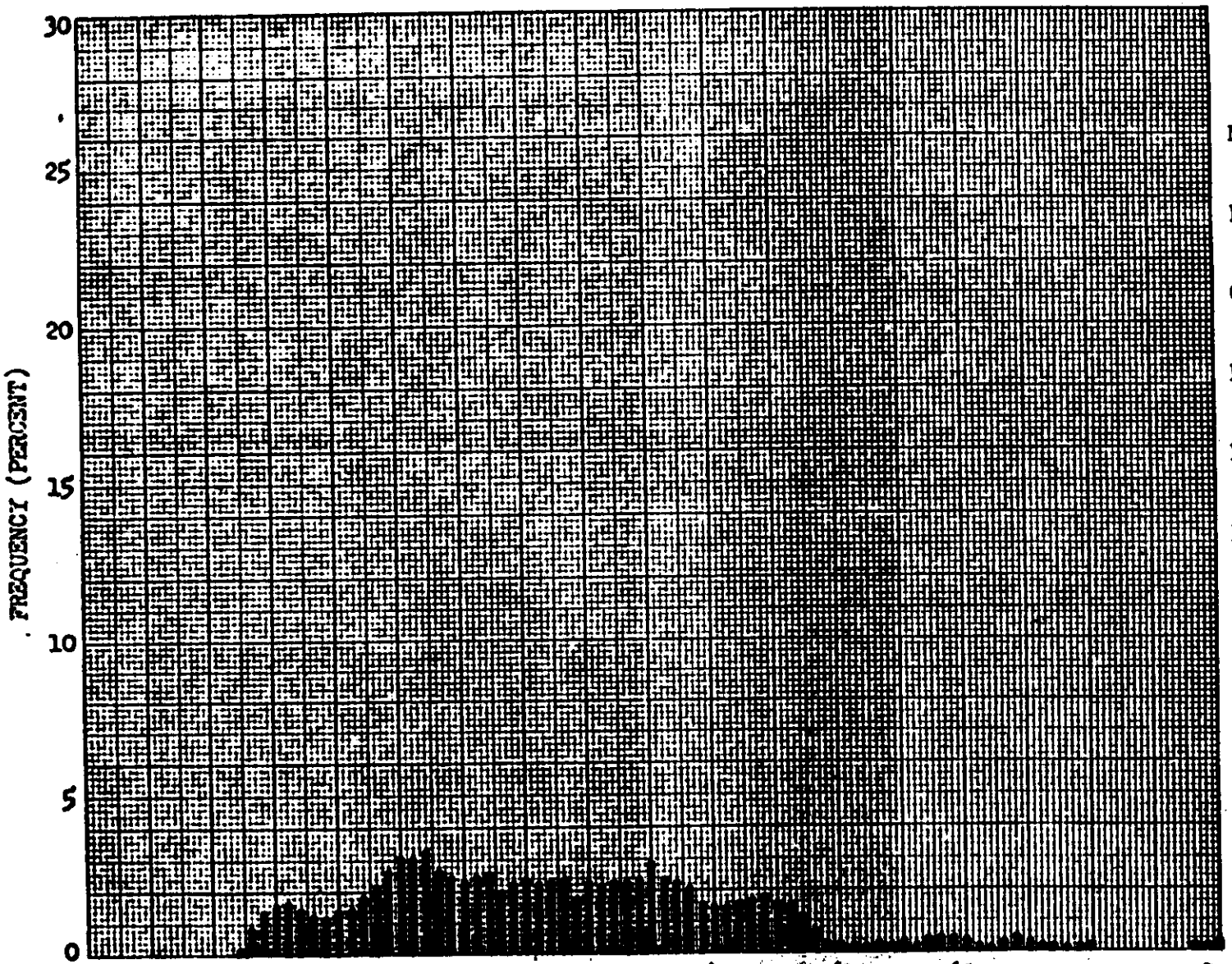
The frequency distribution of the solar elevations and solar azimuths encountered during the photographic operations are shown in Figures 8-1 to 8-4.

The nominal exposure times are shown as a function of latitude for passes D-8, D-72, and D-136 in Figure 8-5 to 8-10. 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
1028-1	FWD	Predicted	0	4	96
		Reported	0	4	96
1028-1	AFT	Predicted	0	5	95
		Reported	0	16	84
1028-2	FWD	Predicted	0	3	97
		Reported	1	9	90
1028-2	AFT	Predicted	0	10	90
		Reported	0	6	94

The measured density values (D-Min., D-Max.) were lower than the average values for past missions. The camera exposure settings are selected by weighing the predicted density versus image degradations resulting from image motion. The mission used exposure times, which in combination with solar altitudes produces low density values even with full processing development. It would be an aid in selecting exposure settings to have data describing the mission's operational target brightnesses.

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1028-2

Payload No: 1-26

Camera No: 176

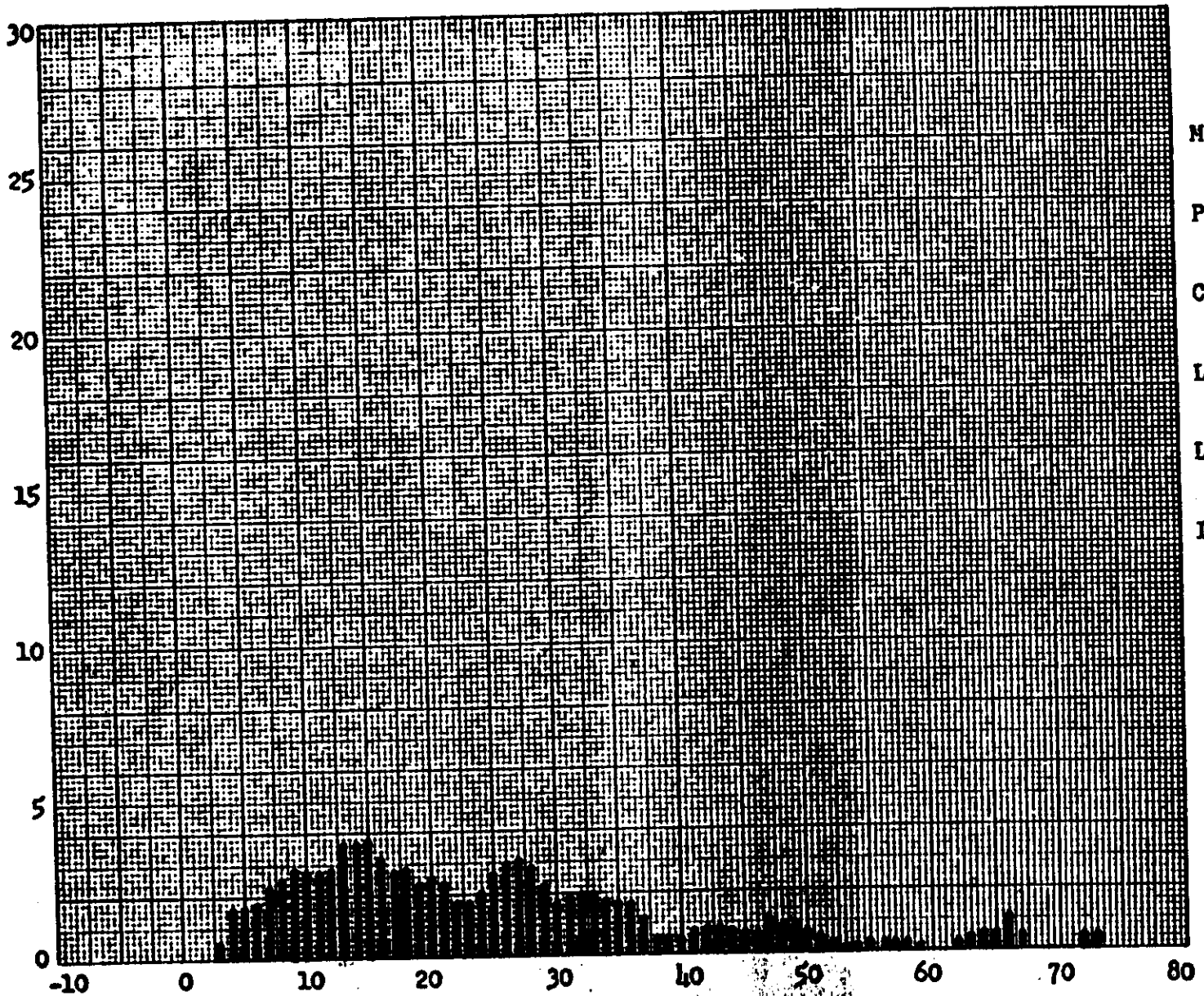
Launch Date: 12/21/65

Launch Time: 2106 Z

Inclination: 80°

FIGURE 8-1

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1028-1

Payload No: J-26

Camera No: 176

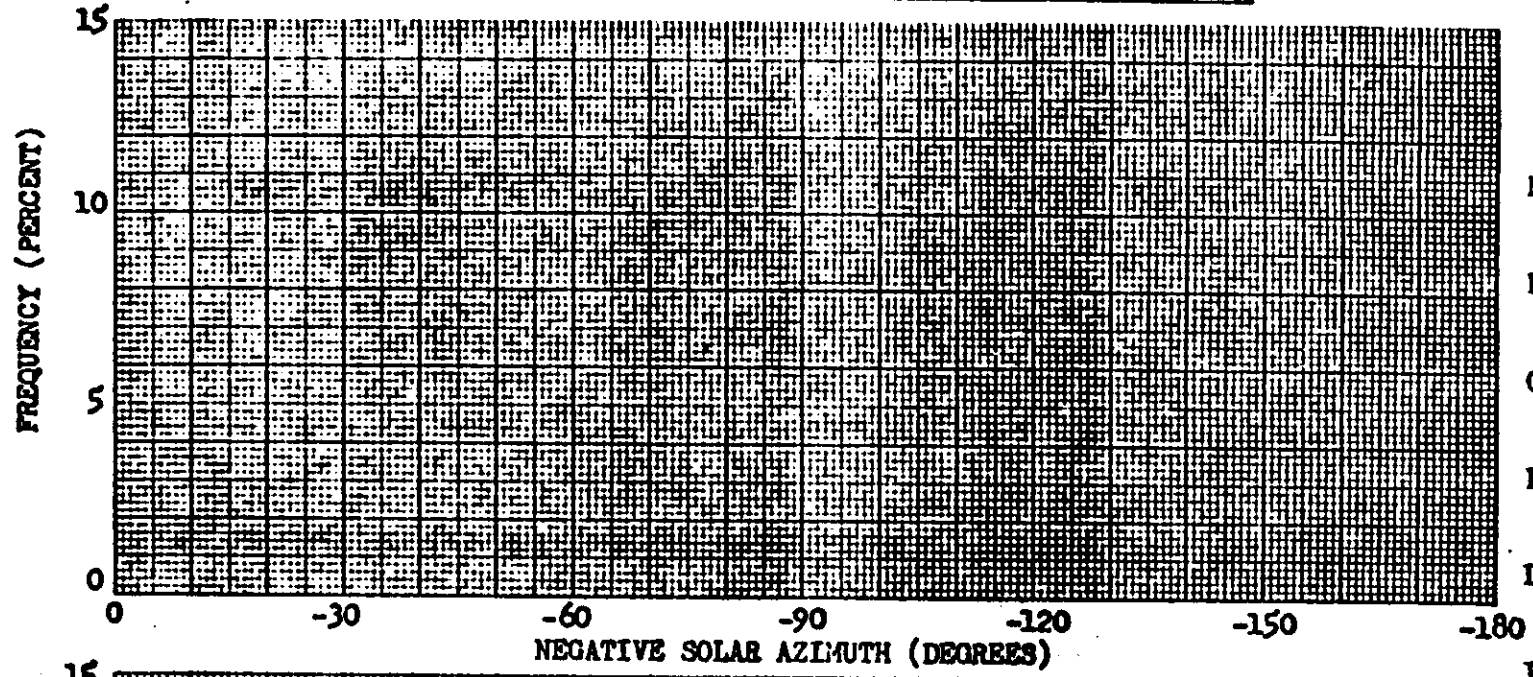
Launch Date: 12/[redacted]/65

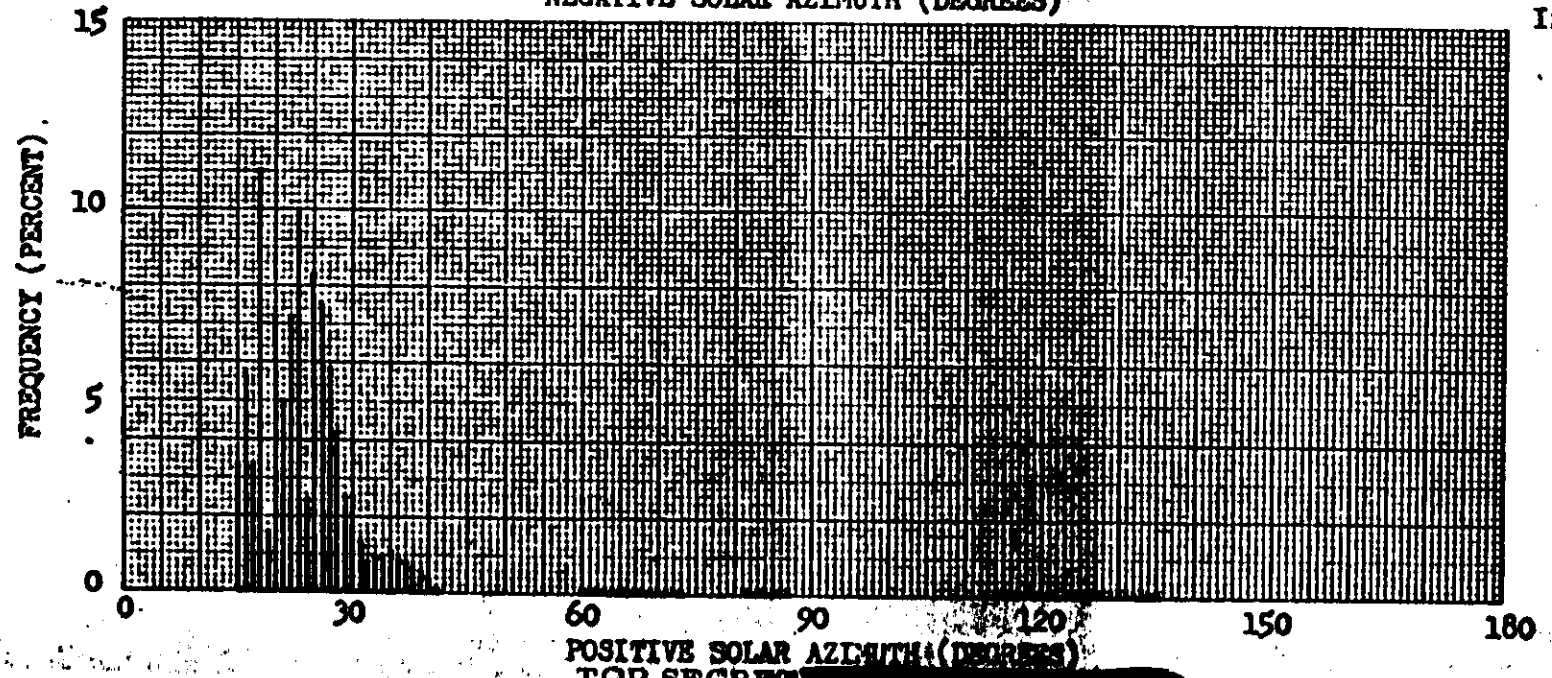
Launch Time: 2106 Z

Inclination: 80°

FIGURE 8-2

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1028-1

Payload No: J-26

Camera No: 176

Launch Date: 12/23/65

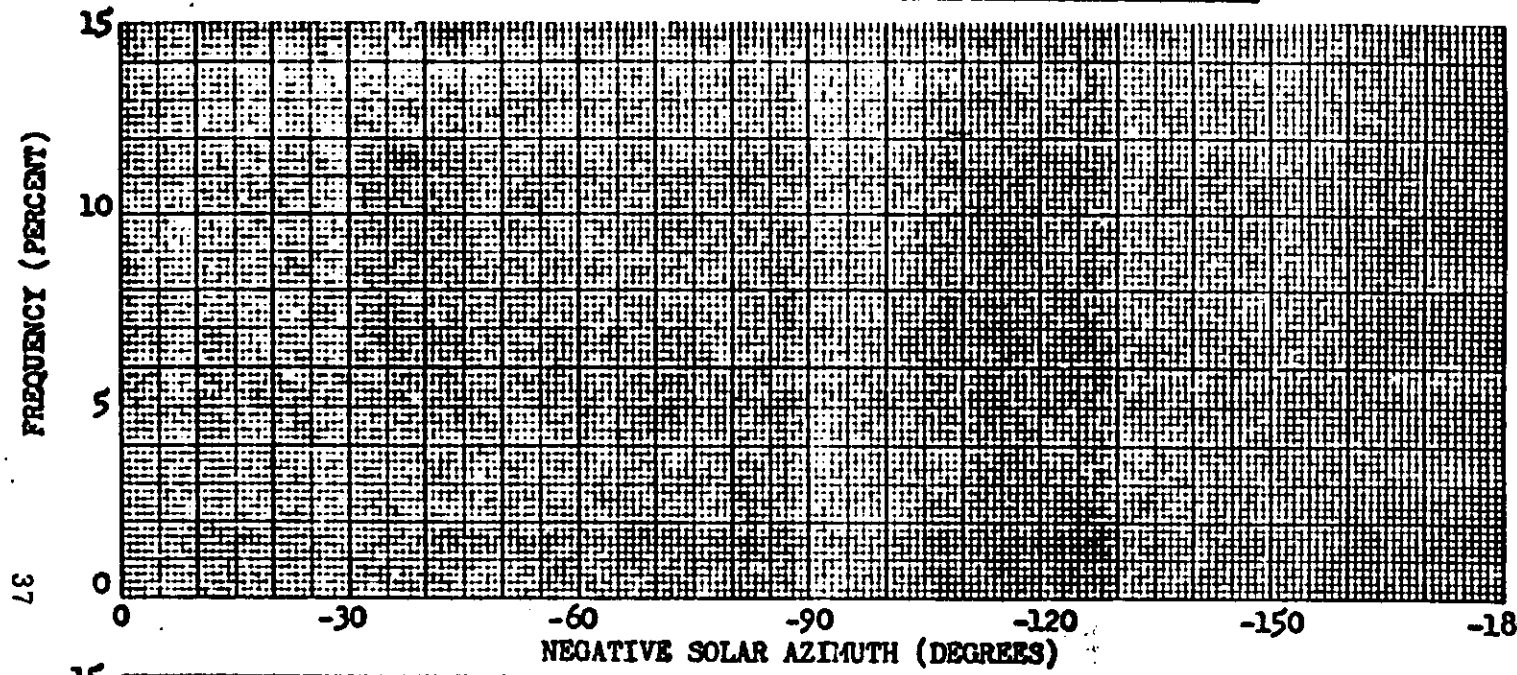
Launch Time: 2106 Z

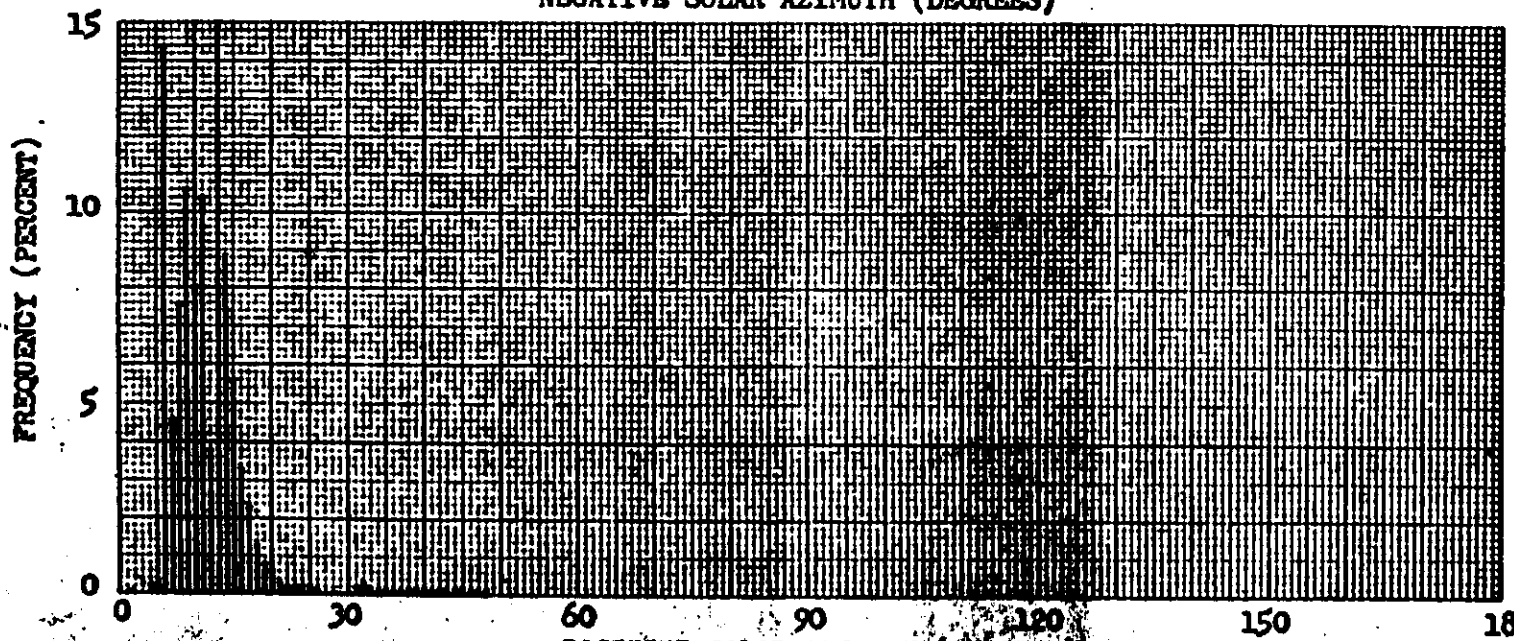
Inclination: 80°

SIGN NOTATION

FIGURE 8-3

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1028-2

Payload No: J-26

Camera No: 176

Launch Date: 12/21/65

Launch Time: 2106 Z

Inclination: 80°

SIGN NOTATION

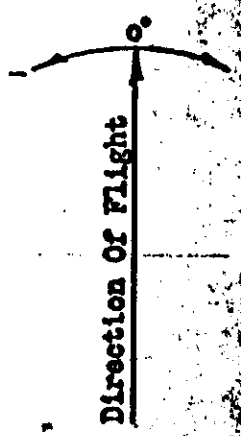
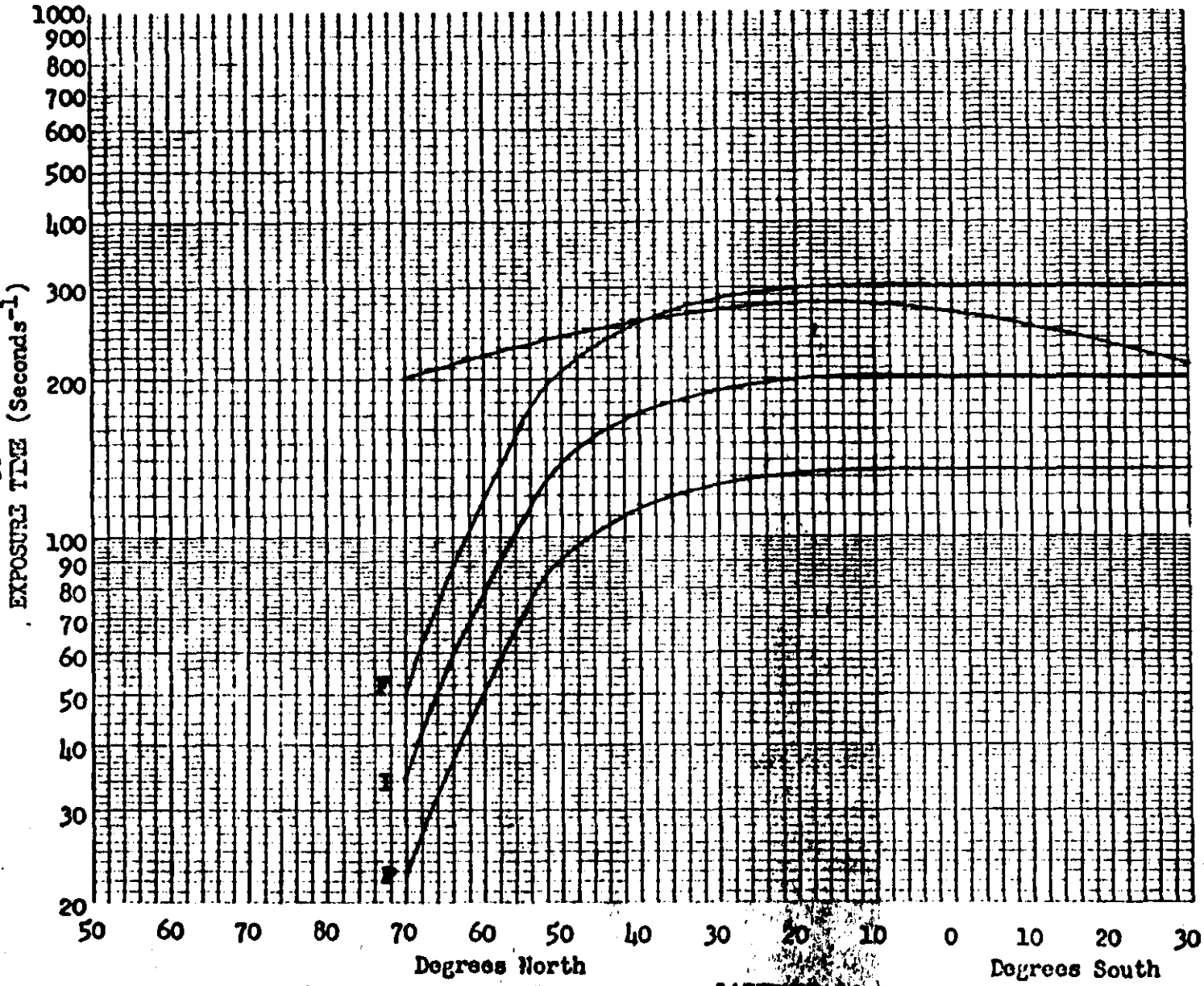


FIGURE 8-4

[redacted]

EXPOSURE POINTS



Mission No: 1028

Payload No: J-26

Camera No: 176

Pass No: 8

Launch Date: 12/24/65

Launch Time: 2106 Z

Slit Width: .250

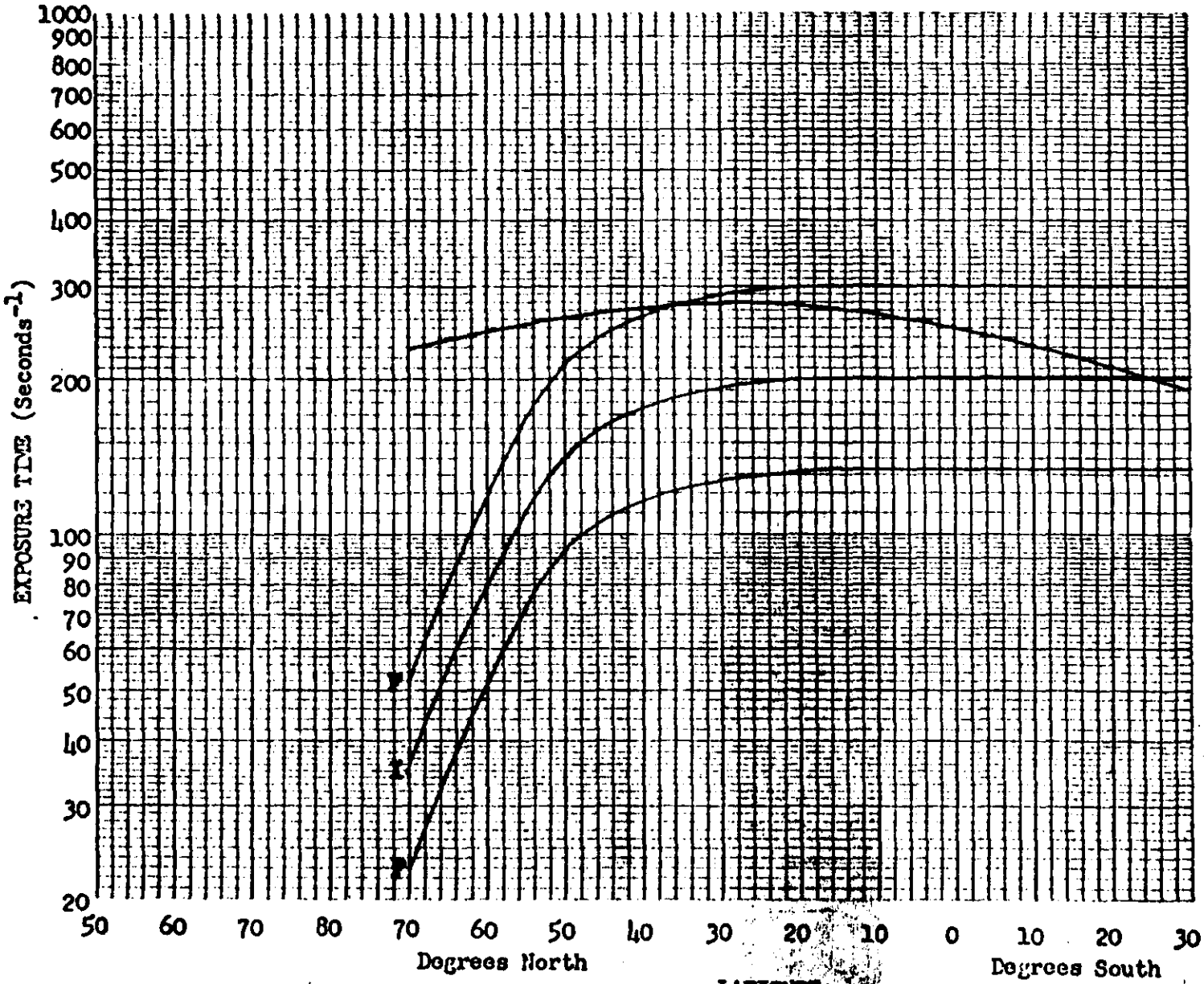
Filter Type: Wratten 25

Film Type: 3404

FIGURE 8-5

[redacted]

EXPOSURE POINTS



Mission No: 1028

Payload No: J-26

Camera No: 176

Pass No: 72

Launch Date: 12/21/65

Launch Time: 2106 Z

Slit Width: .250

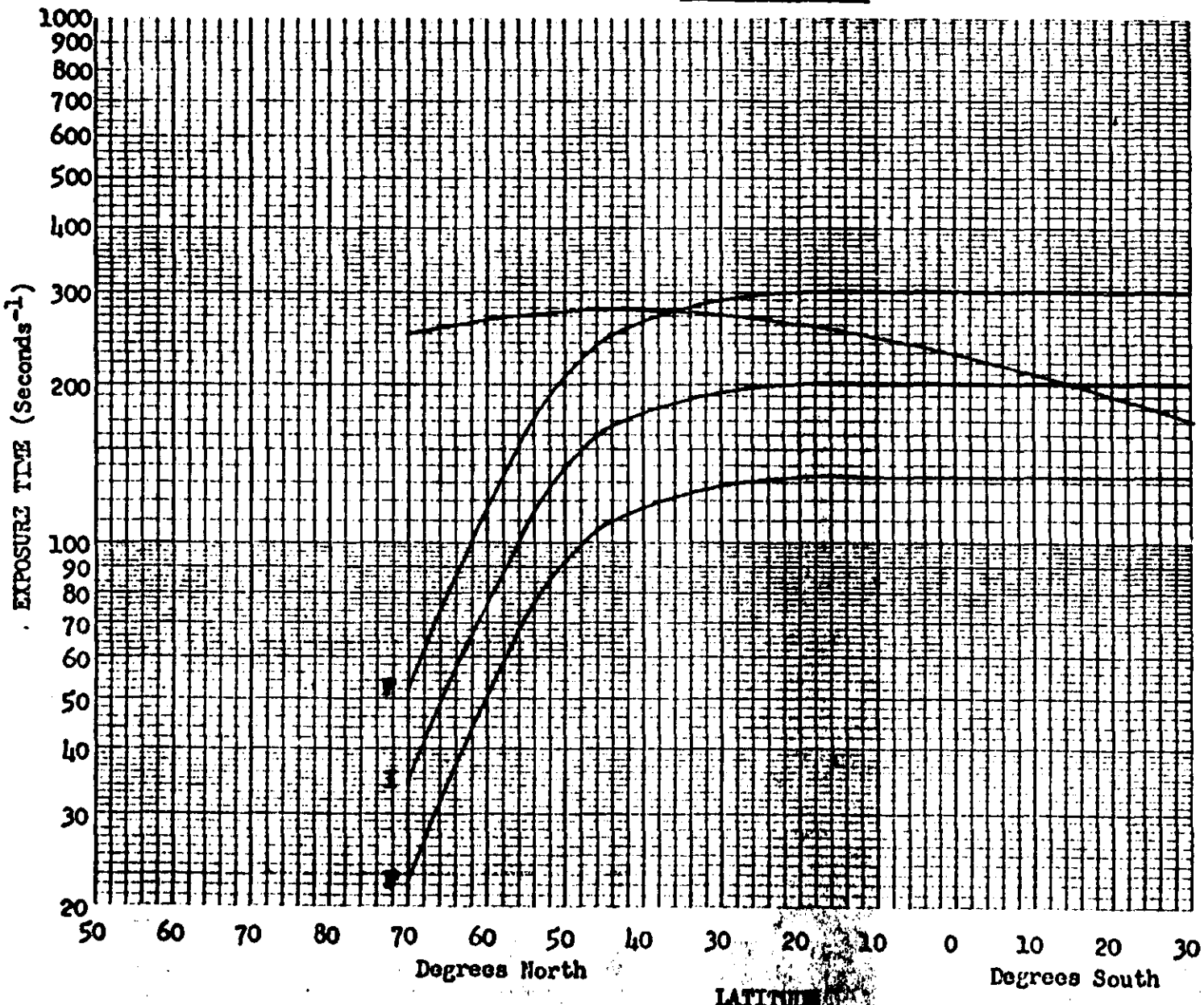
Filter Type: Wratten 25

Film Type: 3404

FIGURE 8-6

[redacted]

EXPOSURE POINTS



Mission No: 1028

Payload No: J-26

Camera No: 176

Pass No: 136

Launch Date: 12/2h/65

Launch Time: 2106 Z

Slit Width: .250

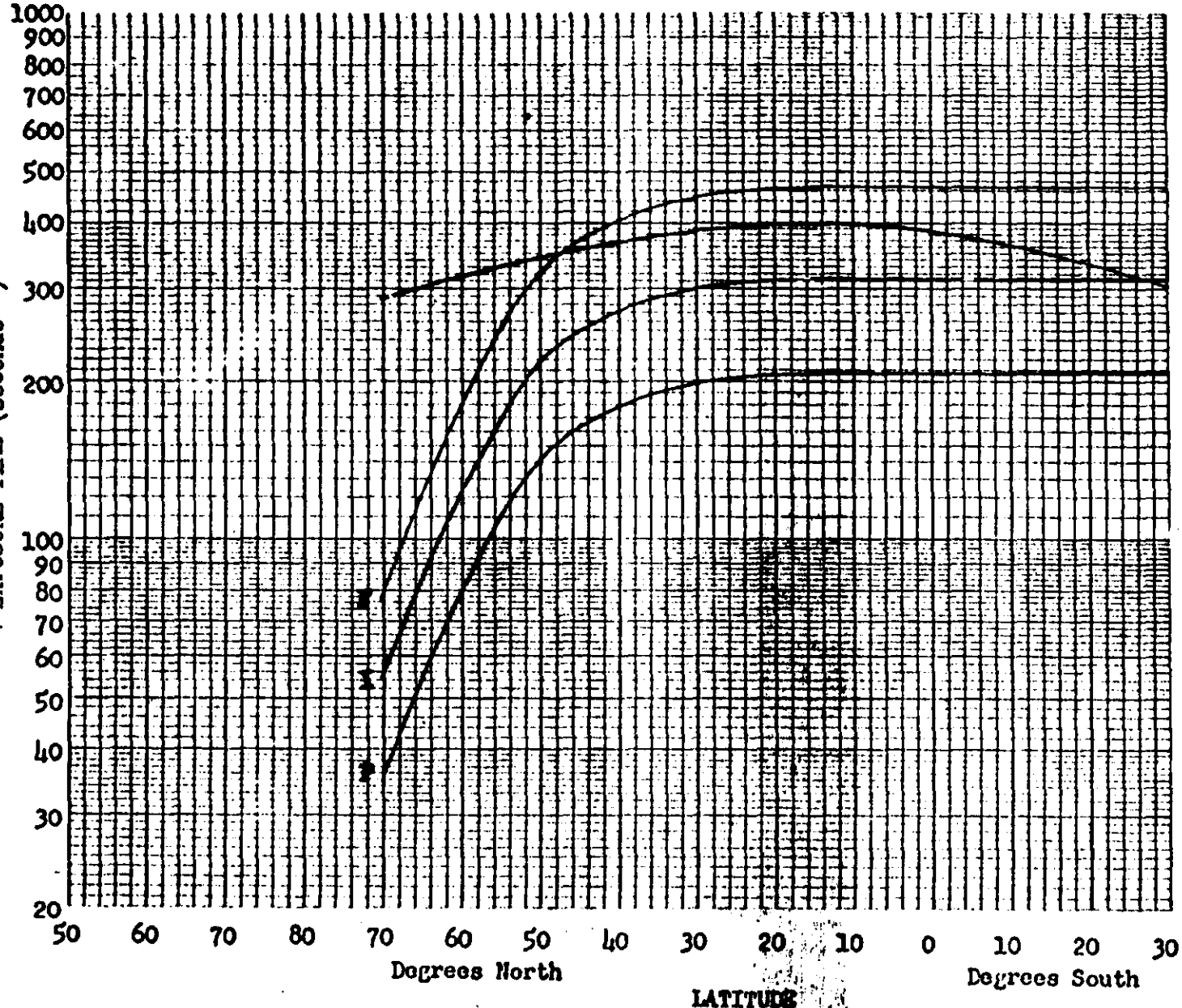
Filter Type: Wratten 25

Film Type: 3404

FIGURE 8-7

[redacted]

EXPOSURE POINTS



Mission No: 1028

Payload No: J-26

Camera No: 177

Pass No: 8

Launch Date: 12/24/65

Launch Time: 2106 Z

Slit Width: .175

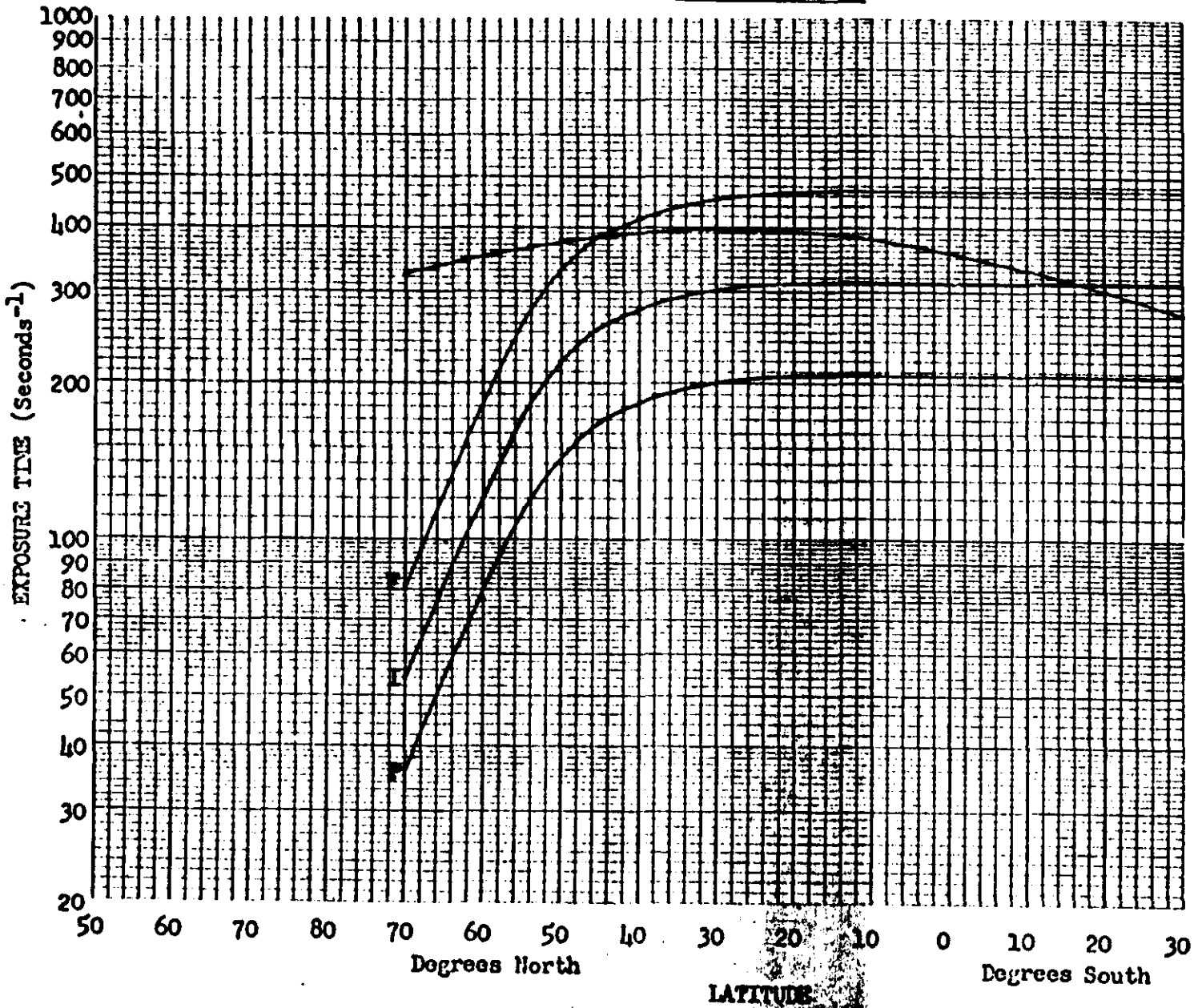
Filter Type: Wratten 21

Film Type: 3404

FIGURE 8-8

[redacted]

EXPOSURE POINTS



Mission No: 1028

Payload No: J-26

Camera No: 177

Pass No: 72

Launch Date: 12/21/65

Launch Time: 2106 Z

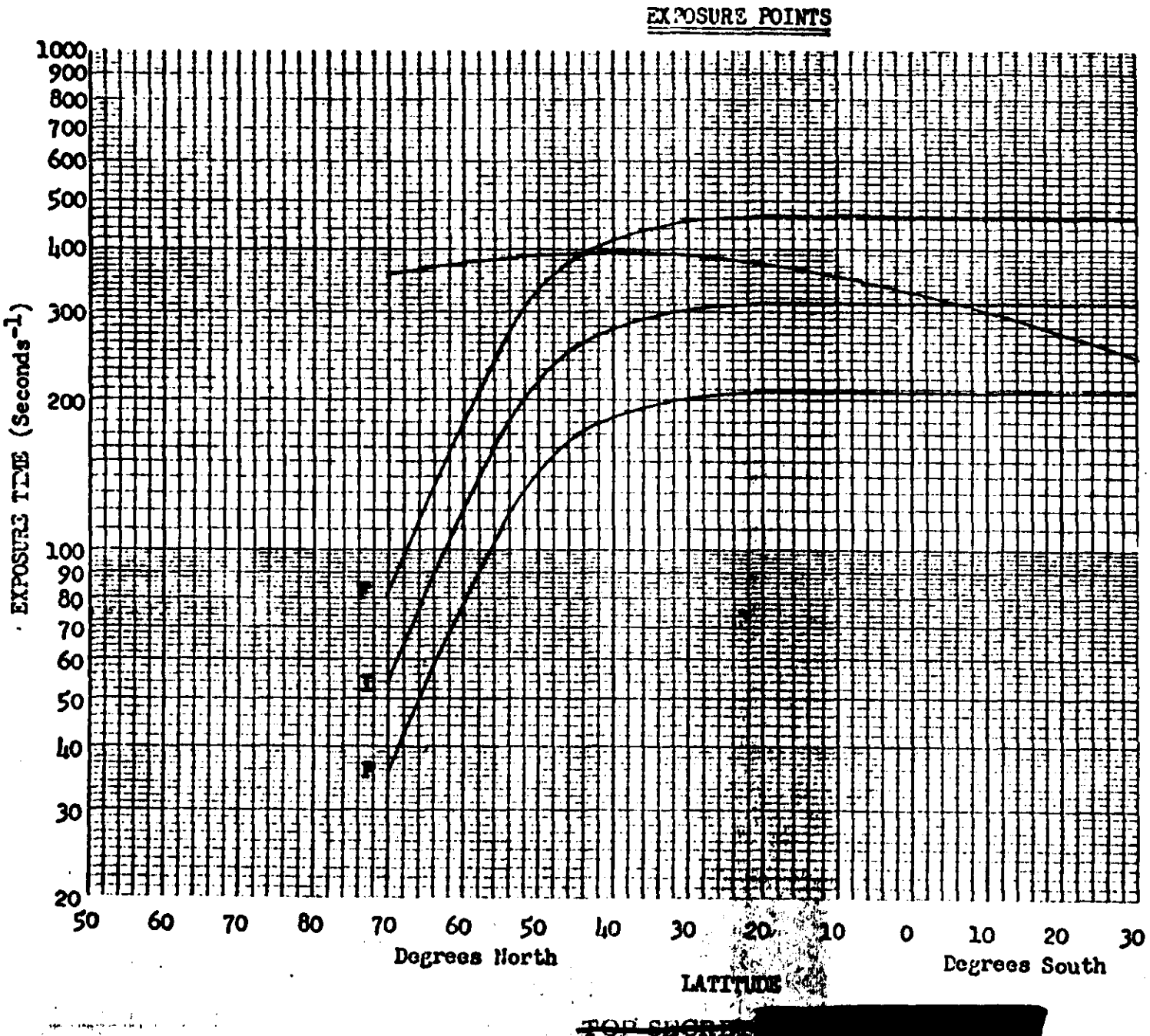
Slit Width: .175

Filter Type: Wratten 21

Film Type: 3404

FIGURE 8-9

[redacted]



Mission No: 1028

Payload No: J-26

Camera No: 177

Pass No: 136

Launch Date: 12/24/65

Launch Time: 2106 Z

Slit Width: .175

Filter Type: Wratten 21

Film Type: 3404

FIGURE 8-10

SECTION 9

DIFFUSE DENSITY MEASUREMENTS

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

Mission	Camera		Primary	Intermediate	Full
1028-1	FWD	Predicted	0	4	96
		Reported	0	4	96
		Computed	0	11	89
1028-1	AFT	Predicted	0	5	95
		Reported	0	16	84
		Computed	0	11	89
1028-2	FWD	Predicted	0	3	97
		Reported	1	9	90
		Computed	0	15	85
1028-2	AFT	Predicted	0	10	90
		Reported	0	6	94
		Computed	0	6	94

The tabulations of density frequency distributions for Missions 1028-1 and 1028-2 are included in Appendix A, Table A-1 through A-4. The graphical presentation of the density distribution are computer plotted in Appendix A, Figure A-1 through A-37.

A summary of the processing and exposure analysis is shown in Table 9-1. The terrain D-Min. criteria (range) for proper exposure and processing is 0.40 to 0.90 density units.

MISSION 1028-1 INSTR - FRWD 2-11-66 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	29	0 PC	55 PC	38 PC	7 PC	0 PC
FULL	229	73 PC	0 PC	27 PC	0 PC	0 PC
ALL LEVELS	258	65 PC	6 PC	28 PC	1 PC	0 PC

MISSION 1028-1 INSTR - AFT 2-11-66 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	30	3 PC	43 PC	53 PC	0 PC	0 PC
FULL	237	63 PC	0 PC	35 PC	2 PC	0 PC
ALL LEVELS	267	56 PC	5 PC	37 PC	1 PC	0 PC

MISSION 1028-2 INSTR - FRWD 2-11-66 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	36	0 PC	19 PC	81 PC	0 PC	0 PC
FULL	206	69 PC	0 PC	30 PC	1 PC	0 PC
ALL LEVELS	242	59 PC	3 PC	37 PC	1 PC	0 PC

MISSION 1028-2 INSTR - AFT 2-11-66 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	15	0 PC	13 PC	40 PC	33 PC	13 PC
FULL	234	50 PC	0 PC	44 PC	6 PC	0 PC
ALL LEVELS	249	47 PC	1 PC	44 PC	7 PC	1 PC

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

TABLE [illegible]

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1028-1 and 1028-2 received a MIP rating of 85. A summary is tabulated below of the MTF/AIM resolution values measured by AFSPPF and [redacted] The microdensimeter slit used by AFSPPF and [redacted] was one micron by 80 microns.

Mission	Camera	AFSPPF	[redacted]
1028-1	FWD	81	89
1028-1	AFT	92	93
1028-2	FWD	88	87
1028-2	AFT	77	84

The details of the measurement and computing techniques, targets measured and target locations are fully reported in the evaluation report published by AFSPPF and are not normally included in this report.

SECTION 11

OBSERVED DATA

Mission 1028 panoramic camera system produced some of the best photography seen to date on the Corona Program. This conclusion was reached without the aid of CORN Resolution Targets by using other objects of known dimensions. The mobile target at Jefferson City Airport, Missouri was degraded by haze to the extent that approximately 16 feet was the limit of ground resolution. The fixed targets at Edwards AFB, California, were not activated for this mission and were probably reduced in contrast due to dust and sand. No other CORN Targets were photographed.

The MIP frame for mission segment 1028-2 is from the aft camera on pass 126D. In the center of the format is the San Fernando Valley of California. 1 1/2 inches apart are the Lockheed Air Terminal at Burbank and Van Nuys Airport. The standard threshold markers on the Lockheed All-weather Runway are oriented in the photo suitable for along-track resolution evaluation. The same type markings on the Van Nuys Runway are approximately 90° to the other and thus suitable for cross-track evaluation. These markers consist of 2 sets of 4 parallel stripes 12 feet wide, 50 feet long and a space of 3 feet between stripes, using 40x magnification these 3 foot spaces were resolved their entire length by both fore and aft cameras in the along-track direction and by the aft in the cross-track direction. Results were not quite as good for the forward camera cross-track. This suggests a ground resolution capability of approximately 6 feet or 115 L/mm. This corresponds very closely with the results of pre-flight lo-contrast resolution test results.

By comparing other objects in this MIP frame with similar objects in the MIP frame for missions segment 1028-1 and its associated stereo frame, as well as other frames where clear air prevailed, nearly uniform performance was found throughout the mission.

SECTION 12

MISSION 1028-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-77
Index Reseau	91
Stellar Reseau	97

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

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

C. POST FLIGHT EVALUATION

Stellar Camera

The camera was operational throughout the mission and provided acceptable imagery for attitude determinations. There were at least 20 images per frame, however they were double imaged. The first 152 frames had images of foreign particles, which are assumed to be jettisoned fuel particles.

Index Camera

The camera was operational throughout the mission and provided good terrain photography.

SECTION 13

MISSION 1028-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-74
Index Reseau	76
Stellar Reseau	95

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

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

C. POST FLIGHT EVALUATION

Stellar Camera

The camera was operational throughout the mission. The film was partially fogged from head to tail due to the Index camera shutter malfunction. The fog was degrading for 3 frames at each camera off period. Most images were double and/or smeared, but adequate for attitude determination.

Index Camera

The shutter remained open throughout the mission and all terrain imagery was lost.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1028-1 and 1028-2 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 1028-1 and Figures 14-7 through 14-10 for Mission 1028-2.

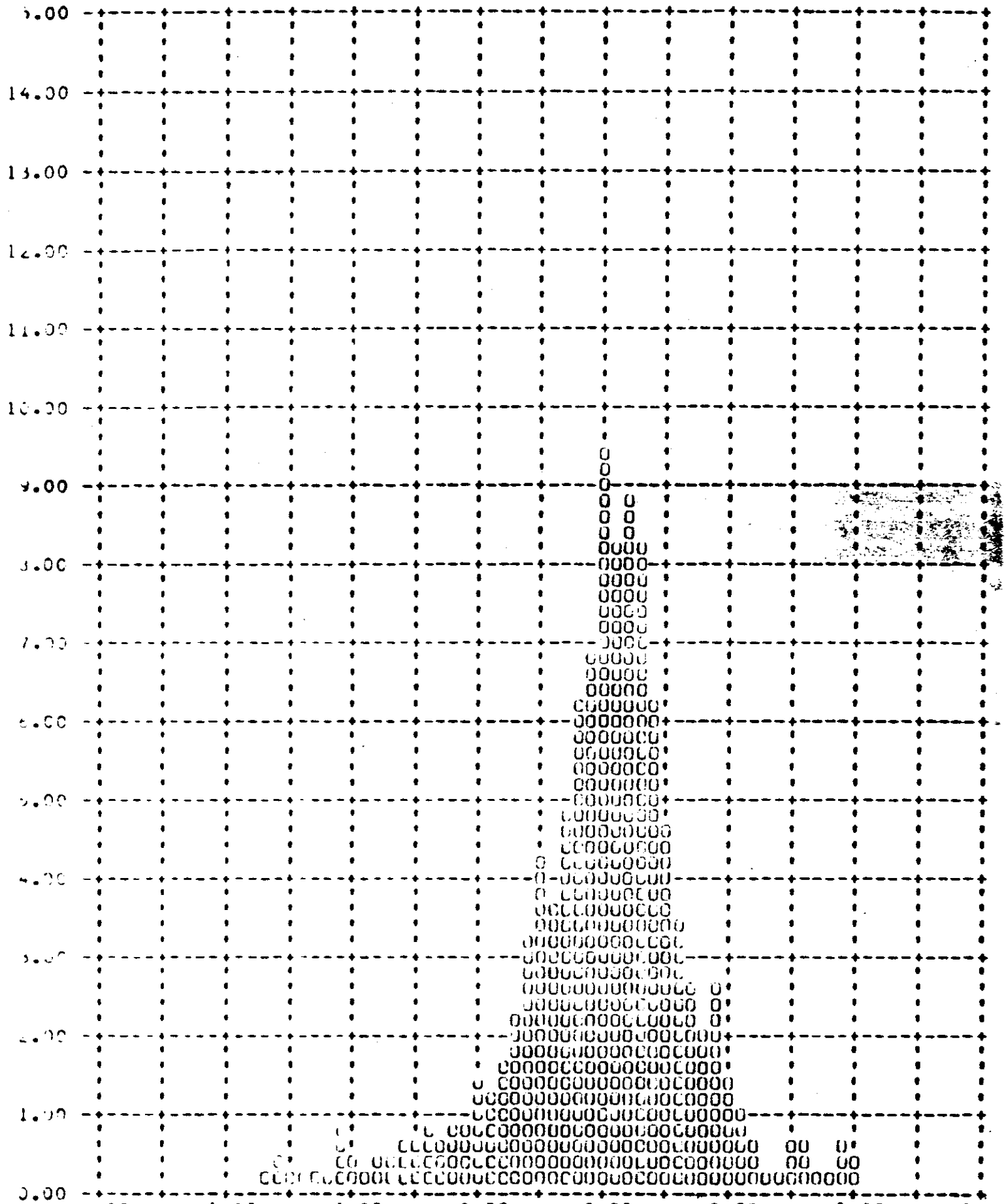
The summary table below lists the maximum attitude errors and rates that were experienced during 90% of the Fwd photographic operations, excluding the first six frames of each operation, and the total range of the errors and rates.

	Mission 1028-1		Mission 1028-2	
Value	90%	Range	90%	Range
Pitch Error (^{o})	0.52	-1.35 to + 1.00	0.76	-1.70 to +0.60
Roll Error (^{o})	0.37	-0.40 to + 0.90	0.52	-0.50 to +0.85
Yaw Error (^{o})	0.50	-1.00 to + 1.10	--	--
Pitch Rate (^{o}/hr.)	36.62	-70 to + 100	42.7	-85 to +100
Roll Rate (^{o}/hr.)	28.02	-80 to + 90	25.7	-90 to + 85
Yaw Rate (^{o}/hr.)	30.47	-52 to +64	--	--

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

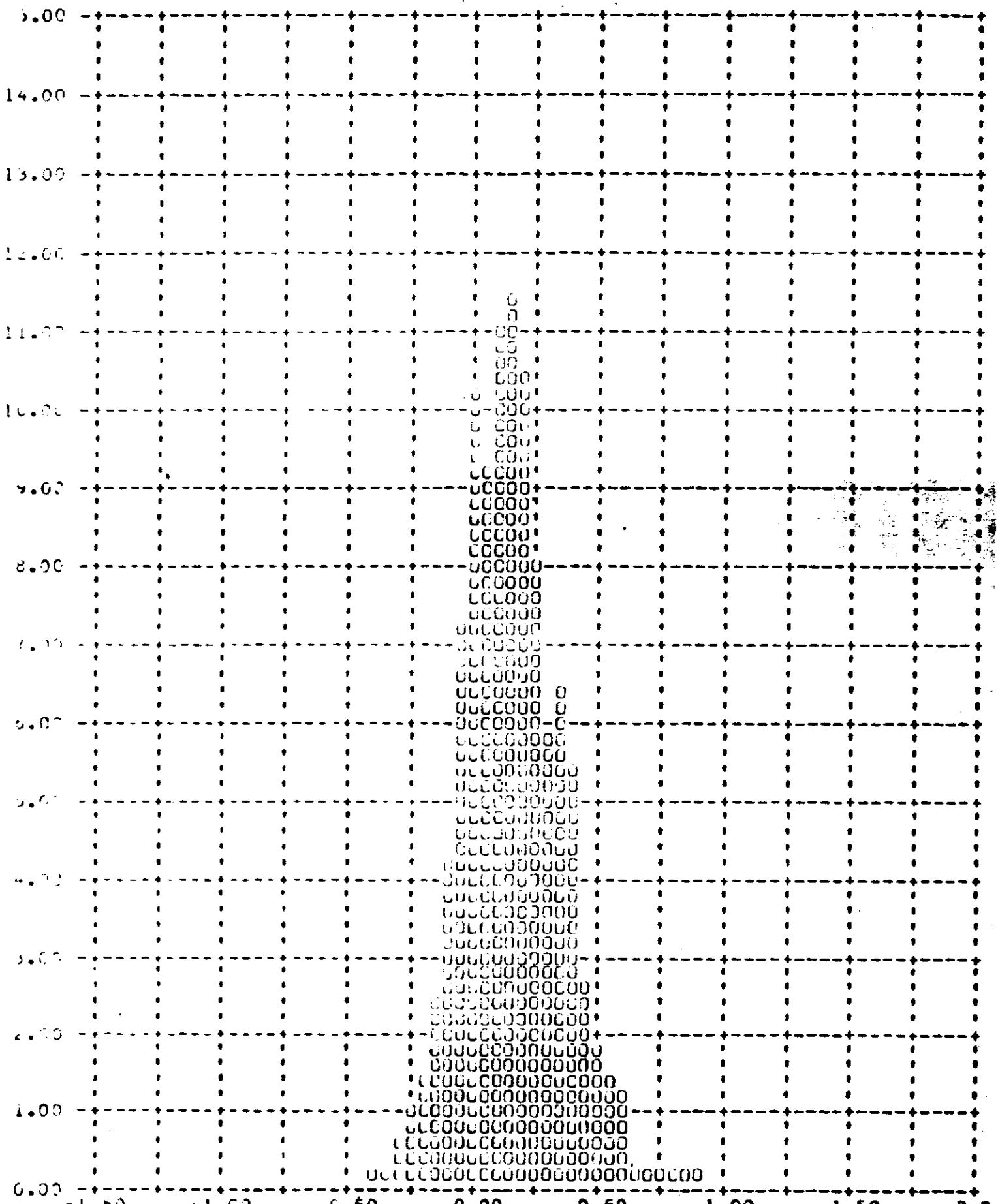
-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.52

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



J-26 A-BUCKET FORWARD INSTRUME- FRAMES 1-6 OF EACH OF OMITTED- 90 PERCENT = 0.37

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



-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH UP UNLITED 90 PERCENT = 0.50

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

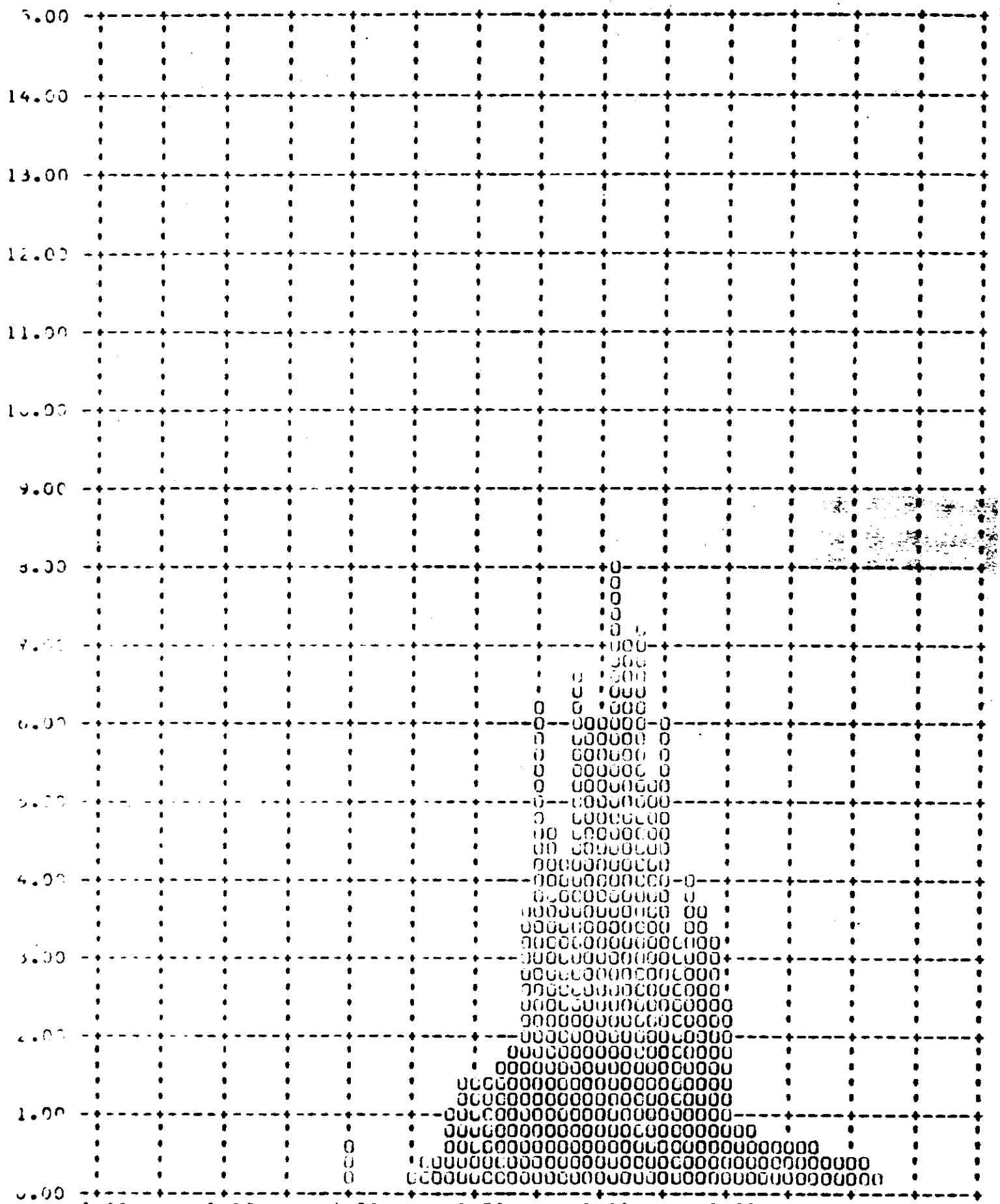
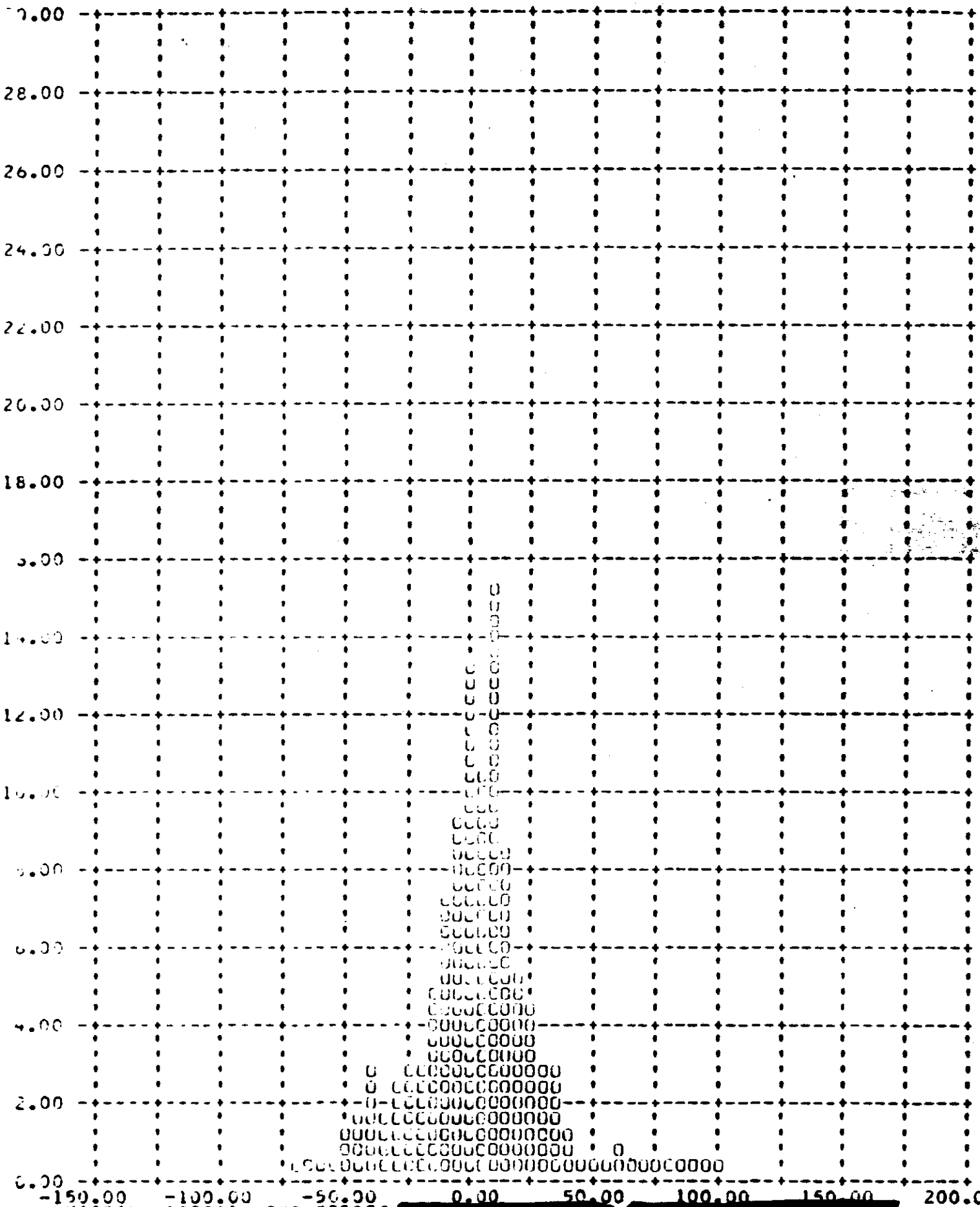


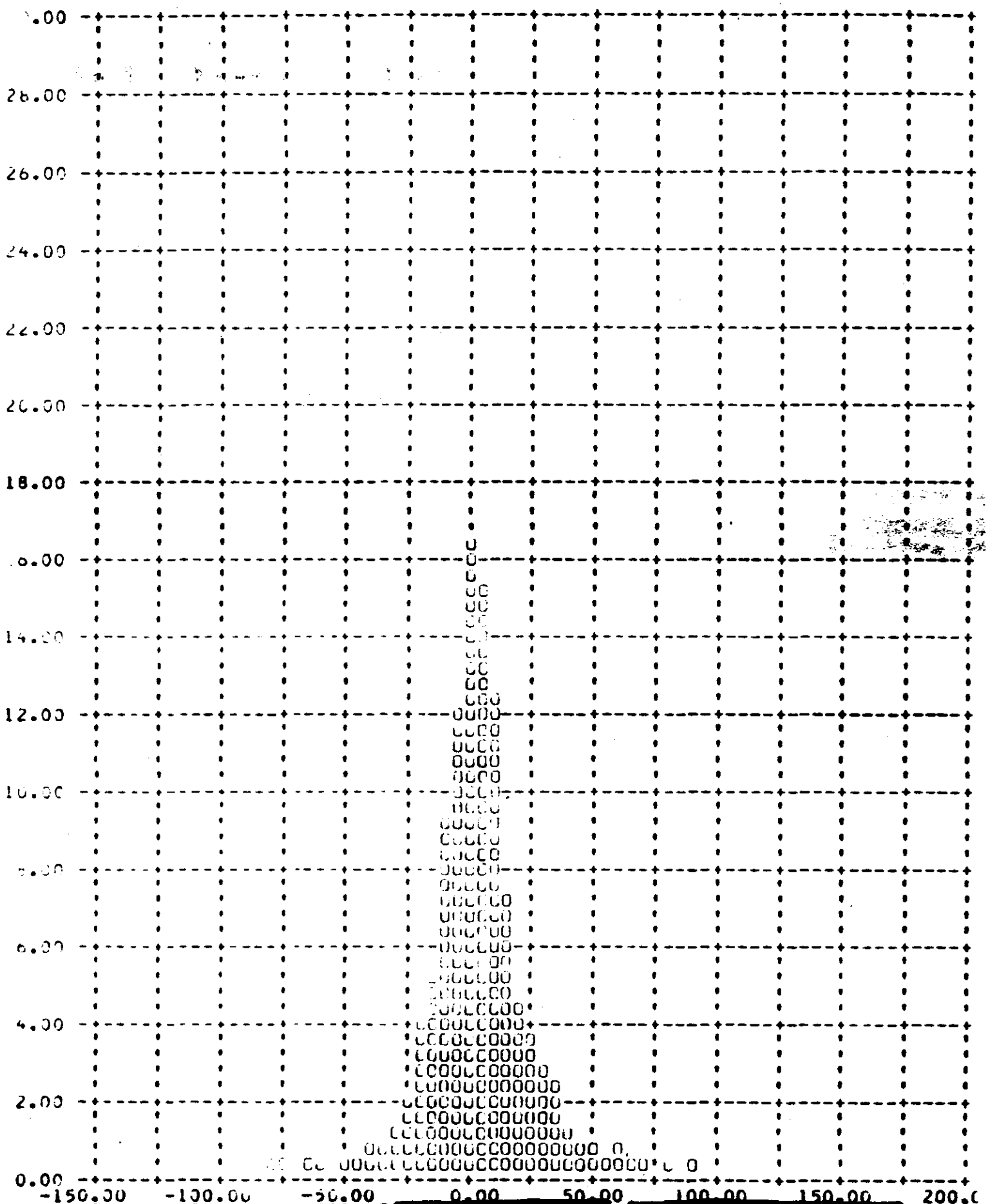
FIGURE 11-3

-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 36.62

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

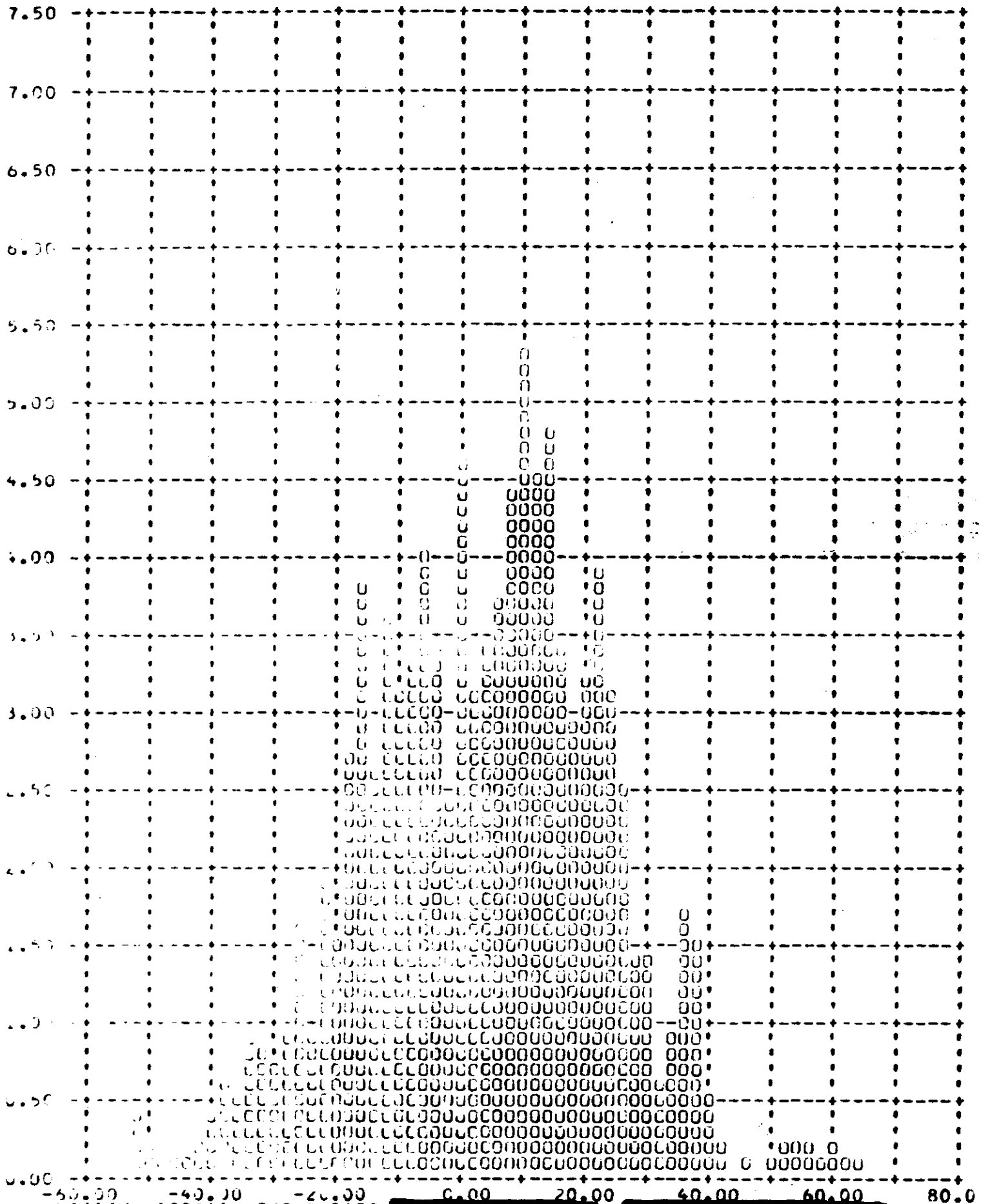


-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 28.02



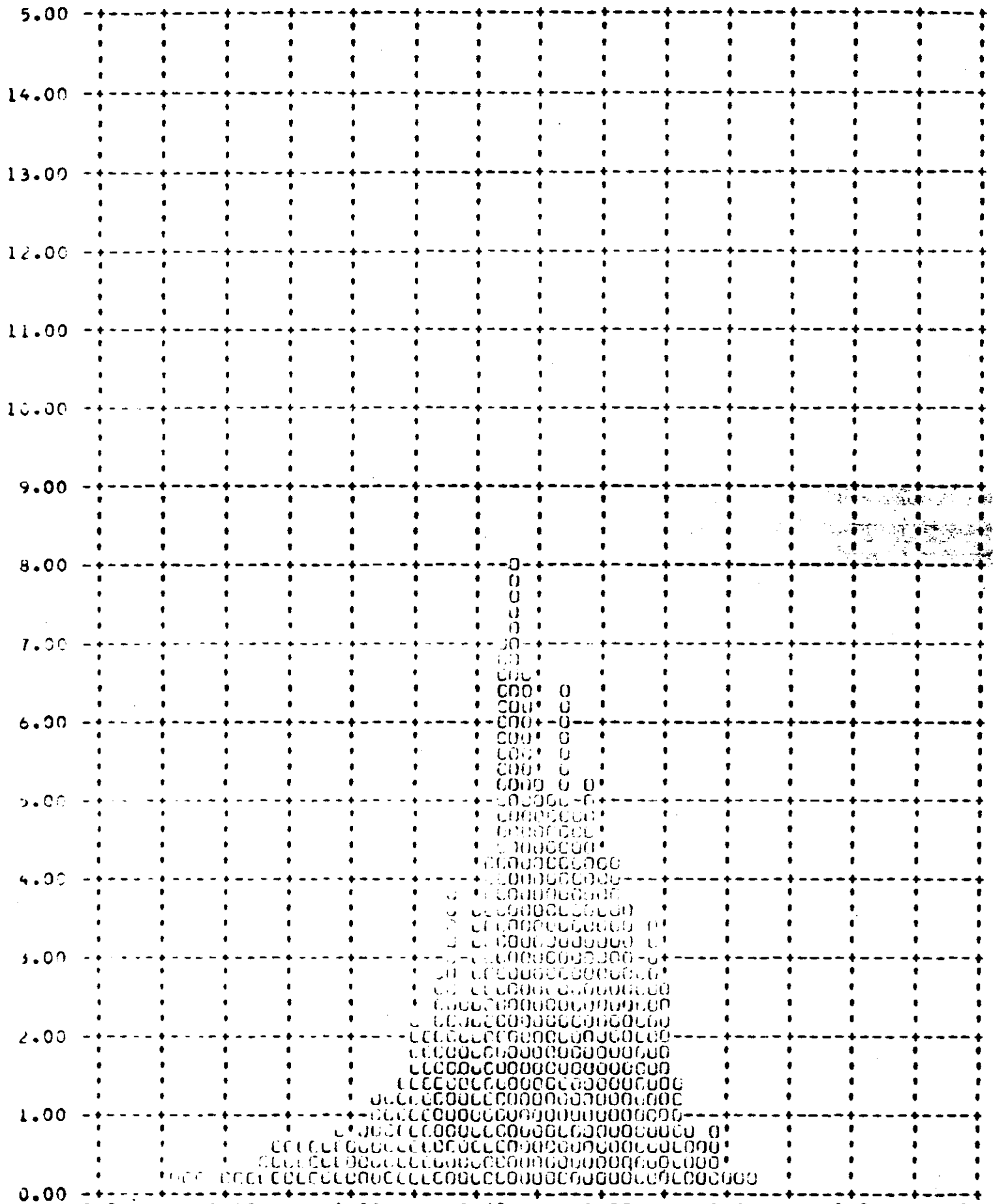
J-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 30.47

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

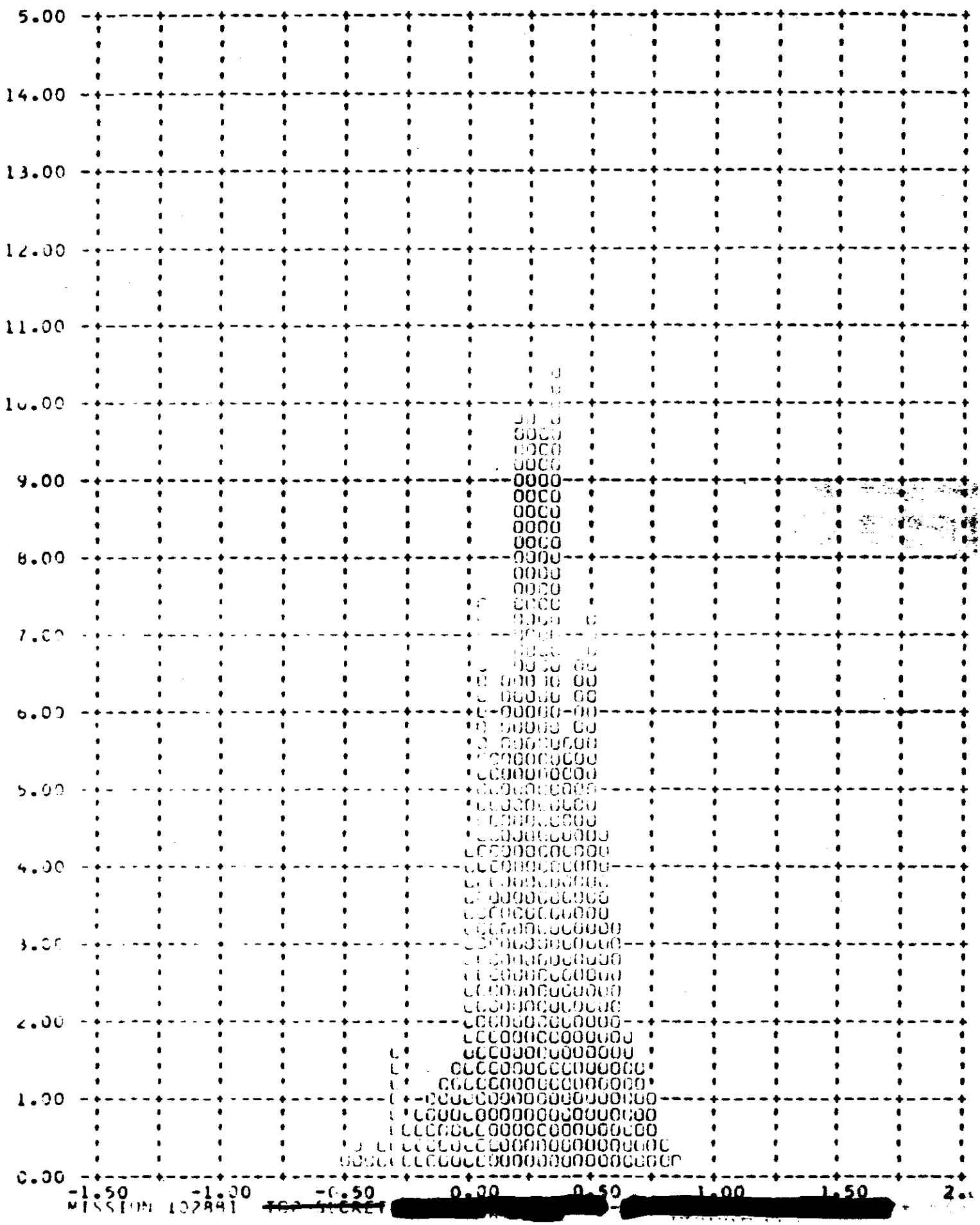


J-26 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.76

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



J-26 FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.52



J-26 FRAMES 1-6 OF EACH OF OMITTED - 90 PERCENT = 42.6

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

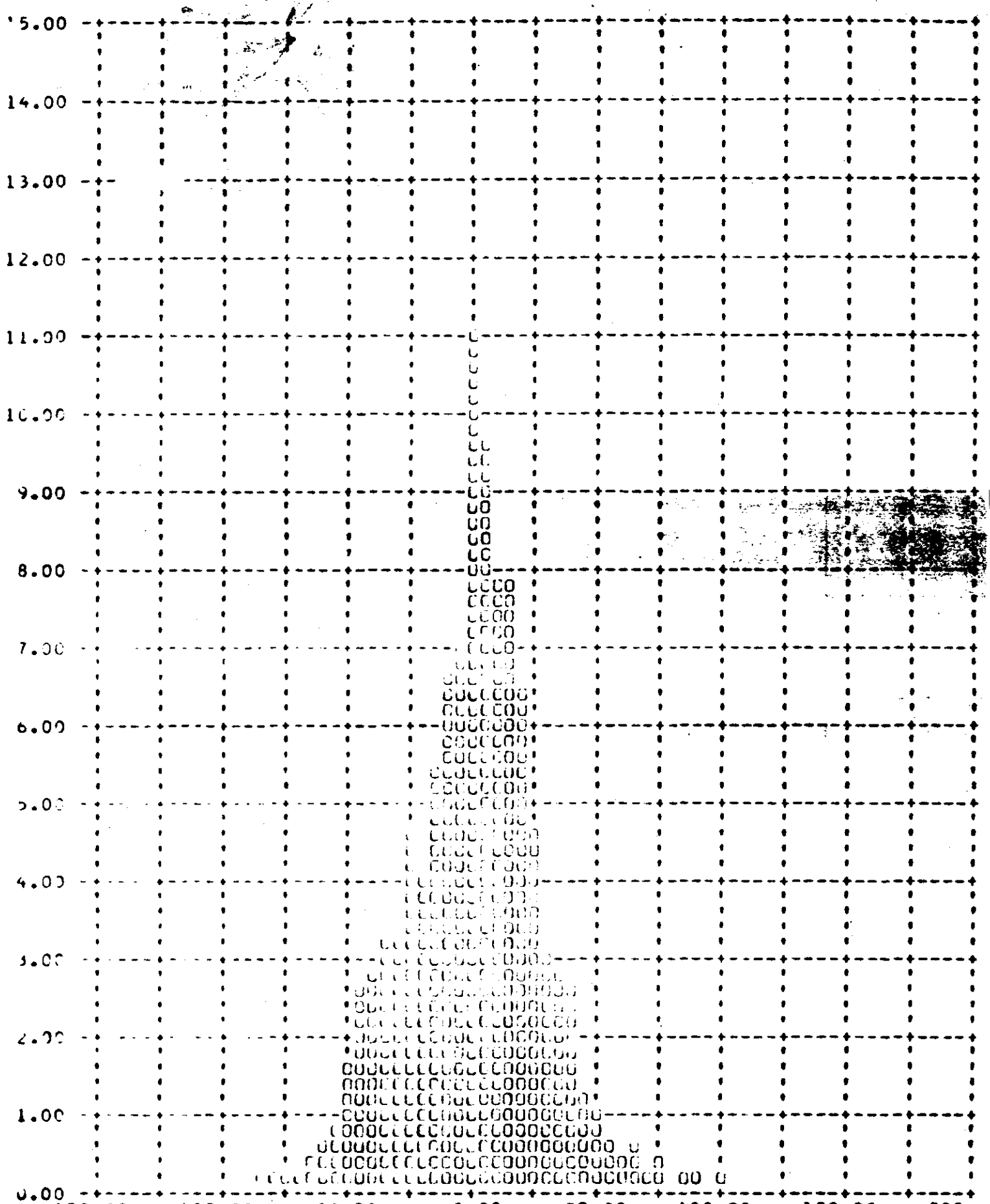
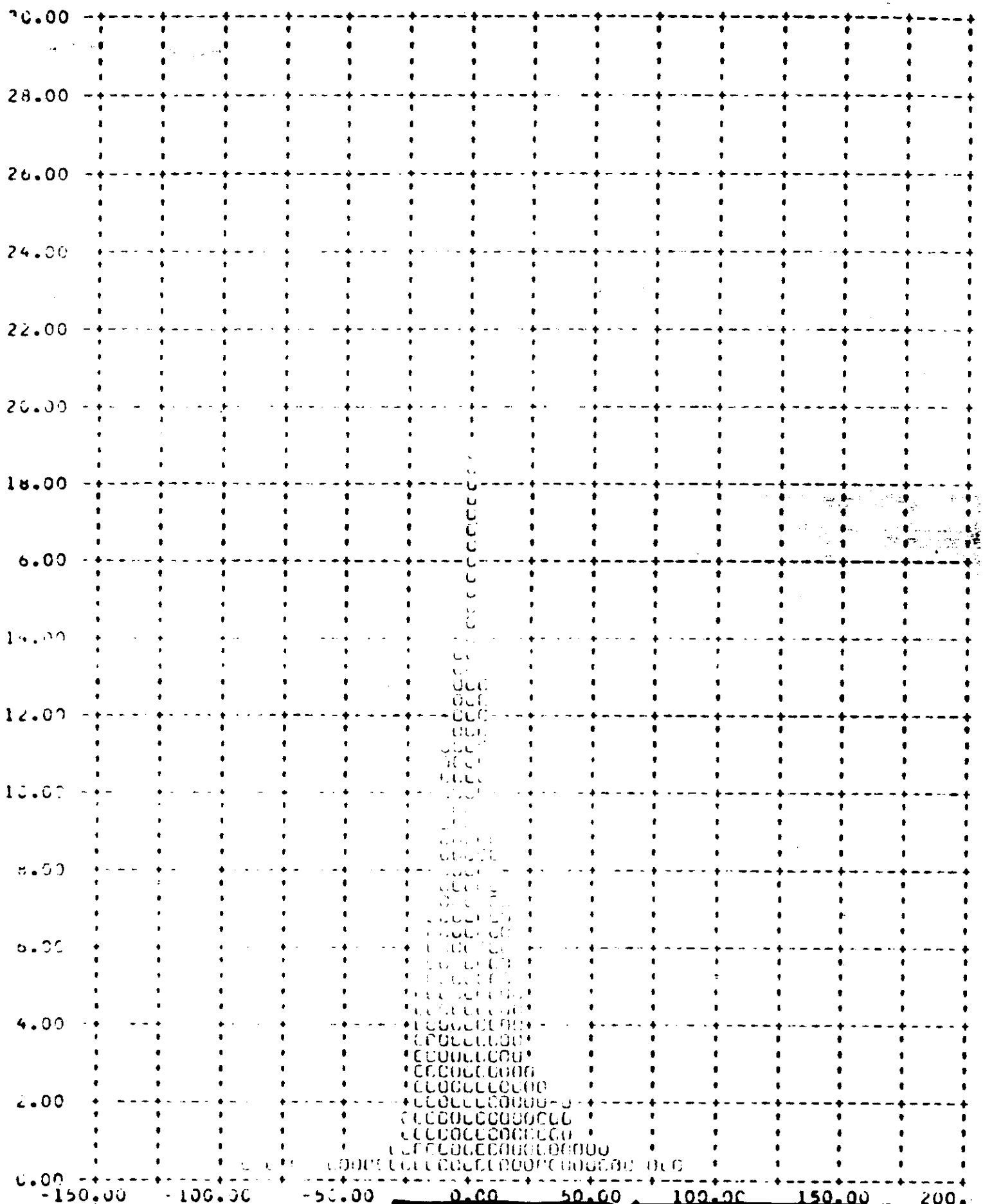


FIGURE 11-9

J-26 FRAMES 1-6 OF EACH UP UMITTED 90 PERCENT = 25.71

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



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 15-10.

The summary table 15-1 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.

SECTION 15

IMAGE SMEAR ANALYSIS

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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 15-10.

The summary table 15-1 presents the maximum V/h ratio errors and resolution limits that existed during 90% of the photographic operations and the total range of values during all operations that were computed.

MISSION 1028

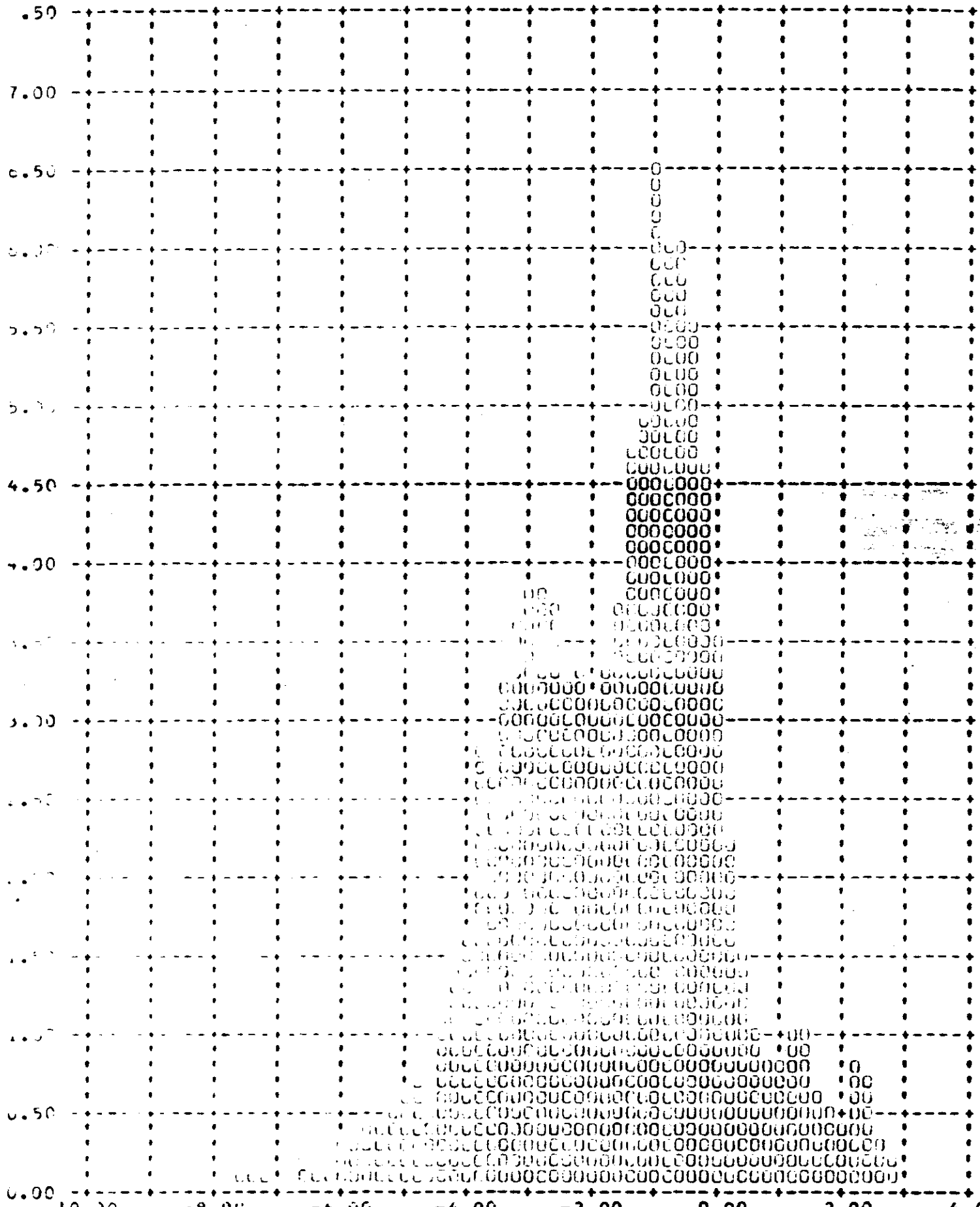
V/h RATIO AND RESOLUTION LIMITS

Value	Units	Camera	Mission 1028-1 90%	Mission 1028-1 Range	Mission 1028-2 90%	Mission 1028-2 Range
V/h Ratio Error	%	FWD	3.86	-7.6 to +2.8	3.18	-6.0 to +2.18
		AFT	3.10	-8.2 to +3.4	2.85	-6.0 to +3.6
Along Track Resolution Limit	Feet	FWD	4.82	0.2 to 10.6	4.21	0.2 to 8.4
		AFT	3.96	0.2 to 8.2	3.34	0.2 to 6.6
Cross Track Resolution Limit	Feet	FWD	8.04	2.2 to 10.4	No Yaw Data	
		AFT	5.61	1.6 to 7.2	No Yaw Data	

TABLE 15-1

-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.86

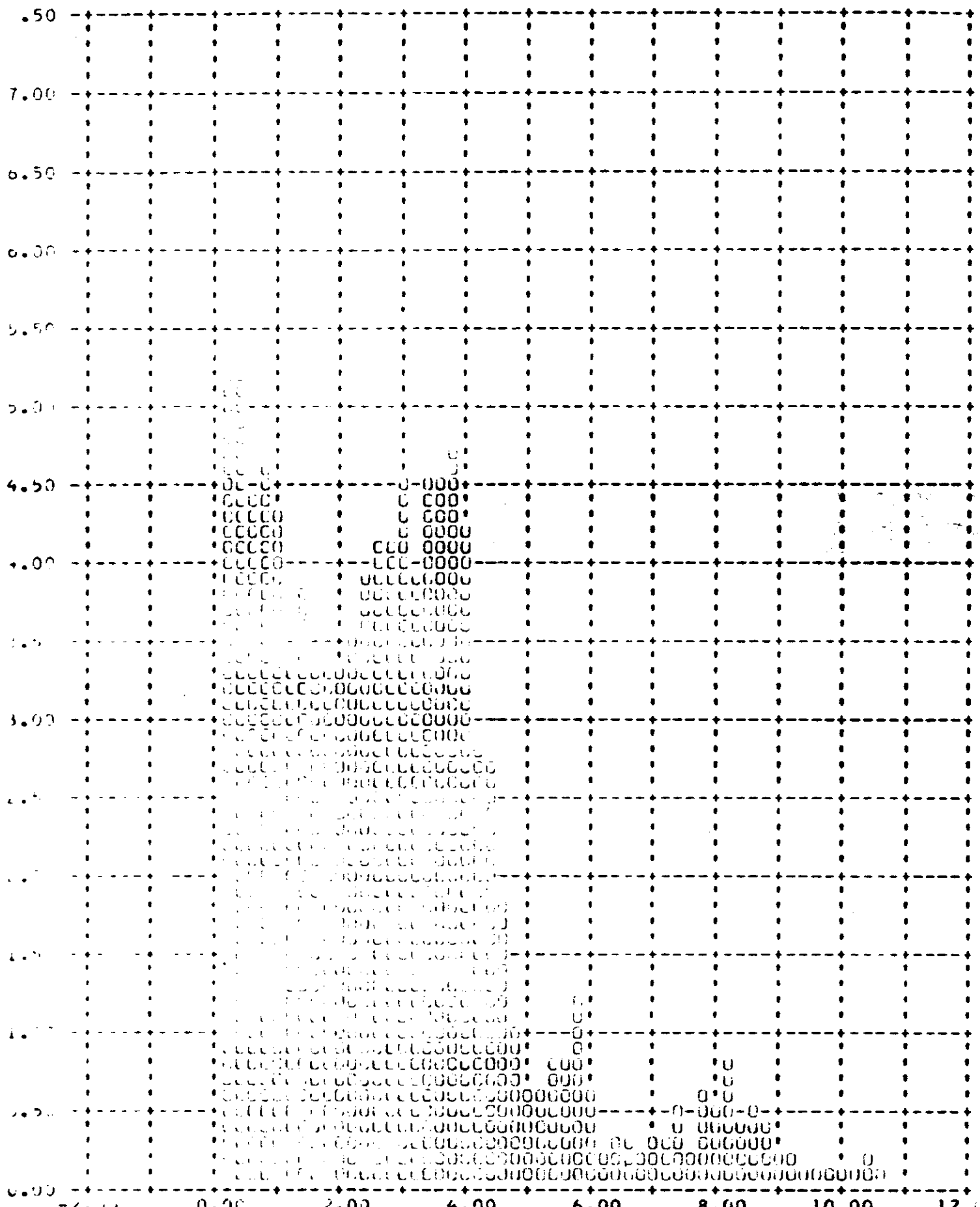
Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)



[redacted]

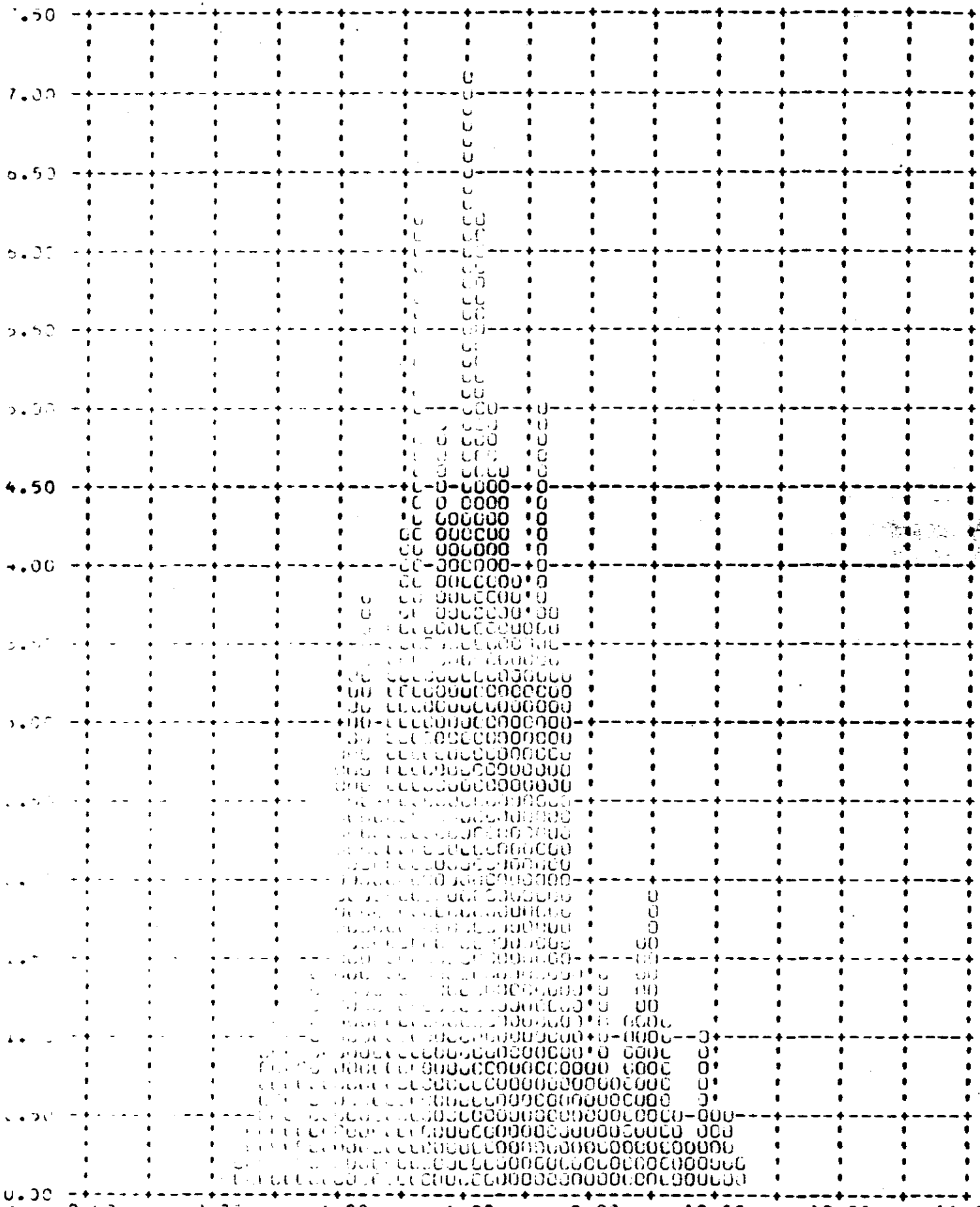
-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 4.82

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



-26 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 8.04

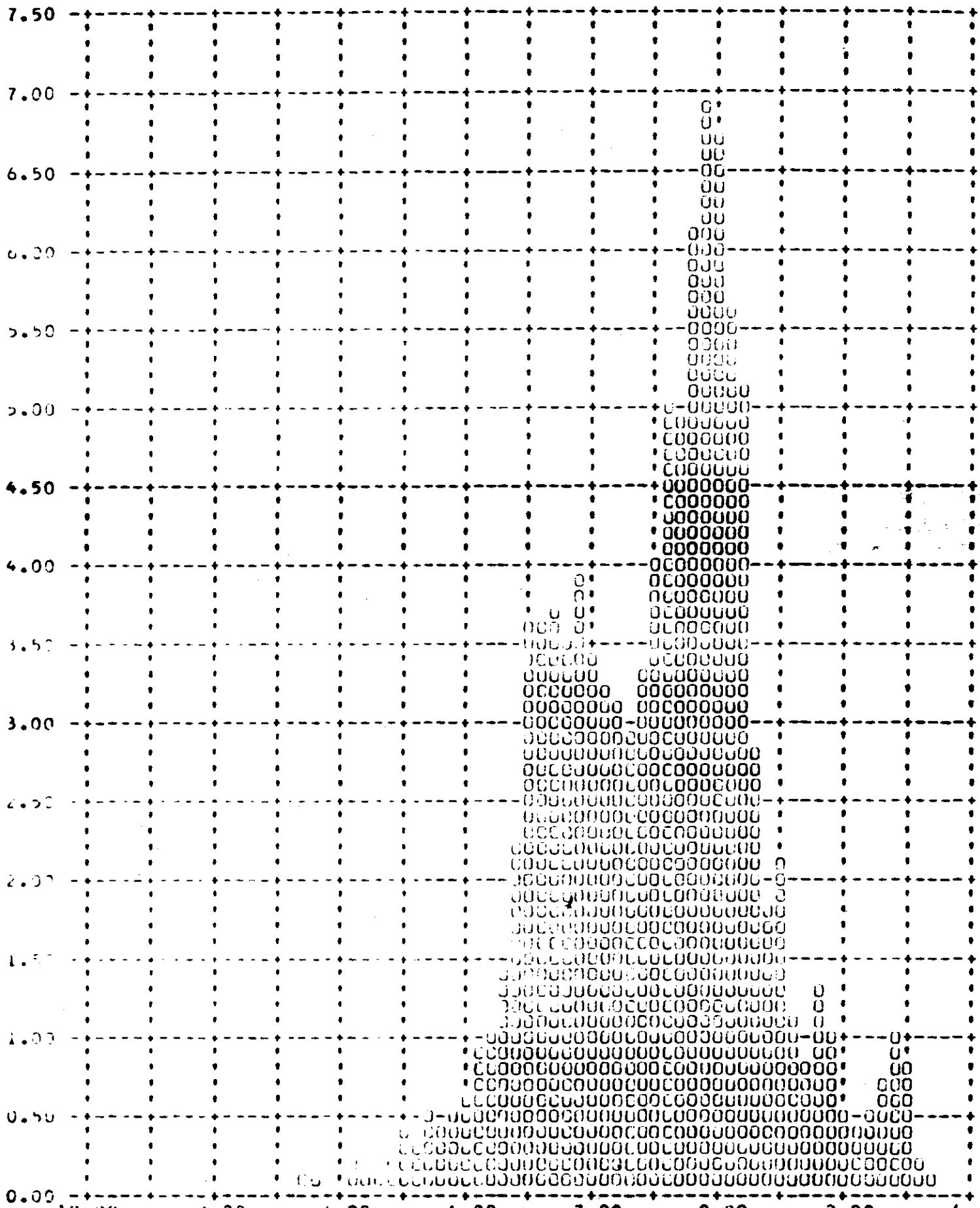
Y CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 1028A2 ~~TOP SECRET~~ [redacted]

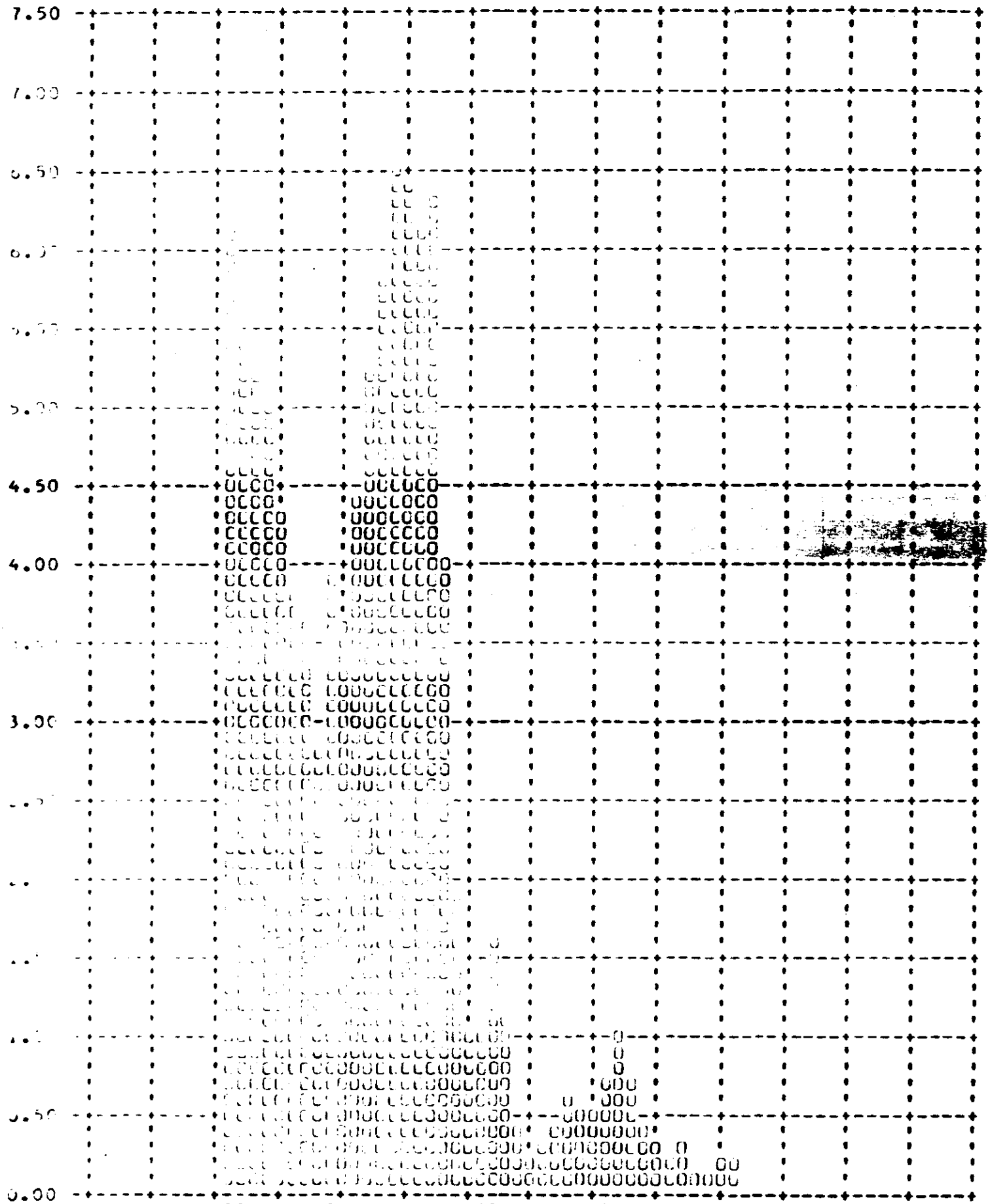
J-26 A-BUCKET AFT INSTRUMENT FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.10

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



I-26 A-BUCKET AFT INSTRUMENT FRAMES 1-6 OF EACH OP OMITTED - 90 PERCENT = 3.96

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



J-26 A-BUCKET AFT INSTRUMENT FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 5.61

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

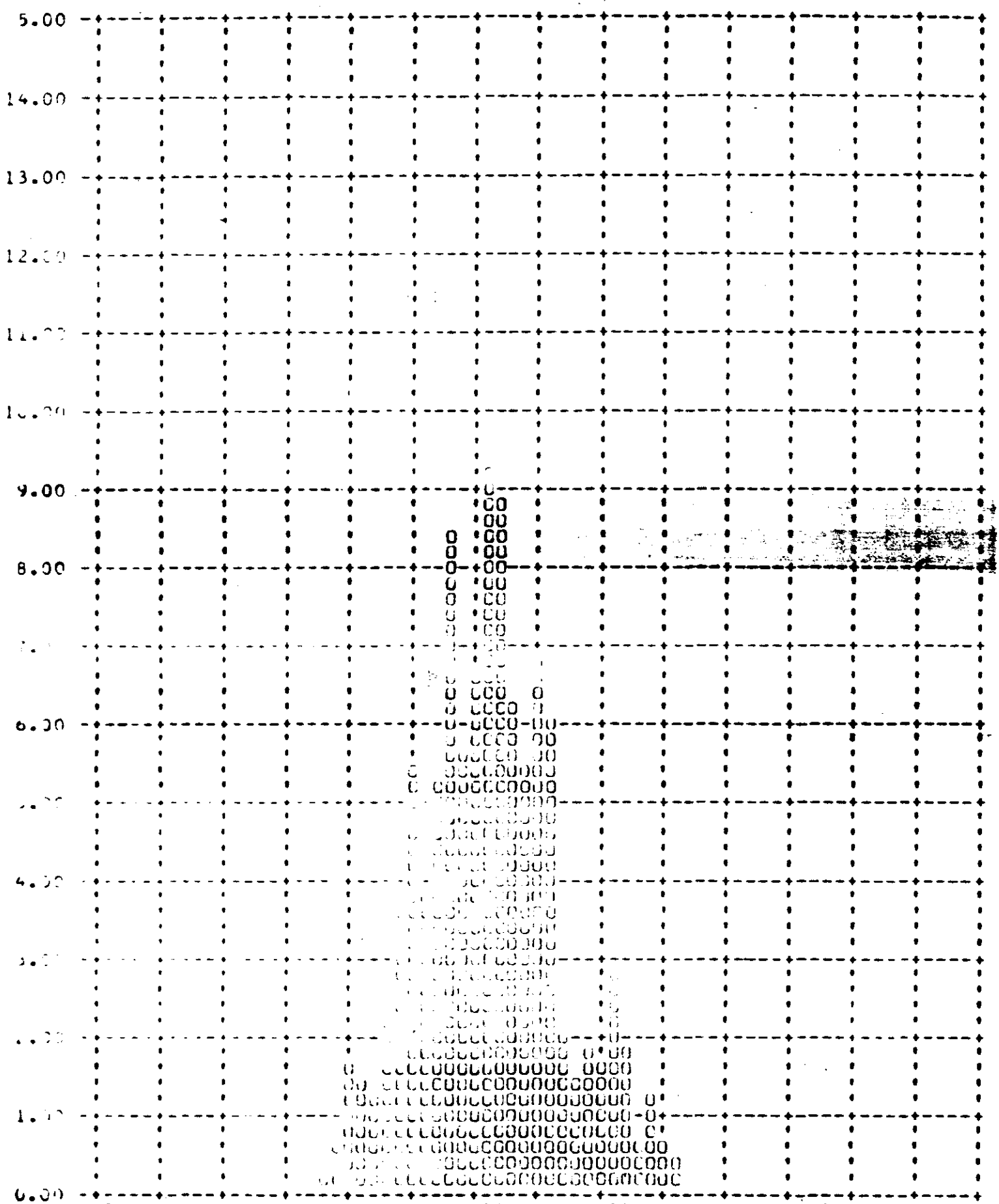
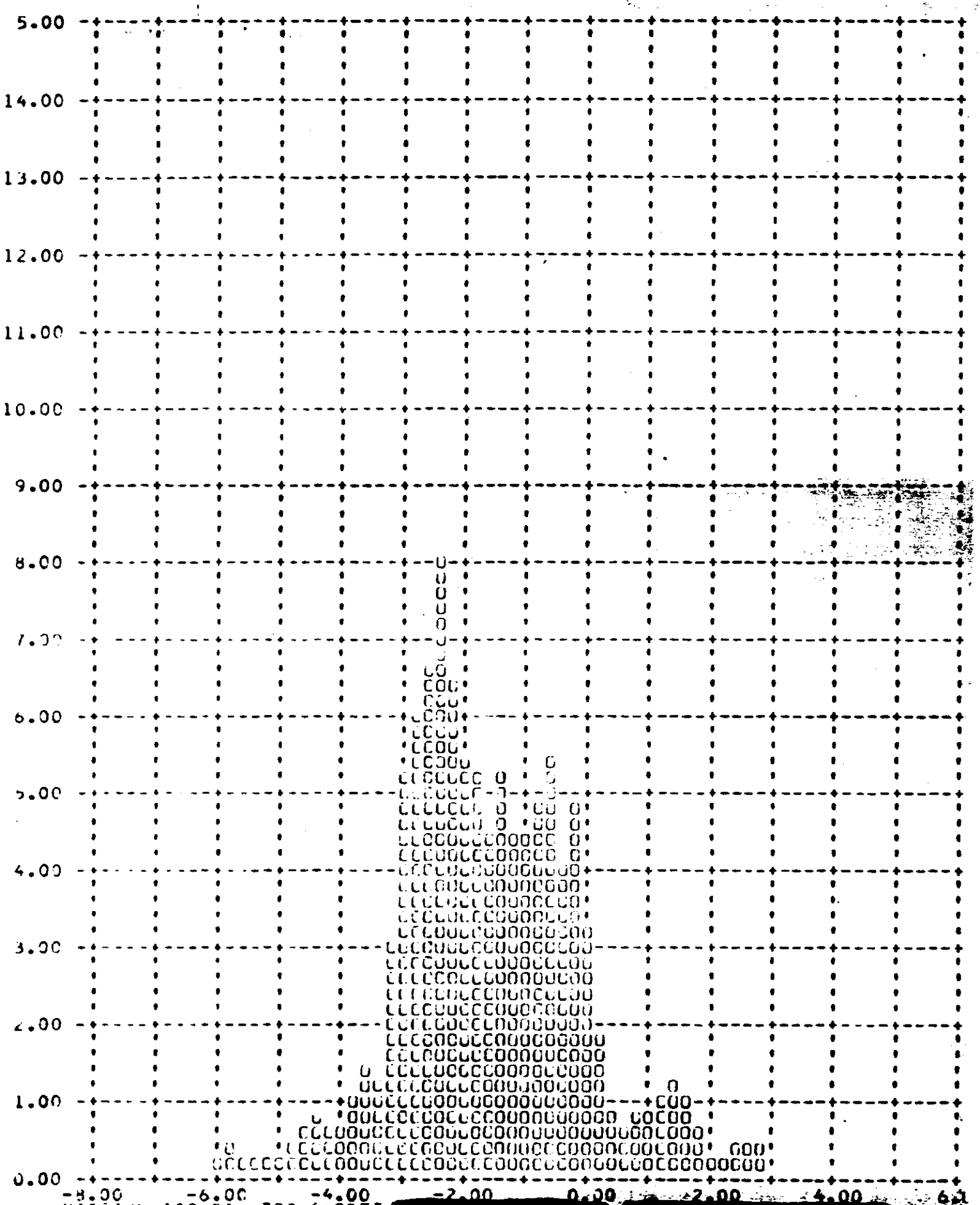
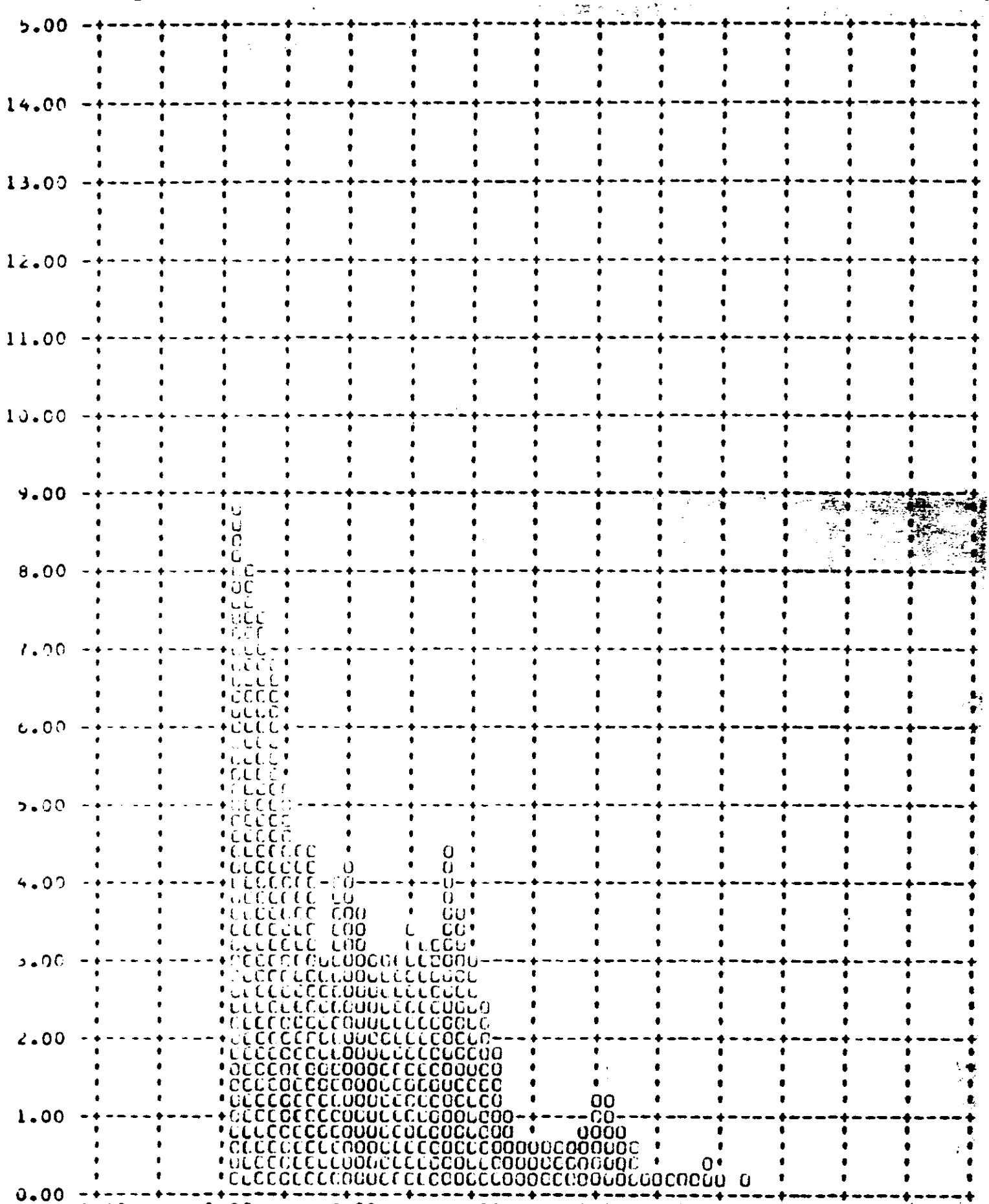


FIGURE 15-6


Y V/H RATIC ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)
5.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-8.00
-6.00
-4.00
-2.00
0.00
2.00
4.00

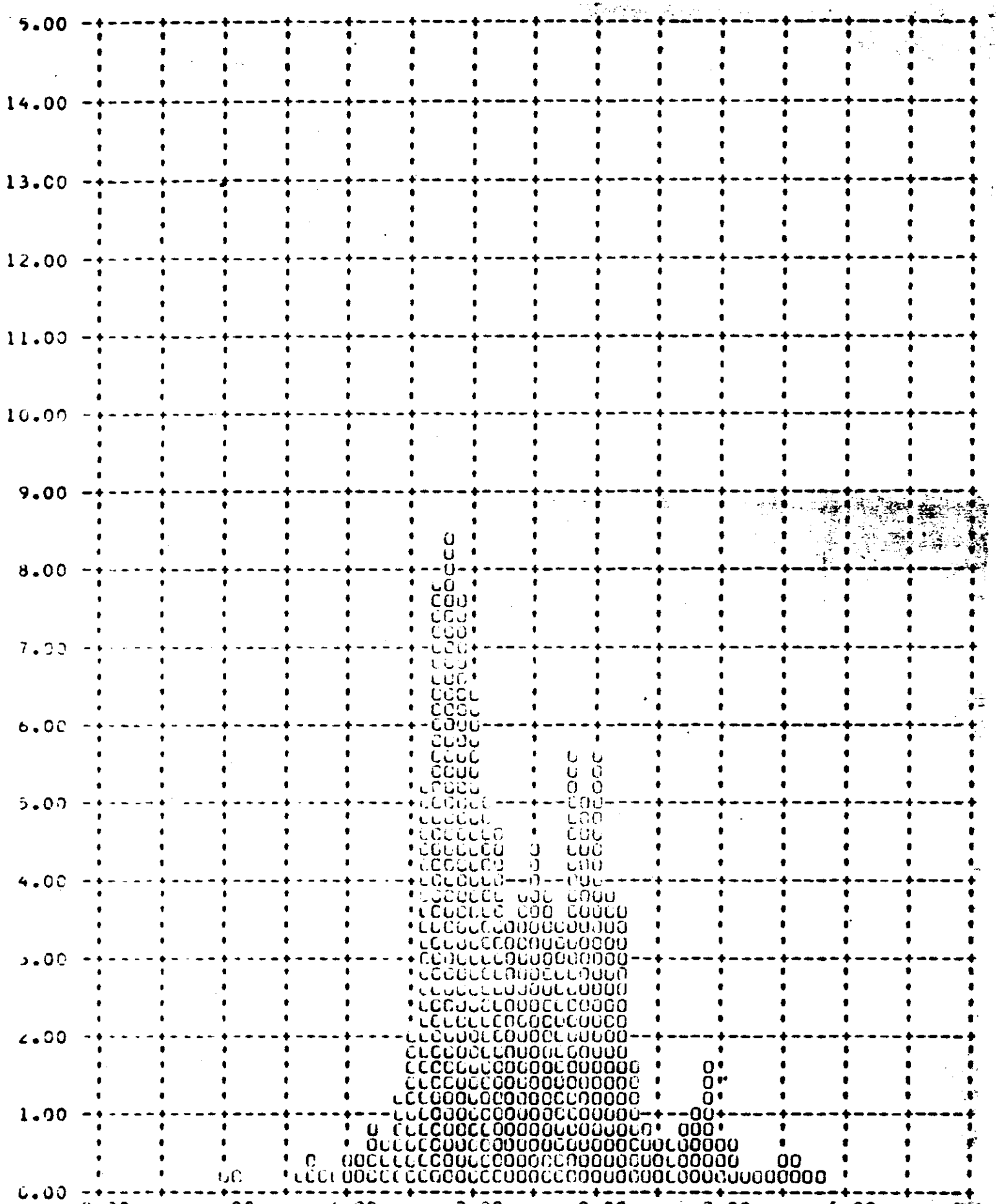
FRAMES 1-6 OF EACH OR OMITTED 90 PERCENT = 4.2

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



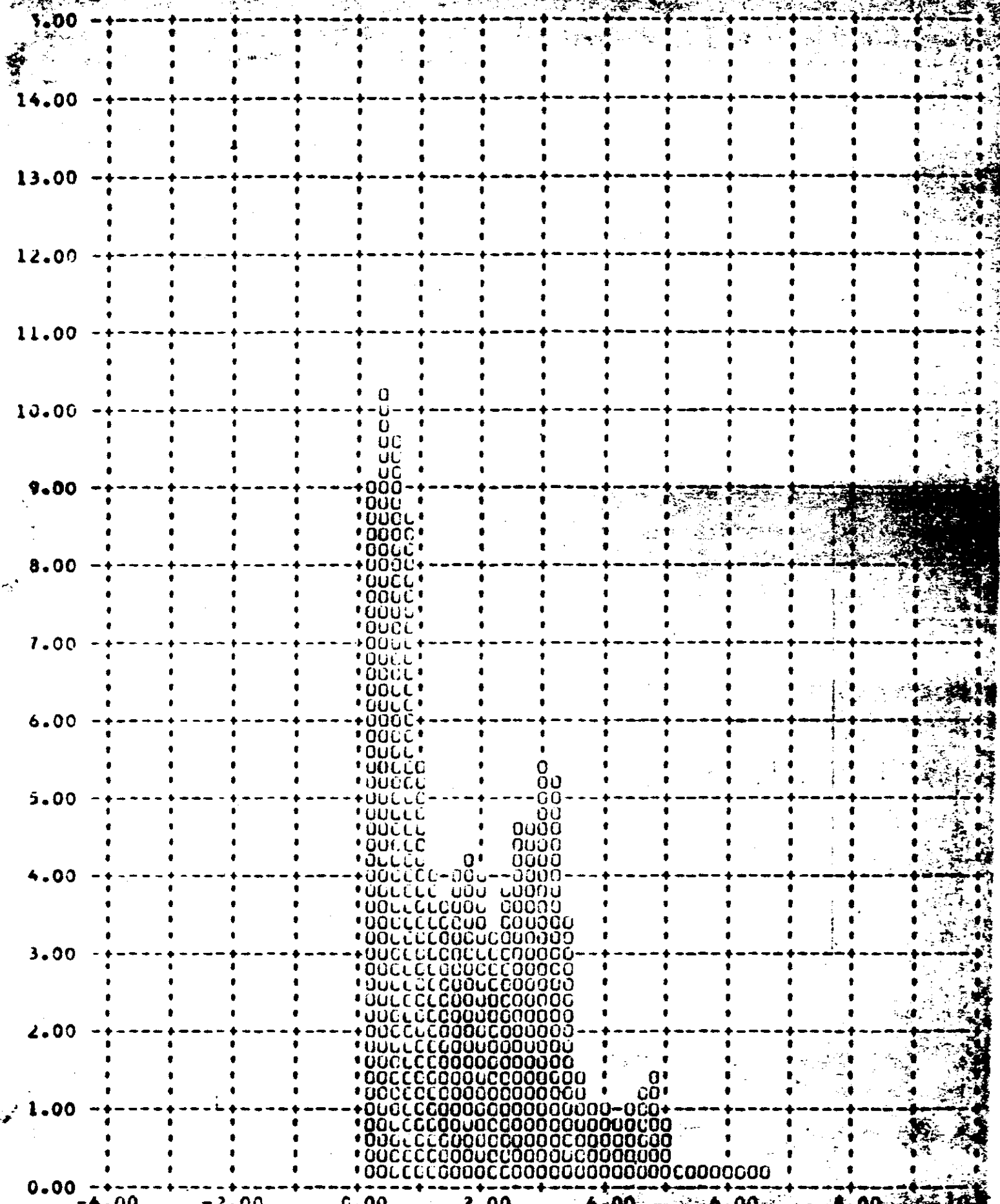
J-26 FRAMES 1-6 OF EACH OP OMITTED . 90 PERCENT = 2.85

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



FRAMES [redacted] PERCENT

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



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 1028-1		Mission 1028-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 3401	0.16	0.5 R	0.18	0.6 R
Royal X Pan	0.24	0.4 R	0.29	0.6 R

The mean total radiation seen by the take-up cassettes during both missions was approximately 0.5 roentgens. This level is below the level that will degrade the panoramic photography.

Panoramic Camera Reliability

Sample Size - 132 opportunities to operate.
One failure - S/I Programmer on System J-19
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 98.7% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 46 vehicles x 2 doors = 92 opportunities to operate.
Estimated Reliability = 99.2%

Payload Command and Control

Sample Size - 6960 hours operation in sample
2 Failures
Estimated Reliability = 96.4% at 50% confidence level.

Payload Clock Reliability

Sample Size - 6960 hours operation in sample.
No Failures
Estimated Reliability = 99.0% at 50% confidence level.

Estimated Reliability of Payload Functioning on Orbit = 96.7% at 50% confidence level.

Recovery System Reliability

57 opportunities to recover
1 Failure - improper separation due to water seal - cutter failure.
Estimated Reliability = 97.1% at 50% confidence level.

Stellar-Index Camera Reliability

Sample begins with J5
Sample Size = 16,015 cycles
3 Failures
Estimated Reliability = 90.7% at 50% confidence level.

Horizon Camera Reliability

Sample begins with J5A
Sample Size - 67,500
Estimated Reliability of Single Camera - 98.5% at 50% confidence level.
Estimated Reliability of Four Horizon Cameras at a Parallel Redundant System = 99.9% at 50% confidence level.

ESTIMATED RELIABILITY SUMMARY

(AT 50% CONFIDENCE LEVEL)

MISSION NUMBER	PRIMARY FUNCTIONS						SECONDARY FUNCTIONS	
	PANORAMIC CAMERA	PANORAMIC CAMERA DOORS	COMMAND & CONTROL SYSTEM	PAYLOAD CLOCK	ON-ORBIT FUNCTIONS	RECOVERY SYSTEM	STELLAR-INDEX CAMERAS	HORIZON CAMERAS
	SAMPLE SPECIMENS / FAILURES / RELIABILITY	SAMPLE DOORS / FAILURES / RELIABILITY	SAMPLE HOURS / FAILURES / RELIABILITY	SAMPLE HOURS / FAILURES / RELIABILITY	RELIABILITY	SAMPLE ADVANCES / FAILURES / RELIABILITY	SAMPLE CYCLES / FAILURES / RELIABILITY	SAMPLE CYCLES / FAILURES / RELIABILITY
9038 TO 1008	60 / 1 / 97.3	52 / 0 / 98.6	3124 / 0 / 98.0	3124 / 0 / 98.0	98.1	18 / 1 / 90.7	3400 / 3 / 83.1	12,000 / 0 / 91.7
1009	64 / 1 / 97.4	64 / 0 / 98.7	3216 / 0 / 98.0	3216 / 0 / 98.0	98.2	20 / 1 / 91.5	4250 / 3 / 89.3	16,000 / 0 / 93.4
1010	68 / 1 / 97.6	56 / 0 / 98.8	3432 / 0 / 98.1	3432 / 0 / 98.1	98.4	22 / 1 / 92.5	5100 / 3 / 73.7	18,000 / 0 / 94.4
1011	72 / 1 / 97.7	68 / 0 / 98.9	3600 / 0 / 98.1	3600 / 0 / 98.1	98.8	24 / 1 / 93.0	5525 / 0* / 94.7	21,000 / 0 / 95.2
1012	76 / 1 / 97.8	80 / 0 / 98.9	3720 / 0 / 98.2	3720 / 0 / 98.2	98.9	26 / 1 / 93.5	5525 / 0 / 94.7	24,000 / 0 / 95.8
1013	78 / 1 / 97.8	62 / 0 / 99.0	3940 / 1 / 98.9	3940 / 0 / 98.3	98.0	28 / 1 / 94.0	5950 / 0 / 96.1	28,500 / 0 / 96.6
1014	82 / 1 / 97.9	64 / 0 / 99.0	4056 / 1 / 98.1	4056 / 0 / 98.3	98.1	30 / 1 / 94.4	6375 / 1 / 89.6	28,500 / 0 / 96.6
1015	86 / 1 / 98.0	66 / 0 / 99.0	4320 / 1 / 98.3	4320 / 0 / 98.4	98.1	32 / 1 / 94.8	7225 / 1 / 90.4	31,500 / 0 / 96.9
1016	90 / 1 / 98.1	68 / 0 / 99.0	4560 / 1 / 98.5	4560 / 0 / 98.5	98.4	34 / 1 / 95.2	7650 / 1 / 91.0	34,500 / 0 / 97.0
1017	94 / 1* / 98.3	70 / 0 / 99.0	4760 / 1 / 98.7	4760 / 0 / 98.6	97.6	36 / 1 / 95.4	8925 / 1 / 92.3	37,500 / 0 / 97.3
1018	96 / 1 / 98.3	72 / 0 / 99.1	4920 / 1 / 98.8	4920 / 0 / 98.7	98.7	38 / 1 / 95.6	9350 / 1 / 92.8	40,500 / 0 / 97.5
1019	102 / 1 / 98.4	74 / 0 / 99.1	5136 / 1 / 98.9	5136 / 0 / 98.7	98.8	39 / 1 / 95.8	9975** / 1 / 91.8	43,500 / 0 / 97.8

* DOUBLE FOR REMOTE PREVIOUS FAILURE CONSIDERATIONS [redacted]

** END SAMPLE OUT OF REQUIRED

Table 17-1

ESTIMATED RELIABILITY SUMMARY

(AT 50% CONFIDENCE LEVEL)

MISSION NUMBER	PRIMARY FUNCTIONS						SECONDARY FUNCTIONS	
	PANORAMIC CAMERA	PANORAMIC CAMERA DOORS	COMMAND & CONTROL SYSTEM	PAYLOAD CLOCK	ON-ORBIT FUNCTIONS	RECOVERY SYSTEM	STELLAR-INDEX CAMERAS	HORIZON CAMERAS
	SAMPLE / FAILURES / RELIABILITY	SAMPLE / FAILURES / RELIABILITY	SAMPLE / FAILURES / RELIABILITY	SAMPLE / FAILURES / RELIABILITY	RELIABILITY	SAMPLE / FAILURES / RELIABILITY	SAMPLE / FAILURES / RELIABILITY	SAMPLE / FAILURES / RELIABILITY
1020	108 / 1 / 98.5	78 / 0 / 99.1	5544 / 1 / 97.1	5544 / 0 / 98.9	96.9	43 / 1 / 96.1	10,680 / 2 / 89.9	48,000 / 0 / 97.9
1021	104 / 1 / 98.5	76 / 0 / 99.1	5376 / 1 / 97.0	5376 / 0 / 98.8	96.9	41 / 1 / 96.0	9830 / 2 / 89.1	46,800 / 0 / 97.8
1022	112 / 1 / 98.5	80 / 0 / 99.2	5784 / 1 / 97.3	5784 / 0 / 98.9	96.9	45 / 1 / 96.3	11,550 / 2 / 90.7	51,000 / 0 / 98.0
1023	114 / 1 / 98.6	82 / 0 / 99.2	6000 / 2 / 95.8	6000 / 0 / 98.9	96.2	47 / 1 / 96.5	12,190 / 2 / 91.1	54,000 / 0 / 98.1
1024	118 / 1 / 98.6	84 / 0 / 99.2	6240 / 2 / 96.0	6240 / 0 / 98.9	96.3	49 / 1 / 96.6	13,040 / 2 / 91.6	57,000 / 0 / 98.2
1025	122 / 1 / 98.6	86 / 0 / 99.2	6480 / 2 / 96.1	6480 / 0 / 99.0	96.4	51 / 1 / 96.7	13,890 / 2 / 92.1	60,000 / 0 / 98.3
1026	126 / 1 / 98.7	88 / 0 / 99.2	6720 / 2 / 96.3	6720 / 0 / 99.0	96.5	53 / 1 / 96.8	14,740 / 2 / 92.6	63,000 / 0 / 98.4
1027	128 / 1 / 98.7	90 / 0 / 99.2	6744 / 2 / 96.3	6744 / 0 / 99.0	96.5	55 / 1 / 97.0	15,168 / 3 / 90.0	64,800 / 0 / 98.4
1028	132 / 1 / 98.7	92 / 0 / 99.2	6960 / 2 / 96.4	6960 / 0 / 99.0	96.7	57 / 1 / 97.1	16,018 / 3 / 90.7	67,800 / 0 / 98.5

Table 17-1

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 Mission 1003 and 1005 are deleted.

MISSION SUMMARY

MISSION NUMBER	PAYLOAD NUMBER	VEHICLE NUMBER	LAUNCH DATE	LAUNCH TIME	ORBIT INCLINATION (°)	PERIGEE ALTITUDE (NM)	PERIGEE LOCATION (°N)	RECOVERY PASS	MASTER CAMERA CAMERA NUMBER	MASTER CAMERA SLIT (")	MASTER CAMERA FILTER TYPE	SLAVE CAMERA CAMERA NUMBER	SLAVE CAMERA SLIT (")	SLAVE CAMERA FILTER TYPE	STELLAR-INDEX CAMERA NUMBER
1004	J-03	1174	2/15/64	2138 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	D29/29/29
1006	J-09	1176	6/4/64	2259 Z	79.9	84.0	63.2	65 / 128	148	0.200	W-21	149	0.200	W-21	D45/47/46
1007	J-07	1606	6/19/64	2318 Z	85.0	99.2	41.8	65 / 128	144	0.250	W-25	145	0.200	W-21	D43/43/43
1008	J-10	1177	7/10/64	2314 Z	85.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	D48/48/48
1009	J-12	1605	8/5/64	2316 Z	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	D56/54/56
1010	J-11	1178	9/14/64	2254 Z	84.9	97.4	42.5	65 / 144	152	0.175	W-21	153	0.175	W-21	D41/41/41
1011	J-3X	1170	10/9/64	2150 Z	79.9	99.3	20.9	65 / —	160	0.175	W-21	161	0.175	W-21	D30/30/30
1012	J-13	1179	10/17/64	2202 Z	75.0	96.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	D51/51/47
1013	J-16	1173	11/2/64	2130 Z	80.0	100.0	25.0	65 / 81	158	0.225	W-21	159	0.225	W-21	D52/49/50
1014	J-18	1180	11/18/64	2036 Z	70.0	103.2	65.6	81 / 145	162	0.250	W-25	139	0.175	W-21	D53/59/49
1015	J-17	1607	12/15/64	2110 Z	74.9	96.7	21.8	81 / 128	138	0.250	W-25	141	0.175	W-21	D61/61/61
1016	J-19	1608	1/15/65	2101 Z	74.9	99.4	30.2	81 / 159	132	0.250	W-25	133	0.175	W-21	D55/56/50
1017	J-14	1611	2/25/65	2144 Z	75.0	97.2	25.9	81 / 145	140	0.250	W-25	165	0.175	W-21	D21/21/21
1018	J-19	1612	3/25/65	2111 Z	96.0	100.2	40.3	65 / 99	122	0.250	W-25	123	0.175	W-21	D20/20/20
1019	J-04	1614	4/29/65	2144 Z	85.0	99.1	27.1	80 / —	118	0.250	W-25	119	0.175	W-21	D39/38/38
1020	J-20	1613	6/9/65	2158 Z	75.1	97.1	40.8	97 / 113	136	0.250	W-25	137	0.175	W-21	D67/65/60
1021	J-21	1615	8/18/65	1803 Z	75.0	109.2	24.3	81 / 161	166	0.175	W-21	167	0.250	W-25	D63/69/69
1022	J-22	1617	7/19/65	2201 Z	85.0	99.7	30.3	65 / 144	168	0.250	W-25	169	0.175	W-21	D65/77/70
1023	J-23	1618	8/17/65	2100 Z	70.0	97.8	29.0	81 / 144	170	0.225	W-25	171	0.150	W-21	D17/19/82
1024	J-24	1619	9/22/65	2131 Z	80.0	98.9	18.4	81 / 161	172	0.225	W-25	173	0.150	W-21	D69/72/64
1025	JX-25	1616	10/9/65	1746 Z	75.0	112.9	44.3	81 / 161	142	0.175	W-21	127	0.175	W-21	D73/78/80
1026	J-25	1620	10/28/65	2117 Z	75.0	99.0	17.0	81 / 160	174	0.225	W-25	175	0.150	W-21	D75/82/83
1027	JX-27	1621	12/9/65	2110 Z	80.0	97.4	17.3	97 / 33	164	0.250	W-25	163	0.175	W-21	D71/87/87
1028	J-26	1610	12/24/65	2106 Z	90.0	97.5	28.4	81 / 145	176	0.250	W-25	177	0.175	W-21	D77/91/97

TABLE 18-1

PERFORMANCE SUMMARY

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPL MTF/AIM SLIT (μ)	AFSPPL MTF/AIM AVERAGE	SLIT (μ)	AVERAGE	[redacted] SLIT (μ)	[redacted] AVERAGE ALL	[redacted] AVERAGE HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (7HR) PITCH	90% ATTITUDE RATES (7HR) ROLL	90% ATTITUDE RATES (7HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1004-1	FWD	124	85	78	350	97	43	109	320	115	127	0 45	0 42	1 08	30 0	25 0	21 0	5.1	7.7	8.1
	AFT			86		80		96		117	124									
1004-2	FWD	125	85	76		88		113		82	90	0 74	0.50	0 91	44 0	30 0	29 0	4 9	6.8	8.6
	AFT			73		83		108		89	95									
1006-1	FWD	148	90	78	350	85	43	88	320	84	97	0 41	0.42	1 14	26 8	28 5	27 8	15.4	13 8	8.7
	AFT			74		71		90		87	92									
1006-2	FWD	149	90	85		84		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	80	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		83		83		97	110							4 6	2 1	7.8
1007-2	FWD	145	85	79		72		81		68	74	0 64	0.47	——	43 0	25 8	——	3 2	2 4	——
	AFT			81		77		92		74	81							4 2	1 8	——
1008-1	FWD	150	85	80	350	80	43	95	320	81	89	0 59	0 39	0 94	43 8	23 9	29 6	2 9	4.9	8.9
	AFT			78		73		89		86	95									
1008-2	FWD	151	85	82		84		96		83	92	0 63	0 36	0 71	42 9	24 0	32 5	2 8	4.2	8.4
	AFT			79		81		83		85	91									
1009-1	FWD	154	85	92	350	80	—	——	80	75	86	0 65	0.65	0 71	29 2	22.7	27 8	3 3	5 3	8.8
	AFT			89		85				75	83									
1009-2	FWD	155	85	94		85				76	84	0 48	0.65	0 59	33 6	23 9	27 2	2 6	4.9	8.9
	AFT			87		87				72	79									
1010-1	FWD	152	85	90	350	90	60	88	80	87	96	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	7.8	8.8
	AFT			90		82		85		87	96									
1011-1	FWD	160	90	84	350	78	80	96	80	78	87	0.77	0.39	0 97	43.1	28.9	31.1	2.3	5.3	8.3
	AFT	161		84		77		86		83	93									
1012-1	FWD	156	85	92	—	—	80	91	80	84	98	0.65	0,51	——	47.1	33.2	——	1.5	4.8	——
	AFT			91				87		89	100									
1012-2	FWD	157	85	91				89		84	91	0.97	0.77	0 51	45.2	30.7	20.4	5 9	3.3	8.3
	AFT			89				96		85	98									
1015-1	FWD	158	85	89	—	—	80	94	80	85	99	0 64	0.32	1 34	36 9	29 0	32 3	3 7	7.8	8.2
	AFT	159		77				97		81	103	0.64	0.32	1 34	36.9	29.0	32.3	4 5	9.6	8.2
1014-1	FWD	162	80	87	—	—	80	78	80	74	86	0.62	0.41	1.46	35 0	36.1	38.5	2.2	6.2	8.8
	AFT			83				80		95	107	0.62	0.41	1.44	34.8	36.0	38.3	3.3	2.8	8.3
1014-2	FWD	139	80	83				75		70	77	1.06	0.86	——	38.4	36.4	——	1.4	6.4	——
	AFT			86				84		80	88	1.06	0.59	——	38.1	36.0	——	3.2	2.2	——
1015-1	FWD	138	85	87	—	—	80	76	80	90		0.65	0.38	0.53	47.0	29.4	38.2	5.0	8.8	7.8
	AFT			87				73		97	—	0.64	0.39	0.53	46.9	29.2	38.2	6.3	3.4	8.8
1015-2	FWD	141	85	83				72		89		0.50	0.61	0.64	39.1	27.1	36.2	3.2	6.8	7.8
	AFT			82				72		90		0,50	0.61	0.64	39.1	27.0	36.3	3.3	4.6	8.3
1016-1	FWD	132	85	85	—	—	80	56	80	81		0.72	0.83	2.01	48.9	30.2	40.4	2.0	5.8	10.8
	AFT			83				61		94	—	0.72	0.83	2.01	48.4	30.1	40.4	2.8	3.4	7.4
1016-2	FWD	133	85	90				55		92		0.83	0.93	2.19	42.2	27.2	39.9	1.5	4.9	8.8
	AFT			91				86		91		0.83	0.93	2.19	42.2	27.3	39.9	2.5	3.3	7.1
1017-1	FWD	140	85	72	—	—	80	87	80	78	88	0.49	0.76	2.50	35.5	32.2	38.4	3.3	9.8	11.8
	AFT			75				70		94	107	0.49	0.76	2.49	35.3	32.0	38.5	4.3	8.3	8.1
1017-2	FWD	166	85	88				65		80	94	0.80	0.45	——	36.5	34.0	——	1.8	6.2	——
	AFT			88				89		86	101	0.85	0.45	——	36.3	33.8	——	2.3	8.3	——
1018-1	FWD	122	85	79	—	—	80	70	80	82	92	0.91	0.48	——	47.4	36.7	——	3.4	8.6	——
	AFT			77				74		96	109	0.90	0.47	——	48.2	36.2	——	3.2	3.7	——
1018-2	FWD	123	85	84				78		77	89	0.84	0.63	——	34.7	30.7	——	3.1	8.8	——
	AFT			88				71		91	103	0.89	0.63	——	34.8	30.7	——	2.8	4.1	——

TABLE 18-2

PERFORMANCE SUMMARY

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPF MTF/AIM SLIT (μ)	AFSPPF MTF/AIM AVERAGE	SLIT (μ)	AVERAGE	[redacted] SLIT (μ)	[redacted] AVERAGE ALL	[redacted] AVERAGE HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (°/HR) PITCH	90% ATTITUDE RATES (°/HR) ROLL	90% ATTITUDE RATES (°/HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1019-1	FWD	118	88	81	—	—	80	76	80	88	104	0.43	0.36	0.97	31.8	34.7	33.0	3.3	9.3	9.1
	AFT	119		89				83		87	101	0.44	0.37	0.96	31.8	34.9	33.1	3.8	5.0	8.8
1020-1	FWD	136	80	88	—	—	80	89	80	78	90	0.46	0.35	0.78	37.4	31.8	26.7	5.4	8.8	8.4
	AFT			89				82		94	105	0.46	0.35	0.78	37.4	31.8	26.7	5.3	4.2	8.9
1020-2	FWD	137	—	—				—		—	—	0.41	0.17	1.06	42.6	23.8	42.5	3.5	8.4	7.6
	AFT			—				—		—	—	0.41	0.17	1.06	42.6	23.8	42.5	3.4	4.8	8.8
1021-1	FWD	166	88	88	—	—	80	77	80	86	99	0.85	0.37	0.81	34.9	32.6	26.2	2.7	8.8	8.6
	AFT			90				90		98	109	0.85	0.38	0.81	34.8	33.0	26.3	8.4	8.8	8.8
1021-2	FWD	167	88	88				74		88	112	0.89	0.85	—	44.7	50.6	—	3.1	9.2	—
	AFT			74				82		—	—	—	—	—	—	—	—	—	—	—
1022-1	FWD	168	88	88	—	—	80	88	80	78	91	0.47	0.51	0.89	28.3	27.1	23.8	3.5	9.8	8.8
	AFT			91				83		101	111	0.47	0.51	0.90	27.9	26.6	23.8	3.0	6.2	9.1
1022-2	FWD	169	88	90				88		74	84	0.40	0.81	0.90	29.4	27.3	31.0	2.6	8.8	8.4
	AFT			92				92		99	110	0.40	0.81	0.90	29.4	27.3	31.1	1.8	4.8	8.8
1023-1	FWD	170	88	—	—	—	80	94	80	97	110	0.49	0.33	0.50	33.0	28.7	23.5	3.4	4.0	8.4
	AFT							87		83	101	0.49	0.33	0.50	32.9	28.7	23.5	3.5	2.7	4.3
1023-2	FWD	171	88					71		76	87	0.42	0.36	0.53	29.7	21.0	28.6	2.4	3.9	8.3
	AFT							89		68	76	0.43	0.37	0.53	29.6	21.3	28.6	2.5	2.7	4.2
1024-1	FWD	172	88	—	—	—	80	79	80	90	102	0.42	0.25	0.62	32.2	24.9	30.5	2.6	8.9	8.6
	AFT							95		94	105	0.42	0.25	0.62	32.2	24.9	30.4	2.1	3.8	41.8
1024-2	FWD	173	88					86		89	101	0.36	0.31	0.93	30.4	24.5	36.4	5.5	4.7	8.4
	AFT							95		100	114	0.36	0.31	0.93	30.6	23.6	36.4	5.1	3.3	8.8
1025-1	FWD	142	88	—	—	—	80	87	80	80	97	0.50	0.41	0.85	28.1	28.7	25.9	2.0	3.9	4.17
	AFT							97		101	114	0.51	0.42	0.85	28.6	29.7	25.7	3.2	2.8	8.8
1025-2	FWD	187	88					85		96	107	0.52	0.44	0.82	28.0	26.1	29.0	1.7	4.7	8.9
	AFT							91		89	103	0.52	0.44	0.82	28.1	26.0	29.0	1.8	6.7	8.9
1026-1	FWD	174	88	—	—	—	80	76	80	80	92	0.65	0.24	0.70	37.9	33.2	28.5	8.1	13.8	8.2
	AFT							88		98	113	0.65	0.24	0.70	37.9	33.2	28.5	8.1	9.1	4.1
1026-2	FWD	175	88					85		92	104	0.55	0.56	0.87	41.1	46.5	30.8	6.1	8.8	8.7
	AFT							93		90	103	0.59	0.65	0.88	43.3	50.0	27.7	6.7	3.3	4.8
1027-1	FWD	164	88	—	—	—	80	89	80	80	—	0.51	0.37	0.74	47.2	25.5	28.4	4.7	10.9	7.2
	AFT	163						79		92		0.51	0.37	0.74	47.3	25.2	28.2	3.8	6.0	8.2
1028-1	FWD	176	88	—	—	—	80	81	80	89	—	0.82	0.37	0.50	36.8	28.0	30.5	3.9	4.8	8.8
	AFT							92		93		0.82	0.37	0.50	36.6	28.0	30.5	3.1	4.0	8.6
1028-2	FWD	177	88					88		87		0.76	0.52	—	42.7	25.7	—	3.2	4.2	—
	AFT							77		84		0.76	0.52	—	42.5	25.6	—	2.9	3.3	—

TABLE 18-2

EXPOSURE - PROCESSING SUMMARY

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
1004-1	FWD	-3	61	28	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	2.06	0	4	60	31	5	36
	AFT	-3	61	28	124	6	74	21	4	79	17	0	80	20	0.22	1.56	0.76	0.70	0.93	2.45	1.92	1.94	1.08	2.43	1.98	2.03	1	4	67	26	3	36
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	36
	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	36
1006-1	FWD	38	86	82	140	1	99	0	1	51	48	0	51	49	0.23	1.81	0.71	0.68	0.80	2.31	1.58	1.52	1.31	2.40	2.20	2.24	0	5	72	21	1	60
	AFT	38	86	82	140	1	99	0	0	23	77	0	24	76	0.36	1.66	0.87	0.84	0.96	2.35	1.72	1.72	1.14	2.40	2.24	2.28	0	1	58	40	1	60
1006-2	FWD	32	84	36	147	2	98	0	30	41	29	11	59	30	0.21	1.14	0.53	0.50	0.56	2.28	1.49	1.50	1.30	2.33	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	0.62	0.58	0.65	2.19	1.48	1.47	1.56	2.50	2.12	2.16	0	11	77	9	3	45
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0.26	1.22	0.32	0.47	0.82	2.20	1.44	1.40	1.22	1.36	2.17	2.21	20	8	67	5	0	60
	AFT	11	49	48	102	0	100	0	10	42	48	8	77	17	0.26	1.76	0.58	0.55	0.78	2.31	1.52	1.52	1.54	2.39	2.20	2.24	1	13	80	5	1	60
1007-2	FWD	32	87	43	112	0	25	75	3	28	69	0	26	74	0.26	1.23	0.51	0.48	0.70	2.32	1.44	1.40	0.90	2.37	2.15	2.20	18	9	71	2	0	68
	AFT	31	87	38	111	0	100	0	19	41	40	3	88	9	0.24	1.56	0.60	0.56	0.44	2.27	1.50	1.52	0.84	2.41	2.17	2.25	1	16	74	9	1	60
1008-1	FWD	30	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	1.48	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	86	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	86	42	105	0	100	0	3	30	67	0	29	71	0.32	1.64	0.77	0.76	0.73	2.10	1.55	1.55	1.10	2.35	2.18	2.22	1	3	69	27	0	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	1.55	1.52	0.83	2.51	2.30	2.36	5	4	77	14	0	60
	AFT	12	49	42	132	0	100	0	0	40	60	0	45	55	0.28	1.42	0.70	0.64	0.92	2.28	1.58	1.55	0.63	2.51	2.32	2.36	1	5	73	20	0	60
1009-2	FWD	23	58	35	138	2	98	0	3	21	76	0	40	60	0.29	1.55	0.69	0.64	0.73	2.37	1.53	1.53	1.06	2.45	2.25	2.30	4	4	74	17	0	66
	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	66
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	60
	AFT	18	47	45	83	0	21	79	0	19	81	0	16	84	0.27	1.25	0.57	0.52	0.78	2.42	1.45	1.41	0.98	2.46	2.20	2.26	9	4	81	6	0	60
1010-2	FWD	15	52	38	76	0	50	50	0	16	84	0	13	87	0.26	1.51	0.55	0.50	0.52	2.36	1.41	1.38	1.00	2.44	2.14	2.20	22	4	67	6	0	60
	AFT	15	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	78	6	0	60
1011-1	FWD	2	55	33	66	0	64	36	2	23	75	2	23	75	0.18	0.99	0.50	0.46	0.56	2.36	1.48	1.43	0.78	2.40	2.07	2.16	17	11	70	2	0	60
	AFT	2	55	33	66	0	67	33	3	47	50	0	37	63	0.24	1.48	0.60	0.56	0.50	2.35	1.57	1.55	0.74	2.37	2.11	2.18	3	7	81	8	0	60
1012-1	FWD	0	45	38	71	0	64	36	7	56	37	0	65	35	0.25	1.30	0.59	0.53	0.54	2.39	1.40	1.42	0.90	2.39	1.93	2.00	6	17	68	10	0	60
	AFT	0	45	38	71	0	64	36	0	33	67	0	49	51	0.26	1.40	0.61	0.58	0.47	2.27	1.44	1.40	0.72	2.52	1.89	1.96	5	10	74	11	0	60
1012-2	FWD	0	57	34	106	0	77	23	6	44	50	0	49	51	0.30	1.20	0.58	0.55	0.73	2.32	1.49	1.42	0.67	2.34	1.91	2.00	4	9	80	7	0	60
	AFT	0	57	34	106	0	77	23	3	15	82	0	10	90	0.30	1.27	0.68	0.62	0.48	2.33	1.55	1.56	0.70	2.38	1.96	2.02	4	0	72	23	0	60
1013-1	FWD	0	56	28	83	0	64	36	0	42	58	0	55	45	0.20	1.66	0.56	0.36	0.52	2.29	1.56	1.59	1.21	2.41	2.03	2.10	7	13	78	4	0	60
	AFT	0	56	28	82	0	64	36	2	7	91	0	33	67	0.28	1.56	0.66	0.48	0.64	2.28	1.59	1.63	1.10	2.36	1.97	2.03	5	8	74	16	0	60
1014-1	FWD	0	59	15	71	0	21	79	1	38	61	0	63	37	0.17	0.99	0.40	0.36	0.26	2.36	1.40	1.42	1.01	2.38	1.94	2.05	27	33	39	1	0	60
	AFT	0	59	14	69	0	31	69	0	13	87	0	36	64	0.18	1.26	0.51	0.48	0.25	2.38	1.42	1.49	0.42	2.43	1.91	2.00	19	12	64	6	0	60
1014-2	FWD	0	77	0	36	0	21	79	0	26	74	0	61	39	0.17	1.06	0.36	0.31	0.23	2.32	1.30	1.36	0.42	2.36	1.72	1.80	31	40	27	2	0	60
	AFT	0	76	0	34	0	29	71	0	5	95	0	68	32	0.18	1.49	0.44	0.40	0.27	2.28	1.34	1.45	0.26	2.44	1.71	1.84	19	29	50	2	0	60
1015-1	FWD	8	68	19	68	0	8	92	2	2	96	0	2	98	0.25	1.70	0.54	0.47	0.84	2.28	1.44	1.46	0.46	2.41	1.86	1.90	28	0	65	7	0	60
	AFT	4	68	18	67	0	30	70	0	5	95	0	4	96	0.29	1.20	0.60	0.56	0.46	2.28	1.49	1.50	0.80	2.36	1.86	1.95	14	0	77	8	0	60
1015-2	FWD	0	80	-2	71	0	10	90	0	10	90	0	11	89	0.22	1.10	0.50	0.46	0.34	2.07	1.29	1.30	0.28	2.34	1.69	1.78	28	4	65	3	0	60
	AFT	0	79	-2	71	0	21	79	0	9	91	0	9	91	0.26	1.21	0.59	0.52	0.36	2.22	1.37	1.38	0.38	2.40	1.74	1.80	17	1	70	12	0	60
1016-1	FWD	8	69	13	76	0	7	93	1	41	58	0	59	41	0.13	1.55	0.51	0.45	0.70	2.43	1.67	1.68	0.85	2.44	1.91	1.90	19	17	56	8	1	45
	AFT	4	69	12	76	0	27	73	0	26	74	0	42	58	0.22	1.65	0.64	0.58	0.62	2.34	1.69	1.72	0.98	2.46	1.90	1.92	11	9	62	17	1	45
1016-2	FWD	1	84	-4	76	0	8	92	0	31	69	0	48	52	0.18	1.56	0.48	0.44	0.28	2.26	1.48	1.44	0.34	2.50	1.76	1.82	22	18	56	3	0	40
	AFT	0	84	-4	76	0	19	81	1	27	72	0	40	60	0.20	1.88	0.55	0.49	0.26	2.32	1.62	1.60	0.30	2.49	1.75	1.82	23	8	65	8	1	40
1017-1	FWD	-11	50	21	99	0	0	100	13	63	24	0	82	18	0.20	1.65	0.66	0.61	0.48	2.43	1.74	1.78	0.60	2.32	1.93	2.00	1	8	77	13	1	25
	AFT	-1	57	19	98	0	17	83	24	58	18	4	90	6	0.20	1.62	0.64	0.60	0.80	2.29	1.78	1.75	1.18	2.36	1.89	1.90	1	13	74	11	2	25
1017-2	FWD	1	78	9	139	0	0	100	8	62	33	7	77	16	0.22	1.22	0.56	0.55	0.37	2.30	1.90	1.80	0.86	2.37	1.93	1.94	3	14	74	9	0	30
	AFT	1	79	7	138	0	7	93	18	62	20	0	89	11	0.20	1.64	0.64	0.62	0.30	2.30	1.82	1.68	0.38	2.34	1.85	1.92	2	13	74	10	1	30
1018-1	FWD	6	77	13	134	0	0	100	9	63	28	1	83	16	0.19	1.46	0.56	0.52	0.64	2.32	1.66	1.73	1.00	2.32	1.96	1.99	2	19	71	7	0	45
	AFT	6	78	10	128	0	22	78	9	63	38	8	72	23	0.18	1.36	0.62	0.58	0.66	2.28	1.66	1.60	1.03	2.28	1.95	2.00	1	18	77	9	2	45
1018-2	FWD	8	77	14	134	0	0	100	18	74	8	17	79	4	0.16	1.78	0.57	0.49	0.80	2.34	1.60	1.54	0.90	2.26	1.85	1.91	1	31	56	9	4	40
	AFT	8	77	10	132	0	18	82	1	50	49	0	74	26	0.22	1.90	0.81	0.79	0.94	2.26	1.70	1.74	1.09	2.36	1.98	2.04	0	5	58	28	8	40

TABLE 18-3

EXPOSURE - PROCESSING SUMMARY

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
1019-1	FWD	24	70	24	152	0	21	79	22	32	46	4	56	40	0.26	1.92	0.71	0.61	0.60	2.15	1.45	1.50	0.84	2.26	1.94	2.00	4	7	64	17	7	45
	AFT	23	70	21	152	0	92	8	26	55	19	3	87	10	0.13	1.70	0.66	0.60	0.39	2.26	1.46	1.45	0.80	2.30	1.96	2.02	1	13	70	14	3	45
1020-1	FWD	30	75	19	156	0	19	81	13	48	39	1	58	41	0.23	1.30	0.55	0.52	0.80	2.28	1.57	1.54	1.40	2.38	2.10	2.16	1	18	78	4	0	46
	AFT	29	75	17	156	0	84	36	15	56	29	0	74	26	0.23	1.20	0.55	0.54	0.70	2.20	1.47	1.46	1.22	2.29	2.04	2.10	0	18	78	8	0	46
1020-2	FWD	47	69	18	35	← INSUFFICIENT DATA →																										
	AFT	46	68	17	33																											
1021-1	FWD	18	66	-148	-23	0	68	32	14	39	47	1	52	47	0.25	1.90	0.64	0.58	0.74	2.18	1.50	1.50	0.97	2.36	1.92	2.00	5	9	72	11	3	38
	AFT	14	66	-147	-25	0	99	1	15	38	47	0	57	43	0.17	1.70	0.65	0.57	0.54	2.24	1.45	1.42	0.85	2.30	1.90	2.00	5	5	75	12	3	35
1021-2	FWD	13	52	-133	-41	0	29	71	13	41	46	0	57	43	0.18	1.52	0.54	0.50	0.60	2.36	1.36	1.34	1.05	2.23	1.82	1.85	14	13	66	6	0	20
	AFT	15	52	-133	-41	0	100	0	83	25	22	0	50	50	0.33	1.38	0.76	0.76	0.70	2.30	1.52	1.50	1.30	2.36	1.94	1.94	8	0	71	21	1	20
1022-1	FWD	28	67	30	150	0	36	64	8	36	56	0	42	58	0.18	1.49	0.45	0.40	0.54	2.42	1.57	1.60	1.32	2.55	2.24	2.29	30	19	47	3	0	35
	AFT	27	67	28	150	0	89	11	7	42	51	0	53	47	0.24	1.48	0.57	0.50	0.52	2.30	1.63	1.68	1.30	2.47	2.21	2.25	4	15	71	9	1	38
1022-2	FWD	29	74	21	152	0	8	92	1	37	62	0	43	57	0.20	0.99	0.39	0.35	0.62	2.65	1.45	1.45	1.16	2.45	2.23	2.28	35	28	35	1	0	45
	AFT	28	74	19	152	0	100	0	10	44	46	0	53	47	0.21	1.40	0.48	0.44	0.50	2.32	1.51	1.52	1.45	2.49	2.25	2.28	10	25	61	4	0	45
1023-1	FWD	22	82	8	164	0	5	95	19	54	27	0	72	28	0.15	1.26	0.39	0.35	0.43	2.41	1.22	1.22	0.87	2.41	2.06	2.11	20	44	34	2	0	35
	AFT	20	81	5	163	0	11	89	0	39	61	0	42	58	0.20	1.40	0.53	0.48	0.41	2.21	1.31	1.37	0.94	2.45	2.15	2.20	13	14	65	7	0	38
1023-2	FWD	29	81	-13	177	0	7	93	0	19	81	0	18	82	0.22	1.38	0.48	0.42	0.41	2.03	1.18	1.22	0.90	2.41	2.03	2.11	35	2	60	2	1	38
	AFT	28	80	-13	178	0	3	97	0	34	66	0	28	72	0.22	1.60	0.52	0.48	0.44	2.31	1.24	1.24	1.08	2.46	2.10	2.17	13	10	73	4	0	38
1024-1	FWD	10	81	24	137	0	0	100	0	57	43	0	72	28	0.17	1.74	0.35	0.32	0.40	2.25	1.22	1.15	0.98	2.34	1.97	2.03	27	49	23	0	0	35
	AFT	9	81	21	136	0	0	100	0	28	72	0	82	18	0.20	1.22	0.40	0.37	0.48	2.32	1.30	1.24	0.94	2.40	1.97	2.06	13	46	39	2	0	38
1024-2	FWD	9	79	11	151	0	0	100	12	19	69	0	25	75	0.24	1.17	0.46	0.42	0.35	2.40	1.30	1.27	1.01	2.45	1.91	1.99	36	3	56	2	0	35
	AFT	8	79	9	151	0	0	100	1	22	77	0	66	34	0.20	1.39	0.47	0.40	0.29	2.26	1.31	1.32	0.90	2.40	1.89	1.95	20	25	50	5	0	38
1025-1	FWD	1	70	-123	-18	0	68	32	10	41	49	0	56	44	0.18	1.42	0.43	0.37	0.29	2.36	1.37	1.39	0.42	2.35	1.81	1.92	33	25	38	4	1	38
	AFT	0	70	-121	-19	0	72	28	8	49	43	0	61	39	0.18	1.69	0.49	0.42	0.26	2.26	1.33	1.38	0.23	2.32	1.75	1.90	25	20	47	7	1	35
1025-2	FWD	0	56	-124	-31	0	71	29	3	42	55	0	56	44	0.18	1.22	0.45	0.39	0.26	2.24	1.32	1.33	0.63	2.29	1.78	1.89	29	21	45	4	0	122
	AFT	0	56	-122	-33	0	73	27	3	45	52	0	51	49	0.21	1.32	0.53	0.48	0.39	2.16	1.31	1.35	0.48	2.23	1.71	1.79	19	12	61	8	0	22
1026-1	FWD	0	57	23	135	0	4	96	0	21	79	0	24	76	0.20	1.26	0.38	0.33	0.31	2.27	1.22	1.22	0.40	2.28	1.77	1.87	57	13	28	2	0	45
	AFT	0	57	21	135	0	5	95	0	4	96	0	38	62	0.20	1.16	0.39	0.34	0.24	2.36	1.29	1.30	0.37	2.40	1.78	1.86	39	27	33	1	0	45
1026-2	FWD	1	72	8	84	0	0	100	1	5	94	0	5	95	0.19	1.32	0.36	0.30	0.23	2.17	1.05	1.02	0.48	2.24	1.63	1.70	78	2	19	1	0	60
	AFT	0	57	13	78	0	0	100	2	5	93	0	15	85	0.21	1.35	0.39	0.32	0.27	2.20	1.08	1.03	0.30	2.26	1.61	1.70	60	12	28	3	0	30
1027-1	FWD	3	63	26	110	0	0	100	0	0	100	0	3	97	0.26	1.54	0.52	0.46	0.50	2.38	1.45	1.52	0.71	2.39	2.03	2.10	38	2	58	4	0	50
	AFT	2	63	26	108	0	0	100	0	21	79	0	20	80	0.26	1.34	0.58	0.53	0.34	2.30	1.46	1.46	0.40	2.40	1.96	2.06	12	3	78	7	0	50
1028-1	FWD	3	73	18	135	0	4	96	0	4	96	0	11	89	0.22	1.08	0.37	0.32	0.40	2.32	1.42	1.42	0.82	2.30	1.77	1.83	65	6	28	1	0	30
	AFT	1	73	14	133	0	5	95	0	16	84	0	11	89	0.20	1.01	0.41	0.36	0.30	2.25	1.35	1.40	0.68	2.26	1.72	1.77	56	5	37	1	0	30
1028-2	FWD	2	81	5	48	0	3	97	1	9	90	0	15	85	0.23	0.98	0.40	0.35	0.37	2.20	1.36	1.38	0.30	2.33	1.72	1.77	59	3	37	1	0	30
	AFT	1	80	5	43	0	10	90	0	6	94	0	6	94	0.22	1.40	0.50	0.40	0.28	2.21	1.40	1.43	0.30	2.35	1.89	1.75	47	1	44	7	1	30

TABLE 18-3

SECTION A

APPENDIX

[redacted]

MISSION 1028-1 • INSTRUMENT • FRQD 2-11-66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FUEL MIN	FUEL MAX	FUEL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	1	0	0	2	0	0	2	0	0
0.23	0	0	0	1	0	0	3	0	0	4	0	0
0.24	0	0	0	0	0	0	9	0	0	9	0	0
0.25	0	0	0	2	0	0	8	0	0	10	0	0
0.26	0	0	0	1	0	0	21	0	0	22	0	0
0.27	0	0	0	3	0	0	7	0	0	10	0	0
0.28	0	0	0	2	0	0	5	0	0	7	0	0
0.29	0	0	0	1	0	0	12	0	0	13	0	0
0.30	0	0	0	1	0	0	23	0	0	24	0	0
0.31	0	0	0	2	0	0	8	0	0	10	0	0
0.32	0	0	0	0	0	0	19	0	0	19	0	0
0.33	0	0	0	1	0	0	7	0	0	8	0	0
0.34	0	0	0	1	0	0	8	0	0	9	0	0
0.35	0	0	0	1	0	0	3	0	0	4	0	0
0.36	0	0	0	0	0	0	11	0	0	11	0	0
0.37	0	0	0	0	0	0	6	0	0	6	0	0
0.38	0	0	0	0	0	0	9	0	0	9	0	0
0.39	0	0	0	0	0	0	6	0	0	6	0	0
0.40	0	0	0	1	0	0	8	1	0	9	1	0
0.41	0	0	0	2	0	0	1	0	0	3	0	0
0.42	0	0	0	1	0	0	4	0	0	5	0	0
0.43	0	0	0	1	0	0	1	0	0	2	0	0
0.44	0	0	0	1	0	0	3	0	0	3	1	0
0.45	0	0	0	1	0	0	3	0	0	4	0	0
0.46	0	0	0	0	0	0	6	0	0	6	0	0
0.47	0	0	0	0	0	0	1	0	0	1	0	0
0.48	0	0	0	0	0	0	4	0	0	4	0	0
0.49	0	0	0	0	0	0	1	0	0	1	0	0
0.50	0	0	0	0	0	0	4	1	0	4	1	0
SUBTOTAL	0	0	0	22	1	0	203	2	0	225	3	0

~~TOP SECRET~~ [redacted]

TABLE A-1

MISSION • 1028-I • INSTRUMENT • FRWD • 2-11-64 • DENSITY FREQ DISTR •

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	1	0	0	3	0	0	4	0	0
0.52	0	0	0	0	0	0	1	0	0	1	0	0
0.53	0	0	0	0	0	0	3	0	0	3	0	0
0.54	0	0	0	0	0	0	2	1	0	2	1	0
0.55	0	0	0	0	0	0	1	0	0	1	0	0
0.56	0	0	0	0	0	0	0	0	0	0	0	0
0.57	0	0	0	0	0	0	0	1	0	0	1	0
0.58	0	0	0	0	0	0	0	0	0	0	0	0
0.59	0	0	0	0	0	0	0	1	0	0	1	0
0.60	0	0	0	0	0	0	1	0	0	1	0	0
0.61	0	0	0	0	0	0	0	2	0	0	2	0
0.62	0	0	0	0	0	0	1	0	0	1	0	0
0.63	0	0	0	0	0	0	2	1	0	2	1	0
0.64	0	0	0	0	0	0	1	0	0	1	0	0
0.65	0	0	0	0	0	0	1	1	0	1	1	0
0.66	0	0	0	0	0	0	1	0	0	1	0	0
0.67	0	0	0	0	0	0	0	1	0	0	1	0
0.68	0	0	0	0	0	0	1	0	0	1	0	0
0.69	0	0	0	0	0	0	0	1	0	0	1	0
0.70	0	0	0	0	0	0	3	0	0	3	0	0
0.71	0	0	0	0	0	0	1	1	0	1	1	0
0.72	0	0	0	0	0	0	0	0	0	0	0	0
0.73	0	0	0	0	0	0	1	0	0	1	0	0
0.74	0	0	0	0	0	0	0	1	0	0	1	0
0.75	0	0	0	0	0	0	1	0	0	1	0	0
0.76	0	0	0	0	0	0	0	2	1	0	2	1
0.77	0	0	0	0	0	0	1	1	0	1	1	0
0.78	0	0	0	0	0	0	0	3	1	0	3	1
0.79	0	0	0	0	0	0	1	1	0	1	1	0
0.80	0	0	0	0	0	0	0	1	0	0	1	0
0.81	0	0	0	0	0	0	0	1	1	0	1	1
0.82	0	0	0	0	0	0	0	1	0	0	1	0
0.83	0	0	0	0	0	0	0	1	1	0	1	1
0.84	0	0	0	0	0	0	0	1	0	0	1	0
0.85	0	0	0	0	0	0	0	1	1	0	1	1
0.86	0	0	0	0	0	0	0	1	0	0	1	0
0.87	0	0	0	0	0	0	0	1	1	0	1	1
0.88	0	0	0	0	0	0	0	1	0	0	1	0
0.89	0	0	0	0	0	0	0	1	1	0	1	1
0.90	0	0	0	0	0	0	0	1	0	0	1	0
0.91	0	0	0	0	0	0	0	1	1	0	1	1
0.92	0	0	0	0	0	0	0	1	0	0	1	0
0.93	0	0	0	0	0	0	0	1	1	0	1	1
0.94	0	0	0	0	0	0	0	1	0	0	1	0
0.95	0	0	0	0	0	0	0	1	1	0	1	1
0.96	0	0	0	0	0	0	0	1	0	0	1	0
0.97	0	0	0	0	0	0	0	1	1	0	1	1
0.98	0	0	0	0	0	0	0	1	0	0	1	0
0.99	0	0	0	0	0	0	0	1	1	0	1	1
1.00	0	0	0	0	0	0	1	3	1	1	3	1
SUBTOTAL	0	0	0	5	2	0	26	41	7	31	43	7

TABLE A-1

MISSION # 1023-1 * INSTRUMENT * FRMD * 2-11-66 * DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	OCCL MIN	OCCL MAX	OCCL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	1	0	0	0	0	0	1
1.02	0	0	0	0	0	1	0	0	0	0	0	1
1.03	0	0	0	0	0	0	0	1	0	0	0	1
1.04	0	0	0	0	1	0	0	0	0	0	1	0
1.05	0	0	0	1	0	0	0	0	1	0	0	1
1.06	0	0	0	0	0	0	0	1	0	0	1	0
1.07	0	0	0	0	1	0	0	0	5	0	1	0
1.08	0	0	0	1	0	0	0	0	1	0	0	1
1.09	0	0	0	0	0	0	0	5	1	0	5	1
1.10	0	0	0	0	0	0	0	1	4	0	1	4
1.11	0	0	0	0	0	0	0	4	0	0	4	0
1.12	0	0	0	0	0	0	0	0	1	0	0	1
1.13	0	0	0	0	0	0	0	1	2	0	1	2
1.14	0	0	0	0	0	0	0	2	2	0	2	2
1.15	0	0	0	0	0	0	0	1	0	0	1	0
1.16	0	0	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	2	0	0	2	0
1.18	0	0	0	0	0	1	0	0	3	0	0	3
1.19	0	0	0	0	0	0	0	2	2	0	2	2
1.20	0	0	0	0	0	0	0	0	0	0	0	0
1.21	0	0	0	0	0	0	0	4	4	0	4	4
1.22	0	0	0	0	0	0	0	0	0	0	0	0
1.23	0	0	0	0	0	1	0	0	0	0	0	1
1.24	0	0	0	0	0	0	0	2	1	0	2	1
1.25	0	0	0	0	0	0	0	1	3	0	1	3
1.26	0	0	0	0	0	0	0	3	0	0	3	0
1.27	0	0	0	0	0	0	0	0	1	0	0	1
1.28	0	0	0	0	0	0	0	1	1	0	1	1
1.29	0	0	0	0	0	0	0	1	0	0	1	0
1.30	0	0	0	0	0	1	0	1	4	0	1	5
1.31	0	0	0	0	0	0	0	2	1	0	2	1
1.32	0	0	0	0	0	0	0	5	0	0	5	0
1.33	0	0	0	0	0	0	0	4	1	0	4	1
1.34	0	0	0	0	0	0	0	4	3	0	4	3
1.35	0	0	0	0	0	0	0	5	0	0	5	0
1.36	0	0	0	0	0	1	0	3	1	0	3	1
1.37	0	0	0	0	0	0	0	0	1	0	0	1
1.38	0	0	0	0	0	0	0	1	2	0	1	2
1.39	0	0	0	0	0	0	0	1	0	0	1	0
1.40	0	0	0	0	1	0	0	2	0	0	2	0
1.41	0	0	0	0	0	0	0	0	1	0	0	1
1.42	0	0	0	0	0	0	0	4	0	0	4	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	2	0	2	2
1.46	0	0	0	0	0	0	0	3	0	0	3	0
1.47	0	0	0	0	0	0	0	0	1	0	0	1
1.48	0	0	0	0	0	0	0	2	0	0	2	0
1.49	0	0	0	0	0	0	0	0	2	0	0	2
1.50	0	0	0	0	0	1	0	0	5	0	0	5
SUBTOTAL	0	0	0	2	6	5	0	91	23	2	97	28

~~TOP SECRET~~ [redacted]

TABLE A-1

~~TOP SECRET~~ [redacted]

MISSION = 1028-1 • INSTRUMENT = FRWD 2-[illegible] DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	5	1	0	5	1
1.52	0	0	0	0	1	0	0	4	0	0	5	0
1.53	0	0	0	0	1	0	0	0	0	0	1	0
1.54	0	0	0	0	0	0	0	3	2	0	3	2
1.55	0	0	0	0	0	0	0	2	1	0	2	1
1.56	0	0	0	0	0	0	0	1	1	0	1	1
1.57	0	0	0	0	2	0	0	1	1	0	3	1
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	1	0	0	0	0	0	1	0
1.60	0	0	0	0	1	1	0	0	0	0	1	1
1.61	0	0	0	0	1	1	0	0	0	0	1	1
1.62	0	0	0	0	1	1	0	0	0	0	1	1
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	1	1	0	2	4	0	3	5
SUBTOTAL	0	0	0	0	17	10	0	80	81	0	97	91

~~TOP SECRET~~ [redacted]

TABLE A-1

MISSION • 1028-1 • INSTRUMENT • FRWO 2-1145 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	0	0	3	2	0	3	2
2.03	0	0	0	0	1	0	0	0	1	0	1	1
2.04	0	0	0	0	0	0	0	1	2	0	2	2
2.05	0	0	0	0	0	0	0	0	3	0	0	3
2.06	0	0	0	0	0	0	0	1	1	0	1	1
2.07	0	0	0	0	0	0	0	0	3	0	0	3
2.08	0	0	0	0	0	0	0	1	1	0	1	1
2.09	0	0	0	0	0	0	0	0	3	0	0	3
2.10	0	0	0	0	0	0	0	1	1	0	1	1
2.11	0	0	0	0	0	0	0	0	3	0	0	3
2.12	0	0	0	0	0	0	0	1	1	0	1	1
2.13	0	0	0	0	0	0	0	0	3	0	0	3
2.14	0	0	0	0	0	0	0	1	1	0	1	1
2.15	0	0	0	0	0	0	0	0	3	0	0	3
2.16	0	0	0	0	0	0	0	1	1	0	1	1
2.17	0	0	0	0	0	0	0	0	3	0	0	3
2.18	0	0	0	0	0	0	0	1	1	0	1	1
2.19	0	0	0	0	0	0	0	0	3	0	0	3
2.20	0	0	0	0	0	0	0	1	1	0	1	1
2.21	0	0	0	0	0	0	0	0	3	0	0	3
2.22	0	0	0	0	0	0	0	1	1	0	1	1
2.23	0	0	0	0	0	0	0	0	3	0	0	3
2.24	0	0	0	0	0	0	0	1	1	0	1	1
2.25	0	0	0	0	0	0	0	0	3	0	0	3
2.26	0	0	0	0	0	0	0	1	1	0	1	1
2.27	0	0	0	0	0	0	0	0	3	0	0	3
2.28	0	0	0	0	0	0	0	1	1	0	1	1
2.29	0	0	0	0	0	0	0	0	3	0	0	3
2.30	0	0	0	0	0	0	0	1	1	0	1	1
2.31	0	0	0	0	0	0	0	0	3	0	0	3
2.32	0	0	0	0	0	0	0	1	1	0	1	1
2.33	0	0	0	0	0	0	0	0	3	0	0	3
2.34	0	0	0	0	0	0	0	1	1	0	1	1
2.35	0	0	0	0	0	0	0	0	3	0	0	3
2.36	0	0	0	0	0	0	0	1	1	0	1	1
2.37	0	0	0	0	0	0	0	0	3	0	0	3
2.38	0	0	0	0	0	0	0	1	1	0	1	1
2.39	0	0	0	0	0	0	0	0	3	0	0	3
2.40	0	0	0	0	0	0	0	1	1	0	1	1
2.41	0	0	0	0	0	0	0	0	3	0	0	3
2.42	0	0	0	0	0	0	0	1	1	0	1	1
2.43	0	0	0	0	0	0	0	0	3	0	0	3
2.44	0	0	0	0	0	0	0	1	1	0	1	1
2.45	0	0	0	0	0	0	0	0	3	0	0	3
2.46	0	0	0	0	0	0	0	1	1	0	1	1
2.47	0	0	0	0	0	0	0	0	3	0	0	3
2.48	0	0	0	0	0	0	0	1	1	0	1	1
2.49	0	0	0	0	0	0	0	0	3	0	0	3
2.50	0	0	0	0	0	0	0	1	1	0	1	1
SUBTOTAL	0	0	0	0	3	4	0	15	43	0	18	47

TOP SECRET [redacted]

TABLE A-1

MISSION • 1028-1 • • INSTRUMENT • FRWD • 2-11-66 • 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	0	0	0	0	0	0	0	0	0
2.52	C	C	0	0	0	0	0	0	0	0	0	0
2.53	C	C	0	0	0	0	0	0	0	0	0	0
2.54	C	C	0	0	0	0	0	0	0	0	0	0
2.55	C	C	0	0	0	0	0	0	0	0	0	0
2.56	C	C	0	0	0	0	0	0	0	0	0	0
2.57	C	C	0	0	0	0	0	0	0	0	0	0
2.58	C	C	0	0	0	0	0	0	0	0	0	0
2.59	C	C	0	0	0	0	0	0	0	0	0	0
2.60	C	C	0	0	0	0	0	0	0	0	0	0
2.61	C	C	0	0	0	0	0	0	0	0	0	0
2.62	C	C	0	0	0	0	0	0	0	0	0	0
2.63	C	C	0	0	0	0	0	0	0	0	0	0
2.64	C	C	0	0	0	0	0	0	0	0	0	0
2.65	C	C	0	0	0	0	0	0	0	0	0	0
2.66	C	C	0	0	0	0	0	0	0	0	0	0
2.67	C	C	0	0	0	0	0	0	0	0	0	0
2.68	C	C	0	0	0	0	0	0	0	0	0	0
2.69	C	C	0	0	0	0	0	0	0	0	0	0
2.70	C	C	0	0	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	29	29	19	229	229	154	258	258	173

MISSION 1028-1 INSTR - FRWD 2-11-66 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	29	0 PC	55 PC	38 PC	7 PC	0 PC
FULL	229	73 PC	0 PC	27 PC	0 PC	0 PC
ALL LEVELS	258	65 PC	6 PC	28 PC	1 PC	0 PC

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

TABLE A-1

[redacted]

MISSION • 1128-1 • INSTR • IRAD • 2-11-66 PLOT OF D MI • TERRAIN • PROCESSING • INTERMEDIATE

WITH MEAN • 0.42 • MEDIAN • 0.34 • STD DEV • 0.22 • RANGE • 0.23 TO 1.08 WITH 29 SAMPLES

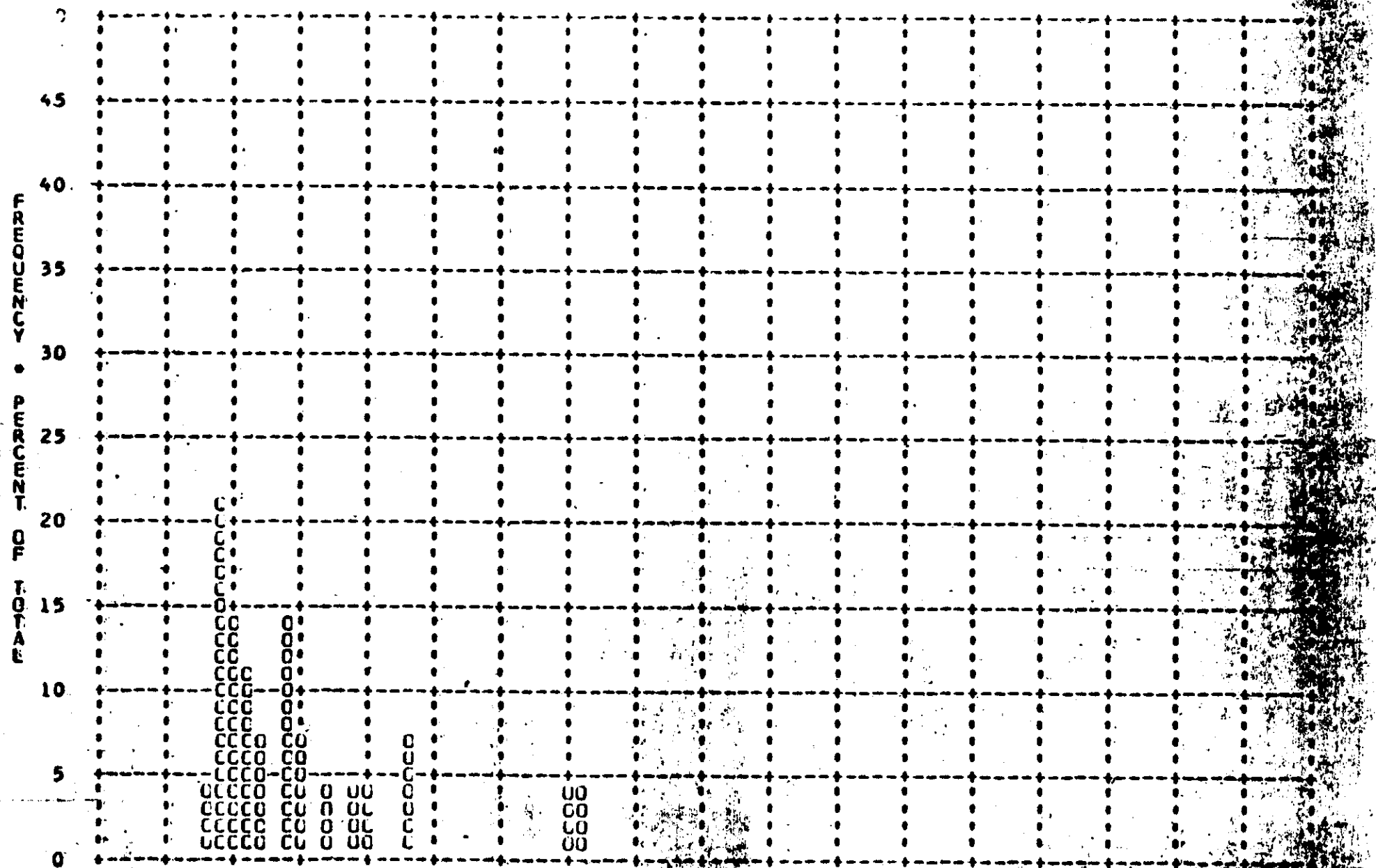


FIGURE A-1

[redacted]

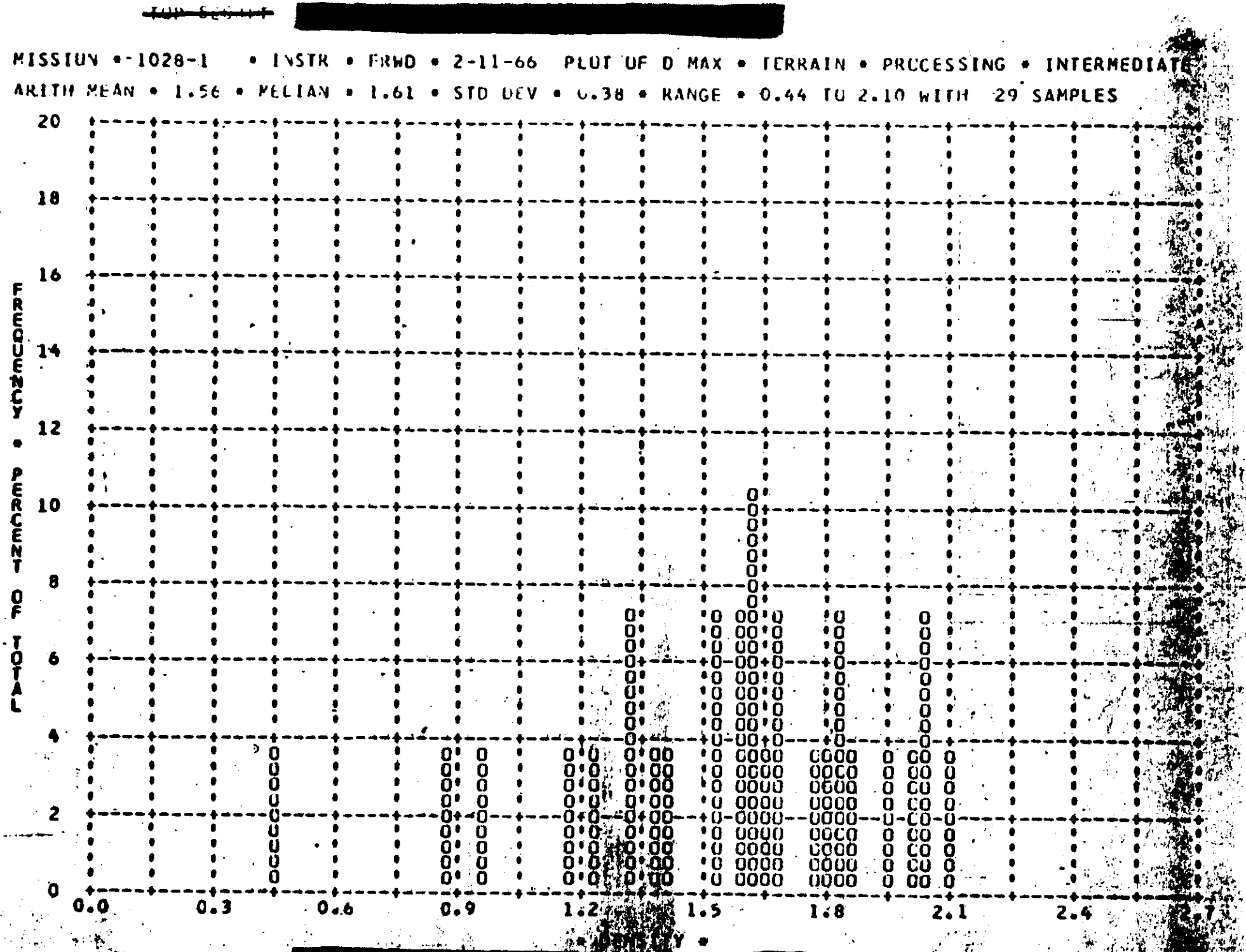

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.56 • MEDIAN • 1.61 • STD DEV • 0.38 • RANGE • 0.44 TO 2.10 WITH 29 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

FIGURE A-2

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.76 • MEDIAN • 1.91 • STD DEV • 0.37 • RANGE • 1.01 TO 2.18 WITH 19 SAMPLES

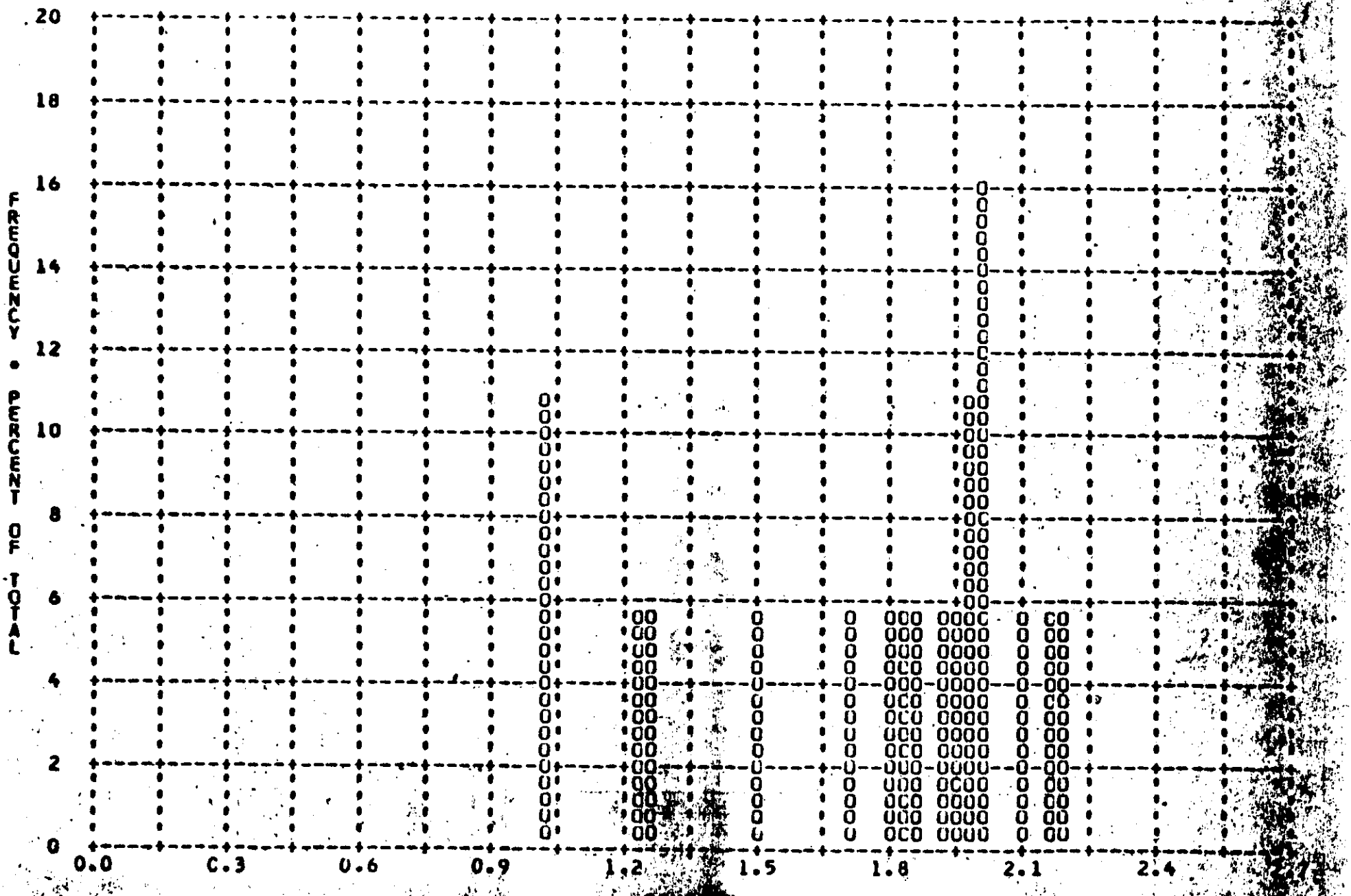


FIGURE A-3

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MIN • TERRAIN • PR[illegible]ING • FULL

ARITH MEAN • 0.37 • MEDIAN • 0.32 • STD DEV • 0.12 • RANGE • 0.22 TO 1.00 [illegible] 229 SAMPLES

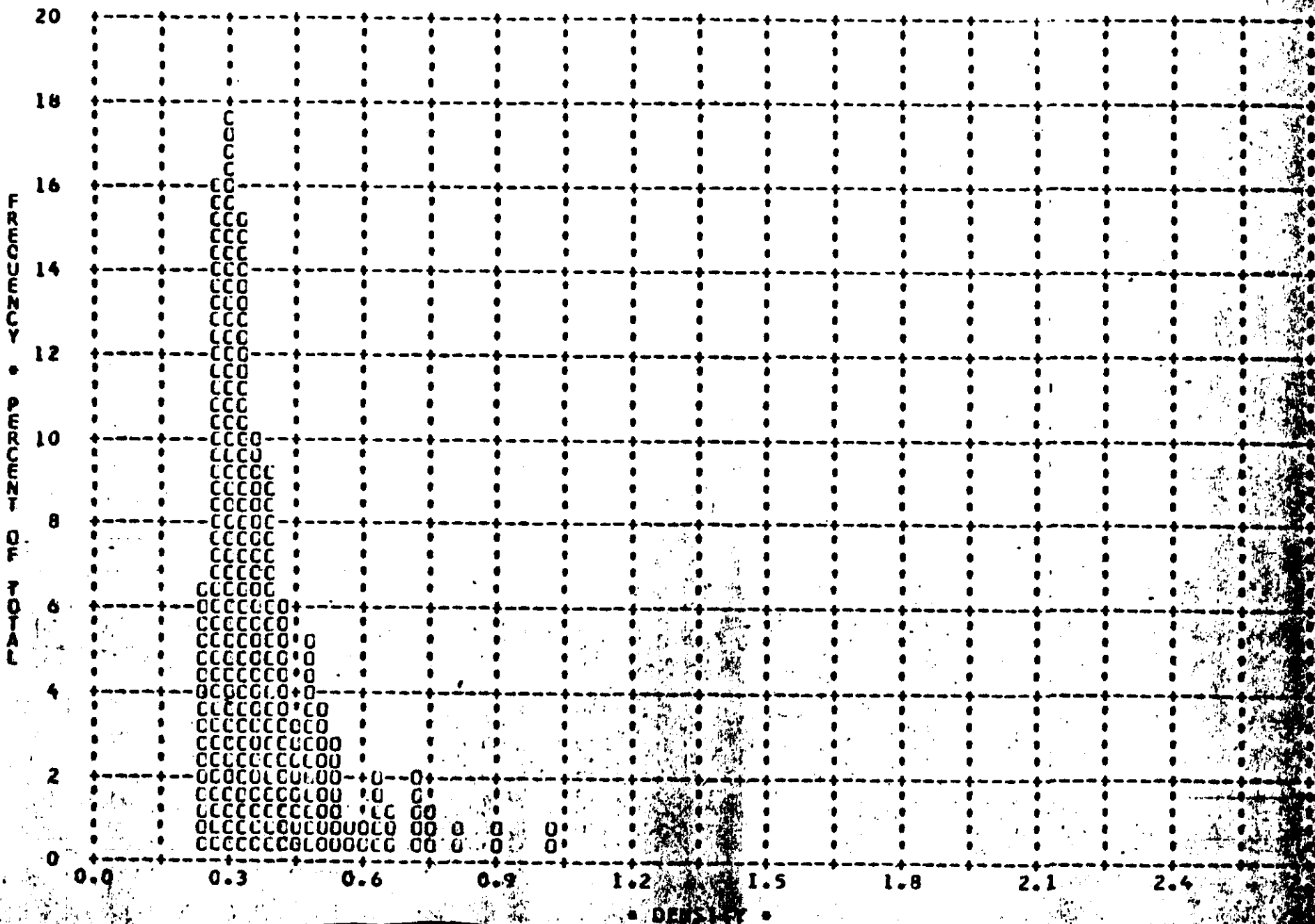


FIGURE A-4

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.40 • MEDIAN • 1.39 • STD DEV • 0.41 • RANGE • 0.40 TO 2.32 WITH 229 SAMPLES

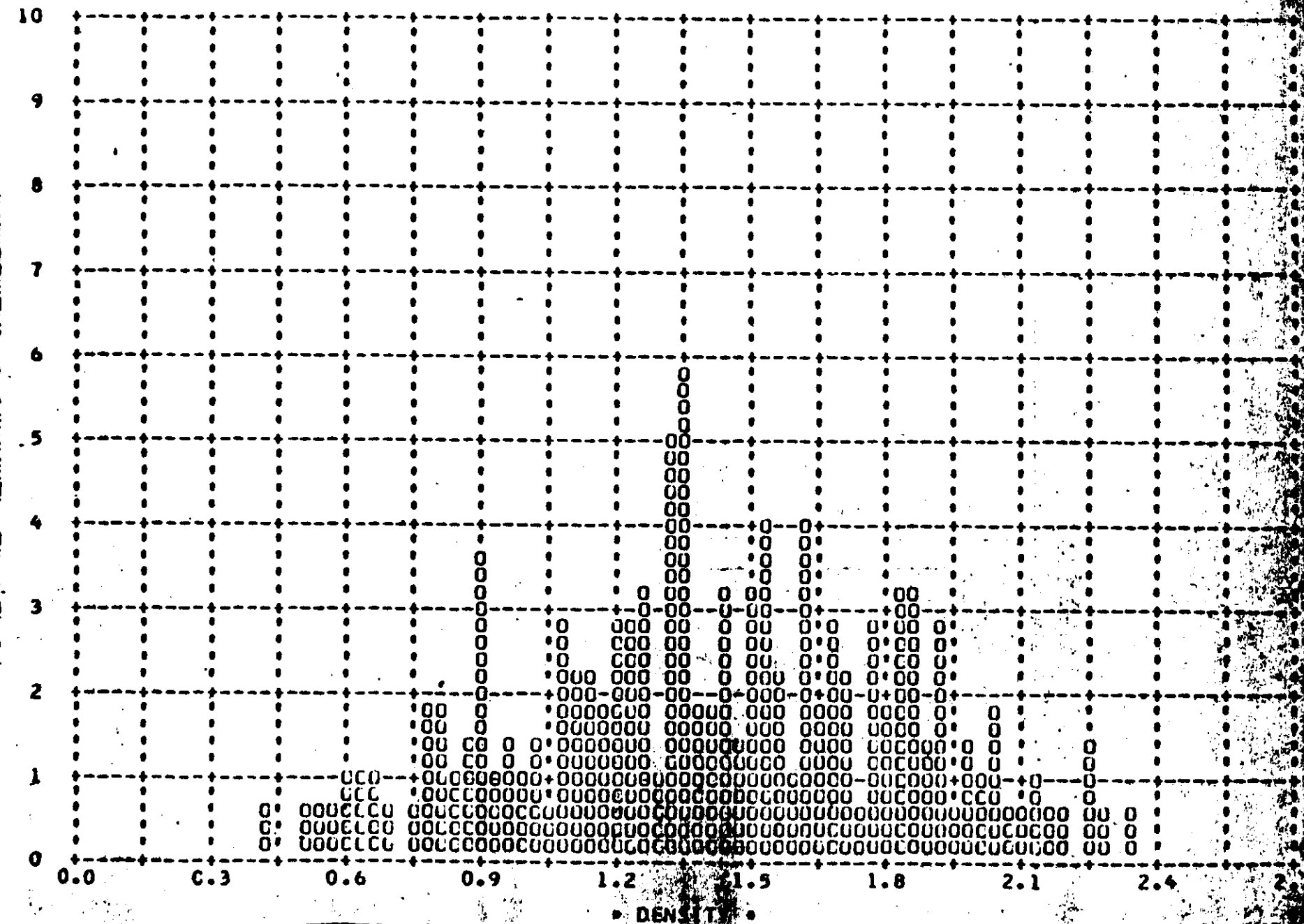


FIGURE A-5

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.77 • MEDIAN • 1.82 • STD DEV • 0.34 • RANGE • 0.62 TO 2.30 WITH 154 SAMPLES

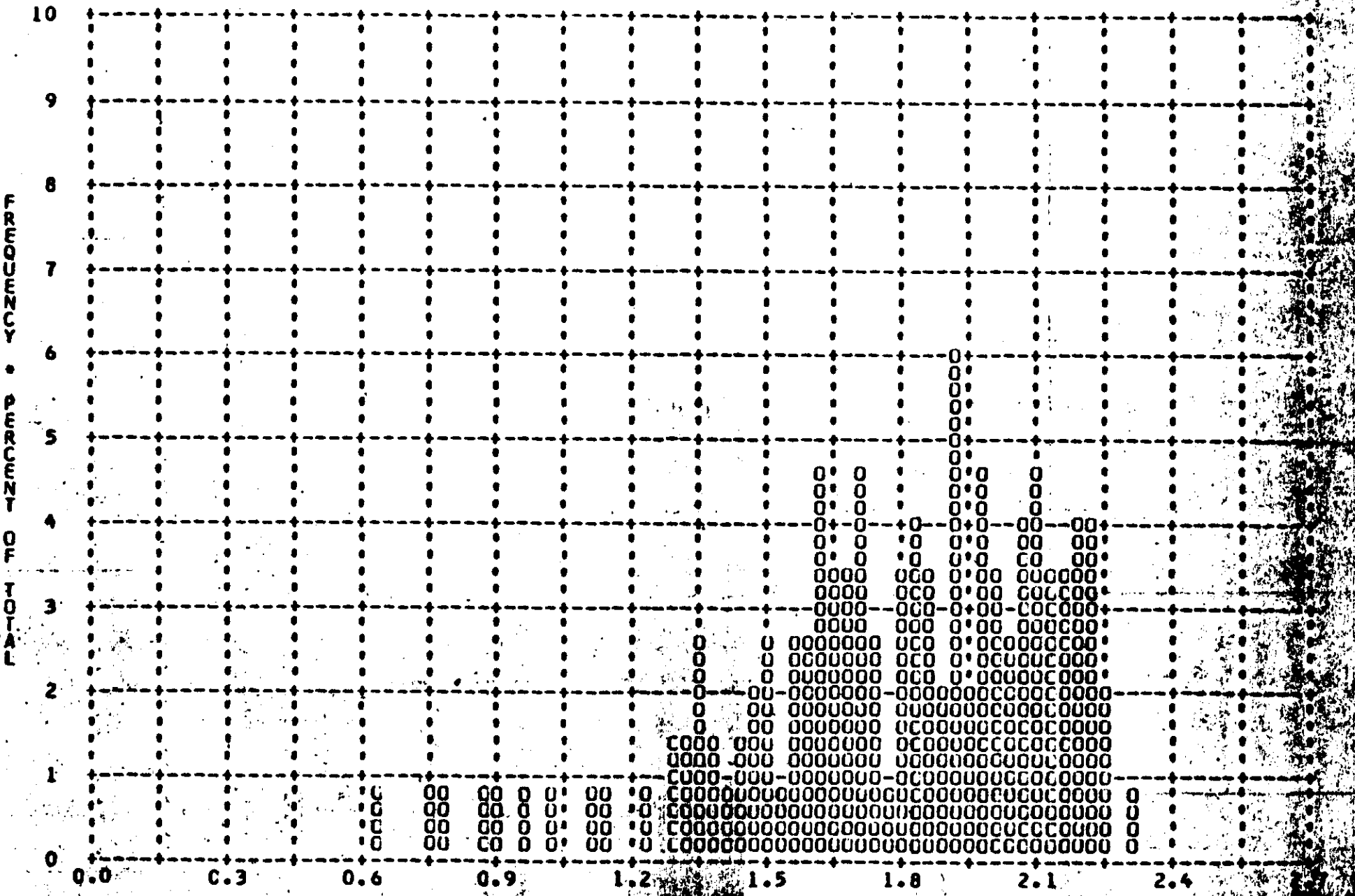


FIGURE A-6

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.37 • MEDIAN • 0.32 • STD DEV • 0.14 • RANGE • 0.22 TO 1.08 WITH 258 SAMPLES

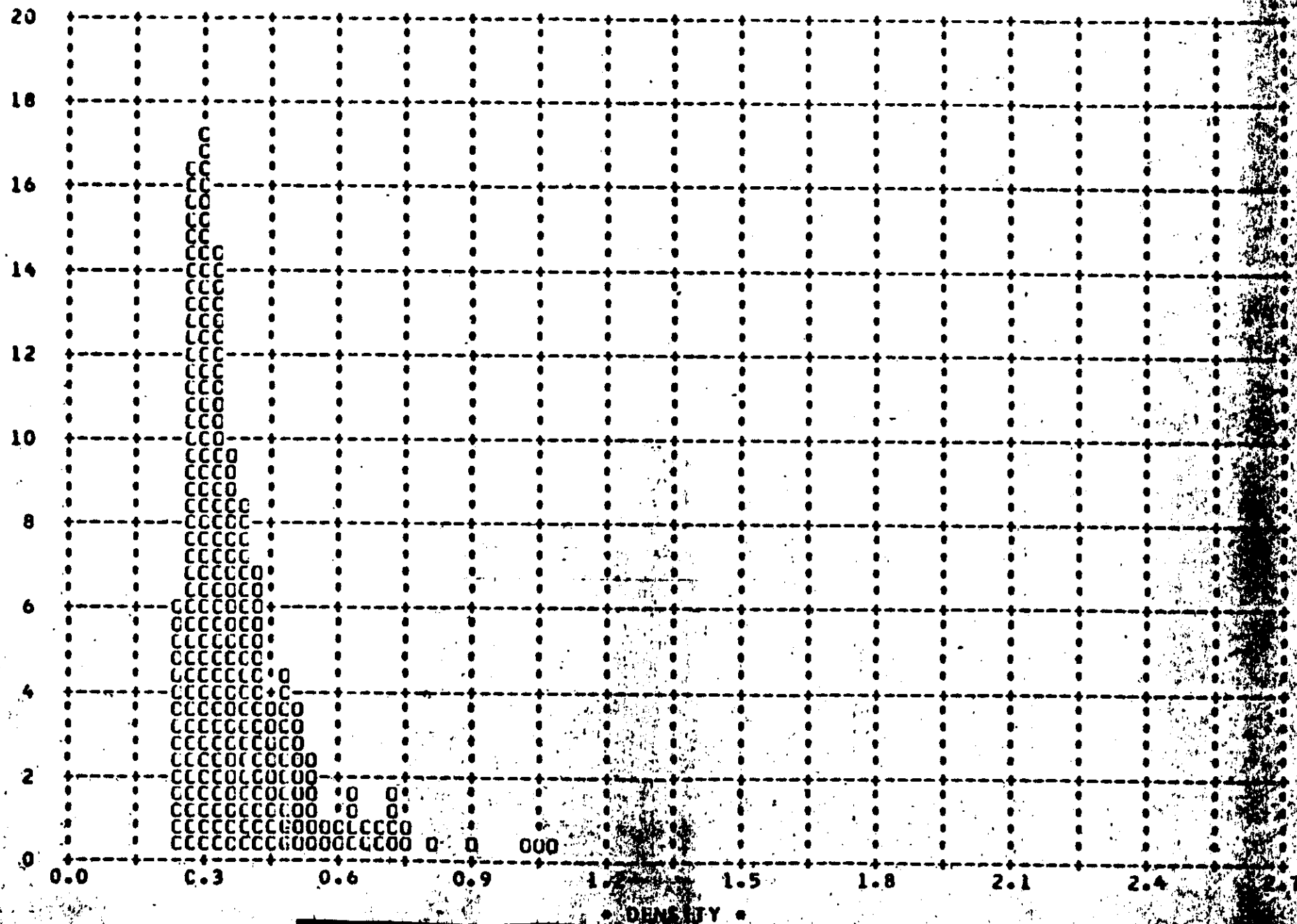


FIGURE A-7

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.42 • MEDIAN • 1.42 • STD DEV • 0.40 • RANGE • 0.40 TO 2.32 WITH 258 SAMPLES

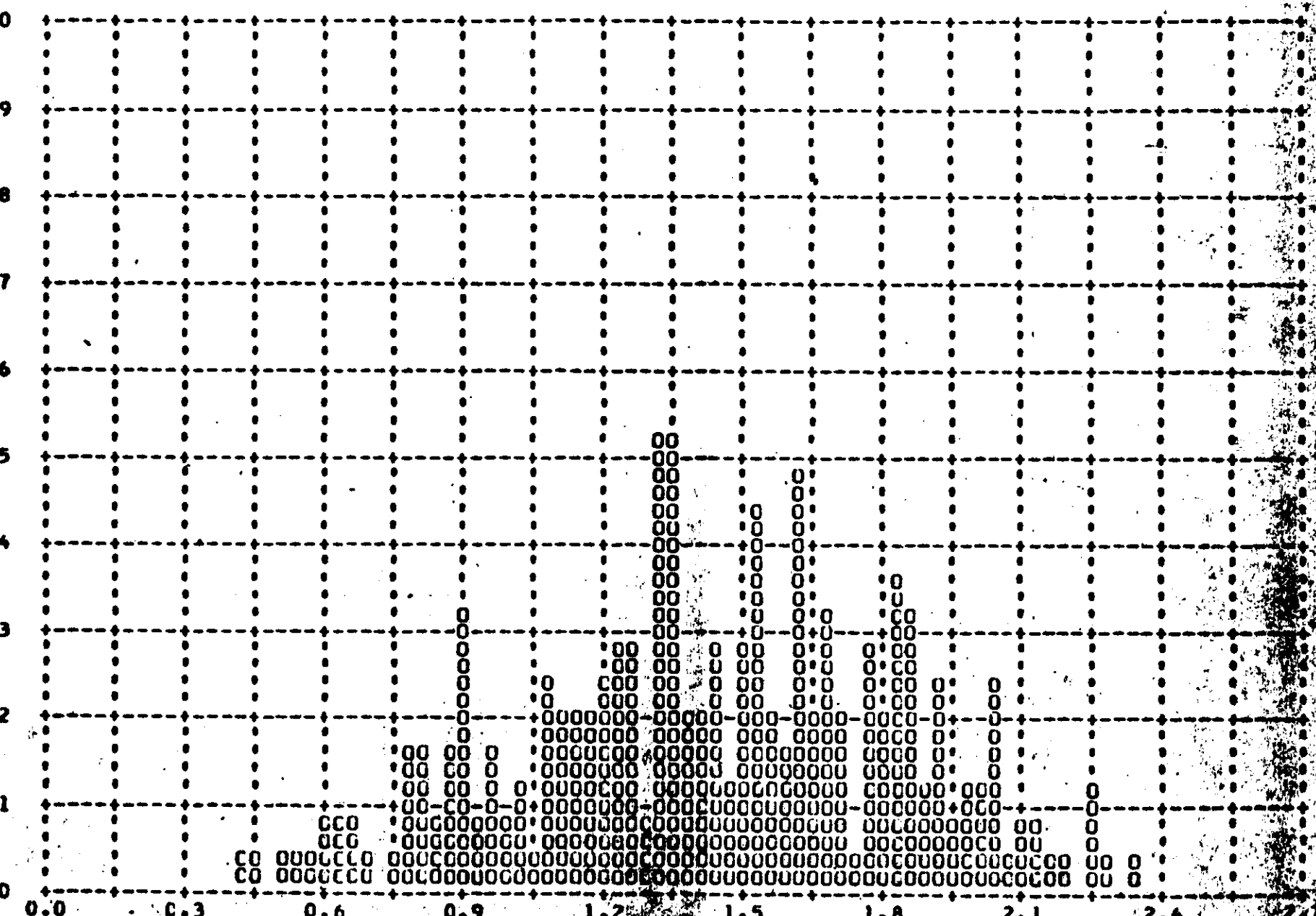


FIGURE A-8

MISSION • 1028-1 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.77 • MEDIAN • 1.83 • STD DEV • 0.34 • RANGE • 0.62 TO 2.30 WITH 173 SAMPLES

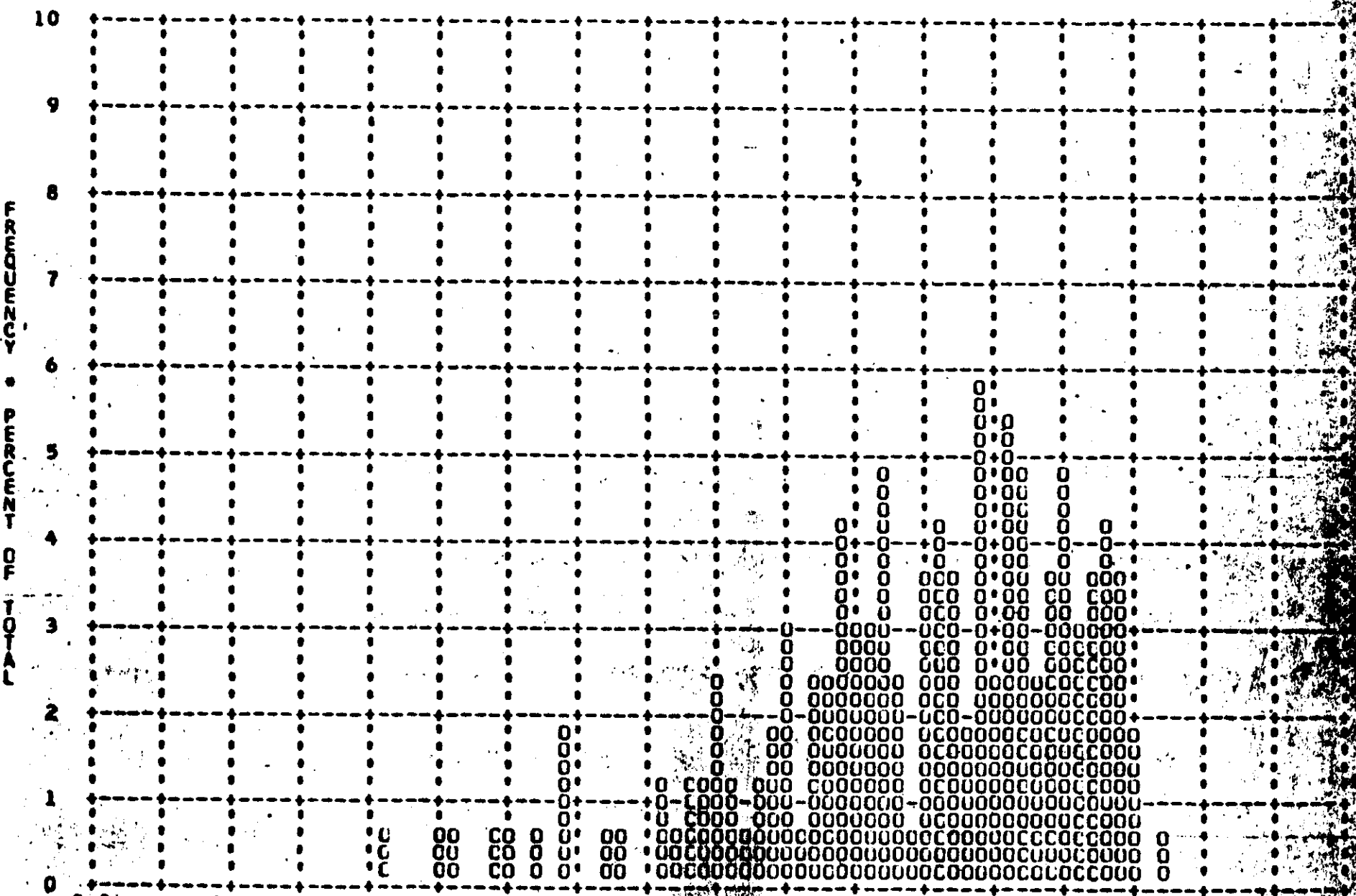


FIGURE A-9

~~TOP SECRET~~ [redacted]

MISSION • 1028-1 • INSTRUMENT # AFT • 2-11-66 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	1	0	0	0	0	0	1	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	1	0	0	1	0	0
0.24	0	0	0	0	0	0	5	0	0	5	0	0
0.25	0	0	0	2	0	0	3	0	0	3	0	0
0.26	0	0	0	2	0	0	10	0	0	12	0	0
0.27	0	0	0	0	0	0	5	0	0	5	0	0
0.28	0	0	0	0	0	0	9	0	0	9	0	0
0.29	0	0	0	2	0	0	8	0	0	10	0	0
0.30	0	0	0	2	0	0	20	1	0	22	1	0
0.31	0	0	0	0	0	0	8	0	0	8	0	0
0.32	0	0	0	0	0	0	20	1	0	20	1	0
0.33	0	0	0	1	0	0	9	1	0	10	1	0
0.34	0	0	0	0	0	0	7	1	0	7	1	0
0.35	0	0	0	0	0	0	12	1	0	12	1	0
0.36	0	0	0	2	0	0	11	2	0	13	2	0
0.37	0	0	0	1	0	0	4	1	0	5	1	0
0.38	0	0	0	0	0	0	15	0	0	15	0	0
0.39	0	0	0	3	0	0	2	0	0	5	0	0
0.40	0	0	0	1	0	0	5	0	0	6	0	0
0.41	0	0	0	2	0	0	3	0	0	5	0	0
0.42	0	0	0	0	0	0	9	0	0	9	0	0
0.43	0	0	0	1	0	0	3	0	0	4	0	0
0.44	0	0	0	0	0	0	2	0	0	2	0	0
0.45	0	0	0	0	0	0	5	1	0	5	1	0
0.46	0	0	0	2	0	0	6	0	0	8	0	0
0.47	0	0	0	1	0	0	3	0	0	4	0	0
0.48	0	0	0	0	0	0	4	1	0	4	1	0
0.49	0	0	0	1	0	0	0	1	0	1	1	0
0.50	0	0	0	0	0	0	7	0	0	7	0	0
SUBTOTAL	0	0	0	22	0	0	196	9	0	218	9	0

~~TOP SECRET~~ [redacted]

TABLE A-2

[redacted]ISSION • 1024-1 • INSTRUMENT 3 AFT [redacted] 2-11-66 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	1	0	0	1	0	0
0.52	0	0	0	0	0	0	2	0	0	2	0	0
0.53	0	0	0	1	0	0	3	0	0	4	0	0
0.54	0	0	0	0	0	0	3	1	0	3	1	0
0.55	0	0	0	0	0	0	4	0	0	4	0	0
0.56	0	0	0	0	0	0	1	0	0	1	0	0
0.57	0	0	0	1	0	0	2	1	0	3	1	0
0.58	0	0	0	0	0	0	1	1	0	1	1	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	0	0	0	1	1	0	1	1	0
0.61	0	0	0	0	0	0	2	0	0	2	0	0
0.62	0	0	0	0	0	0	1	1	0	1	1	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	1	1	0	1	1	0
0.66	0	0	0	0	0	0	2	0	0	2	0	0
0.67	0	0	0	0	0	0	1	1	0	1	1	0
0.68	0	0	0	0	0	0	2	0	0	2	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	1	0	1	1	0
0.71	0	0	0	0	0	0	2	0	0	2	0	0
0.72	0	0	0	0	0	0	1	1	0	1	1	0
0.73	0	0	0	0	0	0	3	0	0	3	0	0
0.74	0	0	0	0	0	0	1	0	0	1	0	0
0.75	0	0	0	0	0	0	2	0	0	2	0	0
0.76	0	0	0	0	0	0	1	1	0	1	1	0
0.77	0	0	0	0	0	0	2	0	0	2	0	0
0.78	0	0	0	0	0	0	2	1	0	2	1	0
0.79	0	0	0	0	0	0	2	2	0	2	2	0
0.80	0	0	0	0	0	0	2	2	0	2	2	0
0.81	0	0	0	0	0	0	3	1	0	3	1	0
0.82	0	0	0	0	0	0	2	1	0	2	1	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	1	0	0	1	0	0
0.86	0	0	0	0	0	0	1	1	0	1	1	0
0.87	0	0	0	0	0	0	2	0	0	2	0	0
0.88	0	0	0	0	0	0	2	0	0	2	0	0
0.89	0	0	0	0	0	0	1	1	0	1	1	0
0.90	0	0	0	0	0	0	1	0	0	1	0	0
0.91	0	0	0	0	0	0	2	0	0	2	0	0
0.92	0	0	0	0	0	0	2	0	0	2	0	0
0.93	0	0	0	0	0	0	2	2	0	2	2	0
0.94	0	0	0	0	0	0	2	2	0	2	2	0
0.95	0	0	0	0	0	0	2	2	0	2	2	0
0.96	0	0	0	0	0	0	2	2	0	2	2	0
0.97	0	0	0	0	0	0	2	2	0	2	2	0
0.98	0	0	0	0	0	0	2	2	0	2	2	0
0.99	0	0	0	0	0	0	1	0	0	1	0	0
1.00	0	0	0	8	1	0	19	5	9	27	6	9
SUBTOTAL	0	0	0	8	1	0	39	47	9	47	48	9

TABLE A-2

~~TOP SECRET~~ [redacted]

MISSION • 1028-1 • INSTRUMENT • AFT • 2-11-66 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	1	2	1	0	2	1	1
1.02	0	0	0	0	0	0	0	1	1	0	1	0
1.03	0	0	0	0	0	0	0	1	2	0	1	0
1.04	0	0	0	0	0	0	0	0	0	0	0	0
1.05	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	0	0	0	0	0	0
1.08	0	0	0	0	0	0	0	0	0	0	0	0
1.09	0	0	0	0	0	0	0	0	0	0	0	0
1.10	0	0	0	0	0	0	0	0	0	0	0	0
1.11	0	0	0	0	0	0	0	0	0	0	0	0
1.12	0	0	0	0	0	0	0	0	0	0	0	0
1.13	0	0	0	0	0	0	0	0	0	0	0	0
1.14	0	0	0	0	0	0	0	0	0	0	0	0
1.15	0	0	0	0	0	0	0	0	0	0	0	0
1.16	0	0	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	0	0	0	0	0
1.18	0	0	0	0	0	0	0	0	0	0	0	0
1.19	0	0	0	0	0	0	0	0	0	0	0	0
1.20	0	0	0	0	0	0	0	0	0	0	0	0
1.21	0	0	0	0	0	0	0	0	0	0	0	0
1.22	0	0	0	0	0	0	0	0	0	0	0	0
1.23	0	0	0	0	0	0	0	0	0	0	0	0
1.24	0	0	0	0	0	0	0	0	0	0	0	0
1.25	0	0	0	0	0	0	0	0	0	0	0	0
1.26	0	0	0	0	0	0	0	0	0	0	0	0
1.27	0	0	0	0	0	0	0	0	0	0	0	0
1.28	0	0	0	0	0	0	0	0	0	0	0	0
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	1	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	18	5	2	94	24	2	112	29

~~TOP SECRET~~ [redacted]

TABLE A-2

[redacted]

MISSION • 1028-1 • INSTRUMENT • AFT 2-11-66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	1	1	0	0	1	0	1	2
1.52	0	0	0	0	1	0	0	3	0	0	3	0
1.53	0	0	0	0	1	0	0	0	1	0	2	1
1.54	0	0	0	0	0	0	0	2	0	0	2	0
1.55	0	0	0	0	0	0	0	1	0	0	1	0
1.56	0	0	0	0	0	0	0	1	1	0	1	1
1.57	0	0	0	0	0	0	0	1	0	0	1	0
1.58	0	0	0	0	0	1	0	0	1	0	1	2
1.59	0	0	0	0	0	1	0	0	0	0	1	1
1.60	0	0	0	0	1	0	0	0	0	0	1	0
1.61	0	0	0	0	1	0	0	0	1	0	1	1
1.62	0	0	0	0	1	0	0	0	1	0	1	1
1.63	0	0	0	0	0	1	0	0	0	0	0	0
1.64	0	0	0	0	0	1	0	0	1	0	1	1
1.65	0	0	0	0	0	0	0	0	1	0	0	1
1.66	0	0	0	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	1	0	0	0	0	0	1	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	1	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	9	14	0	74	69	0	83	83

[redacted]

TABLE A-2

~~TOP SECRET~~ [redacted]

MISSION • 1028-1 • • INSTRUMENT • AFT 2-11-66 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	2	0	2	2	0	2	2
2.02	0	0	0	0	0	2	0	1	3	0	1	5
2.03	0	0	0	0	0	0	0	1	4	0	1	4
2.04	0	0	0	0	0	1	0	1	4	0	1	4
2.05	0	0	0	0	0	1	0	2	3	0	2	3
2.06	0	0	0	0	0	1	0	2	3	0	2	3
2.07	0	0	0	0	0	1	0	3	2	0	3	2
2.08	0	0	0	0	0	1	0	3	2	0	3	2
2.09	0	0	0	0	0	1	0	2	3	0	2	3
2.10	0	0	0	0	0	1	0	1	4	0	1	4
2.11	0	0	0	0	0	1	0	1	4	0	1	4
2.12	0	0	0	0	0	1	0	0	5	0	0	5
2.13	0	0	0	0	0	0	0	0	5	0	0	5
2.14	0	0	0	0	0	0	0	0	5	0	0	5
2.15	0	0	0	0	0	0	0	0	5	0	0	5
2.16	0	0	0	0	0	0	0	0	5	0	0	5
2.17	0	0	0	0	0	0	0	0	5	0	0	5
2.18	0	0	0	0	0	0	0	0	5	0	0	5
2.19	0	0	0	0	0	0	0	0	5	0	0	5
2.20	0	0	0	0	0	0	0	0	5	0	0	5
2.21	0	0	0	0	0	0	0	0	5	0	0	5
2.22	0	0	0	0	0	0	0	0	5	0	0	5
2.23	0	0	0	0	0	0	0	0	5	0	0	5
2.24	0	0	0	0	0	0	0	0	5	0	0	5
2.25	0	0	0	0	0	0	0	0	5	0	0	5
2.26	0	0	0	0	0	0	0	0	5	0	0	5
2.27	0	0	0	0	0	0	0	0	5	0	0	5
2.28	0	0	0	0	0	0	0	0	5	0	0	5
2.29	0	0	0	0	0	0	0	0	5	0	0	5
2.30	0	0	0	0	0	0	0	0	5	0	0	5
2.31	0	0	0	0	0	0	0	0	5	0	0	5
2.32	0	0	0	0	0	0	0	0	5	0	0	5
2.33	0	0	0	0	0	0	0	0	5	0	0	5
2.34	0	0	0	0	0	0	0	0	5	0	0	5
2.35	0	0	0	0	0	0	0	0	5	0	0	5
2.36	0	0	0	0	0	0	0	0	5	0	0	5
2.37	0	0	0	0	0	0	0	0	5	0	0	5
2.38	0	0	0	0	0	0	0	0	5	0	0	5
2.39	0	0	0	0	0	0	0	0	5	0	0	5
2.40	0	0	0	0	0	0	0	0	5	0	0	5
2.41	0	0	0	0	0	0	0	0	5	0	0	5
2.42	0	0	0	0	0	0	0	0	5	0	0	5
2.43	0	0	0	0	0	0	0	0	5	0	0	5
2.44	0	0	0	0	0	0	0	0	5	0	0	5
2.45	0	0	0	0	0	0	0	0	5	0	0	5
2.46	0	0	0	0	0	0	0	0	5	0	0	5
2.47	0	0	0	0	0	0	0	0	5	0	0	5
2.48	0	0	0	0	0	0	0	0	5	0	0	5
2.49	0	0	0	0	0	0	0	0	5	0	0	5
2.50	0	0	0	0	0	0	0	0	5	0	0	5
SUBTOTAL	0	0	0	0	2	8	0	13	29	0	15	37

~~TOP SECRET~~ [redacted]

TABLE A-2

[redacted]

MISSION • 1028-1 • INSTRUMENT • AFT 2-11-66 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	0	0	0	0	0	0	0	0	0
2.52	C	C	0	0	0	0	0	0	0	0	0	0
2.53	C	C	0	0	0	0	0	0	0	0	0	0
2.54	C	C	0	0	0	0	0	0	0	0	0	0
2.55	C	C	0	0	0	0	0	0	0	0	0	0
2.56	C	C	0	0	0	0	0	0	0	0	0	0
2.57	C	C	0	0	0	0	0	0	0	0	0	0
2.58	C	C	0	0	0	0	0	0	0	0	0	0
2.59	C	C	0	0	0	0	0	0	0	0	0	0
2.60	C	C	0	0	0	0	0	0	0	0	0	0
2.61	C	C	0	0	0	0	0	0	0	0	0	0
2.62	C	C	0	0	0	0	0	0	0	0	0	0
2.63	C	C	0	0	0	0	0	0	0	0	0	0
2.64	C	C	0	0	0	0	0	0	0	0	0	0
2.65	C	C	0	0	0	0	0	0	0	0	0	0
2.66	C	C	0	0	0	0	0	0	0	0	0	0
2.67	C	C	0	0	0	0	0	0	0	0	0	0
2.68	C	C	0	0	0	0	0	0	0	0	0	0
2.69	C	C	0	0	0	0	0	0	0	0	0	0
2.70	C	C	0	0	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	30	30	27	237	237	131	267	267	158

MISSION 1028-1 INSTR - AFT 2-11-66 PROCESSING AND EXPOSURE AN

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPO
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0
INTERMEDIATE	30	3 PC	43 PC	53 PC	0 PC	0
FULL	237	63 PC	0 PC	35 PC	2 PC	0
ALL LEVELS	267	56 PC	5 PC	37 PC	1 PC	0

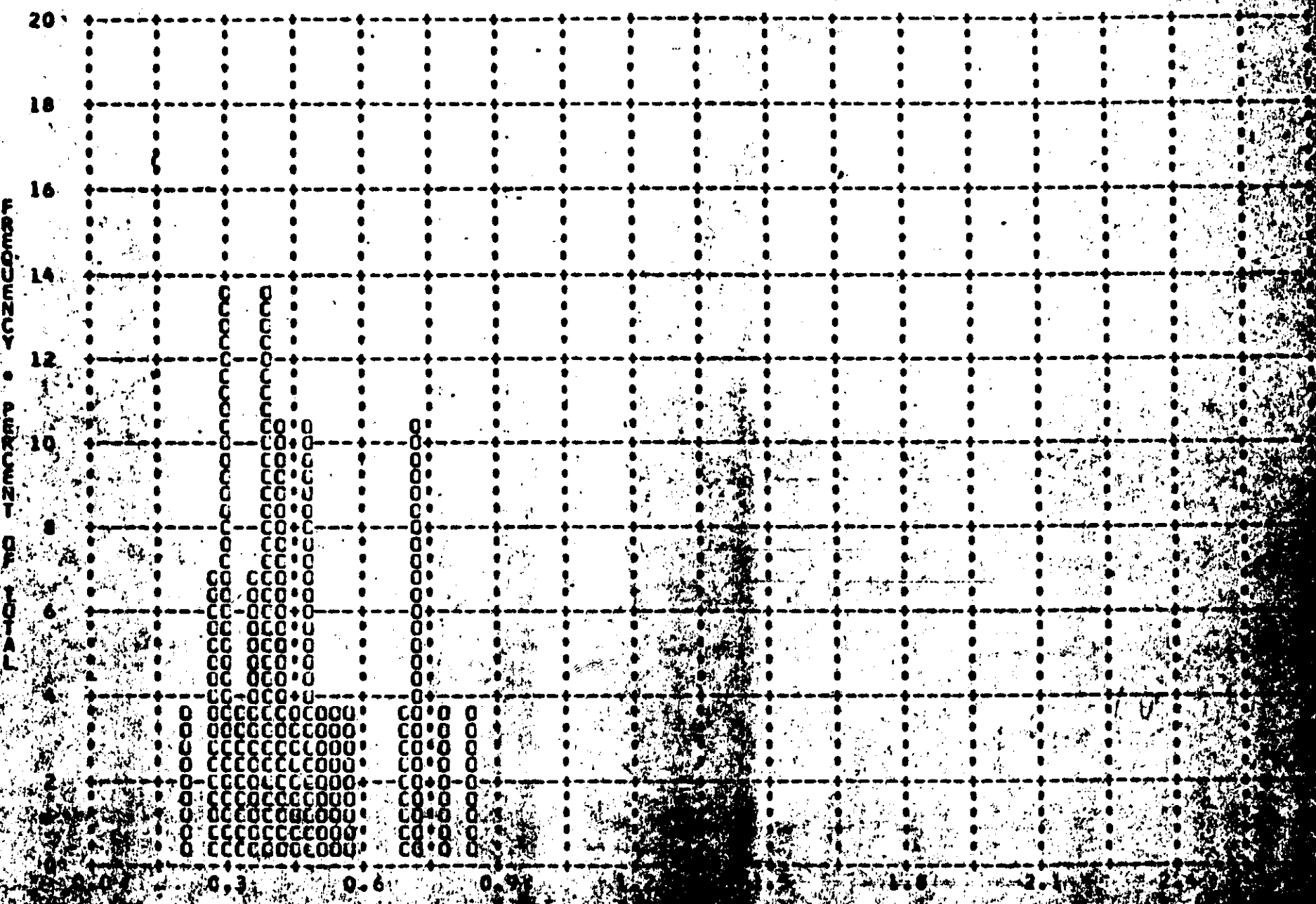
PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OV EXPO
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	---------	0.91 AN
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AN
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.69	1.70 AN

[redacted]

TABLE A-2

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF DOMAIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.45 • MEDIAN • 0.41 • STD DEV • 0.17 • RANGE • 0.20 TO 0.82 WITH 30 SAMPLES



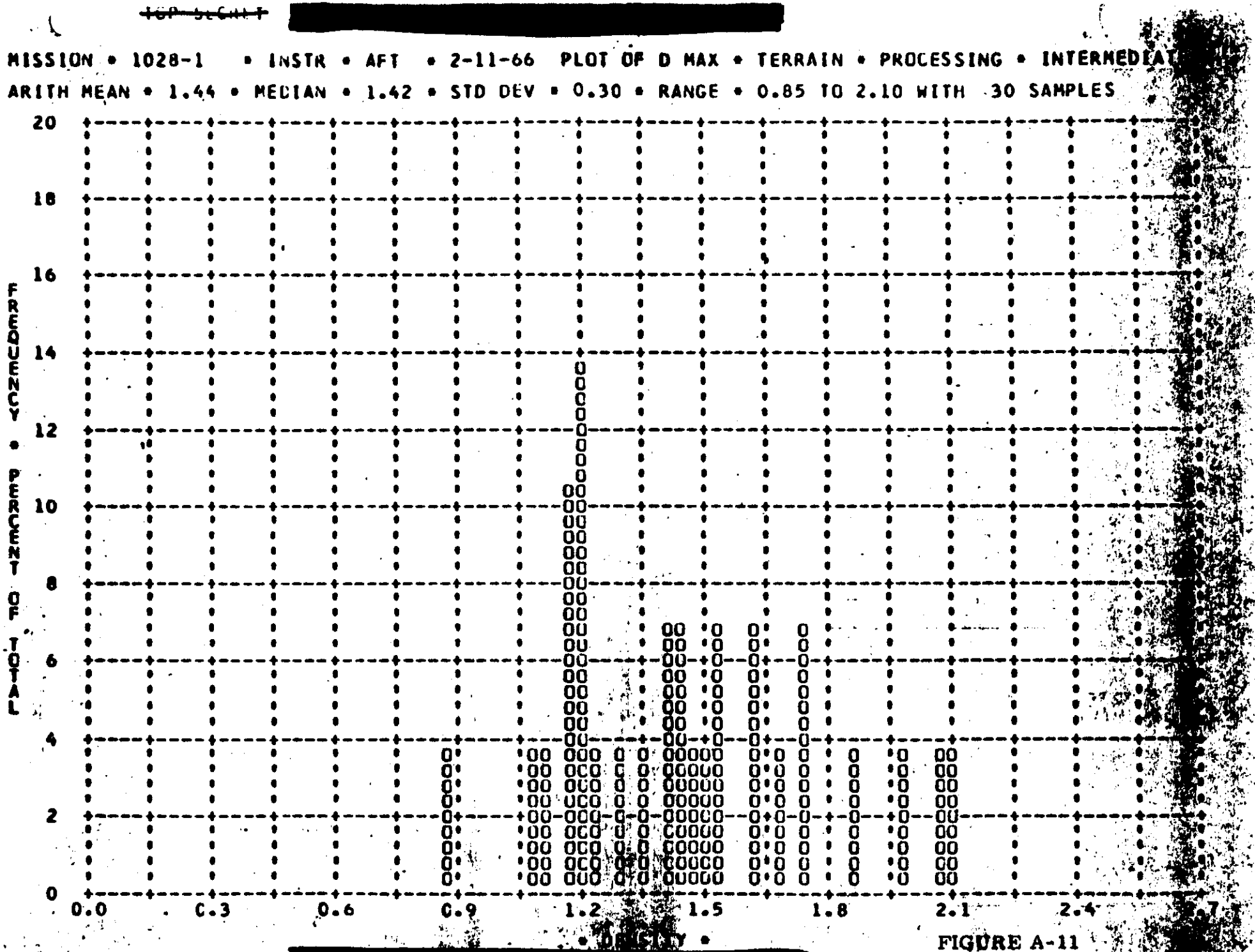

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIAT
ARITH MEAN • 1.44 • MEDIAN • 1.42 • STD DEV • 0.30 • RANGE • 0.85 TO 2.10 WITH 30 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

FIGURE A-11

~~TOP SECRET~~ [redacted]

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF Q MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.75 • MEDIAN • 1.83 • STD DEV • 0.34 • RANGE • 1.01 TO 2.26 WITH 27 SAMPLES

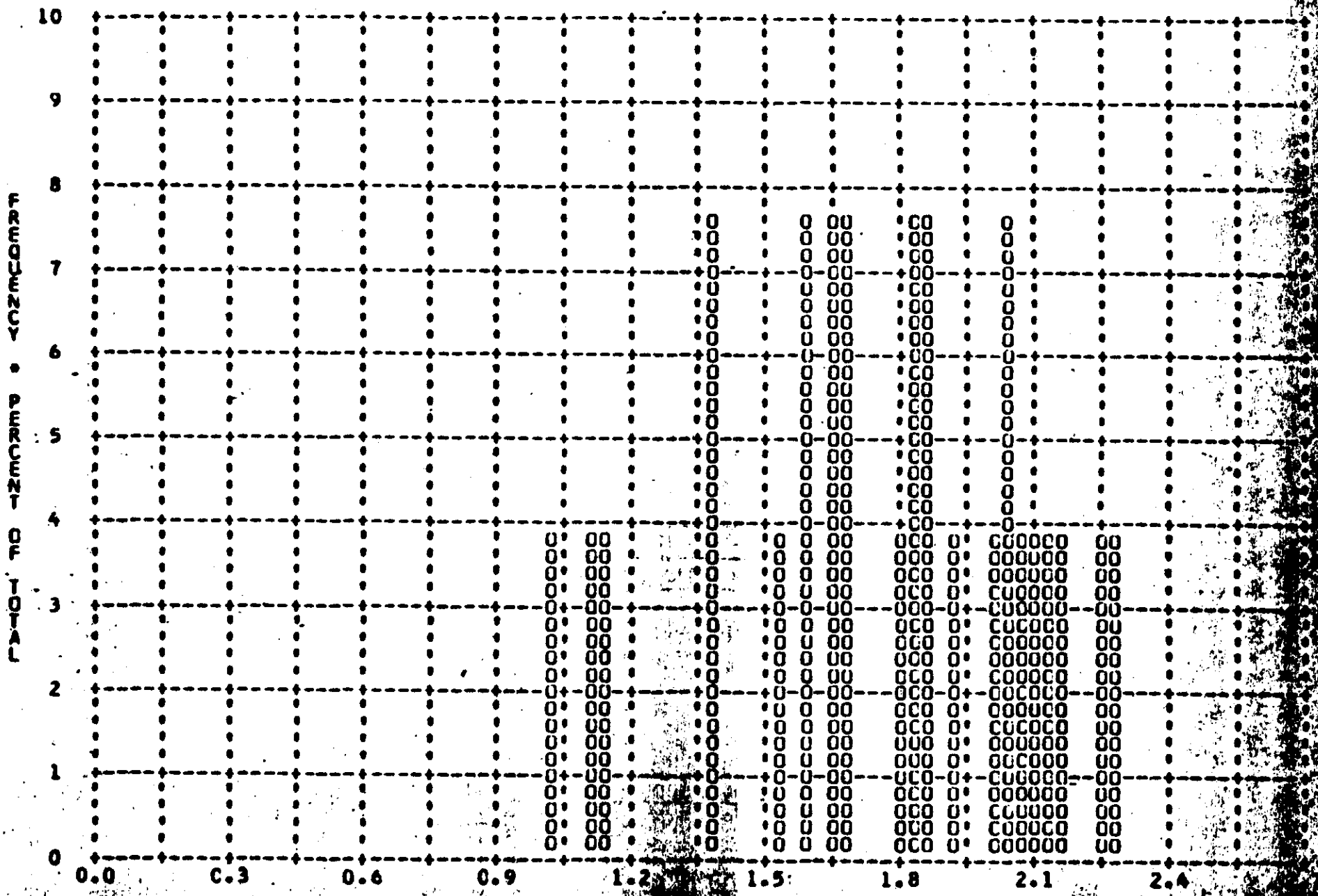


FIGURE A-12

~~TOP SECRET~~ [redacted]

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.40 • MEDIAN • 0.36 • STD DEV • 0.14 • RANGE • 0.23 TO 1.01 WITH 237 SAMPLES

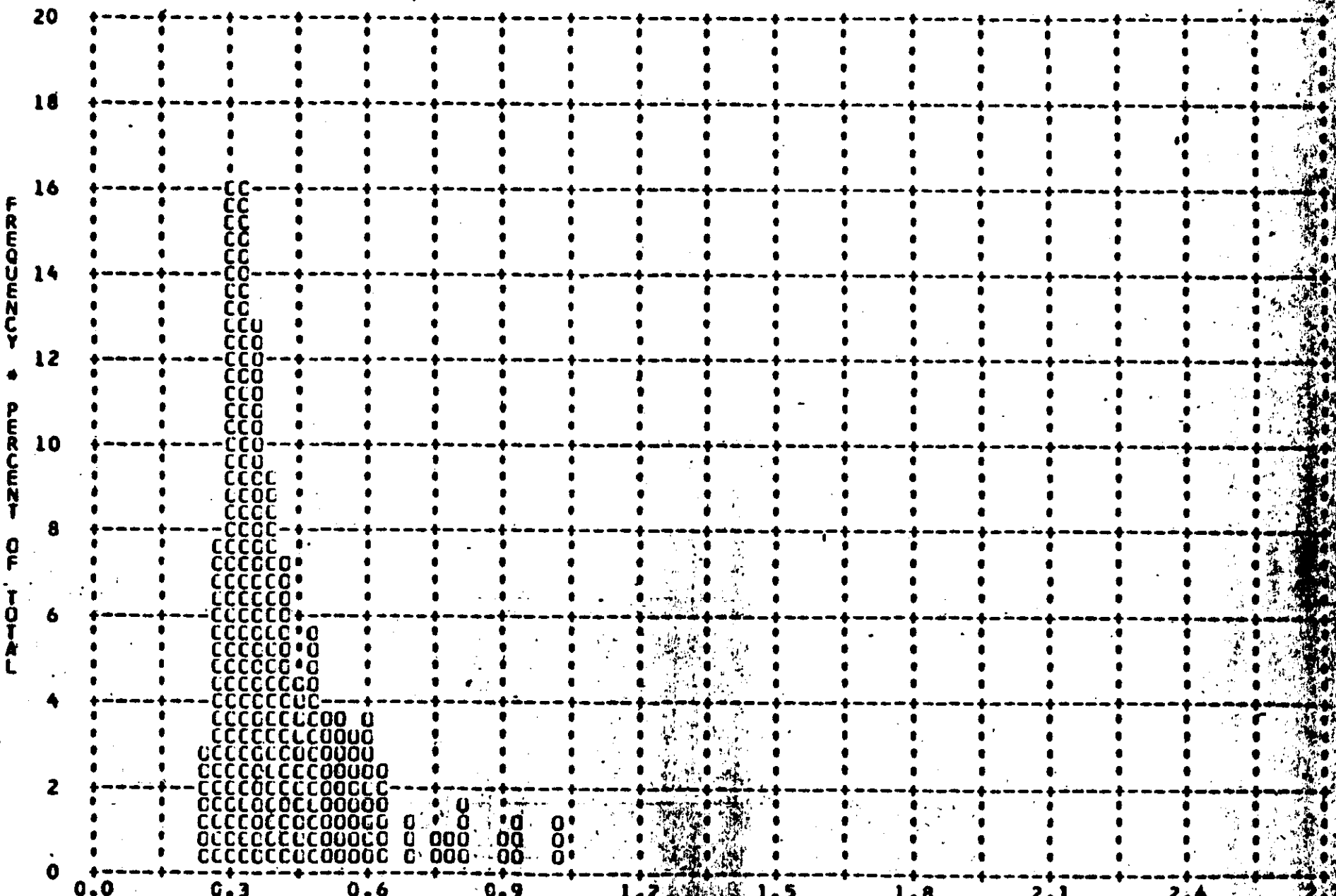


FIGURE A-13

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF U MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.34 • MEDIAN • 1.37 • STD DEV • 0.43 • RANGE • 0.30 TO 2.23 WITH 237 SAMPLES

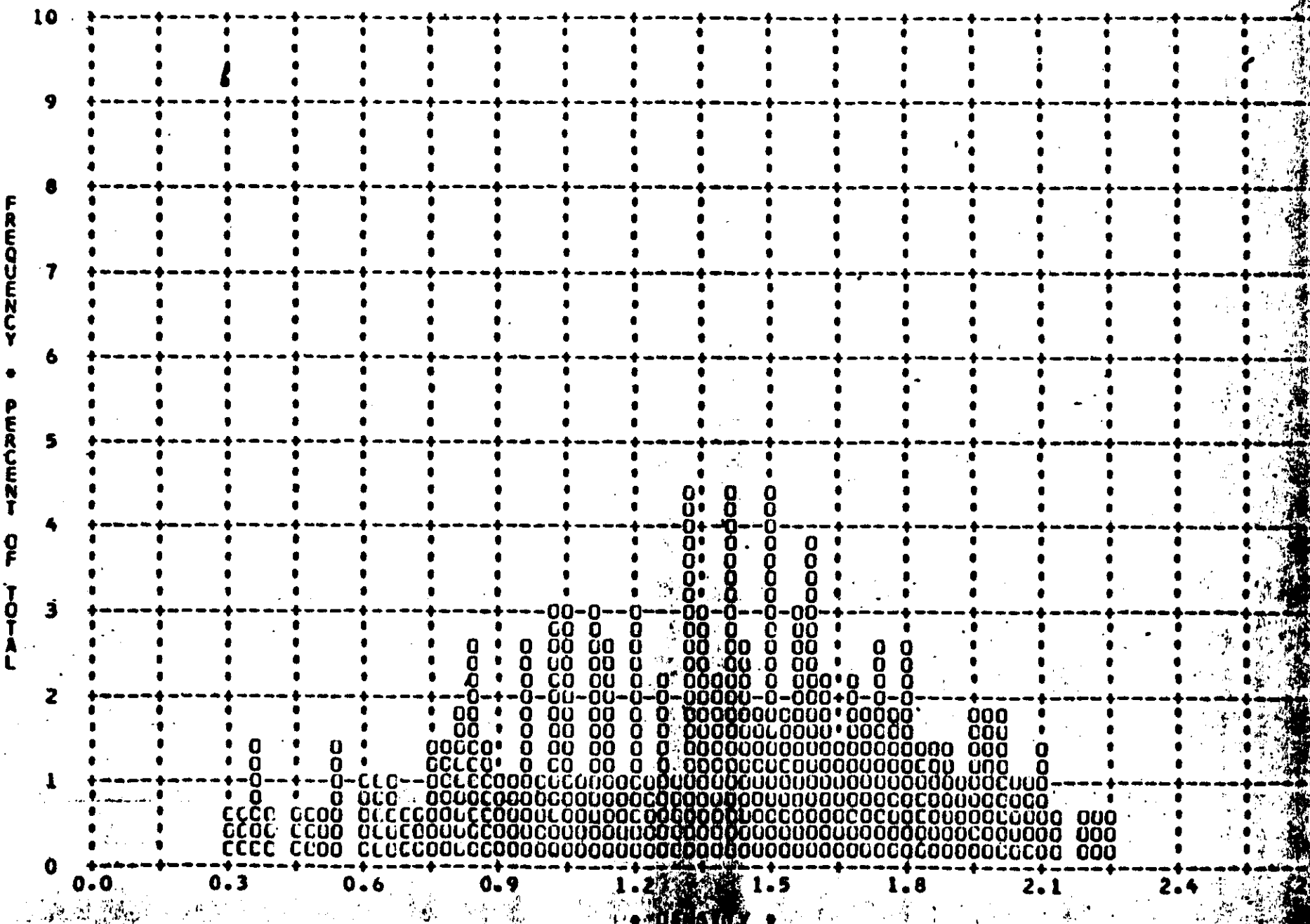


FIGURE A-14

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.71 • MEDIAN • 1.76 • STD DEV • 0.36 • RANGE • 0.68 TO 2.26 WITH 131 SAMPLES

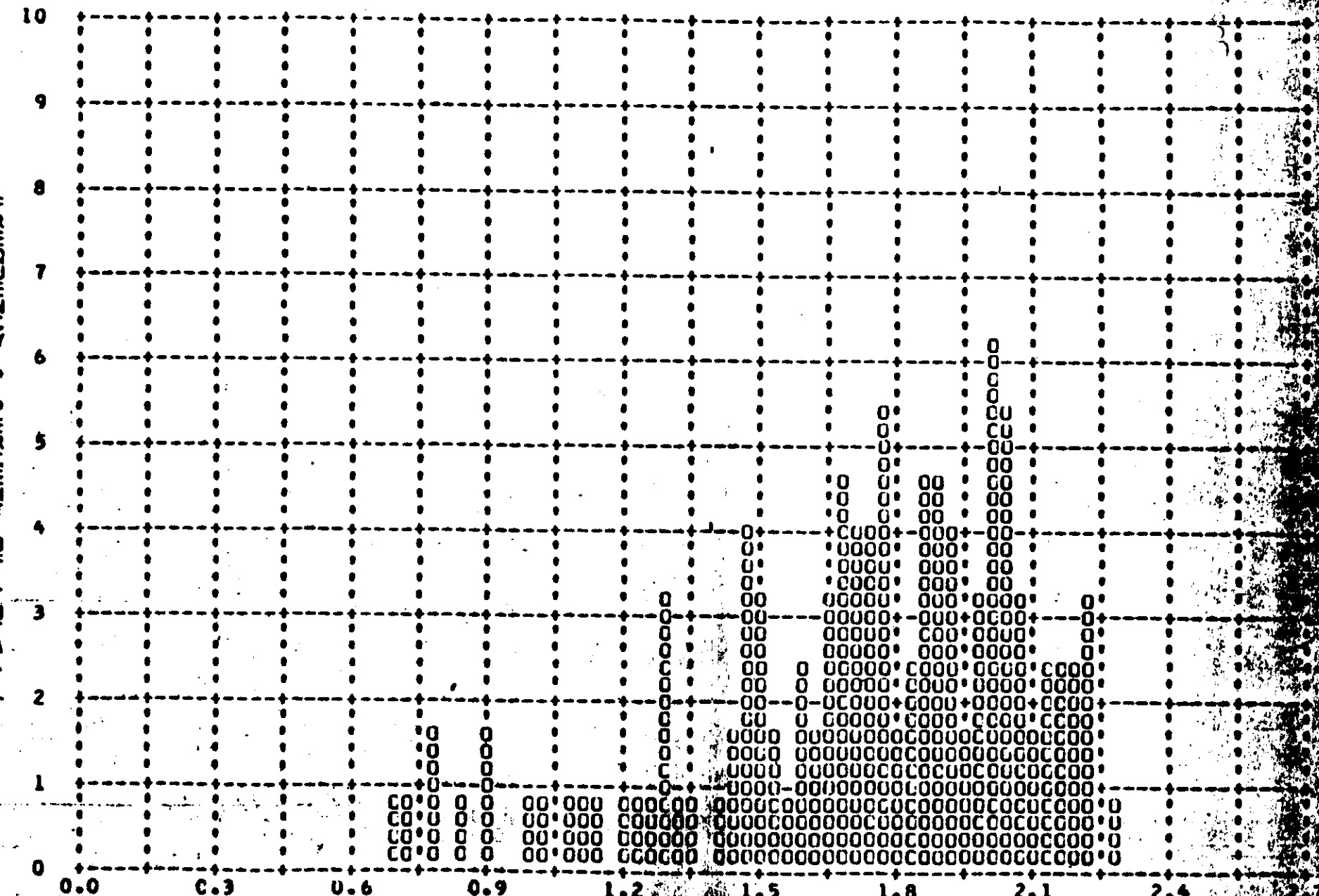


FIGURE A-15

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.41 • MEDIAN • 0.36 • STD DEV • 0.14 • RANGE • 0.20 TO 1.01 WITH 267 SAMPLES

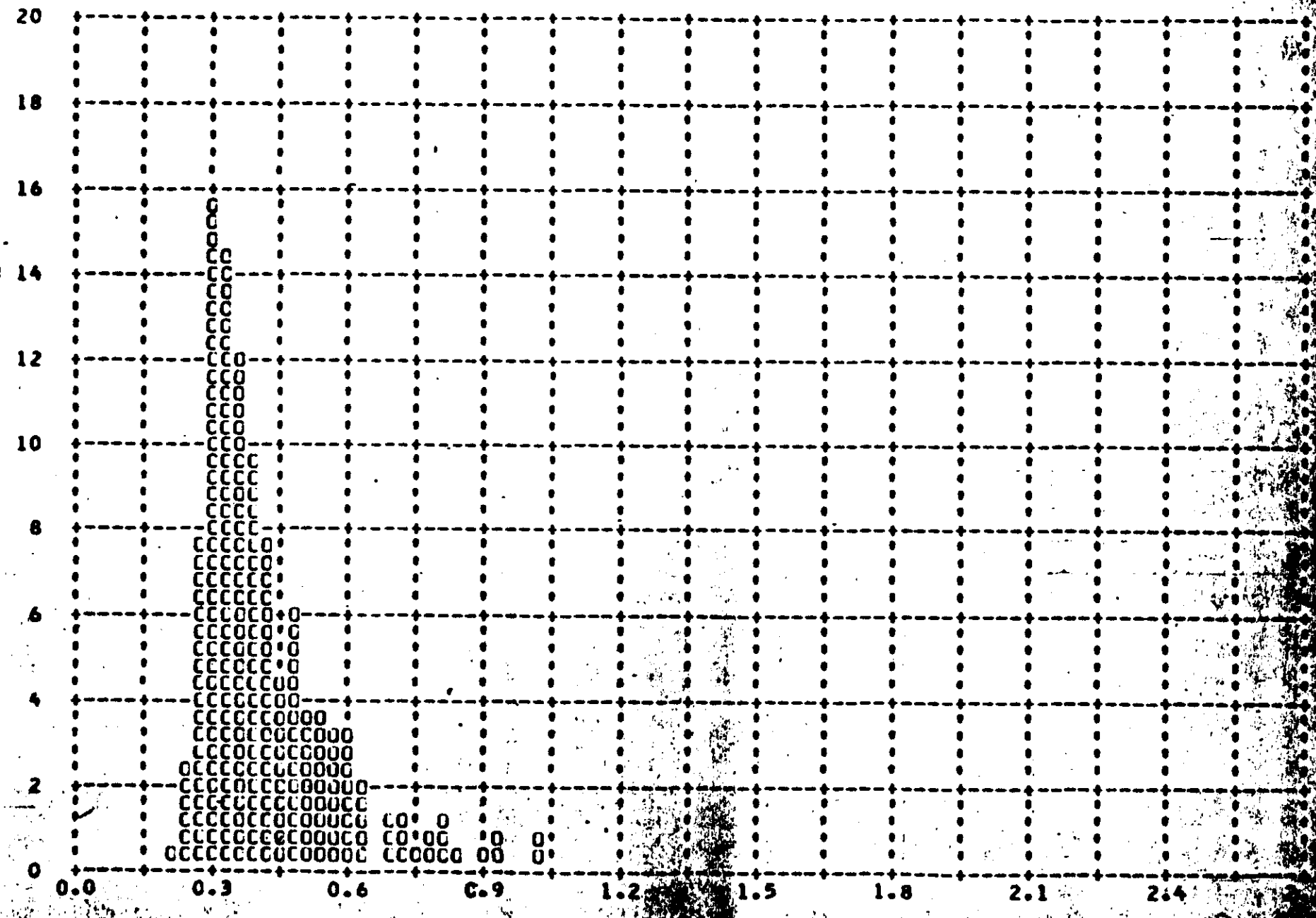


FIGURE A-16

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.35 • MEDIAN • 1.40 • STD DEV • 0.42 • RANGE • 0.30 TO 2.23 WITH 267 SAMPLES

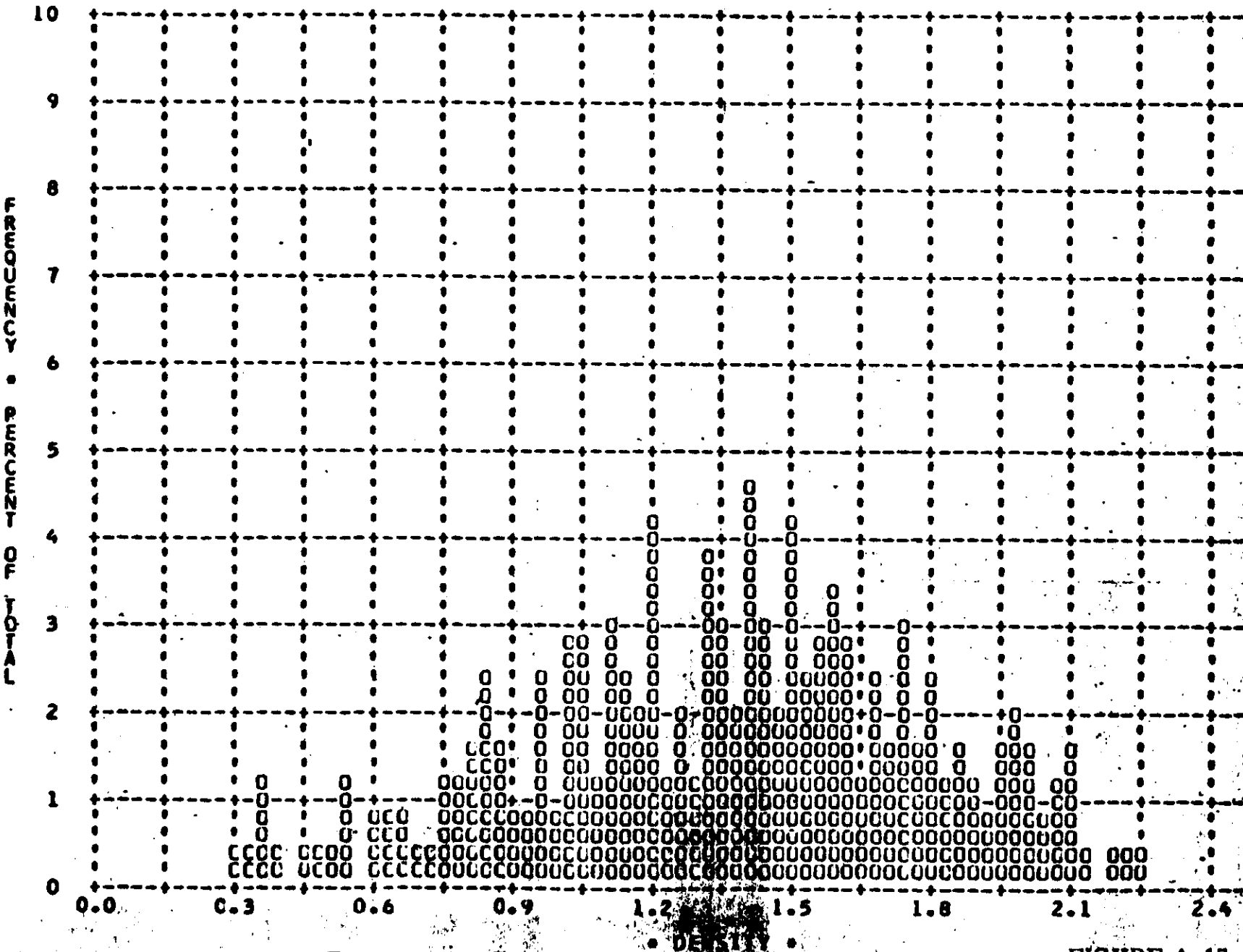


FIGURE A-17

MISSION • 1028-1 • INSTR • AFT • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.72 • MEDIAN • 1.77 • STD DEV • 0.36 • RANGE • 0.68 TO 2.26 WITH 158 SAMPLES

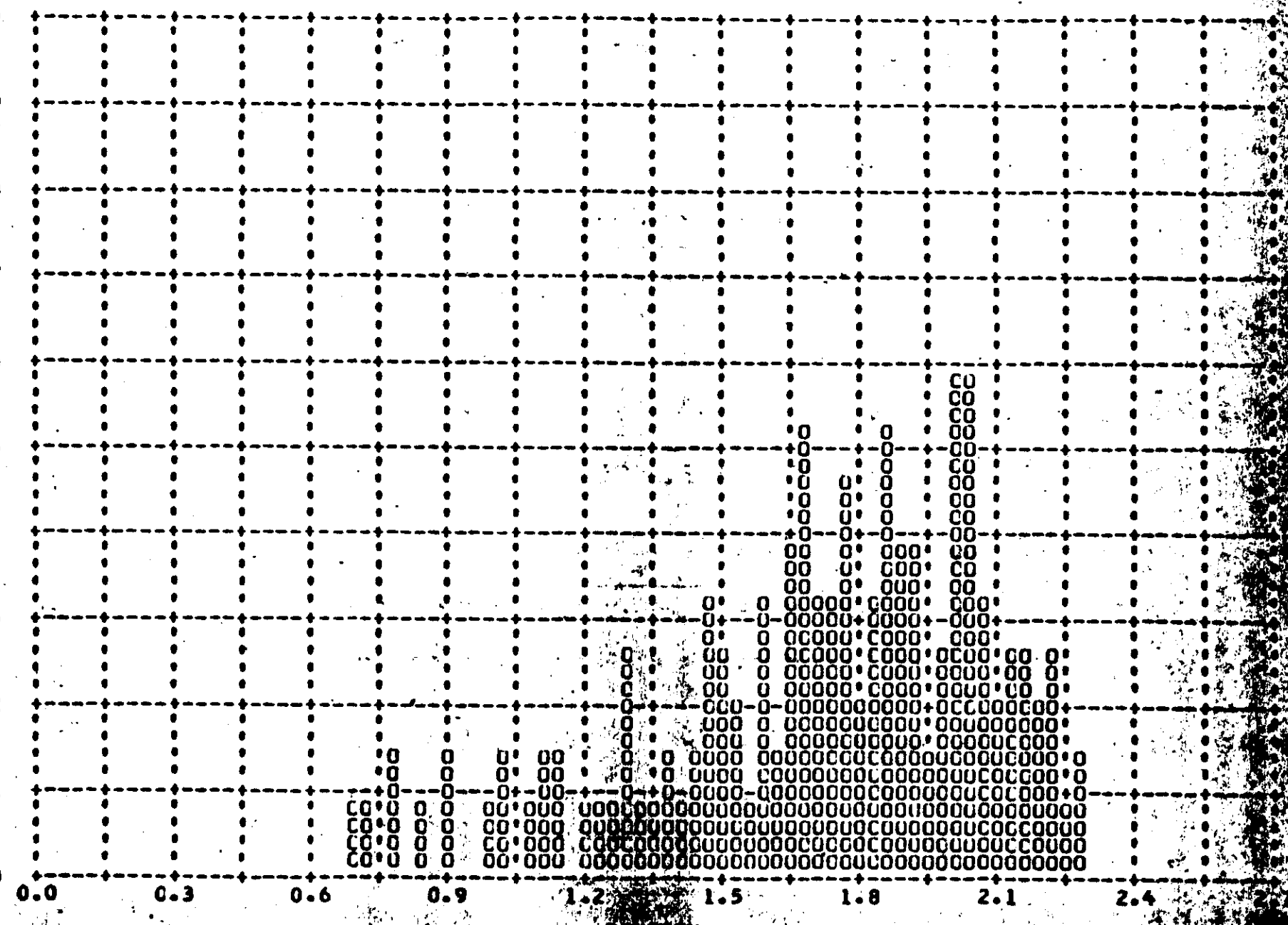


FIGURE A-18

~~TOP SECRET~~ [redacted]

MISSION • 1028-2 • INSTRUMENT • FRHD 2-7 I-10 • DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	1	0	0	2	0	0	2	0	0
0.24	0	0	0	1	0	0	10	0	0	11	0	0
0.25	0	0	0	1	0	0	11	0	0	11	0	0
0.26	0	0	0	1	0	0	22	0	0	23	0	0
0.27	0	0	0	2	0	0	7	0	0	7	0	0
0.28	0	0	0	2	0	0	19	0	0	21	0	0
0.29	0	0	0	0	0	0	8	0	1	8	0	1
0.30	0	0	0	0	0	0	12	0	1	12	0	1
0.31	0	0	0	0	0	0	8	0	0	8	0	0
0.32	0	0	0	0	0	0	6	0	0	6	0	0
0.33	0	0	0	0	0	0	2	0	0	2	0	0
0.34	0	0	0	0	0	0	9	0	0	9	0	0
0.35	0	0	0	0	0	0	5	0	0	5	0	0
0.36	0	0	0	0	0	0	8	0	0	8	0	0
0.37	0	0	0	1	0	0	3	0	0	3	0	0
0.38	0	0	0	1	0	0	6	0	0	7	0	0
0.39	0	0	0	2	0	0	5	0	0	7	0	0
0.40	0	0	0	0	0	0	6	0	0	6	0	0
0.41	0	0	0	0	0	0	2	0	0	2	0	0
0.42	0	0	0	1	0	0	4	0	0	5	0	0
0.43	0	0	0	1	0	0	3	0	0	3	0	0
0.44	0	0	0	2	0	0	4	0	0	5	0	0
0.45	0	0	0	3	0	0	7	0	0	2	0	0
0.46	0	0	0	1	0	0	3	0	0	10	0	0
0.47	0	0	0	1	0	0	4	0	0	5	0	0
0.48	0	0	0	0	0	0	1	0	0	1	0	0
0.49	0	0	0	2	0	0	2	0	0	4	0	0
0.50	0	0	0	18	0	0	179	5	1	197	5	1
SUBTOTAL												

~~TOP SECRET~~ [redacted]

TABLE A-3

~~TOP SECRET~~ [redacted]

MISSION • 1028-2 • INSTRUMENT • FRND 2-11-66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	ELECTRON MIN	ELECTRON MAX	ELECTRON LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	0	0	1	0	0	1
0.52	0	0	0	1	0	0	1	0	0	2	0	0
0.53	0	0	0	0	0	0	1	2	0	1	0	0
0.54	0	0	0	1	0	0	2	3	1	2	4	1
0.55	0	0	0	1	0	0	3	1	3	4	1	1
0.56	0	0	0	2	1	0	1	0	0	3	2	1
0.57	0	0	0	1	1	0	0	2	0	3	1	1
0.58	0	0	0	1	1	0	3	1	0	0	3	1
0.59	0	0	0	1	1	0	0	3	1	0	1	2
0.60	0	0	0	1	1	0	2	0	0	3	1	0
0.61	0	0	0	1	1	0	0	1	0	0	3	1
0.62	0	0	0	1	1	0	1	1	0	0	0	0
0.63	0	0	0	1	1	0	0	0	0	0	0	0
0.64	0	0	0	1	1	0	0	0	0	0	0	0
0.65	0	0	0	1	1	0	0	0	0	0	0	0
0.66	0	0	0	1	1	0	0	0	0	0	0	0
0.67	0	0	0	1	1	0	0	0	0	0	0	0
0.68	0	0	0	1	1	0	0	0	0	0	0	0
0.69	0	0	0	1	1	0	0	0	0	0	0	0
0.70	0	0	0	1	1	0	0	0	0	0	0	0
0.71	0	0	0	1	1	0	0	0	0	0	0	0
0.72	0	0	0	1	1	0	0	0	0	0	0	0
0.73	0	0	0	1	1	0	0	0	0	0	0	0
0.74	0	0	0	1	1	0	0	0	0	0	0	0
0.75	0	0	0	1	1	0	0	0	0	0	0	0
0.76	0	0	0	1	1	0	0	0	0	0	0	0
0.77	0	0	0	1	1	0	0	0	0	0	0	0
0.78	0	0	0	1	1	0	0	0	0	0	0	0
0.79	0	0	0	1	1	0	0	0	0	0	0	0
0.80	0	0	0	1	1	0	0	0	0	0	0	0
0.81	0	0	0	1	1	0	0	0	0	0	0	0
0.82	0	0	0	1	1	0	0	0	0	0	0	0
0.83	0	0	0	1	1	0	0	0	0	0	0	0
0.84	0	0	0	1	1	0	0	0	0	0	0	0
0.85	0	0	0	1	1	0	0	0	0	0	0	0
0.86	0	0	0	1	1	0	0	0	0	0	0	0
0.87	0	0	0	1	1	0	0	0	0	0	0	0
0.88	0	0	0	1	1	0	0	0	0	0	0	0
0.89	0	0	0	1	1	0	0	0	0	0	0	0
0.90	0	0	0	1	1	0	0	0	0	0	0	0
0.91	0	0	0	1	1	0	0	0	0	0	0	0
0.92	0	0	0	1	1	0	0	0	0	0	0	0
0.93	0	0	0	1	1	0	0	0	0	0	0	0
0.94	0	0	0	1	1	0	0	0	0	0	0	0
0.95	0	0	0	1	1	0	0	0	0	0	0	0
0.96	0	0	0	1	1	0	0	0	0	0	0	0
0.97	0	0	0	1	1	0	0	0	0	0	0	0
0.98	0	0	0	1	1	0	0	0	0	0	0	0
0.99	0	0	0	1	1	0	0	0	0	0	0	0
1.00	0	0	0	1	1	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	18	2	0	27	39	6	45	41	16

~~TOP SECRET~~ [redacted]

TABLE A-3

MISSION • 1028-2[illegible] INSTRUMENT [illegible] 2-11-66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	C	C	0	0	0	0	0	0	0	0	0	0
1.02	C	0	0	0	1	0	0	1	0	0	2	0
1.03	C	C	0	0	0	0	0	1	1	0	1	1
1.04	C	C	0	0	0	0	0	3	0	0	3	0
1.05	C	C	0	0	1	0	0	3	0	0	4	0
1.06	C	C	0	C	1	0	0	0	0	0	1	0
1.07	C	C	0	C	0	0	0	1	0	0	1	0
1.08	C	C	0	C	C	1	0	0	0	0	0	1
1.09	C	C	0	0	0	0	0	0	0	0	0	0
1.10	C	C	0	0	1	0	0	4	1	0	5	1
1.11	C	C	0	C	0	0	0	0	0	0	0	0
1.12	C	C	0	0	0	0	0	1	0	0	1	0
1.13	C	C	0	C	0	0	0	0	0	0	0	0
1.14	C	C	0	C	0	0	0	5	0	0	5	0
1.15	C	C	0	C	0	0	0	1	0	0	1	0
1.16	C	C	0	C	1	0	0	1	0	0	2	0
1.17	C	C	0	0	0	0	0	0	0	0	0	0
1.18	C	C	0	0	1	0	0	2	0	0	3	1
1.19	C	C	0	C	0	0	0	0	1	0	0	1
1.20	C	C	0	C	1	0	0	1	1	0	2	1
1.21	C	C	0	C	C	0	0	2	1	0	2	1
1.22	C	C	0	C	0	1	0	2	0	0	2	1
1.23	C	C	0	C	0	0	0	2	1	0	2	1
1.24	C	C	0	C	0	0	0	2	2	0	2	2
1.25	C	C	0	0	0	0	0	3	0	0	3	0
1.26	C	C	0	C	C	0	0	3	0	0	3	0
1.27	C	C	0	C	0	0	0	0	0	0	0	0
1.28	C	C	0	C	0	0	0	1	1	0	1	1
1.29	C	C	0	C	0	1	0	1	0	0	1	1
1.30	C	C	0	C	0	0	0	3	1	0	3	1
1.31	C	C	0	0	1	0	0	1	0	0	2	0
1.32	C	C	0	C	0	0	0	2	1	0	2	1
1.33	C	C	0	0	2	0	0	3	0	0	5	0
1.34	C	0	0	C	0	0	0	7	2	0	7	2
1.35	0	C	0	0	C	0	0	1	3	0	1	3
1.36	C	C	0	0	1	0	0	2	0	0	3	0
1.37	C	C	0	0	1	0	0	2	1	0	3	1
1.38	C	C	0	0	3	0	0	2	1	0	5	1
1.39	C	C	0	C	1	0	0	1	0	0	2	0
1.40	C	C	0	C	2	0	0	4	2	0	6	3
1.41	C	C	0	C	1	1	0	2	0	0	3	0
1.42	C	C	0	C	3	0	0	1	1	0	4	1
1.43	C	C	0	0	1	0	0	5	0	0	6	1
1.44	C	C	0	0	C	1	0	1	0	0	1	0
1.45	C	C	0	C	0	0	0	2	0	0	2	1
1.46	C	C	0	C	0	1	0	4	2	0	4	2
1.47	C	C	0	C	1	0	0	0	C	0	1	0
1.48	C	C	0	C	0	0	0	3	1	0	3	1
1.49	C	C	0	C	0	0	0	0	0	0	0	0
1.50	C	C	0	C	2	1	0	6	1	0	8	2
SUBTOTAL	C	C	0	C	26	7	0	92	26	0	118	33

TABLE A-3

MISSION • 1028-2 • INSTRUMENT • FWD • 2-11-68 • DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	1	1	0	1	1
1.52	0	0	0	0	0	0	0	3	1	0	3	1
1.53	0	0	0	0	0	1	0	0	2	0	0	2
1.54	0	0	0	0	0	0	0	2	4	0	2	4
1.55	0	0	0	0	0	1	0	3	1	0	4	1
1.56	0	0	0	0	0	0	0	1	5	0	1	5
1.57	0	0	0	0	0	0	0	0	2	0	0	2
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	0	1	0	0	6	0	0	6
1.60	0	0	0	0	0	3	0	0	2	0	0	2
1.61	0	0	0	0	0	1	0	0	3	0	0	3
1.62	0	0	0	0	0	1	0	0	1	0	0	1
1.63	0	0	0	0	0	0	0	0	4	0	0	4
1.64	0	0	0	0	0	1	0	0	1	0	0	1
1.65	0	0	0	0	0	0	0	0	2	0	0	2
1.66	0	0	0	0	0	0	0	0	1	0	0	1
1.67	0	0	0	0	0	0	0	0	1	0	0	1
1.68	0	0	0	0	0	0	0	0	5	0	0	5
1.69	0	0	0	0	0	0	0	0	1	0	0	1
1.70	0	0	0	0	0	0	0	0	2	0	0	2
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	1	0	0	1
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	1	0	0	3	0	0	4
SUBTOTAL	0	0	0	0	7	20	0	58	87	0	65	107

~~TOP SECRET~~ [redacted]

TABLE A-3

[redacted] • INSTRUMENT [redacted] • DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	REC. LEVEL MIN	REC. LEVEL MAX	REC. LEVEL LIM
2.01	0	0	0	0	0	0	0	0	1	0	0	1
2.02	0	0	0	0	0	0	0	0	0	0	0	0
2.03	0	0	0	0	0	0	0	1	3	0	1	3
2.04	0	0	0	0	0	0	0	1	2	0	1	2
2.05	0	0	0	0	0	0	0	1	2	0	1	2
2.06	0	0	0	0	0	0	0	0	2	0	0	2
2.07	0	0	0	0	0	0	0	2	5	0	2	5
2.08	0	0	0	0	0	0	0	1	0	0	1	0
2.09	0	0	0	0	0	0	0	1	1	0	1	1
2.10	0	0	0	0	0	0	0	0	1	0	0	1
2.11	0	0	0	0	0	0	0	1	2	0	1	2
2.12	0	0	0	0	0	0	0	0	1	0	0	1
2.13	0	0	0	0	0	1	0	0	1	0	0	1
2.14	0	0	0	0	0	0	0	1	1	0	1	1
2.15	0	0	0	0	0	0	0	1	0	0	1	0
2.16	0	0	0	0	0	0	0	1	0	0	1	0
2.17	0	0	0	0	0	0	0	0	1	0	0	1
2.18	0	0	0	0	0	0	0	1	1	0	1	1
2.19	0	0	0	0	0	0	0	1	2	0	1	2
2.20	0	0	0	0	0	0	0	2	4	0	2	4
2.21	0	0	0	0	0	0	0	0	1	0	0	1
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	2	0	0	2
2.29	0	0	0	0	0	0	0	0	1	0	0	1
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	1	0	0	12	35	0	13	35

~~TOP SECRET~~ [redacted]

TABLE A-3

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[illegible] MIN	[illegible] MAX	[illegible] LIN	[illegible] MIN	[illegible] MAX	[illegible] LIN
2.51	C	C	0	C	C	0	C	C	0	C	C	0
2.52	C	C	0	C	C	0	C	C	0	C	C	0
2.53	C	C	0	C	C	0	C	C	0	C	C	0
2.54	C	C	0	C	C	0	C	C	0	C	C	0
2.55	C	C	0	C	C	0	C	C	0	C	C	0
2.56	C	C	0	C	C	0	C	C	0	C	C	0
2.57	C	C	0	C	C	0	C	C	0	C	C	0
2.58	C	C	0	C	C	0	C	C	0	C	C	0
2.59	C	C	0	C	C	0	C	C	0	C	C	0
2.60	C	C	0	C	C	0	C	C	0	C	C	0
2.61	C	C	0	C	C	0	C	C	0	C	C	0
2.62	C	C	0	C	C	0	C	C	0	C	C	0
2.63	C	C	0	C	C	0	C	C	0	C	C	0
2.64	C	C	0	C	C	0	C	C	0	C	C	0
2.65	C	C	0	C	C	0	C	C	0	C	C	0
2.66	C	C	0	C	C	0	C	C	0	C	C	0
2.67	C	C	0	C	C	0	C	C	0	C	C	0
2.68	C	C	0	C	C	0	C	C	0	C	C	0
2.69	C	C	0	C	C	0	C	C	0	C	C	0
2.70	C	C	0	C	C	0	C	C	0	C	C	0
SUBTOTAL	C	C	0	C	C	0	C	C	0	C	C	0
TOTAL	C	C	0	36	36	27	206	206	155	242	242	182

MISSION 1028-2 INSTR - FRWD 2-11-66 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	[illegible]
INTERMEDIATE	36	0 PC	19 PC	81 PC	0 PC	[illegible]
FULL	206	69 PC	0 PC	30 PC	1 PC	[illegible]
ALL LEVELS	242	59 PC	3 PC	37 PC	[illegible]	[illegible]

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

~~TOP SECRET~~ [redacted]

TABLE A-3

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.55 • MEDIAN • 0.52 • STD DEV • 0.17 • RANGE • 0.24 TO 0.90 WITH 36 SAMPLES

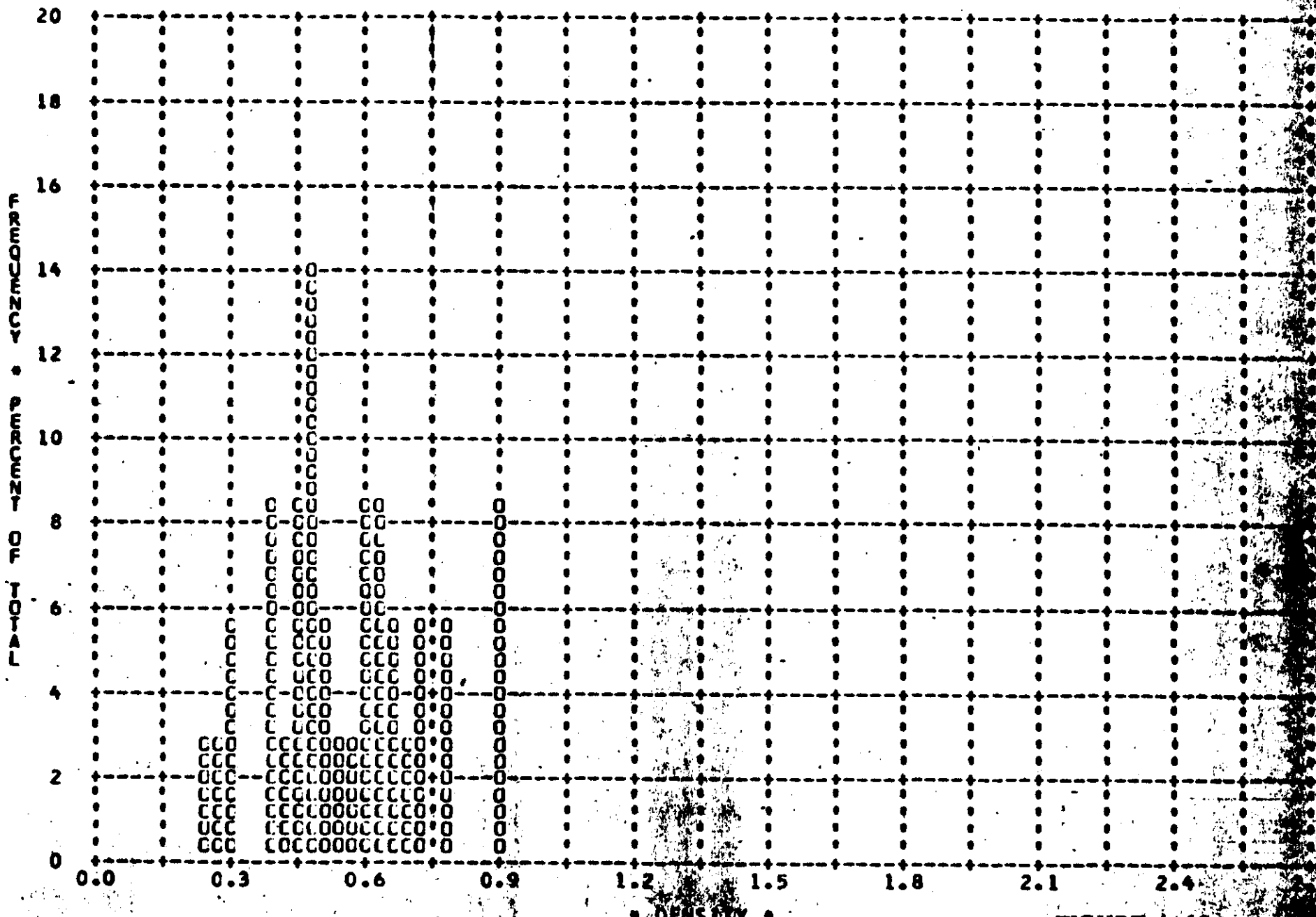


FIGURE A-19

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.39 • MEDIAN • 1.40 • STD DEV • 0.25 • RANGE • 0.90 TO 2.14 WITH 36 SAMPLES

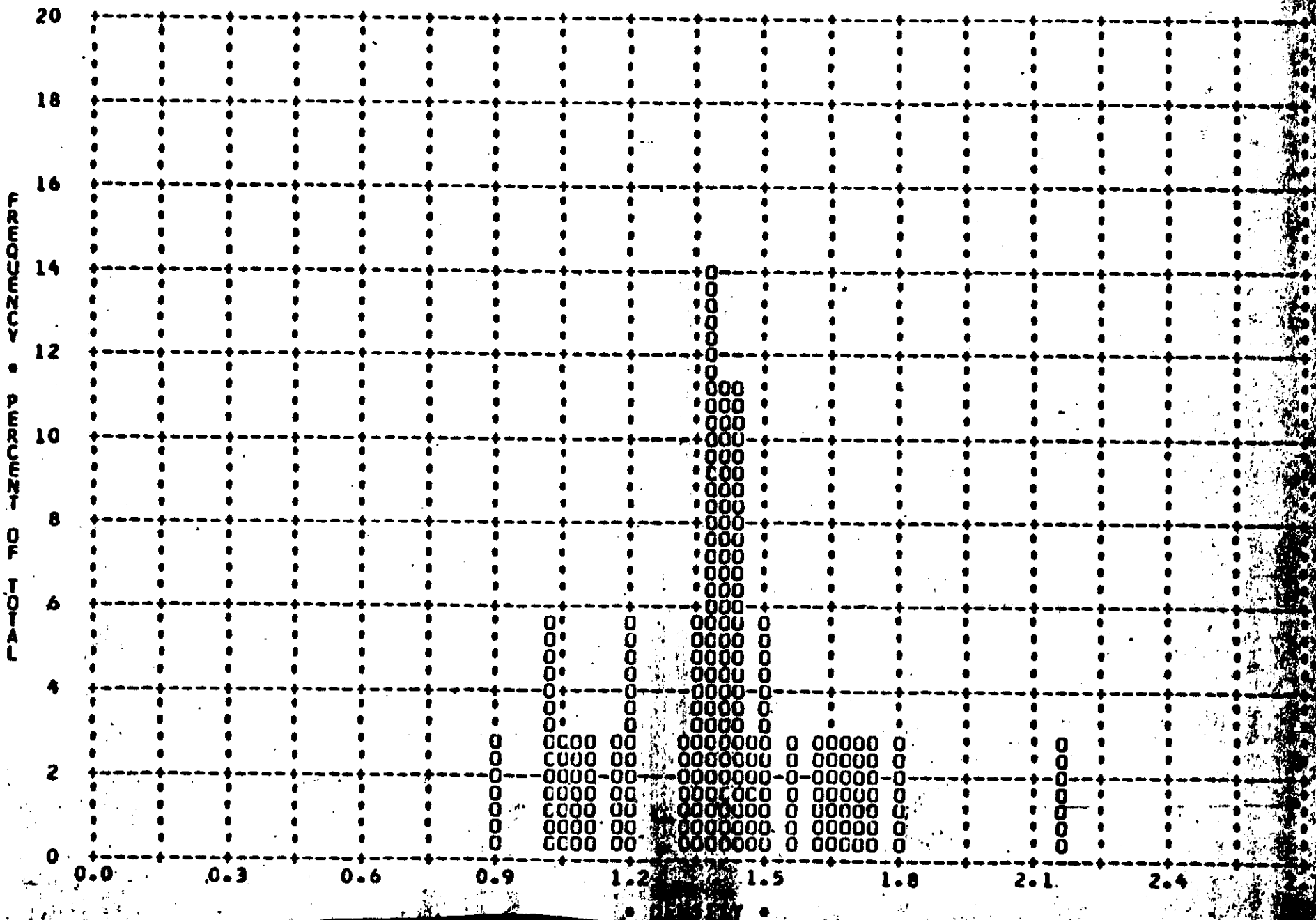


FIGURE A-20

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE •

ARITH MEAN • 1.66 • MELIAN • 1.70 • STD DEV • 0.23 • RANGE • 1.08 TO 2.00 WITH 27 SAMPLES

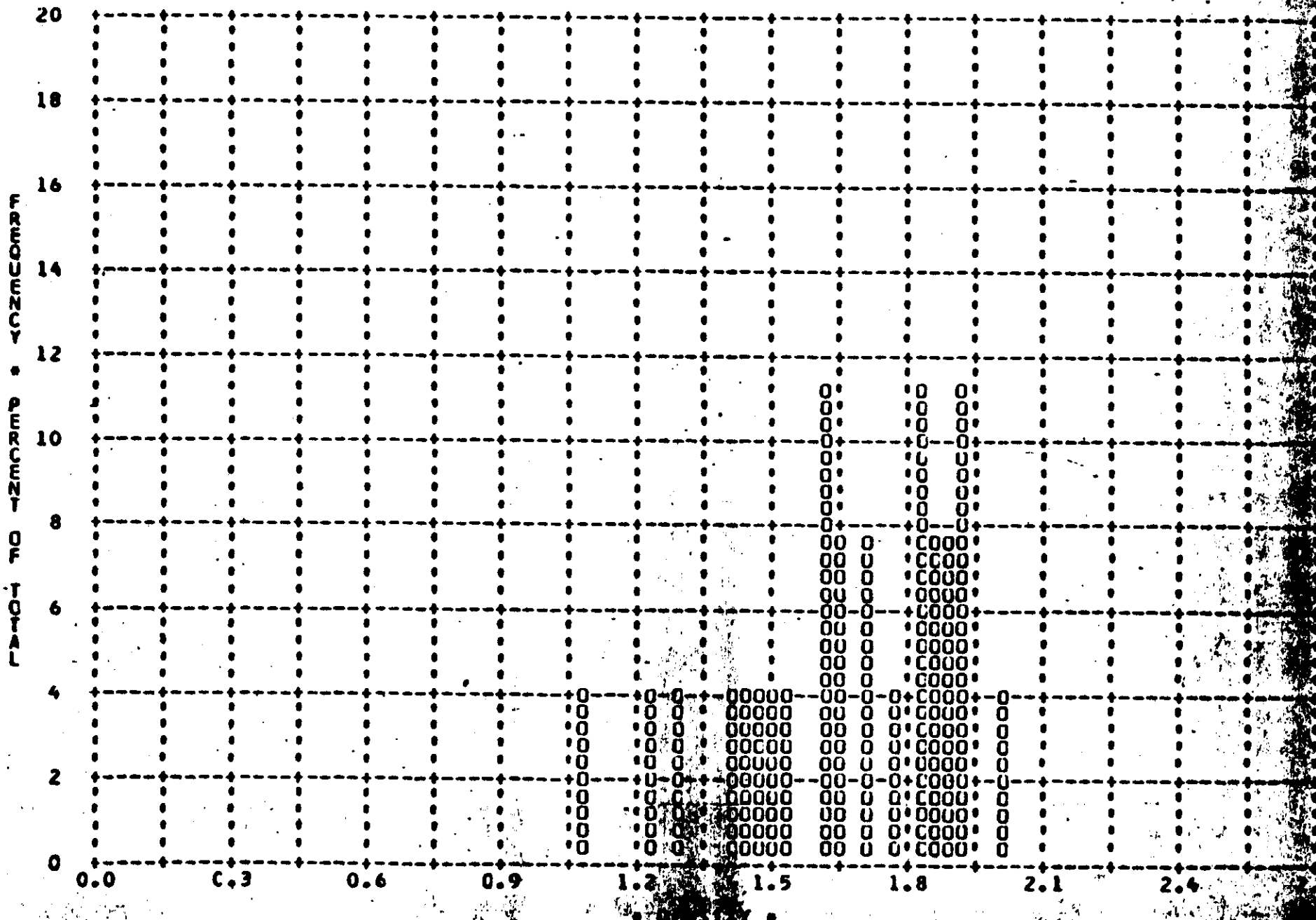


FIGURE A-21

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.37 • MEDIAN • 0.32 • STD DEV • 0.14 • RANGE • 0.23 TO 0.98 WITH 206 SAMPLES

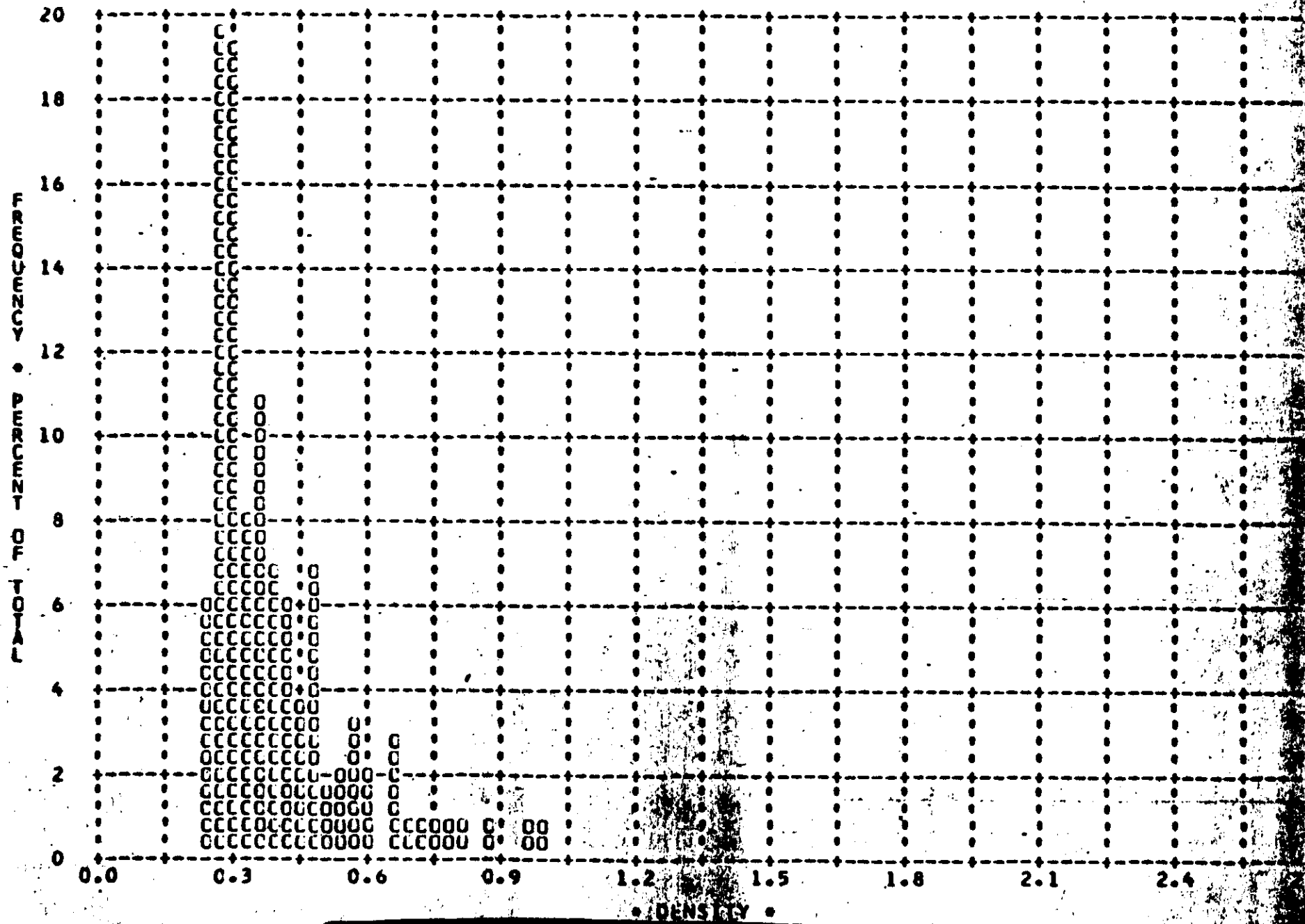


FIGURE A-22

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF U MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.35 • MEDIAN • 1.37 • STD DEV • 0.39 • RANGE • 0.37 TO 2.20 WITH 206 SAMPLES

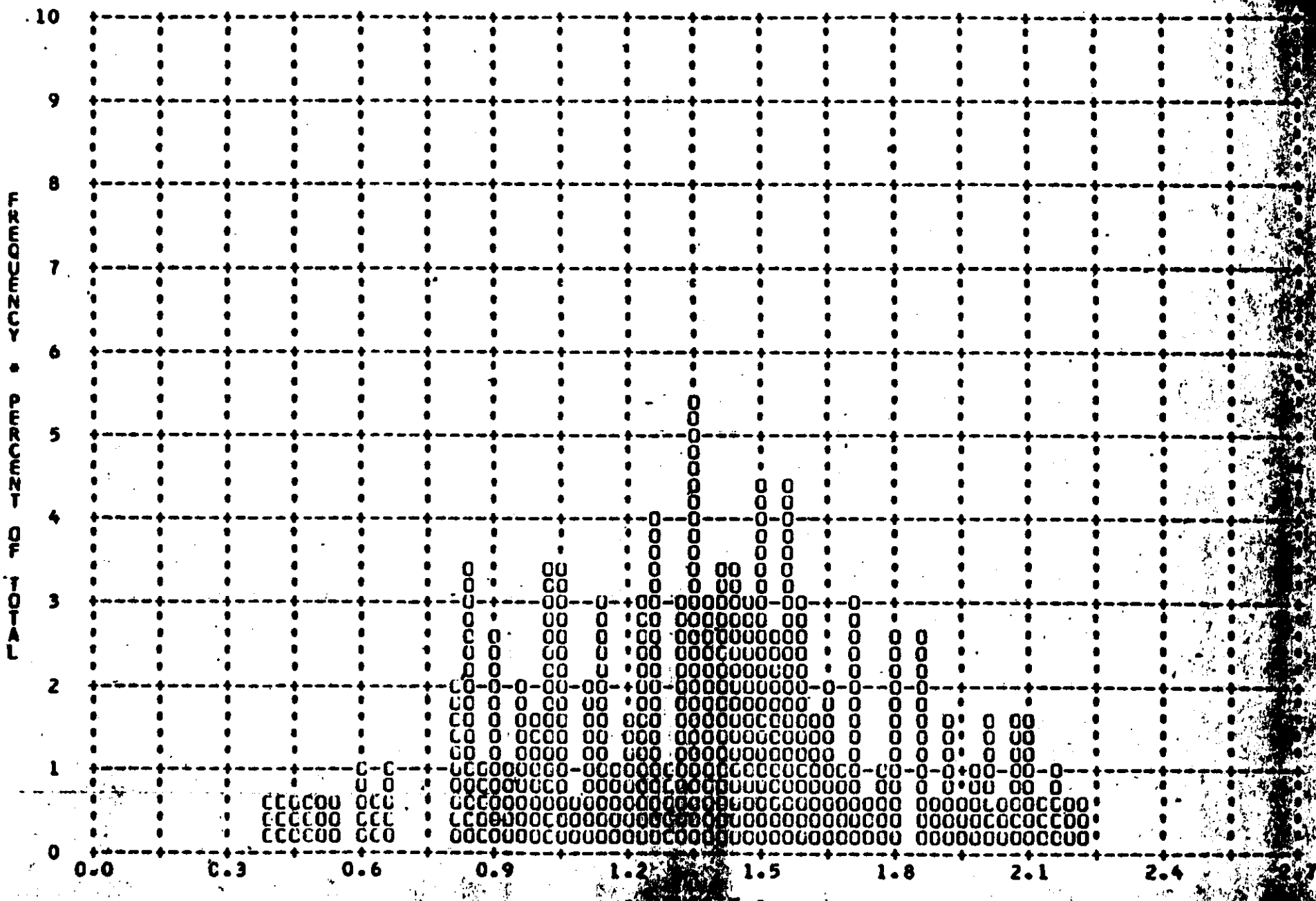


FIGURE A-23

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.73 • MEDIAN • 1.79 • STD DEV • 0.36 • RANGE • 0.30 TO 2.33 WITH 155 SAMPLES

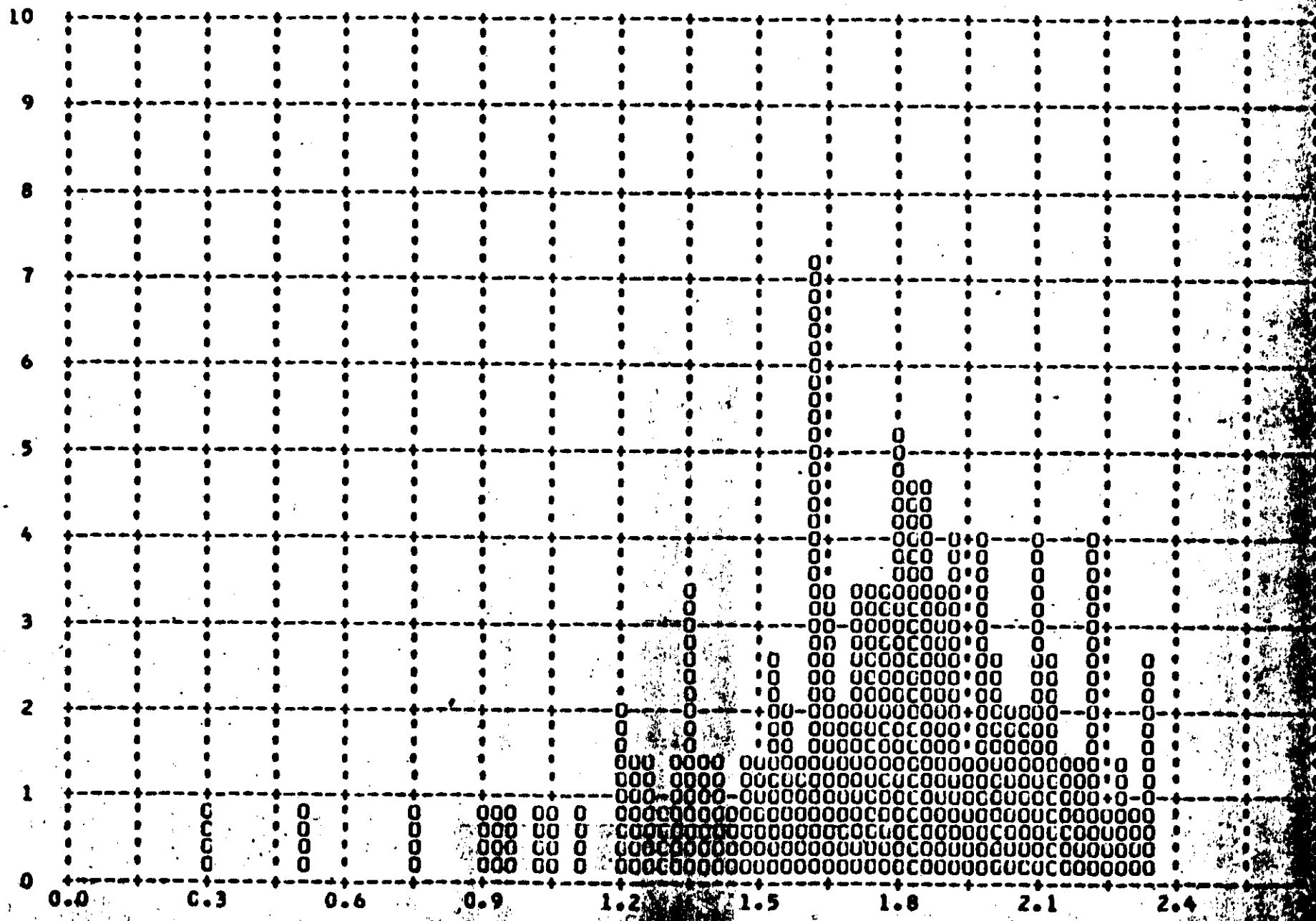


FIGURE A-24

MISSION • 1028-2 • INSTR • FRMD • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.40 • MEDIAN • 0.35 • STD DEV • 0.15 • RANGE • 0.23 TO 0.98 WITH 242 SAMPLES.

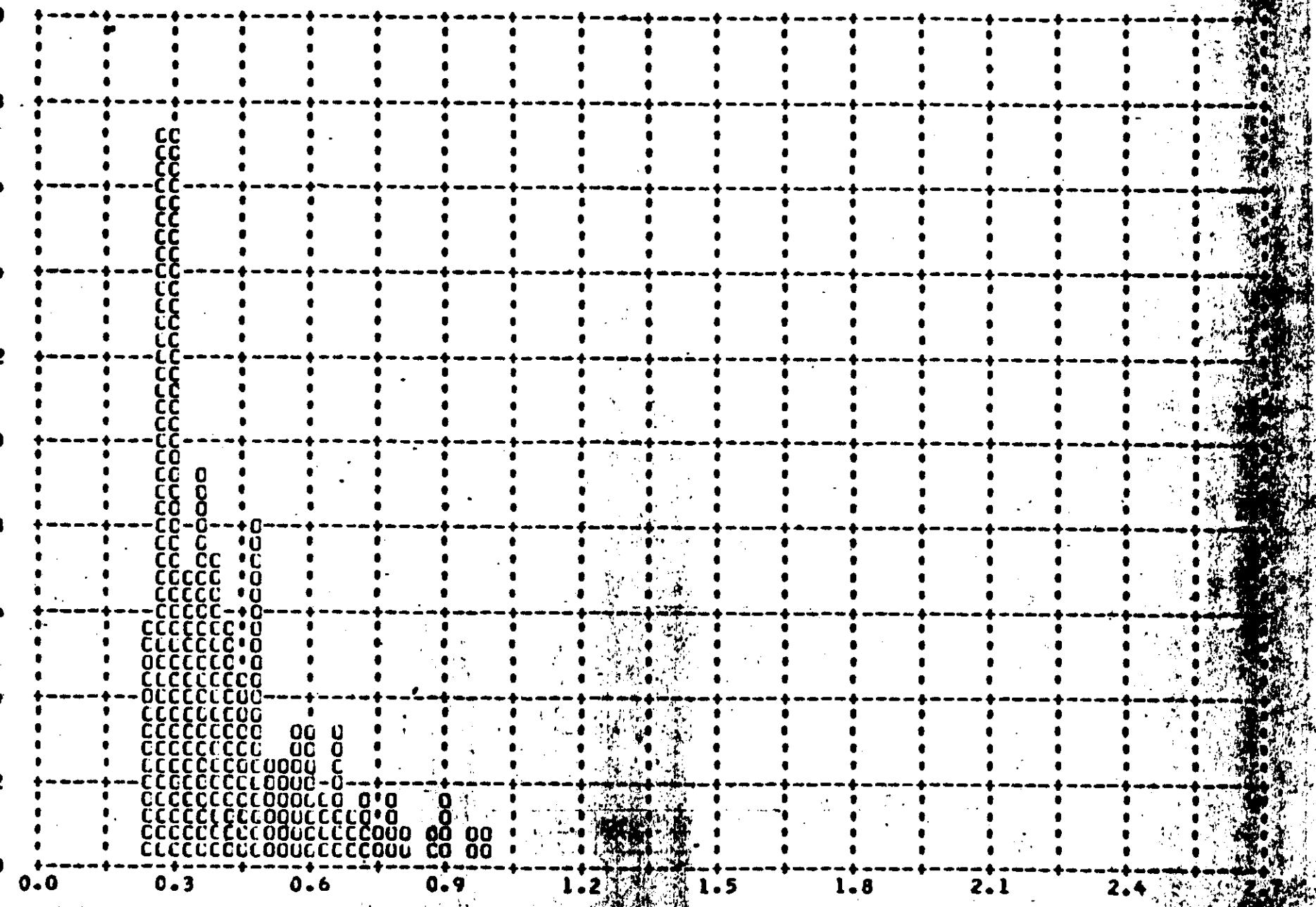


FIGURE A-25

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.36 • MEDIAN • 1.38 • STD DEV • 0.38 • RANGE • 0.37 TO 2.20 WITH 242 SAMPLES

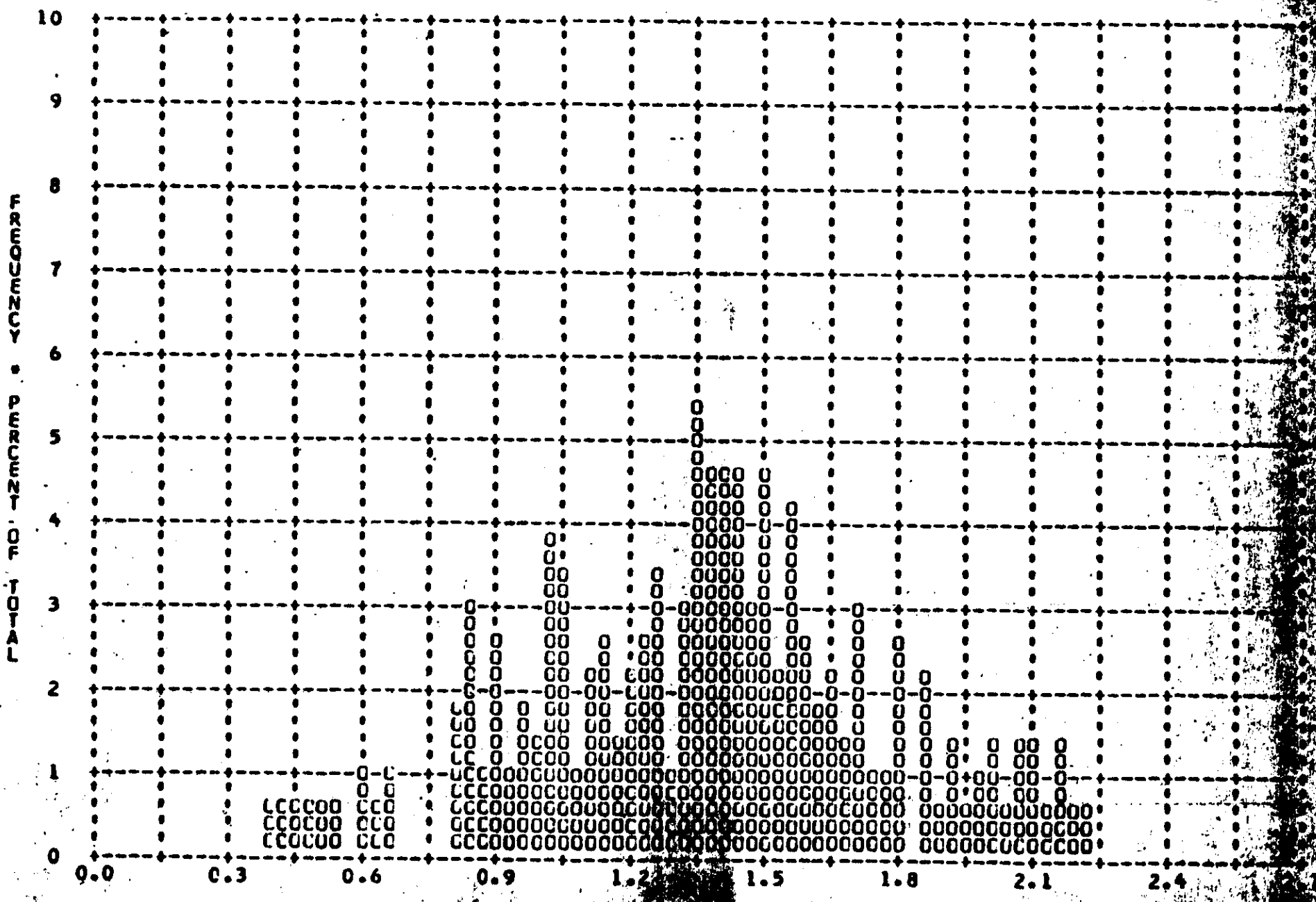


FIGURE A-26

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.72 • MEDIAN • 1.77 • STD DEV • 0.35 • RANGE • 0.30 TO 2.33 WITH 182 SAMPLES

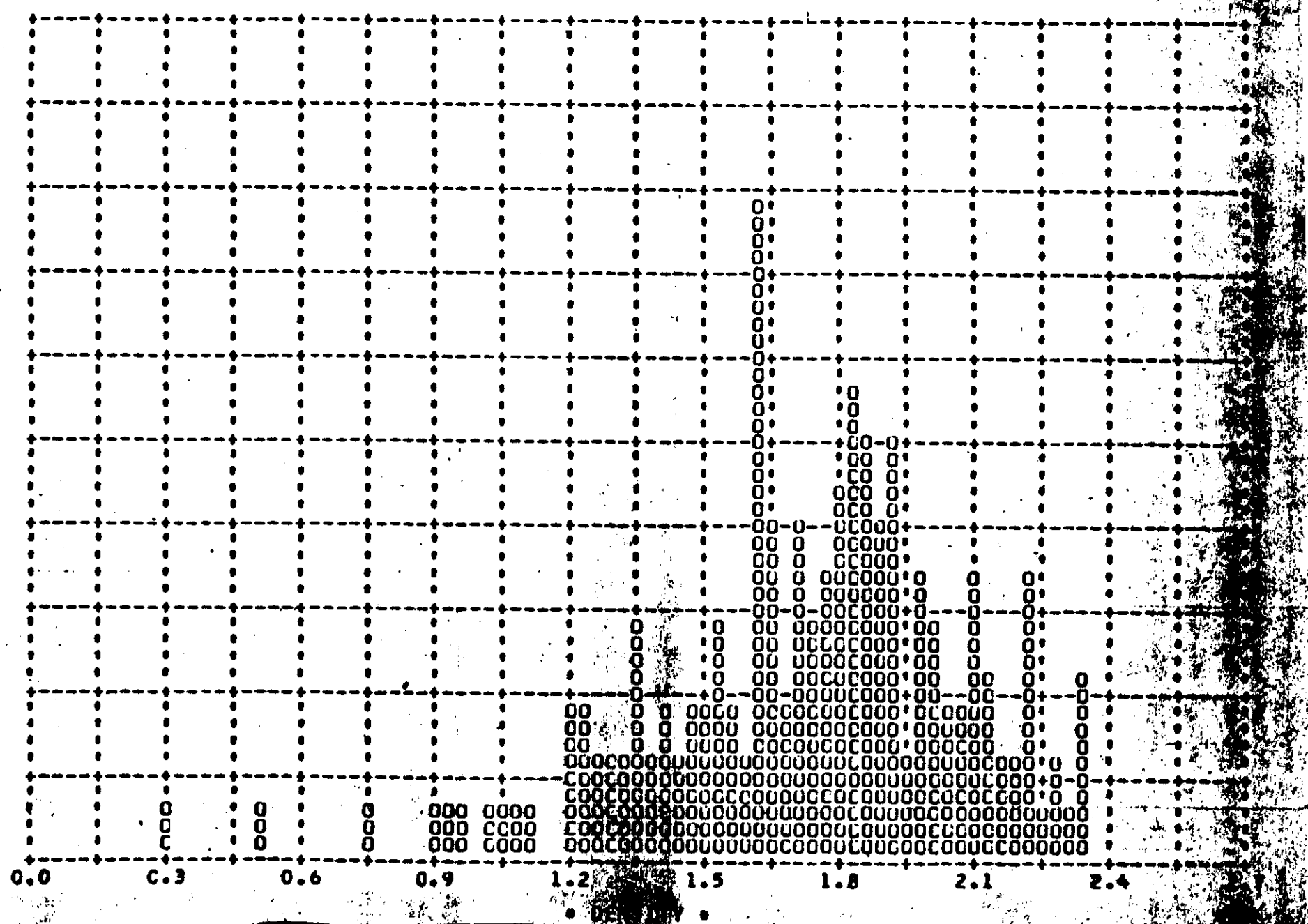


FIGURE A-27

MISSION • 1028-2 • INSTR • FRWD • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.72 • MEDIAN • 1.77 • STD DEV • 0.35 • RANGE • 0.30 TO 2.33 WITH 182 SAMPLES

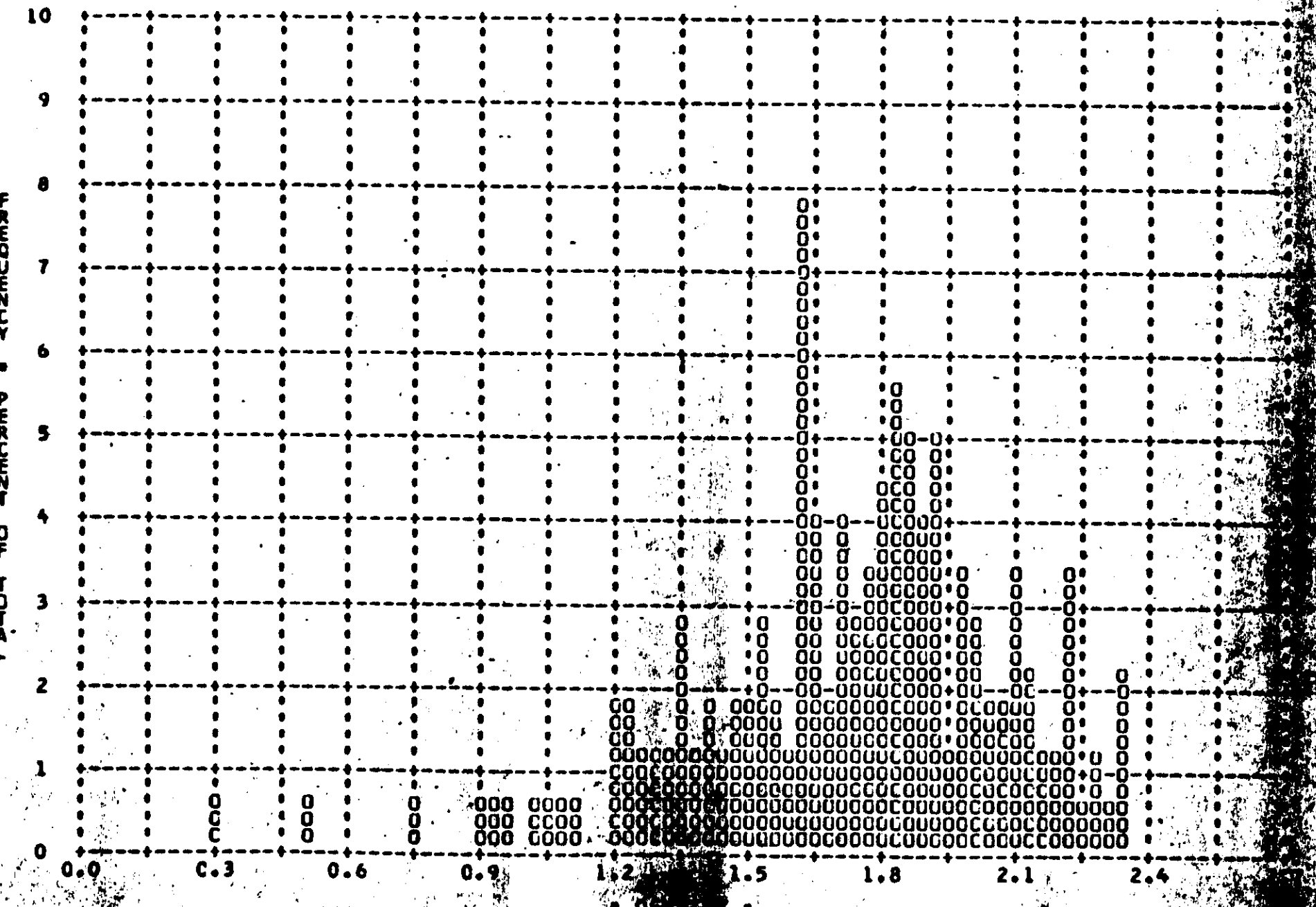


FIGURE A-28

[redacted] DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM	[redacted] LEVELS MIN	[redacted] LEVELS MAX	[redacted] LEVELS LIM
0.01	C	C	0	0	0	0	0	0	0	0	0	0
0.02	C	C	0	0	0	0	0	0	0	0	0	0
0.03	C	C	0	0	0	0	0	0	0	0	0	0
0.04	C	C	0	0	0	0	0	0	0	0	0	0
0.05	C	C	0	0	0	0	0	0	0	0	0	0
0.06	C	C	0	0	0	0	0	0	0	0	0	0
0.07	C	C	0	0	0	0	0	0	0	0	0	0
0.08	C	C	0	0	0	0	0	0	0	0	0	0
0.09	C	C	0	0	0	0	0	0	0	0	0	0
0.10	C	C	0	0	0	0	0	0	0	0	0	0
0.11	C	C	0	0	0	0	0	0	0	0	0	0
0.12	C	C	0	0	0	0	0	0	0	0	0	0
0.13	C	C	0	0	0	0	0	0	0	0	0	0
0.14	C	C	0	0	0	0	0	0	0	0	0	0
0.15	C	C	0	0	0	0	0	0	0	0	0	0
0.16	C	C	0	0	0	0	0	0	0	0	0	0
0.17	C	C	0	0	0	0	0	0	0	0	0	0
0.18	C	C	0	0	0	0	0	0	0	0	0	0
0.19	C	C	0	0	0	0	0	0	0	0	0	0
0.20	C	C	0	0	0	0	0	0	0	0	0	0
0.21	C	C	0	0	0	0	0	0	0	0	0	0
0.22	C	C	0	0	0	0	1	0	0	1	0	0
0.23	C	C	0	0	0	0	1	0	0	1	0	0
0.24	C	C	0	0	0	0	3	0	0	3	0	0
0.25	C	C	0	0	0	0	1	0	0	1	0	0
0.26	C	C	0	0	0	0	6	0	0	6	0	0
0.27	C	C	0	0	0	0	4	0	0	5	0	0
0.28	C	C	0	0	0	0	7	1	0	7	1	0
0.29	C	C	0	0	0	0	4	0	0	4	0	0
0.30	C	C	0	0	0	0	15	2	1	15	2	1
0.31	C	C	0	0	0	0	6	0	0	7	0	0
0.32	C	C	0	0	0	0	16	0	0	16	0	0
0.33	C	C	0	0	0	0	9	0	0	9	0	0
0.34	C	C	0	0	0	0	6	0	0	6	0	0
0.35	C	C	0	0	0	0	10	0	0	10	0	0
0.36	C	C	0	0	0	0	10	0	0	10	0	0
0.37	C	C	0	0	0	0	9	0	0	9	0	0
0.38	C	C	0	0	0	0	6	0	0	6	0	0
0.39	C	C	0	0	0	0	4	0	0	6	0	0
0.40	C	C	0	0	0	0	8	1	0	8	1	0
0.41	C	C	0	0	0	0	3	1	0	3	1	0
0.42	C	C	0	0	0	0	7	2	0	7	2	0
0.43	C	C	0	0	0	0	2	0	0	2	0	0
0.44	C	C	0	0	0	0	5	2	0	5	2	0
0.45	C	C	0	0	0	0	3	0	0	3	0	0
0.46	C	C	0	0	0	0	7	0	1	7	0	1
0.47	C	C	0	0	0	0	3	1	0	3	1	0
0.48	C	C	0	0	0	0	1	0	0	1	0	0
0.49	C	C	0	0	0	0	4	2	0	4	2	0
0.50	C	C	0	2	0	0	4	2	0	4	2	0
SUBTOTAL	C	C	0	2	0	0	161	10	5	163	10	5

~~TOP SECRET~~ [redacted]

TABLE A-4

MISSION = 1028-[redacted] 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	1	0	0	1	0	0
0.52	0	0	0	0	0	0	2	0	0	2	0	0
0.53	0	0	0	0	0	0	1	0	0	1	0	0
0.54	0	0	0	0	0	0	0	1	0	0	1	0
0.55	0	0	0	0	0	0	2	0	0	2	0	0
0.56	0	0	0	0	0	0	6	1	0	6	1	0
0.57	0	0	0	0	0	0	3	0	0	3	0	0
0.58	0	0	0	0	0	0	3	1	0	3	1	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	0	0	0	5	0	0	5	0	0
0.61	0	0	0	0	0	0	1	0	0	1	0	0
0.62	0	0	0	0	0	0	5	0	0	5	0	0
0.63	0	0	0	0	0	0	1	0	0	1	0	0
0.64	0	0	0	0	0	0	5	0	0	5	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	0	2	0	0	2	0
0.69	0	0	0	0	0	0	4	0	0	4	0	0
0.70	0	0	0	0	0	0	1	0	0	1	0	0
0.71	0	0	0	0	0	0	3	0	0	3	0	0
0.72	0	0	0	0	0	0	4	1	0	4	1	0
0.73	0	0	0	0	0	0	1	0	0	1	0	0
0.74	0	0	0	0	0	0	2	0	0	2	0	0
0.75	0	0	0	0	0	0	1	0	0	1	0	0
0.76	0	0	0	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	3	0	0	3	0	0
0.78	0	0	0	0	0	0	1	1	0	1	1	0
0.79	0	0	0	0	0	0	2	0	0	2	0	0
0.80	0	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
0.82	0	0	0	0	0	0	0	0	0	0	0	0
0.83	0	0	0	0	0	0	0	0	0	0	0	0
0.84	0	0	0	0	0	0	0	0	0	0	0	0
0.85	0	0	0	0	0	0	2	1	0	2	1	0
0.86	0	0	0	0	0	0	0	0	0	0	0	0
0.87	0	0	0	0	0	0	0	0	0	0	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	1	0	0	1	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	0	0	0	1	0	0	1	0	0
0.93	0	0	0	0	0	0	3	0	0	3	0	0
0.94	0	0	0	0	0	0	1	0	0	1	0	0
0.95	0	0	0	0	0	0	0	0	0	0	0	0
0.96	0	0	0	0	0	0	0	0	0	0	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	0	1	0	0	1	0
0.99	0	0	0	0	0	0	0	2	0	0	2	0
1.00	0	0	0	1	0	0	1	4	1	1	4	1
SUBTOTAL	0	0	0	1	0	0	66	30	8	74	30	8

TABLE A-4

[redacted] TOP SECRET [redacted]

MISSION • FL028-2 • INSTRUMENT • AET • 2-11-66 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	2	0
1.02	0	0	0	0	0	0	0	1	0
1.03	0	0	0	0	0	0	0	1	0
1.04	0	0	0	0	0	0	0	1	0
1.05	0	0	0	0	0	0	0	1	0
1.06	0	0	0	0	0	0	0	1	0
1.07	0	0	0	0	0	0	0	1	0
1.08	0	0	0	0	0	0	0	1	0
1.09	0	0	0	0	0	0	0	1	0
1.10	0	0	0	0	0	0	0	1	0
1.11	0	0	0	0	0	0	0	1	0
1.12	0	0	0	0	0	0	0	1	0
1.13	0	0	0	0	0	0	0	1	0
1.14	0	0	0	0	0	0	0	1	0
1.15	0	0	0	0	0	0	0	1	0
1.16	0	0	0	0	0	0	0	1	0
1.17	0	0	0	0	0	0	0	1	0
1.18	0	0	0	0	0	0	0	1	0
1.19	0	0	0	0	0	0	0	1	0
1.20	0	0	0	0	0	0	0	1	0
1.21	0	0	0	0	0	0	0	1	0
1.22	0	0	0	0	0	0	0	1	0
1.23	0	0	0	0	0	0	0	1	0
1.24	0	0	0	0	0	0	0	1	0
1.25	0	0	0	0	0	0	0	1	0
1.26	0	0	0	0	0	0	0	1	0
1.27	0	0	0	0	0	0	0	1	0
1.28	0	0	0	0	0	0	0	1	0
1.29	0	0	0	0	0	0	0	1	0
1.30	0	0	0	0	0	0	0	1	0
1.31	0	0	0	0	0	0	0	1	0
1.32	0	0	0	0	0	0	0	1	0
1.33	0	0	0	0	0	0	0	1	0
1.34	0	0	0	0	0	0	0	1	0
1.35	0	0	0	0	0	0	0	1	0
1.36	0	0	0	0	0	0	0	1	0
1.37	0	0	0	0	0	0	0	1	0
1.38	0	0	0	0	0	0	0	1	0
1.39	0	0	0	0	0	0	0	1	0
1.40	0	0	0	0	0	0	0	1	0
1.41	0	0	0	0	0	0	0	1	0
1.42	0	0	0	0	0	0	0	1	0
1.43	0	0	0	0	0	0	0	1	0
1.44	0	0	0	0	0	0	0	1	0
1.45	0	0	0	0	0	0	0	1	0
1.46	0	0	0	0	0	0	0	1	0
1.47	0	0	0	0	0	0	0	1	0
1.48	0	0	0	0	0	0	0	1	0
1.49	0	0	0	0	0	0	0	1	0
1.50	0	0	0	0	0	0	0	1	0
SUBTOTAL	0	0	0	0	0	0	0	1	0
	0	0	0	5	7	0	7	104	32
							12	111	32

~~TOP SECRET~~ [redacted]

TABLE A-4

~~TOP SECRET~~ [redacted]

MISSION # 1028-2 # INSTRUMENT # AFI [redacted] DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	1	0	0	1	0
1.52	0	0	0	0	1	0	0	1	2	0	1	2
1.53	0	0	0	0	0	0	0	2	0	0	2	0
1.54	0	0	0	0	0	0	0	1	2	0	1	2
1.55	0	0	0	0	0	0	0	2	0	0	2	0
1.56	0	0	0	0	0	0	0	1	2	0	1	2
1.57	0	0	0	0	0	0	0	2	0	0	2	0
1.58	0	0	0	0	0	0	0	1	2	0	1	2
1.59	0	0	0	0	0	0	0	2	0	0	2	0
1.60	0	0	0	0	0	0	0	1	2	0	1	2
1.61	0	0	0	0	0	0	0	2	0	0	2	0
1.62	0	0	0	0	0	0	0	1	2	0	1	2
1.63	0	0	0	0	0	0	0	2	0	0	2	0
1.64	0	0	0	0	0	0	0	1	2	0	1	2
1.65	0	0	0	0	0	0	0	2	0	0	2	0
1.66	0	0	0	0	0	0	0	1	2	0	1	2
1.67	0	0	0	0	0	0	0	2	0	0	2	0
1.68	0	0	0	0	0	0	0	1	2	0	1	2
1.69	0	0	0	0	0	0	0	2	0	0	2	0
1.70	0	0	0	0	0	0	0	1	2	0	1	2
1.71	0	0	0	0	0	0	0	2	0	0	2	0
1.72	0	0	0	0	0	0	0	1	2	0	1	2
1.73	0	0	0	0	0	0	0	2	0	0	2	0
1.74	0	0	0	0	0	0	0	1	2	0	1	2
1.75	0	0	0	0	0	0	0	2	0	0	2	0
1.76	0	0	0	0	0	0	0	1	2	0	1	2
1.77	0	0	0	0	0	0	0	2	0	0	2	0
1.78	0	0	0	0	0	0	0	1	2	0	1	2
1.79	0	0	0	0	0	0	0	2	0	0	2	0
1.80	0	0	0	0	0	0	0	1	2	0	1	2
1.81	0	0	0	0	0	0	0	2	0	0	2	0
1.82	0	0	0	0	0	0	0	1	2	0	1	2
1.83	0	0	0	0	0	0	0	2	0	0	2	0
1.84	0	0	0	0	0	0	0	1	2	0	1	2
1.85	0	0	0	0	0	0	0	2	0	0	2	0
1.86	0	0	0	0	0	0	0	1	2	0	1	2
1.87	0	0	0	0	0	0	0	2	0	0	2	0
1.88	0	0	0	0	0	0	0	1	2	0	1	2
1.89	0	0	0	0	0	0	0	2	0	0	2	0
1.90	0	0	0	0	0	0	0	1	2	0	1	2
1.91	0	0	0	0	0	0	0	2	0	0	2	0
1.92	0	0	0	0	0	0	0	1	2	0	1	2
1.93	0	0	0	0	0	0	0	2	0	0	2	0
1.94	0	0	0	0	0	0	0	1	2	0	1	2
1.95	0	0	0	0	0	0	0	2	0	0	2	0
1.96	0	0	0	0	0	0	0	1	2	0	1	2
1.97	0	0	0	0	0	0	0	2	0	0	2	0
1.98	0	0	0	0	0	0	0	1	2	0	1	2
1.99	0	0	0	0	0	0	0	2	0	0	2	0
2.00	0	0	0	0	0	0	0	1	2	0	1	2
SUBTOTAL	0	0	0	0	8	3	0	66	92	0	74	95

~~TOP SECRET~~ [redacted]

TABLE A-4

[redacted] DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FOL MIN	FOL MAX	FOL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	3	0	0	3	0
2.02	0	0	0	0	0	0	0	3	0	0	3	0
2.03	0	0	0	0	0	0	0	1	0	0	1	0
2.04	0	0	0	0	0	0	0	1	2	0	1	2
2.05	0	0	0	0	0	0	0	2	1	0	2	1
2.06	0	0	0	0	0	0	0	2	0	0	2	0
2.07	0	0	0	0	0	0	0	1	0	0	1	0
2.08	0	0	0	0	0	0	0	2	1	0	2	1
2.09	0	0	0	0	0	0	0	1	2	0	1	2
2.10	0	0	0	0	0	0	0	3	1	0	3	1
2.11	0	0	0	0	0	0	0	1	5	0	1	5
2.12	0	0	0	0	0	0	0	1	0	0	1	0
2.13	0	0	0	0	0	0	0	1	3	0	1	3
2.14	0	0	0	0	0	0	0	1	2	0	1	2
2.15	0	0	0	0	0	0	0	1	0	0	1	0
2.16	0	0	0	0	0	0	0	1	0	0	1	0
2.17	0	0	0	0	0	0	0	0	4	0	0	4
2.18	0	0	0	0	0	0	0	0	4	0	0	4
2.19	0	0	0	0	0	0	0	0	4	0	0	4
2.20	0	0	0	0	0	0	0	0	4	0	0	4
2.21	0	0	0	0	0	0	0	0	1	0	0	1
2.22	0	0	0	0	0	0	0	0	1	0	0	1
2.23	0	0	0	0	0	0	0	0	3	0	0	3
2.24	0	0	0	0	0	0	0	0	2	0	0	2
2.25	0	0	0	0	0	0	0	0	1	0	0	1
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	1	0	0	1
2.28	0	0	0	0	0	0	0	0	1	0	0	1
2.29	0	0	0	0	0	0	0	0	1	0	0	1
2.30	0	0	0	0	0	0	0	0	2	0	0	2
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	1	0	0	1
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	24	32	0	24	32

TABLE A-4

MISSION • 1028-2 • INSTRUMENT • AFT • 2-11-66 • DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[redacted] MIN	[redacted] MAX	[redacted] LIN	[redacted] MIN	[redacted] MAX	[redacted] LIN
2.51	C	C	0	0	0	0	0	0	0	0	0	0
2.52	C	C	0	0	0	0	0	0	0	0	0	0
2.53	C	C	0	0	0	0	0	0	0	0	0	0
2.54	C	C	0	0	0	0	0	0	0	0	0	0
2.55	C	C	0	0	0	0	0	0	0	0	0	0
2.56	C	C	0	0	0	0	0	0	0	0	0	0
2.57	C	C	0	0	0	0	0	0	0	0	0	0
2.58	C	C	0	0	0	0	0	0	0	0	0	0
2.59	C	C	0	0	0	0	0	0	0	0	0	0
2.60	C	C	0	0	0	0	0	0	0	0	0	0
2.61	C	C	0	0	0	0	0	0	0	0	0	0
2.62	C	C	0	0	0	0	0	0	0	0	0	0
2.63	C	C	0	0	0	0	0	0	0	0	0	0
2.64	C	C	0	0	0	0	0	0	0	0	0	0
2.65	C	C	0	0	0	0	0	0	0	0	0	0
2.66	C	C	0	0	0	0	0	0	0	0	0	0
2.67	C	C	0	0	0	0	0	0	0	0	0	0
2.68	C	C	0	0	0	0	0	0	0	0	0	0
2.69	C	C	0	0	0	0	0	0	0	0	0	0
2.70	C	C	0	0	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	15	15	3	234	234	169	249	249	172

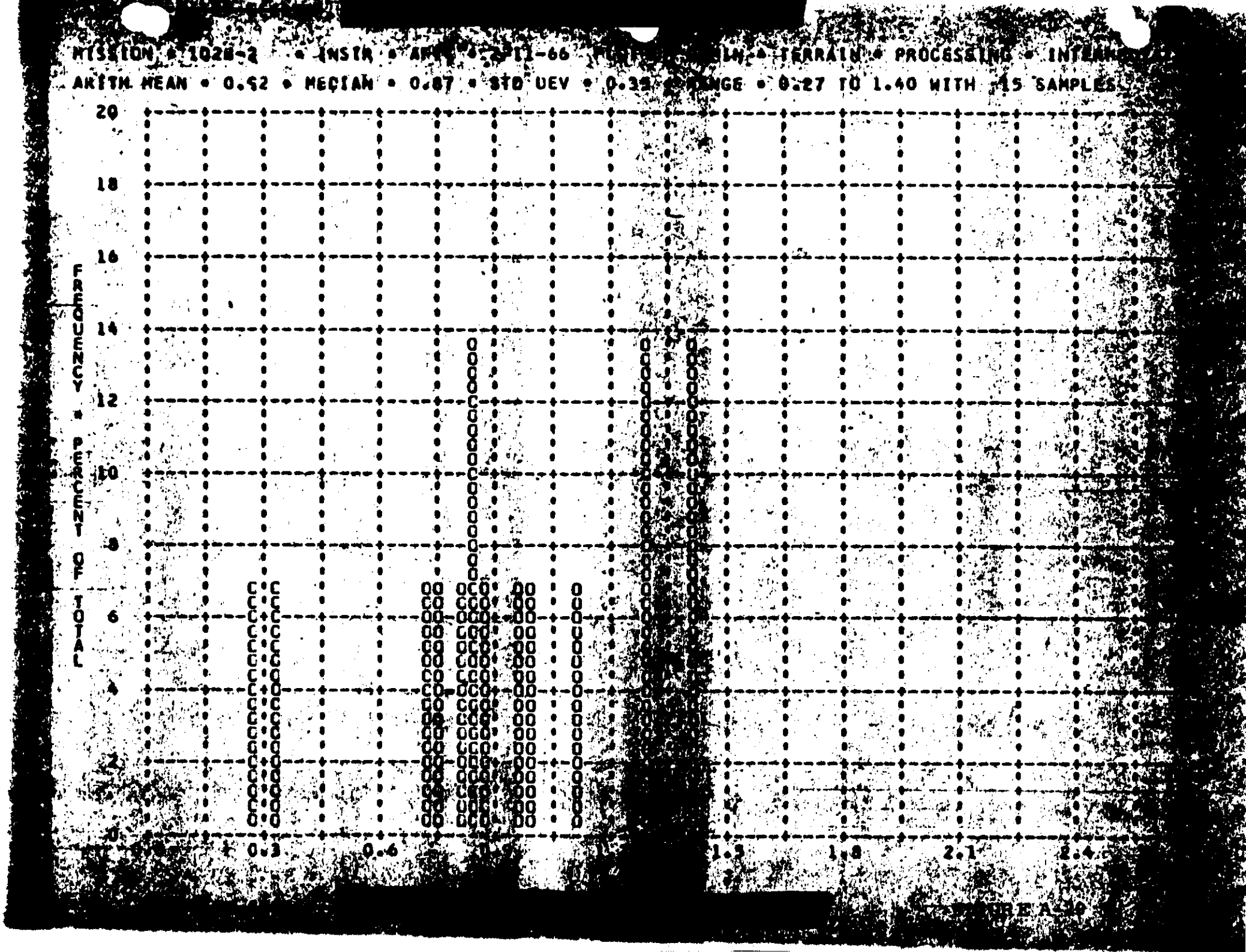
MISSION 1028-2 INSTR - AFT 2-11-66 PROCESSING AND EXPOSURE ANALYSIS

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	15	0 PC	13 PC	40 PC	33 PC	13 PC
FULL	234	50 PC	0 PC	44 PC	6 PC	[redacted]
ALL LEVELS	249	47 PC	1 PC	44 PC	7 PC	[redacted]

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

~~TOP SECRET~~ [redacted]

TABLE A-4


MISSION • 1028-2 • INSTR • APR • 2 11-66 • TERRAIN • PROCESSING • INTERP
ARITH MEAN • 0.92 • MEDIAN • 0.87 • STD DEV • 0.32 • RANGE • 0.27 TO 1.40 WITH 15 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.3
0.6
1.3
1.8
2.1
2.4

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.53 • MEDIAN • 1.52 • STD DEV • 0.15 • RANGE • 1.30 TO 1.86 WITH 15 SAMPLES

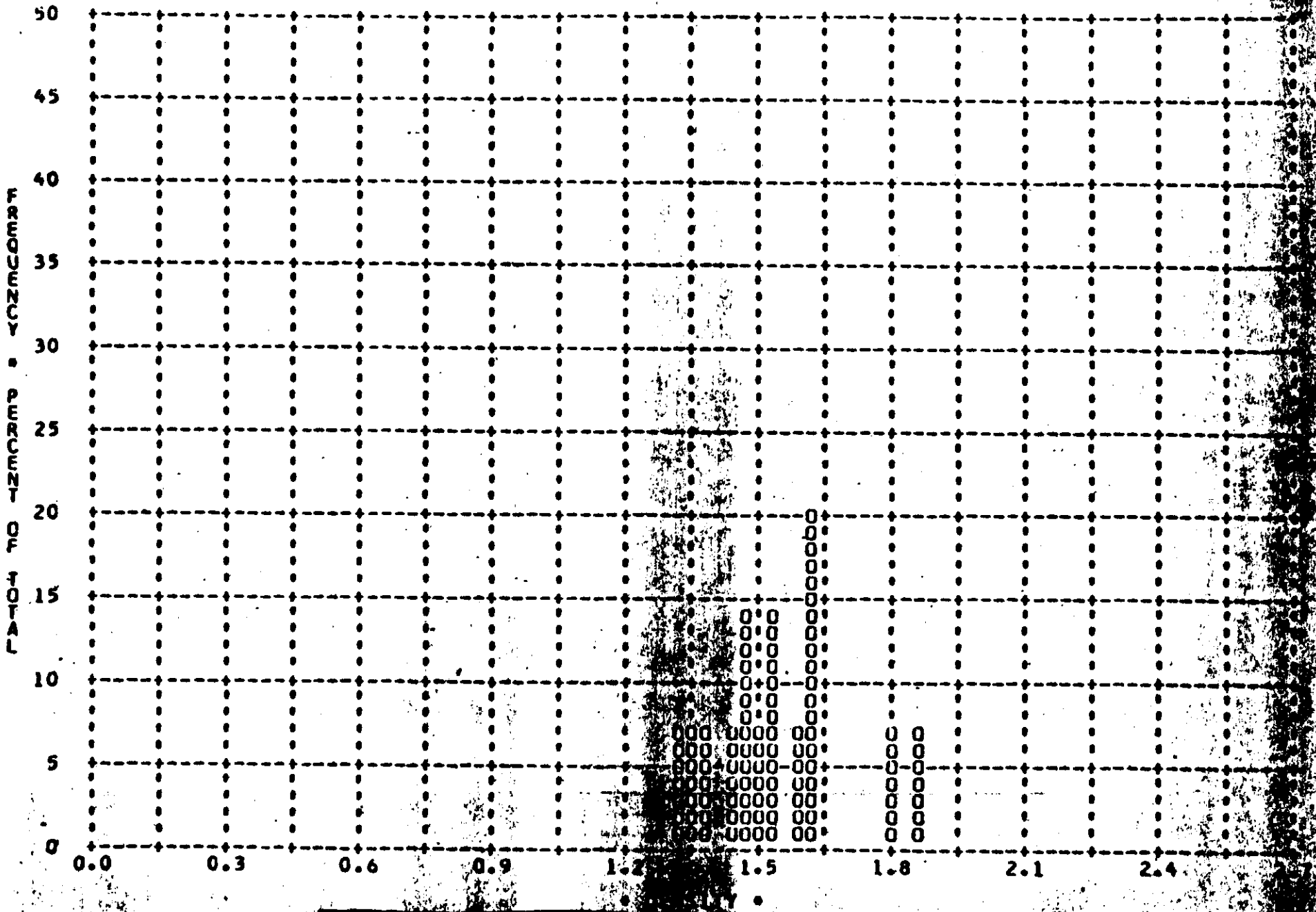


FIGURE A-30

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.78 • MEDIAN • 1.86 • STD DEV • 0.19 • RANGE • 1.56 TO 1.92 WITH 3 SAMPLES

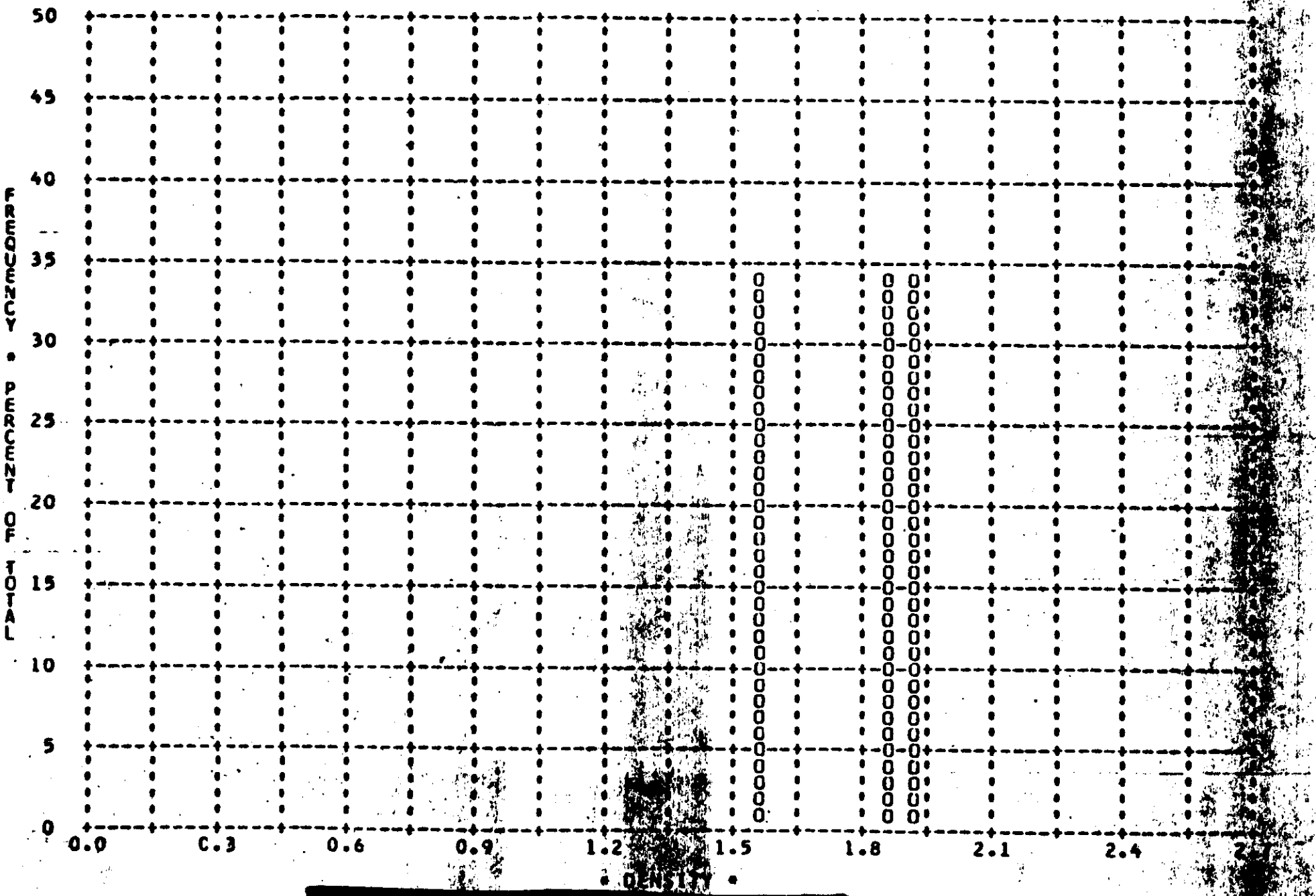


FIGURE A-31

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF U MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.47 • MEDIAN • 0.39 • STD DEV • 0.21 • RANGE • 0.22 TO 1.30 WITH 234 SAMPLES

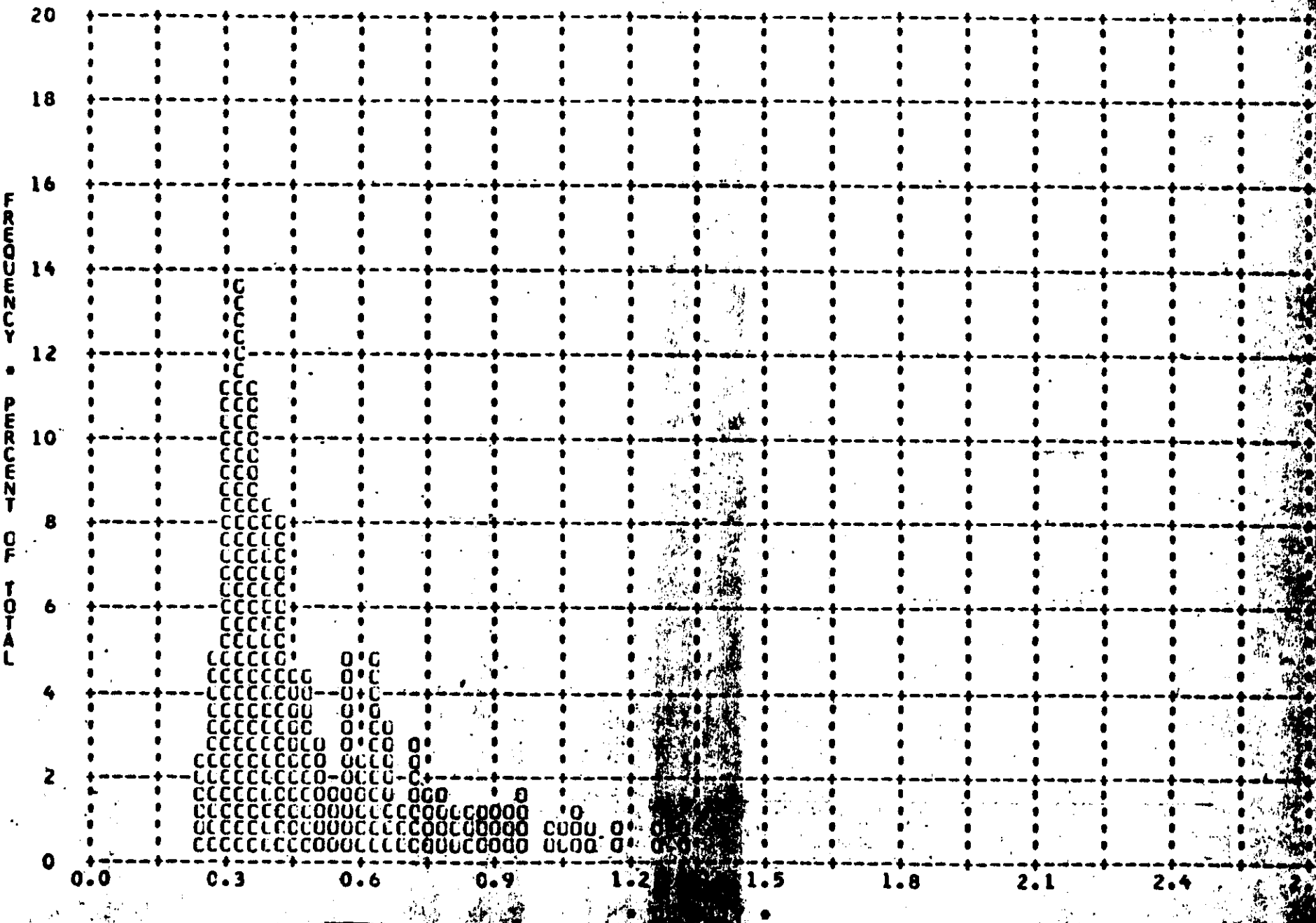


FIGURE A-32

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.39 • MEDIAN • 1.42 • STD DEV • 0.44 • RANGE • 0.28 TO 2.21 WITH 234 SAMPLES

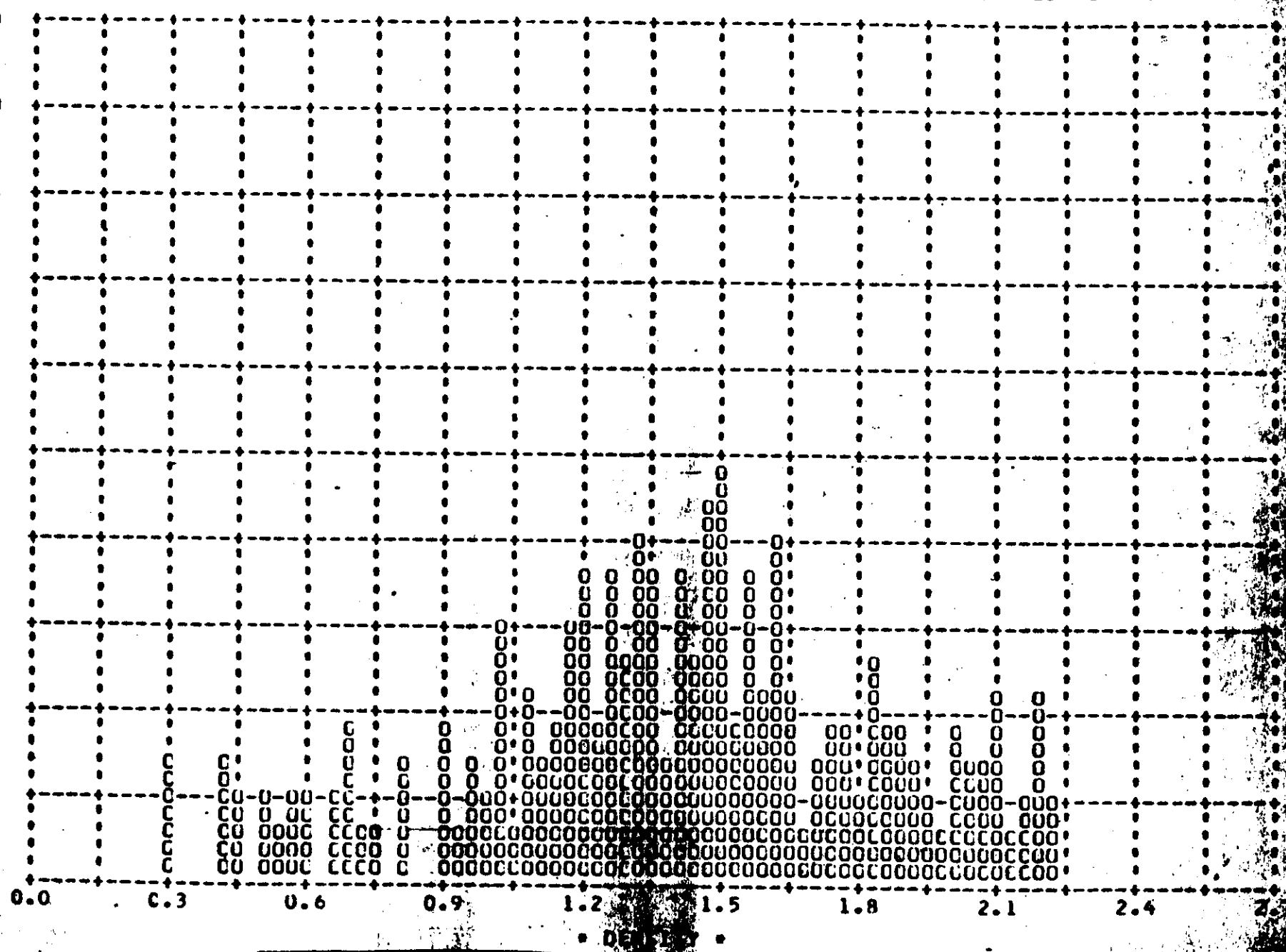


FIGURE A-33

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.69 • MEDIAN • 1.75 • STD DEV • 0.40 • RANGE • 0.30 TO 2.35 WITH 169 SAMPLES

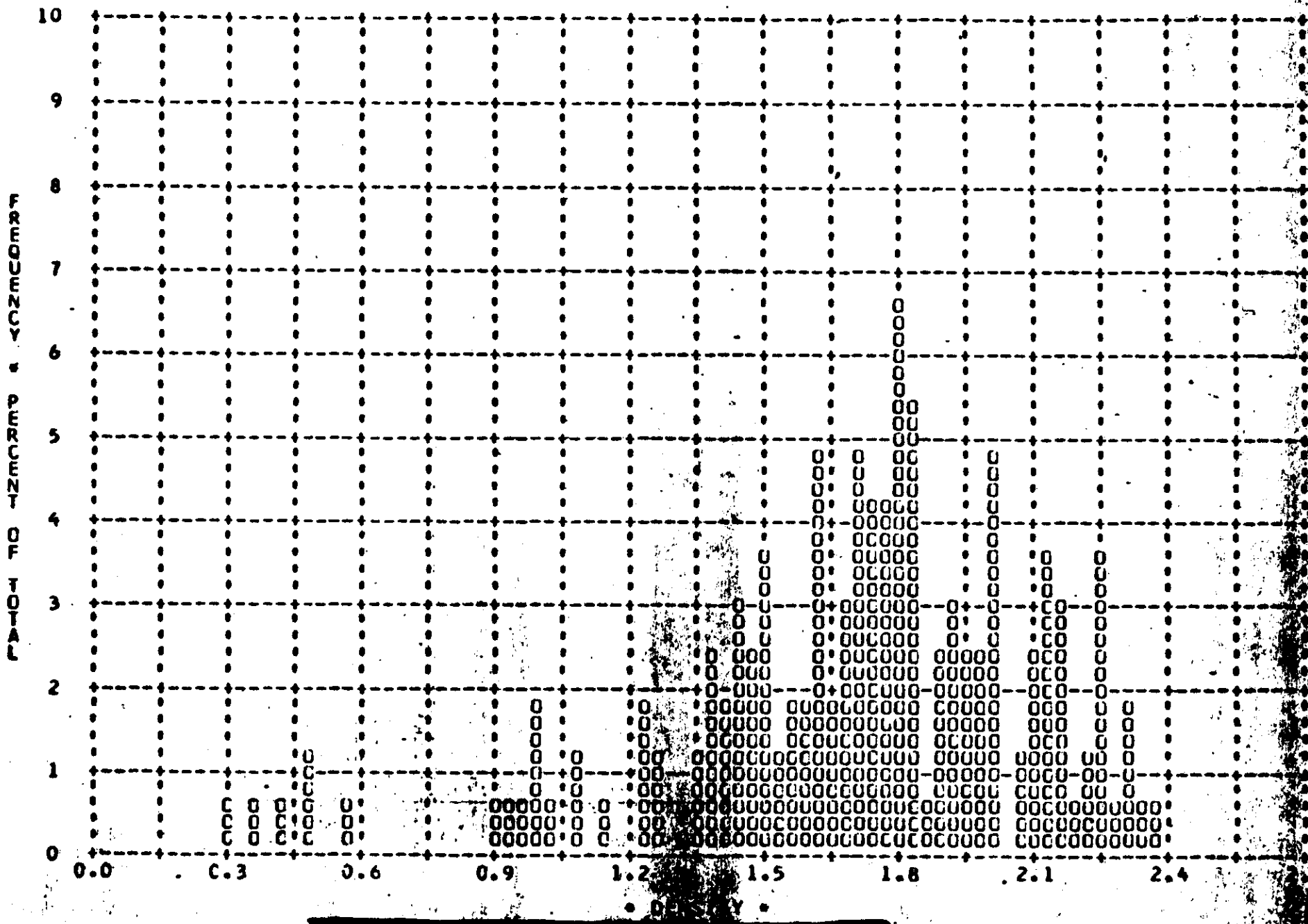


FIGURE A-34

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.5C • MEDIAN • C.40 • STD DEV • 0.24 • RANGE • 0.22 TO 1.40 WITH 249 SAMPLES

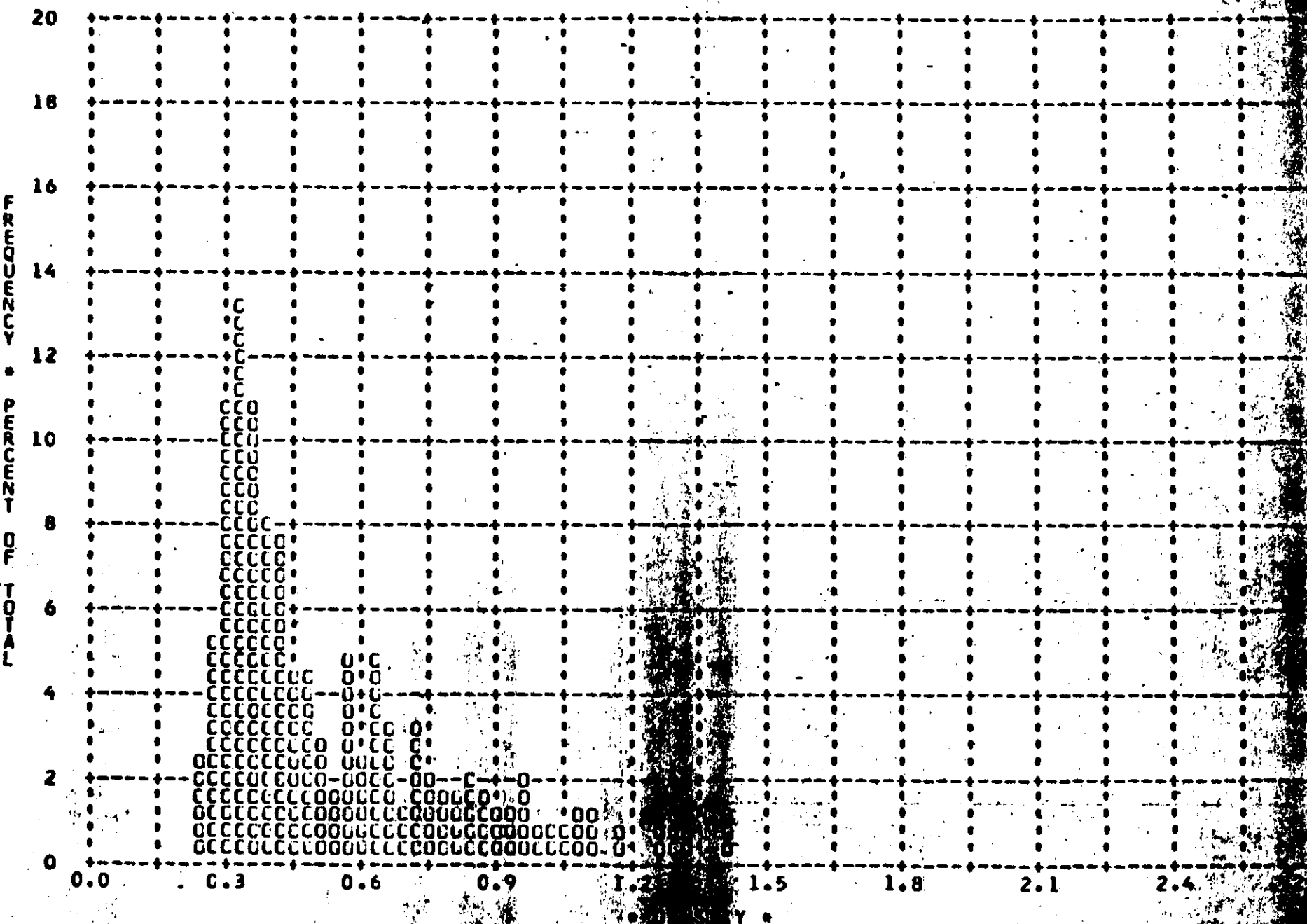


FIGURE A-35

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.40 • MEDIAN • 1.43 • STD DEV • 0.42 • RANGE • 0.28 TO 2.21 WITH 249 SAMPLES

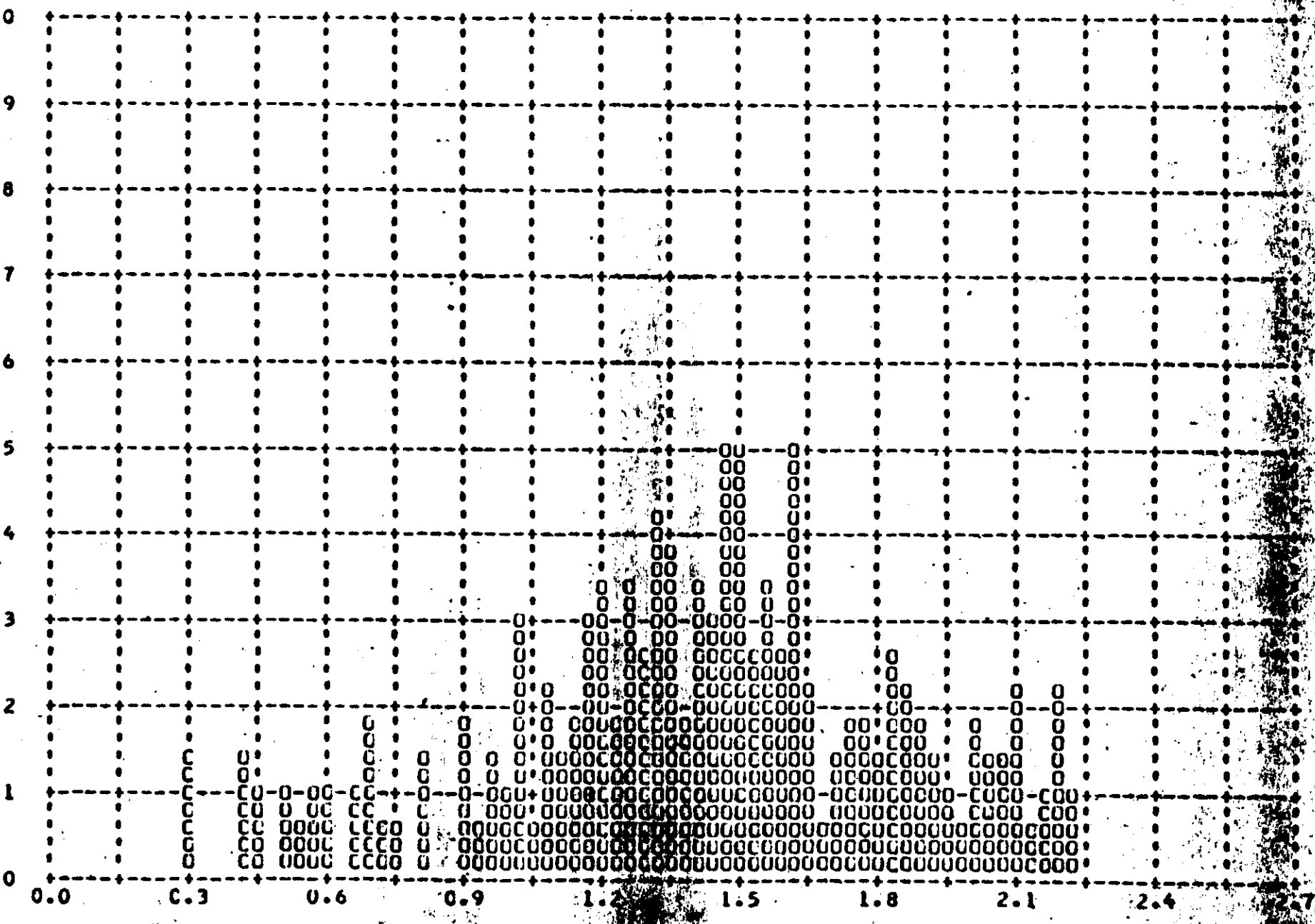


FIGURE A-38

MISSION • 1028-2 • INSTR • AFT • 2-11-66 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.69 • MEDIAN • 1.75 • STD DEV • 0.40 • RANGE • 0.30 TO 2.35 WITH 172 SAMPLES

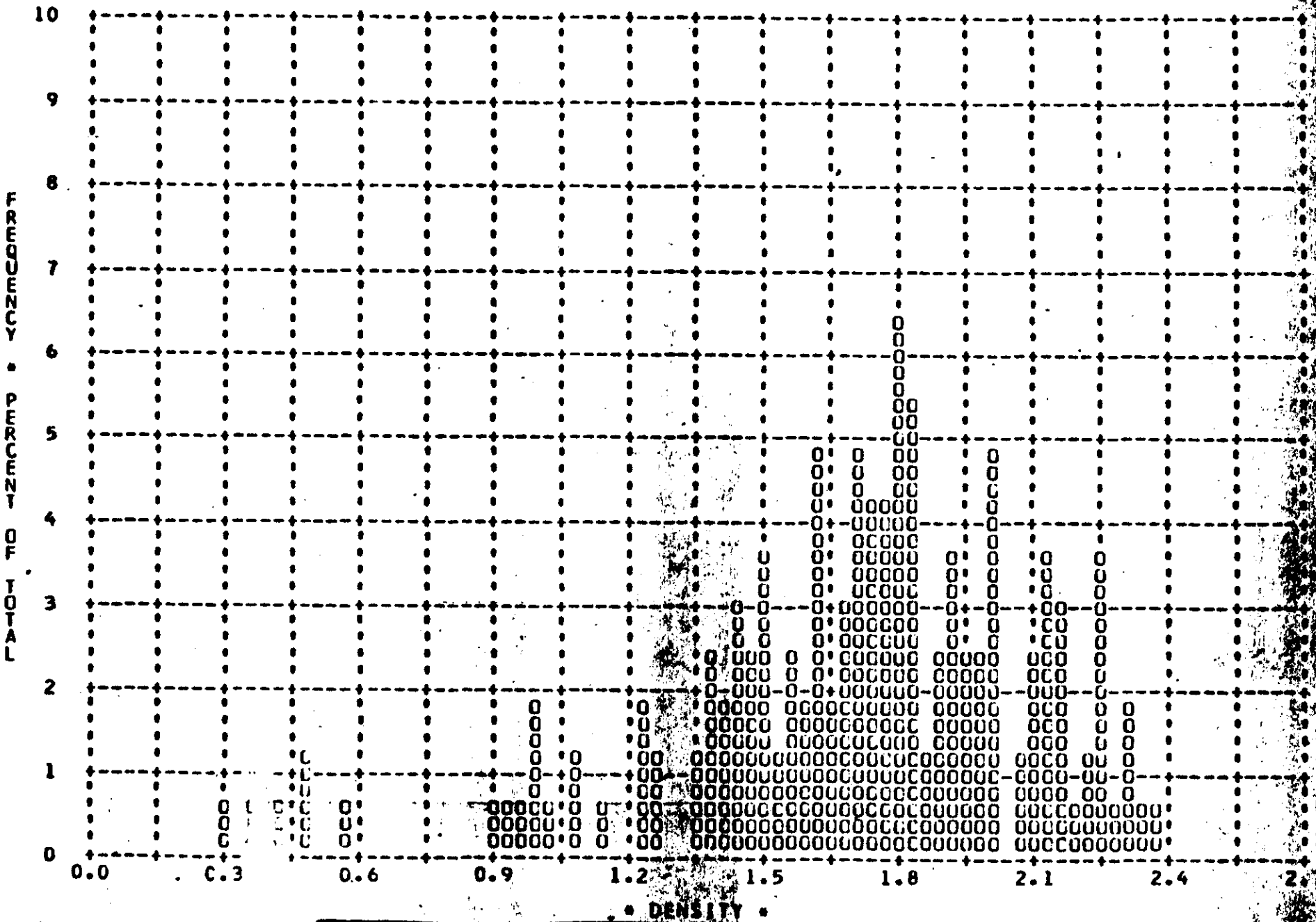


FIGURE A-37

Distribution:

[redacted]