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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1026-1 and 1026-2

FTV 1620; J-25

20 June 1966

Approved: [redacted]
Mgr.
Advanced Projects

Approved [redacted]
Mgr.
Program [redacted]

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NO. [redacted]

22 July 1966

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

Thru: [redacted]

From: [redacted]

Subject: MISSION 1026-1 AND 1026-2 FINAL REPORT

Enclosed is the Final Performance Evaluation Report for Mission 1026-1 and 1026-2.

[redacted]
Manager
Advanced Projects

ch

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~~TOP SECRET~~ [redacted]

FOREWORD

This report details the performance of the payload system during the operational phase of the [redacted] Flight Test Vehicle 1620.

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

This document is the final payload test and performance evaluation report for Missions 1026-1 and 1026-2 which was launched on 28 October 1965.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

INTRODUCTION

This report presents the final performance evaluation of Missions 1026-1 and 1026-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-25 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, and MTF/AIM resolution are produced by AFSPPF. The vehicle attitude error [redacted] correlation times are made at NPIC who also supply the [redacted] Summary and MTF/AIM resolution reports published [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 1026, placed into orbit by Flight Test Vehicle #1620 and LV-2A booster #439, 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-25 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 deactivate period.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 2117:12 Z (1417:12 PDT) on 28 October 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 1026-1 consisted of a 5 day operation and was completed by air recovery on 2 Nov[illegible] 1965. Mission 1026-2 was completed with an air recovery on 7 Nove[illegible] 1965 following a 5 day photographic operation.

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

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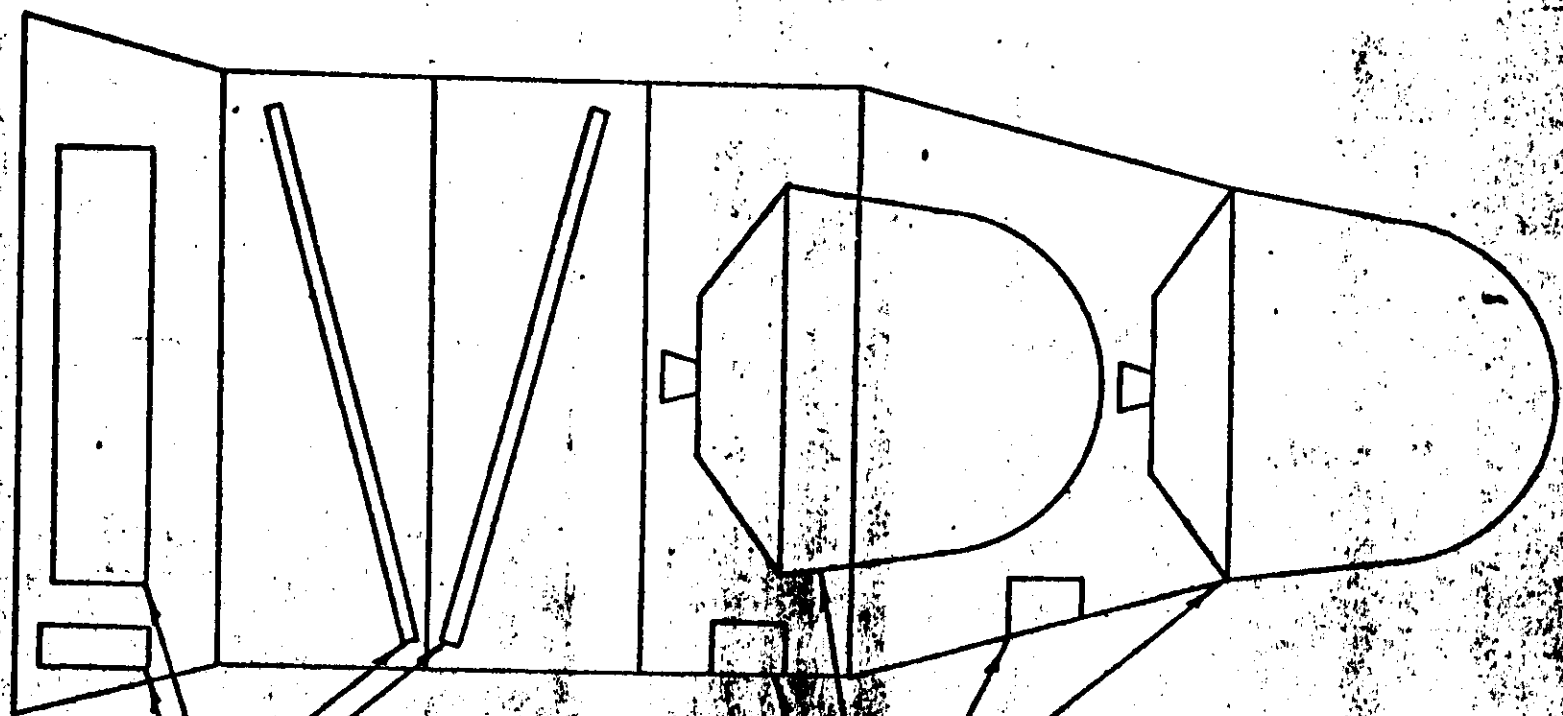
SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1026



FIGURE

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 1 Actuals
Period (Min.)	90.72	90.77
Perigee (N. M.)	99.8	95.12
Apogee (N. M.)	238.1	240.6
Inclination (Deg.)	75.00	74.98
Perigee Latitude (Deg. N.)	23.00	10.05
Eccentricity	0.0192	0.02041

C. PANORAMIC CAMERAS

The Master instrument operated normally through both missions. The photo quality suffered from heavy haze, low sun elevations and 50% cloud cover.

The Slave instrument photo quality was rated as being slightly better than the Master. The center of format switch operated intermittently from pass D-24 thru D-70.

The horizon cameras on the sun side of the vehicle exhibited veiling on both missions.

D. STELLAR-INDEX CAMERAS

The "A" S/I produced star imagery adequate to determine the vehicle attitude. Four stellar frames were affected by shutter malfunction. The index camera produced no anomalies.

The "B" S/I camera operation is rated as excellent.

E. OTHER SUB-SYSTEMS

The clock, instrumentation, command and thermal control subsystems performed satisfactorily.

F. CONCLUSIONS

Mission 1026 achieved its objective of search and reconnaissance, however atmospheric conditions obscured some target areas.

SECTION 2

PRE-FLIGHT SYSTEMS TESTS

A. ENVIRONMENTAL TESTING

1. Test Objective

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

2. Test Summary

The J-25 payload system was subjected to an environmental TASC Chamber test from July 10 through July 17, 1965. The environmental test consisted of 13 orbits in the "B" mode. The payload was removed from the chamber on two occasions as a result of two fail-safes. This was done between orbit 13 in the "A" mode and the "A" recovery sequence.

Panoramic camera #1 experienced erratic payload metering, cycle period in excess of the 2.15 sec. maximum at one point, cycle rate errors ranging from 1.9% fast to 2.9% slow, and two fail-safes.

Instrument #2 performance was satisfactory except the cycle rate errors ranged from 0 to 4.5% slow in the "A" mode and 0.4% to 2.6% slow in the "B" mode.

The stellar/index camera performance was satisfactory throughout both the "A" and "B" mode of operation.

The clock performance was out of allowable offset limits.

The instrumentation system performance was satisfactory with the exception of several noisy idler commutators and Sanborn channel setup discrepancies.

The PMU system operation was satisfactory with the average gas depletion rate being somewhat higher than normal.

The temperature environment was cold for the "A" mode and near 70° for the "B" mode.

3. Panoramic Camera Performance

Instrument #1 performance disclosed the following problems:

a. Erratic metering in the "A" mode.

b. Cycle rate predictability exceeded the 1% specification limit in the "A" mode.

c. Two fail-safes occurred in the "A" mode and the payload was pulled out of the rails.

d. Cycle period exceeded the maximum limit of [redacted] sec. on one operation.

Payload metering was erratic as observed on the takeup idler. Uneven payload motion was also indicated on the supply idler monitor. On orbit 2, "B" mode, the cycle period exceeded the maximum allowable of 2.15 secs. This occurred at 2130 seconds up the ramp of R4A1 and was 1.9% faster than predicted. A cycle period was obtained in orbit 2, "A" mode, which was within 1% of the predicted cycle period.

The instrument had two fail-safes during the test. The first occurred near the end of orbit 13 during the mono portion of a stereo surpress operation. The chamber was brought to [redacted] spheric pressure and the system was inspected and no [redacted] malies were detected. The system was reinstalled in the environmental chamber and the test was restarted at orbit 12 of the "A" mode. Fail-safe occurred again during the stereo portion of the stereo surpress operation in orbit 13. The system was again removed from the chamber. The master instrument film was found to be out of the rails and the takeup cassettes of the "A" SRV was found to be rubbing. Erratic payload metering was evident on both instruments prior to each fail-safe. The system

was transferred to the "B" mode by performing a cut and wrap recovery sequence. A confidence run was made and the system reinstalled in the chamber. Instrument #1 completed the test without further problems.

Instrument #2 performance was satisfactory except cycle rate errors ranged from 0 to 4.5% slow in the "A" mode and 0.4 to 2.6% slow in the "B" mode. The chamber temperature was low in the "A" mode and more nearly normal in the "B" mode. Analysis is continuing to establish the degree of correlation, if any, between cycle rate error and temperature.

The supply cassette rotation monitor indicated supply cassette rotation in the latter half of the "B" mode of operation.

A tabulation of cycle rate data from the chamber test is included as Table 2-1.

4. Stellar/Index Performance

Both the "A" and the "B" stellar/index cameras performed properly throughout the test. The "A" index idler T/M was noisy.

5. Clock Performance

The clock offset was 1 millisecond per hour in both the "A" and "B" mode when compared to IRIG C. This exceeds the offset limit of 2 milliseconds per 12 hours.

6. Instrumentation Performance

Instrumentation performance throughout the test was satisfactory. Minor problems such as improper Sanborn calibrations and noisy idler contacts occurred.

The status commutator and temperature commutator has no open points.

The film footage pots and cycle counters showed good correlation throughout the test.

[redacted]

J-25 TASC CHAMBER TEST NO 1 TEST CYCLE RATES

REV/MODE	RAMP	T.U.R.	INST 174 ACT.	[redacted] CALIB.	DEV.	INST 175 ACT.	[redacted] CALIB.	DEV.	174/175 DIFF.
0 A	8 2	0	5.570	5.479	-1.66	5.600	5.539	-1.10	0.54
1 A	7 7	400	3.525	3.494	-0.90	3.520	3.489	-0.88	-0.14
2 A	4 1	1430	2.190	2.216	1.18				
2 A	4 1	1610				2.208	2.207	-0.07	
2 A	4 1	2130	2.170	2.189	0.89	2.200	2.200	0.01	1.38
3 A	5 8	730	2.893	2.879	-0.48	2.887	2.869	-0.61	-0.21
3 A	5 8	1550	2.458	2.446	-0.47	2.460	2.437	-0.95	0.08
4 A	7 7	2280	2.580	2.559	-0.83	2.580	2.549	-1.22	[redacted]
5 A	8 2	340	5.130	5.076	-1.07	5.178	5.117	-1.19	[redacted]
6 A	5 8	1090	2.733	2.693	-1.47	2.753	2.683	-2.60	0.73
6 A	5 8	1440	2.518	2.493	-1.01	2.535	2.483	-2.09	0.68
7 A	7 7	1180	2.927	2.875	-1.81	2.957	2.865	-3.21	1.02
7 A	7 7	1590	2.610	2.562	-1.86	2.627	2.552	-2.92	0.65
8 A	7 7	2530	2.767	2.723	-1.63	2.793	2.713	-2.97	0.94
9 A	4 1	1015	2.767	2.743	-0.86	2.823	2.733	-3.29	2.02
9 A	4 1	3200	3.500	3.405	-2.78	3.540	3.400	-4.13	1.14
9 A	11 1	890	4.585	4.459	-2.82	4.680	4.477	-4.53	2.07
10 A	11 1	1880	2.283	2.271	-0.53	2.320	2.263	-2.54	1.62
10 A	11 1	2970	4.470	4.384	-1.95	4.560	4.400	-3.64	2.01

TABLE 2-1

REV/MODE	RAMP	T.U.R.	INST-174 ACT.	INST-174 ~~HIGH~~ CALIB.	INST-174 DEV.	INST 175 ACT.	INST 175 ~~HIGH~~ CALIB.	INST 175 DEV.	174/175 DIFF.
10 A	7 7	130	3.700	3.598	-2.83	3.760	3.595	-4.58	1.62
11 A	7 7	1910	2.527	2.476	-2.05	2.550	2.467	-3.38	0.91
11 A	7 7	2270	2.603	2.554	-1.92	2.630	2.544	-3.37	1.04
12 A	8 2	1045	3.263	3.229	-1.04	3.333	3.222	-3.45	2.15
12 A	8 2	1850				2.265	2.229	-1.60	
13 A	8 2	835	3.785	3.726	-1.58	3.870	3.726	-3.88	2.25
13 A	4 1	2625	2.390	2.336	-2.30	2.420	2.327	-3.98	1.26
A	11 1	1755	2.385	2.319	-2.86	2.350	2.310	-1.74	-1.47
1 B	7 7	390	3.523	3.499	-0.68	3.575	3.495	-2.29	1.48
2 B	4 1	2130	2.148	2.189	1.89	2.218	2.200	-0.81	3.26
2 B	5 8	730	2.875	2.879	0.15	2.893	2.869	-0.82	0.63
3 B	5 8	1550	2.440	2.446	0.26	2.468	2.437	-1.27	1.15
4 B	7 7	2380	2.615	2.614	-0.02	2.635	2.604	-1.18	0.76
5 B	8 2	1795	2.178	2.225	2.13				
5 B	8 2	2315				2.318	2.307	-0.46	
5 B	11 1	1460	2.640	2.653	0.47	2.658	2.643	-0.59	0.68
6 B	11 1	2040	2.255	2.282	1.17	2.295	2.273	-0.96	1.77
6 B	5 8	1190	2.613	2.632	0.74	2.637	2.622	-0.56	0.92
6 B	5 8	1545	2.425	2.448	0.95	2.450	2.439	-0.46	1.03
7 B	7 7	1280	2.767	2.780	0.47	2.787	2.770	-0.61	0.72
7 B	7 7	1690	2.505	2.520	0.59	2.520	2.510	-0.40	0.60
8 B	7 7	0	3.630	3.608	-0.61	3.675	3.605	-1.94	1.24

TABLE 2-1

REV/MODE	RAMP	I.U.R.	INST 174 ACT.	INST 174 CALIB.	INST 174 DEV.	INST 175 ACT.	INST 175 CALIB.	INST 175 DEV.	174/175 DIFF.
8 8	8 2	0	5.490	5.479	-0.20	5.610	5.539	-1.28	2.19
8 8	4 1	1115	2.587	2.581	-0.23	2.613	2.571	-1.63	1.01
9 8	4 1	3410	3.850	3.849	-0.03	3.900	3.851	-1.28	1.30
9 8	11 1	1090	3.690	3.693	0.07	3.745	3.691	-1.45	1.49
10 8	11 1	2080	2.288	2.297	0.39	2.313	2.288	-1.07	1.09
10 8	11 1	3120	5.170	5.114	-1.10	5.290	5.157	-2.59	2.32
10 8	7 7	305	3.570	3.542	-0.79	3.615	3.538	-2.17	1.26
13 8	4 1	2630	2.363	2.344	-0.80	2.375	2.335	-1.69	[redacted]
13 8	11 1	1975	2.260	2.268	0.34	2.277	2.259	-0.76	[redacted]

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

7. Pressure Make-Up System Performance

The pressure make-up system performed satisfactorily. The gas consumption rate was a little higher than normal at 9.0 psia/minute of operate for the "A" mode. A flow rate check of the system after the test showed the flow rate to be high but within allowable tolerances.

Because of the two chamber dives, the "B" mode chamber pressure did not go below 1 micron.

8. Temperature Summary

The chamber temperatures were cold during the "A" mode and near normal for the "B" mode. Instrument mainplate temperature is shown in Figure 2-1.

B. RESOLUTION TEST

Resolution and theodolite tests were performed on 23 July 1965. Results of the thru-focus resolution tests of pan instruments 174 and 175 show the following characteristics:

Master Pan Instrument No. 174

Maximum high contrast resolution 194 lines/mm at + .001 focal position.

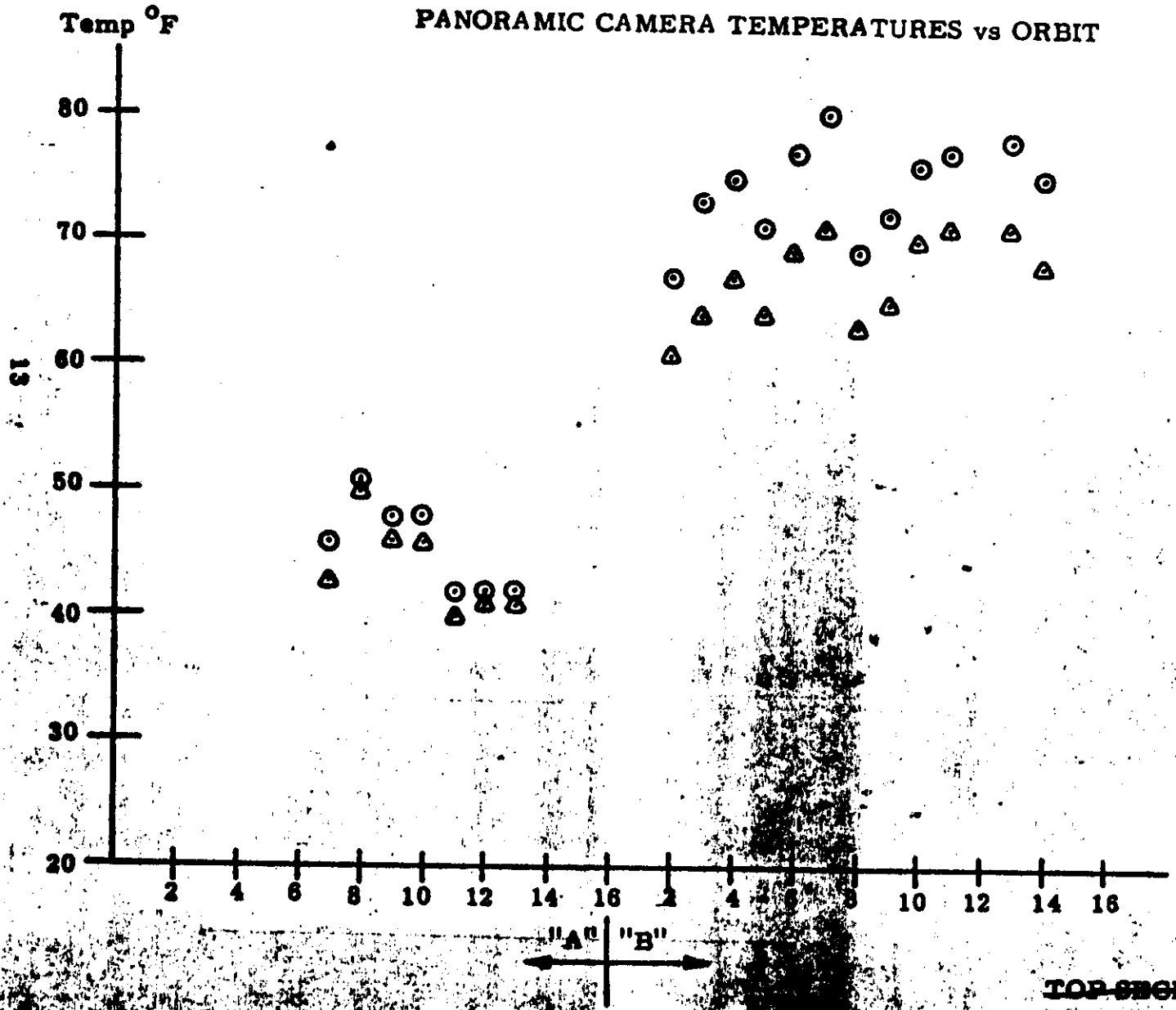
Maximum low contrast resolution 120 lines/mm at + .001 focal position.

Slave Instrument No. 175

Maximum high contrast resolution 194 lines/mm at + .001 focal position.

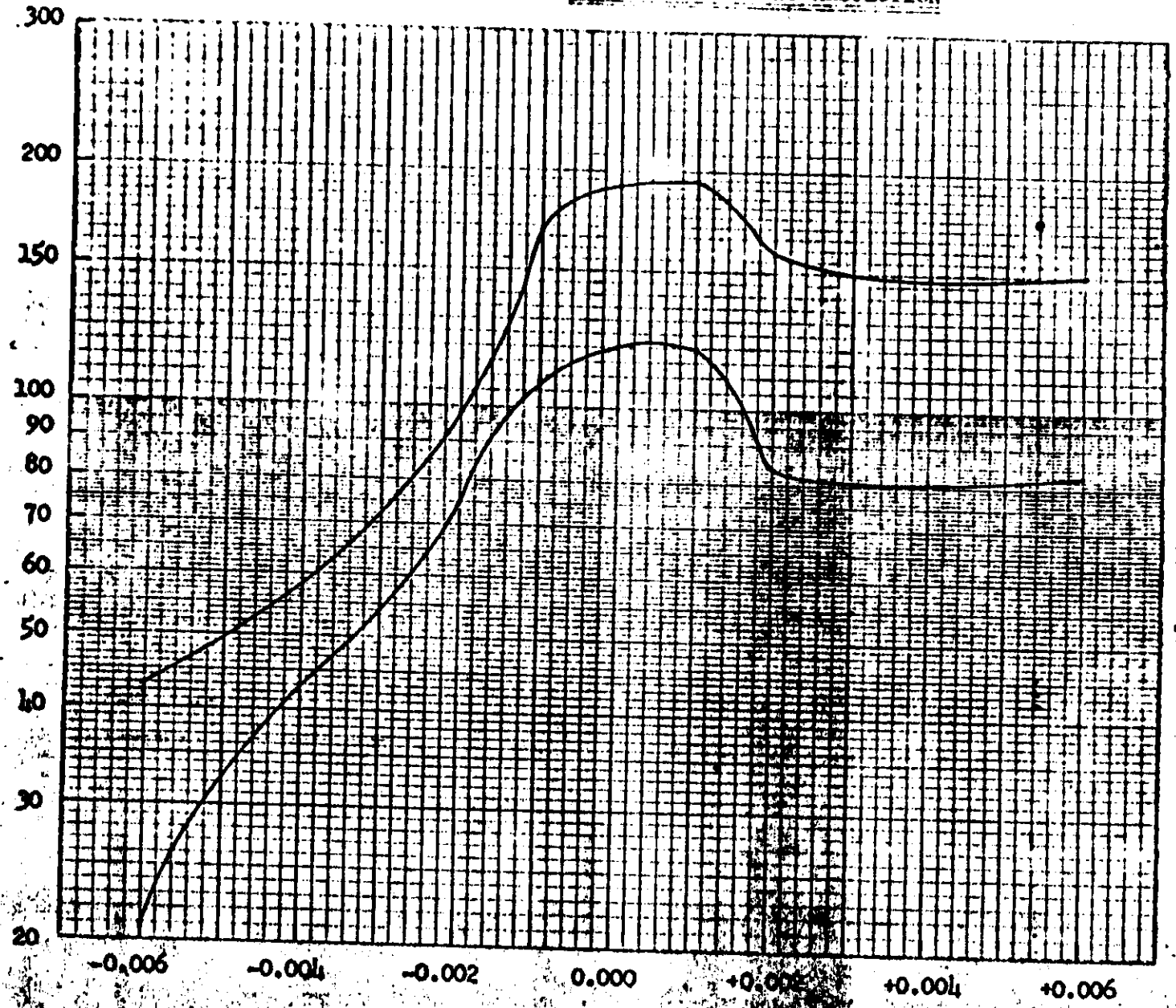
Maximum low contrast resolution 120 lines/mm at + .001 focal position.

The test data for both instruments is shown in Figures 2-2 and 2-3. Both instruments met the system requirements specification.


PANORAMIC CAMERA TEMPERATURES vs ORBIT
Temp °F
80
70
60
50
40
30
20
2
4
6
8
10
12
14
16
"A"
"B"
Orbit Number
⊙=Avg of T/S 7 & T/S
on the Master Instr
▲=Avg of T/S 7 & T/
on the Slave Instr

FIGURE

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 174

Payload No: J-25

Resolution (l/mm)

High Contrast: 15°

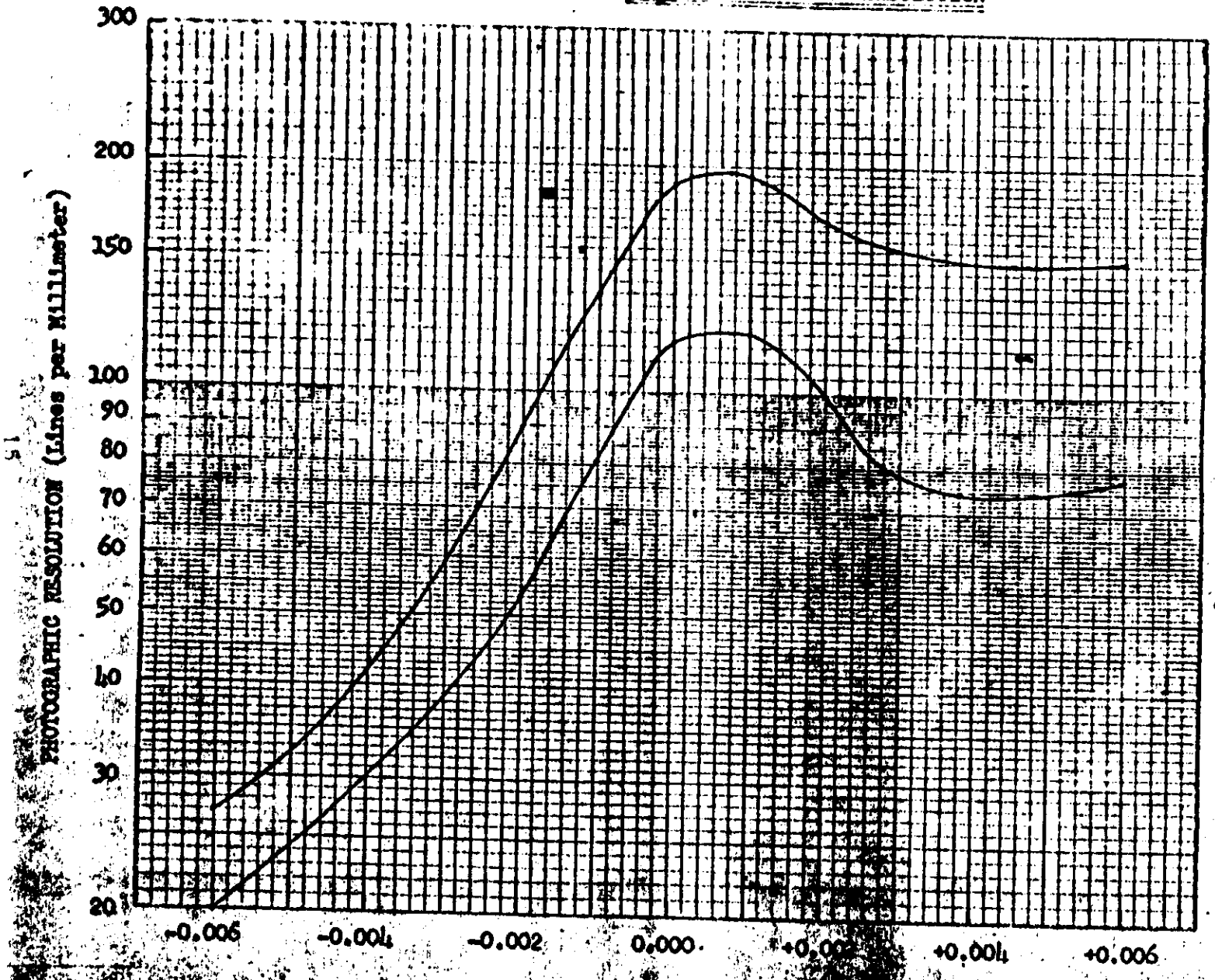
Low Contrast: 0°

Film Type: 3404

Test Date: 7/23/65

FIGURE [redacted]

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 175

Payload No: J-25

Resolution (l/mm)

High Contrast: 15°

Low Contrast: 0°

Film Type: 3404

Test Date: 7/23/6[illegible]

FIGURE [illegible]

C. LIGHT LEAK TEST

The J-25 system was tested for light leaks on 1 September 1965.

A minor light leak fogged three small areas (2 x 1/4 inches each) of the test film in instrument 174 and 175. The first photomultiplier search failed to detect the light leak. The second photomultiplier search located the light leak at the drum/felt seal of the master instrument.

Fog marks measured approximately 0.4 to 0.6 density as a result of the 1/2 hour light leak test and 0.04 density as a result of the 1/4 hour light leak test exposure. The felt seal was inspected to assure a flight acceptable configuration.

D. FLIGHT LOADING AND CERTIFICATION

The J-25 flight readiness test was performed and the resulting pan instrument payload was examined at VAFB on 21 October 1965. The initial readiness test payload showed the master instrument end-of-pass mark to be missing and two minus density streaks due to foreign matter were on the filter. Investigation showed the EOP lamp to be burned out and lint was found on the filter. These items were corrected and the readiness test was re-run. In this test, the condition of the master instrument payload was satisfactory. The slave instrument payload was satisfactory in both tests.

The loading of flight payload into the supply cassette was performed on 25 October 1965. After final system assembly, payload splices and tracking were observed to be normal.

SECTION 3

FLIGHT OPERATIONS

A. INSTRUMENTATION AND COMMAND SYSTEM PERFORMANCE

All instrumentation performed satisfactorily throughout the mission with the exception of the fairing temp sensor No. 1. The telemetry monitor indicated an out of band low condition for the duration of Phase I.

Command System Performance

The command system operation was satisfactory throughout both phases of the mission.

Both emergency operate programs (Programs 10 and 11) were utilized on engineering operations during [redacted] acquisitions on orbit 167 and 174. All instrument functions operated satisfactory.

The following operational problems were encountered during this mission.

1. A vehicle H-timer reset was issued 100 seconds early on orbit 33 which caused all events on orbit 34 and 35 to occur 100 seconds early.

2. The V/h programmer failed to operate on orbit 88. An RTC 10 command (V/h ramp start delay) was issued on orbit 87 stepping from position 9 to position 8, while brush 27 (V/h programmer start brush) was stepping between position 8 and 9.

B. PANORAMIC CAMERA PERFORMANCE

Both panoramic camera system dynamic operation, 99/101% clutch operation, startup, shutdown, and transport functions were normal for all passes monitored. The slave instrument center of format switch (S-105) failed to close on 37 frames in the -1 mission causing missing data block, horizon optics, blanking pulse and errors in cycle counter readings. The switch closure was observed to fail randomly from D-24 to D-70. There was no reported failure of the switch during the -2 mission.

Cycle periods taken from telemetry data during [redacted] acquisition are listed in Table 3-1. The cut and wrap sequence performed satisfactorily.

Panoramic Film Consumption - Frames

These data are based on cycle counters and nominal supply length.

	Nominal	Actual	
		Master	Slave
Preload samples	18	17	17
Prelaunch checkout	100	101	100
-1 Mission	2950	2929	2897*
-2 Mission	2981	3002	3055
TOTAL	6049	6049**	6049**

*Slave counter known to be missing counts, therefore unreliable.

**Depletion was predicted near or during orbit 151 descending.

C. FMC MATCH

In general, FMC was accomplished within the desirable 5% tolerance, although on the slow side. However, driving the system well into the cycle rate limiter was necessitated by perigee displacement (4.7 N.M. low, 13° south); this could produce rates nominally as much as 5% slow for orbit match.

The limiter affected operations for a 30 to 35 degree (latitude) range; between 225° - 305° early in the mission, to between 250° to 215° late in the mission.

Certain operations occurred outside the expected tolerance:

Revs 1 thru 6 - Commanding occurred previous to complete orbit definition; only partial compensation made for perigee shift - errors up to 10%.

Revs 34 and 35 - An intolerable reset on Rev 33 caused all functions to occur 100 sec. early; displacing operations northward and yielding approximately 5 - 6% error for actual photography.

Rev 87 - Due to a command problem, the programmer was not started, yielding very high indicated error for the operation run at the "bottom of the ramp".

[redacted] No. [redacted]

J-25/1620 MISSION 1026, ENGINEERING OPERATIONS CYCLE RATES

REV/MODE		RAMP		T.U.R.	INST 174 ACT.	CAL.	DEV.	INST 175 ACT.	CAL.	DEV.	174/175 DIFF.
009	1	7	3	0	4.760	4.755	0.10S	4.765	4.784	0.39F	0.11
016	1	7	3	1554	2.340	2.295	1.97S	2.322	2.286	1.57S	-0.77
031	1	7	3	1625	2.258	2.239	0.85S	2.279	2.240	1.72S	0.93
040	1	7	3	123	4.722	4.725	0.06F	4.755	4.752	0.06S	0.70
047	1	7	3	1630	2.265	2.236	1.31S	2.262	2.240	0.98S	-0.13
063	1	7	3	1659	2.264	2.233	1.39S	2.282	2.238	1.98S	0.80
079	1	7	2	1695	2.233	2.221	0.52S	2.255	2.228	1.22S	0.99
88	2	7	2	252	4.888	4.864	0.49S	4.936	4.896	0.81S	0.98
94	2	7	2	1685	2.240	2.222	0.80S	2.245	2.229	0.74S	[redacted]
94	2	7	2	1825	2.224	2.214	0.45S	2.240	2.222	0.83S	[redacted]
103	2	7	2	288	4.845	4.804	0.85S	4.875	4.834	0.84S	0.62
110	2	7	2	1855	2.240	2.213	1.21S	2.240	2.221	0.86S	-0.00
126	2	7	2	1856	2.235	2.213	0.98S	2.244	2.221	1.04S	0.40
142	2	7	2	1850	2.250	2.213	1.66S	2.250	2.221	1.31S	-0.00
158	2	6	3	1925	2.223	2.210	0.58S	2.225	2.218	0.30S	0.09

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

D. STELLAR/INDEX CAMERA PERFORMANCE

Both the -1 and -2 Stellar/Index cameras operated properly throughout the mission. Metering was normal on all engineering passes and shutter pulses were present on all daytime operations. The -1 index film was not depleted on orbit 79 [redacted] but depleted prior to good T/M on cut and wrap slew operation. The -2 index film was depleted at orbit 158 [redacted].

E. CLOCK PERFORMANCE

Clock system performance was normal throughout both phases of the mission. Good time correlation between system time and clock time was obtained. A tabulation of the time correlation data is included in Table 3-2.

F. PRESSURE MAKEUP SYSTEM PERFORMANCE

The pressure makeup system performed satisfactorily throughout both phases of the mission. The average gas consumption was 7.4 lbs/min. for a total operate time of 262 minutes, which compares favorably with previous systems.

G. THERMAL ENVIRONMENT

Tables 3-3 and 3-4 contain the temperature data acquired from the [redacted] acquisitions. The actual system temperature versus the predicted system temperature for major components is included in Figure 3-1, 3-2 and 3-3.

J-2S MISSION 1026 CLOCK/SYSTEM TIME CORRELATION

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.37945138D 05	0.7058127000 04	0.3794513710 05	0.0009	9	
0.77522878D 05	0.4663587000 05	0.7752288000 05	-0.0020	16	
0.33150058D 05	0.8866304300 05	0.3315005290 05	0.0051	24	
0.72799238D 05	0.1283122260 06	0.7279923590 05	0.0021	31	
0.33755785D 05	0.1756687740 06	0.3375578380 05	0.0012	40	
0.73293018D 05	0.2152060080 06	0.7329301770 05	0.0003	47	
0.34130240D 05	0.2624432340 06	0.3413024360 05	-0.0036	56	
0.73844077D 05	0.3021570690 06	0.7384407850 05	-0.0015	63	
0.34853128D 05	0.3495661160 06	0.3485312550 05	0.0025	72	
0.74351678D 05	0.3890646720 06	0.7435168140 05	-0.0034	79	
0.35339748D 05	0.4364527460 06	0.3533975530 05	-0.0073	88	
0.69484758D 05	0.4705977480 06	0.6948475720 05	0.0008	94	
0.30361668D 05	0.5178746570 06	0.3036166620 05	0.0010	103	
0.69910361D 05	0.2055244200 05	0.6991036310 05	-0.0021	110	
0.30771483D 05	0.6781355700 05	0.3077147800 05	0.0050	119	
0.70302455D 05	0.1073445370 06	0.7030245790 05	-0.0029	126	
0.31036218D 05	0.1544782980 06	0.3103621880 05	-0.0008	135	
0.70545878D 05	0.1939879590 06	0.7054587980 05	-0.0018	142	
0.31443048D 05	0.2412851280 06	0.3144304870 05	-0.0007	151	
0.70861774D 05	0.2807038470 06	0.7086176760 05	0.0064	158	

A0= 0.30887010100 05 A1= 0.9999999981740 00
SIGMA=0.00317 NO. POINTS= 20
RATIO OF CLOCK TIME TO SYS TIME= 0.1000000001830 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.37945138D 05	0.7058127000 04	0.3794513930 05	-0.0013	9	
0.77522878D 05	0.4663587000 05	0.7752288160 05	-0.0036	16	
0.33150058D 05	0.8866304300 05	0.3315005390 05	0.0041	24	
0.72799238D 05	0.1283122260 06	0.7279923630 05	0.0017	31	
0.33755785D 05	0.1756687740 06	0.3375578370 05	0.0013	40	
0.73293018D 05	0.2152060080 06	0.7329301720 05	0.0008	47	
0.34130240D 05	0.2624432340 06	0.3413024280 05	-0.0028	56	
0.73844077D 05	0.3021570690 06	0.7384407750 05	-0.0005	63	
0.34853128D 05	0.3495661160 06	0.3485312420 05	0.0038	72	
0.74351678D 05	0.3890646720 06	0.7435168010 05	-0.0021	79	
0.35339748D 05	0.4364527460 06	0.3533975400 05	-0.0060	88	
0.69484758D 05	0.4705977480 06	0.6948475600 05	0.0020	94	
0.30361668D 05	0.5178746570 06	0.3036166510 05	0.0029	103	
0.69910361D 05	0.2055244200 05	0.6991036220 05	-0.0012	110	
0.30771483D 05	0.6781355700 05	0.3077147750 05	0.0055	119	
0.70302455D 05	0.1073445370 06	0.7030245780 05	-0.0028	126	
0.31036218D 05	0.1544782980 06	0.3103621920 05	-0.0012	135	
0.70545878D 05	0.1939879590 06	0.7054588070 05	-0.0027	142	
0.31443048D 05	0.2412851280 06	0.3144305030 05	-0.0023	151	
0.70861774D 05	0.2807038470 06	0.7086176990 05	0.0041	158	

A0= 0.30887012460 05 A1= 0.9999999802430 00
A2= 0.2180004874127D-13
SIGMA=0.00295 NO. POINTS= 20

TABLE 3-2

TABLE 3-3

J-25 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																		
Master Camera	9	16	24	31	40	47	56	63	72	79	88	94	103	110	119	126	135	142	151
3	78	75	79	76	79	76	77	74	76	74	71	67	68	64	66	64	66	64	67
4	85	81	85	80	85	81	83	80	81	79	79	73	75	69	73	69	73	69	73
5	91	87	91	88	90	87	89	86	87	84	83	78	78	75	77	74	75	74	76
6	92	88	91	89	90	87	88	85	86	84	80	77	76	73	73	72	73	71	71
7	90	87	90	88	89	86	87	85	85	83	80	77	76	74	74	72	73	72	72
8	93	88	93	89	92	87	91	87	89	85	84	80	81	77	79	76	79	75	78
9	95	91	95	91	94	89	92	87	90	85	85	80	81	77	80	75	79	74	78
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	92	89	93	86	90	85	89	84	86	83	73	74	75	71	73	69	72	68	70
12	79	74	79	75	80	75	79	73	77	74	73	67	70	65	69	65	70	65	70
13	85	83	85	82	83	81	82	79	79	78	71	69	[redacted]	68	67	66	[redacted]	[redacted]	[redacted]
AVG	88	84	88	85	87	83	86	82	84	81	78	74	[redacted]	71	73	[redacted]	[redacted]	[redacted]	[redacted]
Slave Camera																			
3	85	83	85	84	84	82	83	78	80	76	74	68	68	64	65	62	64	61	62
4	85	79	84	80	84	80	83	77	82	76	77	69	71	66	69	64	68	63	66
5	85	82	86	83	86	82	85	82	83	81	80	74	75	71	73	71	72	71	71
6	80	78	81	80	81	79	80	79	78	78	74	71	70	68	68	67	69	67	67
7	84	82	84	83	84	82	83	80	81	79	76	72	72	70	70	69	70	68	69
8	82	78	83	80	83	79	82	79	81	78	77	71	72	68	71	67	70	67	69
9	78	77	81	78	80	78	81	77	79	77	76	71	73	69	71	68	71	69	71
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	74	72	74	77	76	73	76	73	73	72	71	64	63	61	62	60	63	60	62
12	88	81	89	83	87	81	87	81	84	79	79	72	75	69	72	67	71	66	69
13	75	73	77	77	76	75	75	74	73	73	69	64	64	63	62	61	62	62	61
AVG	82	78	82	80	82	79	81	76	79	77	75	70	71	67	68	66	68	66	67
Supply Spool																			
1	66	68	70	70	72	72	72	72	72	71	68	65	64	62	62	61	62	61	61
2	87	75	79	77	81	77	81	77	79	75	75	69	69	67	68	65	67	65	66

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

TABLE 3-4

J-25 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																		
Fair ("A") Barrel #1 ("B")	9	16	16	31	40	47	56	63	72	78	88	94	103	110	119	126	135	142	15
1	-	-	-	-	-	-	-	-	-	-	82	85	82	82	85	85	82	85	8
2	-5	-12	-2	-15	-5	-12	-2	-15	-2	-17	56	44	60	44	60	48	64	48	6
3	-13	-13	-13	-11	-13	-13	-11	-13	-13	-13	79	96	76	93	79	93	76	82	7
4	-	OBL	OBL	OBL	-	OBL	OBL	OBL	-	-	51	67	46	59	43	54	43	46	3
5	71	68	68	60	60	52	68	48	56	44	40	47	33	37	33	33	26	30	1
6	64	79	64	76	56	64	64	56	52	45	-	-	-	-	-	-	-	-	-
Barrel #2																			
1	58	73	54	65	46	65	50	58	42	50	30	34	26	26	23	23	15	15	1
2	61	92	61	92	58	80	61	75	55	69	49	66	46	61	46	52	41	43	3
3	69	88	69	96	69	88	73	88	73	86	69	91	69	86	69	88	69	77	5
4	62	53	66	53	66	56	72	59	69	56	66	56	66	53	69	59	72	59	7
5	52	56	60	60	52	64	64	64	64	64	41	41	37	37	37	41	37	41	3
Conic Adapter																			
1	57	62	54	57	51	51	54	46	49	43	35	30	33	25	30	22	25	22	2
Clock																			
1	68	64	70	64	68	66	68	64	68	64	57	51	51	51	55	49	51	49	5
2	81	77	83	79	70	79	83	79	81	77	70	66	68	62	68	62	66	62	6
Thrust Cone "A" to "B" SRV																			
1	49	42	45	41	44	40	44	39	43	39	65	63	63	60	60	59	59	59	5
2	69	61	64	58	61	56	59	55	57	52	74	70	69	67	67	65	65	64	6
Stellar/Index "A" to "B"																			
1	67	60	63	57	57	57	60	54	57	54	54	51	51	47	51	47	44	47	4
2	62	59	59	55	55	55	55	52	52	49	59	55	55	47	51	47	47	47	4
Recovery Battery "B" SRV																			
1	75	75	75	75	74	75	74	74	73	72	80	83	81	79	83	78	80	78	7
Master Cassette "A" SRV																			
2	79	76	77	77	77	75	75	75	75	76	-	-	-	-	-	-	-	-	-

NOTE: Only Thrust Cone Data corrected for Self-heating.

J-25 FLIGHT
10/28/65 - 11/7/65

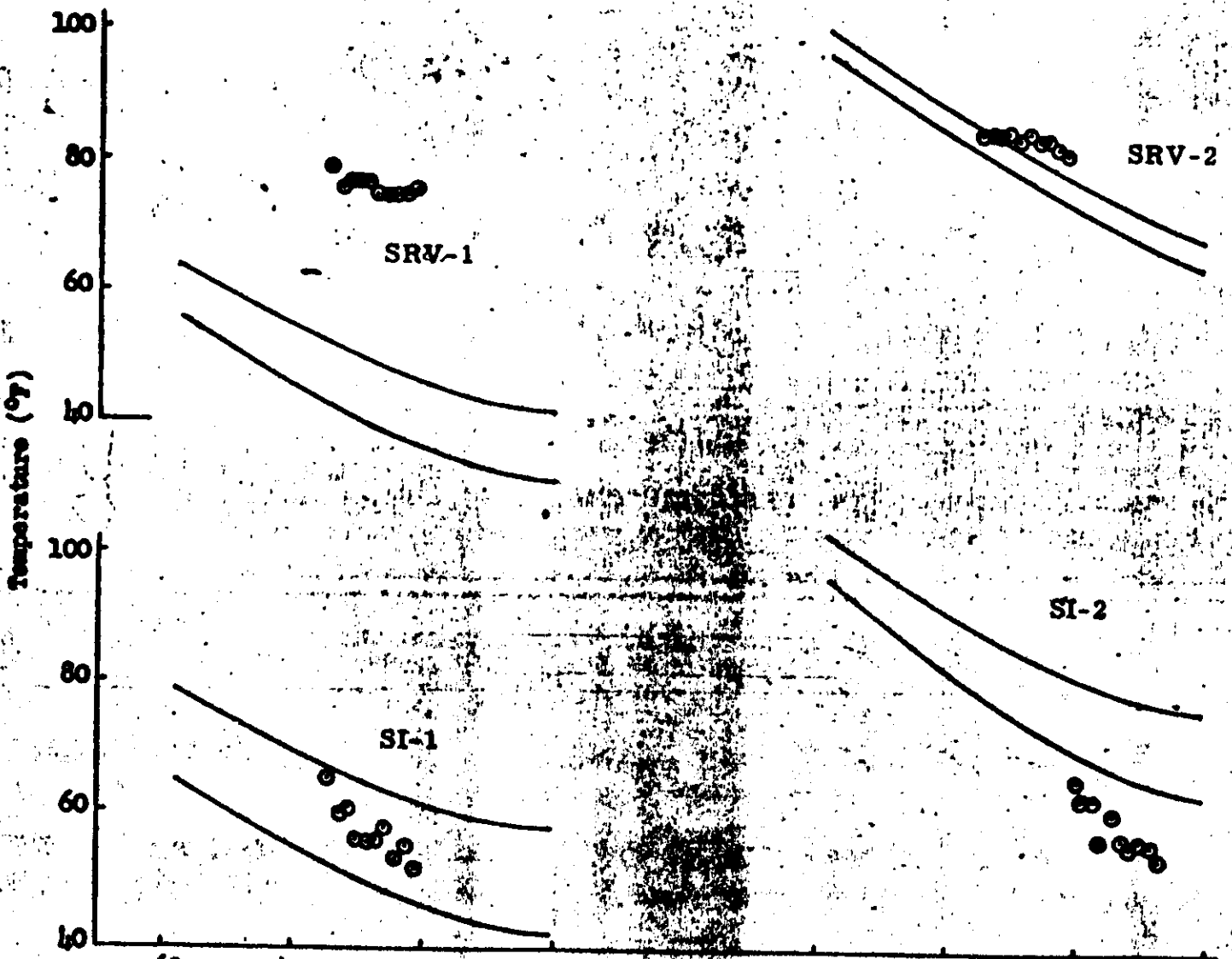
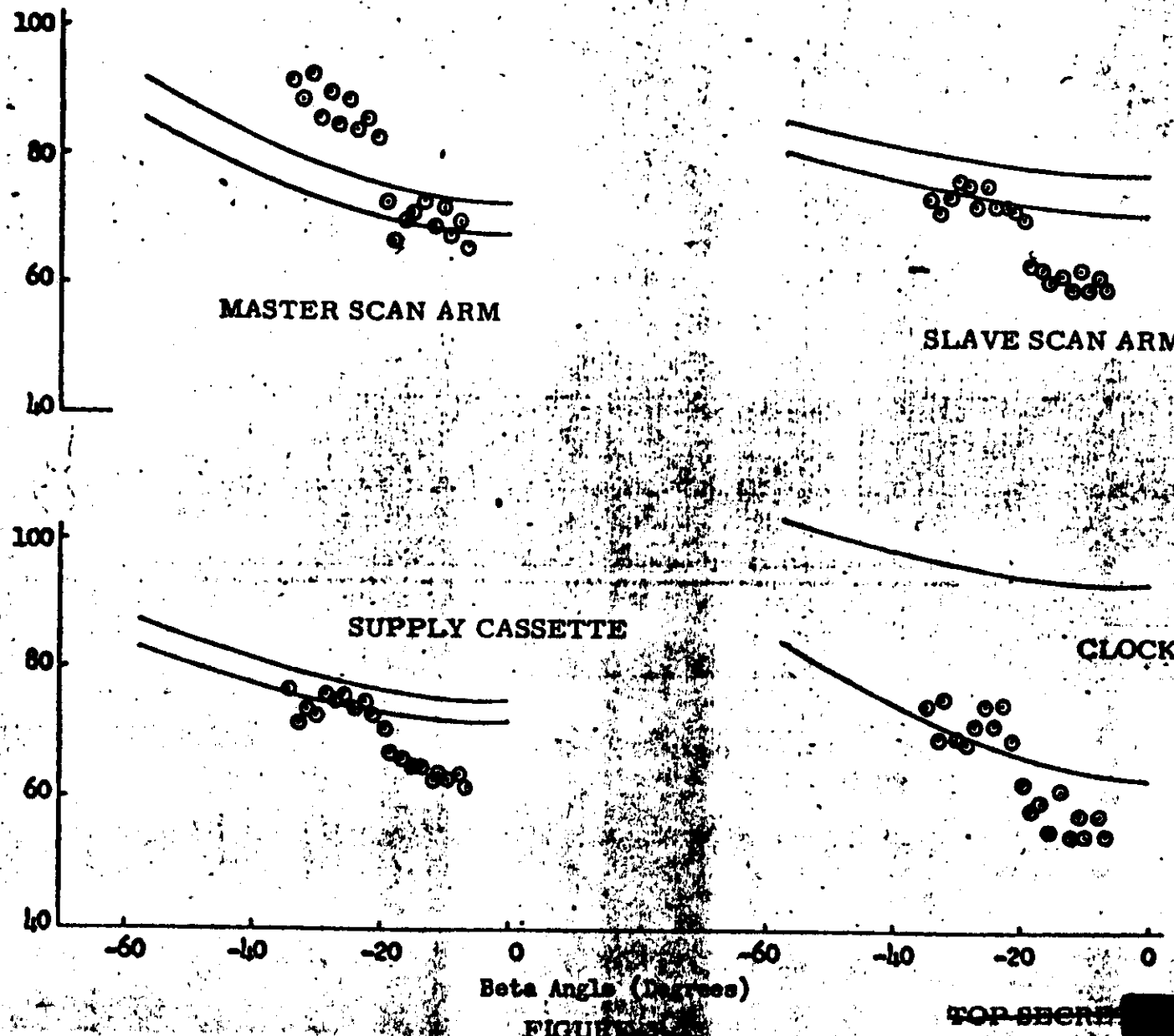


FIGURE [redacted]

J-25 FLIGHT
10/28/65 - 11/7/65



25

FIGURE [redacted]

J-25 FLIGHT
10/28/65 - 11/7/65

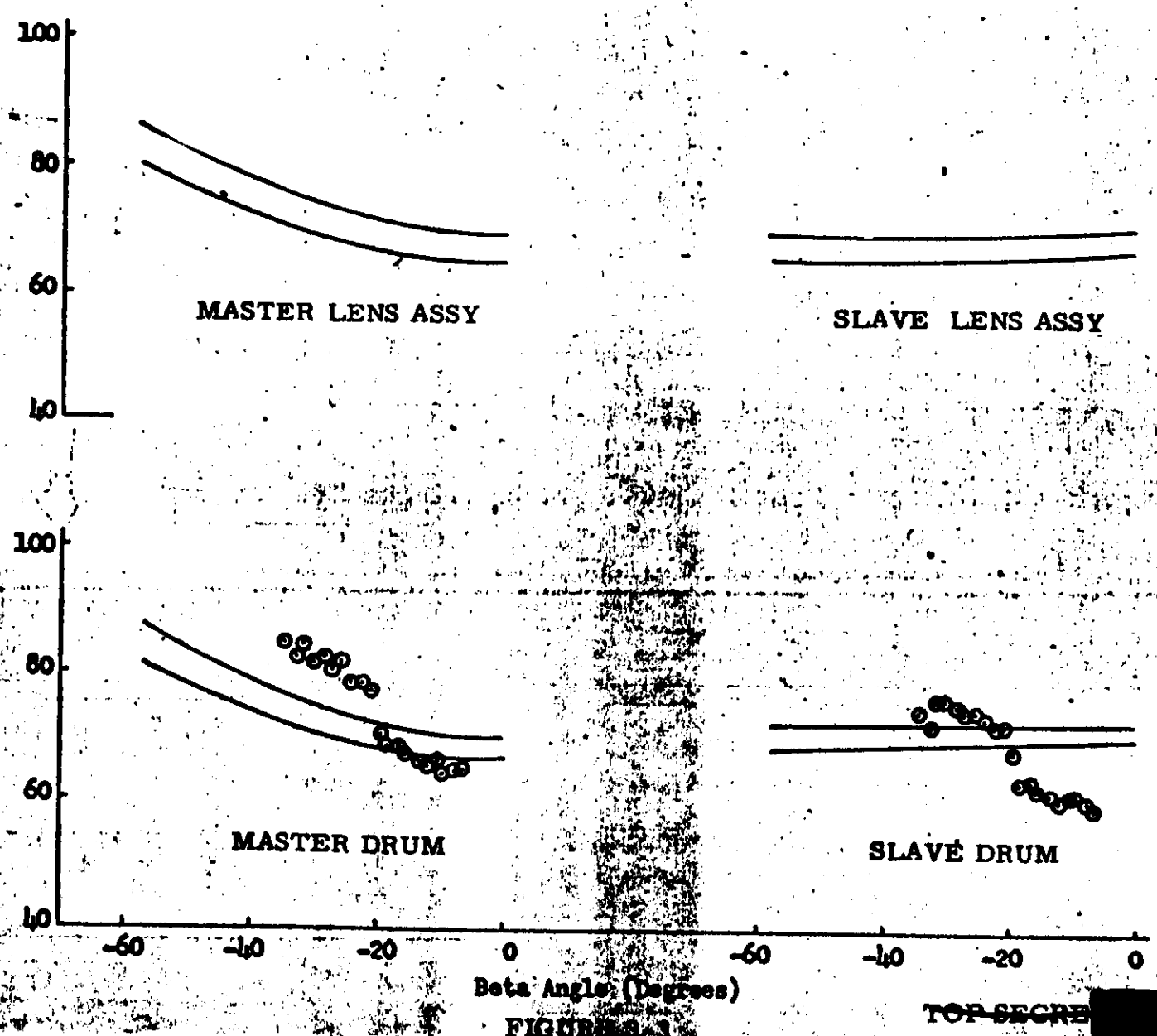


FIGURE 3.1

SECTION 4

MISSION 1026-1 RECOVERY SYSTEM

SRV #701 was received at A/P on 7 May 1965. The receiving weight was 149.7 pounds. After modifications and incorporation of outstanding E.O.'s, the SRV was delivered to Systems Test for incorporation into the J-25 system.

The capsule was shipped to VAFB on 1 October 1965.

The -1 recovery system was successfully recovered by air catch from orbit 81 at 16:03 PST on 2 November 1965. The impact point was as follows:

Predicted Impact	24°01.5'N/168°46'W
Actual Impact	23°53'N/168°37'W

The condition of the recovered capsule was satisfactory with no damage other than normal paint blistering due to the re-entry environment.

Event times are shown in Table 4-1. There were no chute events recorded at orbit 81 [redacted] or T/M ship.

MISSION 1026-1

RECOVERY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal Events $+\Delta T$
*Arm	76.99	77.0 ± 1.0
*Transfer	2.3	2.0 ± 0.25
Electrical Disconnect	1.0	$0.900 \begin{smallmatrix} +0.430 \\ -0.400 \end{smallmatrix}$
Separation	---	---
**Spin	3.43	3.4 ± 0.30
Retro	7.53	7.55 ± 0.45
Despin	10.70	10.75 ± 0.59
T/C Separation	1.50	1.5 ± 0.15
***"G" Switch Open	N/A	469.7
Parachute Cover Off	N/A	34.0 ± 1.5
Drogue Chute Deployed	N/A	0.63 ± 0.08
Main Chute Bag Separate	N/A	10.25 ± 1.5
Main Chute Deployed	N/A	0.52 ± 0.13
Main Chute Disreef	N/A	4.5 ± 0.80

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

TABLE 4-1

SECTION 5

MISSION 1026-2 RECOVERY SYSTEM

SRV #702 was received at A/P on 7 May 1965. The receiving weight was 147.8 pounds. After modifications and incorporation of outstanding E.O.'s the unit was delivered to Systems Test for mating to the J-25 system.

The capsule was shipped to VAFB on 1 October 1965.

The -2 recovery system was successfully recovered by air catch from orbit 160 at 15:04 PST on 7 November 1965. The impact point was as follows:

Predicted Impact $24^{\circ}02'N/169^{\circ}49'W$.

Actual Impact $23^{\circ}53'N/169^{\circ}42'W$

Event times are shown in Table 5-1.

The condition of the recovered capsule indicated no abnormal re-entry effects.

MISSION 1026-2

RECOVERY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal Events + △T
*Arm	76.84	77.0 ± 1.0
*Transfer	2.03	2.0 ± 0.25
Electrical Disconnect	0.89	0.900 $^{+0.430}_{-0.400}$
Separation	---	----
**Spin	3.39	3.4 ± 0.30
Retro	7.59	7.55 ± 0.45
Despin	10.71	10.75 ± 0.59
T/C Separation	1.51	1.5 ± 0.15
***"G" Switch Open	469.07	469.7
Parachute Cover Off	33.88	34.0 ± 1.5
Drogue Chute Deployed	0.59	0.63 ± 0.08
Main Chute Bag Separate	11.05	10.25 ± 1.5
Main Chute Deployed	0.55	0.52 ± 0.13
Main Chute Disreef	4.45	4.45 ± 0.80

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

TABLE 5-1

SECTION 6

MASTER PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	174
Main Camera Lens	1712435
Supply Horizon Camera	276-G2
Supply Horizon Camera Lens	816646
Take-up Horizon Camera	276-G1
Take-up Horizon Camera Lens	816625
Supply Cassette	SC-35

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24"f/3.5
Slit Width	0.225"
Filter Type	Wratten 25
Film Type	Eastman Type 4404

Supply (Port) Horizon Camera:

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

Take-up (Starboard) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION (Master Instrument)

The image quality of the photography produced by the Master camera was rated good but not equal to the quality of the previous two missions (1024 and 1025). Mission 1026-1 and 1026-2 were extensively affected by atmospheric conditions in combination with low solar elevations. Cloud cover ran up to 70% over some primary target areas and averaged approximately 50% for Mission 1026-1 and 1026-2.

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

Light leaks fogged part of the first and third frames of most passes and the sixth frame from the end of most passes. Light leak fog was generally low density in the original negative. Light leak fog had a minor degrading effect on terrain imagery.

Fog on the first and third frames is attributed to a minor light leak in the vicinity of the master camera drum area. Fog on the sixth frame from the end of pass is attributed to a minor light leak in the vicinity of SRV #1. The main camera drum light leak is expected to be suppressed by application of a silicon elastomer on the suspect light leak area. Opaque film chutes will be added to eliminate the light leak fog occurring at the SRV #1 fairing interface area beginning approximately J-30 and up.

Auxiliary data recording such as the 200 pps track, blanked pulse, S/I slur pulse, instrument serial number, and start of pass mark were consistently good throughout Mission 1026-1 and 1026-2.

Horizon fiducials were consistently good. The imagery of the take-up horizon camera was veiled on passes D-03 through D-14. The cause of veiled horizon imagery is under investigation. Take-up horizon imagery was extremely overexposed in most passes after D-98, however, horizon arcs appear usable. Take-up horizon light fog is attributed to excessive light from high reflectance scenes on the sun side of the vehicle.

Traces of dendritic static are present intermittently along both edges of the film in passes D-40, D-70, D-72, D-78, D-79, D-84, D-85, D-86, and D-116 and along the binary edge in passes D-05 and D-51.

Minor scratches are present under the camera serial number, along the edge opposite the camera number and at the take-up end of each frame. Minor scratches are attributed to normal scan head roller action.

SECTION 7

SLAVE PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	175
Main Camera Lens	1722435
Supply Horizon Camera	277-G2
Supply Horizon Camera Lens	816626
Take-up Horizon Camera	277-G1
Take-up Horizon Camera Lens	816631
Supply Cassette	SC-35

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24"f/3.5
Slit Width	0.150
Filter Type	Wratten 21
Film Type	Eastman Type 4404

Supply (Starboard) Horizon Camera:

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

Take-up (Port) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION (Slave Instrument)

The photographic quality and information content of the imagery produced by the slave camera was rated slightly higher on the average than the master camera for Missions 1026-1 and 1026-2.

The binary index lamp, binary work, and camera number were absent on 57 frames and the horizon fiducials were absent on 27 frames of Mission 1026-1. Failure occurred randomly throughout Mission 1026-1 beginning with pass D-24 and ending with pass D-70. Failure of the subject auxiliary data recording is attributed to a faulty center of format switch. Center of format switch operation was acceptable throughout Mission 1026-2 as evidenced by the presence of good data recording on all frames of recorded material.

The horizon cameras were operational throughout Mission 1026-1 and 1026-2. However, the imagery recorded by the supply horizon camera of the slave instrument appeared out of focus or veiled throughtout Mission 1026-1. This condition continues in Mission 1026-2 but gradually disappears. After pass D-110 the supply horizon photography is sharp. The cause of this phenomenon, although unknown at this time, is under investigation.

Minor light leak fog marks were observed on the first frame and the last three frames of most passes. Fogging is attributed to minor light leaks in the vicinity of the slave instrument drum area.

Minor dendritic static was present at random intervals along both edges of the slave camera film in several passes of photography.

Fine scratches were present under the camera number and at the take-up end of each frame. Scratches are attributed to normal scan head roller action.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The Master camera contained a 0.225 inch slit and a Wratten 25 filter. The Slave camera had a 0.150 inch slit and a Wratten 21 filter. These conditions placed the nominal exposure on the full processing curve.

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

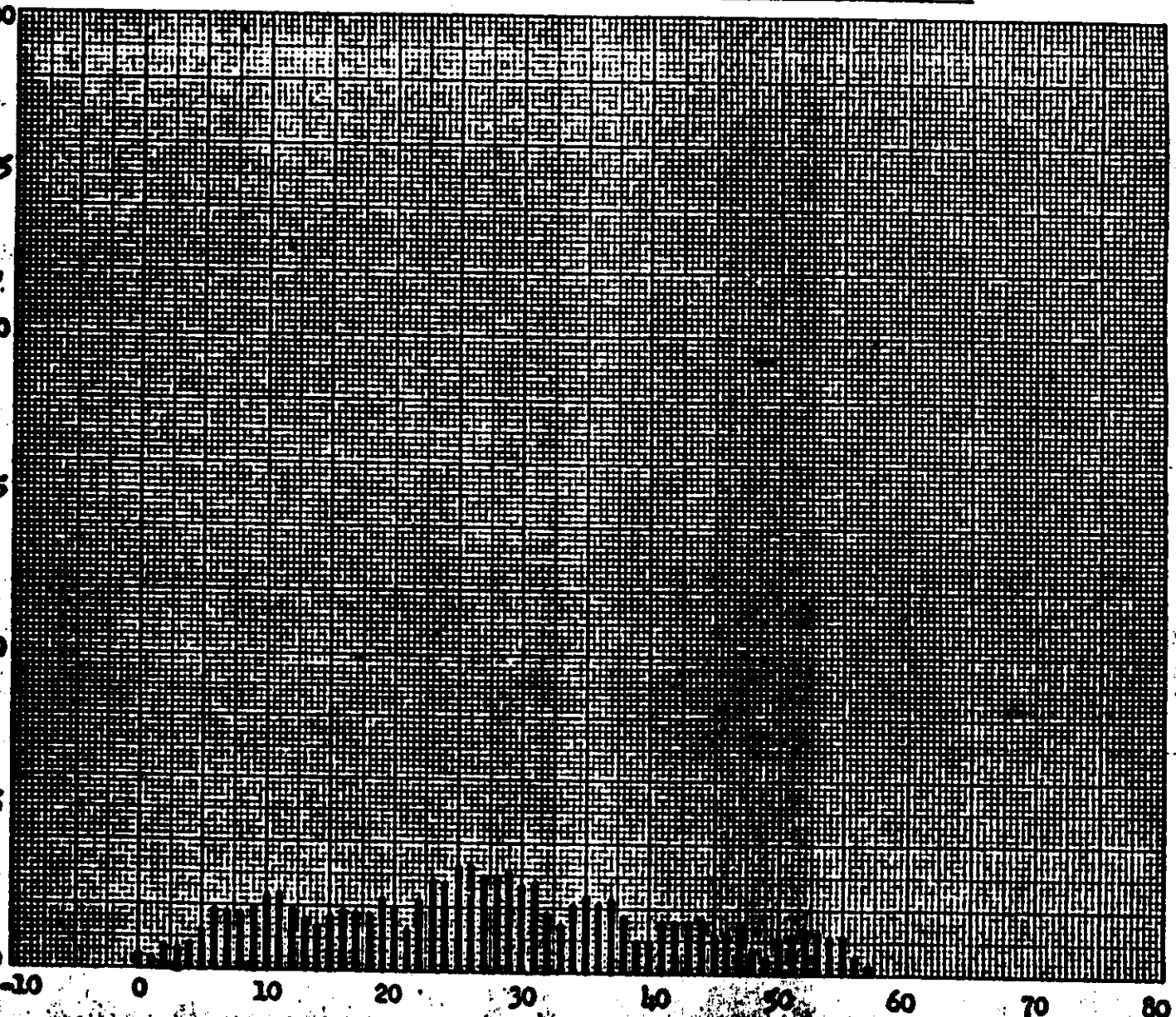
The nominal exposure times of the Master and Slave cameras are shown as a function of latitude for passes D-8, D-56, D-104 and D-152 in Figures 8-5 to 8-12. The predicted level of processing for the original negative is based on the in-flight performance estimate and is tabulated below with the processing levels reported by [redacted]

Mission	Camera		Primary	Intermediate	Full
1026-1	FWD	Predicted	0	4	96
		Reported	0	21	79
1026-1	AFT	Predicted	0	5	95
		Reported	0	4	96
1026-2	FWD	Predicted	1	0	99
		Reported	2	5	93
1026-2	AFT	Predicted	1	0	99
		Reported	2	5	93

On pass D-87 the V/h programmer did not operate due to a command error. The imagery was taken at a slow exposure and primary processing was predicted; [redacted] reported Full processing.

TOP SECRET [redacted] No. [redacted]

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1026-1

Payload No: J-25

Camera No: 174

Launch Date: 10/28/65

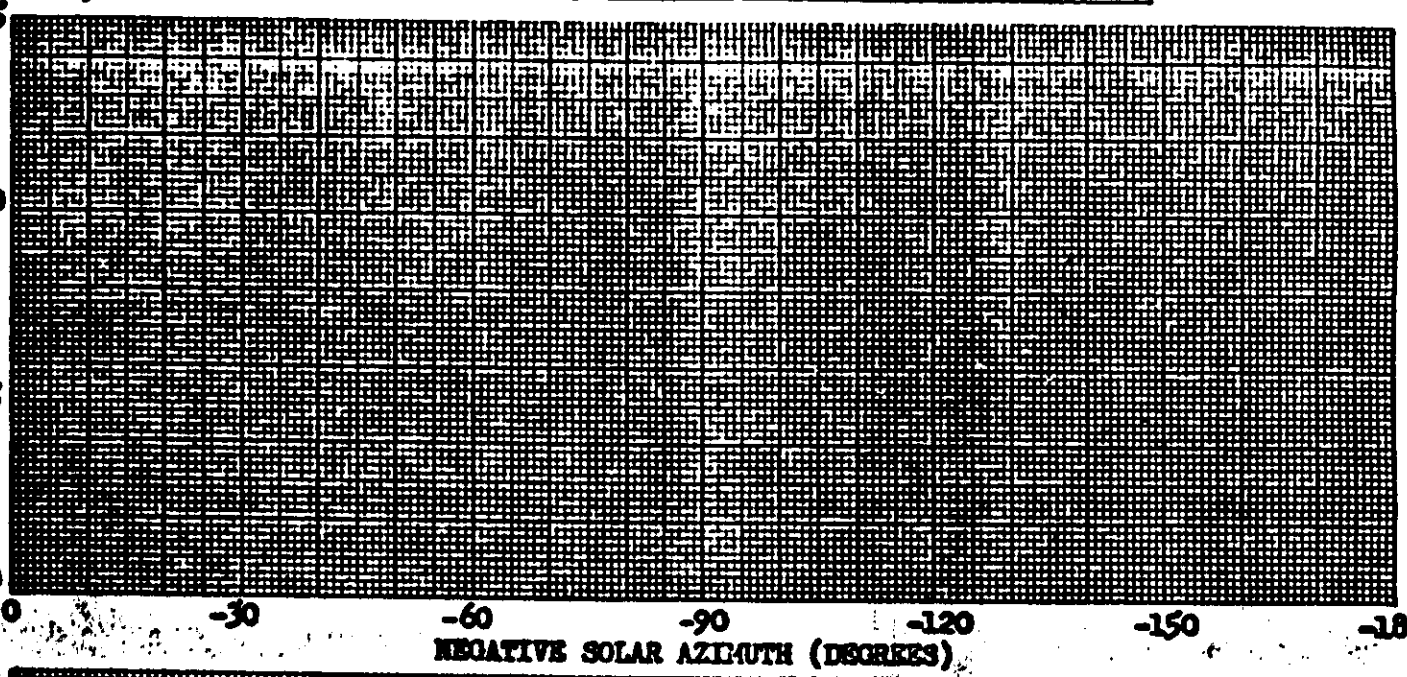
Launch Time: 2117 Z

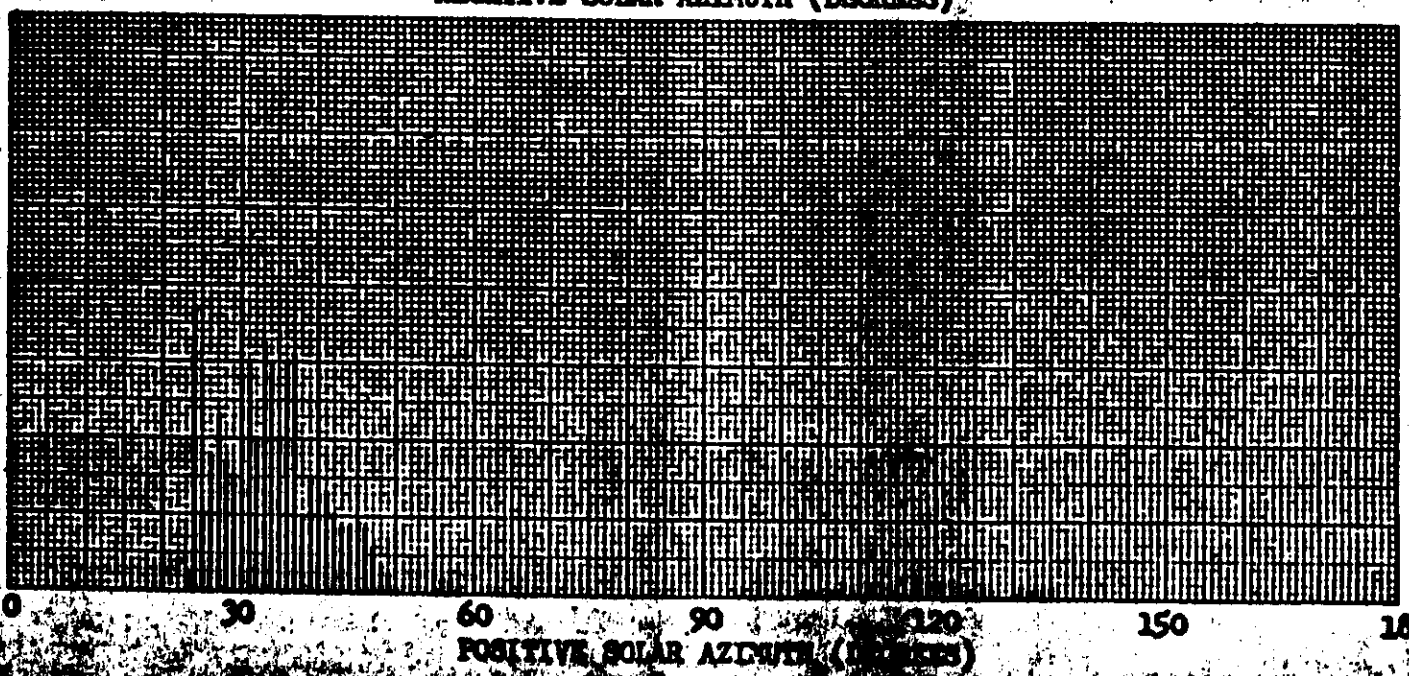
Inclination: 75°

FIGURE [redacted]

TOP SECRET [redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1026-1

Payload No: J-25

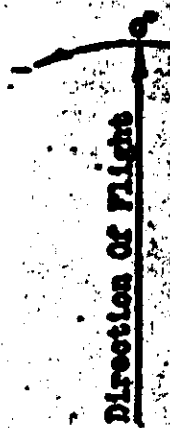
Camera No: 174

Launch Date: 10/28/65

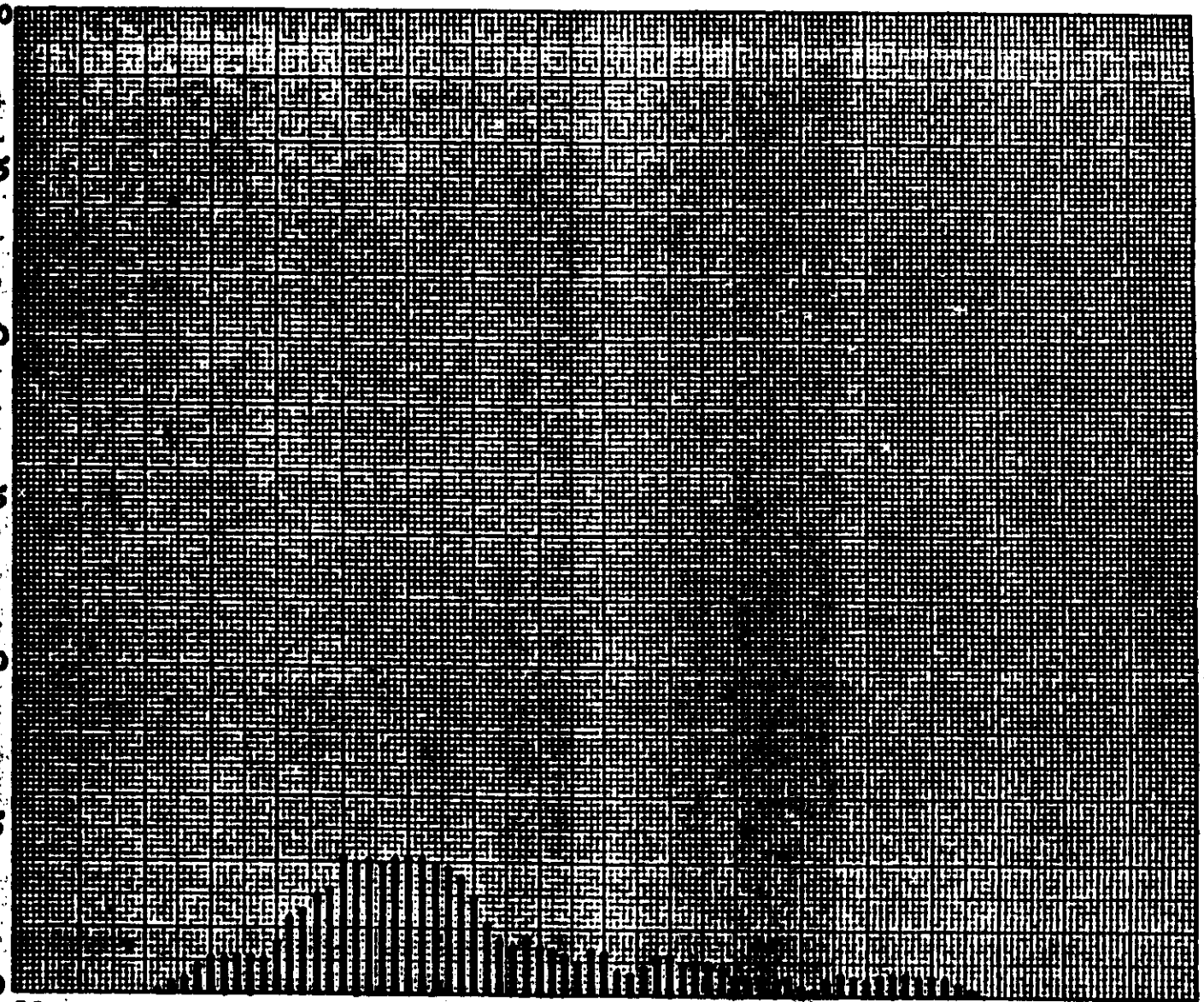
Launch Time: 2117 Z

Inclination: 75°

SIGN NOTATION



SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1026-2

Payload No: J-25

Camera No: 174

Launch Date: 10/28/65

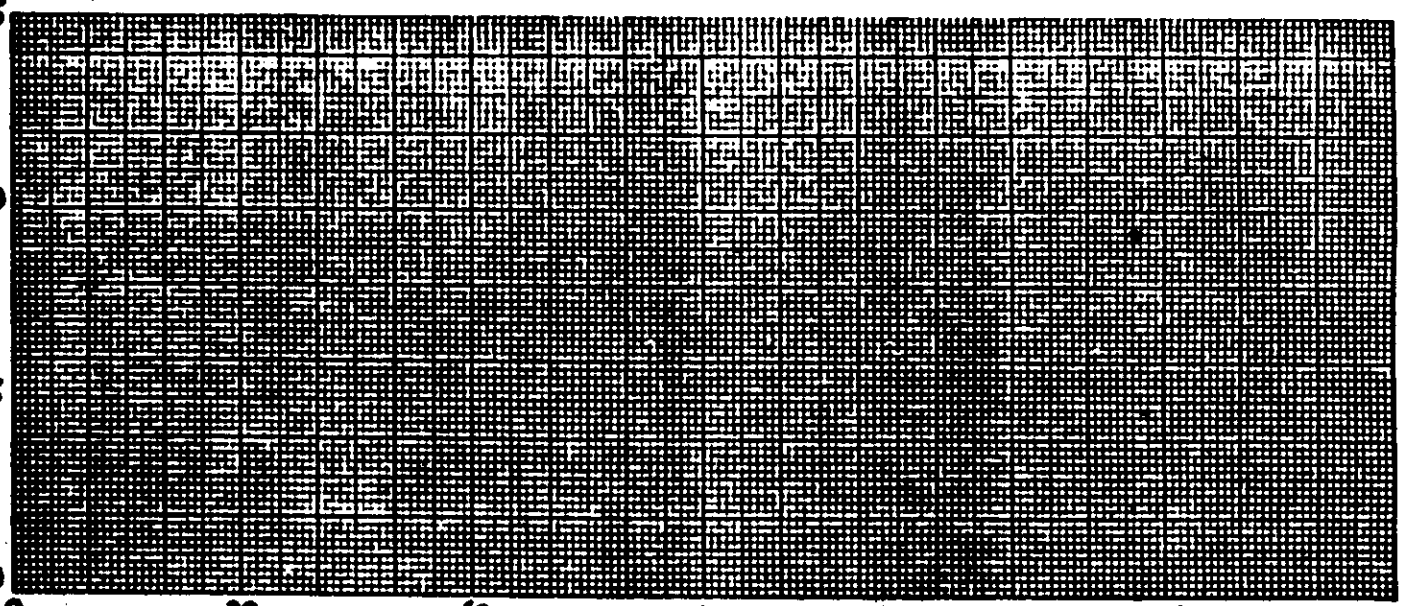
Launch Time: 2117 Z

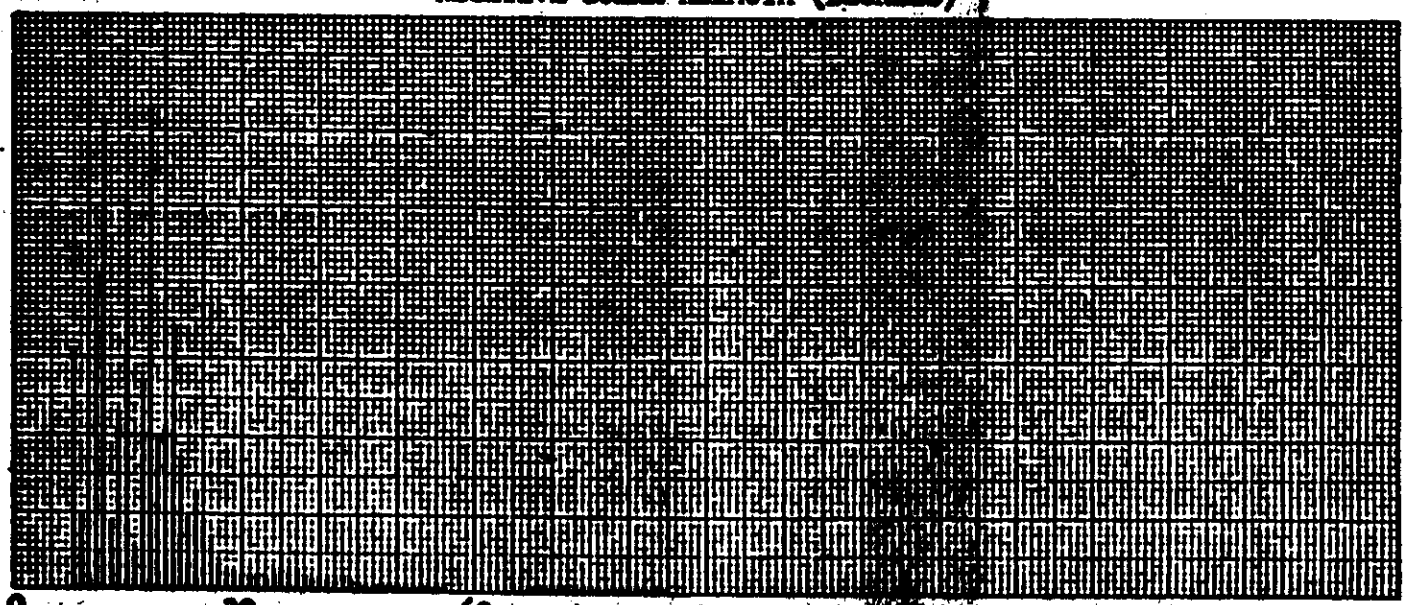
Inclination: 75°

FIGURE [redacted]

TOP SECRET [redacted] No. [redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1026-2

Payload No: J-25

Camera No: 174

Launch Date: 10/28/65

Launch Time: 2117 Z

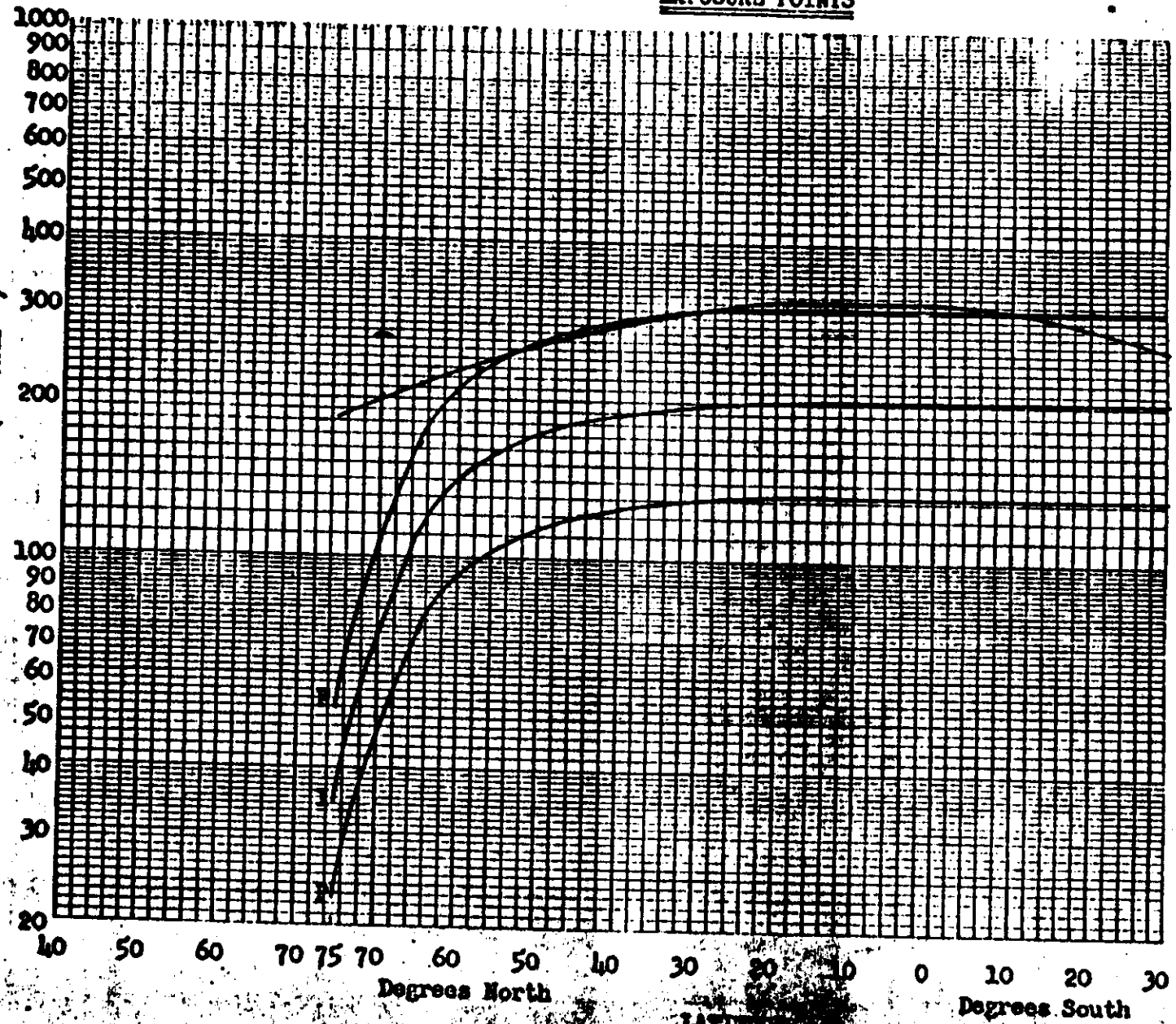
Inclination: 75°

SIGN NOTATION

[redacted]

TOP SECRET [redacted] No. [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 17h

Pass No: 8

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .225

Filter Type: Wratten

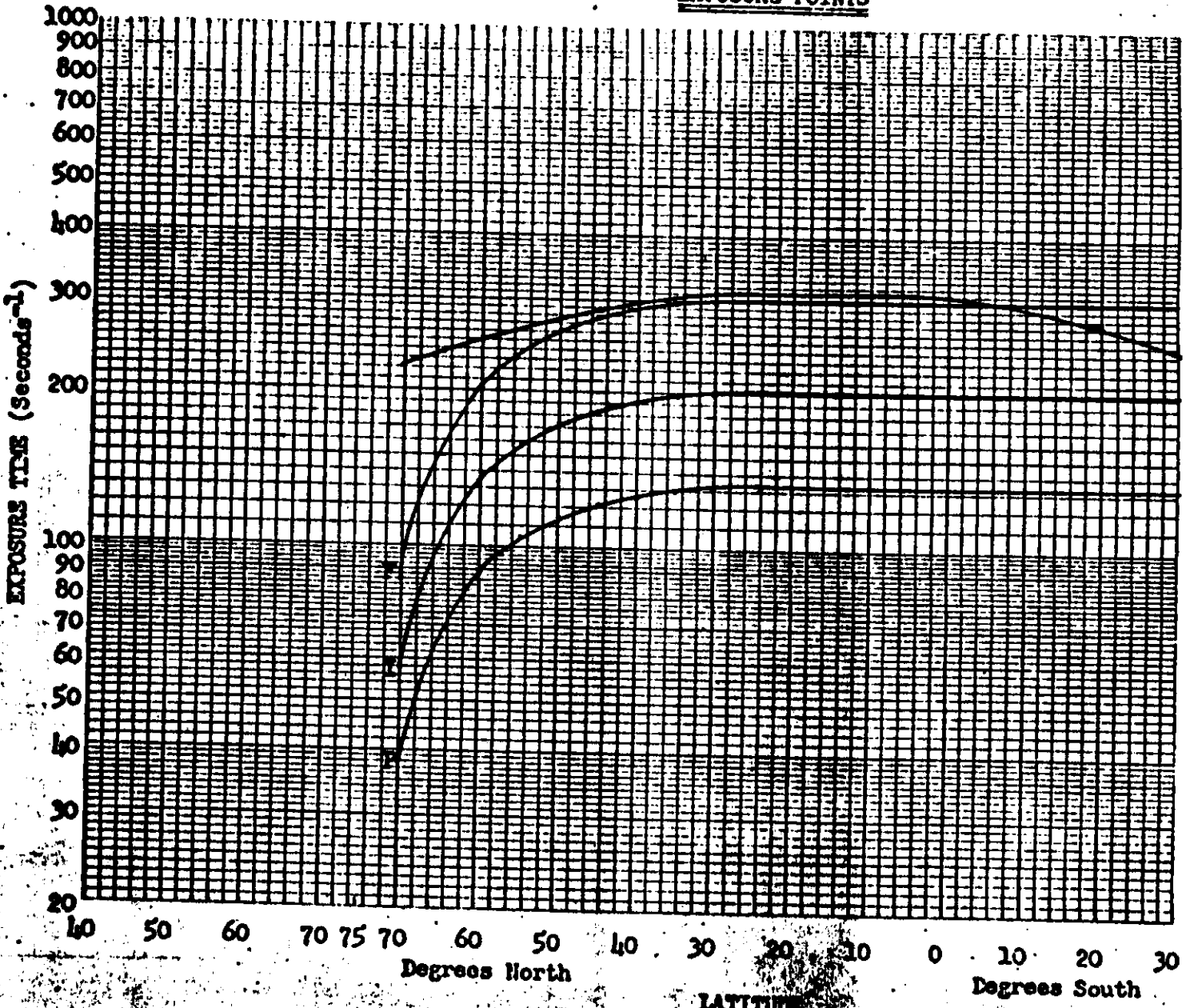
Film Type: 3404

LATITUDE

FIGURE

TOP SECRET [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 174

Pass No: 56

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .225

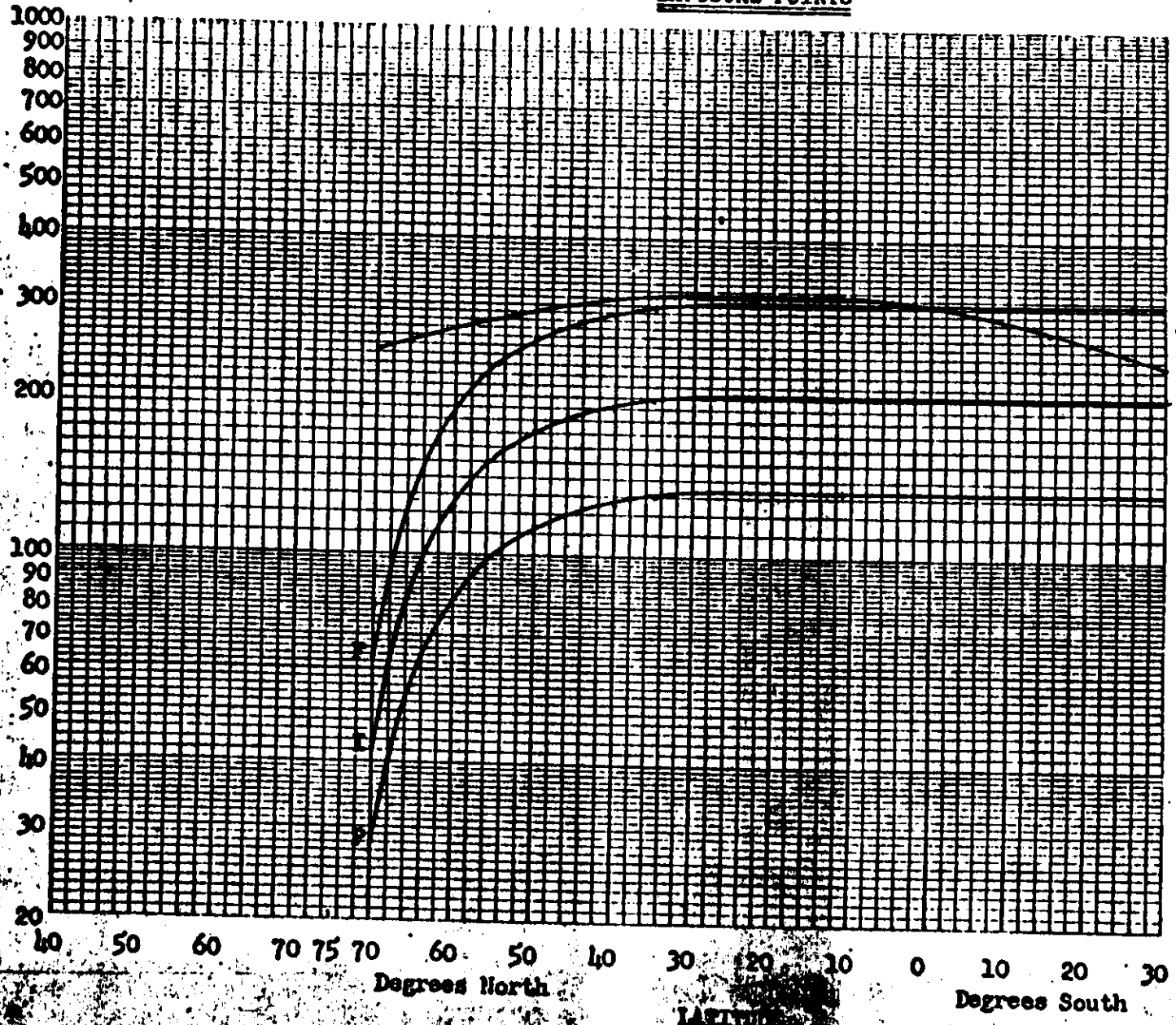
Filter Type: Wratten 2

Film Type: 3404

FIGURE [illegible]

TOP SECRET [redacted] No. [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 174

Pass No: 104

Launch Date: 10/28/6[illegible]

Launch Time: 2117 Z

Slit Width: .225

Filter Type: Wratten [illegible]

Film Type: 3404

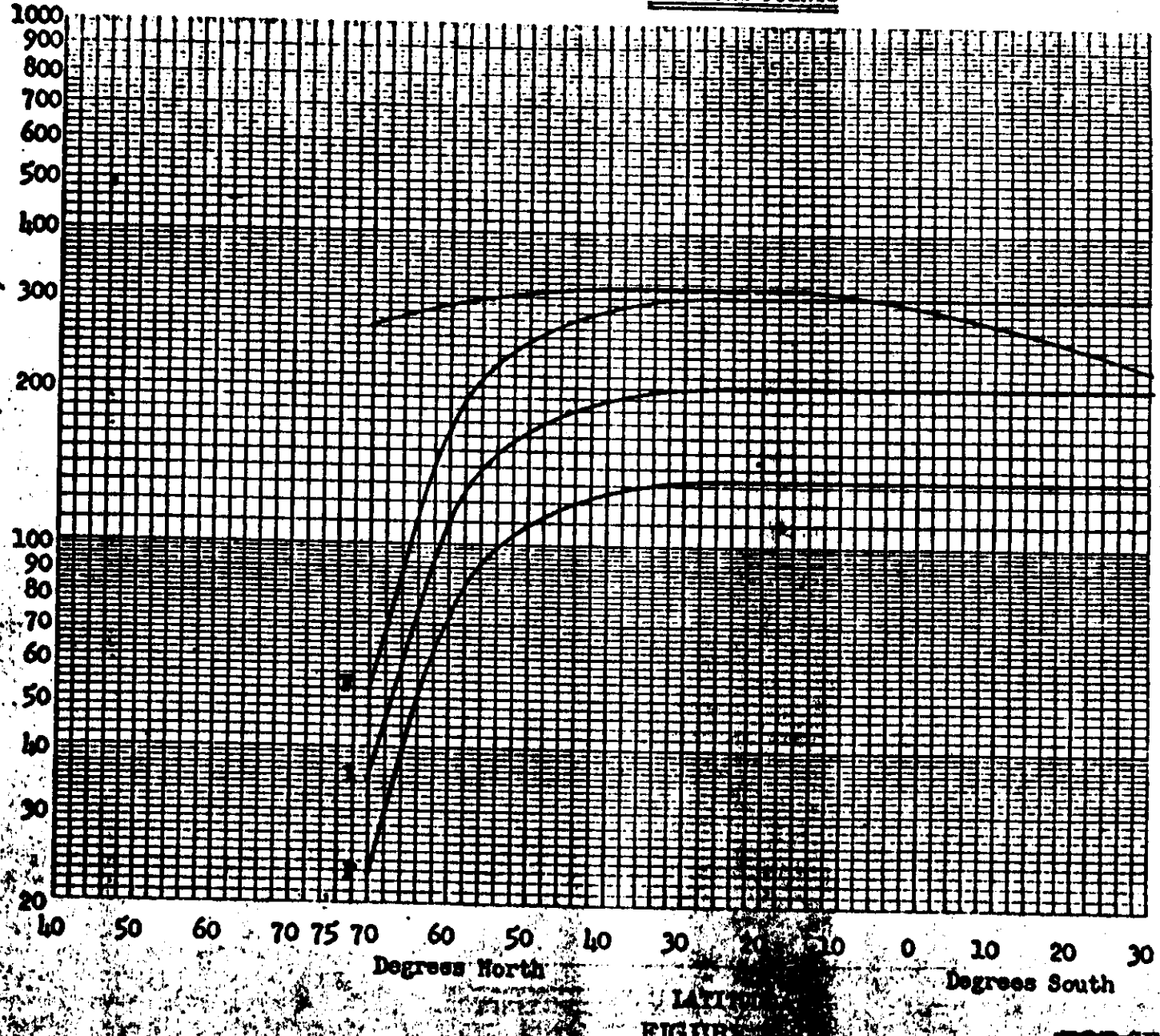
LATITUDE

FIGURE [redacted]

TOP SECRET [redacted]

TOP SECRET [redacted] No. [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 17h

Pass No: 152

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .225

Filter Type: Wratten 25

Film Type: 3404

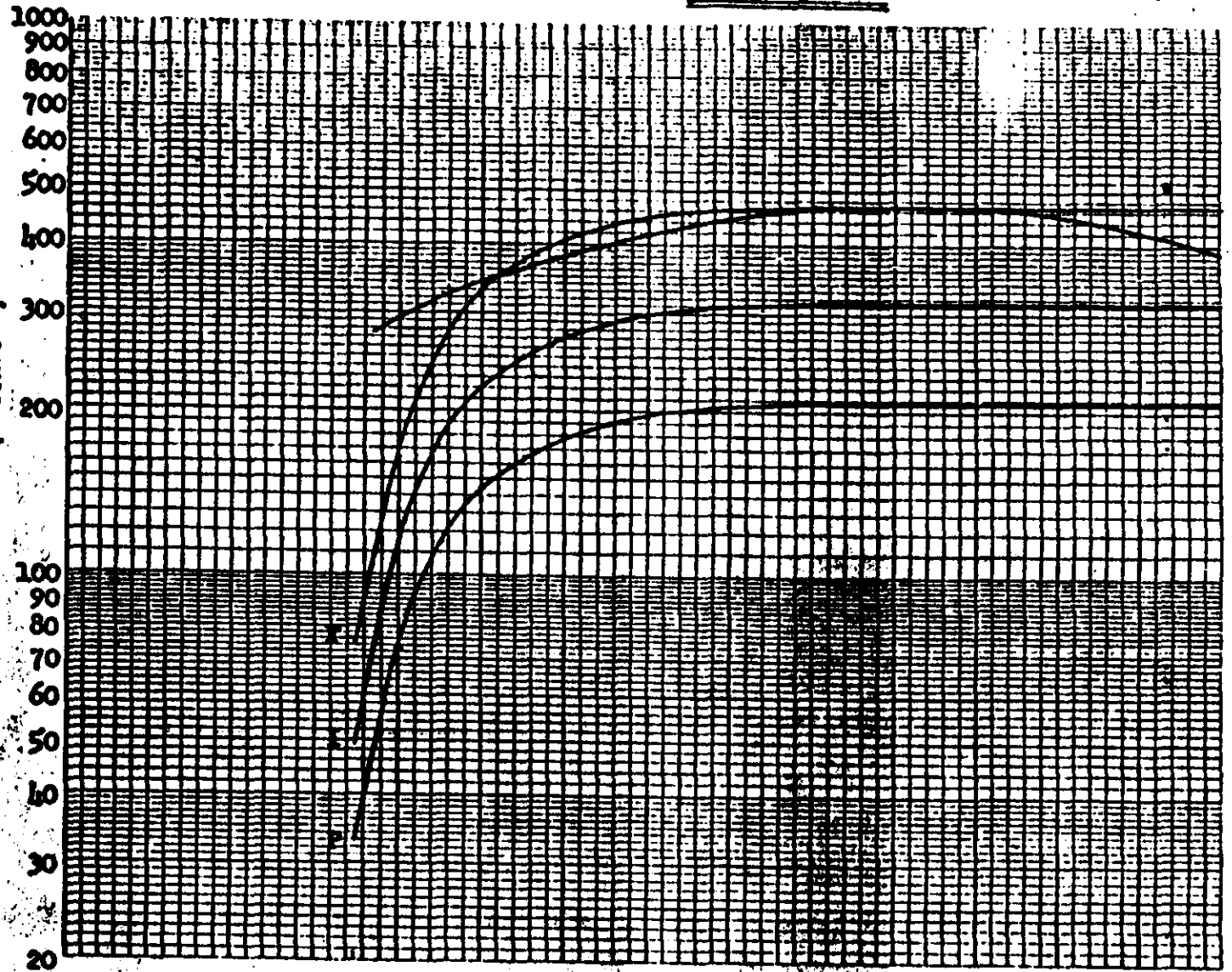
LATITU

FIGUR

TOP SECRET [redacted]

TOP SECRET [redacted] No. [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 175

Pass No: 8

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .150

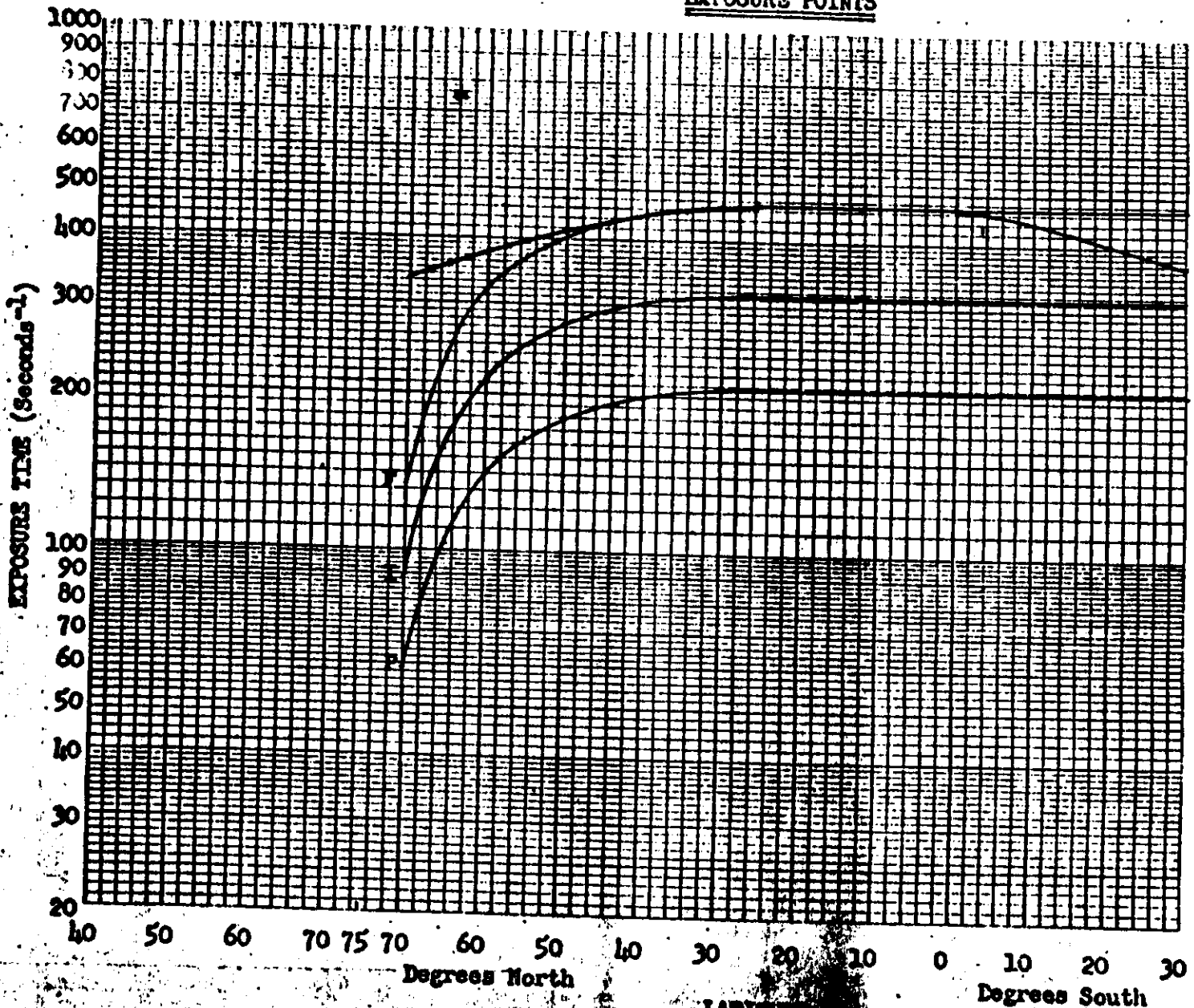
Filter Type: Wratten

Film Type: 3404

FIGURE [redacted]

TOP SECRET [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 175

Pass No: 56

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .150

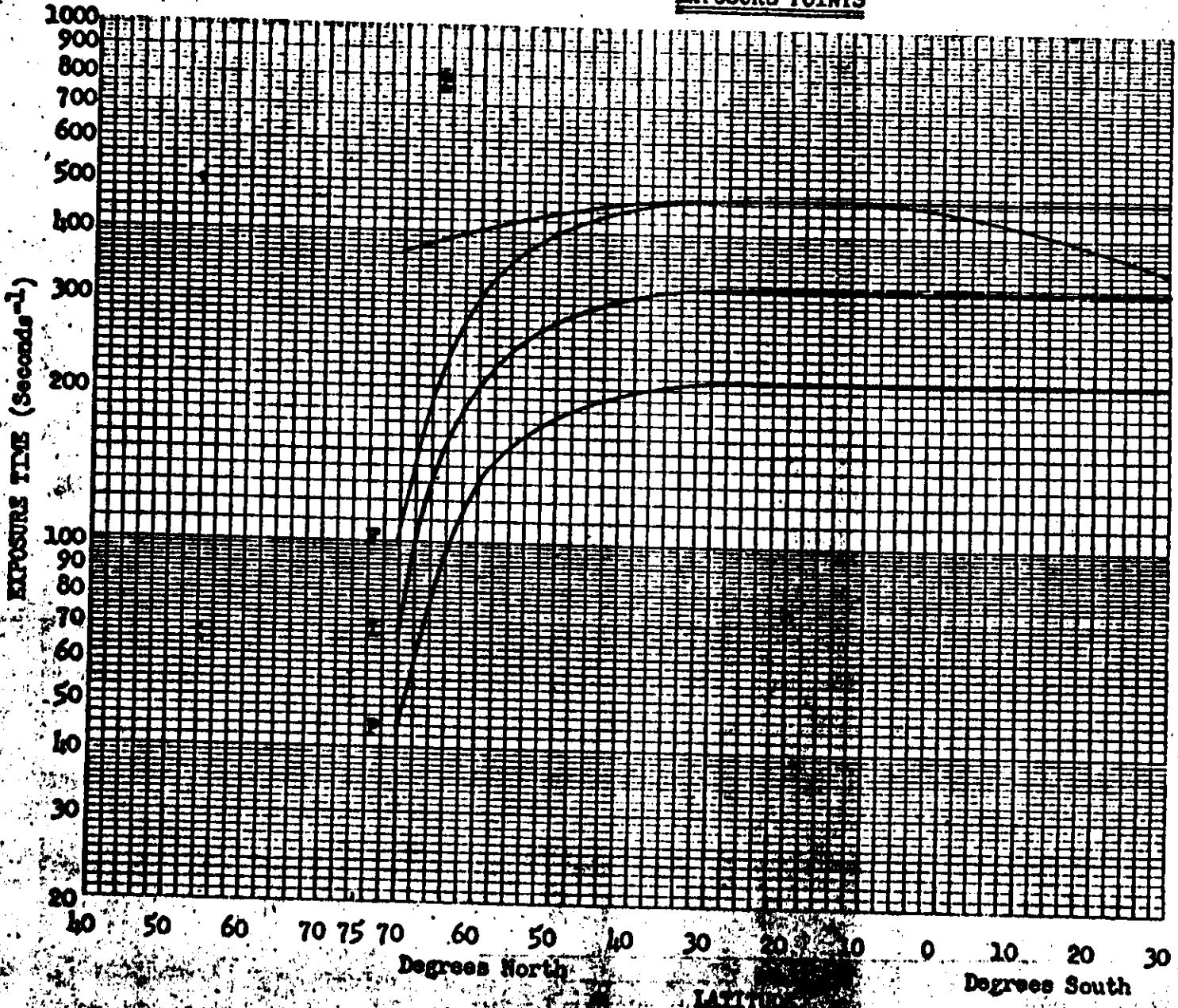
Filter Type: Wratten 21

Film Type: 3404

LATITUDE

FIGURE 20

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 175

Pass No: 104

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .250

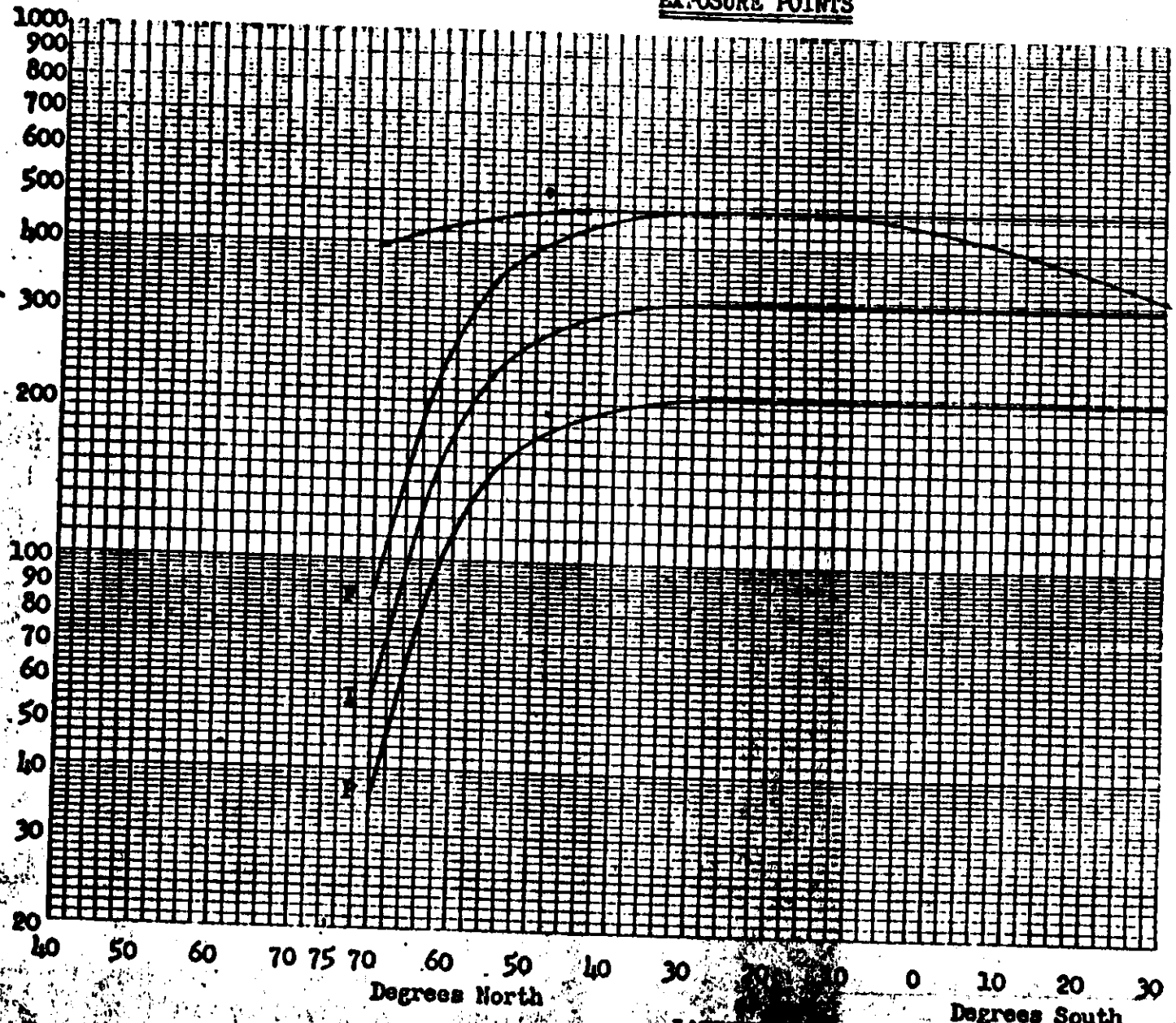
Filter Type: Wratten 2

Film Type: 3404

LATITUDE

FIGURE [redacted]

EXPOSURE POINTS



Mission No: 1026

Payload No: J-25

Camera No: 175

Pass No: 152

Launch Date: 10/28/65

Launch Time: 2117 Z

Slit Width: .150

Filter Type: Wratten 2E

Film Type: 3404

LATITU[illegible]

FIGURE [illegible]

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
1026-1	FWD	Predicted	0	4	96
		Reported	0	21	79
		Computed	0	24	76
1026-1	AFT	Predicted	0	5	95
		Reported	0	4	96
		Computed	0	37	63
1026-2	FWD	Predicted	1	0	99
		Reported	2	5	93
		Computed	0	5	95
1026-2	AFT	Predicted	1	0	99
		Reported	2	5	93
		Computed	0	15	85

The tabulations of density frequency distributions for Missions 1026-1 and 1026-2 are included in Appendix A, Table A-1 thru A-4. The graphical presentation of the density distribution are computer plotted in Appendix A Figures A-1 thru A-36.

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. The area measured for D_{Min} is selected subjectively and is not necessarily the absolute D_{Min} in the photography.

~~TOP SECRET~~ [redacted] - CONTROL NO. [redacted]

MISSION 1026-1 INSTR - FRWD 12/28/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	59	3 PC	53 PC	41 PC	3 PC	0 PC
FULL	184	74 PC	0 PC	24 PC	2 PC	0 PC
ALL LEVELS	243	57 PC	13 PC	28 PC	2 PC	0 PC

MISSION 1026-1 INSTR - AFT 12/28/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	90	0 PC	71 PC	27 PC	2 PC	0 PC
FULL	150	63 PC	0 PC	37 PC	1 PC	0 PC
ALL LEVELS	240	39 PC	27 PC	33 PC	1 PC	0 PC

MISSION 1026-2 INSTR - FRWD 12/28/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	12	0 PC	33 PC	58 PC	8 PC	0 PC
FULL	224	82 PC	0 PC	17 PC	1 PC	0 PC
ALL LEVELS	236	78 PC	2 PC	19 PC	1 PC	0 PC

MISSION 1026-2 INSTR - AFT 12/28/65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	34	0 PC	79 PC	12 PC	6 PC	3 PC
FULL	194	70 PC	0 PC	27 PC	3 PC	0 PC
ALL LEVELS	228	60 PC	12 PC	25 PC	3 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

~~TOP SECRET~~ [redacted] - CONTROL NO. [redacted]

TABLE

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1026-1 and 1026-2 received a MIP rating of 85. A summary is tabulated below of the MTF/AIM resolution values measured by AFSPPF [redacted] The microdensitometer slit used by AFSPPF [redacted] was 1 micron by 80 microns.

Mission	Camera	AFSPPF	[redacted]
1026-1	FWD	76	80
1026-2	AFT	88	97
1026-2	FWD	85	91
1026-2	AFT	93	90

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 1026-1 provided photographic coverage of 3 fixed and 2 mobile ground resolution targets. The best measurable performance was demonstrated on Pass D-47 where the Indian Springs hight contrast CORN target was resolved to 7.7 feet by both Master and Slave cameras. Two frames later, (45 miles) Southwest of Indian Springs near Pahrump, Nevada, both cameras resolved 12 feet on a mobile medium contrast T-Bar target.

This indicates that on-orbit system resolution capability was at least 130 lines/mm for high contrast targets. The dynamic system resolution test at A/P showed a capability of 194 lines /mm. The on-orbit resolution limit, as computed from vehicle attitude rates and IMC error, was less than one foot along track and 5.8 feet cross track due, principally to earth rotation. This would limit on-orbit resolution to approximately 160 lines/mm. It is highly probable that the loss of resolution, from the limiting 160 lines/mm to the observed 130 lines/mm, is due to atmospheric attenuation and its attendent lowering of contrast.

SECTION 12

MISSION 1026-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-75
Index Reseau	92
Stellar Reseau	93

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

Approximately 20 star images were recorded on each frame of stellar photography throughout mission 1026-1 by S/I #D75/92/93. Although some star imagery was elongated due to vehicle motion during shutter open time, star imagery was adequate to determine vehicle attitude.

Four consecutive stellar frames out of 404 recovered frames from mission 1026-1 were affected by faulty shutter operation. Stellar frames 182 and 183 contained no star imagery and no flare fog imagery of any kind. It is assumed that the stellar shutter failed completely closed during the

normal exposure time of frames 182 and 183. Frame 184 and 185 contain gross fogging that reduced the star count in frame 184 to 50% of normal; frame 185 to 0% stars recorded. It is assumed that the stellar shutter failed either partly open or fully open during the normal exposure time of frames 184 and 185. Also, the frame line is exposed between frames 184 and 185 suggesting that the stellar shutter was partly open during film meter. Investigation of the stellar camera shutter anomaly has been initiated to determine the precise cause of the failure.

Minor edge static and no corona discharge marks were observed in stellar photography.

Stellar baffle flare fog was low on all but a few frames. The first 18 frames of stellar photography contain streaks of what is presumed to be particles of jettisoned fuel.

Emulsion cracking parallel to the minor axis of the film begins in frame 264 and continues until the tail end of the roll.

The index camera operated well throughout the mission producing 416 frames of good photography. No index camera malfunctions occurred. Dendritic static and corona discharge marks were absent from all index camera photography.

SECTION 13

MISSION 1026-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-72
Index Reseau	89
Stellar Reseau	85

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

S/I #D 72/89/85 operated normally throughout mission 1026-2. Stellar film was expended in frame 55 of pass D 148 after producing 388 frames of acceptable stellar photography containing approximately 20 stars per frame. Dendritic static and corona discharge were absent from stellar and index camera photography. The index camera operation was good throughout mission 1026-2 and produced 434 frames of recovered photography. Stellar/Index camera operation is rated excellent throughout mission 1026-2.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1026-1 and 1026-2 were derived from the reduction of the Stellar camera photography. This attitude date 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 1026-1 and Figures 14-7 through 14-12 for Mission 1026-2.

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

Value	Mission 1026-1 90%	Mission 1026-1 Range	Mission 1026-2 90%	Mission 1026-2 Range
Pitch Error (^{o})	0.65	-0.92 to +0.28	0.55	-0.88 to +0.14
Roll Error (^{o})	0.24	-0.40 to +0.60	0.56	-0.56 to +0.98
Yaw Error (^{o})	0.70	-0.56 to 1.45	0.87	-1.10 to +0.65
Pitch Rate (^{o}/hr.)	37.90	-80 to +100	41.08	-85 to +85
Roll Rate (^{o}/hr.)	33.15	-75 to +70	46.52	-95 to +95
Yaw Rate (^{o}/hr.)	28.48	-58 to +54	30.75	-38 to +62

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.

-25 A-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OF OMITTED = 90 PERCENT

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

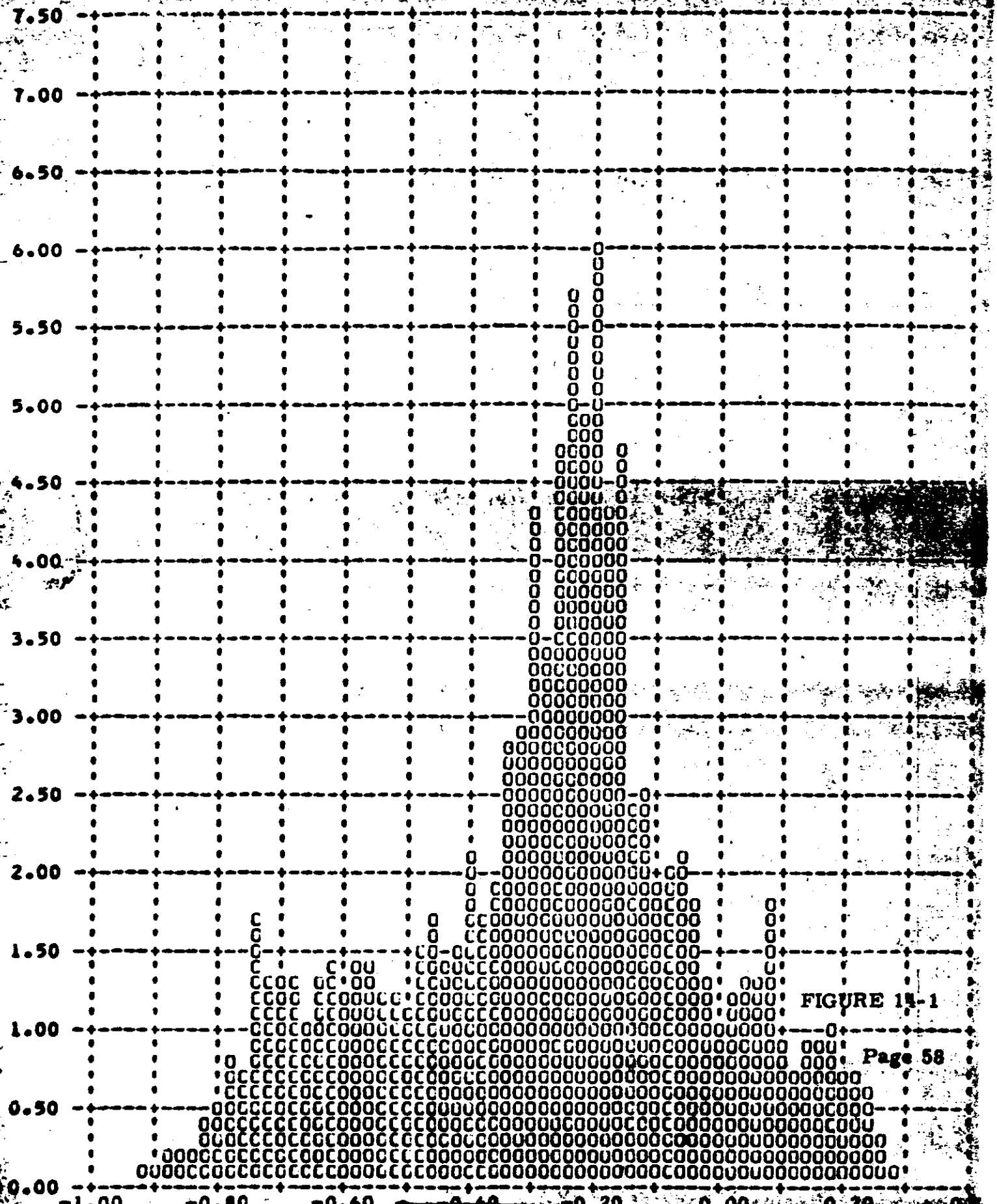


FIGURE 11-1

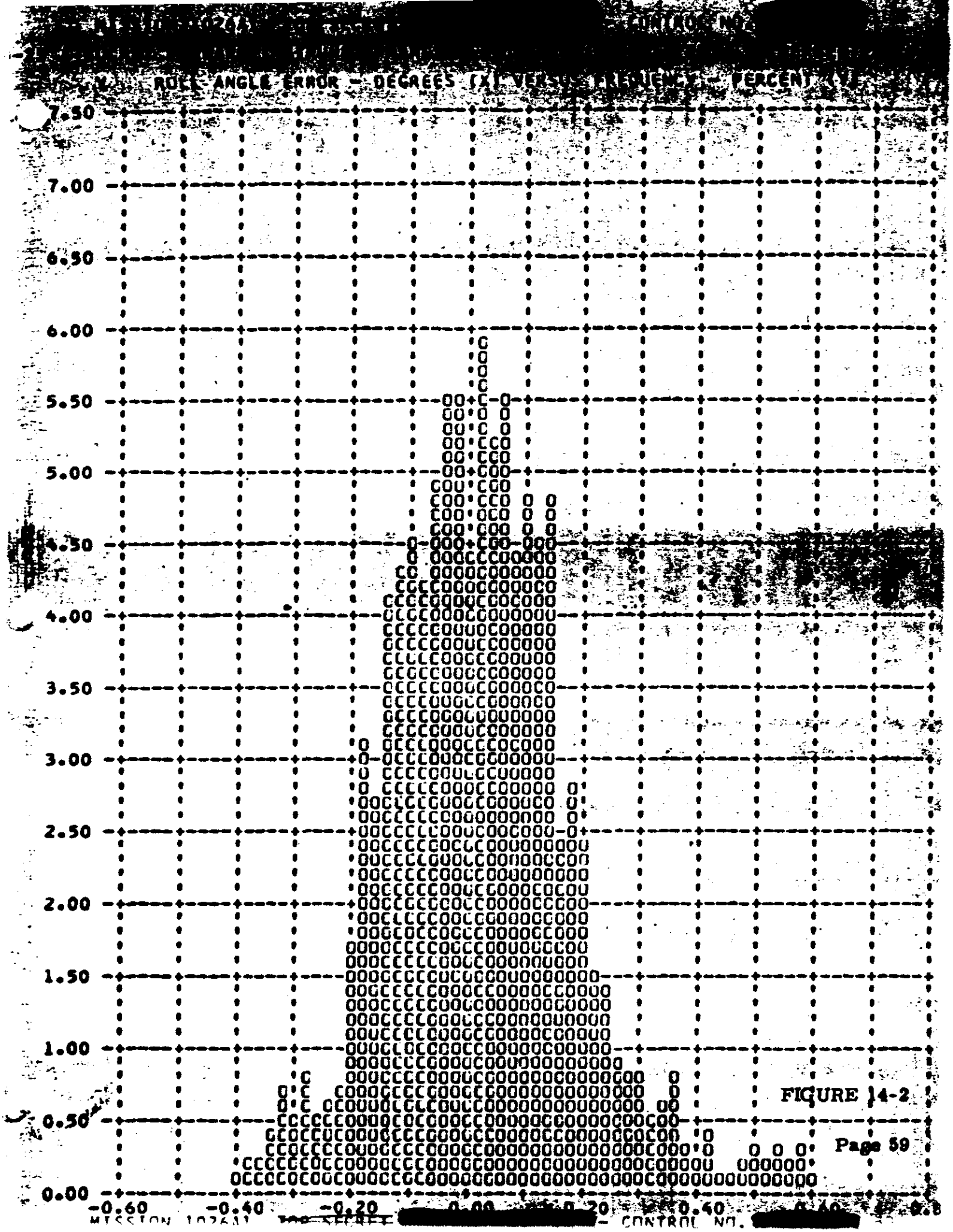

ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.60
-0.40
-0.20
0.00
0.20
0.40
0.60
0.8

FIGURE 14-2

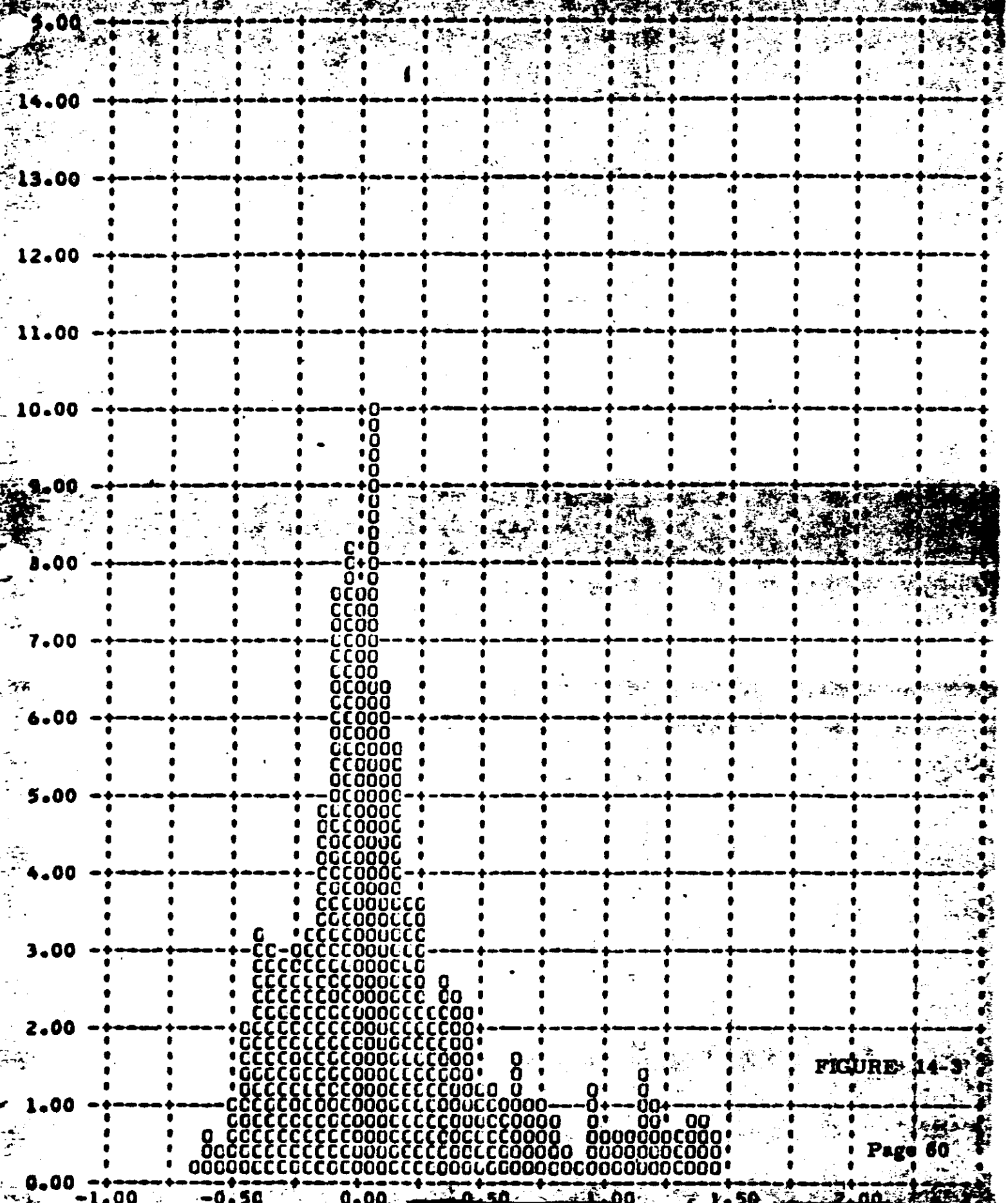

[redacted]
YAW ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)
9.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00

FIGURE 14-3

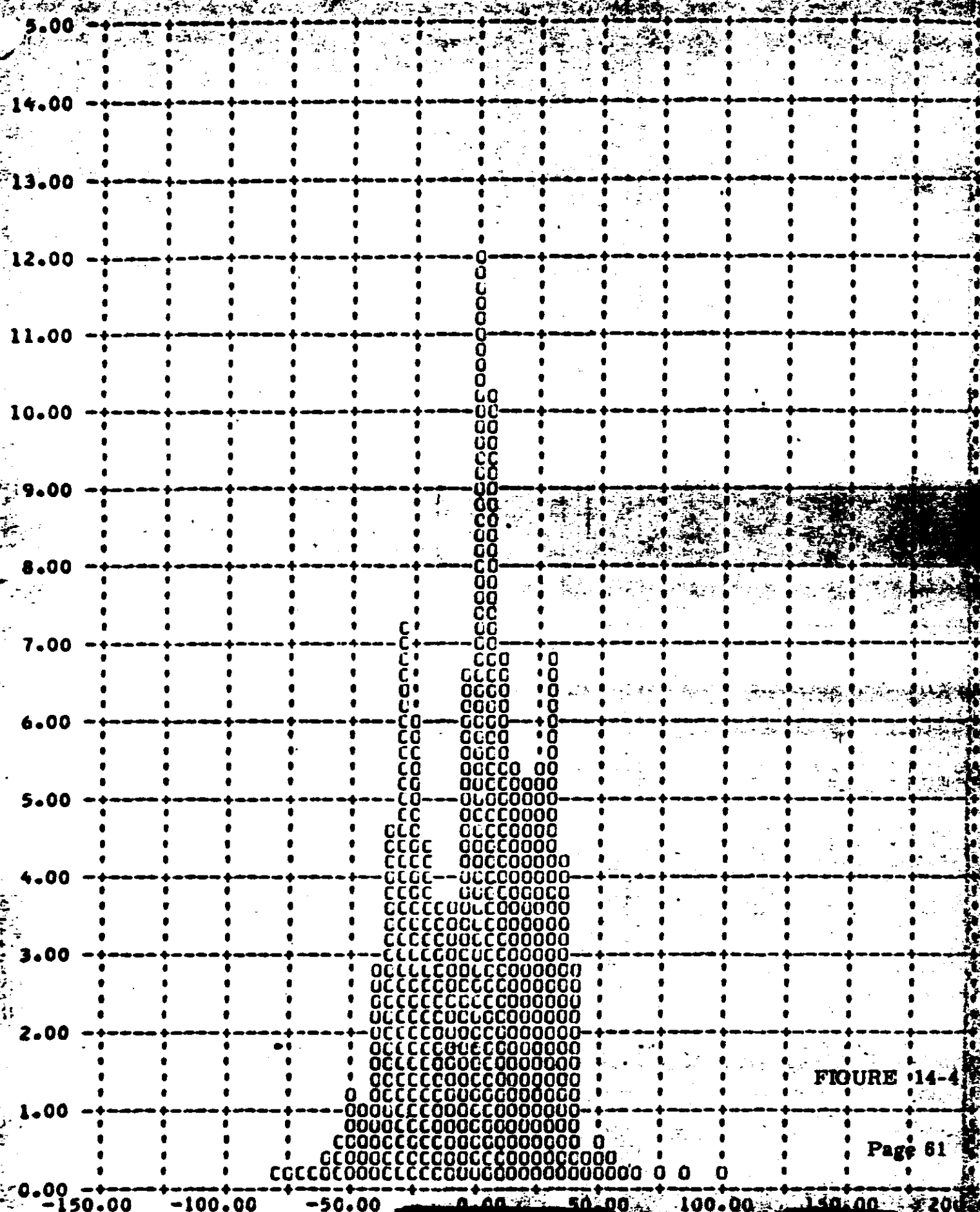

Y PITCH RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)
5.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-150.00
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00

FIGURE 14-4

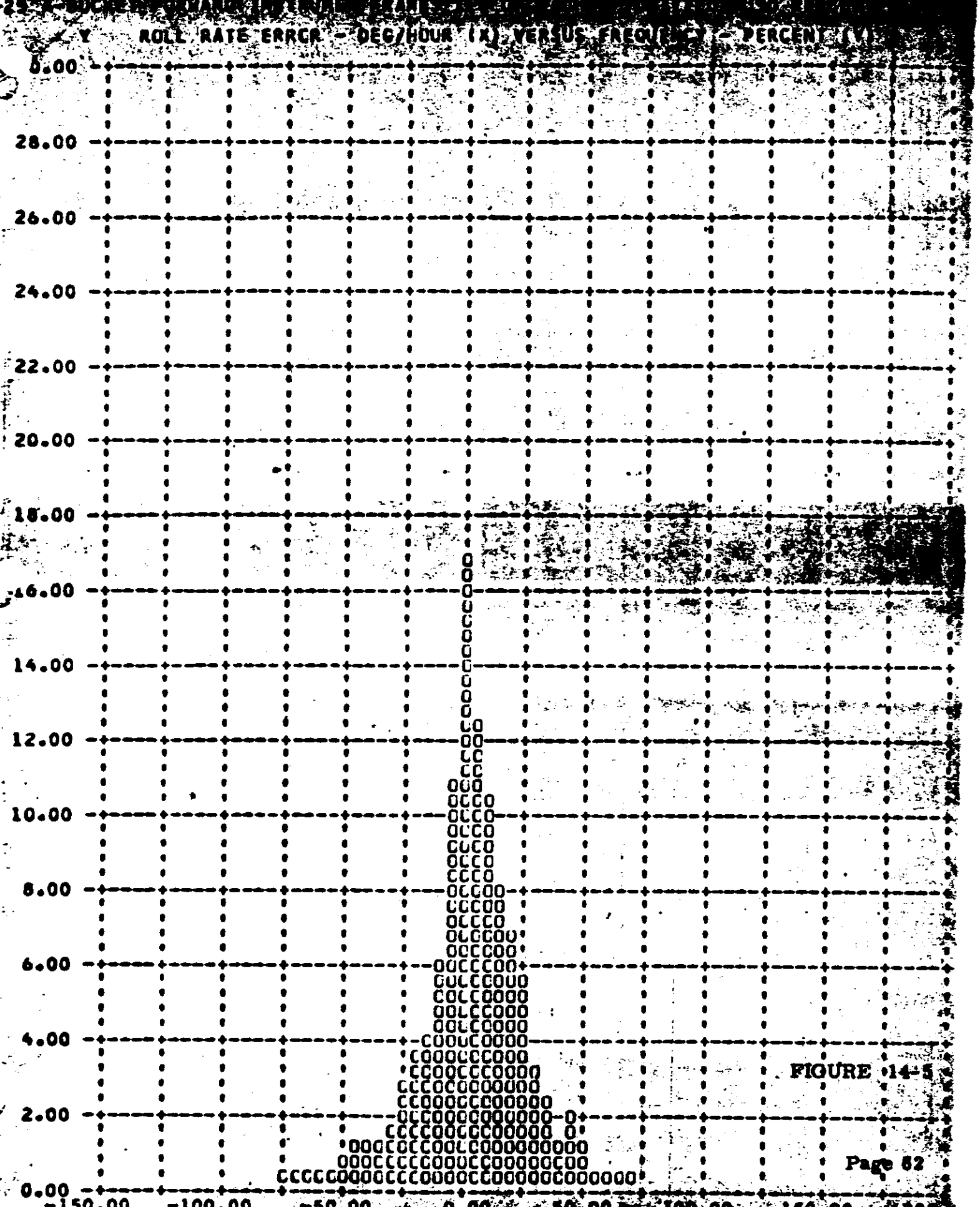

Y ROLL RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-150.00
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00

FIGURE 14-5

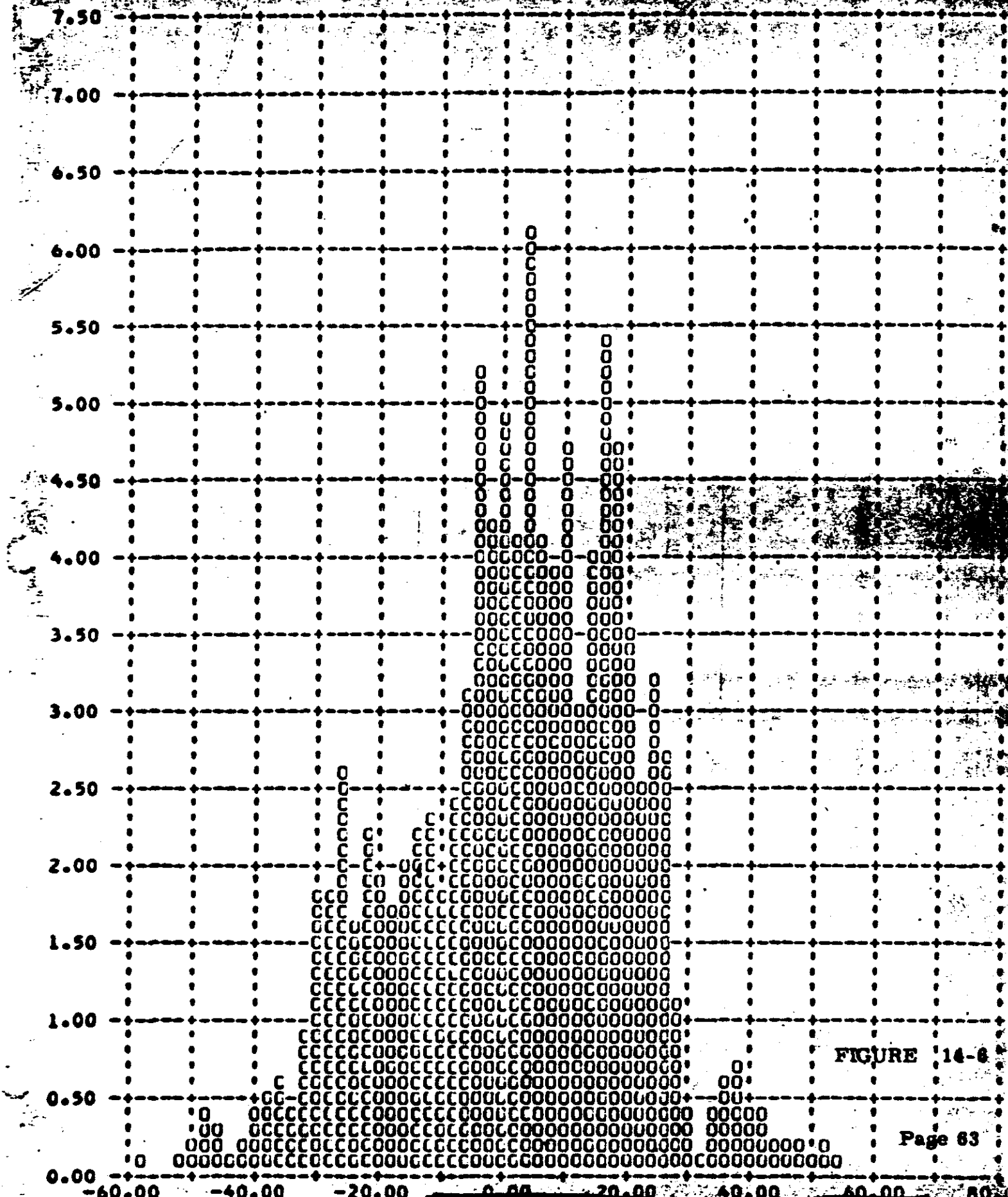

Y YAW RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-60.00
-40.00
-20.00
0.00
20.00
40.00
60.00
80.00

FIGURE 14-6

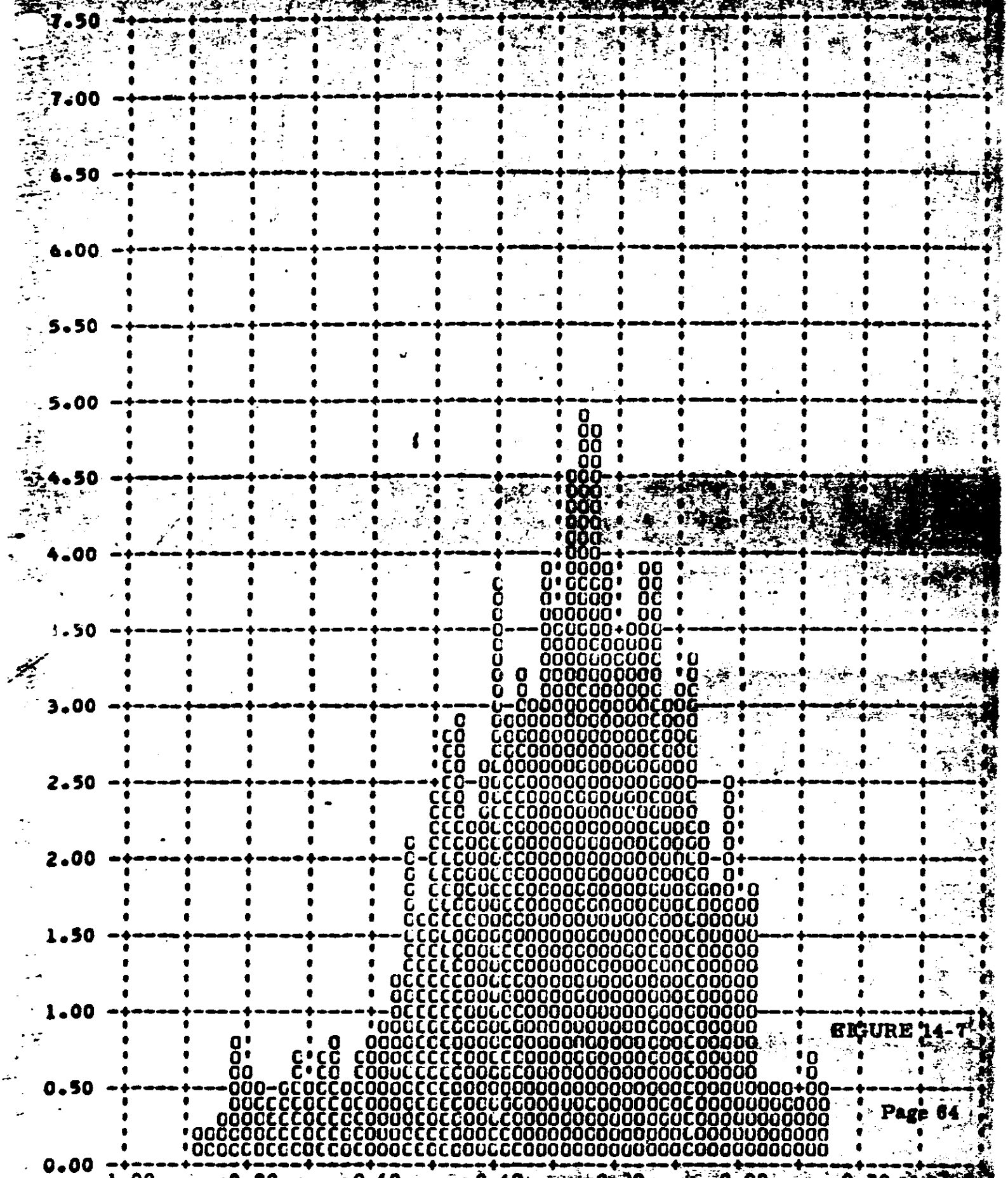

Y PITCH ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-1.00
-0.80
-0.60
0.00
0.20

FIGURE 14-7

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

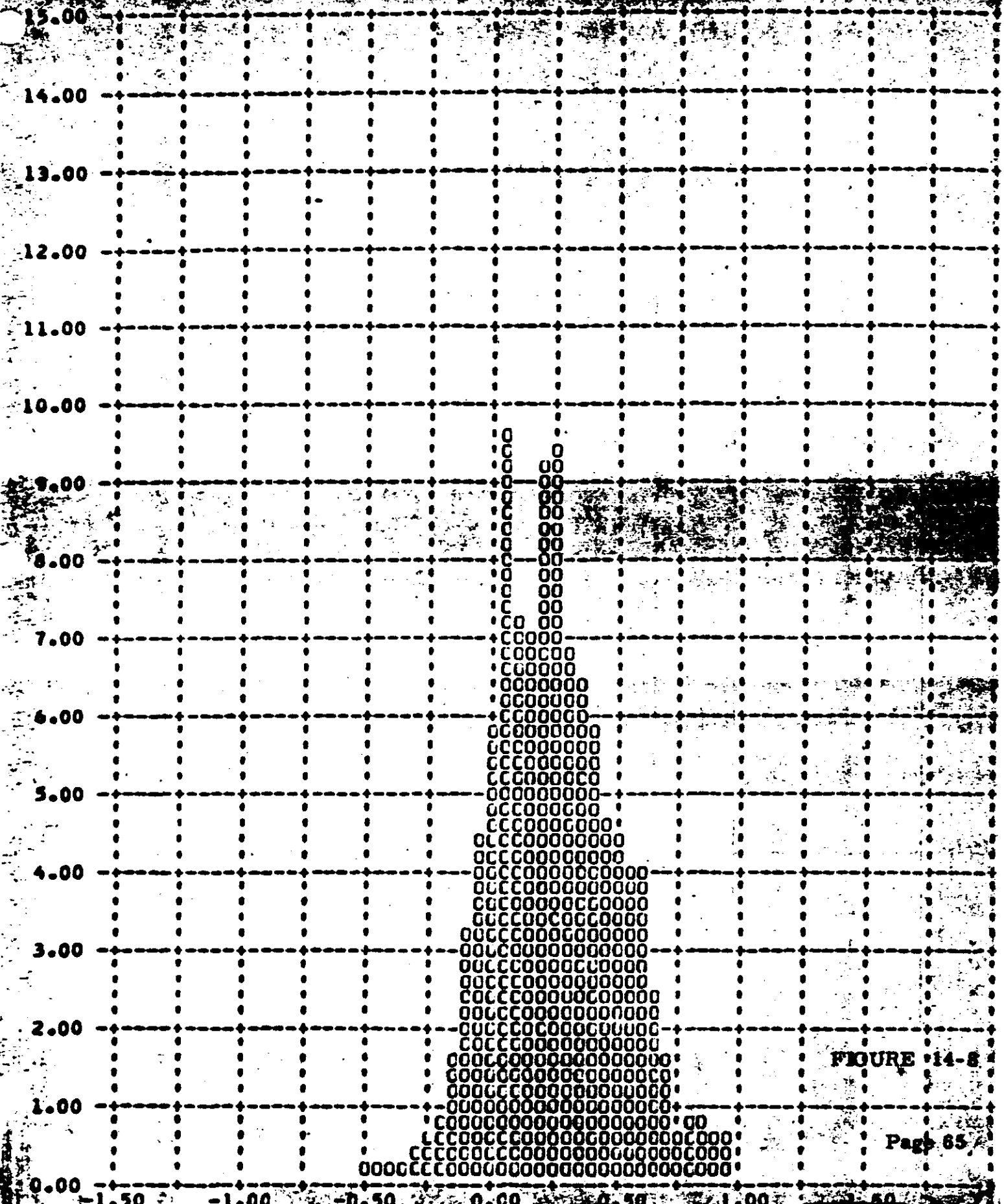


FIGURE 14-8

[illegible] BUCKET FORWARD INSTRUMENT PANEL [illegible]

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

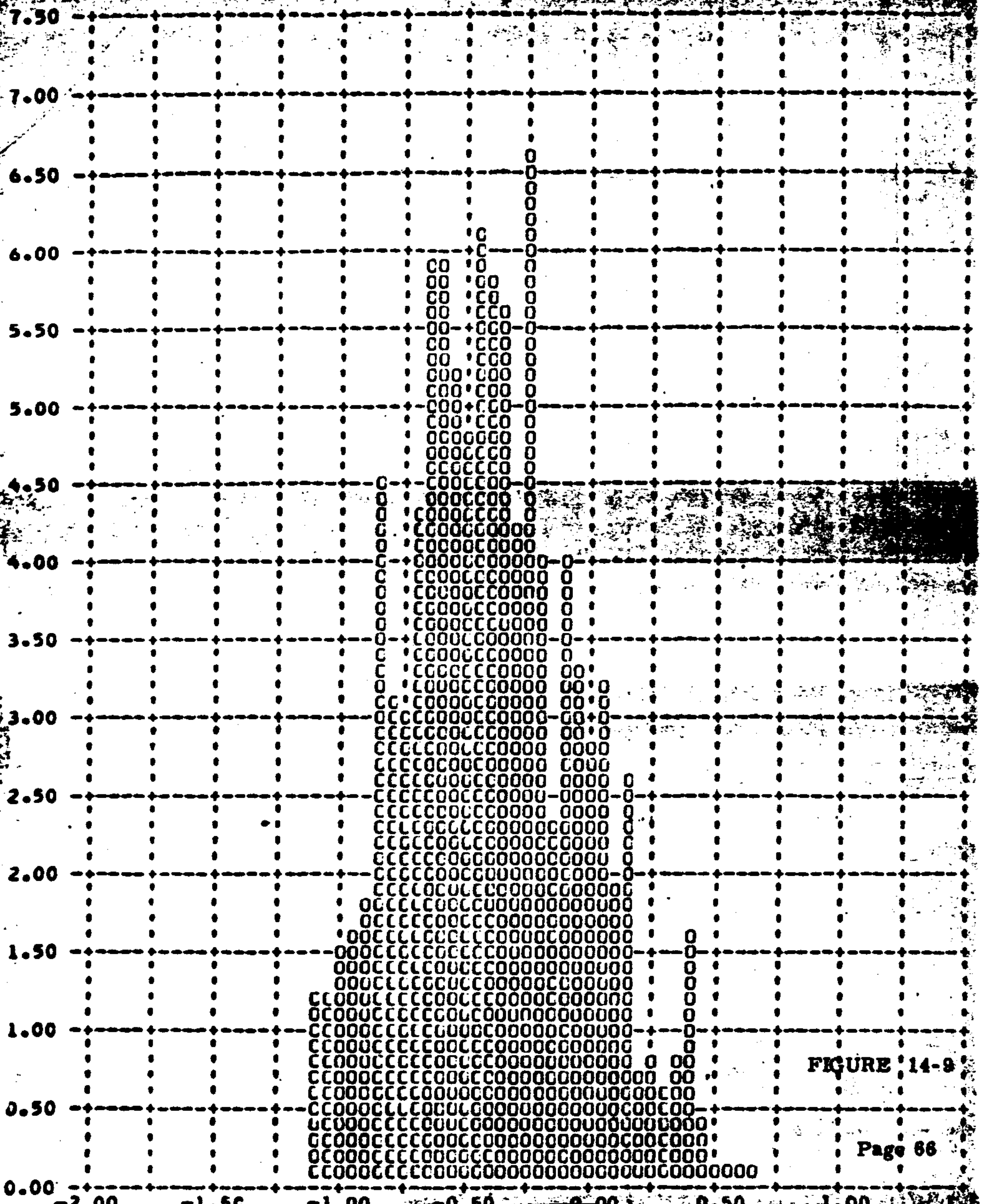


FIGURE 14-9

Page 66

[redacted]

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

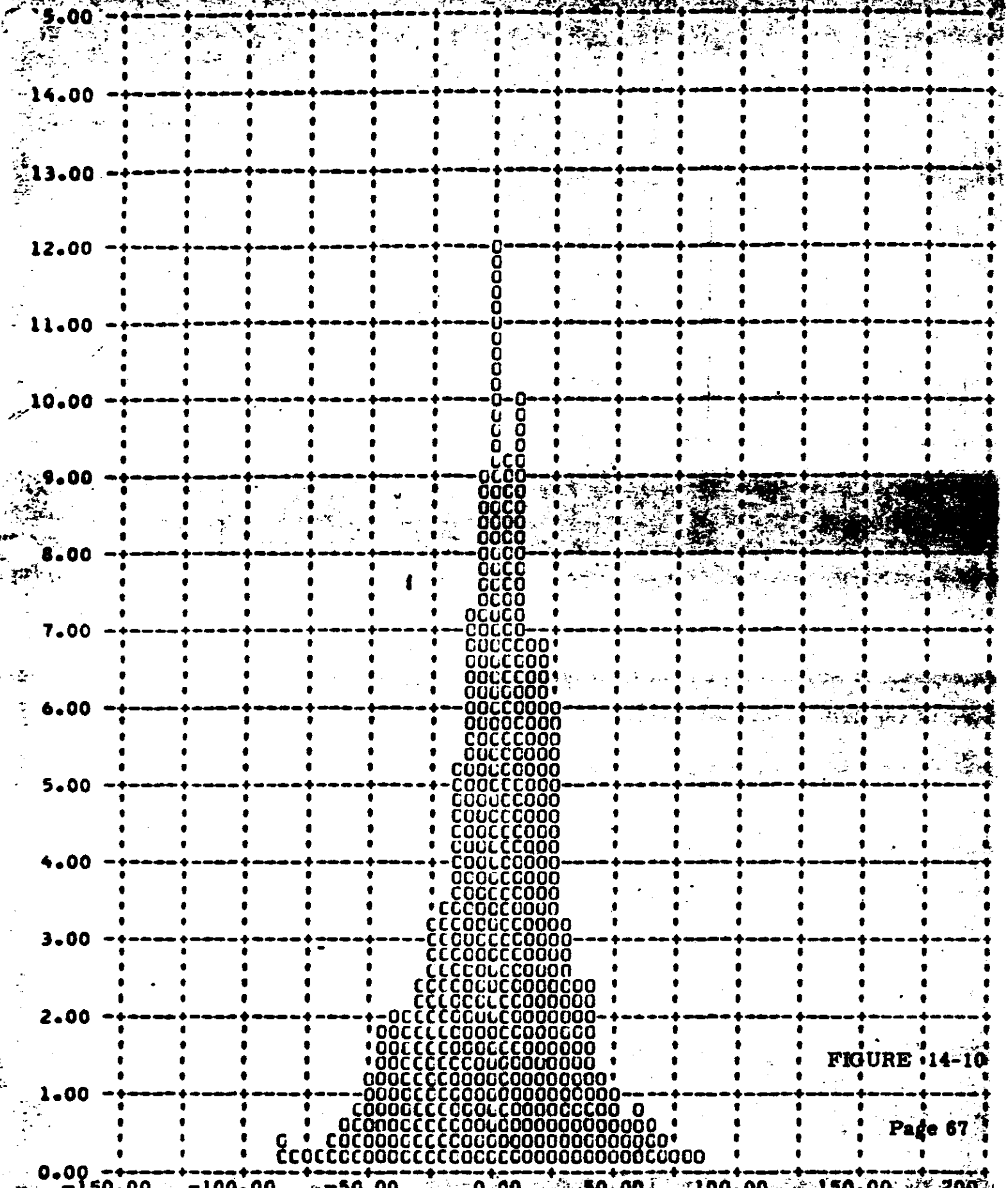


FIGURE 14-10

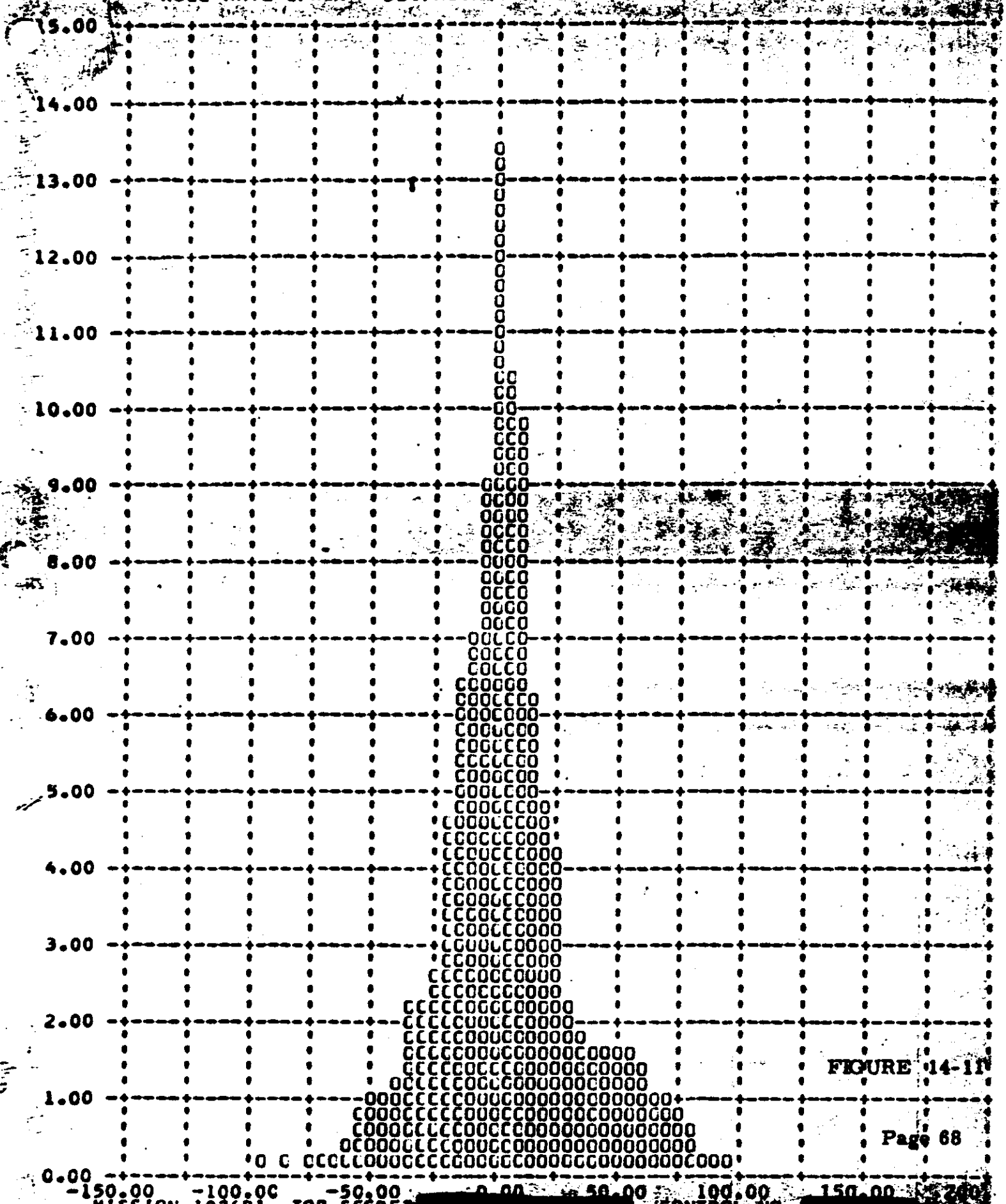

ROLL RATE ERROR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-150.00
-100.00
-50.00
0.00
50.00
100.00
150.00
200.00

FIGURE 14-11

J-2S, B-BUCKET FORWARD INSTRUM[illegible]

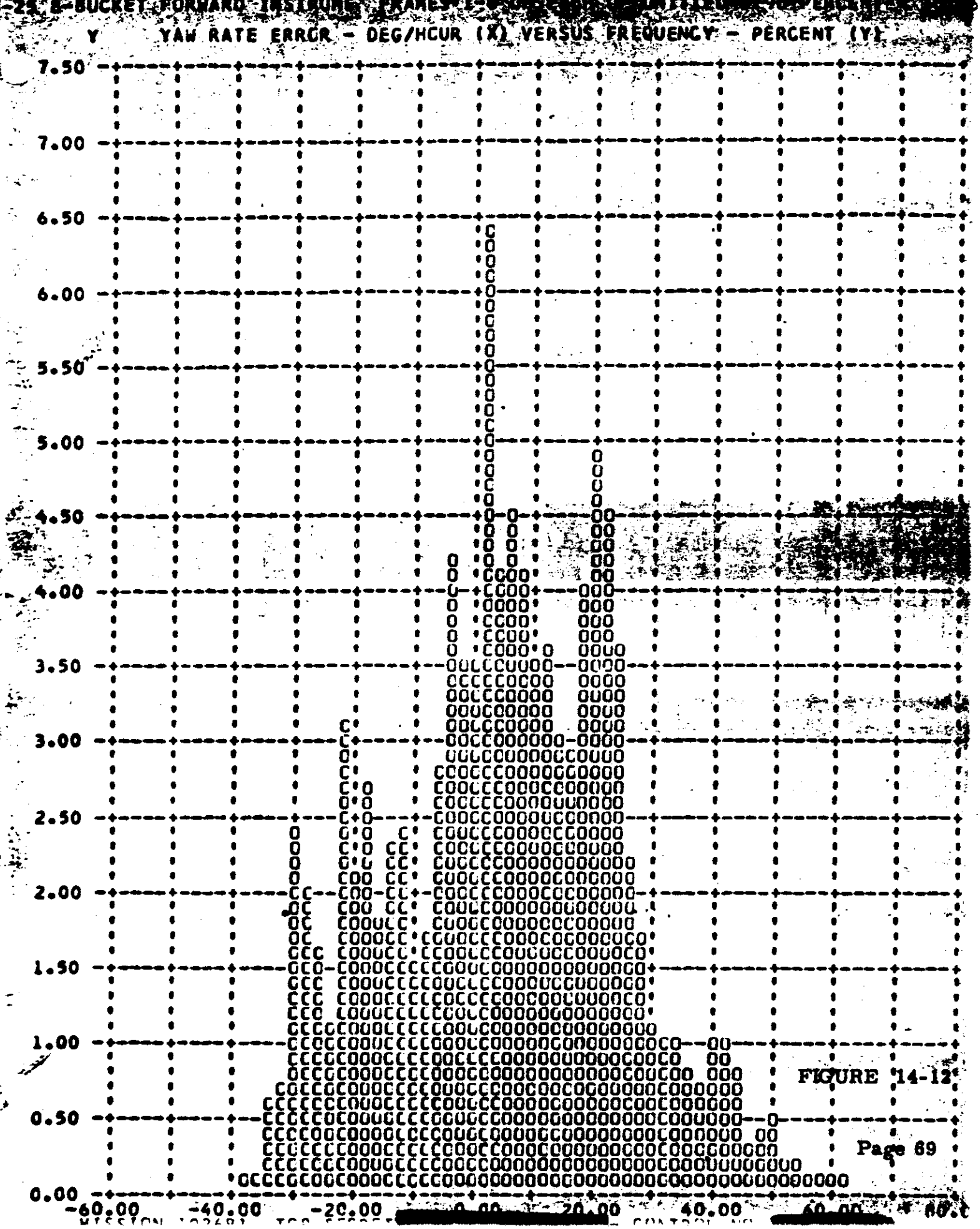


FIGURE 14-12

SECTION 15

IMAGE SMEAR ANALYSIS

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

The computer rejects the first six frames of all operations as the large V/h error induced by camera start-up is not representative of the overall system operations. The frequency distribution of the V/h errors and resolution limits are computer plotted and are shown in Figures 15-1 through 15-12.

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.

The high "Along Track Resolution Limit" on the A mission was due to a low perigee. From latitudes 230 to 205 the Pan Camera cycle rate limiter prevented appropriate FMC match. Some operations on the first day also encountered error rates higher than normal, previous to adequate orbit definition and ramp settings.

Passes 34M (Median) and 35M (Median) had along track resolution limits as high as 17.5 feet. This type of pass near orbit tangency at this time of year exceeds the systems capability of matching IMC and the required exposure time. These two passes involved 356 frames. The vehicle H-timer reset error on orbit 33 caused all events on these 2 orbits to occur ten seconds early thereby displacing operations northward.

MISSION 1026
V/h RATIO AND RESOLUTION LIMITS

VALUE	UNITS	CAMERA	MISSION 1026-1 90%	MISSION 1026-1 Range	MISSION 1026-2 90%	MISSION 1026-2 Range
V/h Ratio Error	%	FWD	6.13	-11.5 to +8.5	6.08	-8.8 to +2.2
		AFT	6.13	-16.5 to +9.0	6.67	-8.2 to +1.4
Along Track Resolution Limit	Feet	FWD	13.50	0.5 to 17.5	5.47	0.2 to 7.4
		AFT	9.08	0.2 to 13.8	3.26	0.2 to 4.6
Cross Track Resolution Limit	Feet	FWD	6.16	0.2 to 8.0	6.71	1.8 to 8.4
		AFT	4.11	0.2 to 5.4	4.47	1.4 to 5.2

TABLE 15

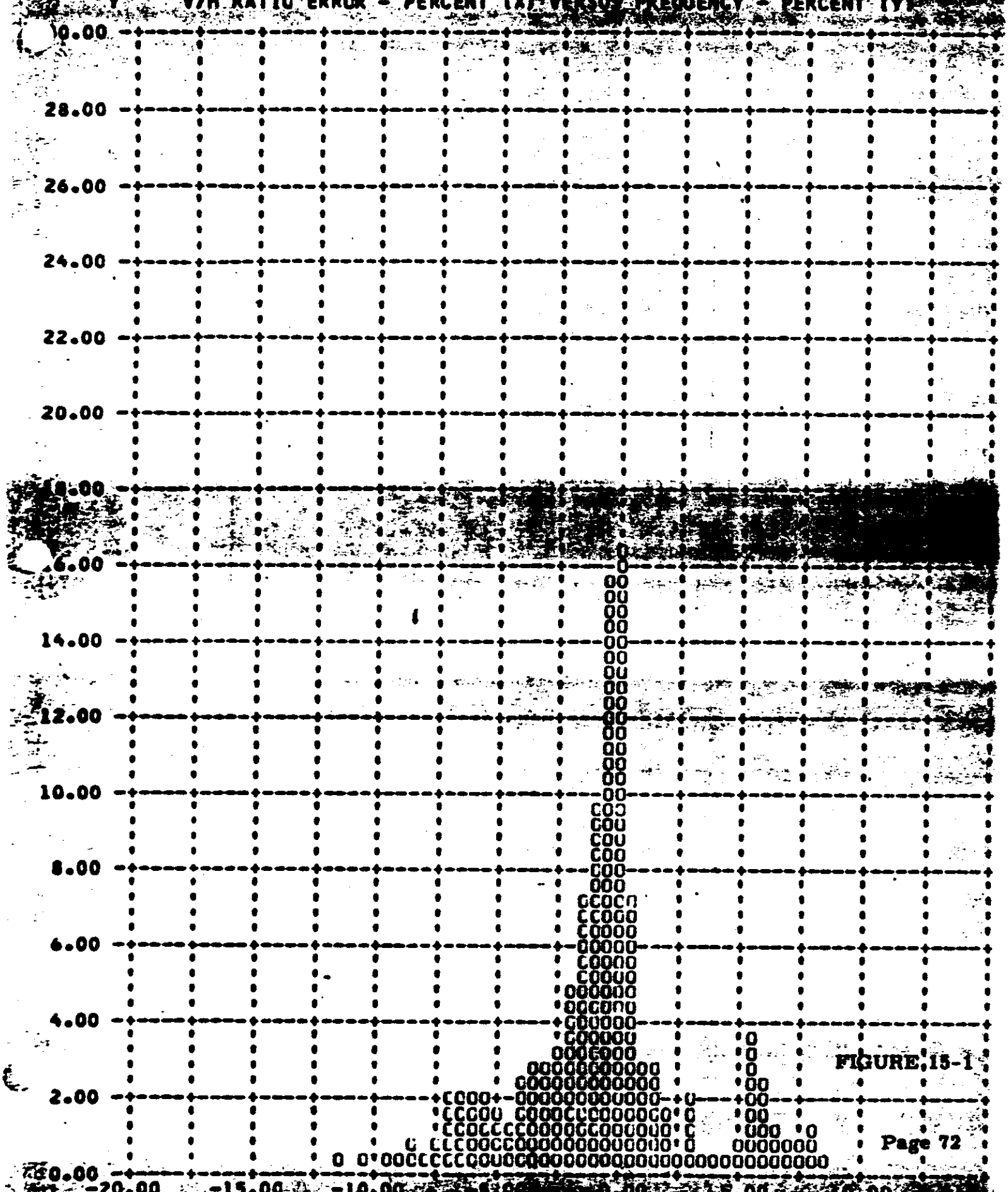

Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)
30.00
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-20.00
-15.00
-10.00
-5.00

FIGURE 15-1

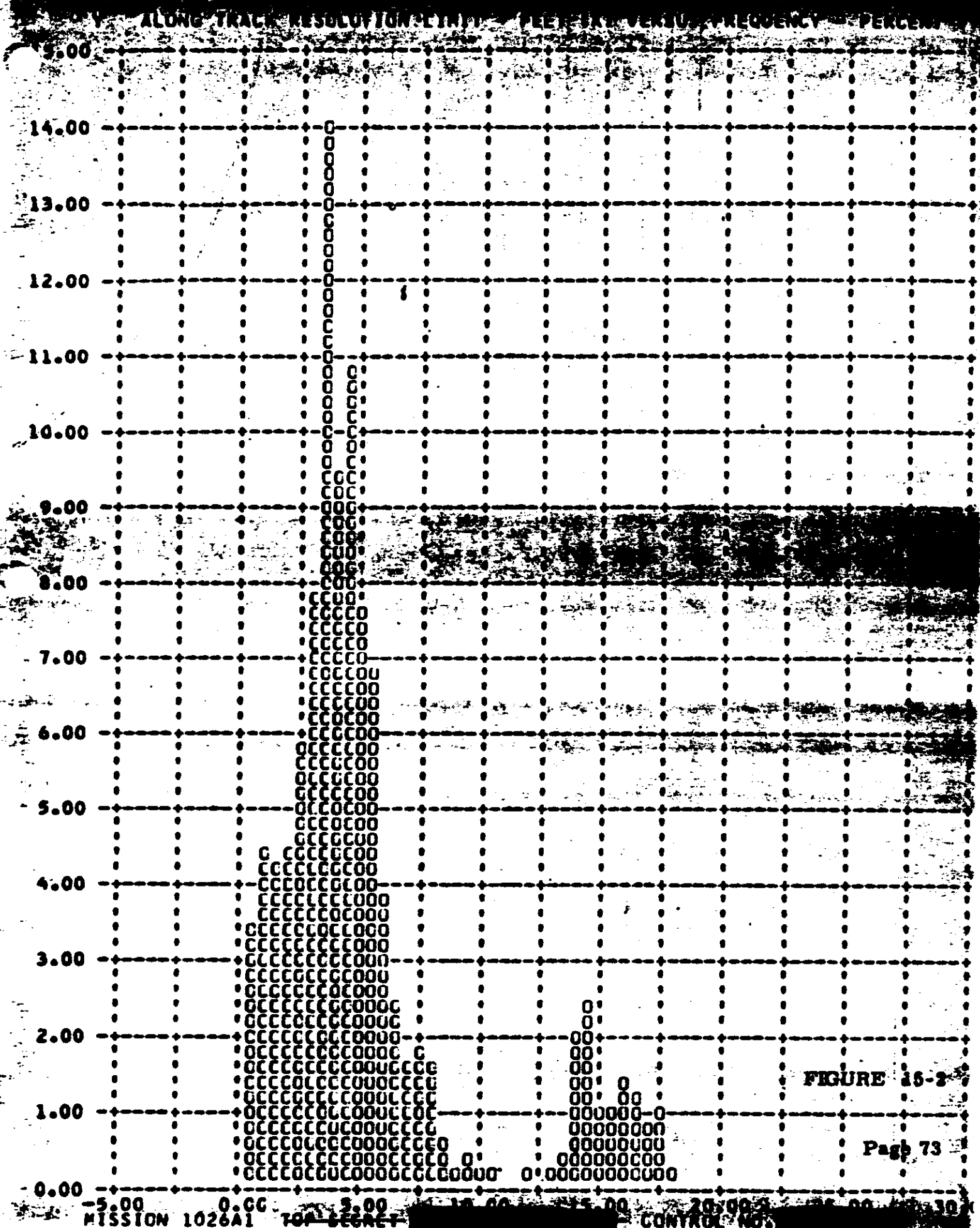

Y - ALONG TRACK RESOLUTION LIMIT - FEET PER VERTICAL FREQUENCY - PERCENT
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-5.00
0.00
5.00

FIGURE 15-2

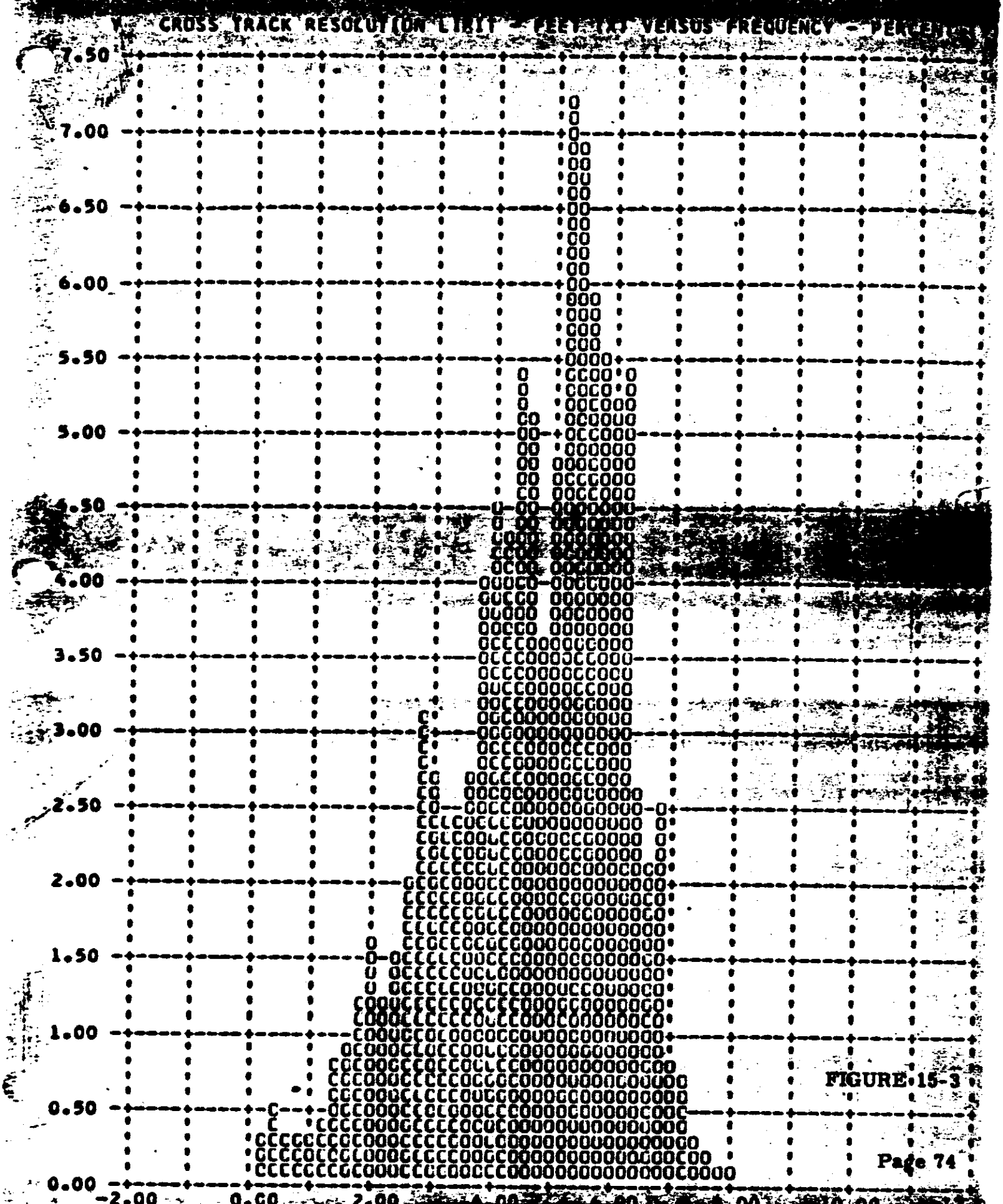

Y - CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PER
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-2.00
0.00
2.00

FIGURE 15-3

J-29 A-BUCKET AFT INSTRUMENT FRAMES 1-4 OF EACH OP OMITTED 90 PERCENT

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

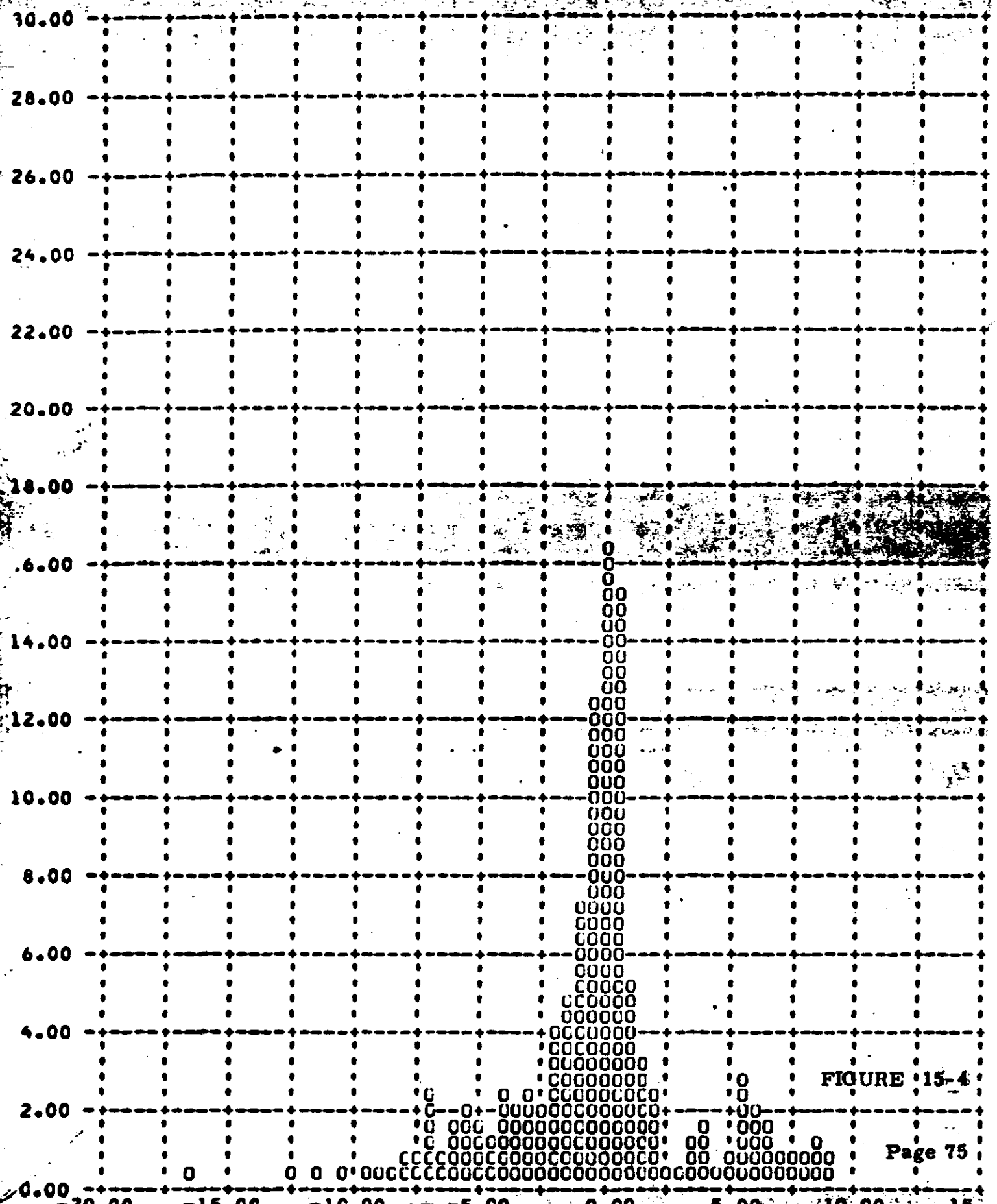


FIGURE 15-4

J-25 A-BUCKET AFT INSTRUMENT - FRAMES 1-6 OF EACH DF OMITTED - 90 PERCENT [illegible]

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

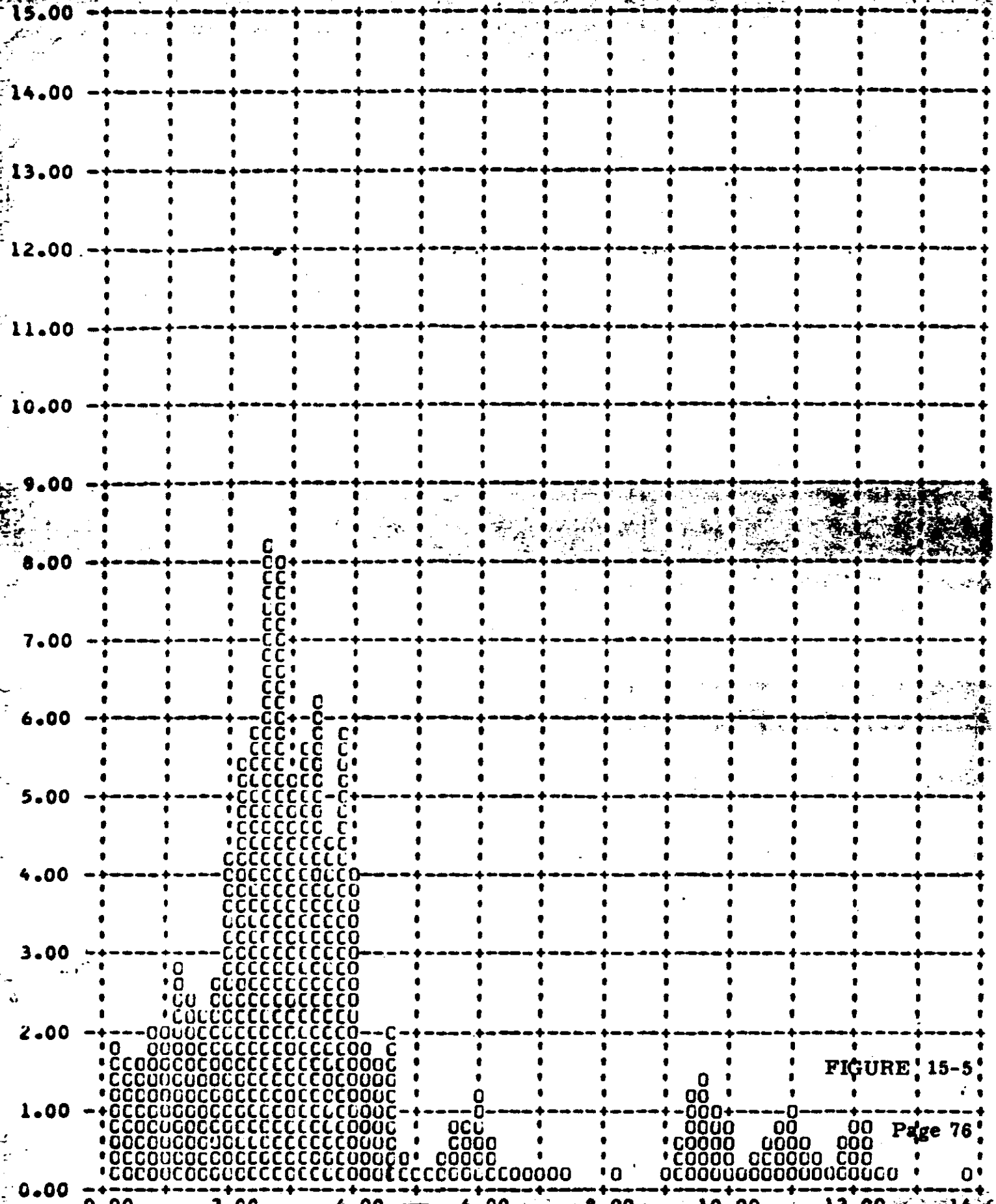


FIGURE 15-5

[redacted]

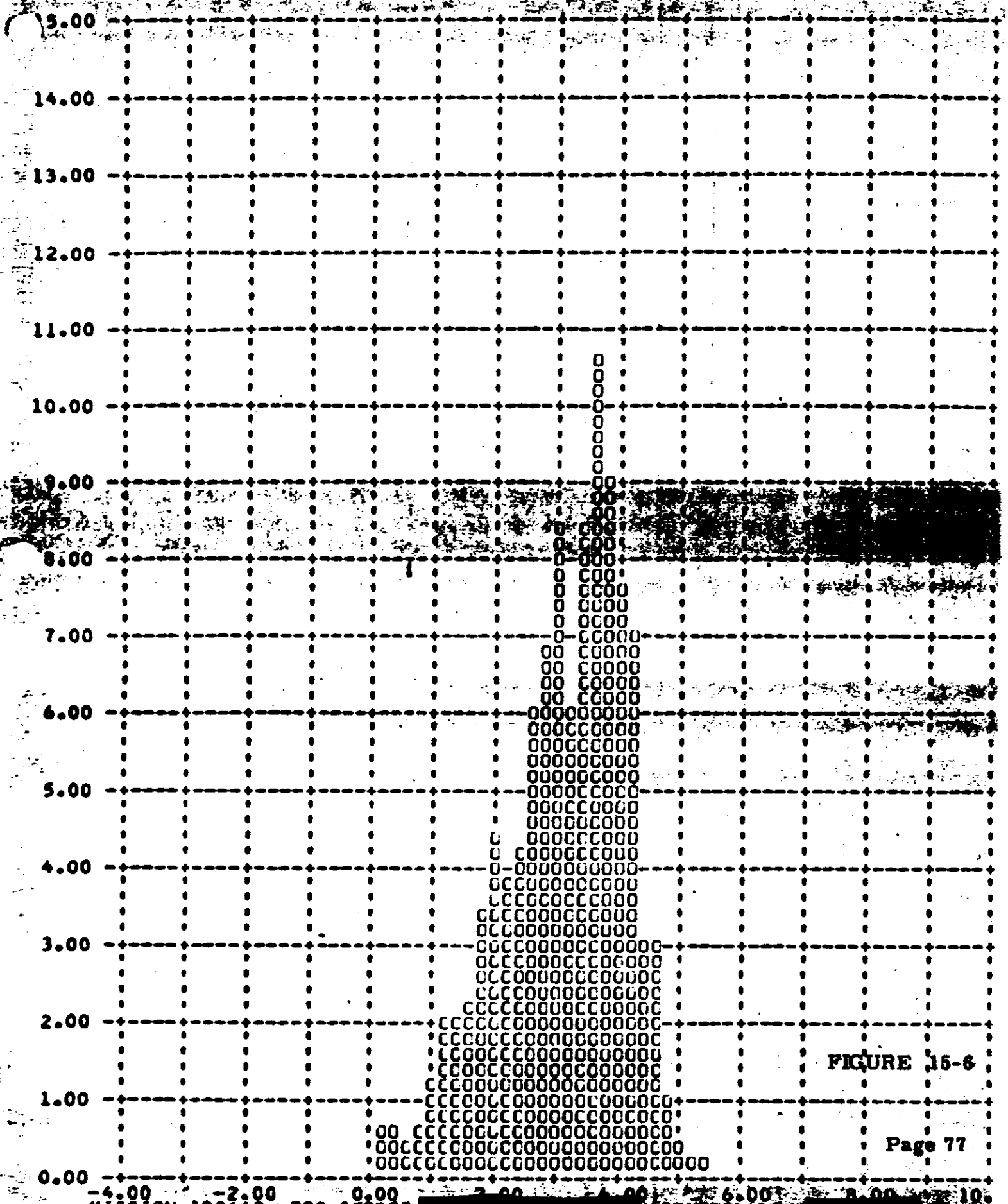


FIGURE 15-6

B-BUCKET FORWARD INSTRUMENT FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT

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

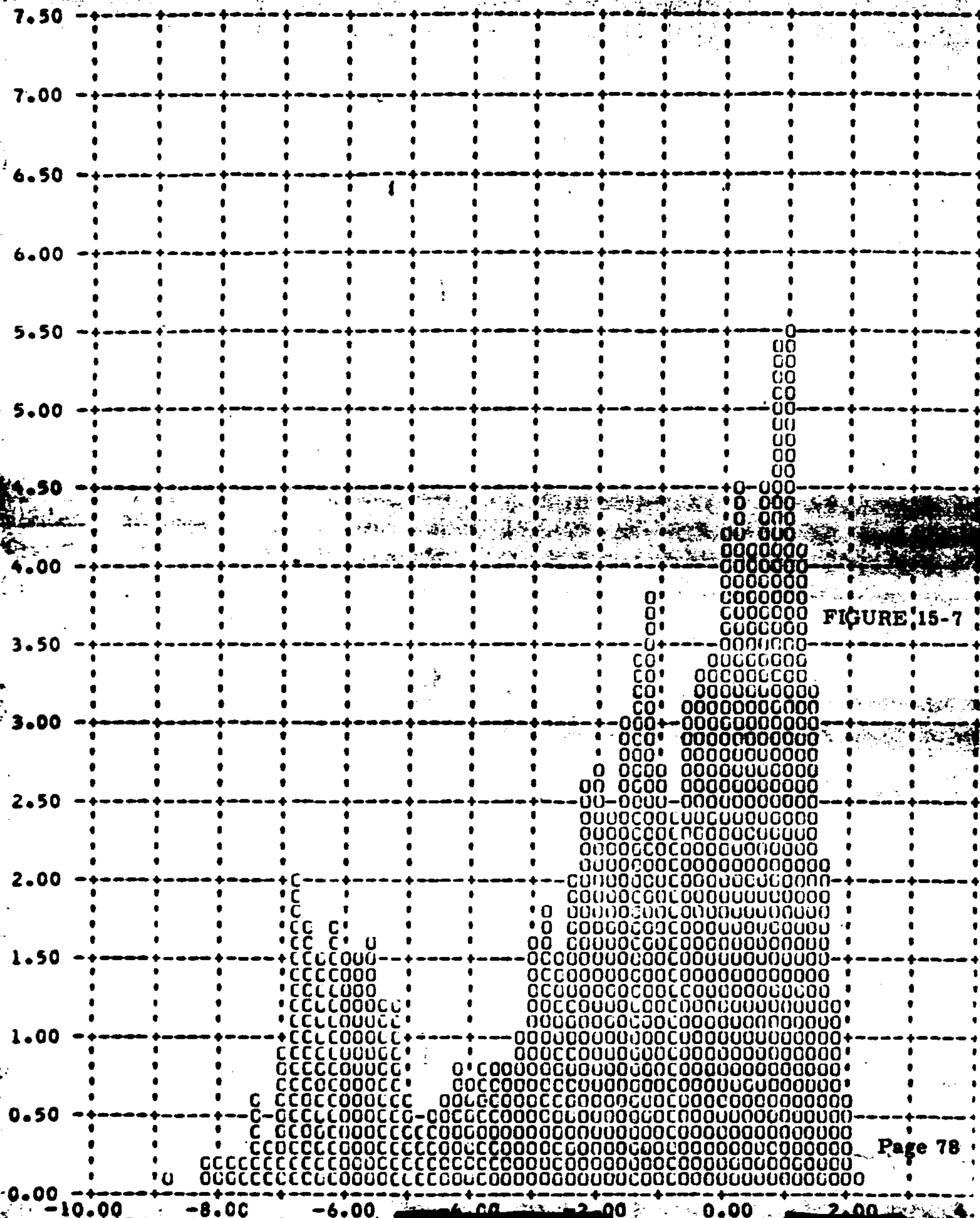


FIGURE 15-7

BUCKET 1 FORWARD INSTRUMENT FRAMES 1-6 OF EACH ... 90 PERCENT

V ALONG TRACK RESOLUTION LIMIT PEAK (X) VERSUS FREQUENCY - PERCENT

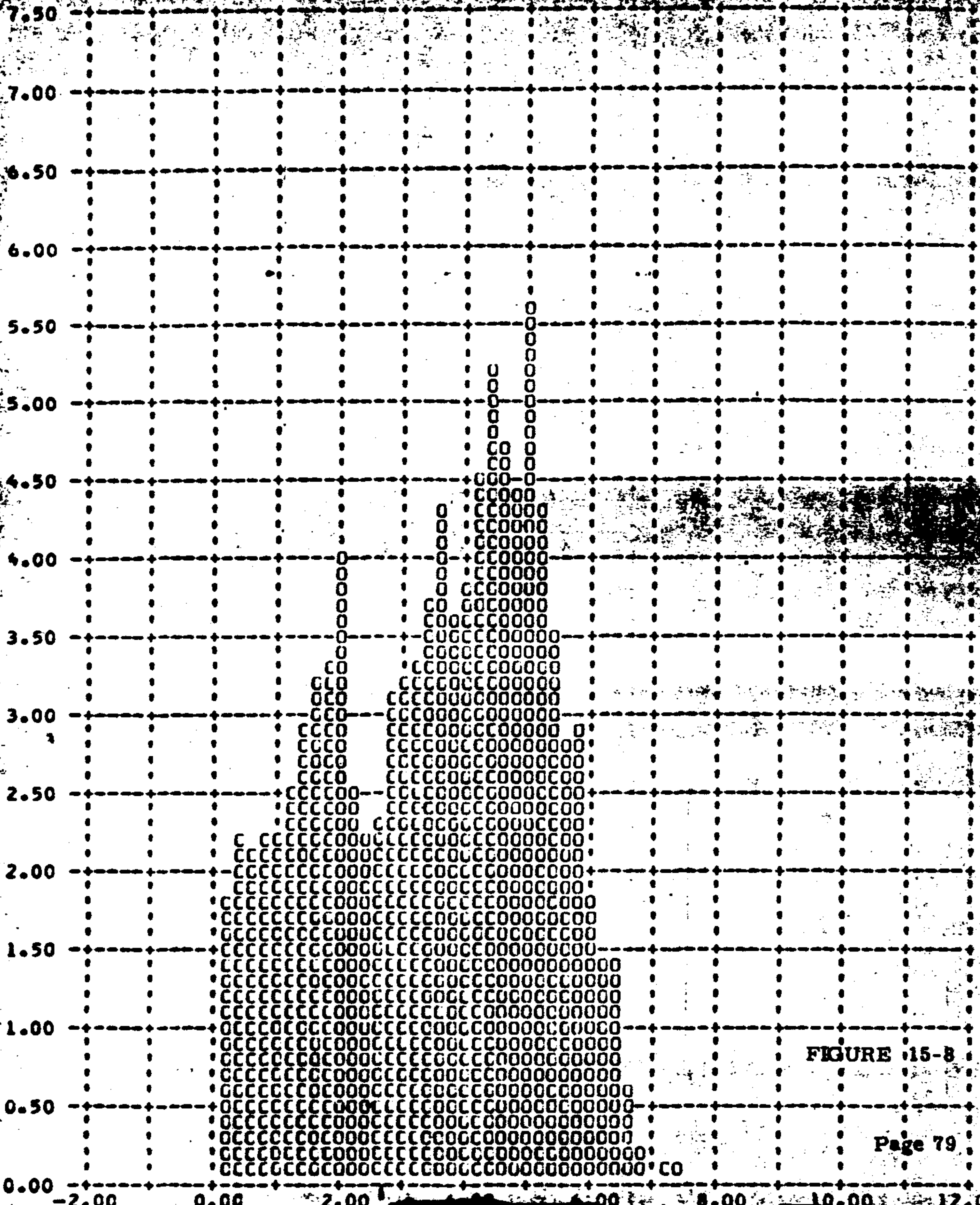


FIGURE 15-8

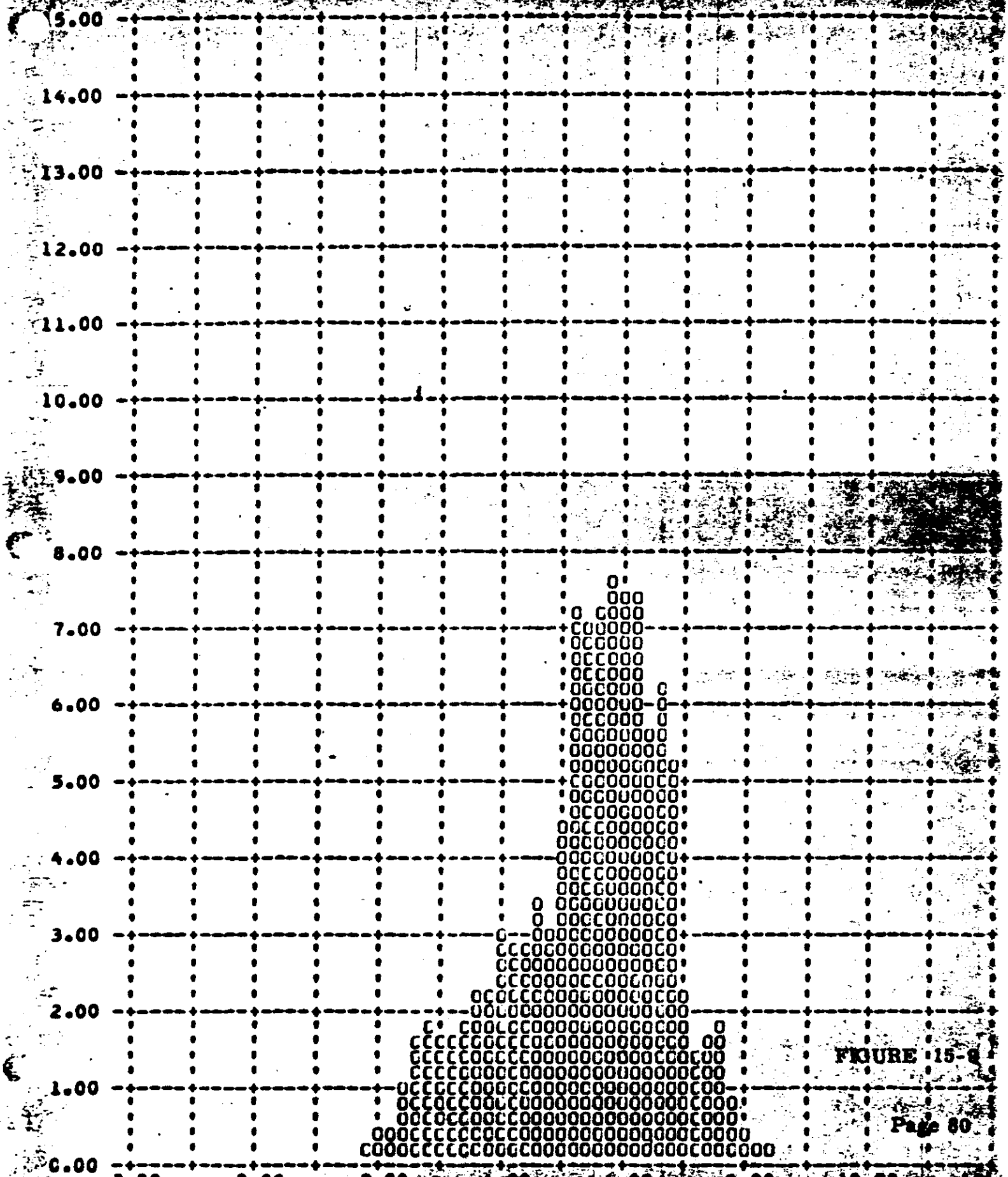

Y CROSS TRACK RESOLUTION LIMIT - FEET (K) VERSUS FREQUENCY - PERCENT
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-2.00
0.00
2.00
8.00
10.00

FIGURE 15-8

ROCKET AFT INSTRUMENT [illegible] FRAMES [illegible] OMITTED [illegible] PERCENT

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

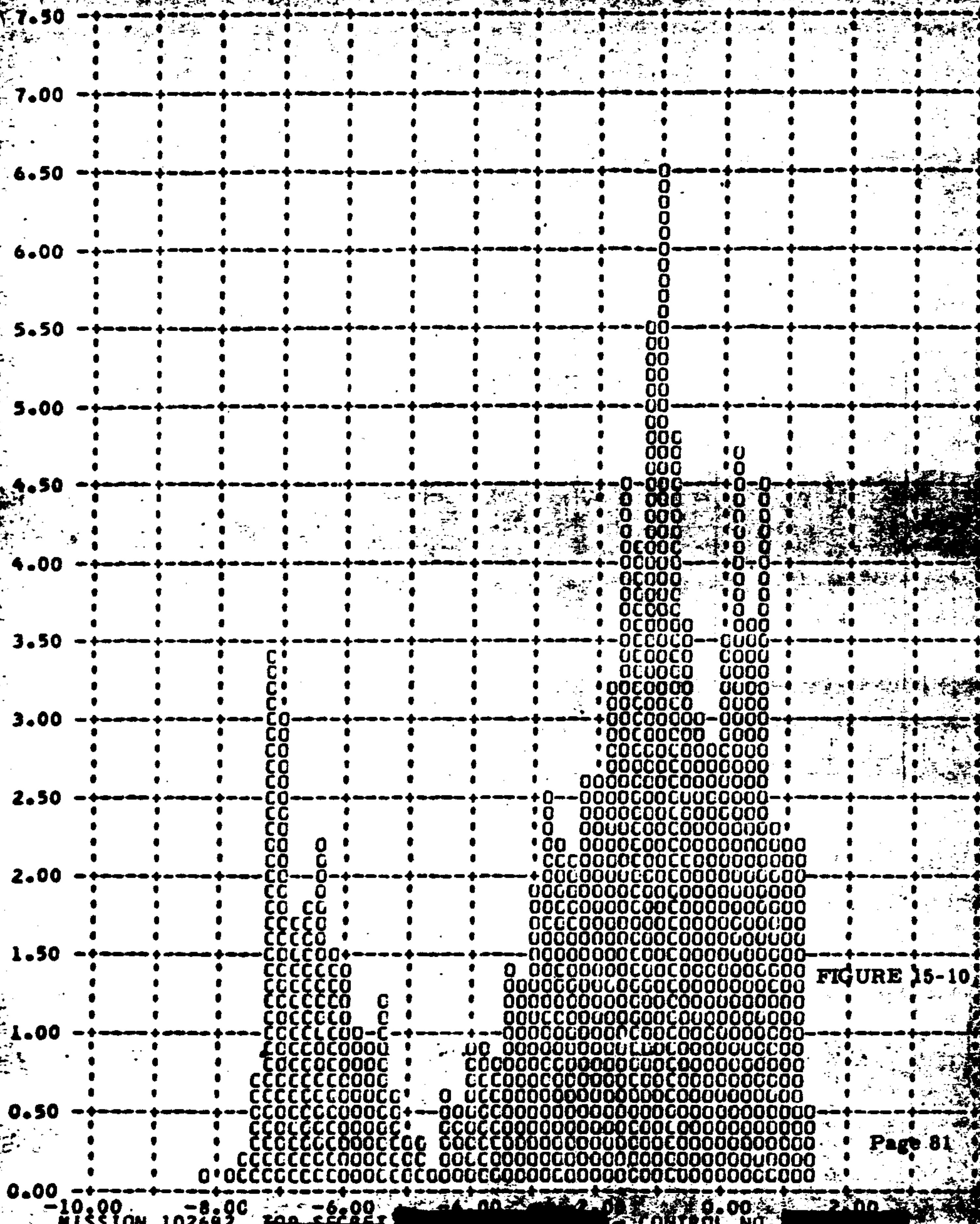


FIGURE 15-10

Page 81

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

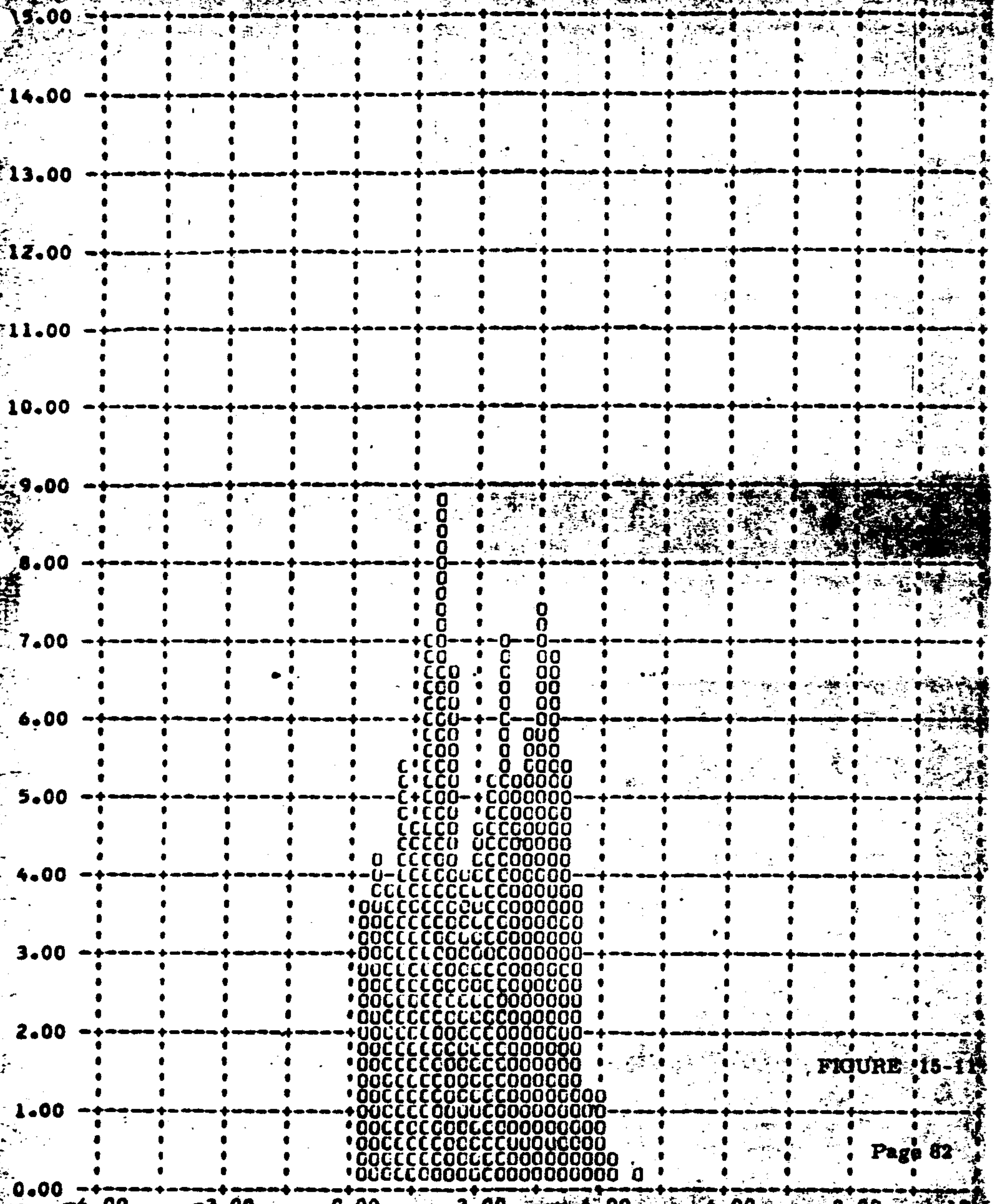


FIGURE 15-11

BUCKET A INSTRUMENT ... FRAMES ... OMITTED ... 90 PERCENT

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

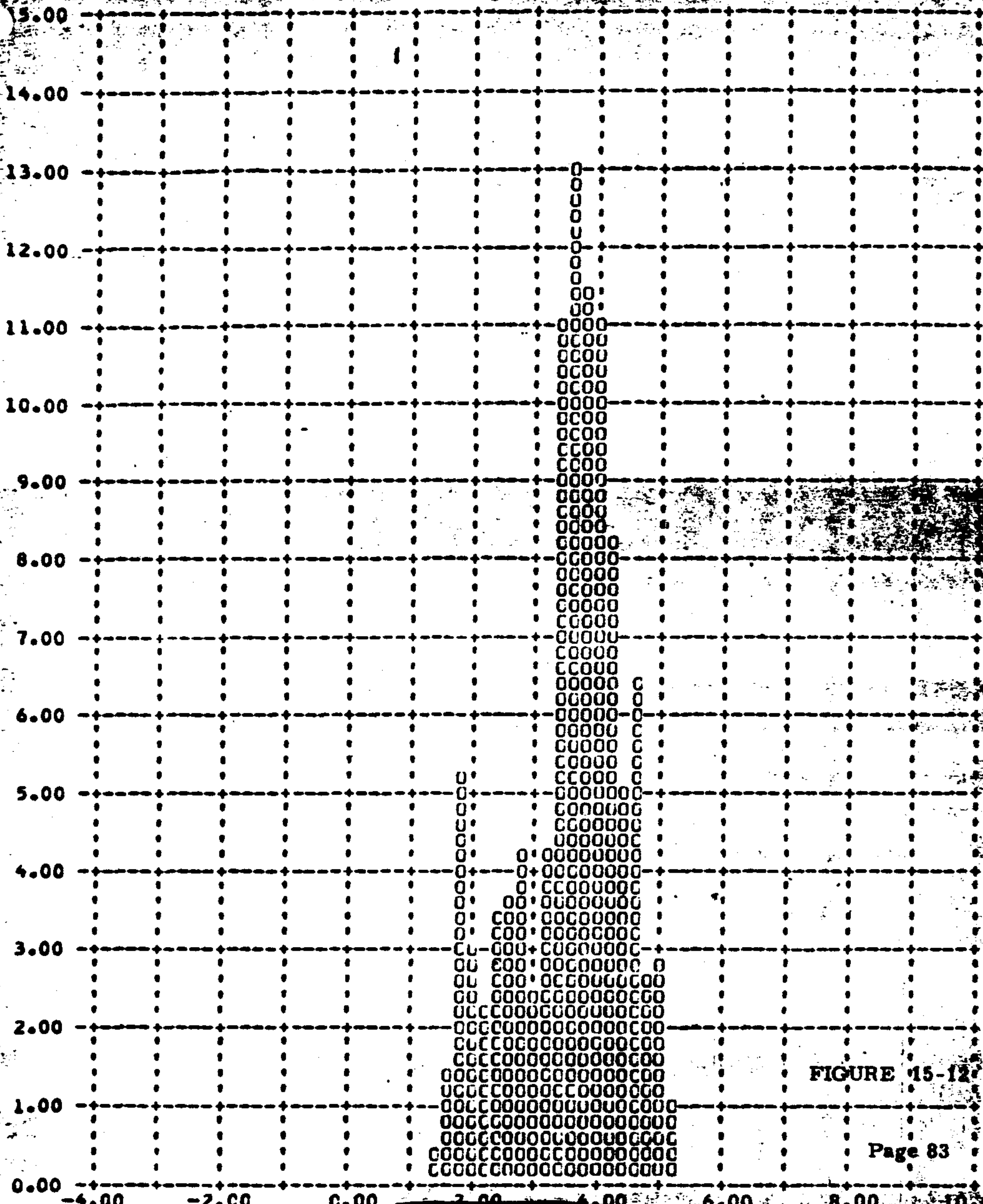


FIGURE 15-12

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 1026-1		Mission 1026-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 3401	0.15	0.3 R	0.20	0.7 R
Royal X Pan	0.22	0.3 R	0.30	0.6 R

The radiation level on mission -1 was one half of that experienced on mission -2 material. These levels are below that which will degrade the photography.

SECTION 17.

SYSTEM RELIABILITY

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

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

The reliability estimate is also divided into primary and secondary functions. The primary functions are operation of the panoramic cameras, main camera door operation, operation of the payload clock, and recovery operations. The secondary mission functions are horizon camera operation excluding catastrophic open shutter failure mode, auxiliary data recording, and stellar-index camera operation. A summary of estimated reliability is shown in Tables 17-1.

Panoramic Camera Reliability

Sample Size - 126 opportunities to operate.
One failure - capping shutter on slave instrument on system M-7
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 98.7% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 44 vehicles x 2 doors = 88 opportunities to operate
Estimated Reliability = 99.2% at 50% confidence level

Payload Command and Control

Sample Size - 6720 hours operation in sample
Two failures
Estimated Reliability = 96.3% at 50% confidence level

Payload Clock Reliability

Sample Size - 6720 hours operation in sample
No failures
Estimated Reliability = 99.0% at 50% confidence level

Estimated Reliability of Payload Functioning on orbit = 96.5% at 50% confidence level

Recovery System Reliability

53 opportunities to recover
1 failure - improper separation due to water seal - cutter failure
Estimated Reliability = 96.8% at 50% confidence level

Stellar-Index Camera Reliability

Sample begins with J5
Sample size = 14,740 cycles
Two failures
Estimated Reliability = 92.6 at 50% confidence level

Horizon Camera Reliability

Sample begins with J5 - 63,000 cycles
Estimated Reliability of Single Camera = 98.4% 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 SIZE / FAILURES / RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY	RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY	SAMPLE SIZE / FAILURES / RELIABILITY
9038 TO 1008	60 / 1 / 97.3	52 DOORS / 0 / 98.6	3124 HOURS / 0 / 96.0	3124 HOURS / 0 / 96.0	96.1	16 CYCLES / 1 / 90.7	3400 CYCLES / 3 / 68.1	12,000 CYCLES / 0 / 91.7
1009	64 / 1 / 97.4	54 / 0 / 98.7	3216 / 0 / 96.0	3216 / 0 / 96.0	96.2	20 / 1 / 91.5	4250 / 3 / 69.3	15,000 / 0 / 93.4
1010	68 / 1 / 97.6	56 / 0 / 98.8	3432 / 0 / 96.1	3432 / 0 / 96.1	96.4	22 / 1 / 92.5	5100 / 3 / 73.7	18,000 / 0 / 94.4
1011	72 / 1 / 97.7	58 / 0 / 98.9	3600 / 0 / 96.1	3600 / 0 / 96.1	96.6	24 / 1 / 93.0	5525 / 0[a] / 94.7	21,000 / 0 / 95.2
1012	76 / 1 / 97.8	60 / 0 / 98.9	3720 / 0 / 96.2	3720 / 0 / 96.2	96.9	26 / 1 / 93.5	5925 / 0 / 94.7	24,000 / 0 / 95.8
1013	78 / 1 / 97.8	62 / 0 / 99.0	3940 / 1 / 96.9	3940 / 0 / 96.3	96.0	28 / 1 / 94.0	6050 / 0 / 95.1	25,800 / 0 / 96.0
1014	82 / 1 / 97.9	64 / 0 / 99.0	4056 / 1 / 96.1	4056 / 0 / 96.3	96.1	30 / 1 / 94.4	6375 / 1 / 89.6	28,500 / 0 / 96.4
1015	86 / 1 / 98.0	66 / 0 / 99.0	4320 / 1 / 96.3	4320 / 0 / 96.4	96.1	32 / 1 / 94.6	7225 / 1 / 90.4	31,800 / 0 / 96.7
1016	90 / 1 / 98.1	68 / 0 / 99.0	4560 / 1 / 96.5	4560 / 0 / 96.5	96.4	34 / 1 / 95.2	7650 / 1 / 91.0	34,500 / 0 / 97.0
1017	94 / 0[a] / 98.3	70 / 0 / 99.0	4780 / 1 / 96.7	4780 / 0 / 96.6	97.6	36 / 1 / 95.4	8925 / 1 / 92.3	37,800 / 0 / 97.3
1018	98 / 1 / 98.3	72 / 0 / 99.1	4980 / 1 / 96.8	4980 / 0 / 96.7	96.7	38 / 1 / 95.6	8950 / 1 / 92.3	40,500 / 0 / 97.5
1019	102 / 1 / 98.4	74 / 0 / 99.1	5136 / 1 / 96.9	5136 / 0 / 96.7	96.8	39 / 1 / 95.8	8975[aa] / 1 / 91.9	43,800 / 0 / 97.6

[a] DESIGN FIX REDUCED PREVIOUS FAILURE CONSIDERATIONS

[aa] [redacted]

TABLE IV-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	46,000 / 0 / 97.9
1021	104 / 1 / 98.5	78 / 0 / 99.1	5376 / 1 / 97.0	5376 / 0 / 98.8	96.9	41 / 1 / 96.0	9630 / 2 / 89.1	46,500 / 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 / 96.8	6000 / 0 / 98.9	96.2	47 / 1 / 96.8	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 / 98.9	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 / 98.9	96.5	53 / 1 / 96.8	14,740 / 2 / 92.6	63,000 / 0 / 98.3

SECTION 18

SUMMARY DATA

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

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

MISSION SUMMARY

MISSION NUMBER	PAYLOAD NUMBER	VEHICLE NUMBER	LAUNCH DATE	LAUNCH TIME	ORBIT INCLINATION (°)	PERIGEE ALTITUDE (NM)	PERIGEE LOCATION (°N)	RECOVERY PASS	MASTER CAMERA CAMERA NUMBER	MASTER CAMERA SLIT (")	MASTER CAMERA FILTER TYPE	SLAVE CAMERA CAMERA NUMBER	SLAVE CAMERA SLIT (")	SLAVE CAMERA FILTER TYPE	STELLAR-INERTIAL CAMERA NUMBER
1004	J-03	1174	2/18/64	2[illegible] E	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	D29/29/29 / D48/48/47
1006	J-06	1176	6/4/64	2239 E	79.9	84.0	63.2	88 / 128	148	0.200	W-21	149	0.200	W-21	D48/47/48 / D49/[illegible]
1007	J-07	1606	6/19/64	2318 E	85.0	99.2	41.8	88 / 128	144	0.250	W-25	145	0.200	W-21	D43/43/43 / D64/[illegible]
1008	J-10	1177	7/10/64	2314 E	86.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	D48/48/48 / D33/[illegible]
1009	J-12	1606	8/3/64	2316 E	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	D56/54/56 / D38/38/[illegible]
1010	J-11	1178	9/14/64	2254 E	84.9	97.4	42.5	88 / 144	152	0.175	W-21	153	0.175	W-21	D41/41/41 / D44/[illegible]
1011	J-3X	1179	10/5/64	2150 E	79.9	99.5	20.9	88 / —	160	0.175	W-21	161	0.175	W-21	D30/30/30 / D37/37/37
1012	J-13	1179	10/17/64	2202 E	78.0	98.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	D31/31/47 / D44/[illegible]
1013	J-15	1175	11/2/64	2130 E	80.0	100.0	29.0	88 / 81	158	0.225	W-21	159	0.225	W-21	D52/49/56 / D47/48/[illegible]
1014	J-16	1180	11/18/64	2036 E	70.0	103.2	65.6	81 / 148	162	0.250	W-25	139	0.175	W-21	D55/59/49 / D50/44/[illegible]
1015	J-17	1607	12/18/64	2110 E	74.9	98.7	21.8	81 / 175	138	0.250	W-25	141	0.175	W-21	D61/61/61 / D58/58/[illegible]
1016	J-18	1606	1/15/65	2101 E	74.9	99.4	30.2	81 / 169	132	0.250	W-25	133	0.175	W-21	D55/58/50 / D59/[illegible]
1017	J-14	1611	2/25/65	2144 E	78.0	97.2	28.9	81 / 145	140	0.250	W-25	165	0.175	W-21	D21/21/21 / D60/[illegible]
1018	J-19	1612	3/25/65	2111 E	96.0	100.2	40.3	88 / 99	122	0.250	W-25	123	0.175	W-21	D20/20/20 / D52/[illegible]
1019	J-04	1614	4/23/65	2144 E	85.0	99.1	27.1	88 / —	118	0.250	W-25	119	0.175	W-21	D39/38/38 / D19/[illegible]
1020	J-20	1613	6/9/65	2158 E	75.1	97.1	40.8	97 / 113	136	0.250	W-25	137	0.175	W-21	D67/66/60 / D62/[illegible]
1021	J-21	1615	5/18/65	1603 E	75.0	102.2	24.3	81 / 161	166	0.175	W-21	167	0.250	W-25	D63/65/69 / D25/27/[illegible]
1022	J-22	1617	7/19/65	2201 E	85.0	99.7	30.3	88 / 144	168	0.250	W-25	169	0.175	W-21	D65/71/70 / D24/24/[illegible]
1023	J-23	1616	8/17/65	2100 E	70.0	97.8	29.0	81 / 146	170	0.225	W-25	171	0.150	W-21	D17/19/62 / D66/[illegible]
1024	J-24	1619	9/22/65	2131 E	80.0	98.9	18.4	84 / 161	172	0.225	W-25	173	0.150	W-21	D69/72/64 / D64/62/[illegible]
1025	JR-25	1616	10/8/65	1746 E	75.0	118.9	44.3	81 / 161	142	0.175	W-21	127	0.175	W-21	D75/75/80 / D70/68/[illegible]
1026	J-26	1620	10/28/65	2117 E	75.0	98.0	17.0	81 / 145	174	0.225	W-25	175	0.150	W-21	D76/82/85 / D72/[illegible]
								/							/
								/							/

~~TOP SECRET~~ [redacted] No. [redacted]

PERFORMANCE SUMMARY

[redacted]

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPL MTF/AIM SLIT (μ)	AFSPPL MTF/AIM AVERAGE	SLIT (μ)	AVERAGE	SLIT (μ)	AVERAGE ALL	AVERAGE HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (THR) PITCH	90% ATTITUDE RATES (THR) ROLL	90% ATTITUDE RATES (THR) 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	0.48	0.42	1.08	30.0	25.0	21.0	5.1	7.7	6.8
	AFT			86		80		96		117	124									
1004-2	FWD	125	85	76		88		113		82	90	0.74	0.80	0.91	44.0	30.0	29.0	4.9	6.8	6.8
	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	18.4	13.8	9.7
	AFT			74		71		90		87	92									
1006-2	FWD	149	90	85		64		81		84	90	0.49	0.40	1.08	31.1	27.9	30.0	11.6	10.1	7.9
	AFT			83		72		90		87	94									
1007-1	FWD	144	85	80	350	60	43	87	320	89	91	0.88	0.46	1.43	37.6	23.9	29.9	3.6	3.1	9.4
	AFT			86		63		83		97	110							4.6	2.1	7.6
1007-2	FWD	145	85	79		72		81		68	74	0.64	0.47	—	43.0	25.8	—	3.2	2.4	—
	AFT			81		77		92		74	81							4.2	1.8	—
1008-1	FWD	150	85	80	350	80	43	95	320	81	89	0.89	0.38	0.94	43.8	23.9	29.6	2.9	4.9	8.8
	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		91		83		85	91									
1009-1	FWD	154	85	92	350	80	—	—	80	75	88	0.68	0.65	0.71	29.2	22.7	27.6	3.3	5.3	8.8
	AFT			89		85				75	83									
1009-2	FWD	155	85	94		85				74	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	182	85	90	350	90	80	88	80	87	96	0.93	0.30	0.87	38.1	23.6	30.8	4.8	2.3	4.6
	AFT			88		86		80		92	103									
1010-2	FWD	183	85	92		81		82		82	93	0.59	0.70	1.21	45.4	23.6	30.7	4.6	7.8	8.0
	AFT			90		82		85		87	98									
1011-1	FWD	160	90	84	350	76	80	96	80	78	87	0.77	0.39	0.97	43.1	28.9	31.1	2.3	5.3	8.9
	AFT	161		84		77		86		83	93									
1012-1	FWD	156	85	92	—	—	80	91	80	84	98	0.68	0.81	—	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	0.81	45.2	30.7	30.4	8.9	3.3	8.0
	AFT			89				96		85	98									
1013-1	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	8.7
	AFT	159		77				97		81	103	0.64	0.32	1.34	36.9	29.0	32.3	4.6	6.5	8.7
1014-1	FWD	162	80	87	—	—	80	78	80	74	86	0.62	0.41	1.46	38.0	36.1	36.5	2.2	6.2	8.6
	AFT			83				80		95	107	0.62	0.41	1.44	34.6	36.0	36.3	3.3	2.8	6.8
1014-2	FWD	139	80	83				78		70	77	1.06	0.86	—	38.4	36.4	—	1.4	6.4	—
	AFT			86				84		80	88	1.06	0.89	—	38.1	36.0	—	3.2	2.2	—
1015-1	FWD	138	85	87	—	—	80	76	80	80	—	0.88	0.38	0.53	47.0	29.4	36.2	5.0	5.8	7.8
	AFT			87				73		97		0.64	0.39	0.53	46.9	29.2	36.2	6.3	3.4	8.0
1015-2	FWD	141	85	83				72		89										
	AFT			82				72		90										
1016-1	FWD	132	85	85	—	—	80	86	80	81	—	0.72	0.83	2.01	48.9	30.2	40.4	2.0	5.8	10.8
	AFT			83				81		94		0.72	0.83	2.01	48.4	30.1	40.4	2.8	3.4	7.6
1016-2	FWD	133	85	90				85		92		0.83	0.93	2.19	42.2	27.2	39.9	1.8	4.9	8.9
	AFT			91				86		91		0.83	0.93	2.19	42.2	27.3	39.9	2.3	3.3	7.2
1017-1	FWD	140	85	72	—	—	80	87	80	78	86	0.48	0.76	2.50	35.8	32.2	38.4	3.3	9.8	11.8
	AFT			75				70		94	107	0.48	0.78	2.49	35.3	32.0	36.5	4.3	8.3	8.6
1017-2	FWD	168	85	85				86		80	94	0.88	0.45	—	36.5	34.0	—	1.8	6.2	—
	AFT			85				89		86	101	0.99	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	0.88	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	8.6	—
	AFT			88				71		91	103	0.88	0.63	—	34.8	30.7	—	3.8	4.1	—

DATA NOT PRESENTLY AVAILABLE

TOP SECRET [redacted] No. [redacted]

PERFORMANCE SUMMARY

[redacted]

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES.	AFSPPE MTF/AIM SLIT (μ)	AFSPPE MTF/AIM AVERAGE	[redacted] SLIT (μ)	[redacted] AVERAGE	[redacted] SLIT (μ)	[redacted] ALL	[redacted] HIGH	90% ATTITUDE ERROR (") PITCH	90% ATTITUDE ERROR (") ROLL	90% ATTITUDE ERROR (") YAW	90% ATTITUDE RATES (7/HR) PITCH	90% ATTITUDE RATES (7/HR) ROLL	90% ATTITUDE RATES (7/HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) [redacted] TRACK
1019-1	FWD	118	85	81	—	—	80	78	80	88	104	0.43	0.36	0.97	31.6	34.7	33.0	3.3	9.3	[redacted]
	AFT	119		99				83		87	101	0.44	0.37	0.96	31.6	34.9	33.1	3.8	8.0	[redacted]
1020-1	FWD	136	80	88	—	—	80	69	80	78	90	0.46	0.35	0.78	37.4	31.8	28.7	5.4	5.8	[redacted]
	AFT			89				82		84	108	0.46	0.35	0.78	37.4	31.8	28.7	5.3	4.2	[redacted]
1020-2	FWD	137	—	—				—		—	—	0.41	0.17	1.06	42.6	23.8	42.8	3.8	6.4	[redacted]
	AFT			—				—		—	—	0.81	0.17	1.06	42.6	23.8	42.8	3.4	4.5	[redacted]
1021-1	FWD	166	86	88	—	—	80	77	80	86	99	0.88	0.37	0.81	34.9	32.6	26.2	2.7	8.8	[redacted]
	AFT			90				90		98	109	0.86	0.36	0.81	34.8	33.0	26.3	3.4	8.6	[redacted]
1021-2	FWD	167	68	85				74		88	112	0.89	0.65	—	44.7	50.6	—	3.1	9.2	—
	AFT			74				62		—	—	—	—	—	—	—	—	—	—	—
1022-1	FWD	168	85	80	—	—	80	66	80	78	91	0.47	0.81	0.89	28.3	27.1	23.8	3.5	9.8	[redacted]
	AFT			91				83		101	111	0.47	0.81	0.90	27.9	28.6	23.8	3.0	6.2	[redacted]
1022-2	FWD	169	85	90				68		74	84	0.40	0.81	0.90	29.4	27.3	31.0	2.6	8.0	[redacted]
	AFT			92				92		99	110	0.40	0.81	0.90	29.4	27.3	31.1	1.8	4.9	[redacted]
1023-1	FWD	170	85	86	—	—	80	94	80	97	110	0.49	0.33	0.80	33.0	28.7	23.8	3.4	4.8	[redacted]
	AFT			87				87		83	101	0.49	0.33	0.80	32.9	28.7	23.9	3.5	2.7	[redacted]
1023-2	FWD	171	85	76				71		76	87	0.48	0.36	0.83	29.7	21.0	28.6	2.4	3.9	[redacted]
	AFT			89				89		88	76	0.43	0.37	0.83	29.6	21.3	28.6	2.8	2.7	[redacted]
1024-1	FWD	172	85	79	—	—	80	79	80	90	102	0.42	0.25	0.62	32.2	24.9	30.5	2.6	5.9	[redacted]
	AFT			95				95		94	105	0.42	0.25	0.62	32.2	24.9	30.4	2.1	3.8	[redacted]
1024-2	FWD	173	85	86				86		89	101	0.36	0.31	0.83	30.4	24.5	36.4	3.5	4.7	[redacted]
	AFT			95				95		100	114	0.36	0.31	0.83	30.6	23.6	36.4	3.1	3.7	[redacted]
1025-1	FWD	142	85	87	—	—	80	87	80	80	97	0.50	0.41	0.85	28.1	28.7	25.9	2.0	3.9	[redacted]
	AFT			97				97		101	114	0.81	0.42	0.88	28.6	29.7	25.7	3.2	2.8	[redacted]
1025-2	FWD	127	85	85				85		96	107	[redacted]								
	AFT			91				91		89	103									
1026-1	FWD	174	85	86	—	—	80	76	80	80	92	0.66	0.24	0.70	37.9	33.2	28.5	6.1	13.8	[redacted]
	AFT			86				86		98	113	0.66	0.24	0.70	37.9	33.2	28.5	6.1	9.1	[redacted]
1026-2	FWD	175	85	85				92		92	104	0.58	0.56	0.87	41.1	46.5	30.8	6.1	8.8	[redacted]
	AFT			93				90		90	103	0.59	0.65	0.86	43.3	50.0	27.7	6.7	5.3	[redacted]

DATA NOT PRESENTLY AVAILABLE

[redacted]

TOP SECRET [redacted]

TOP SECRET [redacted] No. [redacted]

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	25	124	5	76	19	4	79	17	0	79	21	0.26	1.89	0.83	0.78	0.43	2.43	1.97	2.02	1.00	2.43	2.04	2.08	0	4	60	31	5	35
	AFT	-3	61	25	124	5	74	21	4	79	17	0	80	20	0.22	1.86	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	34
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	0.38	2.39	1.89	1.99	0.43	2.46	1.89	1.98	0	4	67	20	9	35
1005-1	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	1.88	1.92	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	1.86	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	46
	AFT	32	84	36	147	2	98	0	35	40	25	21	54	25	0.28	1.34	0.62	0.58	0.65	2.19	1.48	1.47	1.58	2.50	2.12	2.18	0	11	77	9	3	40
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0.26	1.22	0.52	0.47	0.62	2.20	1.44	1.40	1.22	1.36	2.17	2.21	20	8	67	5	0	60
	AFT	11	49	48	102	0	100	0	10	42	48	6	77	17	0.26	1.76	0.58	0.55	0.78	2.31	1.52	1.52	1.54	2.39	2.20	2.24	1	13	80	5	1	60
1007-2	FWD	32	87	43	112	0	25	75	3	28	69	0	26	74	0.26	1.23	0.51	0.48	0.70	2.32	1.44	1.40	0.90	2.37	2.15	2.20	18	9	71	2	0	60
	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	80	102	0	100	0	4	32	64	1	35	64	0.32	1.48	0.66	0.62	0.78	2.24	1.59	1.54	1.46	2.35	2.21	2.24	2	2	86	8	1	40
	AFT	30	81	80	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	40
1008-2	FWD	29	56	42	105	0	100	0	3	31	66	0	27	73	0.14	1.81	0.76	0.72	0.87	2.10	1.54	1.55	1.09	2.40	2.20	2.25	2	1	73	23	1	60
	AFT	29	56	42	105	0	100	0	3	30	67	0	29	71	0.32	1.64	0.77	0.78	0.73	2.10	1.55	1.55	1.10	2.35	2.18	2.22	1	3	69	27	0	60
1009-1	FWD	12	49	42	132	0	100	0	1	26	73	0	34	66	0.32	1.40	0.65	0.62	0.85	2.41	1.53	1.52	0.83	2.51	2.30	2.36	5	4	77	14	0	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	2.38	1	8	73	20	0	60
1009-2	FWD	23	58	35	138	2	98	0	3	21	76	0	40	60	0.29	1.85	0.69	0.64	0.73	2.37	1.53	1.53	1.08	2.45	2.25	2.30	4	4	74	17	0	60
	AFT	23	58	35	138	2	98	0	4	47	49	0	56	44	0.28	1.47	0.69	0.64	0.44	2.42	1.61	1.60	1.61	2.50	2.31	2.34	1	4	77	18	0	60
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	78	4	0	40
	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	1.48	1.41	0.96	2.48	2.20	2.26	9	4	81	6	0	40
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	40
	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	76	8	0	40
1011-1	FWD	2	55	33	86	0	64	36	2	23	75	2	23	75	0.18	0.99	0.50	0.48	0.86	2.38	1.48	1.43	0.78	2.40	2.07	2.18	17	11	70	2	0	40
	AFT	2	55	33	86	0	67	33	3	47	50	0	37	63	0.24	1.48	0.60	0.56	0.80	2.35	1.52	1.55	0.74	2.37	2.11	2.18	3	7	81	6	0	40
1012-1	FWD	0	45	38	71	0	64	36	7	56	37	0	65	35	0.25	1.30	0.59	0.53	0.54	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	2.32	1.89	1.96	5	10	74	11	0	60
1012-2	FWD	0	87	34	108	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	87	34	106	0	77	23	3	15	82	0	10	90	0.30	1.27	0.68	0.62	0.48	2.33	1.88	1.88	0.70	2.38	1.96	2.02	4	0	72	23	0	60
1013-1	FWD	0	86	28	83	0	64	36	0	42	58	0	55	45	0.20	1.66	0.58	0.56	0.58	2.38	1.56	1.59	1.21	2.41	2.03	2.10	7	13	76	4	0	40
	AFT	0	86	28	82	0	64	36	2	7	91	0	33	67	0.28	1.56	0.66	0.62	0.64	2.28	1.58	1.63	1.10	2.36	1.97	2.03	5	8	74	13	0	40
1014-1	FWD	0	89	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	2.03	27	33	39	1	0	60
	AFT	0	89	14	69	0	31	69	0	13	87	0	36	64	0.16	1.26	0.51	0.48	0.25	2.38	1.48	1.49	0.42	2.43	1.91	2.00	19	12	64	5	0	40
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	0.16	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	5	68	19	68	0	8	92	2	2	96	0	2	98	0.25	1.70	0.54	0.47	0.54	2.28	1.44	1.46	0.46	2.41	1.86	1.90	28	0	68	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	5	69	13	76	0	7	93	1	41	58	0	59	41	0.15	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	40
	AFT	4	69	12	76	0	27	73	0	26	74	0	42	58	0.22	1.65	0.64	0.58	0.68	2.34	1.72	1.72	0.98	2.48	1.90	1.92	11	9	62	17	1	60
1016-2	FWD	1	84	-4	76	0	8	92	0	31	69	0	48	52	0.18	1.56	0.48	0.44	0.29	2.38	1.48	1.44	0.34	2.50	1.76	1.82	22	18	56	3	0	60
	AFT	0	84	-4	76	0	19	81	1	27	72	0	40	60	0.20	1.68	0.55	0.49	0.26	2.32	1.58	1.60	0.30	2.49	1.75	1.82	23	9	68	6	1	60
1017-1	FWD	-11	80	21	99	0	0	100	13	63	24	0	82	18	0.20	1.65	0.66	0.61	0.46	2.25	1.74	1.78	0.60	2.32	1.93	2.00	1	8	77	13	1	60
	AFT	-1	87	19	98	0	17	83	24	58	18	4	90	6	0.20	1.62	0.64	0.60	0.60	2.29	1.75	1.75	1.18	2.36	1.89	1.90	1	13	74	11	2	60
1017-2	FWD	1	78	9	139	0	0	100	5	62	33	7	77	16	0.22	1.22	0.58	0.55	0.37	2.30	1.70	1.80	0.86	2.37	1.93	1.94	3	14	74	9	0	60
	AFT	1	79	7	135	0	7	93	18	62	20	0	89	11	0.20	1.54	0.64	0.62	0.30	2.30	1.62	1.68	0.38	2.34	1.85	1.92	2	13	74	10	1	60
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	2.22	1.66	1.73	1.00	2.32	1.96	1.99	2	19	71	7	0	40
	AFT	6	78	10	128	0	22	78	9	53	38	5	72	23	0.18	1.36	0.62	0.58	0.68	2.30	1.68	1.80	1.03	2.28	1.95	2.00	1	12	77	9	2	60
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	2.36	1.80	1.84	0.90	2.26	1.85	1.91	1	31	56	9	4	60
	AFT	8	77	10	132	0	15	85	1	50	49	0	74	26	0.22	1.90	0.81	0.79	0.94	2.36	1.78	1.74	1.09	2.35	1.98	2.04	0	5	58	35	2	60

93

TABLE [redacted]

TOP SECRET [redacted]

TOP SECRET [redacted] No. [redacted]

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	1.49	1.50	0.84	2.26	1.94	2.00	4	7	64	17	7	[redacted]
	AFT	23	70	21	152	0	92	8	26	55	19	3	87	10	0.13	1.70	0.66	0.60	0.38	2.06	1.46	1.45	0.80	2.30	1.96	2.02	1	13	70	14	3	[redacted]
1020-1	FWD	30	78	19	156	0	19	81	13	48	39	1	58	41	0.23	1.30	0.55	0.52	0.80	2.26	1.67	1.54	1.40	2.38	2.10	2.16	1	18	78	4	0	[redacted]
	AFT	29	75	17	156	0	64	36	18	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	76	5	0	[redacted]
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	1.60	1.60	0.97	2.36	1.92	2.00	5	9	72	11	3	[redacted]
	AFT	14	66	-147	-25	0	99	1	15	38	47	0	57	43	0.17	1.70	0.65	0.57	0.84	2.24	1.48	1.42	0.85	2.30	1.90	2.00	5	5	75	12	3	[redacted]
1021-2	FWD	13	52	-133	-41	0	29	71	13	41	46	0	57	43	0.18	1.52	0.84	0.80	0.60	2.36	1.36	1.34	1.05	2.23	1.82	1.85	14	13	69	6	0	[redacted]
	AFT	13	52	-133	-41	0	100	0	83	28	22	0	50	50	0.33	1.36	0.76	0.76	0.70	2.30	1.92	1.90	1.30	2.36	1.94	1.94	6	0	71	21	1	[redacted]
1022-1	FWD	28	67	30	150	0	36	64	8	36	56	0	42	58	0.18	1.49	0.45	0.40	0.84	2.42	1.67	1.60	1.32	2.55	2.24	2.29	30	19	47	3	0	[redacted]
	AFT	27	67	26	150	0	89	11	7	42	51	0	53	47	0.24	1.48	0.57	0.50	0.82	2.30	1.63	1.68	1.30	2.47	2.21	2.25	4	15	71	9	1	[redacted]
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	1.18	2.45	2.23	2.28	35	28	35	1	0	[redacted]
	AFT	28	74	19	152	0	100	0	10	44	46	0	53	47	0.21	1.40	0.48	0.44	0.90	2.32	1.81	1.82	1.48	2.49	2.25	2.28	10	25	61	4	0	[redacted]
1023-1	FWD	22	82	8	164	0	5	95	19	54	27	0	72	28	0.18	1.26	0.39	0.38	0.43	2.41	1.22	1.22	0.87	2.41	2.06	2.11	20	44	34	2	0	[redacted]
	AFT	20	81	8	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	[redacted]
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	[redacted]
	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	[redacted]
1024-1	FWD	10	61	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	0.58	2.34	1.97	2.03	27	49	23	0	0	[redacted]
	AFT	8	61	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	[redacted]
1024-2	FWD	9	79	11	151	0	0	100	12	19	69	0	25	75	0.26	1.17	0.46	0.42	0.38	2.40	1.30	1.27	1.01	2.45	1.91	1.99	36	3	58	2	0	[redacted]
	AFT	8	79	9	151	0	0	100	1	22	77	0	66	34	0.20	1.39	0.47	0.40	0.29	2.28	1.31	1.32	0.90	2.40	1.89	1.95	20	28	50	2	0	[redacted]
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	[redacted]
	AFT	0	70	-121	-19	0	72	28	8	49	43	0	61	39	0.18	1.69	0.49	0.42	0.28	2.26	1.33	1.38	0.23	2.32	1.78	1.90	25	20	47	7	1	[redacted]
1025-2	FWD	N	N	N	N	0	71	29	3	42	55	0	56	44	0.18	1.22	0.45	0.39	0.28	2.24	1.32	1.33	0.63	2.29	1.78	1.89	29	21	46	4	0	[redacted]
	AFT					0	73	27	3	45	52	0	51	49	0.21	1.32	0.83	0.48	0.26	2.16	1.31	1.38	0.48	2.23	1.71	1.79	19	12	61	8	0	[redacted]
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	1.32	1.32	0.40	2.28	1.77	1.87	57	13	28	2	0	[redacted]
	AFT	0	57	21	135	0	5	95	0	4	96	0	38	62	0.20	1.16	0.39	0.34	0.24	2.38	1.29	1.30	0.37	2.40	1.78	1.86	39	27	33	1	0	[redacted]
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	1.06	1.02	0.48	2.24	1.63	1.70	78	2	19	1	0	[redacted]
	AFT	0	57	13	78	0	0	100	2	5	93	0	15	85	0.21	1.35	0.39	0.32	0.27	2.38	1.08	1.03	0.30	2.26	1.61	1.70	60	12	25	3	0	[redacted]

* DATA NOT PRESENTLY AVAILABLE

[redacted]

SECTION A

APPENDIX

MISSION • 1026-1 • INSTRUMENT • FRMD 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	0	0	0	0	0	0	0	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	0	0	0	0	0	0	0	0	0
0.39	0	0	0	0	0	0	0	0	0	0	0	0
0.40	0	0	0	0	0	0	0	0	0	0	0	0
0.41	0	0	0	0	0	0	0	0	0	0	0	0
0.42	0	0	0	0	0	0	0	0	0	0	0	0
0.43	0	0	0	0	0	0	0	0	0	0	0	0
0.44	0	0	0	0	0	0	0	0	0	0	0	0
0.45	0	0	0	0	0	0	0	0	0	0	0	0
0.46	0	0	0	0	0	0	0	0	0	0	0	0
0.47	0	0	0	0	0	0	0	0	0	0	0	0
0.48	0	0	0	0	0	0	0	0	0	0	0	0
0.49	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	47	4	0	167	10	1	214	14	1

TABLE A-1

MISSION • 1026-1 • INSTRUMENT • FRUD 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	1	0	0	1	1	0	1	2	0
0.52	0	0	0	0	0	0	1	2	0	1	2	0
0.53	0	0	0	1	0	0	2	0	0	0	1	0
0.54	0	0	0	0	0	0	0	1	0	1	2	0
0.55	0	0	0	1	0	0	1	2	1	1	2	0
0.56	0	0	0	0	0	0	1	1	0	1	2	0
0.57	0	0	0	1	0	0	1	1	1	1	2	0
0.58	0	0	0	0	0	0	2	3	2	1	2	0
0.59	0	0	0	1	0	0	1	2	1	1	2	0
0.60	0	0	0	0	0	0	1	1	1	1	2	0
0.61	0	0	0	1	0	0	1	1	1	1	2	0
0.62	0	0	0	0	0	0	1	1	1	1	2	0
0.63	0	0	0	1	0	0	1	1	1	1	2	0
0.64	0	0	0	0	0	0	1	1	1	1	2	0
0.65	0	0	0	1	0	0	1	1	1	1	2	0
0.66	0	0	0	0	0	0	1	1	1	1	2	0
0.67	0	0	0	1	0	0	1	1	1	1	2	0
0.68	0	0	0	0	0	0	1	1	1	1	2	0
0.69	0	0	0	1	0	0	1	1	1	1	2	0
0.70	0	0	0	0	0	0	1	1	1	1	2	0
0.71	0	0	0	1	0	0	1	1	1	1	2	0
0.72	0	0	0	0	0	0	1	1	1	1	2	0
0.73	0	0	0	1	0	0	1	1	1	1	2	0
0.74	0	0	0	0	0	0	1	1	1	1	2	0
0.75	0	0	0	1	0	0	1	1	1	1	2	0
0.76	0	0	0	0	0	0	1	1	1	1	2	0
0.77	0	0	0	1	0	0	1	1	1	1	2	0
0.78	0	0	0	0	0	0	1	1	1	1	2	0
0.79	0	0	0	1	0	0	1	1	1	1	2	0
0.80	0	0	0	0	0	0	1	1	1	1	2	0
0.81	0	0	0	1	0	0	1	1	1	1	2	0
0.82	0	0	0	0	0	0	1	1	1	1	2	0
0.83	0	0	0	1	0	0	1	1	1	1	2	0
0.84	0	0	0	0	0	0	1	1	1	1	2	0
0.85	0	0	0	1	0	0	1	1	1	1	2	0
0.86	0	0	0	0	0	0	1	1	1	1	2	0
0.87	0	0	0	1	0	0	1	1	1	1	2	0
0.88	0	0	0	0	0	0	1	1	1	1	2	0
0.89	0	0	0	1	0	0	1	1	1	1	2	0
0.90	0	0	0	0	0	0	1	1	1	1	2	0
0.91	0	0	0	1	0	0	1	1	1	1	2	0
0.92	0	0	0	0	0	0	1	1	1	1	2	0
0.93	0	0	0	1	0	0	1	1	1	1	2	0
0.94	0	0	0	0	0	0	1	1	1	1	2	0
0.95	0	0	0	1	0	0	1	1	1	1	2	0
0.96	0	0	0	0	0	0	1	1	1	1	2	0
0.97	0	0	0	1	0	0	1	1	1	1	2	0
0.98	0	0	0	0	0	0	1	1	1	1	2	0
0.99	0	0	0	1	0	0	1	1	1	1	2	0
1.00	0	0	0	0	0	0	1	1	1	1	2	0
SUBTOTAL	0	0	0	12	11	0	15	61	7	27	72	7

TABLE A-1

MISSION • 1026-1 • INSTRUMENT • FWD 12/28/69 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	4	0	0	4	0
1.02	0	0	0	0	1	0	0	2	0	0	3	0
1.03	0	0	0	0	1	0	0	1	0	0	3	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	2	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	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	24	12	2	66	27	2	90	39

TABLE A-1

MISSION • 1026-1 • INSTRUMENT • FRWD 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	2	1	0	2	1
1.52	0	0	0	0	0	0	0	1	1	0	1	1
1.53	0	0	0	0	0	0	0	0	0	0	0	0
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	0	0	0	0	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0	0	0	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	0	0	0	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	0	0	0	0	0
1.63	0	0	0	0	0	0	0	0	0	0	0	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	0	0	0	0	0
1.68	0	0	0	0	0	0	0	0	0	0	0	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	0	0	0	0	0
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	18	33	0	38	86	0	56	119

~~TOP SECRET~~ [redacted] - CONTROL NO. [redacted]

TABLE A-1

[redacted]

MISSION • 1026-1 • INSTRUMENT • FRMD 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	CUL MIN	CUL MAX	CUL LIN	ALC LEVELS MIN	ALC LEVELS MAX	ALC LEVELS LIN
2.01	0	0	0	0	0	0	0	0	1	0	0	1
2.02	0	0	0	0	0	0	0	1	5	0	0	6
2.03	0	0	0	0	0	0	0	0	0	0	0	0
2.04	0	0	0	0	0	0	0	0	0	0	0	0
2.05	0	0	0	0	0	0	0	0	0	0	0	0
2.06	0	0	0	0	0	0	0	0	0	0	0	0
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	0	0	0	0	0	0	0
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	0	0	0	0	0	0	0	0
2.14	0	0	0	0	0	0	0	0	0	0	0	0
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	0	0	0	0
2.18	0	0	0	0	0	0	0	0	0	0	0	0
2.19	0	0	0	0	0	0	0	0	0	0	0	0
2.20	0	0	0	0	0	0	0	0	0	0	0	0
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	0	0	0	0
2.29	0	0	0	0	0	0	0	0	0	0	0	0
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	2	12	0	9	50	0	11	62

TOP SECRET [redacted] - CONTROL NO. [redacted]

TABLE A-1

[redacted] CONTROL NO. [redacted]

MISSION • 1026-1 • INSTRUMENT • FRWD • 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	59	59	57	184	184	171	243	243	228

MISSION 1026-1 INSTR - FRWD 12/28/65 PROCESSING AND EXPOSURE ANALYSI

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	59	3 PC	53 PC	41 PC	3 PC	0 PC
FULL	184	74 PC	0 PC	24 PC	2 PC	0 PC
ALL LEVELS	243	57 PC	13 PC	28 PC	2 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

~~TOP SECRET~~ [redacted] CONTROL NO. [redacted]

TABLE A-1

MISSION • 1026-1 • INSTR • FWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.40 • MEDIAN • 0.33 • STD DEV • 0.18 • RANGE • 0.20 TO 0.95 WITH 59 SAMPLES

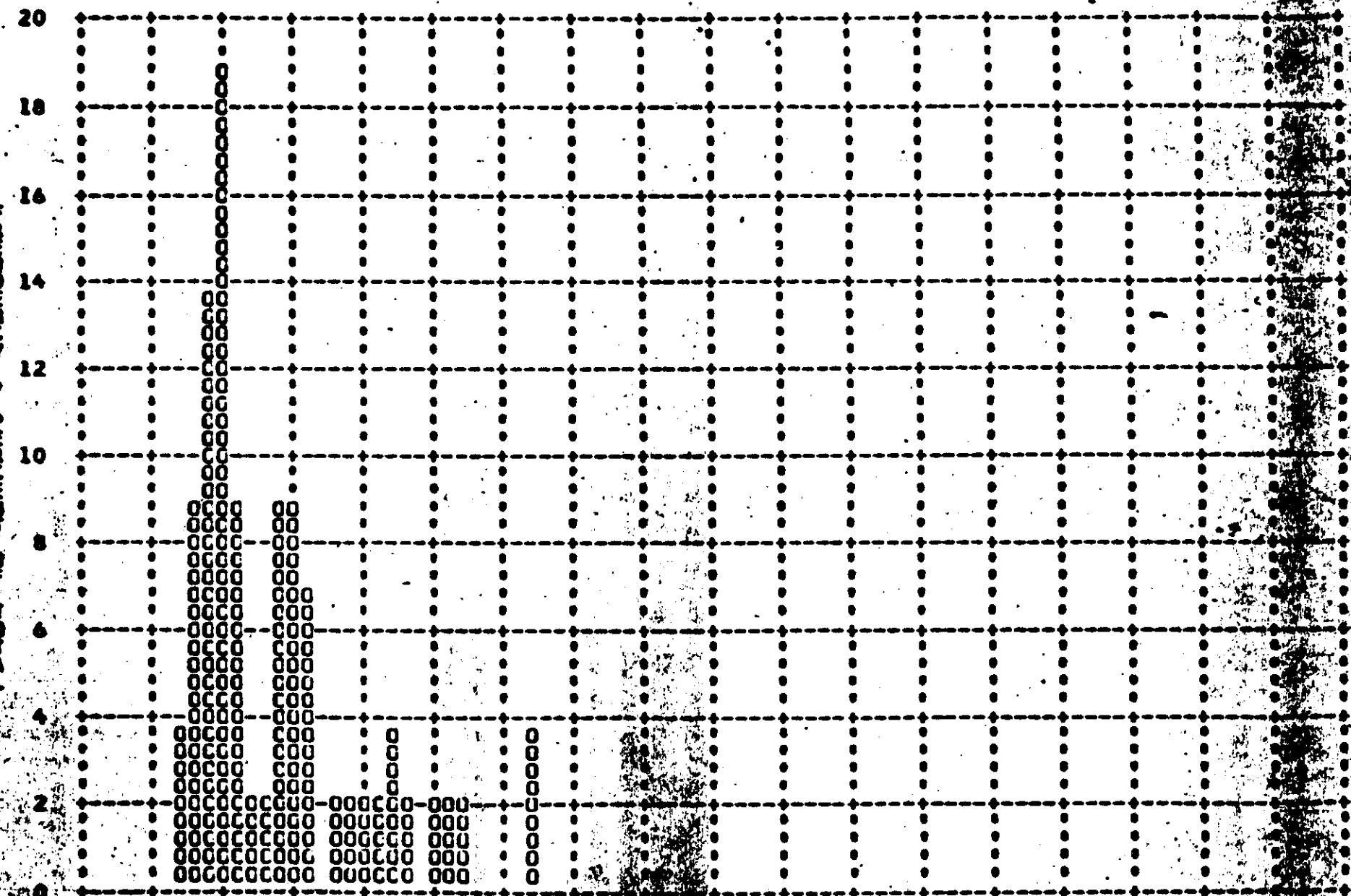


FIGURE A-1

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.31 • MEDIAN • 1.28 • STD DEV • 0.43 • RANGE • 0.43 TO 2.08 WITH 59 SAMPLES

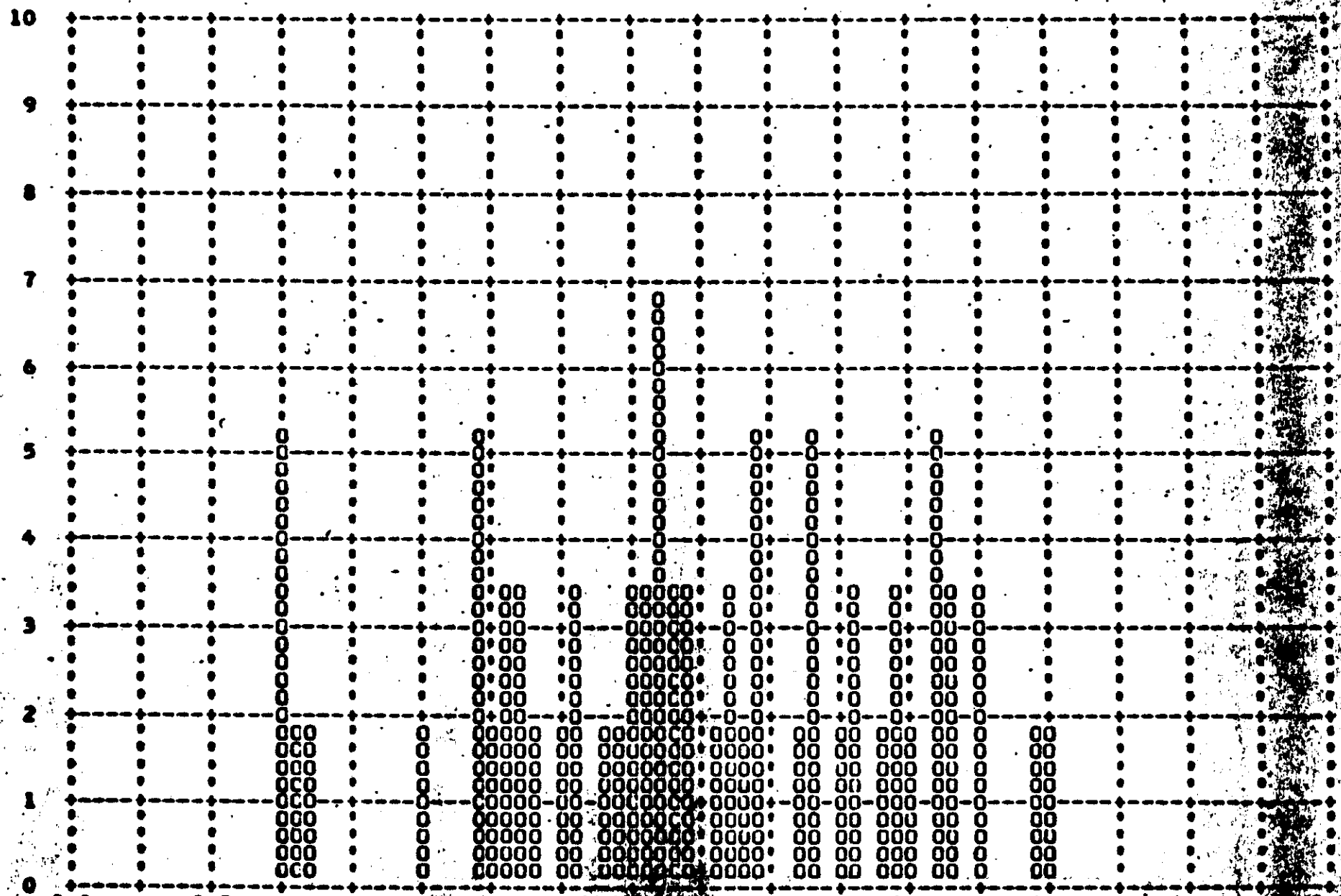


FIGURE A-2

[redacted]

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.76 • MEDIAN • 1.78 • STD DEV • 0.26 • RANGE • 1.27 TO 2.18 WITH 57 SAMPLES

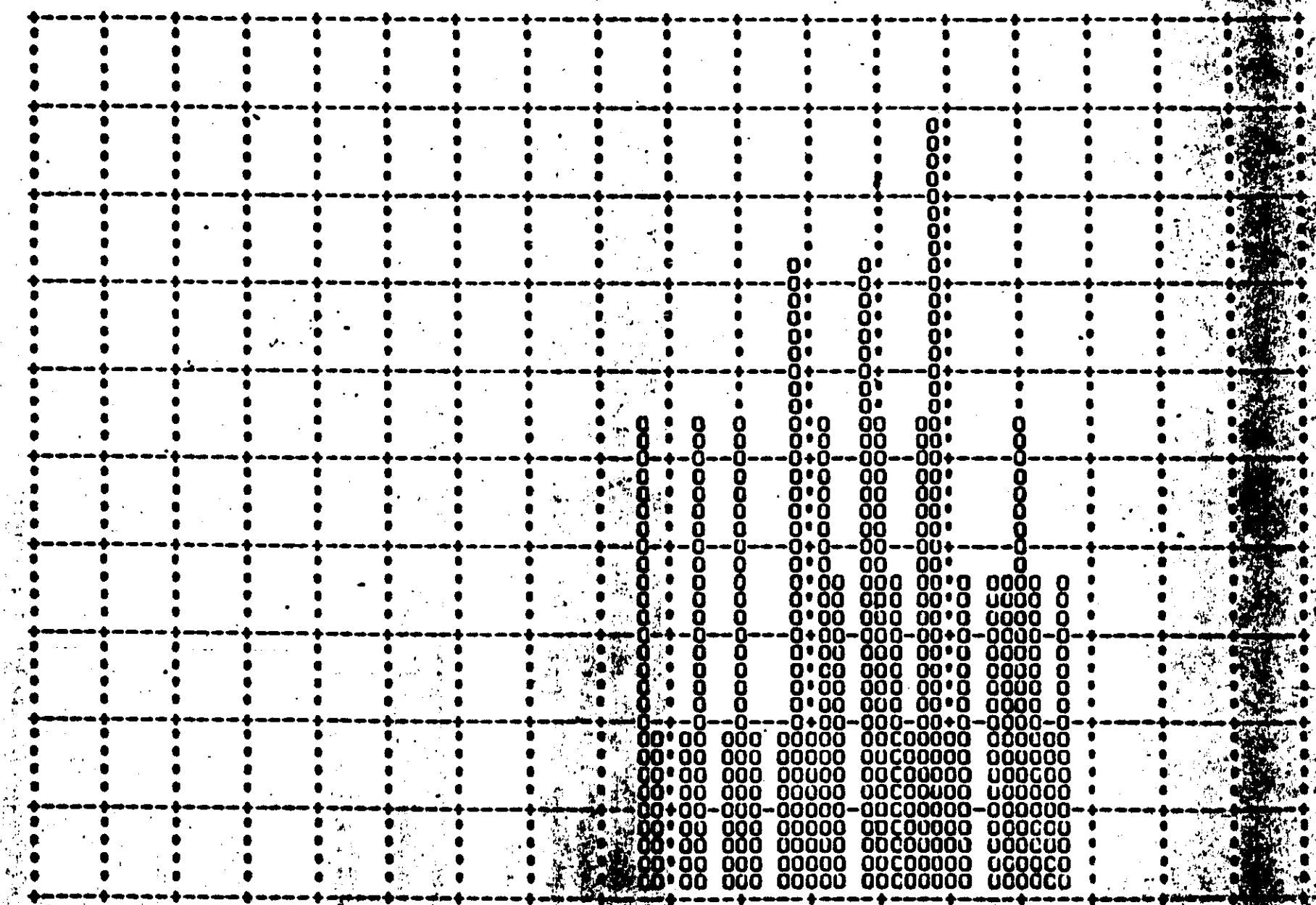


FIGURE A-3

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.37 • MEDIAN • 0.33 • STD DEV • 0.14 • RANGE • 0.22 TO 1.26 WITH 184 SAMPLES

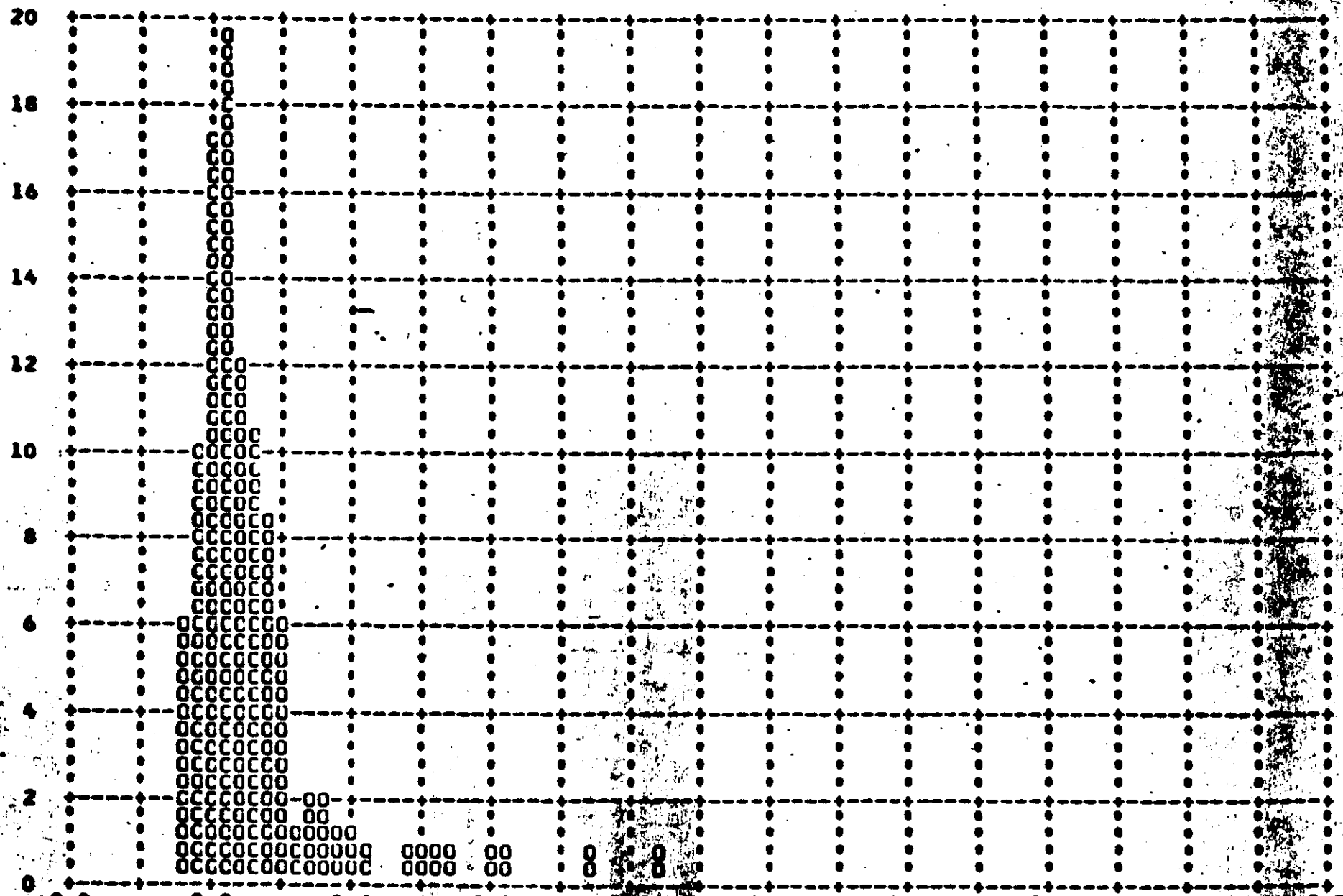


FIGURE A-4

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.19 • MECIAN • 1.18 • STD DEV • 0.46 • RANGE • 0.31 TO 2.27 WITH 184 SAMPLES

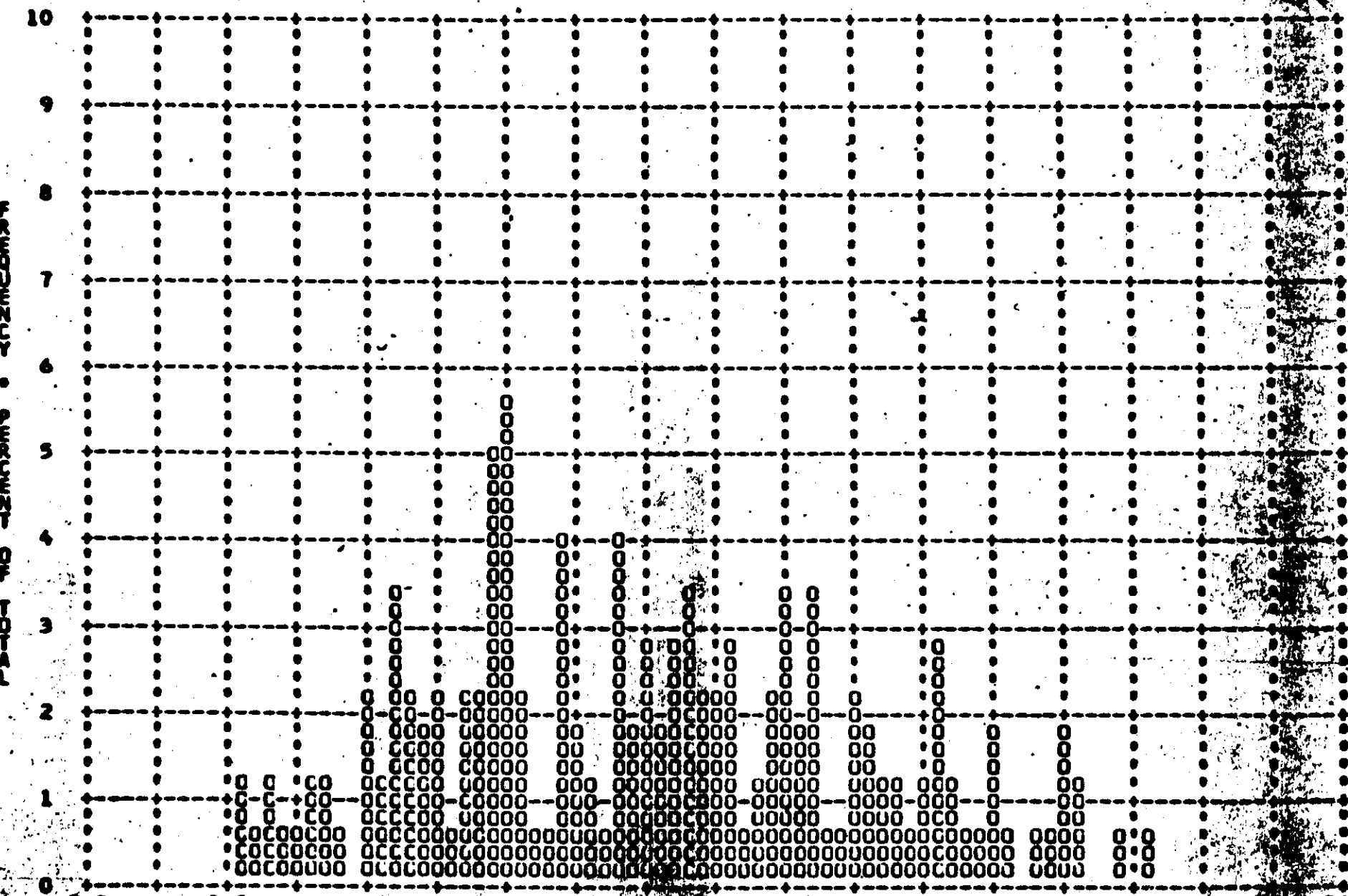


FIGURE A-5

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.77 • MEDIAN • 1.90 • STD DEV • 0.38 • RANGE • 0.40 TO 2.28 WITH 171 SAMPLES

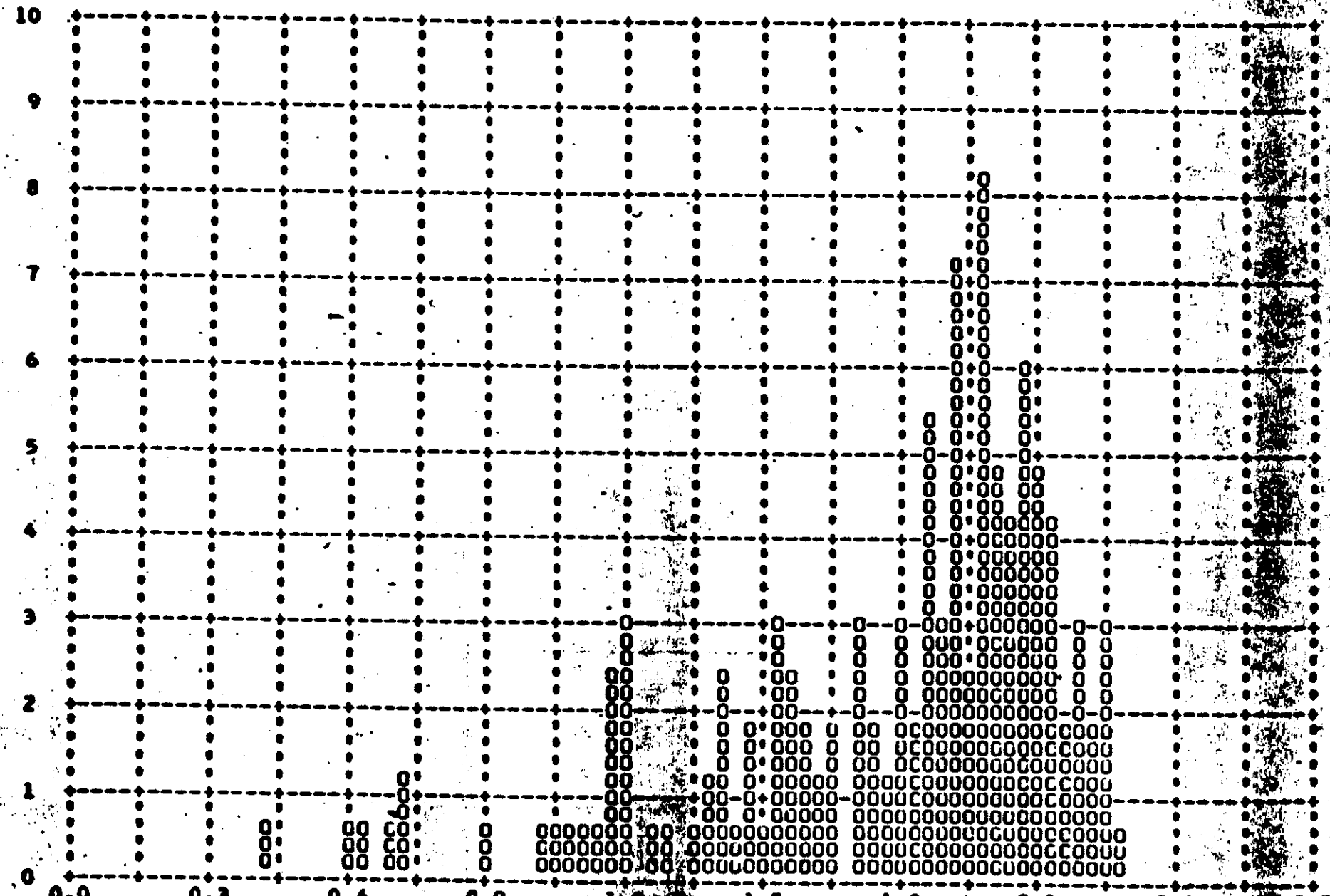


FIGURE A-6

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.38 • MEDIAN • 0.33 • STD DEV • 0.15 • RANGE • 0.20 TO 1.26 WITH 243 SAMPLES

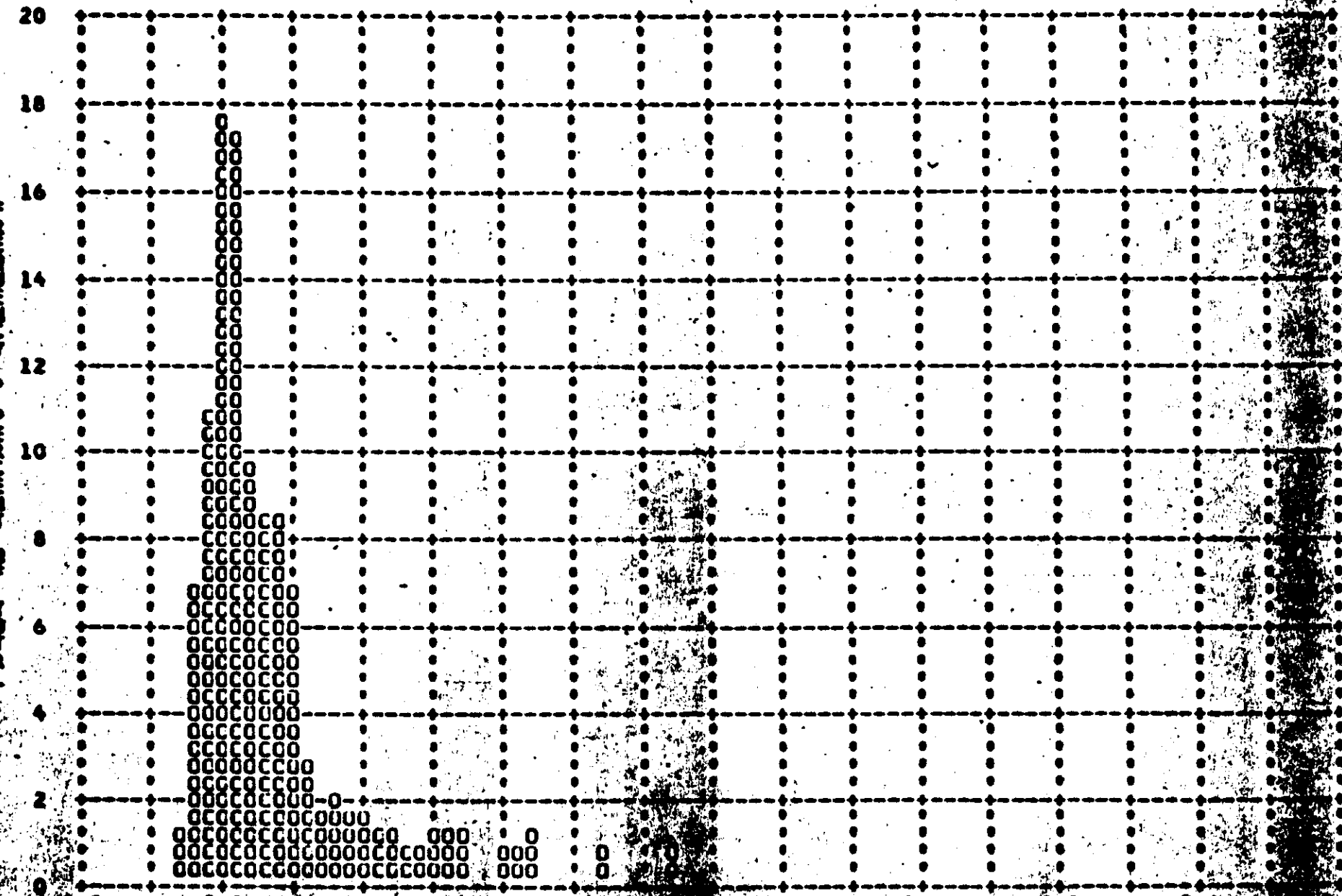


FIGURE A-7

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.22 • MEDIAN • 1.22 • STD DEV • 0.45 • RANGE • 0.31 TO 2.27 WITH 243 SAMPLES

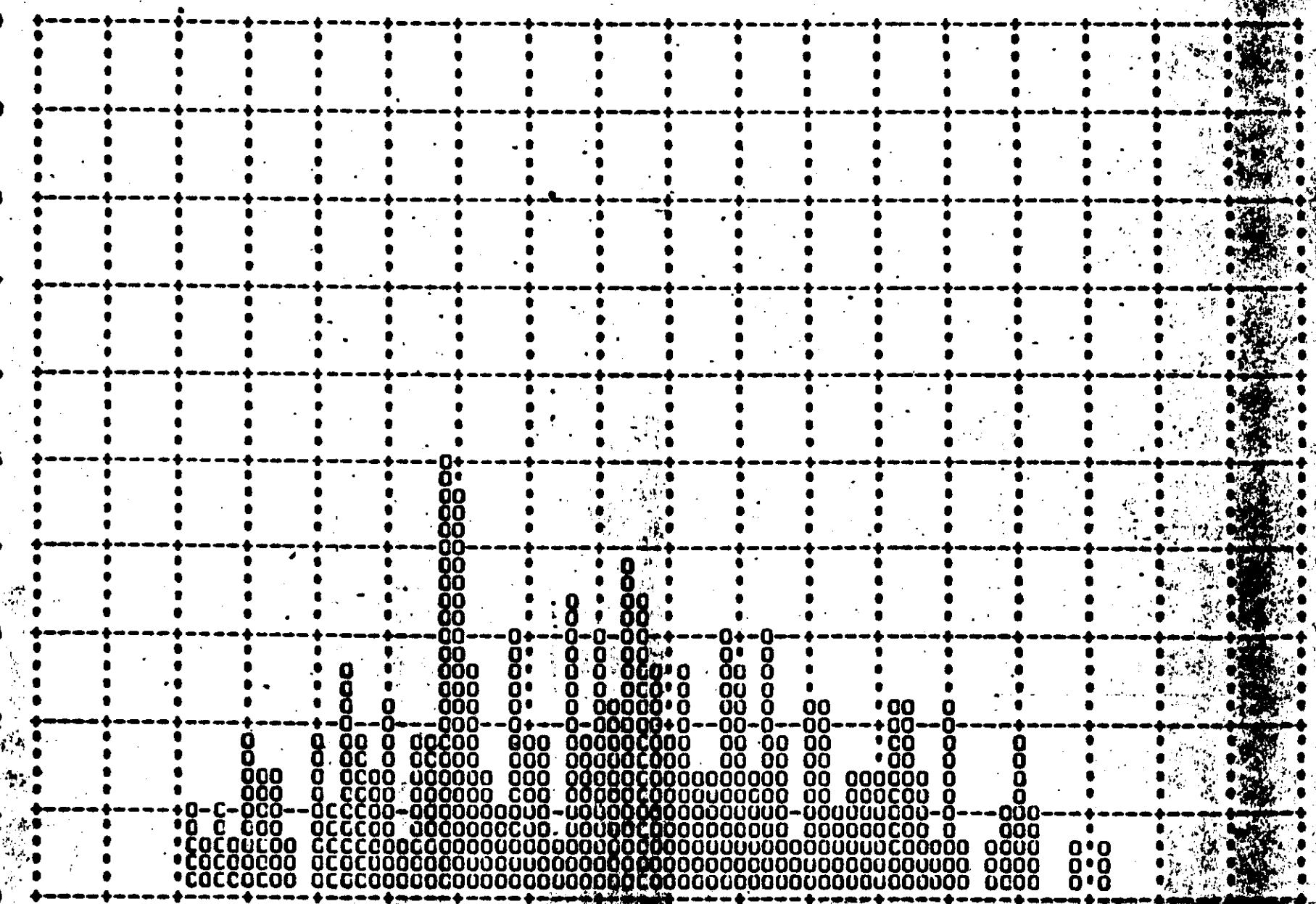


FIGURE A-8

MISSION • 1026-1 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.77 • MEDIAN • 1.87 • STD DEV • 0.36 • RANGE • 0.40 TO 2.28 WITH 228 SAMPLES

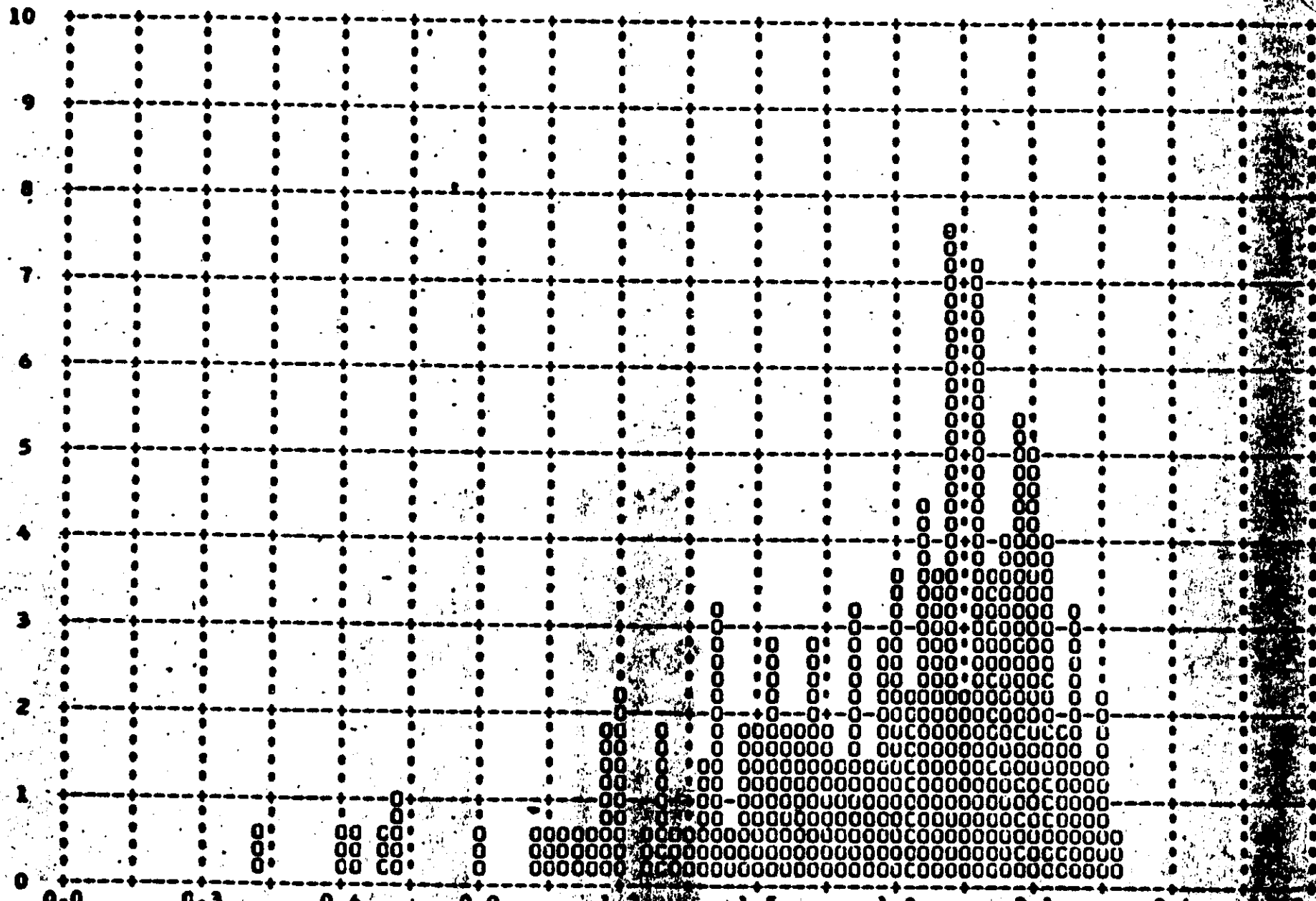


FIGURE A-9

MISSION • 1026-I • INSTRUMENT • AFT • 12/20/69 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALC LEVELS MIN	ALC LEVELS MAX	ALC 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	1	0	0	0	0	0	2	0	0
0.22	0	0	0	1	0	0	0	0	0	2	0	0
0.23	0	0	0	4	0	0	0	0	0	3	0	0
0.24	0	0	0	1	0	0	0	0	0	4	0	0
0.25	0	0	0	9	0	0	0	0	0	4	1	0
0.26	0	0	0	3	0	0	0	0	0	8	0	0
0.27	0	0	0	3	0	0	0	0	0	8	0	0
0.28	0	0	0	5	0	0	0	0	0	10	0	0
0.29	0	0	0	2	0	0	0	0	0	3	0	0
0.30	0	0	0	10	0	0	16	0	0	26	0	0
0.31	0	0	0	4	0	0	6	0	0	10	0	0
0.32	0	0	0	1	0	0	7	0	0	8	0	0
0.33	0	0	0	2	0	0	5	0	0	7	0	0
0.34	0	0	0	5	0	0	11	0	0	16	0	0
0.35	0	0	0	3	1	0	2	0	0	5	1	0
0.36	0	0	0	4	1	0	8	0	0	12	1	0
0.37	0	0	0	4	1	0	7	0	0	5	3	0
0.38	0	0	0	1	1	0	2	0	0	3	1	0
0.39	0	0	0	3	1	0	5	0	0	8	1	0
0.40	0	0	0	3	0	0	1	0	0	4	0	0
0.41	0	0	0	3	0	0	3	0	0	6	0	0
0.42	0	0	0	1	1	0	2	0	0	3	1	0
0.43	0	0	0	1	1	0	3	0	0	3	1	0
0.44	0	0	0	1	1	0	2	0	0	3	1	0
0.45	0	0	0	1	1	0	2	0	0	3	1	0
0.46	0	0	0	1	1	0	2	0	0	3	1	0
0.47	0	0	0	0	0	0	1	0	0	1	0	0
0.48	0	0	0	1	0	0	2	0	0	3	0	0
0.49	0	0	0	0	1	0	0	0	0	1	0	0
0.50	0	0	0	0	1	0	0	0	0	1	0	0
SUBTOTAL	0	0	0	79	5	1	119	7	0	198	12	1

TABLE A-2

MISSION • 1026-1 • INSTRUMENT • AFT • 12/28/65 • 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
0.51	0	0	0	0	0	0	2	0	0	2	0	0
0.52	0	0	0	0	2	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	2	0	0	0	0	2	0	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	1	0	0	1	0	0
0.58	0	0	0	0	0	0	1	0	0	1	0	0
0.59	0	0	0	0	0	0	1	0	0	1	0	0
0.60	0	0	0	0	0	0	0	0	0	0	0	0
0.61	0	0	0	0	0	0	0	0	0	0	0	0
0.62	0	0	0	0	0	0	0	0	0	0	0	0
0.63	0	0	0	0	0	0	0	0	0	0	0	0
0.64	0	0	0	0	0	0	0	0	0	0	0	0
0.65	0	0	0	0	0	0	0	0	0	0	0	0
0.66	0	0	0	0	0	0	0	0	0	0	0	0
0.67	0	0	0	0	0	0	0	0	0	0	0	0
0.68	0	0	0	0	0	0	0	0	0	0	0	0
0.69	0	0	0	0	0	0	0	0	0	0	0	0
0.70	0	0	0	0	0	0	0	0	0	0	0	0
0.71	0	0	0	0	0	0	0	0	0	0	0	0
0.72	0	0	0	0	0	0	0	0	0	0	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	0	0	0	0	0	0	0	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	0	0	0	0	0	0	0	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	0	0	0	0	0	0	0	0	0
0.81	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	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	0	0	0	0	0	0
0.89	0	0	0	0	0	0	0	0	0	0	0	0
0.90	0	0	0	0	0	0	0	0	0	0	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	0	0	0	0	0	0	0	0	0
0.94	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	10	27	5	30	29	7	40	56	12

TABLE A-2

[redacted] MISSION [redacted] INSTRUMENT [redacted] AFT [redacted] 12/20/65 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM
1.01	0	0	0	0	0	1	0	0	0	0	0	1
1.02	0	0	0	0	0	0	0	0	0	0	0	0
1.03	0	0	0	0	0	0	0	0	0	0	0	0
1.04	0	0	0	0	0	0	0	0	0	0	0	0
1.05	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	1	34	11	1	59	22	2	93	33

TOP SECRET [redacted] CONTROL NO. [redacted]

TABLE A-2

MISSION = 1026-1 • INSTRUMENT = AFT • 12/28/65 • DENSITY FREQ DIST

DENSITY VALUE	ORDINARY MIN	ORDINARY MAX	ORDINARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	FUEL MIN	FUEL MAX	FUEL LIN	ALL LAYERS MIN	ALL LAYERS MAX	ALL LAYERS LIN
1.51	0	0	0	0	0	0	0	1	1	0	1	1
1.52	0	0	0	0	0	0	0	1	2	0	1	1
1.53	0	0	0	0	0	0	0	3	2	0	6	2
1.54	0	0	0	0	0	0	0	2	1	0	2	1
1.55	0	0	0	0	0	0	0	1	1	0	2	1
1.56	0	0	0	0	0	0	0	3	1	0	4	1
1.57	0	0	0	0	0	0	0	1	0	0	1	1
1.58	0	0	0	0	0	0	0	2	0	0	3	1
1.59	0	0	0	0	0	0	0	2	0	0	3	1
1.60	0	0	0	0	0	0	0	1	1	0	3	1
1.61	0	0	0	0	0	0	0	1	1	0	1	1
1.62	0	0	0	0	0	0	0	1	1	0	1	1
1.63	0	0	0	0	0	0	0	1	1	0	1	1
1.64	0	0	0	0	0	0	0	1	1	0	1	1
1.65	0	0	0	0	0	0	0	1	1	0	1	1
1.66	0	0	0	0	0	0	0	1	1	0	1	1
1.67	0	0	0	0	0	0	0	1	1	0	1	1
1.68	0	0	0	0	0	0	0	1	1	0	1	1
1.69	0	0	0	0	0	0	0	1	1	0	1	1
1.70	0	0	0	0	0	0	0	1	1	0	1	1
1.71	0	0	0	0	0	0	0	1	1	0	1	1
1.72	0	0	0	0	0	0	0	1	1	0	1	1
1.73	0	0	0	0	0	0	0	1	1	0	1	1
1.74	0	0	0	0	0	0	0	1	1	0	1	1
1.75	0	0	0	0	0	0	0	1	1	0	1	1
1.76	0	0	0	0	0	0	0	1	1	0	1	1
1.77	0	0	0	0	0	0	0	1	1	0	1	1
1.78	0	0	0	0	0	0	0	1	1	0	1	1
1.79	0	0	0	0	0	0	0	1	1	0	1	1
1.80	0	0	0	0	0	0	0	1	1	0	1	1
1.81	0	0	0	0	0	0	0	1	1	0	1	1
1.82	0	0	0	0	0	0	0	1	1	0	1	1
1.83	0	0	0	0	0	0	0	1	1	0	1	1
1.84	0	0	0	0	0	0	0	1	1	0	1	1
1.85	0	0	0	0	0	0	0	1	1	0	1	1
1.86	0	0	0	0	0	0	0	1	1	0	1	1
1.87	0	0	0	0	0	0	0	1	1	0	1	1
1.88	0	0	0	0	0	0	0	1	1	0	1	1
1.89	0	0	0	0	0	0	0	1	1	0	1	1
1.90	0	0	0	0	0	0	0	1	1	0	1	1
1.91	0	0	0	0	0	0	0	1	1	0	1	1
1.92	0	0	0	0	0	0	0	1	1	0	1	1
1.93	0	0	0	0	0	0	0	1	1	0	1	1
1.94	0	0	0	0	0	0	0	1	1	0	1	1
1.95	0	0	0	0	0	0	0	1	1	0	1	1
1.96	0	0	0	0	0	0	0	1	1	0	1	1
1.97	0	0	0	0	0	0	0	1	1	0	1	1
1.98	0	0	0	0	0	0	0	1	1	0	1	1
1.99	0	0	0	0	0	0	0	1	1	0	1	1
2.00	0	0	0	0	0	0	0	1	1	0	1	1
SUBTOTAL	0	0	0	0	19	60	0	42	53	0	61	113

TABLE A-2

[redacted] CONTROL NO. [redacted]

MISSION • 1026-1 • INSTRUMENT • AFT • 12/28/65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM
2.01	0	0	0	0	0	0	0	0	2	0	0	2
2.02	0	0	0	0	0	0	0	0	2	0	0	2
2.03	0	0	0	0	0	0	0	0	2	0	0	2
2.04	0	0	0	0	0	0	0	0	2	0	0	2
2.05	0	0	0	0	0	1	0	0	2	0	0	2
2.06	0	0	0	0	0	2	0	0	2	0	0	2
2.07	0	0	0	0	0	2	0	0	2	0	0	2
2.08	0	0	0	0	0	2	0	0	2	0	0	2
2.09	0	0	0	0	0	2	0	0	2	0	0	2
2.10	0	0	0	0	0	2	0	0	2	0	0	2
2.11	0	0	0	0	0	2	0	0	2	0	0	2
2.12	0	0	0	0	0	2	0	0	2	0	0	2
2.13	0	0	0	0	0	2	0	0	2	0	0	2
2.14	0	0	0	0	0	2	0	0	2	0	0	2
2.15	0	0	0	0	0	2	0	0	2	0	0	2
2.16	0	0	0	0	0	2	0	0	2	0	0	2
2.17	0	0	0	0	0	2	0	0	2	0	0	2
2.18	0	0	0	0	0	2	0	0	2	0	0	2
2.19	0	0	0	0	0	2	0	0	2	0	0	2
2.20	0	0	0	0	0	2	0	0	2	0	0	2
2.21	0	0	0	0	0	2	0	0	2	0	0	2
2.22	0	0	0	0	0	2	0	0	2	0	0	2
2.23	0	0	0	0	0	2	0	0	2	0	0	2
2.24	0	0	0	0	0	2	0	0	2	0	0	2
2.25	0	0	0	0	0	2	0	0	2	0	0	2
2.26	0	0	0	0	0	2	0	0	2	0	0	2
2.27	0	0	0	0	0	2	0	0	2	0	0	2
2.28	0	0	0	0	0	2	0	0	2	0	0	2
2.29	0	0	0	0	0	2	0	0	2	0	0	2
2.30	0	0	0	0	0	2	0	0	2	0	0	2
2.31	0	0	0	0	0	2	0	0	2	0	0	2
2.32	0	0	0	0	0	2	0	0	2	0	0	2
2.33	0	0	0	0	0	2	0	0	2	0	0	2
2.34	0	0	0	0	0	2	0	0	2	0	0	2
2.35	0	0	0	0	0	2	0	0	2	0	0	2
2.36	0	0	0	0	0	2	0	0	2	0	0	2
2.37	0	0	0	0	0	2	0	0	2	0	0	2
2.38	0	0	0	0	0	2	0	0	2	0	0	2
2.39	0	0	0	0	0	2	0	0	2	0	0	2
2.40	0	0	0	0	0	2	0	0	2	0	0	2
2.41	0	0	0	0	0	2	0	0	2	0	0	2
2.42	0	0	0	0	0	2	0	0	2	0	0	2
2.43	0	0	0	0	0	2	0	0	2	0	0	2
2.44	0	0	0	0	0	2	0	0	2	0	0	2
2.45	0	0	0	0	0	2	0	0	2	0	0	2
2.46	0	0	0	0	0	2	0	0	2	0	0	2
2.47	0	0	0	0	0	2	0	0	2	0	0	2
2.48	0	0	0	0	0	2	0	0	2	0	0	2
2.49	0	0	0	0	0	2	0	0	2	0	0	2
2.50	0	0	0	0	0	2	0	0	2	0	0	2
SUBTOTAL	0	0	0	0	5	18	0	13	48	0	18	66

~~TOP SECRET~~ [redacted] - CONTROL NO. [redacted]

TABLE A-2

[redacted]

MISSION • 1026-1 • INSTRUMENT • AFT • 12/28/65 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	90	90	95	150	150	130	240	240	225

MISSION 1026-1 INSTR - AFT 12/28/65 PROCESSING AND EXPOSURE ANALYS

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 [illegible]
INTERMEDIATE	90	0 PC	71 PC	27 PC	2 PC	[illegible]
FULL	150	63 PC	0 PC	37 PC	1 PC	[illegible]
ALL LEVELS	240	39 PC	27 PC	33 PC	1 PC	[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
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
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.69	1.70 AND U

~~TOP SECRET~~ [redacted] CONTROL NO. [redacted]

TABLE A-2

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.37 • MEDIAN • 0.33 • STD DEV • 0.16 • RANGE • 0.21 TO 1.11 WITH 90 SAMPLES

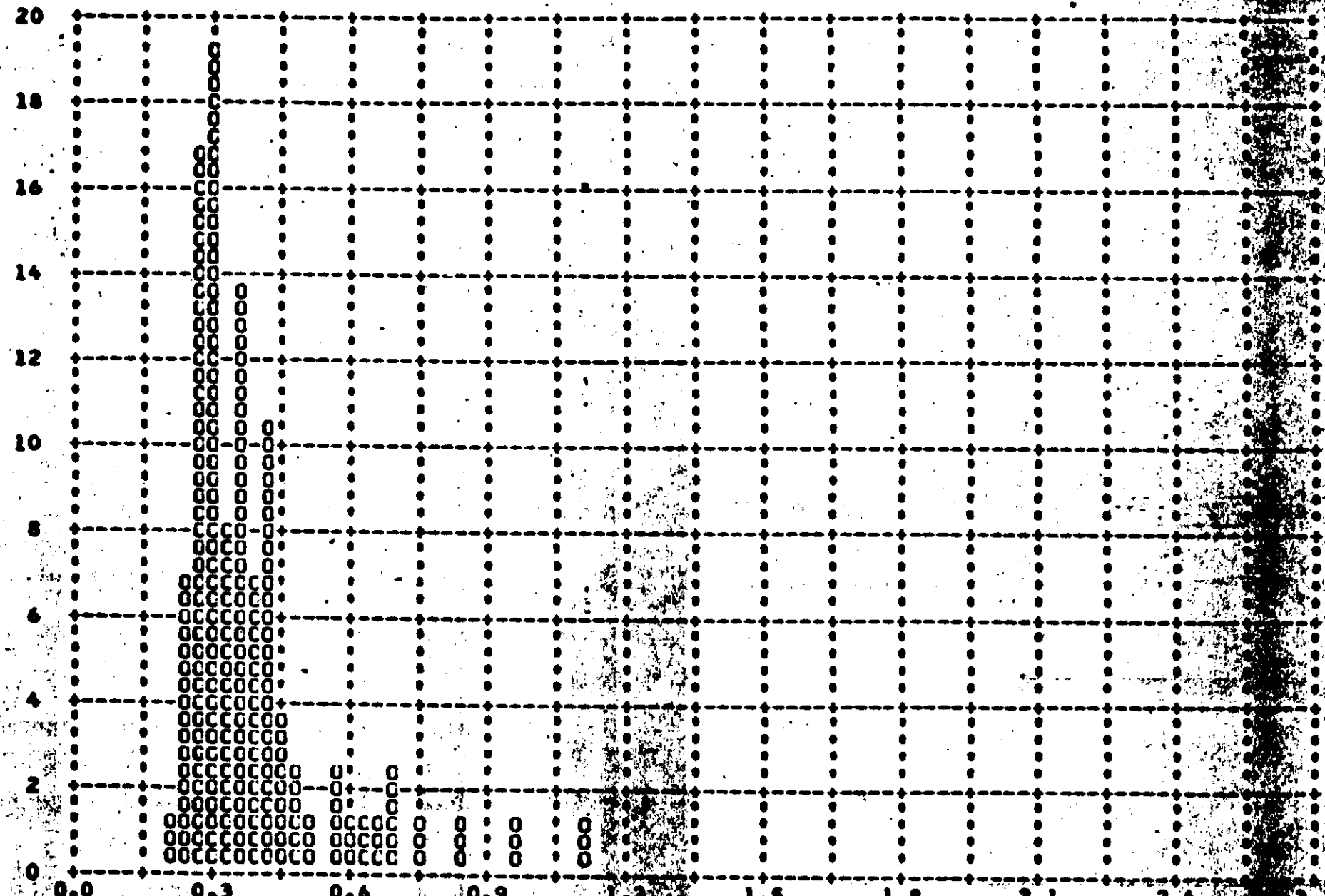


FIGURE A-10

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.22 • MEDIAN • 1.27 • STD DEV • 0.48 • RANGE • 0.35 TO 2.31 WITH 90 SAMPLES

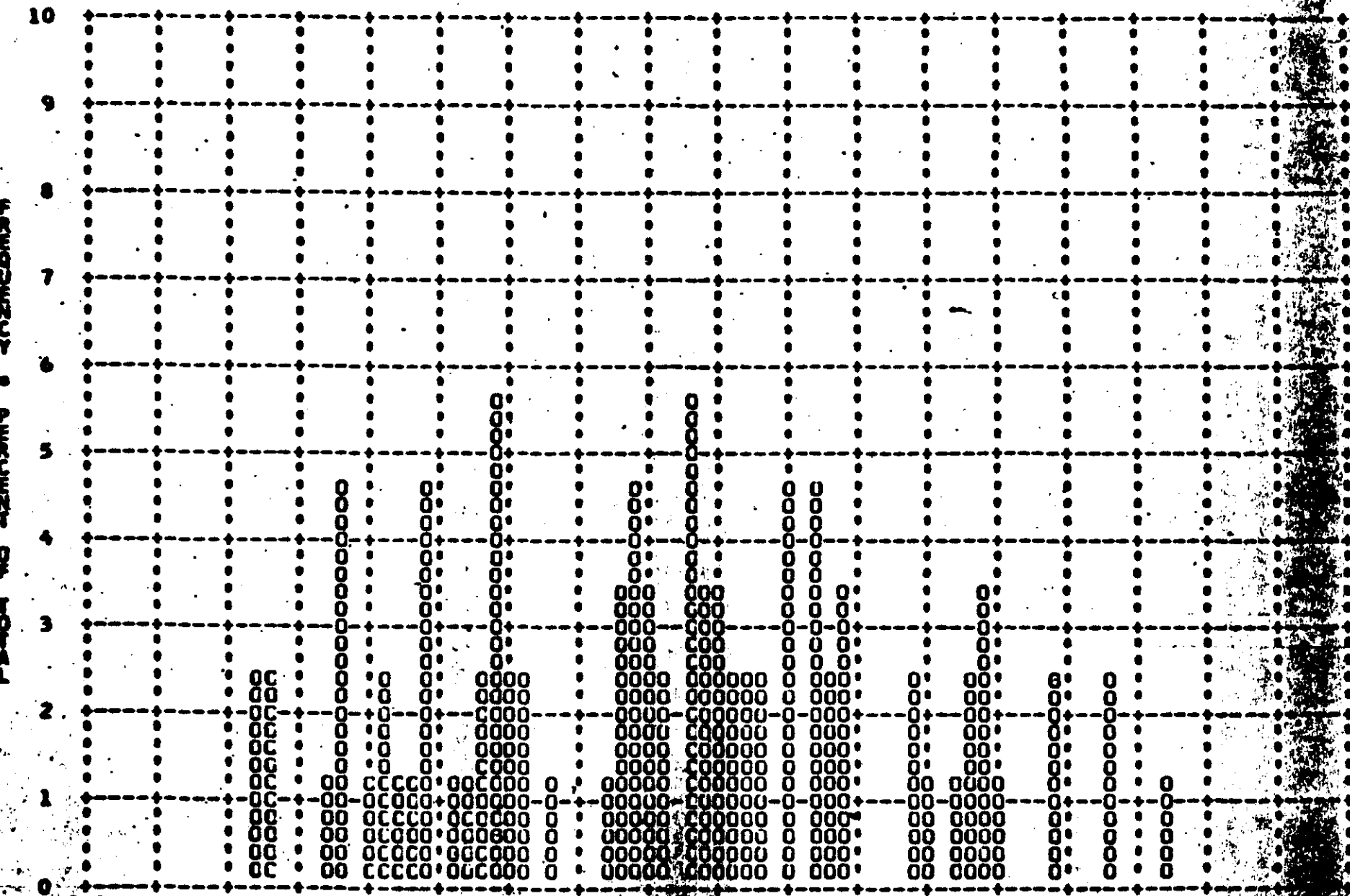


FIGURE A-11

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.74 • MEDIAN • 1.82 • STD DEV • 0.37 • RANGE • 0.37 TO 2.32 WITH 95 SAMPLES

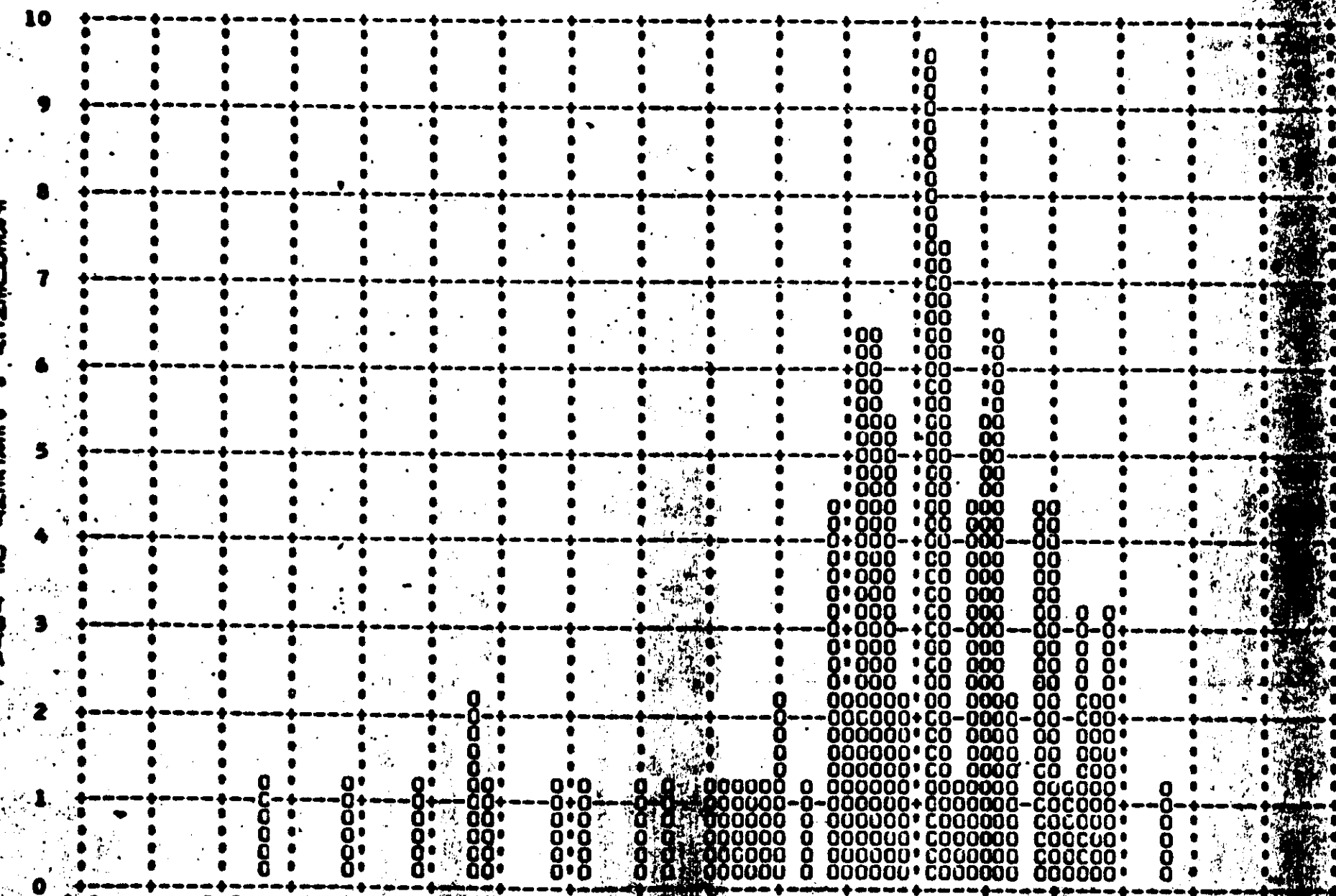


FIGURE A-12

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.41 • MEDIAN • 0.35 • STD DEV • 0.16 • RANGE • 0.20 TO 1.16 WITH 150 SAMPLES

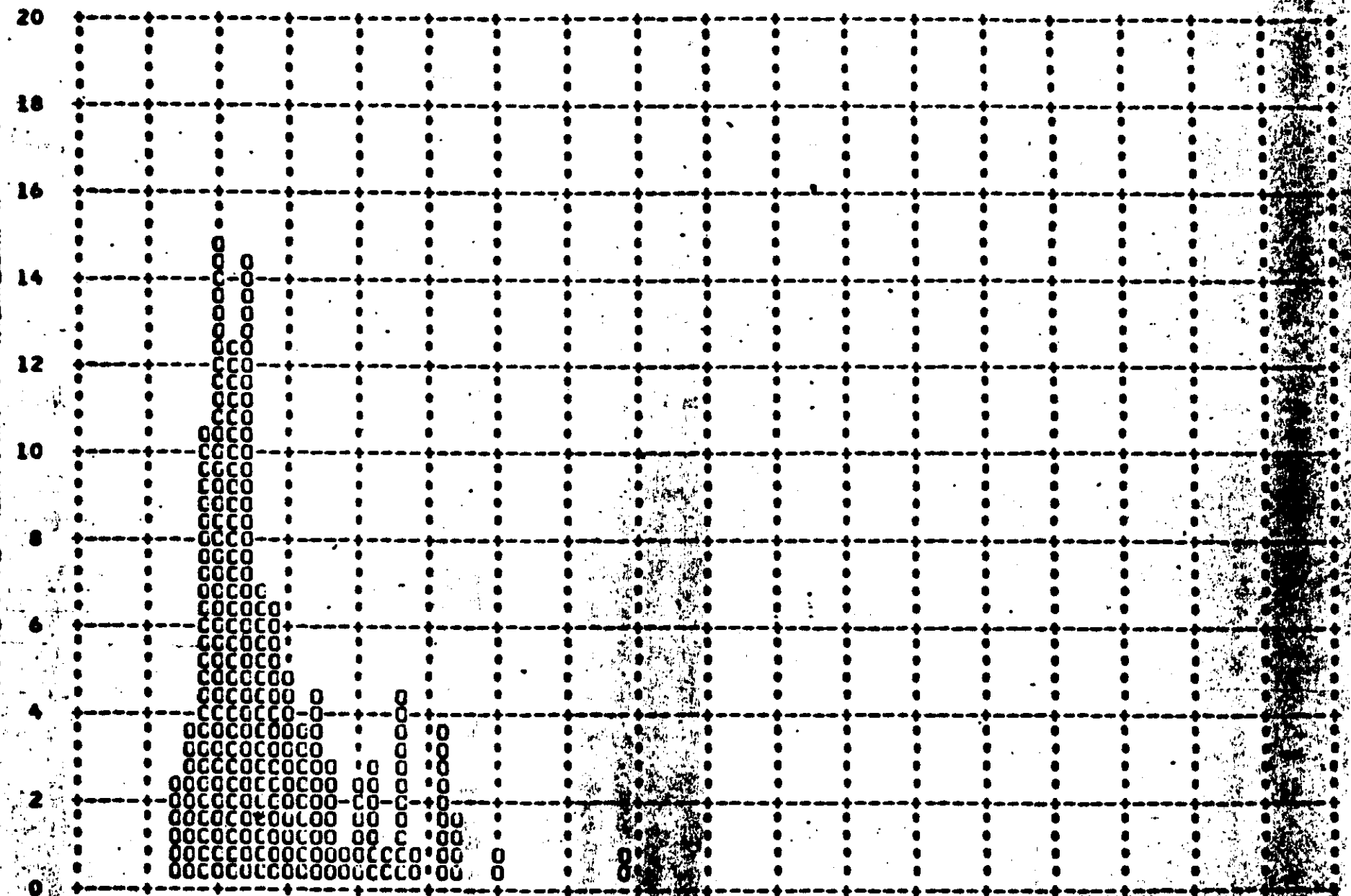
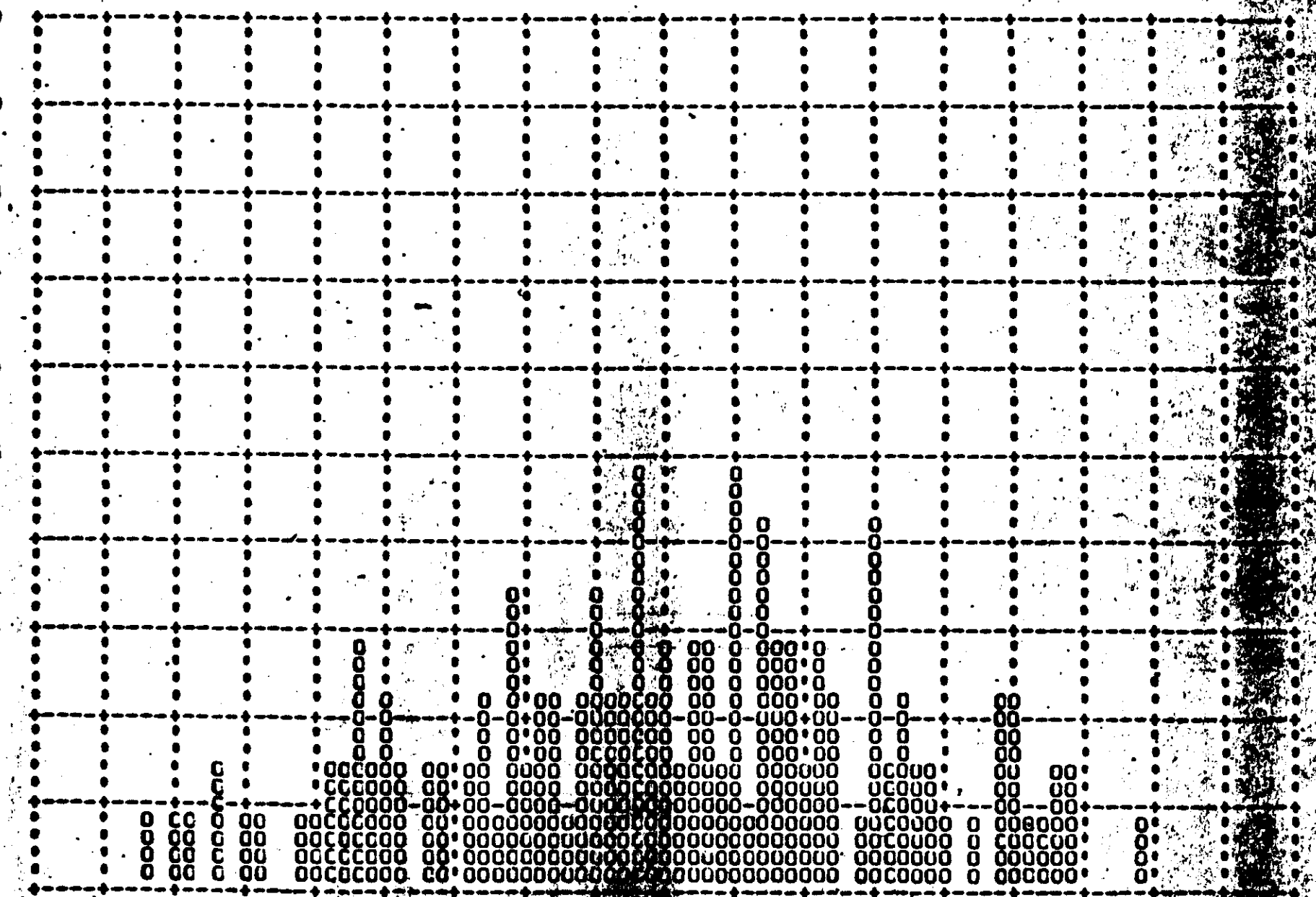


FIGURE A-13

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.33 • MEDIAN • 1.35 • STD DEV • 0.47 • RANGE • 0.24 TO 2.36 WITH 150 SAMPLES



FREQUENCY • PERCENT OF TOTAL

[redacted]TY •

FIGURE A-14

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.81 • MEDIAN • 1.91 • STD DEV • 0.41 • RANGE • 0.64 TO 2.40 WITH 130 SAMPLES

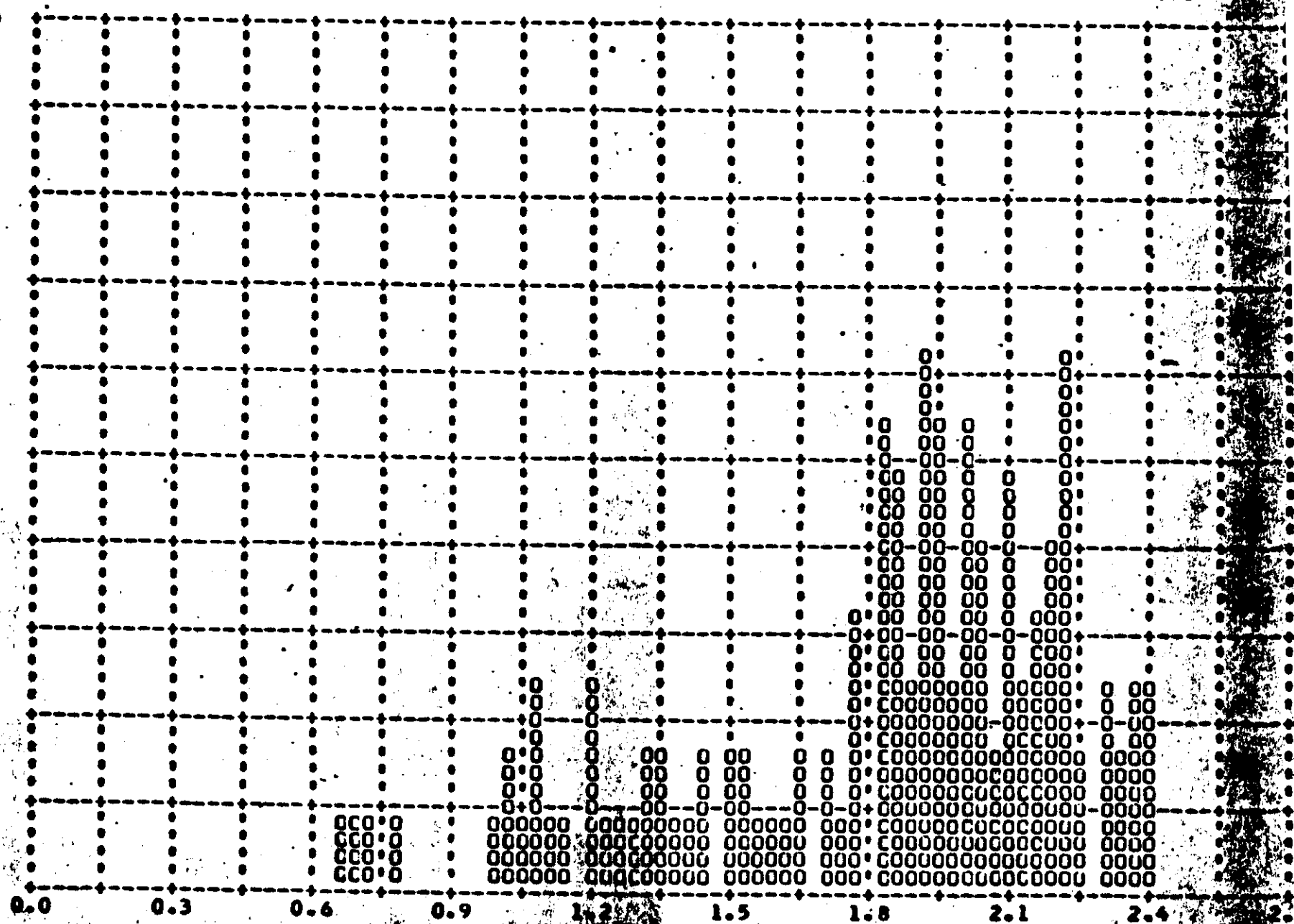


FIGURE A-15

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.39 • MEDIAN • 0.34 • STD DEV • 0.16 • RANGE • 0.20 TO 1.16 WITH 240 SAMPLES

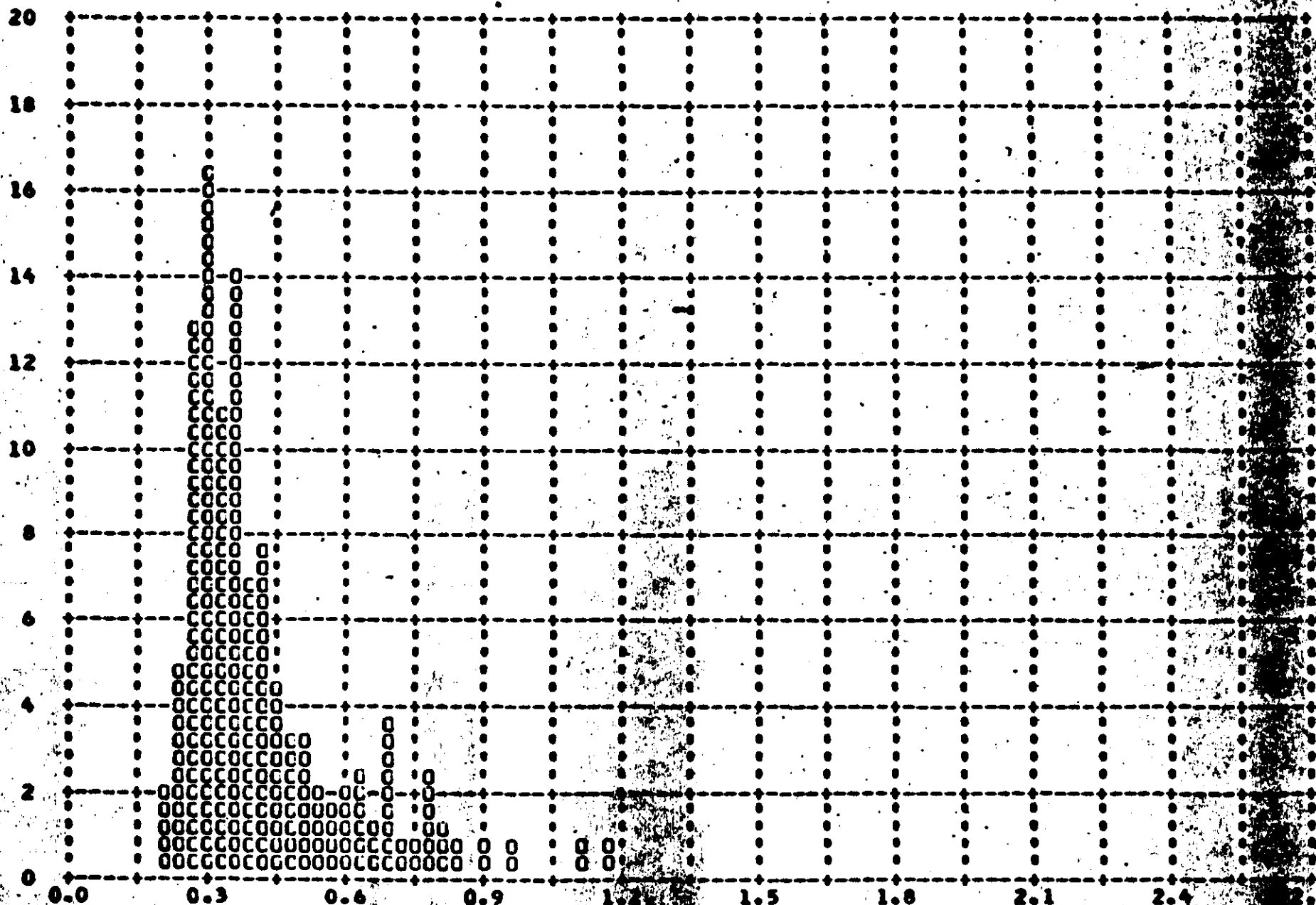
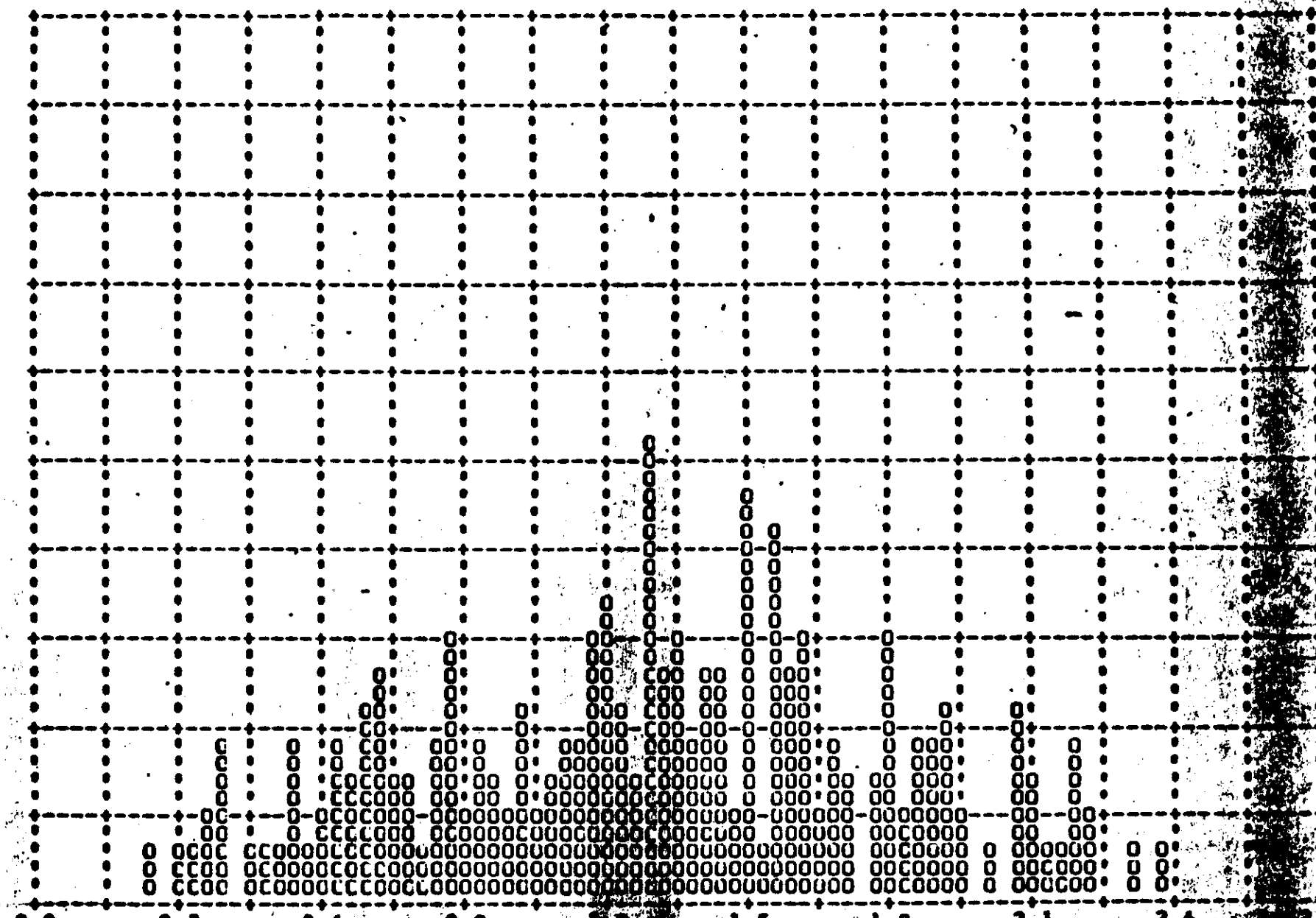


FIGURE A-16

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.29 • MEDIAN • 1.30 • STD DEV • 0.47 • RANGE • 0.24 TO 2.36 WITH 240 SAMPLES



[redacted]

FIGURE A-17

MISSION • 1026-1 • INSTR • AFT • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.78 • MEDIAN • 1.86 • STD DEV • 0.40 • RANGE • 0.37 TO 2.40 WITH 225 SAMPLES

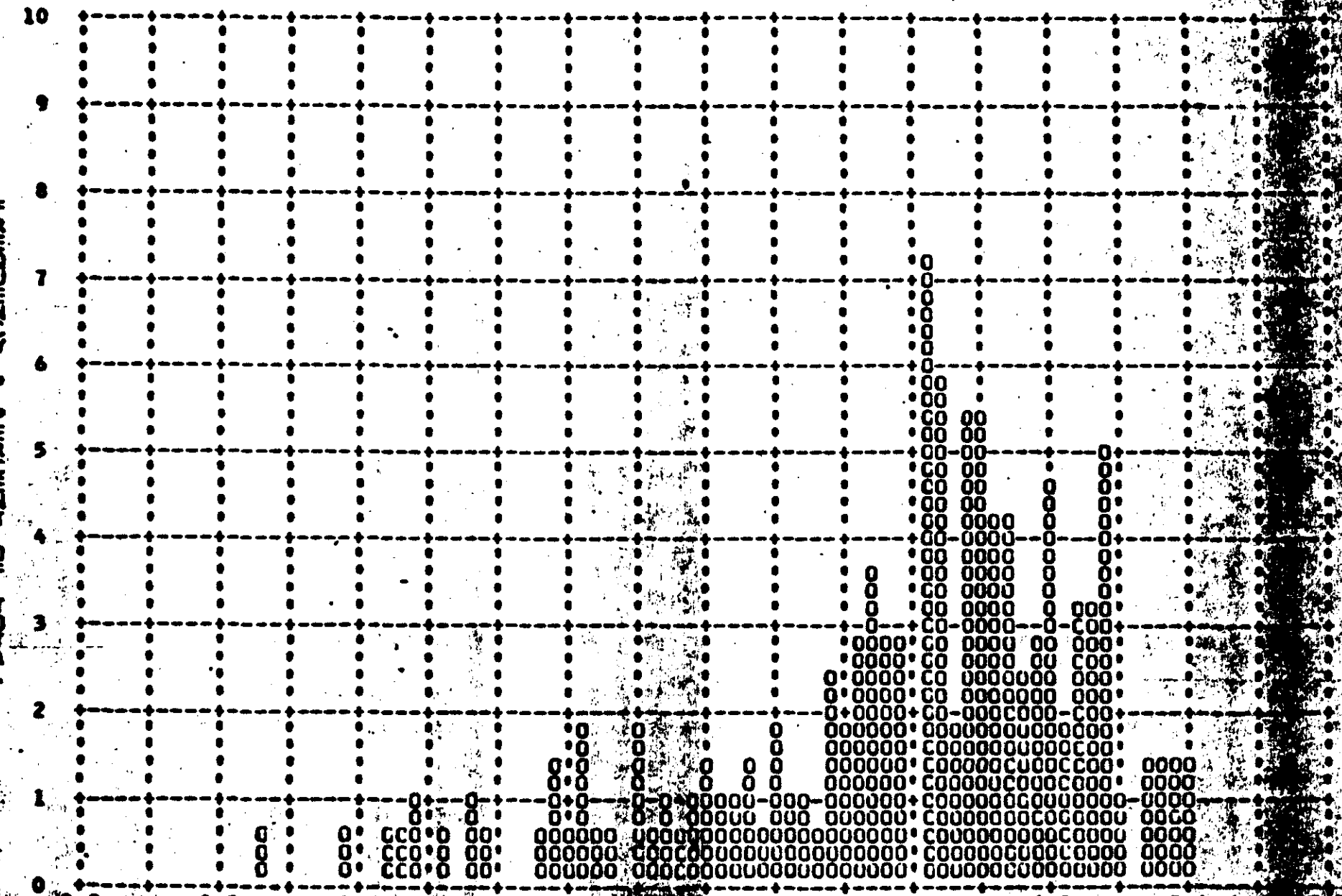


FIGURE A-18

[redacted]

MISSION • 1026-2 • INSTRUMENT • FRWD- 12/28/65 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[illegible] MIN	[illegible] MAX	[illegible] LIN	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIN
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	0	0	0	0	0	0	0	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	0	0	0	0	0	0	0	0	0
0.39	0	0	0	0	0	0	0	0	0	0	0	0
0.40	0	0	0	0	0	0	0	0	0	0	0	0
0.41	0	0	0	0	0	0	0	0	0	0	0	0
0.42	0	0	0	0	0	0	0	0	0	0	0	0
0.43	0	0	0	0	0	0	0	0	0	0	0	0
0.44	0	0	0	0	0	0	0	0	0	0	0	0
0.45	0	0	0	0	0	0	0	0	0	0	0	0
0.46	0	0	0	0	0	0	0	0	0	0	0	0
0.47	0	0	0	0	0	0	0	0	0	0	0	0
0.48	0	0	0	0	0	0	0	0	0	0	0	0
0.49	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	5	0	0	198	33	1	203	33	1

~~TOP SECRET~~ [redacted] CONTROL NO. [redacted]

TABLE A-3

[redacted] CONTROL NO. [redacted]

MISSION • 1026-2 • INSTRUMENT • FRWD • 12/28/65 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[redacted] MIN	[redacted] MAX	[redacted] LIN	ALC LEVEL MIN	ALC LEVEL MAX	ALC LEVEL LIN
0.51	0	0	0	1	0	0	3	1	0	4	1	0
0.52	0	0	0	0	0	0	1	2	0	1	2	0
0.53	0	0	0	0	0	0	2	1	0	2	3	0
0.54	0	0	0	0	0	0	2	1	0	3	2	0
0.55	0	0	0	1	0	0	1	2	0	2	1	0
0.56	0	0	0	0	0	0	2	1	0	1	2	0
0.57	0	0	0	0	0	0	1	2	0	2	3	0
0.58	0	0	0	1	0	0	0	2	0	1	2	0
0.59	0	0	0	0	0	0	1	2	0	2	3	0
0.60	0	0	0	0	0	0	2	1	0	1	2	0
0.61	0	0	0	1	0	0	1	2	0	2	3	0
0.62	0	0	0	0	0	0	2	1	0	1	2	0
0.63	0	0	0	0	0	0	1	2	0	2	3	0
0.64	0	0	0	1	0	0	0	2	0	1	2	0
0.65	0	0	0	0	0	0	1	2	0	2	3	0
0.66	0	0	0	0	0	0	2	1	0	1	2	0
0.67	0	0	0	1	0	0	1	2	0	2	3	0
0.68	0	0	0	0	0	0	2	1	0	1	2	0
0.69	0	0	0	0	0	0	1	2	0	2	3	0
0.70	0	0	0	1	0	0	0	2	0	1	2	0
0.71	0	0	0	0	0	0	1	2	0	2	3	0
0.72	0	0	0	0	0	0	2	1	0	1	2	0
0.73	0	0	0	1	0	0	1	2	0	2	3	0
0.74	0	0	0	0	0	0	2	1	0	1	2	0
0.75	0	0	0	0	0	0	1	2	0	2	3	0
0.76	0	0	0	1	0	0	0	2	0	1	2	0
0.77	0	0	0	0	0	0	1	2	0	2	3	0
0.78	0	0	0	0	0	0	2	1	0	1	2	0
0.79	0	0	0	1	0	0	1	2	0	2	3	0
0.80	0	0	0	0	0	0	2	1	0	1	2	0
0.81	0	0	0	0	0	0	1	2	0	2	3	0
0.82	0	0	0	1	0	0	0	2	0	1	2	0
0.83	0	0	0	0	0	0	1	2	0	2	3	0
0.84	0	0	0	0	0	0	2	1	0	1	2	0
0.85	0	0	0	1	0	0	1	2	0	2	3	0
0.86	0	0	0	0	0	0	2	1	0	1	2	0
0.87	0	0	0	0	0	0	1	2	0	2	3	0
0.88	0	0	0	1	0	0	0	2	0	1	2	0
0.89	0	0	0	0	0	0	1	2	0	2	3	0
0.90	0	0	0	0	0	0	2	1	0	1	2	0
0.91	0	0	0	1	0	0	1	2	0	2	3	0
0.92	0	0	0	0	0	0	2	1	0	1	2	0
0.93	0	0	0	0	0	0	1	2	0	2	3	0
0.94	0	0	0	1	0	0	0	2	0	1	2	0
0.95	0	0	0	0	0	0	1	2	0	2	3	0
0.96	0	0	0	0	0	0	2	1	0	1	2	0
0.97	0	0	0	1	0	0	1	2	0	2	3	0
0.98	0	0	0	0	0	0	2	1	0	1	2	0
0.99	0	0	0	0	0	0	1	2	0	2	3	0
1.00	0	0	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	0	0	0	6	2	1	24	79	13	30	81	14

TABLE A-3

MISSION 1026-2 INSTRUMENT FWD 11/20/65 DENSITY FREQUENCY

DENSITY	PRIMARY			INTERMEDIATE								
VALUE	MIN	MAX	LIM	MIN	MAX	LIM	MIN	MAX	LIM	MIN	MAX	LIM
1.01	0	0	0	0	0	0	1	1	1	1	1	1
1.02	0	0	0	0	1	1	0	5	1	0	6	2
1.03	0	0	0	0	0	1	0	0	2	0	0	3
1.04	0	0	0	0	0	0	0	2	0	0	2	0
1.05	0	0	0	0	1	0	0	3	0	0	4	0
1.06	0	0	0	0	0	0	0	2	2	0	2	2
1.07	0	0	0	0	0	0	0	1	1	0	1	1
1.08	0	0	0	0	0	0	0	1	0	0	1	0
1.09	0	0	0	0	0	0	0	0	0	0	0	0
1.10	0	0	0	0	0	0	0	4	0	0	4	0
1.11	0	0	0	0	0	0	0	0	0	0	0	0
1.12	0	0	0	0	0	1	0	2	1	0	2	2
1.13	0	0	0	0	0	0	0	3	3	0	3	3
1.14	0	0	0	0	0	0	0	2	0	0	2	0
1.15	0	0	0	0	0	1	0	2	0	0	2	1
1.16	0	0	0	0	0	0	0	3	1	0	3	1
1.17	0	0	0	0	0	0	0	2	1	0	2	1
1.18	0	0	0	0	0	0	0	3	1	0	3	1
1.19	0	0	0	0	0	0	0	0	2	0	0	2
1.20	0	0	0	0	0	0	0	4	2	0	4	2
1.21	0	0	0	1	0	0	0	1	1	1	1	1
1.22	0	0	0	0	1	1	0	1	1	0	2	2
1.23	0	0	0	0	0	2	0	1	0	0	1	2
1.24	0	0	0	0	0	0	0	3	1	0	3	1
1.25	0	0	0	0	0	1	0	2	2	0	2	3
1.26	0	0	0	0	0	0	0	1	1	0	1	1
1.27	0	0	0	0	0	0	0	1	0	0	1	0
1.28	0	0	0	0	0	0	0	1	0	0	1	0
1.29	0	0	0	0	0	0	0	1	1	0	1	1
1.30	0	0	0	0	0	0	0	2	1	0	2	1
1.31	0	0	0	0	0	1	0	1	1	0	1	2
1.32	0	0	0	0	0	1	1	3	1	1	3	2
1.33	0	0	0	0	0	0	0	0	1	0	0	1
1.34	0	0	0	0	0	0	0	2	1	0	2	1
1.35	0	0	0	0	0	0	0	0	0	0	0	0
1.36	0	0	0	0	0	0	0	1	0	0	1	0
1.37	0	0	0	0	0	0	0	0	1	0	0	1
1.38	0	0	0	0	0	0	0	1	0	0	1	0
1.39	0	0	0	0	0	1	0	1	2	0	1	3
1.40	0	0	0	0	0	0	0	3	1	0	3	1
1.41	0	0	0	0	0	0	0	0	1	0	0	1
1.42	0	0	0	0	0	0	0	1	0	0	1	0
1.43	0	0	0	0	0	0	0	1	3	0	1	3
1.44	0	0	0	0	1	0	0	0	0	0	1	0
1.45	0	0	0	0	0	0	0	1	1	0	1	1
1.46	0	0	0	0	0	0	0	1	0	0	1	0
1.47	0	0	0	0	0	0	0	3	1	0	3	1
1.48	0	0	0	0	0	0	0	0	1	0	0	1
1.49	0	0	0	0	0	0	0	0	0	0	0	0
1.50	0	0	0	0	1	0	0	2	2	0	3	2
SUBTOTAL	0	0	0	1	5	11	2	75	43	3	80	54

TOP SECRET [redacted] CONTROL NO. [redacted]

TABLE A-3

[redacted] CONTROL NO. [redacted]

MISSION [redacted] INSTRUMENT [redacted] 12/20/65 DENSITY FREQ DISTR

DENSITY VALUE	[redacted] MIN	MAX	CTR	[redacted] MIN	MAX	CTR	[redacted] MIN	MAX	CTR	[redacted] MIN	MAX	CTR
1.51	0	0	0	0	1	0	0	1	2	0	2	0
1.52	0	0	0	0	1	0	0	2	0	0	3	0
1.53	0	0	0	0	0	0	0	0	1	0	2	0
1.54	0	0	0	0	0	0	0	1	0	0	1	0
1.55	0	0	0	0	0	0	0	1	2	0	2	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	1	0	1	0
1.58	0	0	0	0	0	0	0	1	2	0	2	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	1	0	1	0
1.61	0	0	0	0	0	0	0	0	1	0	1	0
1.62	0	0	0	0	0	0	0	1	2	0	2	0
1.63	0	0	0	0	0	0	0	0	0	0	0	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	1	0	1	0
1.66	0	0	0	0	0	0	0	0	1	0	1	0
1.67	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.71	0	0	0	0	0	0	0	0	1	0	1	0
1.72	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.76	0	0	0	0	0	0	0	0	1	0	1	0
1.77	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.81	0	0	0	0	0	0	0	0	1	0	1	0
1.82	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.86	0	0	0	0	0	0	0	0	1	0	1	0
1.87	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.91	0	0	0	0	0	0	0	0	1	0	1	0
1.92	0	0	0	0	0	0	0	1	2	0	2	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	1	0	1	0
1.96	0	0	0	0	0	0	0	0	1	0	1	0
1.97	0	0	0	0	0	0	0	1	2	0	2	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	1	0	1	0
SUBTOTAL	0	0	0	0	5	13	0	34	127	0	39	140

TABLE A-3

[redacted] CONTROL NO. [redacted]

MISSION • 1026-2 • INSTRUMENT • FRWD • 12/20/65 • DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	0	2	0	0	2
2.02	0	0	0	0	0	0	0	1	2	0	1	2
2.03	0	0	0	0	0	0	0	1	0	0	1	0
2.04	0	0	0	0	0	0	0	1	0	0	1	0
2.05	0	0	0	0	0	0	0	0	2	0	0	2
2.06	0	0	0	0	0	0	0	0	1	0	0	1
2.07	0	0	0	0	0	0	0	0	2	0	0	2
2.08	0	0	0	0	0	0	0	0	3	0	0	3
2.09	0	0	0	0	0	0	0	0	3	0	0	3
2.10	0	0	0	0	0	0	0	0	3	0	0	3
2.11	0	0	0	0	0	0	0	0	1	0	0	1
2.12	0	0	0	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	0	0	0	0	1	0	0	1
2.14	0	0	0	0	0	1	0	0	0	0	0	1
2.15	0	0	0	0	0	0	0	0	1	0	0	1
2.16	0	0	0	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	1	0	0	1
2.18	0	0	0	0	0	0	0	0	3	0	0	3
2.19	0	0	0	0	0	0	0	0	3	0	0	3
2.20	0	0	0	0	0	0	0	0	2	0	0	2
2.21	0	0	0	0	0	0	0	0	2	0	0	2
2.22	0	0	0	0	0	0	0	0	2	0	0	2
2.23	0	0	0	0	0	0	0	0	1	0	0	1
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	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	0	0	0	0
2.28	0	0	0	0	0	0	0	0	0	0	0	0
2.29	0	0	0	0	0	0	0	0	0	0	0	0
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	1	0	3	31	0	3	32

~~TOP SECRET~~ [redacted] CONTROL NO. [redacted]

TABLE A-3

[redacted] MISSION 1026-2 INSTRUMENT - FRWD 12/28/65 DENSITY FREQ DISTR

[redacted] DENSITY VALUE [redacted] INTERMEDIATE [redacted] FULL LEVEL

VALUE	MIN	MAX	CT	MIN	MAX	CT	MIN	MAX	CT	MIN	MAX	CT
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	12	12	26	224	224	215	236	236	241

MISSION 1026-2 INSTR - FRWD 12/28/65 PROCESSING AND EXPOSURE ANALYSI

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	12	0 PC	33 PC	58 PC	8 PC	[redacted]
FULL	224	82 PC	0 PC	17 PC	1 PC	[redacted]
ALL LEVELS	236	78 PC	2 PC	19 PC	1 PC	[redacted]

PROCESS LEVEL	BASE + FOG	UNDER EXPUSED	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] CONTROL NO. [redacted]

TABLE A-3

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.54 • MEDIAN • 0.55 • STD DEV • 0.26 • RANGE • 0.23 TO 1.21 WITH 12 SAMPLES

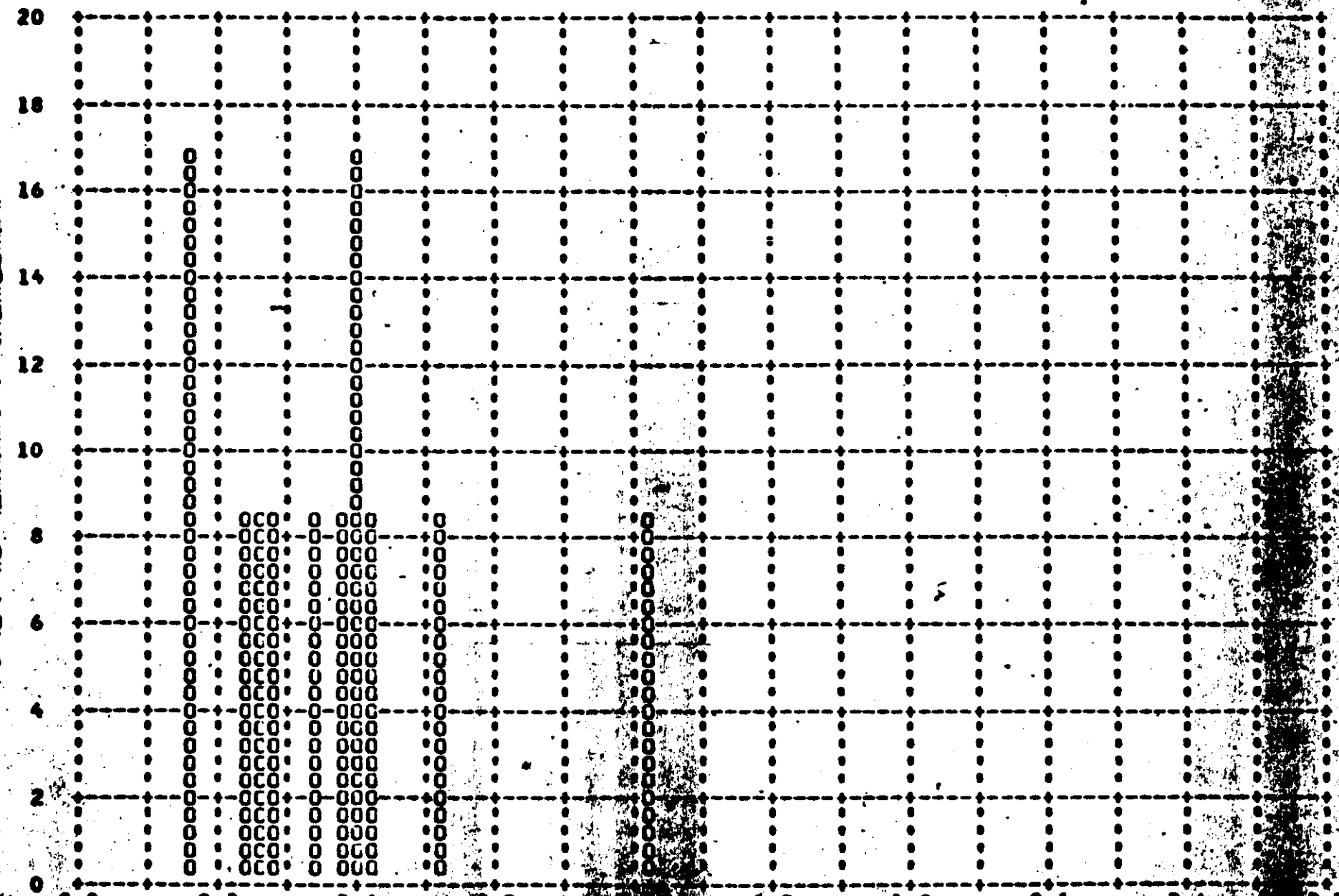


FIGURE A-19

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.32 • MEDIAN • 1.50 • STD DEV • 0.35 • RANGE • 0.65 TO 1.79 WITH 12 SAMPLES

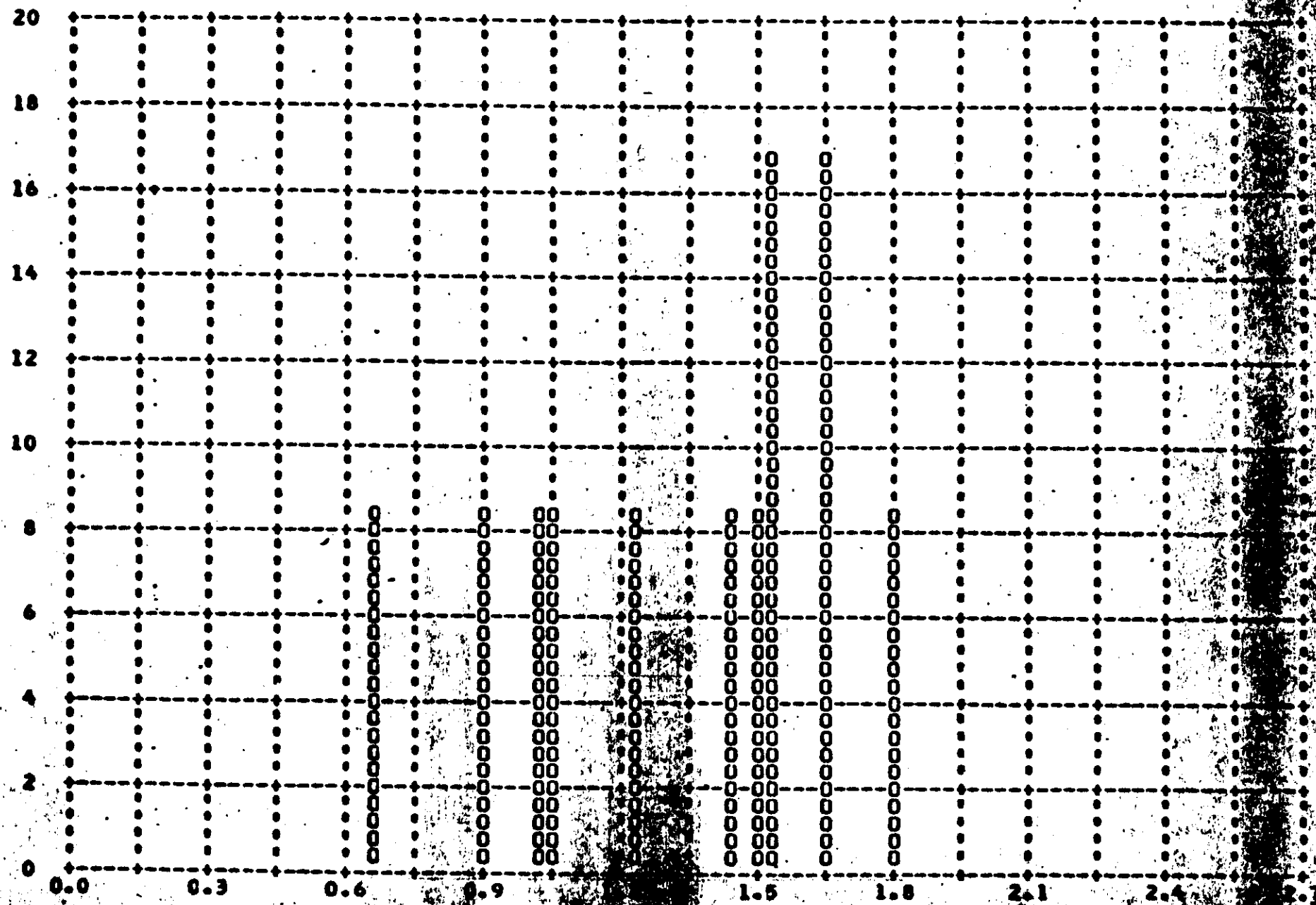


FIGURE A-20

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.49 • MEDIAN • 1.56 • STD DEV • 0.32 • RANGE • 0.94 TO 2.14 WITH 26 SAMPLES

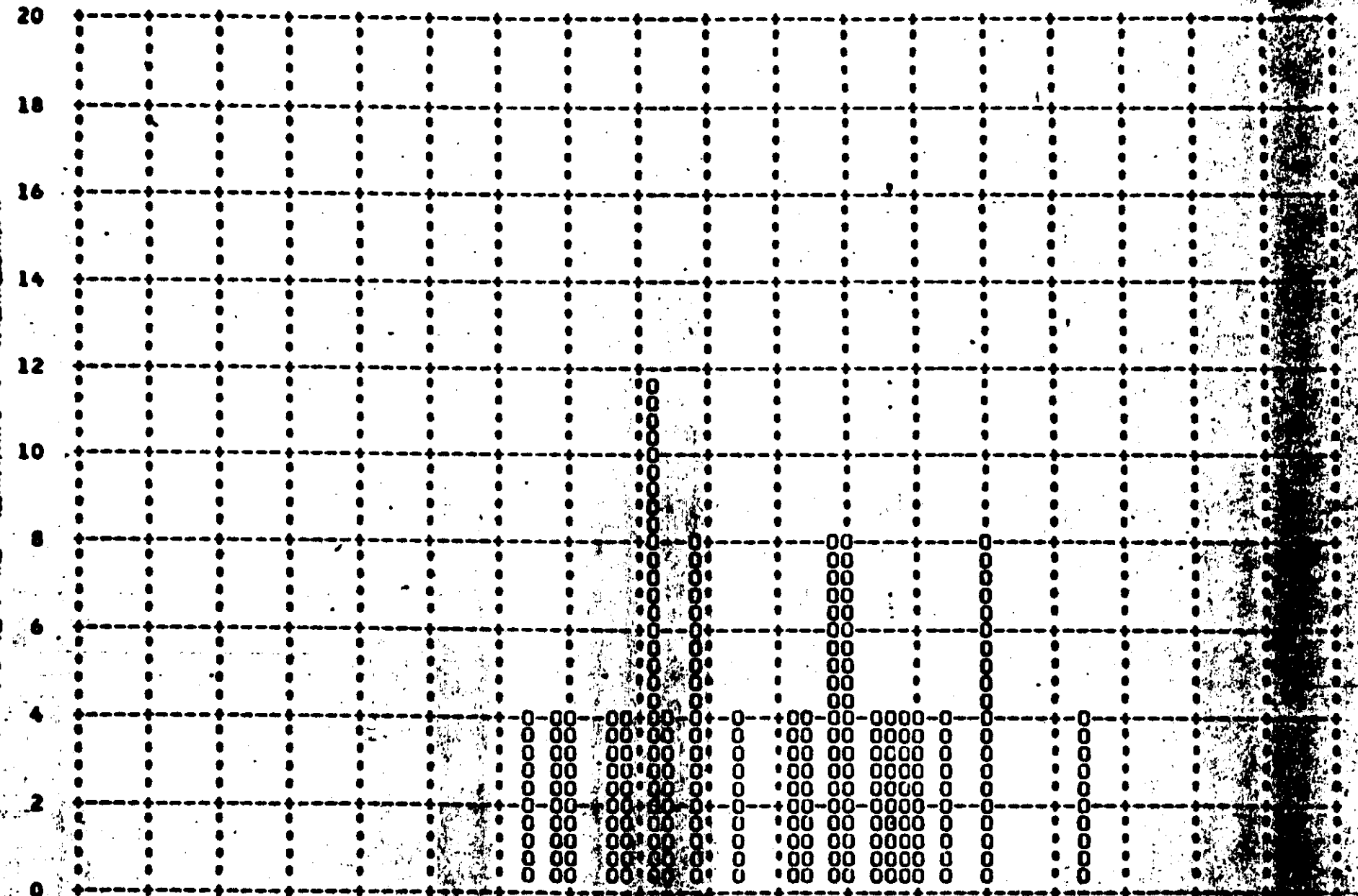


FIGURE A-21

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.35 • MEDIAN • 0.30 • STD DEV • 0.14 • RANGE • 0.19 TO 1.32 WITH 224 SAMPLES

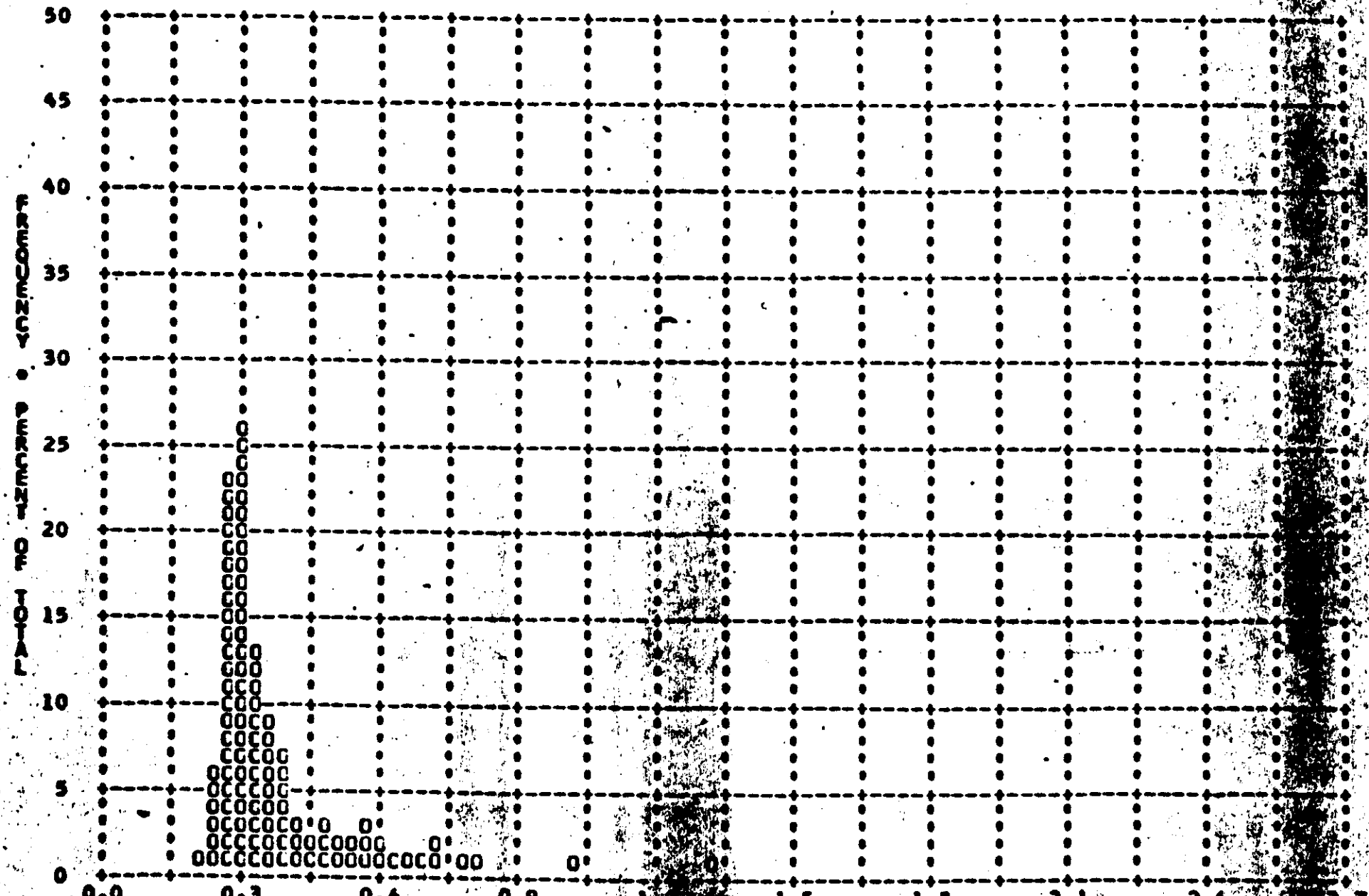


FIGURE A-22

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.03 • MEDIAN • 1.01 • STD DEV • 0.45 • RANGE • 0.23 TO 2.17 WITH 224 SAMPLES

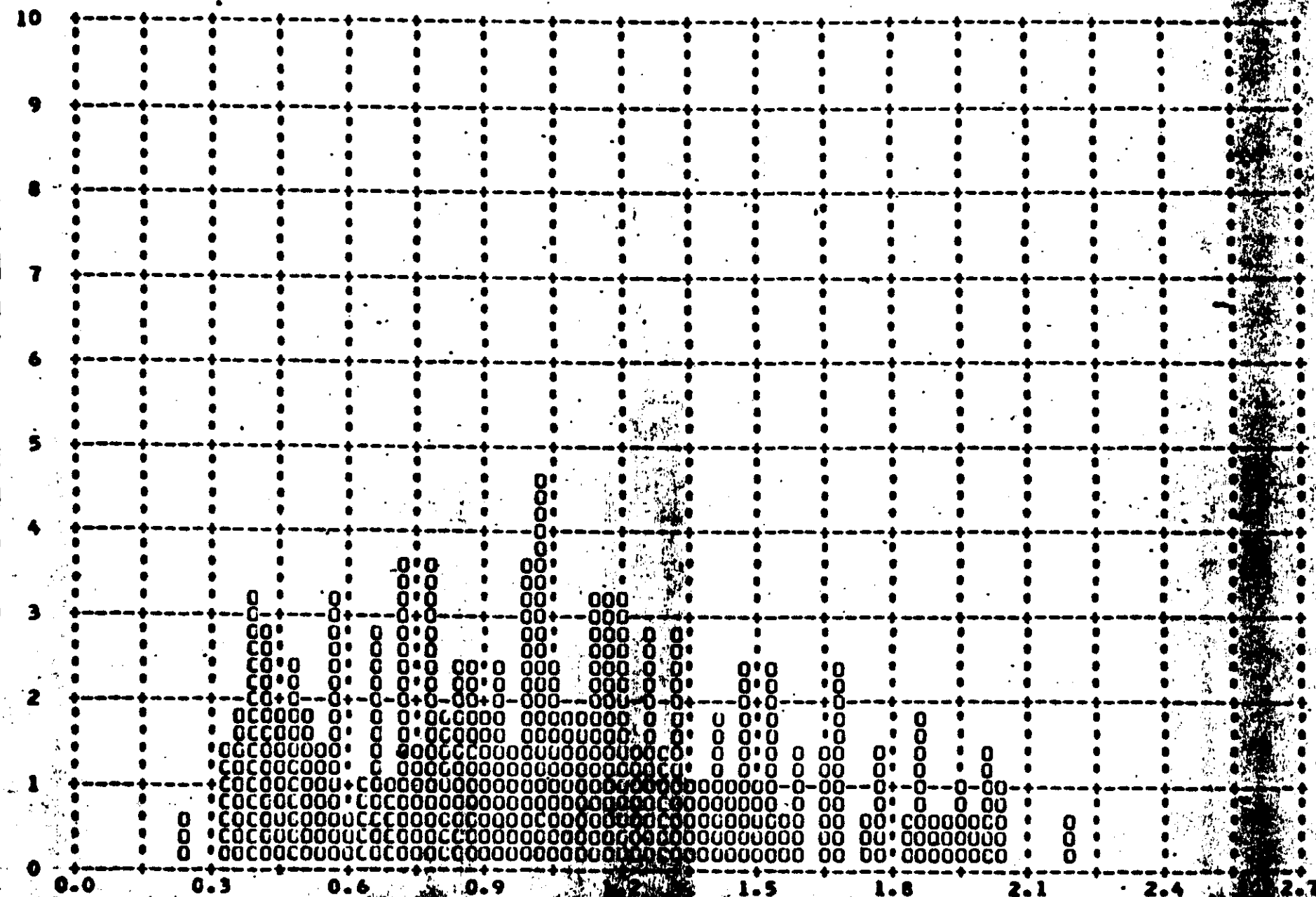
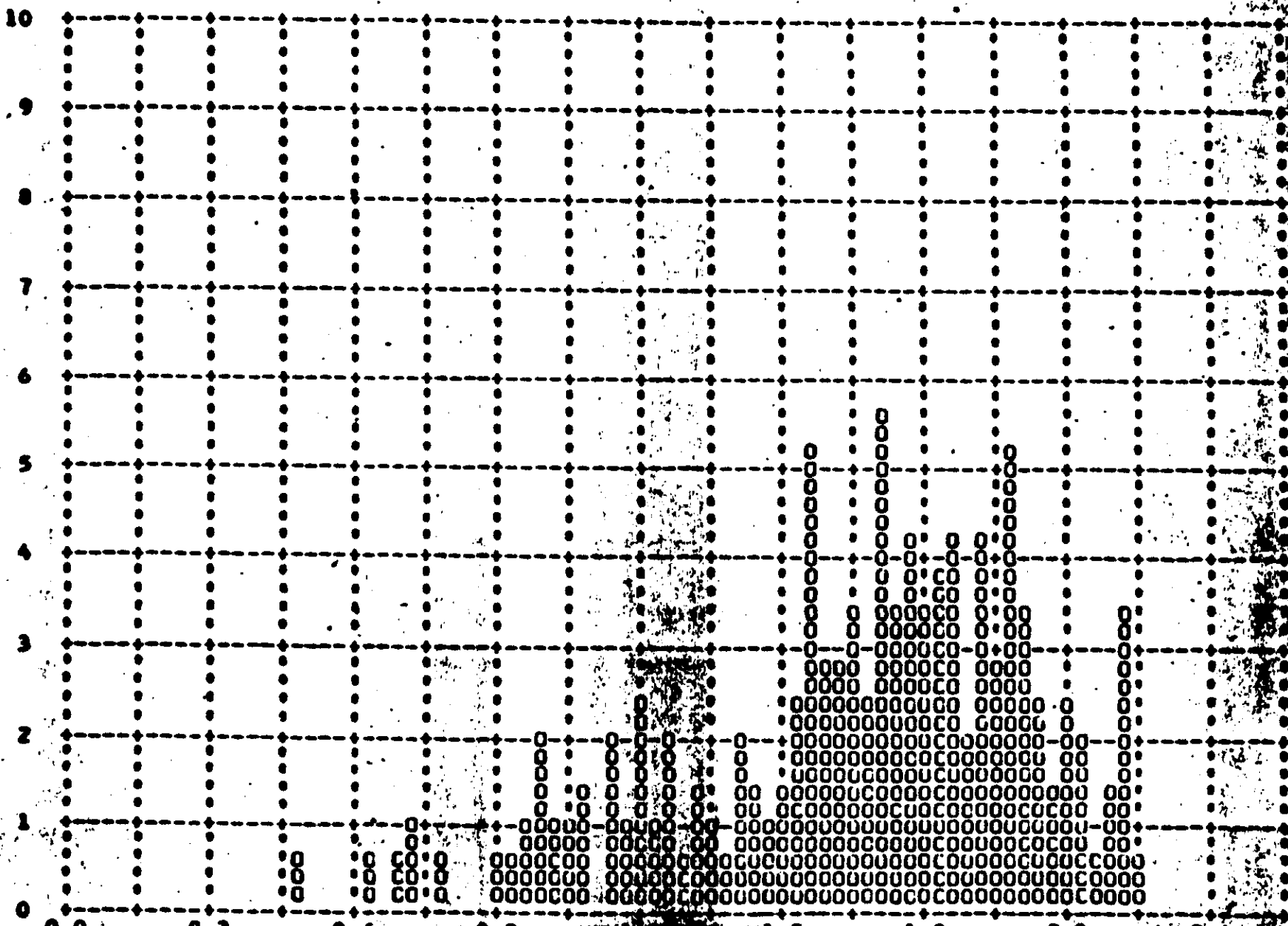


FIGURE A-23

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.65 • MEDIAN • 1.71 • STD DEV • 0.36 • RANGE • 0.48 TO 2.24 WITH 215 SAMPLES



FREQUENCY • PERCENT OF TOTAL

DENSITY •

FIGURE A-24

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.36 • MEDIAN • 0.30 • STD DEV • 0.15 • RANGE • 0.19 TO 1.32 WITH 236 SAMPLES.

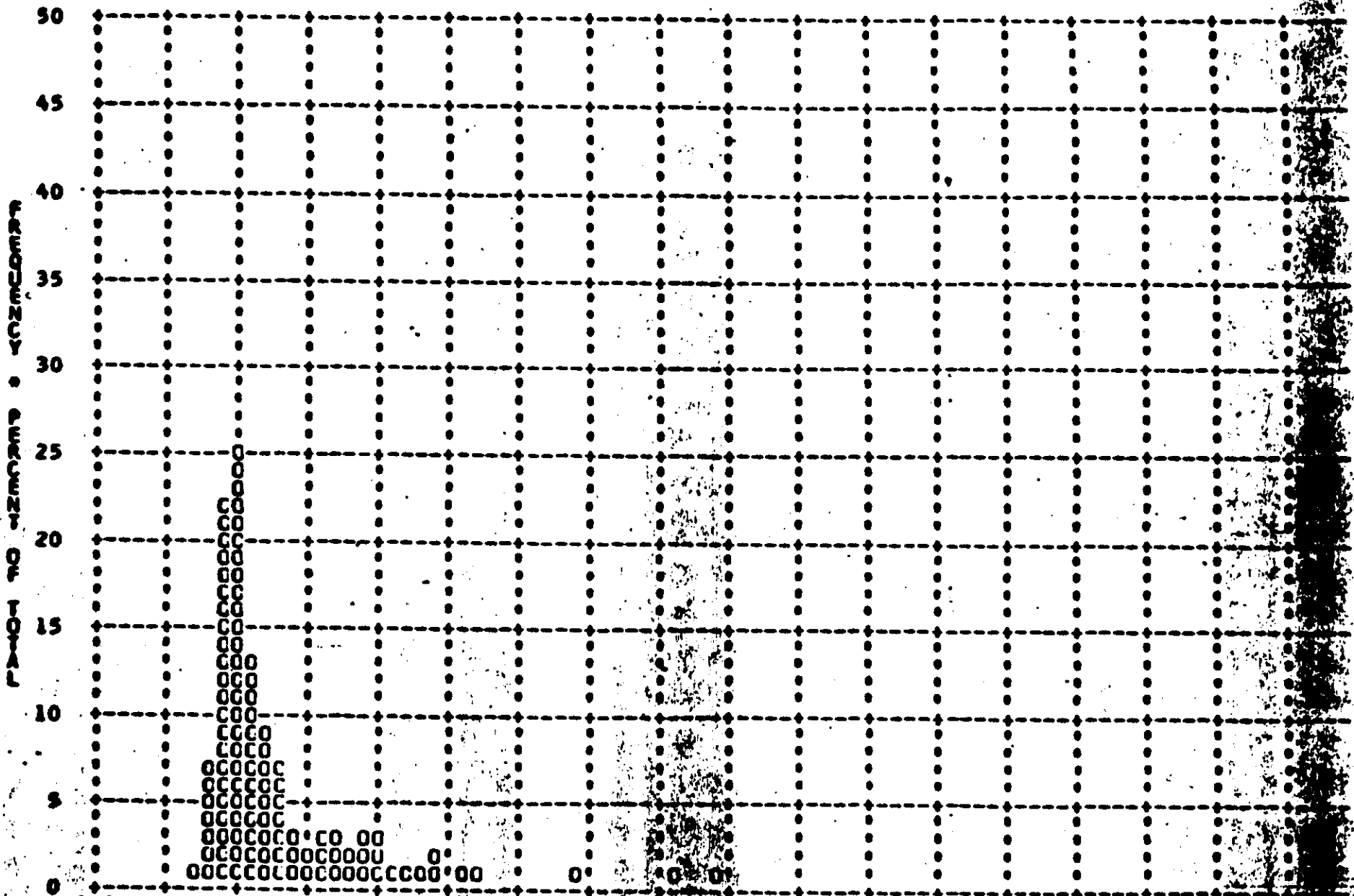


FIGURE A-25

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.05 • MEDIAN • 1.02 • STD DEV • 0.45 • RANGE • 0.23 TO 2.17 WITH 236 SAMPLES

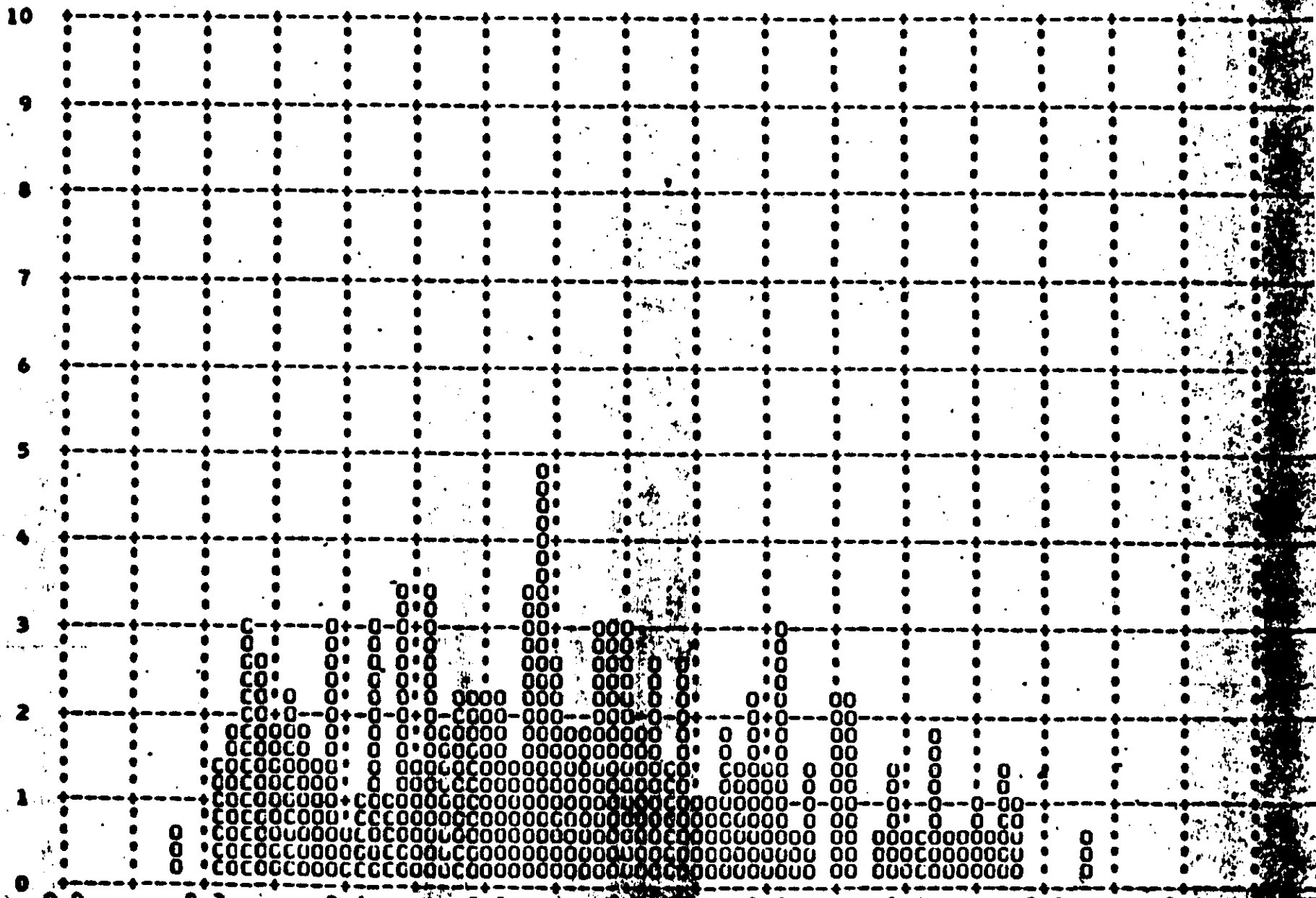


FIGURE A-26

MISSION • 1026-2 • INSTR • FRWD • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.63 • MEDIAN • 1.70 • STD DEV • 0.36 • RANGE • 0.48 TO 2.24 WITH 241 SAMPLES

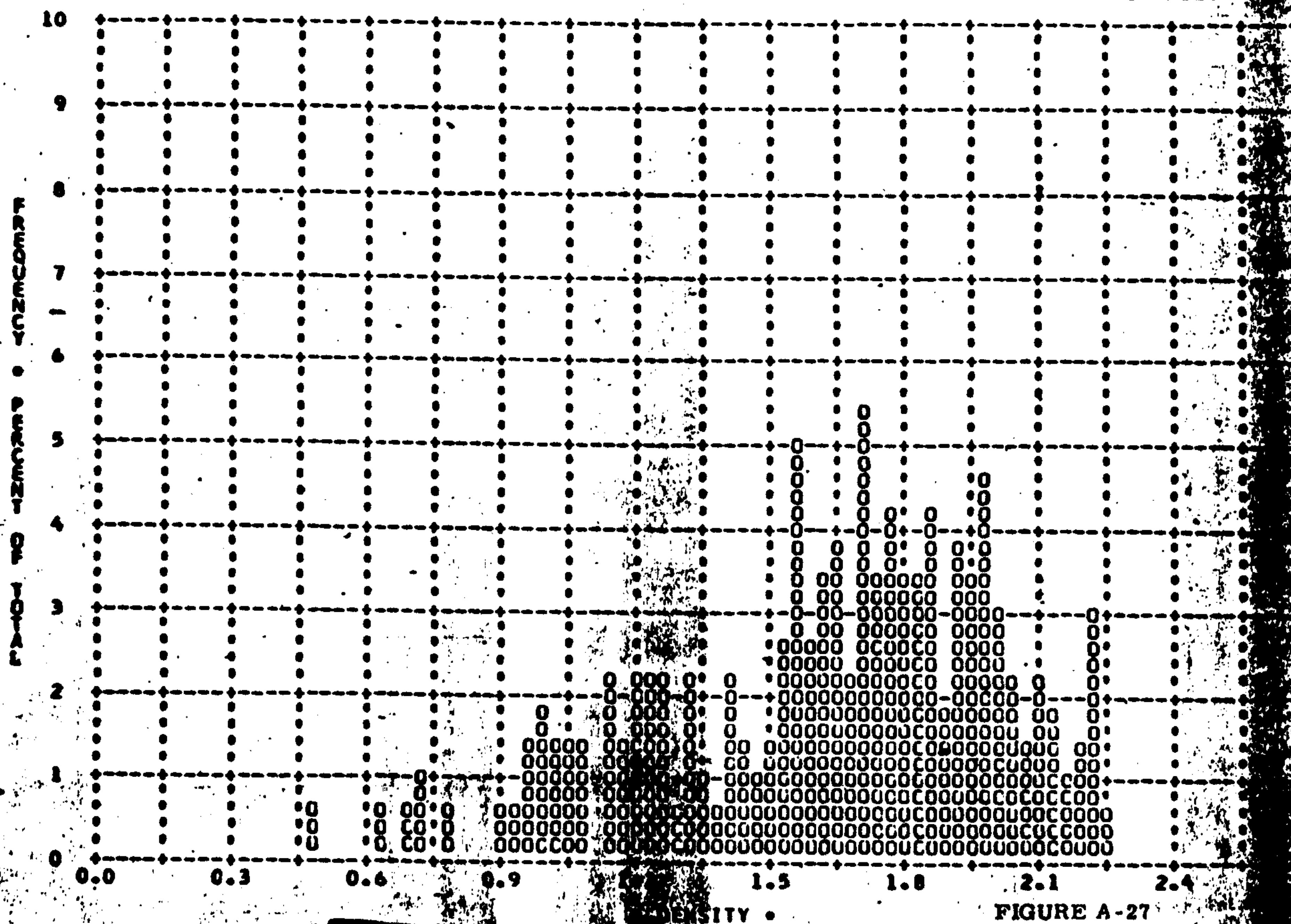


FIGURE A-27

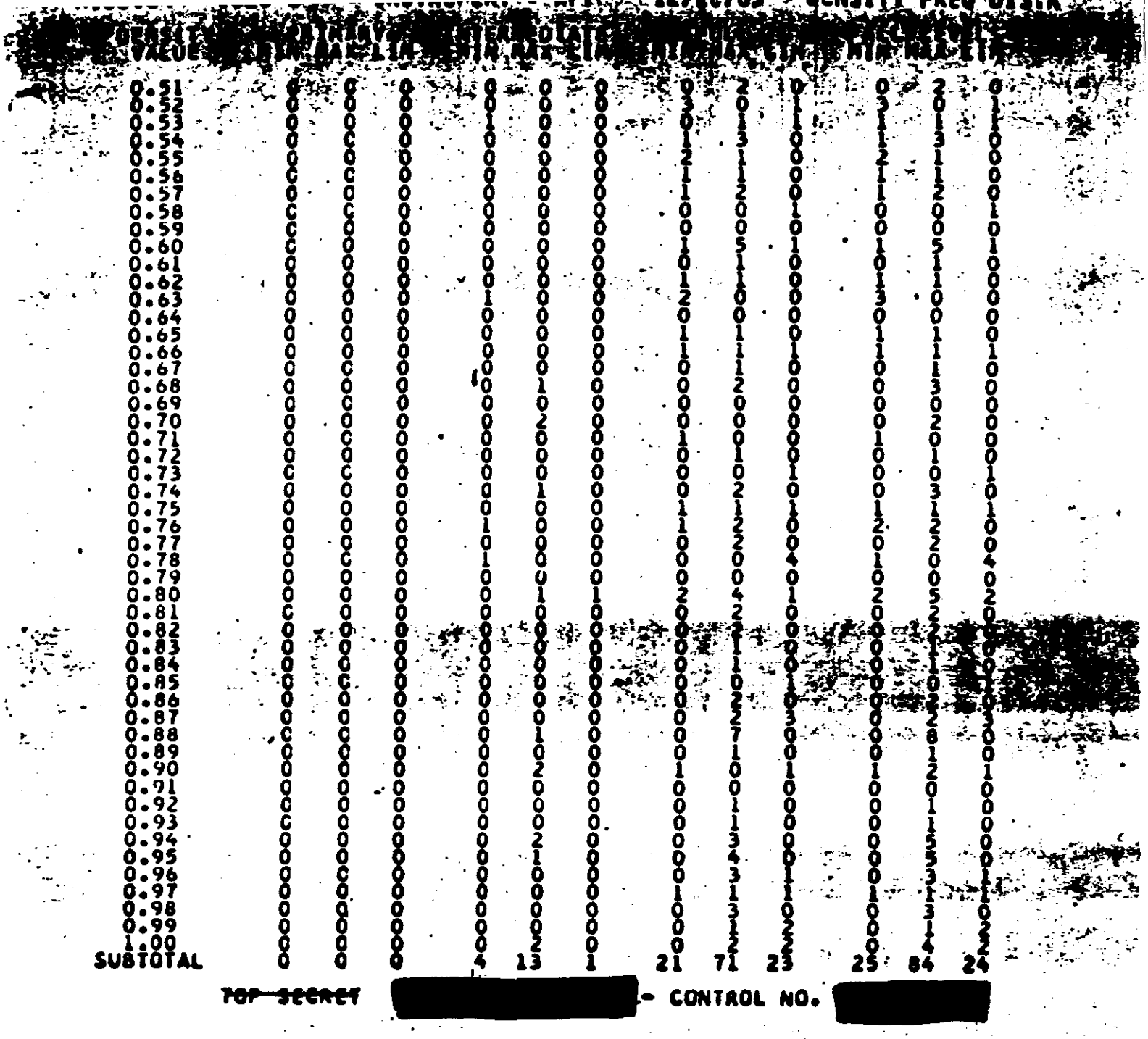
MISSION • 1020-2 • 3 INSTRUMENT • AFL • 12/20/65 • DENSITY FREQ DISTR

DENSITY [redacted] INTERMEDIATE [redacted]

VALUE	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN
0.01	0	0	0	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	0	0
0.03	0	0	0	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	0	0
0.05	0	0	0	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	0	0
0.07	0	0	0	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	0	0
0.09	0	0	0	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	0	0
0.11	0	0	0	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	0	0
0.13	0	0	0	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	0	0
0.15	0	0	0	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	0	0
0.17	0	0	0	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	0	0
0.19	0	0	0	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	0	0
0.21	0	0	0	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	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	27	2	0	169	22	4	196	24	4			

TOP SECRET [redacted] CONTROL NO. [redacted]

TABLE A-4



VALUE													
0.51	0	0	0	0	0	0	0	0	2	0	0	2	0
0.52	0	0	0	0	0	0	0	0	0	0	0	0	0
0.53	0	0	0	0	0	0	0	0	0	0	0	0	0
0.54	0	0	0	0	0	0	0	0	0	0	0	0	0
0.55	0	0	0	0	0	0	0	0	0	0	0	0	0
0.56	0	0	0	0	0	0	0	0	0	0	0	0	0
0.57	0	0	0	0	0	0	0	0	0	0	0	0	0
0.58	0	0	0	0	0	0	0	0	0	0	0	0	0
0.59	0	0	0	0	0	0	0	0	0	0	0	0	0
0.60	0	0	0	0	0	0	0	0	0	0	0	0	0
0.61	0	0	0	0	0	0	0	0	0	0	0	0	0
0.62	0	0	0	0	0	0	0	0	0	0	0	0	0
0.63	0	0	0	0	0	0	0	0	0	0	0	0	0
0.64	0	0	0	0	0	0	0	0	0	0	0	0	0
0.65	0	0	0	0	0	0	0	0	0	0	0	0	0
0.66	0	0	0	0	0	0	0	0	0	0	0	0	0
0.67	0	0	0	0	0	0	0	0	0	0	0	0	0
0.68	0	0	0	0	0	0	0	0	0	0	0	0	0
0.69	0	0	0	0	0	0	0	0	0	0	0	0	0
0.70	0	0	0	0	0	0	0	0	0	0	0	0	0
0.71	0	0	0	0	0	0	0	0	0	0	0	0	0
0.72	0	0	0	0	0	0	0	0	0	0	0	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	0	0	0	0	0	0	0	0	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	0	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	0	0	0	0	0	0	0	0	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	0	0	0	0	0	0	0	0	0	0
0.81	0	0	0	0	0	0	0	0	0	0	0	0	0
0.82	0	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
0.84	0	0	0	0	0	0	0	0	0	0	0	0	0
0.85	0	0	0	0	0	0	0	0	0	0	0	0	0
0.86	0	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
0.88	0	0	0	0	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	0	0	0	0	0	0	0
0.90	0	0	0	0	0	0	0	0	0	0	0	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	0	0	0	0	0	0	0	0	0	0
0.94	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95	0	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
0.97	0	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	0	0	0	0	0	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	0	2	0	0	0	2	0	0	2	0
SUBTOTAL	0	0	0	4	13	1	21	71	23	25	84	24	

TOP SECRET [redacted] - CONTROL NO. [redacted]

TABLE A-4

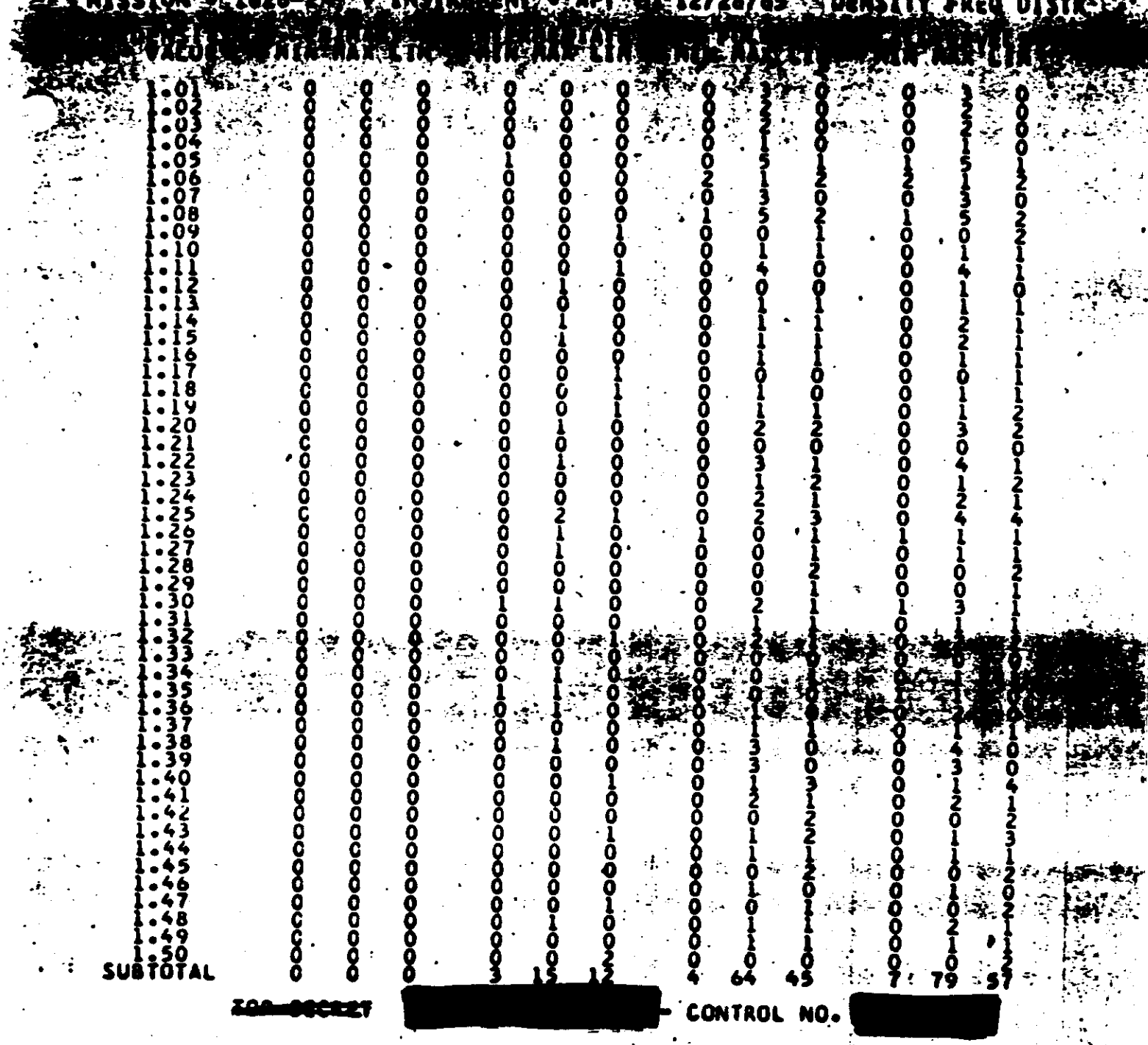


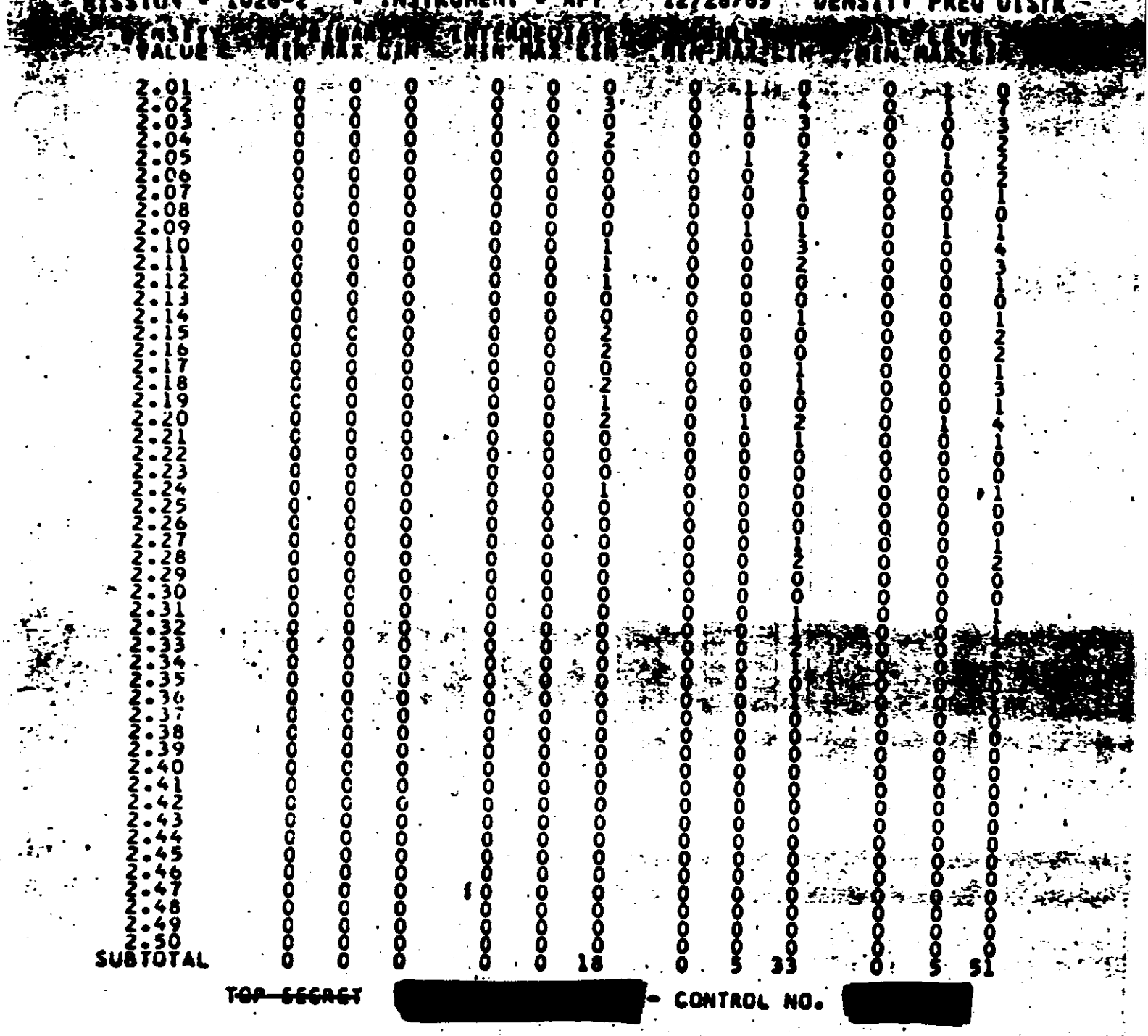
TABLE A-4

[redacted] DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	SECONDARY MIN	SECONDARY MAX	SECONDARY LIN	TERTIARY MIN	TERTIARY MAX	TERTIARY LIN	QUATERNARY MIN	QUATERNARY MAX	QUATERNARY LIN
1.51	0	0	0	0	0	1	0	2	3	0	2	3
1.52	0	0	0	0	0	1	0	2	3	0	2	3
1.53	0	0	0	0	0	1	0	2	3	0	2	3
1.54	0	0	0	0	0	1	0	2	3	0	2	3
1.55	0	0	0	0	0	1	0	2	3	0	2	3
1.56	0	0	0	0	0	1	0	2	3	0	2	3
1.57	0	0	0	0	0	1	0	2	3	0	2	3
1.58	0	0	0	0	0	1	0	2	3	0	2	3
1.59	0	0	0	0	0	1	0	2	3	0	2	3
1.60	0	0	0	0	0	1	0	2	3	0	2	3
1.61	0	0	0	0	0	1	0	2	3	0	2	3
1.62	0	0	0	0	0	1	0	2	3	0	2	3
1.63	0	0	0	0	0	1	0	2	3	0	2	3
1.64	0	0	0	0	0	1	0	2	3	0	2	3
1.65	0	0	0	0	0	1	0	2	3	0	2	3
1.66	0	0	0	0	0	1	0	2	3	0	2	3
1.67	0	0	0	0	0	1	0	2	3	0	2	3
1.68	0	0	0	0	0	1	0	2	3	0	2	3
1.69	0	0	0	0	0	1	0	2	3	0	2	3
1.70	0	0	0	0	0	1	0	2	3	0	2	3
1.71	0	0	0	0	0	1	0	2	3	0	2	3
1.72	0	0	0	0	0	1	0	2	3	0	2	3
1.73	0	0	0	0	0	1	0	2	3	0	2	3
1.74	0	0	0	0	0	1	0	2	3	0	2	3
1.75	0	0	0	0	0	1	0	2	3	0	2	3
1.76	0	0	0	0	0	1	0	2	3	0	2	3
1.77	0	0	0	0	0	1	0	2	3	0	2	3
1.78	0	0	0	0	0	1	0	2	3	0	2	3
1.79	0	0	0	0	0	1	0	2	3	0	2	3
1.80	0	0	0	0	0	1	0	2	3	0	2	3
1.81	0	0	0	0	0	1	0	2	3	0	2	3
1.82	0	0	0	0	0	1	0	2	3	0	2	3
1.83	0	0	0	0	0	1	0	2	3	0	2	3
1.84	0	0	0	0	0	1	0	2	3	0	2	3
1.85	0	0	0	0	0	1	0	2	3	0	2	3
1.86	0	0	0	0	0	1	0	2	3	0	2	3
1.87	0	0	0	0	0	1	0	2	3	0	2	3
1.88	0	0	0	0	0	1	0	2	3	0	2	3
1.89	0	0	0	0	0	1	0	2	3	0	2	3
1.90	0	0	0	0	0	1	0	2	3	0	2	3
1.91	0	0	0	0	0	1	0	2	3	0	2	3
1.92	0	0	0	0	0	1	0	2	3	0	2	3
1.93	0	0	0	0	0	1	0	2	3	0	2	3
1.94	0	0	0	0	0	1	0	2	3	0	2	3
1.95	0	0	0	0	0	1	0	2	3	0	2	3
1.96	0	0	0	0	0	1	0	2	3	0	2	3
1.97	0	0	0	0	0	1	0	2	3	0	2	3
1.98	0	0	0	0	0	1	0	2	3	0	2	3
1.99	0	0	0	0	0	1	0	2	3	0	2	3
2.00	0	0	0	0	0	2	0	2	3	0	2	3
SUBTOTAL	0	0	0	0	4	23	0	32	70	0	36	93

TOP SECRET [redacted] - CONTROL NO. [redacted]

TABLE A-4



VALUE	MIN	MAX	CUM	MIN	MAX	CUM	MIN	MAX	CUM	MIN	MAX	CUM
2.01	0	0	0	0	0	0	0	1	1	0	0	0
2.02	0	0	0	0	0	0	0	1	2	0	0	0
2.03	0	0	0	0	0	0	0	0	2	0	0	0
2.04	0	0	0	0	0	0	0	0	2	0	0	0
2.05	0	0	0	0	0	0	0	0	2	0	0	0
2.06	0	0	0	0	0	0	0	0	2	0	0	0
2.07	0	0	0	0	0	0	0	0	2	0	0	0
2.08	0	0	0	0	0	0	0	0	2	0	0	0
2.09	0	0	0	0	0	0	0	0	2	0	0	0
2.10	0	0	0	0	0	0	0	0	2	0	0	0
2.11	0	0	0	0	0	0	0	0	2	0	0	0
2.12	0	0	0	0	0	0	0	0	2	0	0	0
2.13	0	0	0	0	0	0	0	0	2	0	0	0
2.14	0	0	0	0	0	0	0	0	2	0	0	0
2.15	0	0	0	0	0	0	0	0	2	0	0	0
2.16	0	0	0	0	0	0	0	0	2	0	0	0
2.17	0	0	0	0	0	0	0	0	2	0	0	0
2.18	0	0	0	0	0	0	0	0	2	0	0	0
2.19	0	0	0	0	0	0	0	0	2	0	0	0
2.20	0	0	0	0	0	0	0	0	2	0	0	0
2.21	0	0	0	0	0	0	0	0	2	0	0	0
2.22	0	0	0	0	0	0	0	0	2	0	0	0
2.23	0	0	0	0	0	0	0	0	2	0	0	0
2.24	0	0	0	0	0	0	0	0	2	0	0	0
2.25	0	0	0	0	0	0	0	0	2	0	0	0
2.26	0	0	0	0	0	0	0	0	2	0	0	0
2.27	0	0	0	0	0	0	0	0	2	0	0	0
2.28	0	0	0	0	0	0	0	0	2	0	0	0
2.29	0	0	0	0	0	0	0	0	2	0	0	0
2.30	0	0	0	0	0	0	0	0	2	0	0	0
2.31	0	0	0	0	0	0	0	0	2	0	0	0
2.32	0	0	0	0	0	0	0	0	2	0	0	0
2.33	0	0	0	0	0	0	0	0	2	0	0	0
2.34	0	0	0	0	0	0	0	0	2	0	0	0
2.35	0	0	0	0	0	0	0	0	2	0	0	0
2.36	0	0	0	0	0	0	0	0	2	0	0	0
2.37	0	0	0	0	0	0	0	0	2	0	0	0
2.38	0	0	0	0	0	0	0	0	2	0	0	0
2.39	0	0	0	0	0	0	0	0	2	0	0	0
2.40	0	0	0	0	0	0	0	0	2	0	0	0
2.41	0	0	0	0	0	0	0	0	2	0	0	0
2.42	0	0	0	0	0	0	0	0	2	0	0	0
2.43	0	0	0	0	0	0	0	0	2	0	0	0
2.44	0	0	0	0	0	0	0	0	2	0	0	0
2.45	0	0	0	0	0	0	0	0	2	0	0	0
2.46	0	0	0	0	0	0	0	0	2	0	0	0
2.47	0	0	0	1	0	1	0	0	2	0	0	0
2.48	0	0	0	0	0	1	0	0	2	0	0	0
2.49	0	0	0	0	0	1	0	0	2	0	0	0
2.50	0	0	0	0	0	1	0	0	2	0	0	0
SUBTOTAL	0	0	0	0	0	18	0	5	33	0	5	51

TOP SECRET [redacted] CONTROL NO. [redacted]

TABLE A-4

MISSION • 1026-2 • INSTRUMENT • AFT • 12/28/65 • DENSITY FREQ DIST

[redacted]

VALUE	MIN	MAX	CTR	MIN	MAX	CTR	MIN	MAX	CTR	MIN	MAX	CTR
2.51	0	0	0	0	0	0	0	0	0	0	0	0
2.52	0	0	0	0	0	0	0	0	0	0	0	0
2.53	0	0	0	0	0	0	0	0	0	0	0	0
2.54	0	0	0	0	0	0	0	0	0	0	0	0
2.55	0	0	0	0	0	0	0	0	0	0	0	0
2.56	0	0	0	0	0	0	0	0	0	0	0	0
2.57	0	0	0	0	0	0	0	0	0	0	0	0
2.58	0	0	0	0	0	0	0	0	0	0	0	0
2.59	0	0	0	0	0	0	0	0	0	0	0	0
2.60	0	0	0	0	0	0	0	0	0	0	0	0
2.61	0	0	0	0	0	0	0	0	0	0	0	0
2.62	0	0	0	0	0	0	0	0	0	0	0	0
2.63	0	0	0	0	0	0	0	0	0	0	0	0
2.64	0	0	0	0	0	0	0	0	0	0	0	0
2.65	0	0	0	0	0	0	0	0	0	0	0	0
2.66	0	0	0	0	0	0	0	0	0	0	0	0
2.67	0	0	0	0	0	0	0	0	0	0	0	0
2.68	0	0	0	0	0	0	0	0	0	0	0	0
2.69	0	0	0	0	0	0	0	0	0	0	0	0
2.70	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	34	34	54	194	194	175	228	228	229

MISSION 1026-2 INSTR - AFT 12/28/65 PROCESSING AND EXPOSURE ANALYSI

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	34	0 PC	79 PC	12 PC	9 PC	0 PC
FULL	194	70 PC	0 PC	27 PC	3 PC	0 PC
ALL LEVELS	228	60 PC	12 PC	25 PC	3 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

~~TOP SECRET~~ [redacted] - CONTROL NO. [redacted]

TABLE A-4

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.42 • MEDIAN • 0.32 • STD DEV • 0.29 • RANGE • 0.22 TO 1.35 WITH 34 SAMPLES

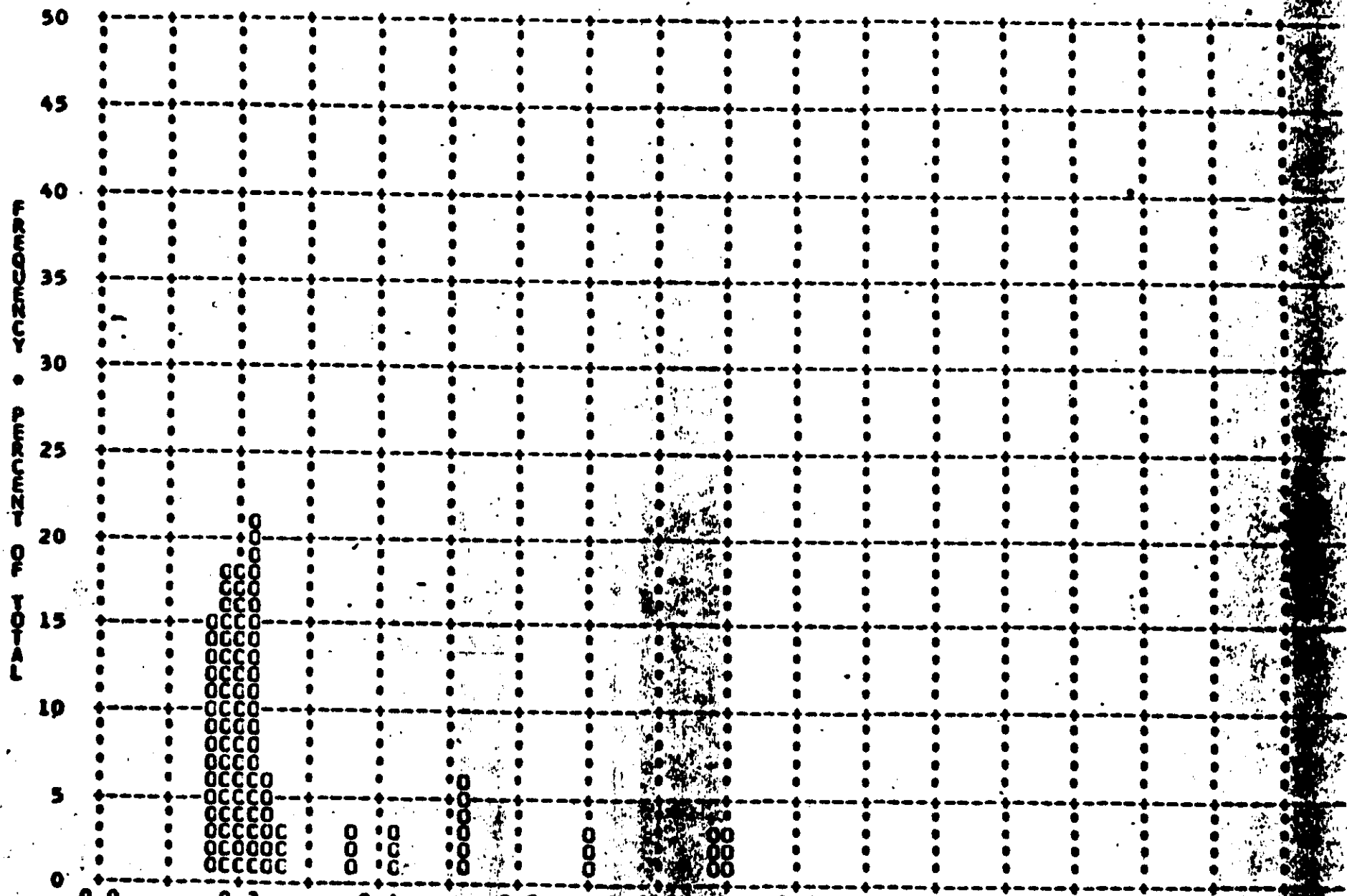
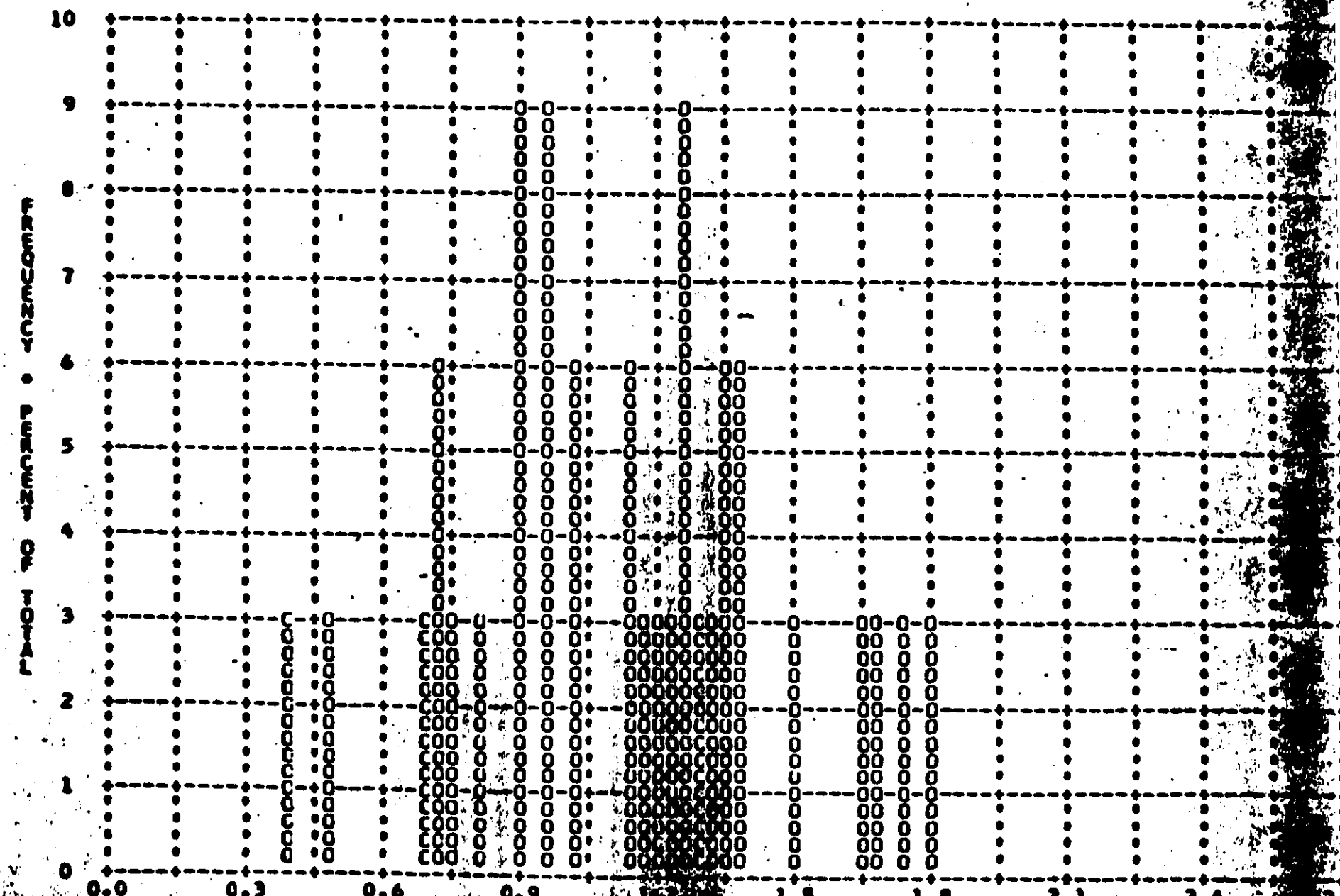


FIGURE A-28

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.11 • MEDIAN • 1.15 • STD DEV • 0.35 • RANGE • 0.37 TO 1.78 WITH 34 SAMPLES



FREQUENCY • NUMBER OF POINTS

DENSITY •

FIGURE A-29

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMED[redacted]

ARITH MEAN • 1.78 • MEDIAN • 1.86 • STD DEV • 0.35 • RANGE • 0.80 TO 2.24 WITH 54 SAMPLES

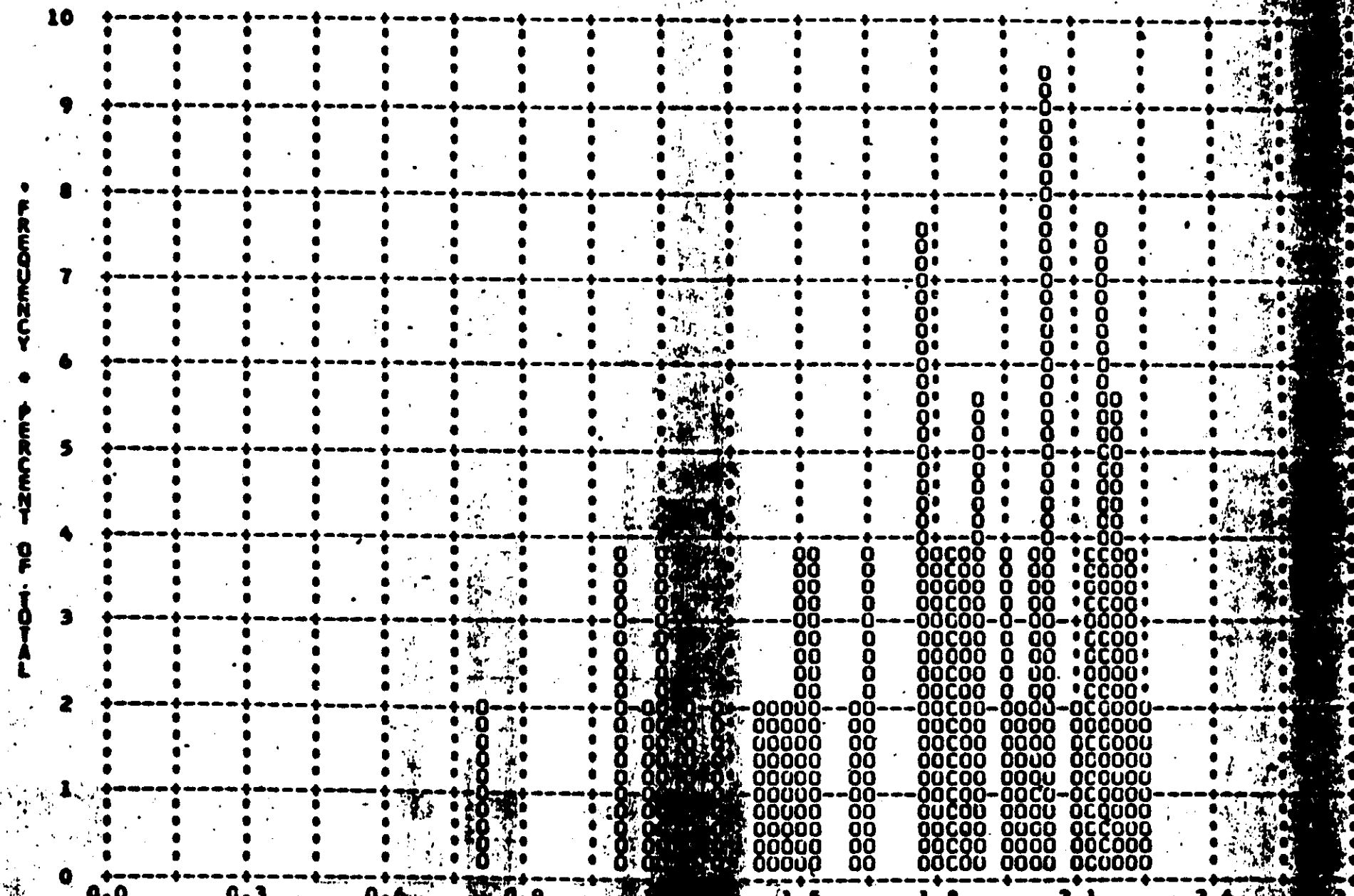


FIGURE A-30

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF 0 MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.38 • MEDIAN • 0.33 • STD DEV • 0.17 • RANGE • 0.21 TO 1.26 WITH 194 SAMPLES

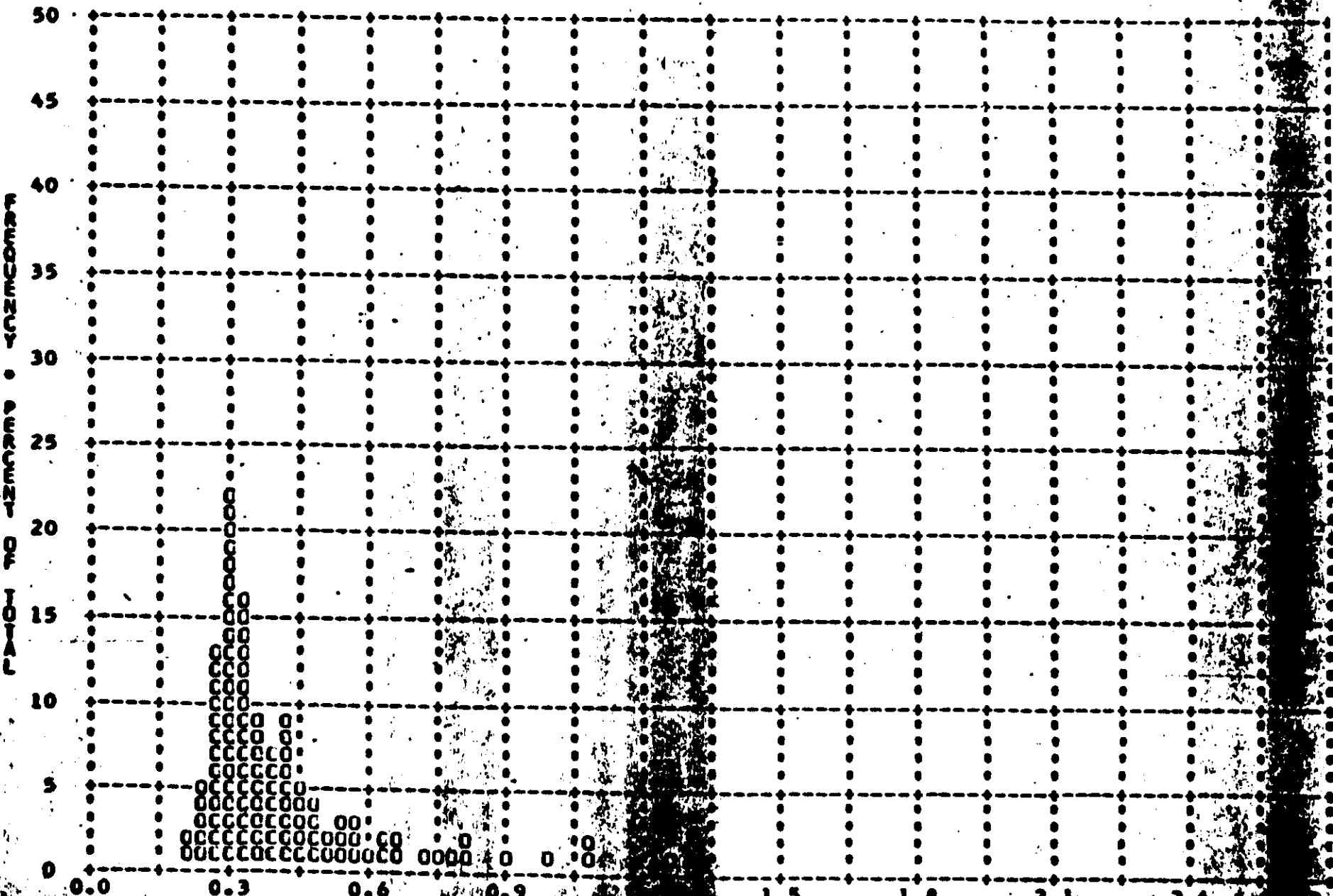


FIGURE A-31

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.07 • MEDIAN • 1.02 • STD DEV • 0.45 • RANGE • 0.27 TO 2.20 WITH 194 SAMPLES

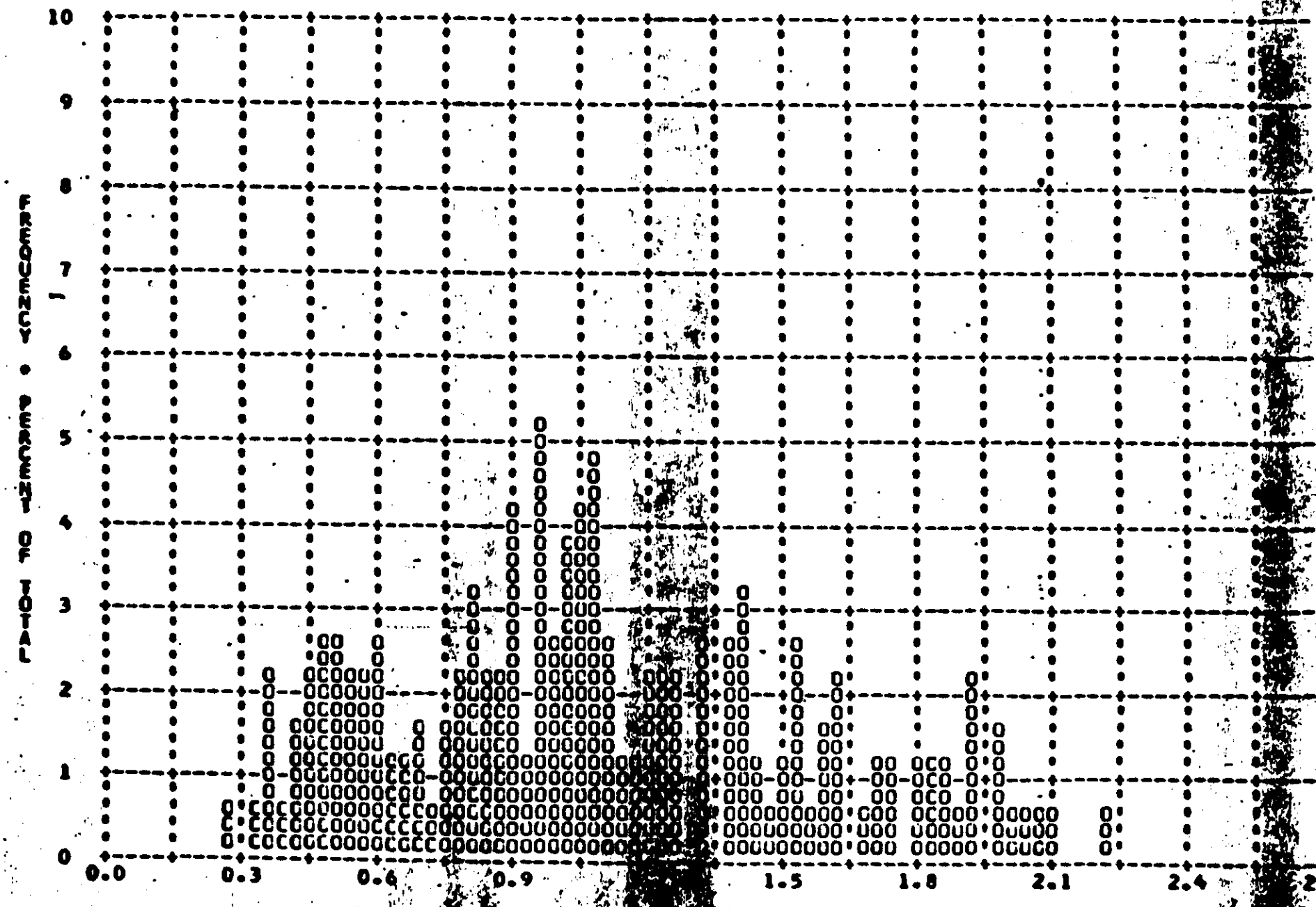


FIGURE A-32

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.55 • MEDIAN • 1.61 • STD DEV • 0.48 • RANGE • 0.30 TO 2.36 WITH 175 SAMPLES

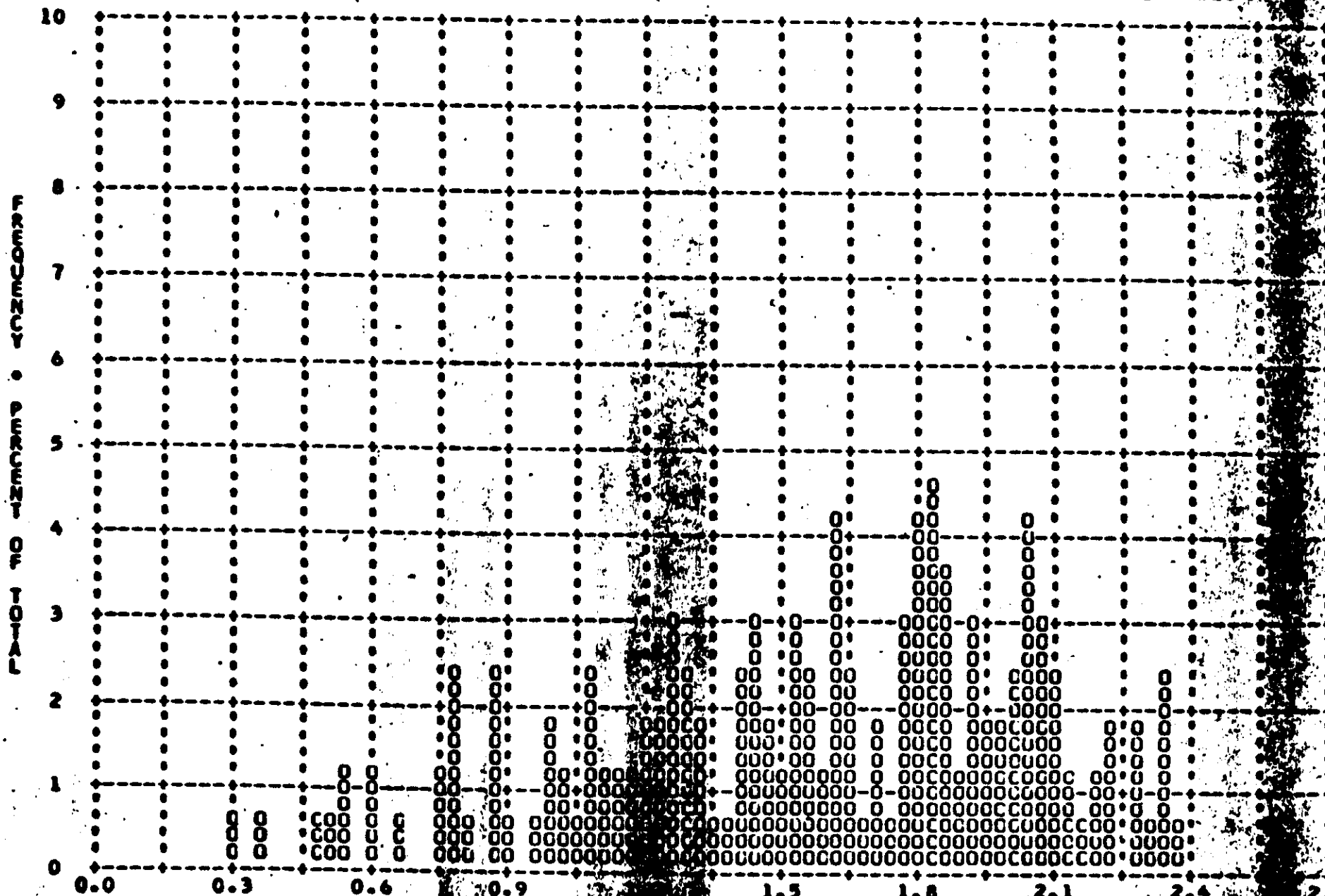
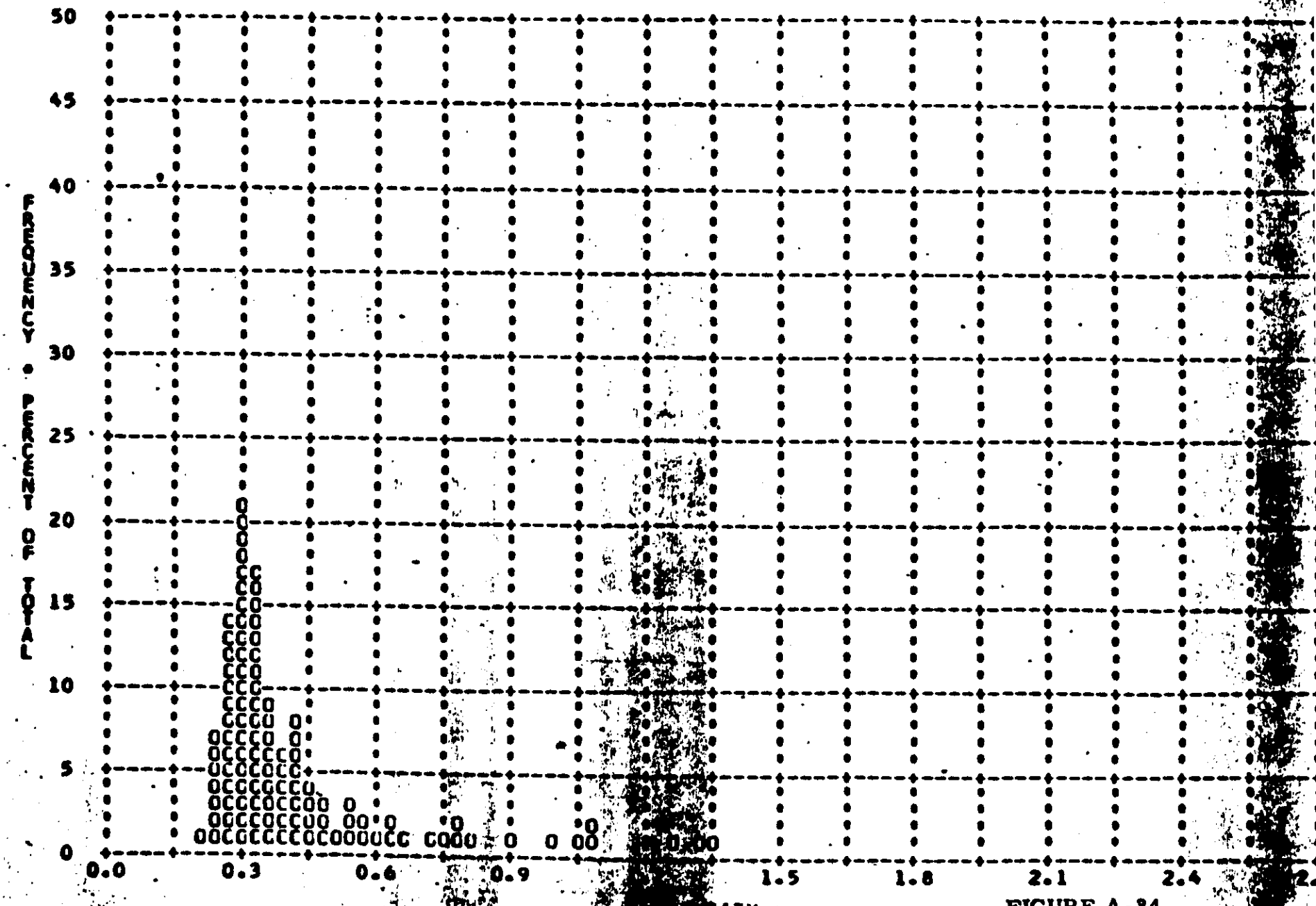


FIGURE A-33

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.39 • MEDIAN • 0.32 • STD DEV • 0.19 • RANGE • 0.21 TO 1.35 WITH 228 SAMPLES



SITY •

FIGURE A-34

MISSION • 1026-2 • INSTR • AFT • 12/28/65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.08 • MEDIAN • 1.03 • STD DEV • 0.43 • RANGE • 0.27 TO 2.20 WITH 228 SAMPLES

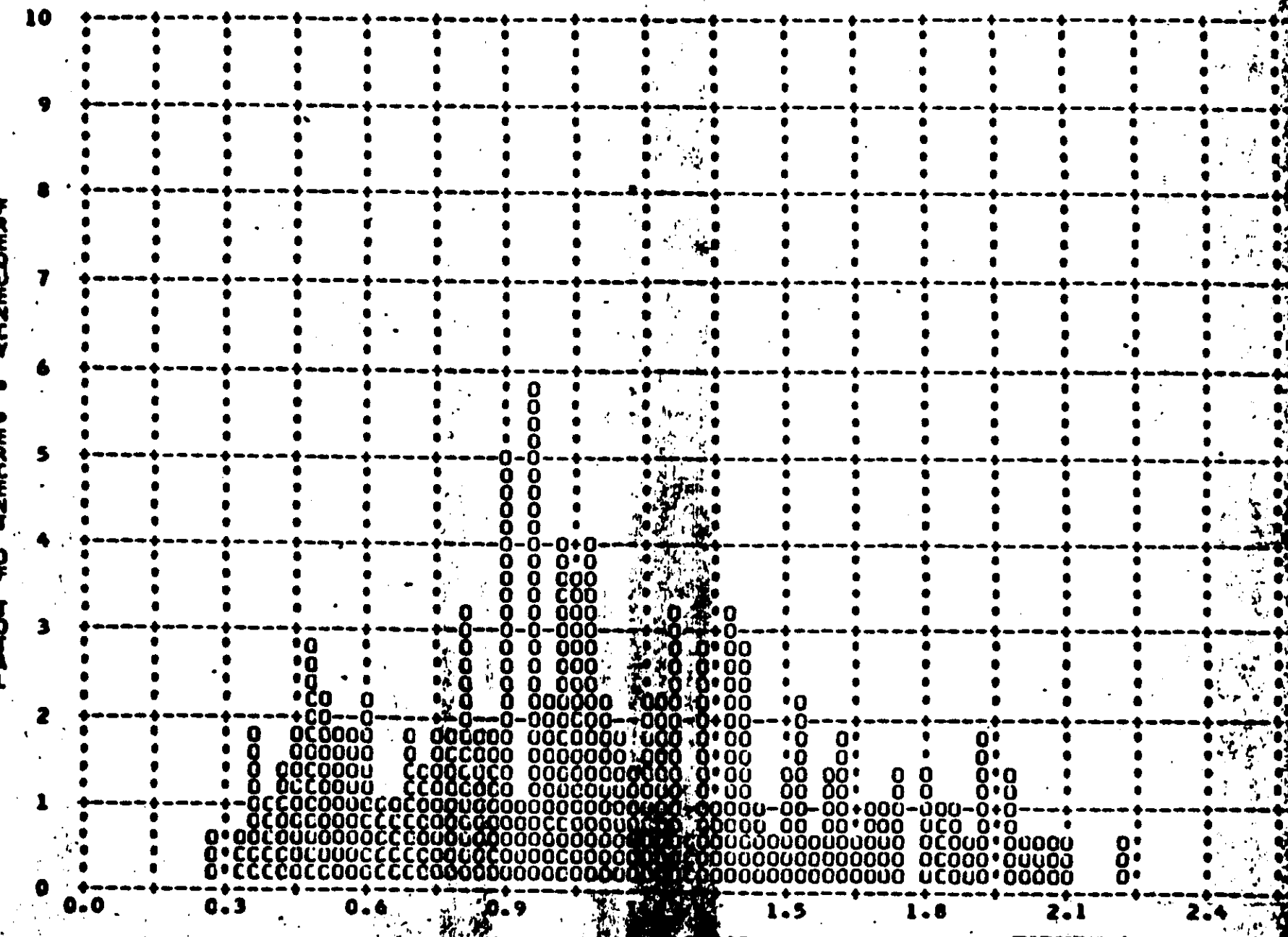
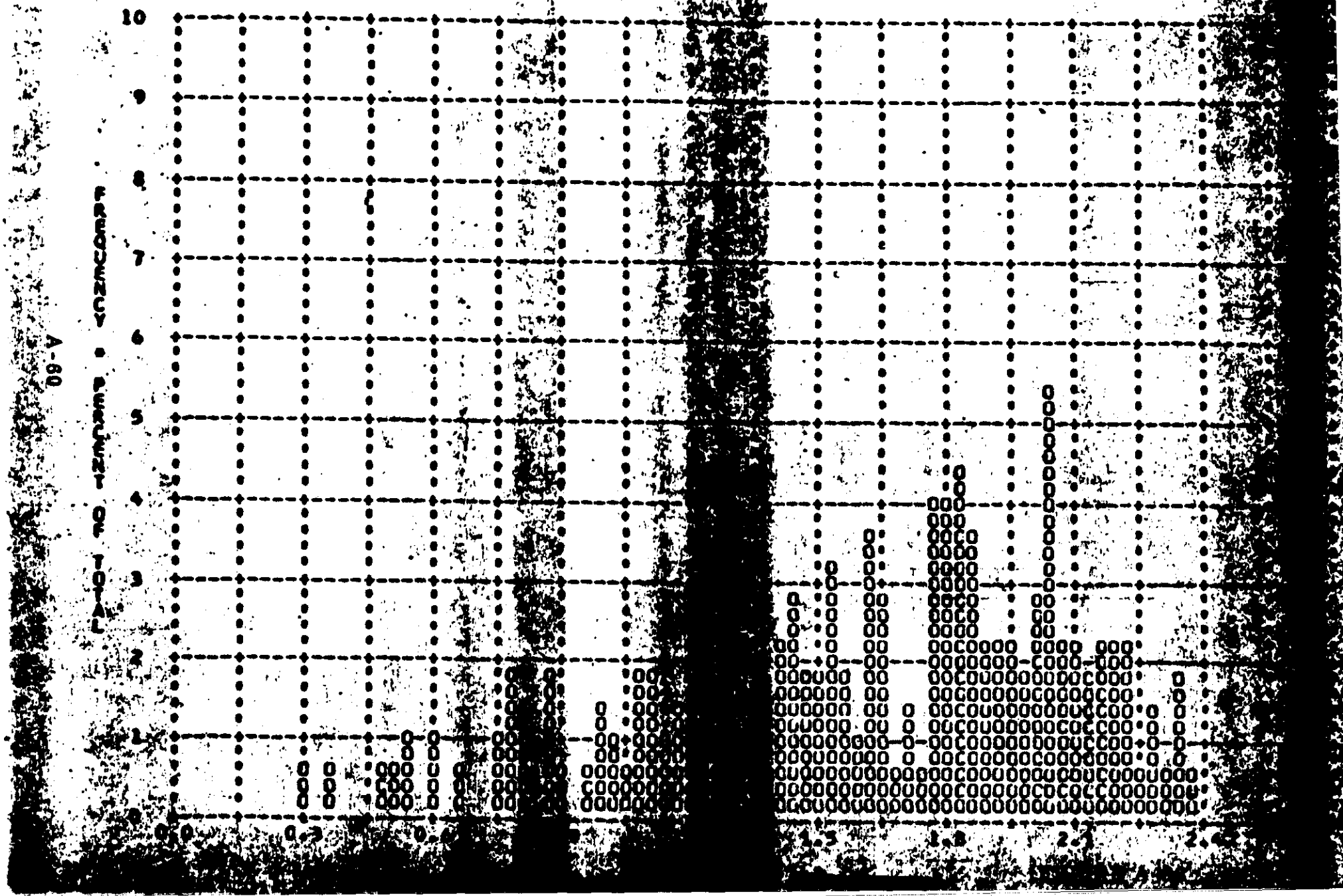


FIGURE A-35

MISSION • 1026-2 • INSTR • AFT • 12/28/65 • D MAX • CLOUD • PROCESSING • ALL

ARITH MEAN • 1.61 • MEDIAN • 1.70 • STD DEV • 0.46 • RANGE • 0.30 TO 2.36 WITH 229 SAMPLES



Distribution:

Copy No.	To
[redacted]	[redacted]