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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1017-1 and 1017-2 [redacted]

FTV 1611, J-14

8 December 1966

Approved: [redacted]
Manager
Advanced Projects

Approved: [redacted]
Mgr.
Program

~~TOP SECRET~~ C [redacted]

FOREWORD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1611.

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 1017-1 and 1017-2 which was launched on 25 February 1965.

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INTRODUCTION

This report presents the final performance evaluation of Missions 1017-1 and 1017-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-14 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 values, frame correlation times are made at NPIC who also supply the Processing Summary and MTF/AIM resolution reports published by [redacted]

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

SECTION 1

SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The payload section of Mission 1017, placed into orbit by Flight Test Vehicle #1611 and LV-2A booster #432, 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-14 payload system. This Corona "J" system is designed to acquire search and reconnaissance photography of selected areas of the earth from orbital altitudes. The programmed -1 mission was 3/4/5 days and a -2 mission of 6/5/4 days with no deactivate period.

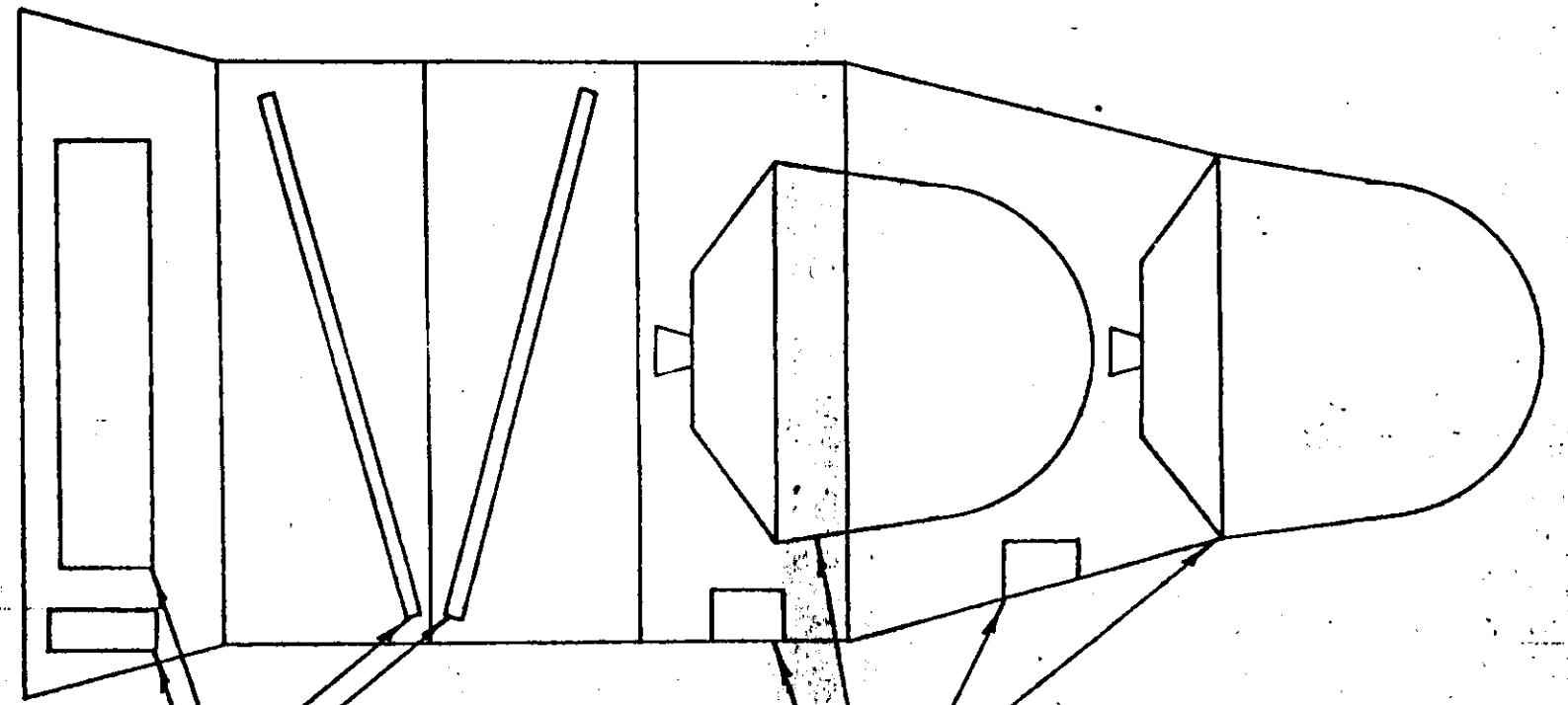
B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) [redacted] at 2144:55 Z (1344:55 PDT) on 25 February 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 1017-1 consisted of a 5 day operation and was completed by air recovery on 2 March 1965. Mission 1017-2 was completed with an air recovery on 6 March 1965 following a 4 day photographic operation.

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

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1017



Master Camera No: 140

Slave Camera No: 165

Supply Cassette No: SC-24

Clock No: 531

Yaw Programmer No: 259

"A" Recovery Subsystem No: 623

"A" Stellar-Index Camera No: 21/21/21

"B" Recovery Subsystem No: 625

"B" Stellar-Index Camera No: 60/68/01

Pressure Make-up Unit No: 1009

FIGURE 1-1

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 40 Actuals
Period (Min.)	90.023	89.99
Perigee (N.M.)	99.99	97.29
Apogee (N.M.)	200.67	201.90
Inclination (Deg.)	75.00	75.07
Perigee Latitude (Deg. N.)	22.10	25.98
Eccentricity	0.0141	0.0145

C. PANORAMIC CAMERAS

Mission 1017-1 and 1017-2 produced excellent image detail for the forward and aft looking cameras. Information content was rated better than all recent flights and was judged to be comparable to Mission 1008. Much of the ground detail affected by the capping shutter failure in the aft camera was recovered by special dupe positive printing. The cloud cover averaged 30%.

D. STELLAR-INDEX CAMERAS

The -1 mission S/I operated satisfactorily and produced good photo quality.

The -2 mission S/I operated properly for only 10% of the mission.

E. OTHER SUB-SYSTEMS

The clock, instrumentation, pressure make-up, command and thermal control subsystems performed satisfactorily.

SECTION 2

PRE-FLIGHT SYSTEMS TEST

A. ENVIRONMENTAL TESTING

1. Test Objective

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

2. Test Summary

The J-14 System was tested at simulated altitude during the period 15-20 November 1964. During the approximately 131 hours of testing, a maximum capacity 32,000 feet of pre-dried, type 3404, payload was operated through the pair of pan cameras. During this test, the J-14 System consisted of pan cameras No. 164 and No. 165. Due to a capping shutter failure observed during this test, camera No. 164 was removed from the system and replaced by camera No. 140, which had been part of the M-27 system.

Operation of SRV No. 1 consisted of ten simulated passes on 15 November and special tests on 16 November. The pressure make-up unit (PMU) was used during all of SRV No. 1 pan camera operations. Typical internal system pressures ranged from 3 microns at the start of an operation to about 37 microns in stable operation. SRV No. 2 operations were performed in fifteen simulated passes during the period 18-20 November. During SRV No. 2 operations, the PMU was operated on alternate passes. With the PMU on, pressure ranges of less than one micron to about 37 microns were observed. With the PMU off, the range was about 0.1 micron to 1.5 microns. Thus the pressures achieved provided excellent conditions for detection of susceptibility to corona marking.

Master Camera #140. The camera operated satisfactorily during the 2 1/2 days HATS chamber test which started on 7 October 1964. The internal camera pressures ranged from 1.8 to 200 microns and the corona marking performance was flight acceptable. The cycle rate errors were less than ± 1.0% for two-thirds of the operations. The maximum error was 2.8% slow. The serial number, time word, blanked pulses, slurred pulse and horizon fiducials functioned normally.

Slave Camera #165. The serial number, time word and index, timing marks, blanked pulse, slurred pulse, and horizon fiducials all functioned normally. Some fogging is observed near the beginning of passes. This is traced to a light leak at the silver dollar. A subsequent light leak test verified the light-tight integrity of the system. Also, some dendritic static and abrasive marking is observed along the data block edge at many points. All of these cases appear to be due to handling during retrieval. In one [redacted] frame of the second mission, low density fog (0.2 o[redacted] is observed. The frame is not near an end of pass and the cause of fog is not known. Corona discharge fog from start-up of a metering roller was detected in only one instance. The corona discharge characteristics of this instrument are considered acceptable for flight.

Small scratches were observed at the start of scan end of formats as well as in the vicinity of the data block. These scratches are attributed to the scan head rollers. The condition appeared to be corrected in subsequent system tests.

Stellar-Index Units D-21 and D-60. S/I Unit D-21 functioned normally and is acceptable for flight.

S/I Unit D-60 had a film take-up failure during the tests. Operation before the failure was normal and acceptable for flight. Functioning after repairs were verified during the system light leak test and it was accepted for flight.

B. RESOLUTION TEST

Resolution and theodolite tests were performed on 12 December 1964. Results of the thru-focus resolution tests of pan instruments 140 and 165 show the following characteristics:

Master Pan Instrument No. 140

Maximum high contrast resolution 171 lines/mm at zero focal position.

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

Slave Instrument No. 165

Maximum high contrast resolution 182 lines/mm at zero focal position.

Maximum low contrast resolution 113 lines/mm at zero focal position.

The test data for both instruments is shown in Figures 2-1 and 2-2. Both instruments met the system requirements specification.

C. LIGHT LEAK TEST

Light leak tests using type 3401 payload were conducted on the J-14 system on two occasions. During the first test, on 30 November 1964, pan instruments 164 and 165 were installed. Instrument 164 was subsequently replaced by instrument 140 because of a capping shutter failure of the former instrument. A second light leak test was completed on 17 December 1964. In both tests, the payload samples were handled with sufficient care to avoid the handling damage that is typical of many of these tests. The payload test samples from each test showed the system to be entirely free from light leaks.

D. FLIGHT LOADING AND CERTIFICATION

J-14 was recertified for flight on 15 February 1965 at VAFB. Recertification was necessitated by changes to SRV #1 and #2 recommended by G. E. that required a repeat of the flight loading events performed for the first time on 22 January 1965.

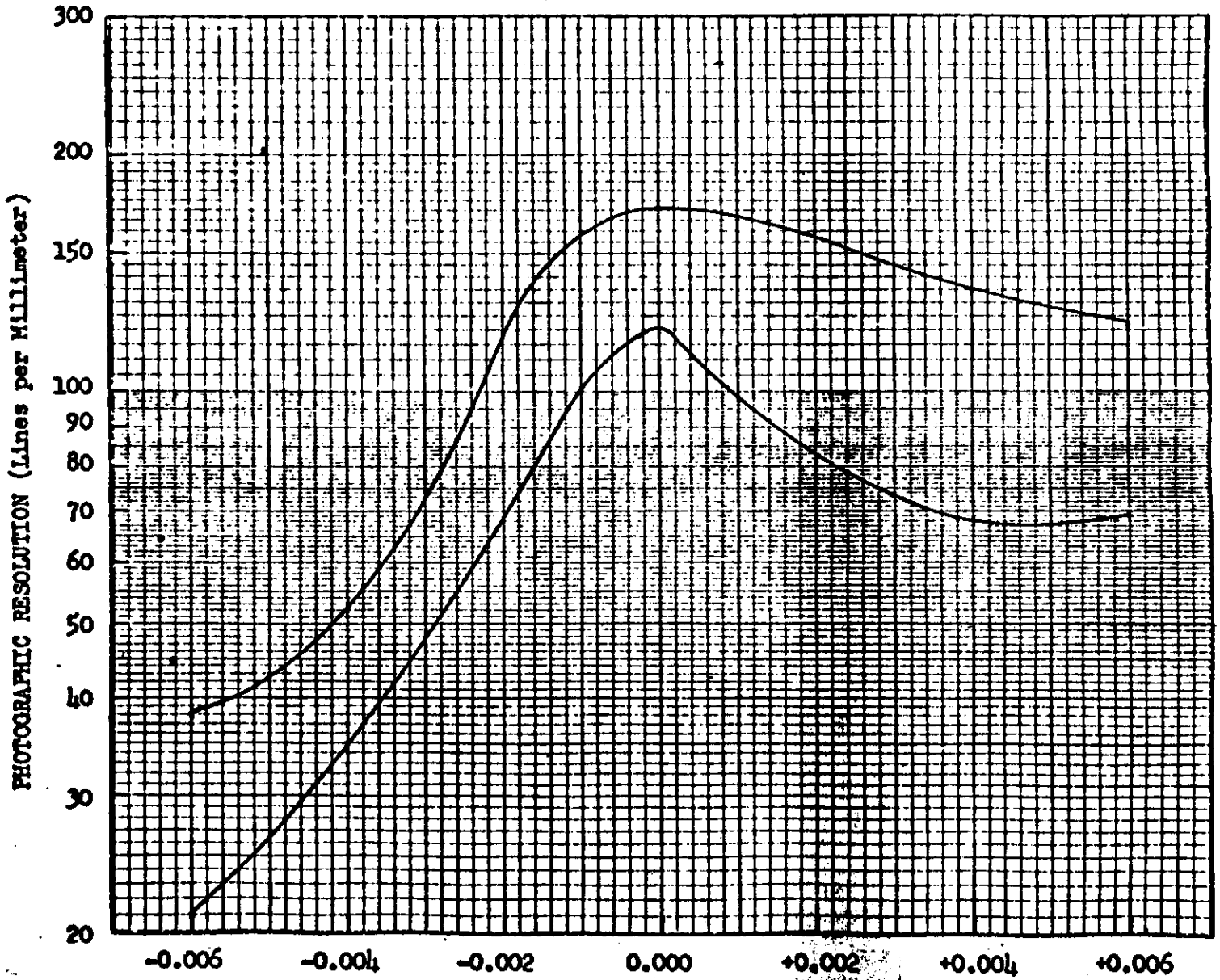
3404 type film samples from the Flight Readiness Test and final flight loading were processed and evaluated to determine the flight worthiness of J-14 system. Processed film exhibits from both instrument #140 and #165 showed that the horizon fiducials, time word, 200 pps timing track, S/I slur pulse, and the time word blank pulse were all present.

Series 3 green safelight and series OA yellow safelights were used according to new prescribed test procedures during supply cassette loading and final system integration. No safelight fog was observed on the final system output film samples that were removed and processed at VAFB. Input film samples removed at VAFB and processed at A/P contained no safelight fog.

Light-tight fixtures supplied by Boston and used for the first time over supply cassette film exit parts prevented the payload from being fogged by ambient room white light.

Final payload splices were made in white light using the mechanical film splice fixture supplied by A/P. Final flight splices were inspected and found to be perfectly aligned.

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 140

Payload No: J-14

Resolution (1/mm)

High Contrast: 171

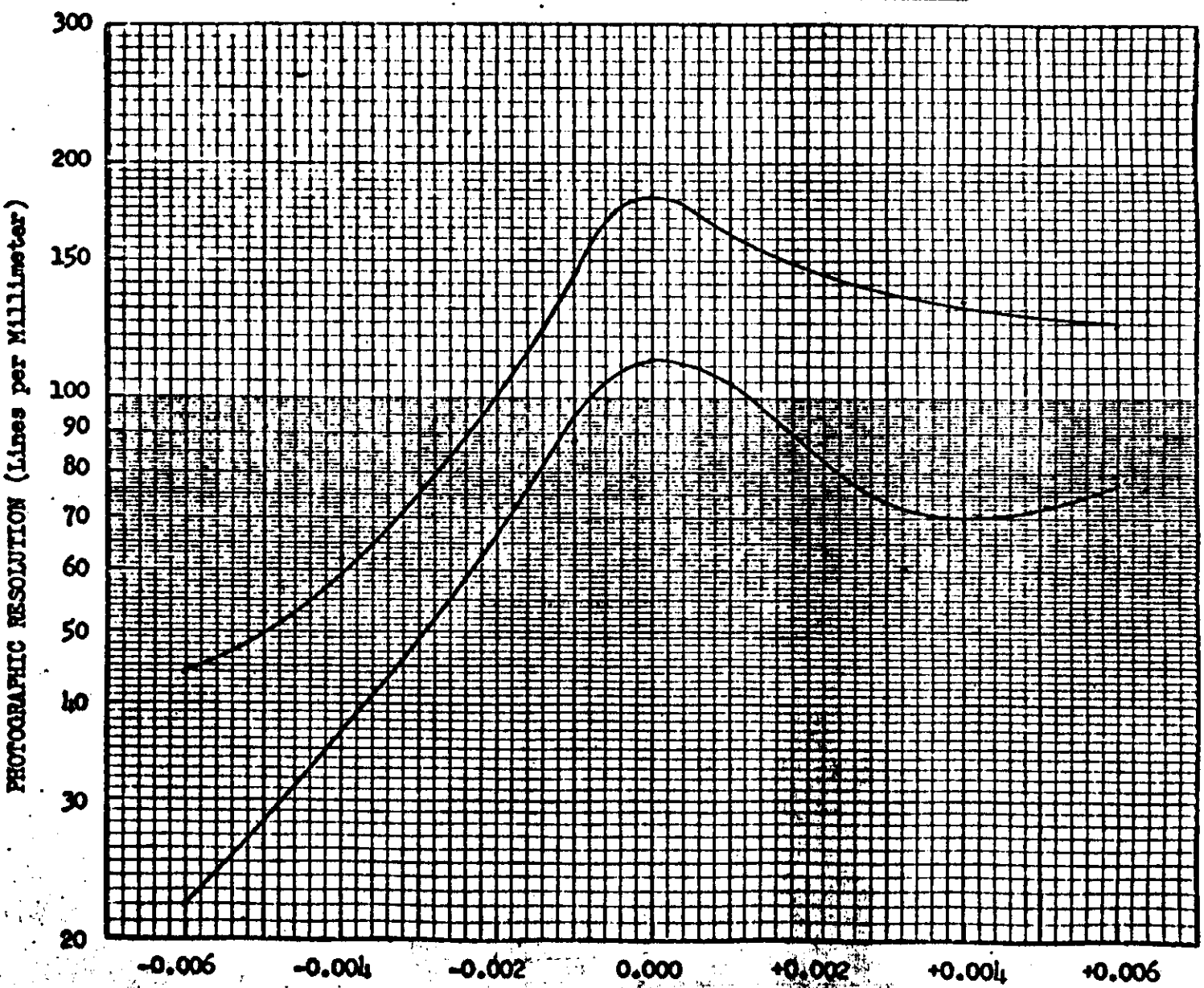
Low Contrast: 120

Film Type: 3404

Test Date: 12/12/64

Figure 2-1

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 165

Payload No: J-14

Resolution (1/mm)

High Contrast: 182

Low Contrast: 113

Film Type: 3404

Test Date: 12/12/64

Figure 2-2

SECTION 3

FLIGHT OPERATIONS

A. SYSTEMS PERFORMANCE SUMMARY

The Agena and payload systems achieved the desired orbit with all equipment operational. The Agena performance was satisfactory throughout the flight.

The performance of all cameras were acceptable throughout the first mission. In the second mission the stellar-index camera experienced a metering problem. The slave panoramic camera experienced an apparent capping shutter failure during the last 22% of the second mission.

Average temperature of the panoramic cameras ranged from 77°F to 60°F during the nine day active flight.

The payload system clock performance was satisfactory and good correlation with the tracking station's system time was obtained. A reset of the system time generators was experienced during the first mission but did not result in a problem with time correlation.

The pressure make-up system performed satisfactorily throughout both missions.

The third orbital sine functional generator (Yaw Programmer) was flown on the J-14 system. The programmer was active from orbit 9 until orbit 121. However, the unit appears to have failed on orbit 88.

Both recovery units were successfully air recovered and contained 100% of the panoramic film supplied.

B. PANORAMIC CAMERA PERFORMANCE

Instrument dynamic operations were observed on the orbits listed in Table 3-1. Both pan cameras performed normally through the first mission and operational cycle rates were less than 1 percent from pre-flight predictions. In the second mission the operational cycle rate of the slave pan camera gradually slowed down to 1 1/2 percent below predicated. The operational cycle rates of the two units were matched within 2 1/2 percent throughout the flight.

During the second mission the master pan cameras, S/N 140, developed an abnormality in its shutdown. At random times during engineering operations, the unit would continue to cycle for one or two cycles beyond the design shut-off. Below is a list of the acquisitions at[redacted] Tracking Station in which an extra cycle was seen and those that were normal.

Engineering Operations

Extra Cycle (s)	Normal
088	0104
095	0120
0111	0152
0127 (2)	0168
0159	0174
0191	0175
	0199

Special inflight tests were performed to investigate this problem after the second recovery (0145). Analysis of the information from these tests indicate the most probable cause to be an intermittent failure of a switch to open. This switch, S-107, is used to self-energize the unit until predetermined position in the cycle. This switch is normally open only approximately 1/20 of the cycle and, if it momentarily fails to open, the unit would be self-energized for another cycle.

The customer reported an apparent capping shutter problem on the slave pan camera, S/N 165. The problem was reported to have first been noticed on orbit 117 and then failed in the "open" position on orbit 133. This problem was not detected by any of the telemetry monitors.

FMC Match

During preflight operations, it was reported that the cameras were operating approximately 3% slower than the calibrated rates. It was determined to step from the nominal reference level step 5 to step 4 at[redacted] on Rev. 1. Since actual on-orbit rates appeared similar to the

calibration, readjustment was made on Rev. 9 to step 5, and that level was maintained until Rev. 32 when orbit parameters indicated a shift to step 4 was desirable. The remainder of the flight used step 4.

In general, the aft camera appeared to operate approximately 1 1/2% slower than the forward during the first mission, declining to 3 - 4% slower during the second mission.

Estimated mean FMC errors:

Revs. 2 - 8	+3.1%
9 - 32	-1.1%
32 - 81	1.0%
82 - 104	1.5%
105 - 137	3.0% (2% on forward camera)

Panoramic Film Consumption (Frames)

	Nominal	Actual Master	Actual Slave
Pre-Launch	115	163	156
-1 Mission	3000	2942	2947
-2 Mission	2900	2914	2908
Total	6015	6019	6011

C. INSTRUMENTATION AND COMMAND PERFORMANCE

The telemetry instrumentation system was satisfactory throughout both missions. The film footage potentiometer readings agree with the cycle counters within plus or minus 50 cycles (minimum resolution) during the first mission. During the second mission the master cycle counter and footage pot agree within minimum resolution but the slave footage pot averaged about 60 cycles below the counter.

Channel 9 of the first recovery unit telemetry failed to switch from retro events to parachute events. The channel was normal during all retro events but apparently did not have excitation to the divider network monitoring parachute events.

The command system performed satisfactorily throughout the flight. The [redacted] Tracking Station experienced problems with analog command nine (Program Select) during several orbits. This appears to have been caused by local interference and not a vehicle problem.

D. THERMAL ENVIRONMENT

The temperatures monitored by telemetry during the active flight are listed in Table 3-2. The self-heating corrections for the temp. sensors on this system were determined from inflight data taken on orbit 74 during the [redacted] acquisition.

Predicted and actual flight temperatures are compared in Figures 3-1 to 3-3.

E. CLOCK PERFORMANCE

The clock performance was satisfactory during both missions. Correlation between the clock and tracking station system time was good. A reset was made to the system time generator at [redacted] Station during orbit 60. This reset amounted to correcting the system time by a minus 100 milliseconds. Corrections of minus 100 milliseconds were made to all system time readings prior to orbit 60. Tables 3-3 and 3-4 contain clock/system time correlation with the -100 milliseconds corrections, slant range corrections and smoothed for human reading accuracy.

F. SINE FUNCTION GENERATOR PERFORMANCE

Orbital sine function generator, S/N 259, was the third Yaw Programmer to be flown on a Corona J system. The unit was activated by real time command from [redacted] Tracking Station on orbit 9. At turn-on the output signal to the Agena was 8 millivolts and the vehicle appeared to respond correctly to this signal. The telemetry monitor on the unit indicated correct positioning of the generator through orbit 88. Telemetry data at the start of orbit 89 indicated the unit had failed to complete its cycle on orbit 88.

Since it appeared the unit was not cycling it was commanded to an inactive condition on orbit 121. After second recovery on orbit 145, several on-orbit tests were made to see if the turn-on transients could be detected. There appeared to be no response to enabling the unit. Based

on the lack of response to these tests on orbit 152 through 175, it was concluded the unit had lost the 400 cps input supply voltage. It could not be determined whether or not this was the original cause of failure.

G. PRESSURE MAKE-UP SYSTEM PERFORMANCE

Consumption of the nitrogen supply was nominal and indicated satisfactory performance of the system throughout both missions. The internal system pressure was not monitored on this system. Figure 3-4 shows the supply pressure decrease with the accumulative instrument operating time.

H. STELLAR-INDEX CAMERA PERFORMANCE

-1 Mission

Stellar-Index camera, S/N D21, performance was normal throughout the -1 mission. Telemetry monitors indicated normal film transporting on both the stellar and the index and normal performance of the index shutter. An estimate of 420 stellar and index frames were obtained.

-2 Mission

Stellar-Index Camera, S/N D60, was first observed on orbit 88 at which time the S/I programmer and the platen were operating normally but neither the stellar nor the index cameras indicated metering. The next observation on orbit 95 showed normal programmer, platen and shutter operations but only one metering cycle out of four commanded. All observations for the remainder of the flight indicated normal operation except for film metering.

J-14/1611 FLIGHT CYCLE RATE SUMMARY MISSION 1017

REV/MODE		RAMP		T.U.R.	INST 140 ACT.	INST 140 NOM.	INST 140 DEV.	INST 165 ACT.	INST 165 NOM.	INST 165 DEV.	140/165 DIFF.
9	A	5	6	125	4.085	4.226	3.34	4.115	4.253	3.25	0.73
16	A	5	6	1617	2.320	2.306	-0.60	2.298	2.283	-0.64	-0.95
25	A	5	6	174	4.064	4.199	3.21	4.108	4.224	2.75	1.08
32	A	5	6	1658	2.278	2.282	0.19	2.281	2.260	-0.93	0.13
48	A	4	6	1645	2.240	2.224	-0.71	2.235	2.228	-0.30	-0.22
63	A	4	6	1765	2.215	2.215	-0.02	2.217	2.221	0.19	0.09
88	B	4	6	305	3.825	3.906	2.09	3.925	3.915	-0.25	2.61
95	B	4	6	1760	2.210	2.215	0.22	2.235	2.221	-0.61	1.13
104	B	4	6	329	3.810	3.882	1.86	3.920	3.890	-0.78	2.89
111	B	4	6	1775	2.200	2.214	0.65	2.250	2.221	-1.32	2.27
120	B	4	6	389	3.763	3.816	1.40	3.877	3.820	-1.48	3.03
127	B	4	6	1814	2.220	2.213	-0.30	2.250	2.219	-1.38	1.35

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 3-1

TABLE 3-2

J-14 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																		
											A	B							
Fair ("A") Barrel #1 ("B")	INJ	9	16	25	32	41	48	56	63	72	79	88	95	104	111	120	127	136	143
1	OBH	43	39	39	43	39	39	39	52	39	49	24	27	24	27	24	30	24	34
2	OBH	16	-4	13	0	13	0	13	3	12	0	53	43	56	46	59	53	62	62
3	OBH	3	3	-3	-3	-3	3	0	6	-3	3	68	111	68	98	68	98	72	109
4	217	60	51	54	48	54	45	54	51	51	48	42	74	39	58	39	49	24	46
5	230	73	73	66	63	63	60	60	54	57	48	45	48	38	44	38	38	24	32
6	230	69	87	62	81	62	72	59	75	75	66	--	--	--	--	--	--	--	--
Barrel #2																			
1	140	62	83	59	74	56	71	56	65	49	59	37	43	34	37	30	30	27	27
2	133	59	98	55	92	52	86	49	86	46	81	43	65	36	52	36	43	27	43
3	212	62	95	62	92	62	95	65	106	62	109	65	101	62	92	62	87	50	101
4	230	50	40	50	40	53	43	56	50	56	50	56	47	56	50	59	53	58	65
5	200	46	53	43	46	46	53	50	56	50	53	40	40	43	40	43	40	41	46
Conic Adapter																			
1	161	71	74	68	68	61	61	61	58	58	49	39	30	33	23	30	20	26	20
Clock																			
1	95	75	69	73	69	73	69	75	69	71	67	62	54	60	54	60	52	58	52
2	95	80	71	75	71	75	71	75	71	73	69	65	56	62	56	62	54	60	54
Thrust Cone "A" to "B" SRV																			
1	118	52	44	48	41	46	41	46	39	44	38	65	59	62	55	62	57	60	56
2	82	66	63	67	55	58	59	63	58	60	54	71	65	61	63	61	60	59	59
Stellar/Index "A" to "B"																			
1	87	72	63	66	60	63	63	66	63	63	60	65	56	63	56	62	56	59	53
2	83	74	64	67	64	67	64	67	64	64	61	59	50	67	50	56	47	56	50
Recovery Battery "B" SRV																			
1	97	71	74	71	70	70	71	74	70	67	67	83	86	77	78	73	87	81	87
Master Cassette 'A" SRV																			
2	78	63	53	52	48	48	46	51	47	48	47	--	--	--	--	--	--	--	--

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

TABLE 3-2

J-14 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED										A | B								
Master Camera	INJ	9	16	25	32	41	48	56	63	72	79	88	95	104	111	120	127	136	143
3	64	69	65	68	66	67	65	69	65	68	64	61	57	60	57	58	55	58	55
4	71	76	72	76	73	75	72	78	72	75	69	68	62	67	62	65	61	67	61
5	67	80	75	78	75	77	74	80	74	77	72	70	65	68	64	67	64	67	62
6	61	82	79	79	77	77	76	80	75	77	73	69	64	65	62	63	62	62	60
7	65	80	79	79	77	77	76	82	76	79	75	70	67	67	66	66	64	63	63
8	73	84	79	83	79	81	79	72	78	81	75	74	68	71	67	60	67	70	65
9	65	84	80	83	79	80	77	82	76	80	75	72	67	70	66	69	64	67	62
10	66	77	75	76	75	73	74	76	74	75	71	66	63	65	63	63	61	63	61
11*	95	79	81	80	80	83	78	83	77	81	76	70	67	67	64	66	63	67	64
12	74	74	69	74	72	73	68	75	69	74	67	68	61	68	60	65	59	65	59
13	72	69	79	79	75	79	76	80	76	77	74	69	66	66	63	65	63	65	62
AVG	68	78	75	78	75	76	74	77	73	76	72	69	64	67	63	64	62	65	61
Slave Camera																			
3	61	79	76	78	75	75	74	76	72	74	69	66	61	63	58	59	56	58	54
4	61	76	70	75	69	73	68	74	68	72	66	64	58	61	55	59	54	58	53
5	62	78	74	75	74	75	72	77	72	75	70	68	62	65	62	64	60	64	60
6	61	71	69	70	69	69	68	72	68	70	66	63	59	61	59	59	58	59	58
7	65	78	75	77	75	74	74	77	74	76	71	68	64	65	63	64	61	64	62
8	65	77	72	77	71	75	72	77	71	75	70	68	63	66	62	64	60	64	60
9	63	71	69	72	70	71	79	74	69	72	68	66	61	64	61	63	60	63	60
10	63	73	71	72	71	71	70	74	70	72	68	64	61	59	58	60	58	59	58
11*	89	71	68	70	67	69	68	72	67	70	67	63	59	61	58	59	57	59	59
12	70	84	78	84	77	83	77	83	76	81	74	73	64	70	63	67	61	66	61
13	66	69	67	67	67	67	65	69	65	68	64	59	56	57	55	55	53	54	54
AVG	64	76	72	75	72	73	72	75	70	74	69	66	61	63	60	61	58	61	58
Supply Spool																			
1	60	57	58	58	60	58	60	62	57	62	60	52	52	50	50	49	49	47	48
2	63	71	67	73	68	72	68	73	67	70	65	65	58	60	56	59	55	59	54

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

*Not included in instrument averages

CLOCK/SYSTEM TIME CORRELATION

PAYLOAD J-14 VEH 1611 MISSION 1017-2

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
33736.955	137780.79790	33736.95920	-0.00412	88	1
73068.512	177112.35590	73068.50910	0.00292	95	1
33636.685	224080.54290	33636.68640	-0.00068	104	1
72861.037	263304.89790	72861.03330	0.00393	111	1
33498.216	310342.08990	33498.21560	0.00066	120	1
72705.011	349548.89390	72705.01160	-0.00026	127	1
33331.626	396575.52190	33331.62990	-0.00317	136	1
72617.219	435861.11890	72617.21880	0.00071	143	1

A0=-0.10404381030 06 A1= 0.9999997937540 00

SIGMA=0.00242 NO. POINTS= 8

RATIO OF CLOCK TIME TO SYS TIME= 0.1000000206250 01

PAYLOAD J-14 VEH 1611 MISSION 1017-2

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
33736.955	137780.79790	33736.95740	-0.00232	88	1
73068.512	177112.35590	73068.50880	0.00326	95	1
33636.685	224080.54290	33636.68730	-0.00150	104	1
72861.037	263304.89790	72861.03470	0.00263	111	1
33498.216	310342.08990	33498.21700	-0.00065	120	1
72705.011	349548.89390	72705.01240	-0.00108	127	1
33331.626	396575.52190	33331.62950	-0.00284	136	1
72617.219	435861.11890	72617.21700	0.00250	143	1

A0=-0.10404382070 06 A1= 0.9999998758920 00
A2=-0.14318333186540-12

SIGMA=0.00214 NO. POINTS= 8

TABLE 3-3

CLOCK/SYSTEM TIME CORRELATION

PAYLOAD J-14 VEH 1611 MISSION 1017-1

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
39254.186	248168.90990	39254.18790	-0.00131	9	1
78553.383	287468.10890	78553.38430	-0.00072	16	1
39280.941	334595.66990	39280.94230	-0.00037	25	1
78566.138	373880.86490	78566.13470	0.00384	32	1
39282.744	420997.47490	39282.74170	0.00234	41	1
78557.801	460272.53990	78557.80420	-0.00245	48	1
33860.903	501975.64490	33860.90650	-0.00290	56	1
39258.754	507373.49190	39258.75310	0.00174	57	1
73215.655	4459.48490	73215.65590	-0.00023	63	1
33811.864	51455.69690	33811.86490	-0.00054	72	1
73162.737	90806.57190	73162.73730	0.00061	79	1

A0=-0.20891470610 06 A1= 0.9999999354150 00

SIGMA=0.00184 NO. POINTS= 11

RATIO OF CLOCK TIME TO SYS TIME= 0.1000000064580 01

PAYLOAD J-14 VEH 1611 MISSION 1017-1

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
39254.186	248168.90990	39254.18730	-0.00073	9	1
78553.383	287468.10890	78553.38410	-0.00050	16	1
39280.941	334595.66990	39280.94240	-0.00047	25	1
78566.138	373880.86490	78566.13500	0.00357	32	1
39282.744	420997.47490	39282.74210	0.00197	41	1
78557.801	460272.53990	78557.80450	-0.00282	48	1
33860.903	501975.64490	33860.90670	-0.00316	56	1
39258.754	507373.49190	39258.75340	0.00151	57	1
73215.655	4459.48490	73215.65600	-0.00030	63	1
33811.864	51455.69690	33811.86460	-0.00028	72	1
73162.737	90806.57190	73162.73670	0.00123	79	1

A0=-0.2089147[illegible]09D 06 A1= 0.9999999591300 00
A2=-0.2721879380359D-13

SIGMA=0.00181 NO. POINTS= 11

TABLE 3-4

J-14 INFLIGHT AND PREDICTED TEMPERATURES

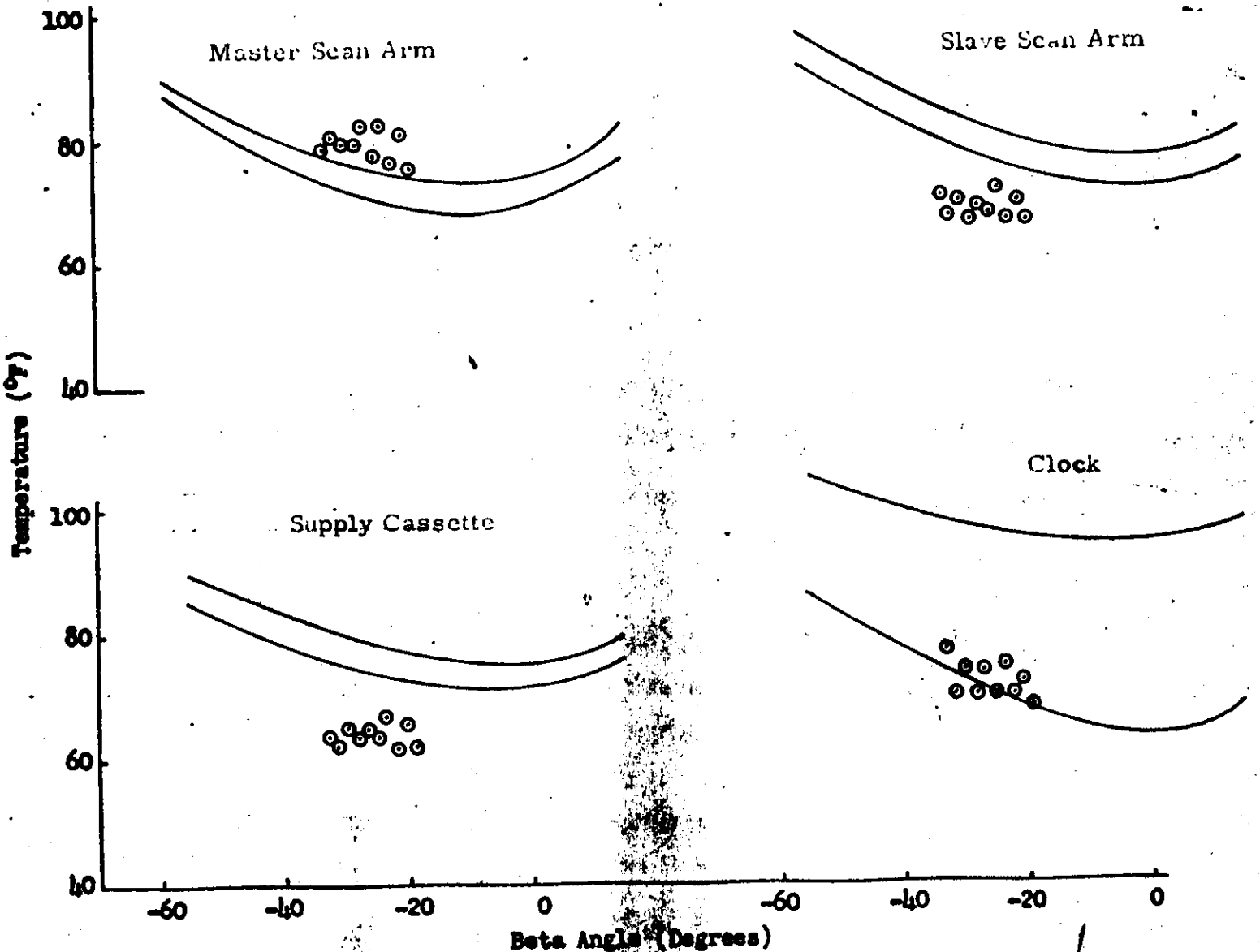


Figure 3-1

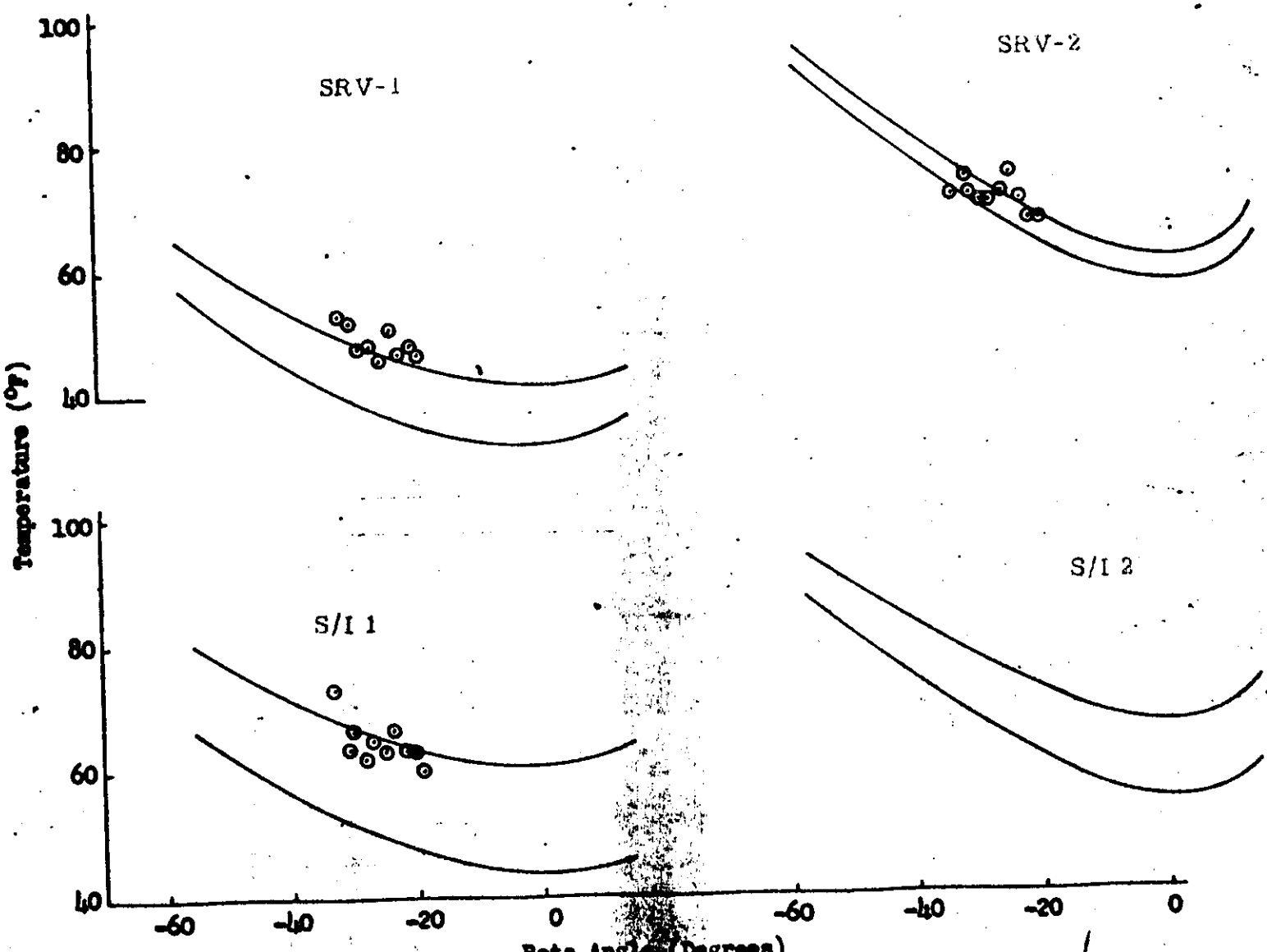

SRV-1
SRV-2
S/I 1
S/I 2
100
80
60
40
Temperature (°F)
-60
-40
-20
0
Beta Angle (Degrees)

Figure 3-2

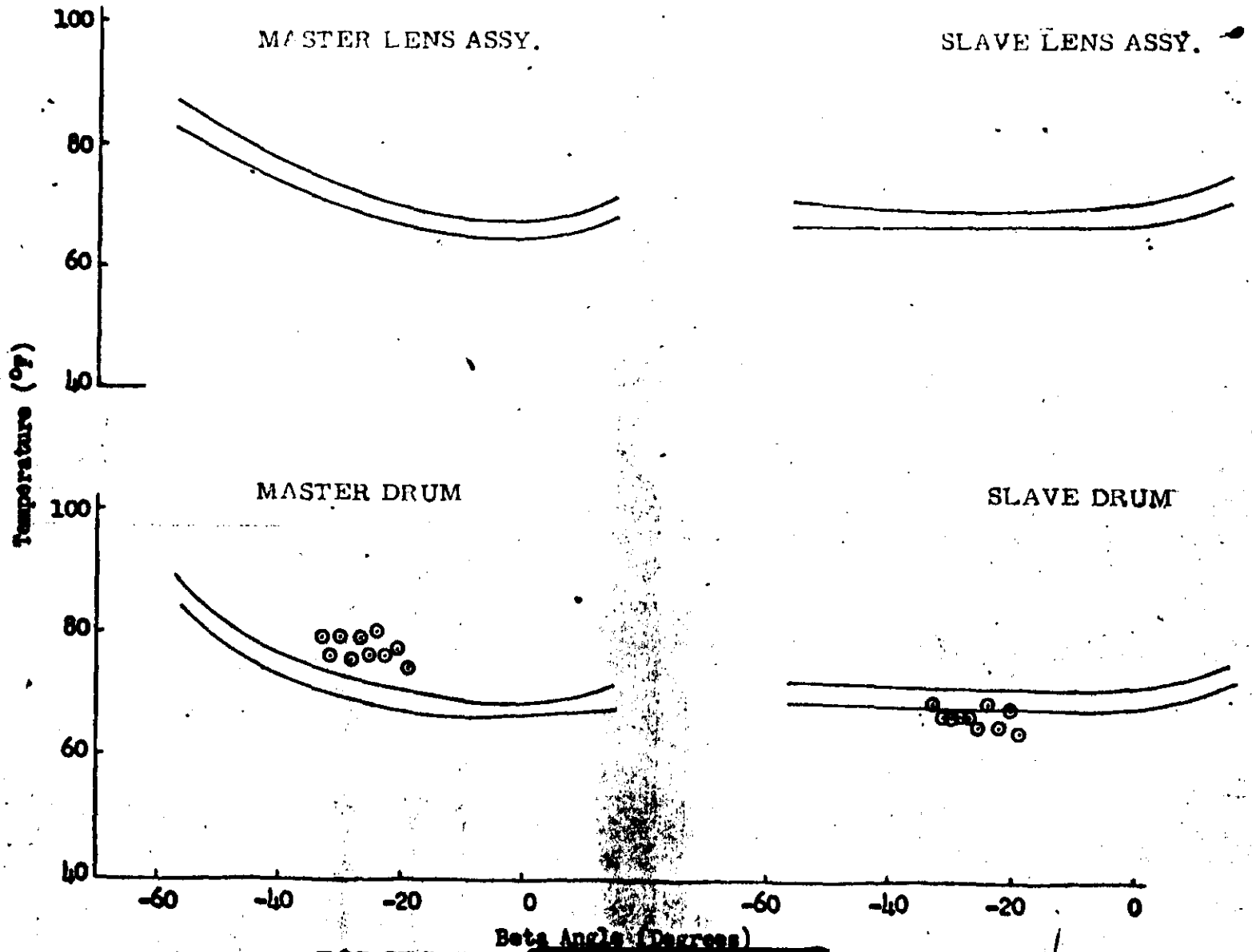

MASTER LENS ASSY.
SLAVE LENS ASSY.
MASTER DRUM
SLAVE DRUM
100
80
60
40
Temperature (°F)
-60
-40
-20
0
Beta Angle (Degrees)

Figure 3-3

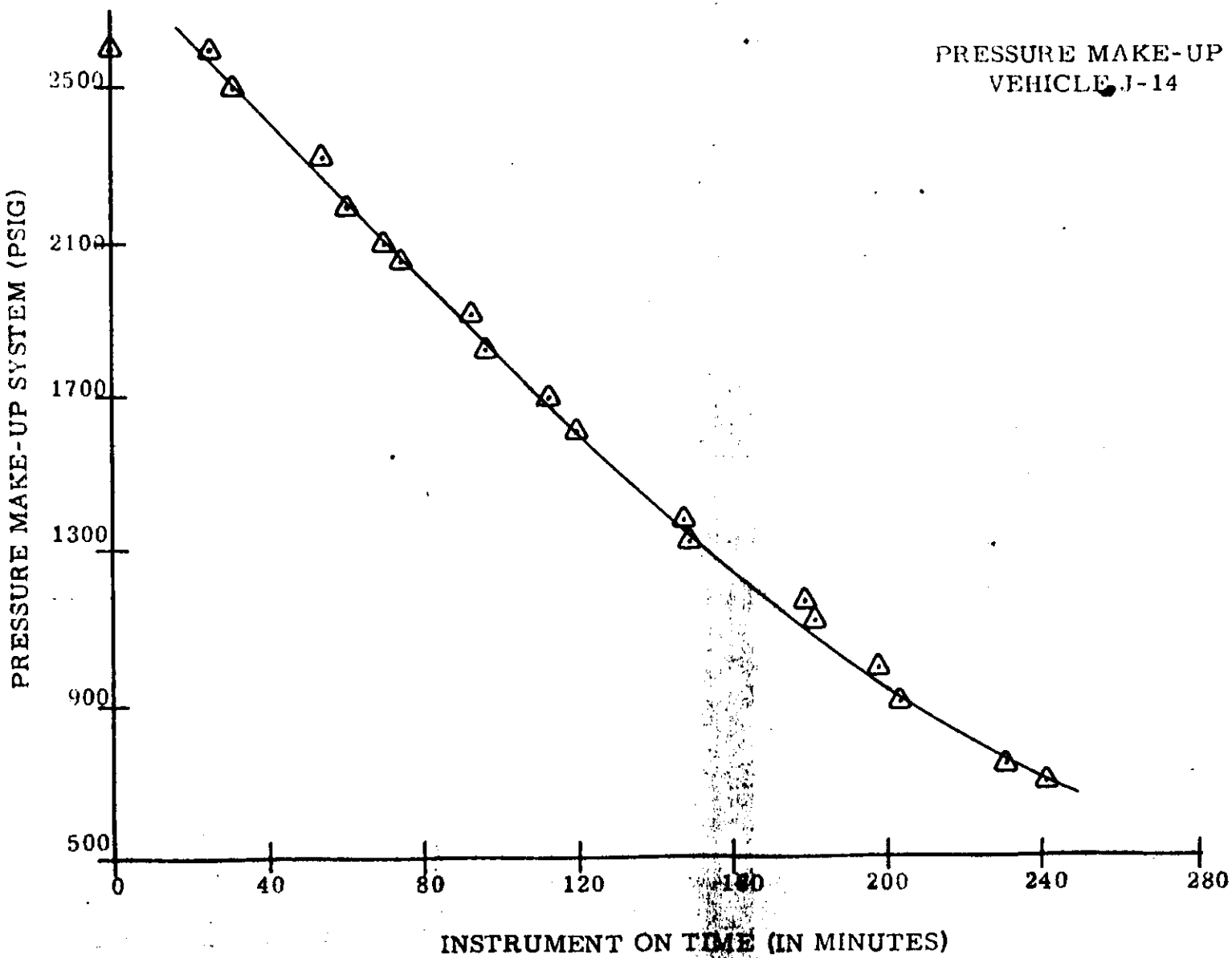

PRESSURE MAKE-UP SYS.
VEHICLE J-14
PRESSURE MAKE-UP SYSTEM (PSIG)
2500
2100
1700
1300
900
500
0
40
80
120
160
200
240
280
INSTRUMENT ON TIME (IN MINUTES)

Figure 3-4

SECTION 4

MISSION 1017-1 RECOVERY SYSTEM

SRV #623 was received at A/P on 12 April 1963. The receiving weight was 150.15 pounds. After modifications and incorporation of outstanding E.O.'s, the SRV was delivered to Systems Test for incorporation into the J-14 system.

The capsule was shipped to VAFB on 21 December 1964.

The -1 recovery unit was successfully air-recovered on orbit 81 on 2 March 1965 at 1550 PST. All retro events times agree with prediction but the parachute events were 12 seconds later than predicted. However, all delta times were within tolerance and the reported impact point was within predicted dispersions. Table 4-1 lists the delta times for recovery events.

Channel 9 of the recovery telemetry failed to switch over from retro events to parachute events. Channel 7 and channel 9 normally switch at [redacted] thrust cone separation from monitoring retro events to parachute events. Channel 7 switched over but channel 9 indicated a zero volts to the VCO.

Predicted Impact - 24^{o} - 02' N/156^{o} - 09' W

Actual Impact - 22^{o} - 57' N/156^{o} - 01' W

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

MISSION 1017-1

RECOVERY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
Transfer	74.95	75.0 ± 1.25
Electrical Disconnect	0.84	0.900 $^{+0.430}_{-0.400}$
Separation	2.02	2.0 ± 0.25
Spin	3.38	3.4 ± 0.30
Retro	7.44	7.55 ± 0.45
Despin	10.60	10.75 ± 0.54
T/C Separation	1.47	1.5 ± 0.15
"G" Switch Open	474.56	515.0 $^{+65.0}_{-50.0}$
Parachute Cover Off	33.49	34.0 ± 1.5
Drogue Chute Deployed	0.51	0.63 $^{+0.08}_{-0.06}$
Main Chute Bag Separate	10.46	10.14 $^{+0.48}_{-0.40}$
Main Chute Deployed	0.51	0.52 $^{+0.13}_{-0.12}$
Main Chute Disreef	4.61	4.46 $^{+0.49}_{-0.29}$

Retro Velocity 1024 ft./sec.
Spin Rate 54 RPM
Despin Rate 9.2 RPM

TABLE 4-1

SECTION 5

MISSION 1017-2 RECOVERY SYSTEM

SRV #625 was received at A/P on 22 April 1963. The receiving weight was 149.75 pounds. After modifications and incorporation of outstanding E.O.'s the unit was delivered to Systems Test for mating to the J-14 system.

The capsule was shipped to VAFB on 21 December 1964.

The -2 recovery system was successfully recovered by air catch from orbit 145 at 15:43 PST on 6 March 1965. The impact point was as follows:

Predicted Impact	24°07' N/166°-41' W
Actual Impact	23°30' N/166°22' W

Event times are shown in Table 5-1.

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

MISSION 1017-2

RECOVERY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
Transfer	80.35	75 ± 1.25
Electrical Disconnect	1.11	0.900 $^{+0.430}_{-0.400}$
Separation	2.02	2.0 ± 0.25
Spin	3.41	3.4 ± 0.30
Retro	7.47	7.55 ± 0.45
Despin	10.70	10.75 ± 0.54
T/C Separation	1.49	1.5 ± 0.15
"G" Switch Open	474.50	515.0 $^{+65.0}_{-50.0}$
Parachute Cover Off	33.09	34.0 ± 1.5
Drogue Chute Deployed	0.64	0.63 $^{+0.08}_{-0.06}$
Main Chute Bag Separate	10.10	10.14 $^{+0.48}_{-0.40}$
Main Chute Deployed	0.60	0.52 $^{+0.13}_{-0.12}$
Main Chute Disreef	4.40	4.46 $^{+0.49}_{-0.29}$

Retro Velocity 1036.8 ft./sec.
Spin 67.2 RPM
Despin 9.9 RPM

TABLE 5-1

SECTION 6

MASTER PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	140
Main Camera Lens	1192435
Supply Horizon Camera	152 B
Supply Horizon Camera Lens	813524
Take-up Horizon Camera	152 A
Take-up Horizon Camera Lens	812314
Supply Cassette	SC-24

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24"f/3.5
Slit Width	0.250"
Filter Type	Wratten 25
Film Type	Eastman Type 3404

Supply (Port) Horizon Camera:

Lens	55mm 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
Filter Type	Wratten 25

C. POST FLIGHT PERFORMANCE EVALUATION (Master Instrument)

A total of 2936 frames of photography were recovered from Mission 1017-1; 2942 frames were predicted based on T/M data accumulation. The photographic quality was good throughout the mission where weather permitted low haze conditions to prevail.

Minor light fogging was observed at the start and end of most passes affecting parts of up to three frames per pass. One light leak was traced to the SRV #1/fairing area and is attributed to the interface joint in the space structure. Corrective action has been taken to prevent future light leaks at the interface between SRV #1 and the fairing space structure section of the payload.

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

The port horizon shutter operated throughout mission 1017-1. The shutter of the starboard horizon camera failed open on frames 120 and 121 of pass D-05 causing the loss of two horizon exposures.

Intermittent minor minus density streaks were present in several frames of photography where low exposure permitted detection. Intermittent scratches were present in most frames of photography. Scratches were located in terrain area near edges under instrument serial number and near the end of the format.

Dendritic static was observed along the 200 pps edge of the film from pass D-54 through D-70. No corona discharge marking was observed.

Mission 1017-2

A total of 2914 frames of photography were recovered from the mission; 2900 frames were expected based on TM data.

Minor light leak fog was present on the first and last frames of most passes. All data recording lamps were operational throughout the mission.

Intermittent dendritic static fog was present on the 200 pps edge of flight film during pass D-84, D-85, and D-86; occasionally static fog extended just into the active terrain format area. Corona discharge fog was absent in all photography.

Minor multiple scratches were present in most frames of photography. Scratches were located in terrain area under the instrument serial number and near the ends of the format.

Horizon photography was good throughout the mission.

SECTION 7

SLAVE PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	165
Main Camera Lens	1432435
Supply Horizon Camera	171B
Supply Horizon Camera Lens	813552
Take-up Horizon Camera	171A
Take-up Horizon Camera Lens	814026
Supply Cassette	SC-24

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

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

Supply (Starboard) Horizon Camera:

Lens	55 mm f/6.8
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)

Mission 1017-1

The camera produced 2940 frames of photography; 2947 frames were predicted based on T/M acquisitions.

Minor minus density streaks were present at random intervals throughout the photography. The first two passes contained rows of minus density dots 3.2 and 6.4 inches apart. The cause of minus density spotting is unknown and has not been observed in photography from previous missions.

Minor scratches were present under the binary word in the terrain area. Scratches were attributed to the scan head rollers. The slave camera has a ground test history of scan head roller scratches that were minimized by corrective action but not eliminated.

The 200 pps timing track, binary word, camera serial number, index lamps, end of pass mark, and horizon camera fiducials were operational throughout the mission.

Minor light leak fog affected parts of up to 3 frames of photography at the beginning and end of most passes of operation. One light leak was traced to the space structure interface between SRV #1 and the fairing section. Corrective action was taken to prevent the recurrence of the light leak at the SRV #1/fairing interface in future systems. The source of the remaining light leak fog patterns is under investigation.

Minor occurrences of dendritic static were in evidence at random intervals along the 200 pps track film edge during some passes. Dendritic static is attributed to post flight film spooling operations at ambient pressure. Corona discharge fog was absent from all photography.

Horizon photography appeared good throughout mission 1017-1.

Mission 1017-2

A total of 2908 frames of photography were produced. 2900 frames were predicted based on T/M acquisitions. All data lamp recording was operational throughout the mission.

Part of the first and third frames of most operational passes contained minor light leak fog. Dendritic static fog was present at intermittent and random intervals along the 200 pps track film edge throughout passes D-83 through D-86 and pass D-104. A minor amount of dendritic static fog affected the edge of the terrain photography causing a degradation of a very minor part of the overall photography. Corona discharge fog was absent from all photography.

Minor multiple scratches were present in most terrain photography under the data block and at both ends of the format. Scratches are attributed to the scan head rollers.

Minor minus density streaks were present at random intervals throughout the photography where overall exposure was low, permitting detection.

Horizon photography was good up to approximately 1500 feet before the end of the mission. The last 1500 feet of horizon and terrain photography were light fogged as a result of a capping shutter failure in the open position beginning with pass D-133, frame 99. Horizon camera photography received the heaviest light fog and therefore horizon imagery suffered the most degradation. Special duplicate positive printing restored horizon imagery to a usable condition.

Approximately 12 inches of terrain imagery located in the center of each format beginning with pass D-133, frame 99 to the end of the mission appeared normal with no capping shutter fog discernable. Ground detail appeared good. The adjacent 6 inches of terrain imagery, to the left and right of the center 12" section, appeared to be affected by a very minor amount of capping shutter fog that measured as an increase in the base fog level of 0.03 density. Ground detail appeared to be only slightly degraded in this area. The 3 inches of photography at both ends of the terrain format were affected by a much higher fog level than the rest of the format. As a result, significant terrain detail was obscured at both ends of each terrain format and extending toward the center of format 3 inches. Special, duplicate printing salvaged a significant portion of the information affected by capping shutter fog. Incipient capping shutter failure was evident during pass D117 when it was observed that one frame of terrain photography contained a fogged outline of the exposure slit attributed to the capping shutter stuck in the open position during instrument shut-down.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The Master camera contained a 0.250 inch slit and a Wratten 25 filter. The Slave camera had a 0.175 inch slit and a Wratten 21 filter. These conditions placed the nominal exposure between the full and intermediate processing curve.

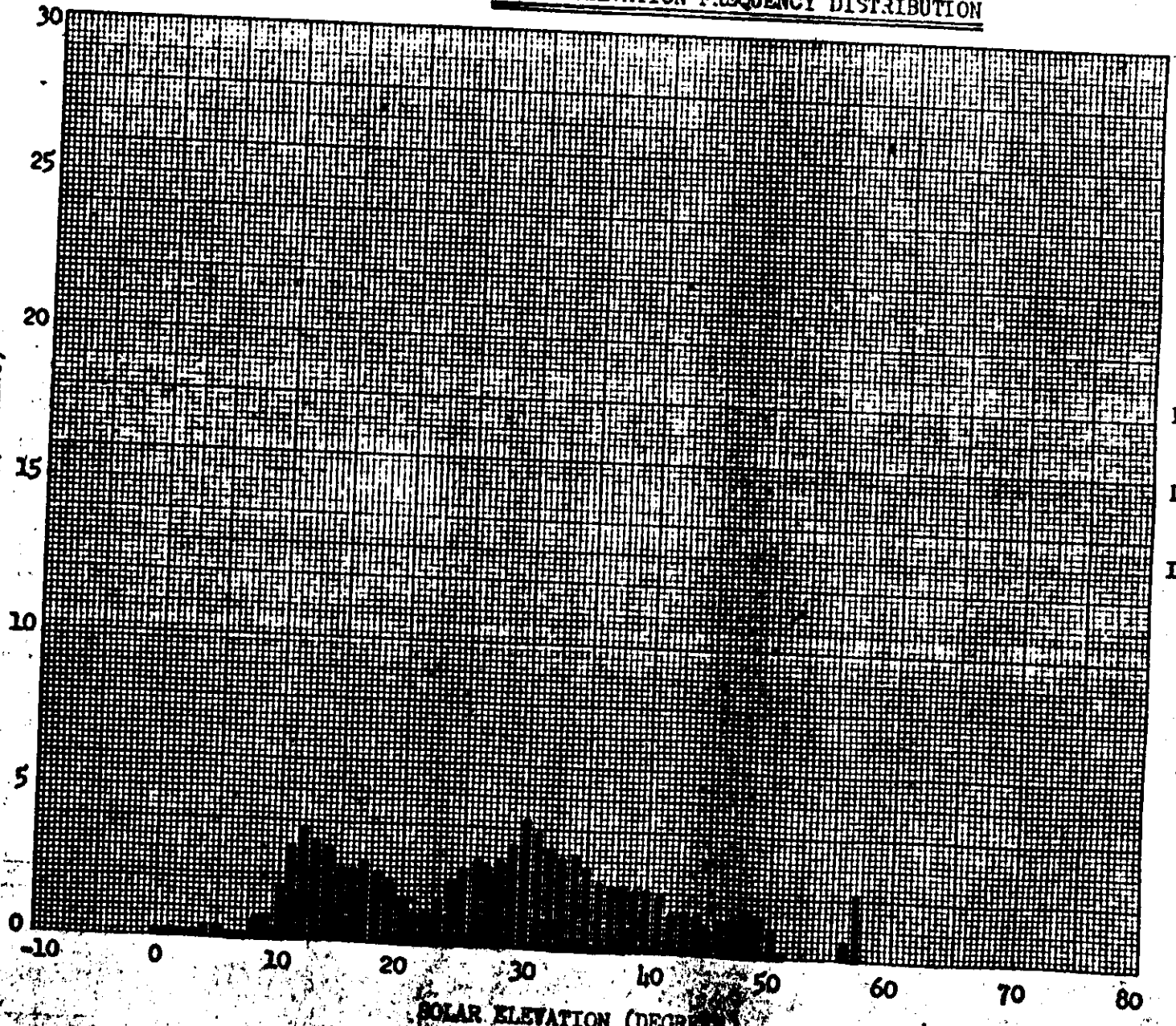
The frequency distributions of the solar elevations and solar azimuths encountered during the photographic operations are shown in Figures 8-1 to 8-4.

The nominal exposure times of the Master and Slave cameras are shown as a function of latitude for passes D-8, D-72 and D-136 in Figures 8-5 to 8-10. The predicted level of processing for the original negative is based on the in-flight performance estimate and is tabulated below with the processing levels reported by [redacted]

Mission	Camera		Primary %	Intermediate %	Full %
1017-1	FWD	Predicted	0	0	100
		Reported	13	63	24
1017-1	AFT	Predicted	0	17	83
		Reported	24	58	18
1017-2	FWD	Predicted	0	0	100
		Reported	5	62	33
1017-2	AFT	Predicted	0	7	93
		Reported	18	62	20

Approximately 60% of the original negative from mission 1017-1 and mission 1017-2 was judged to be good and of medium density. The density of the remainder of mission 1017-1 was judged to be equally split between low and high density. The density of the remainder of mission 1017-2 was estimated to be approximately 15% low density and 25% high density.

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1017-1

Payload No: J-14

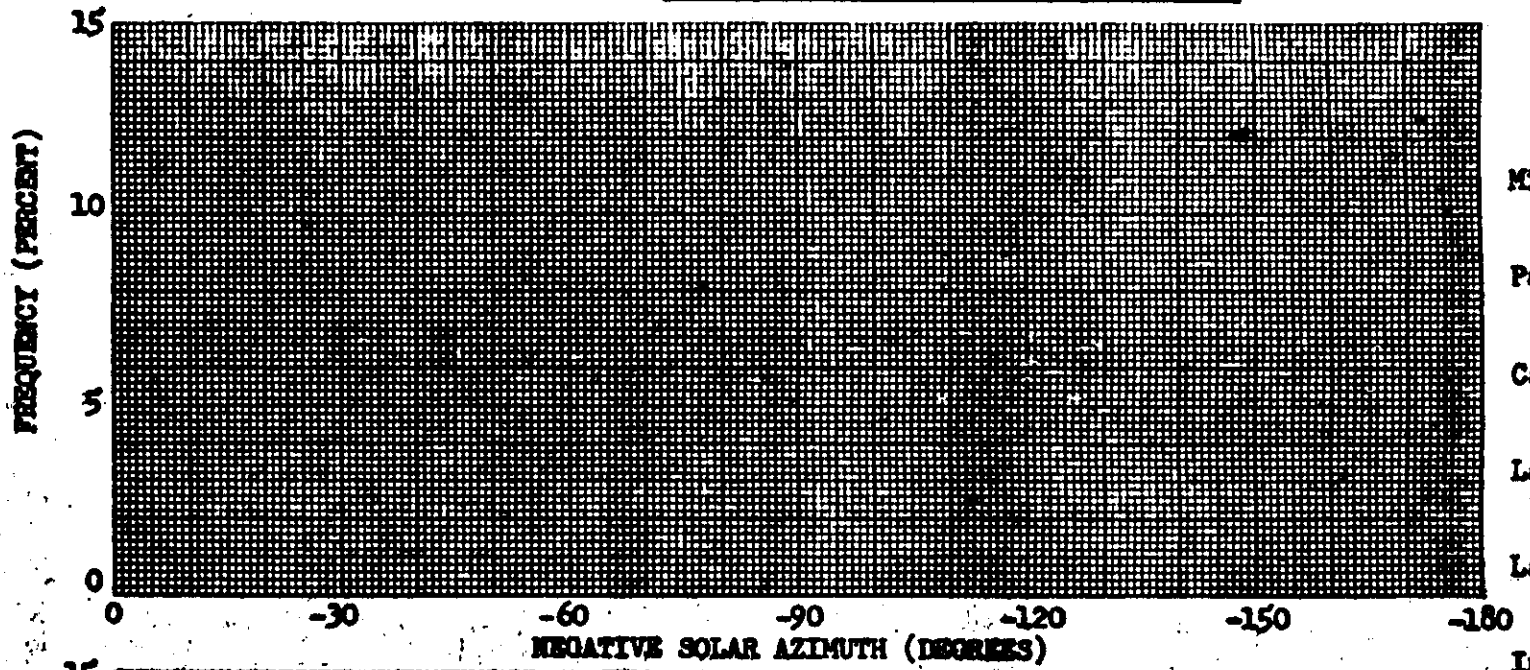
Camera No: 110

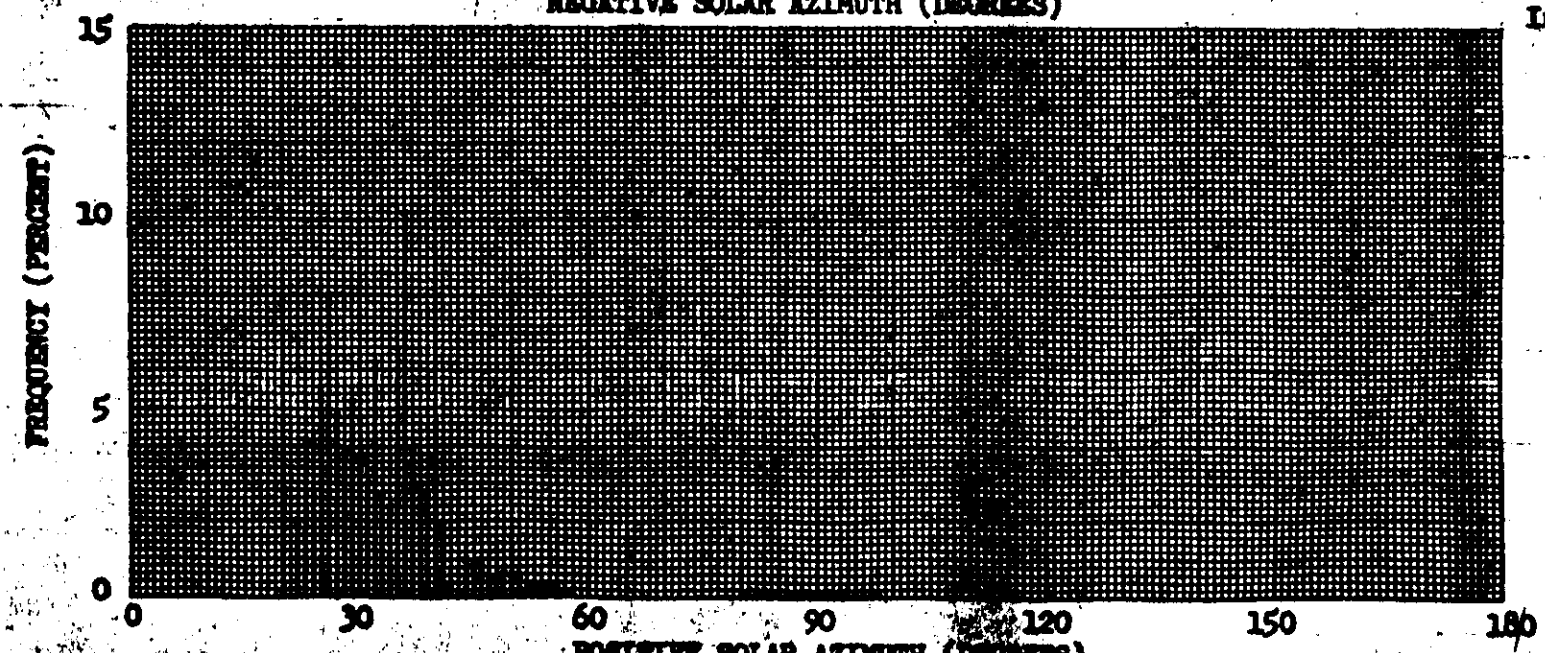
Launch Date: 2/25/65

Launch Time: 2144.2

Inclination: 75°

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1017-1

Payload No: J-14

Camera No: 1&0

Launch Date: 2/25/65

Launch Time: 21[illegible] Z

Inclination: 75°

SIGN NOTATION

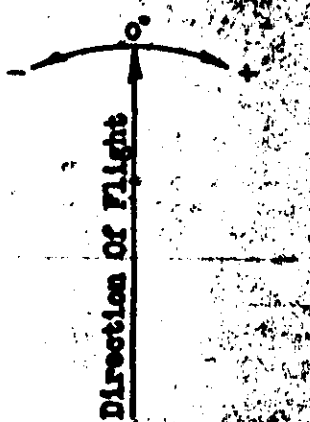
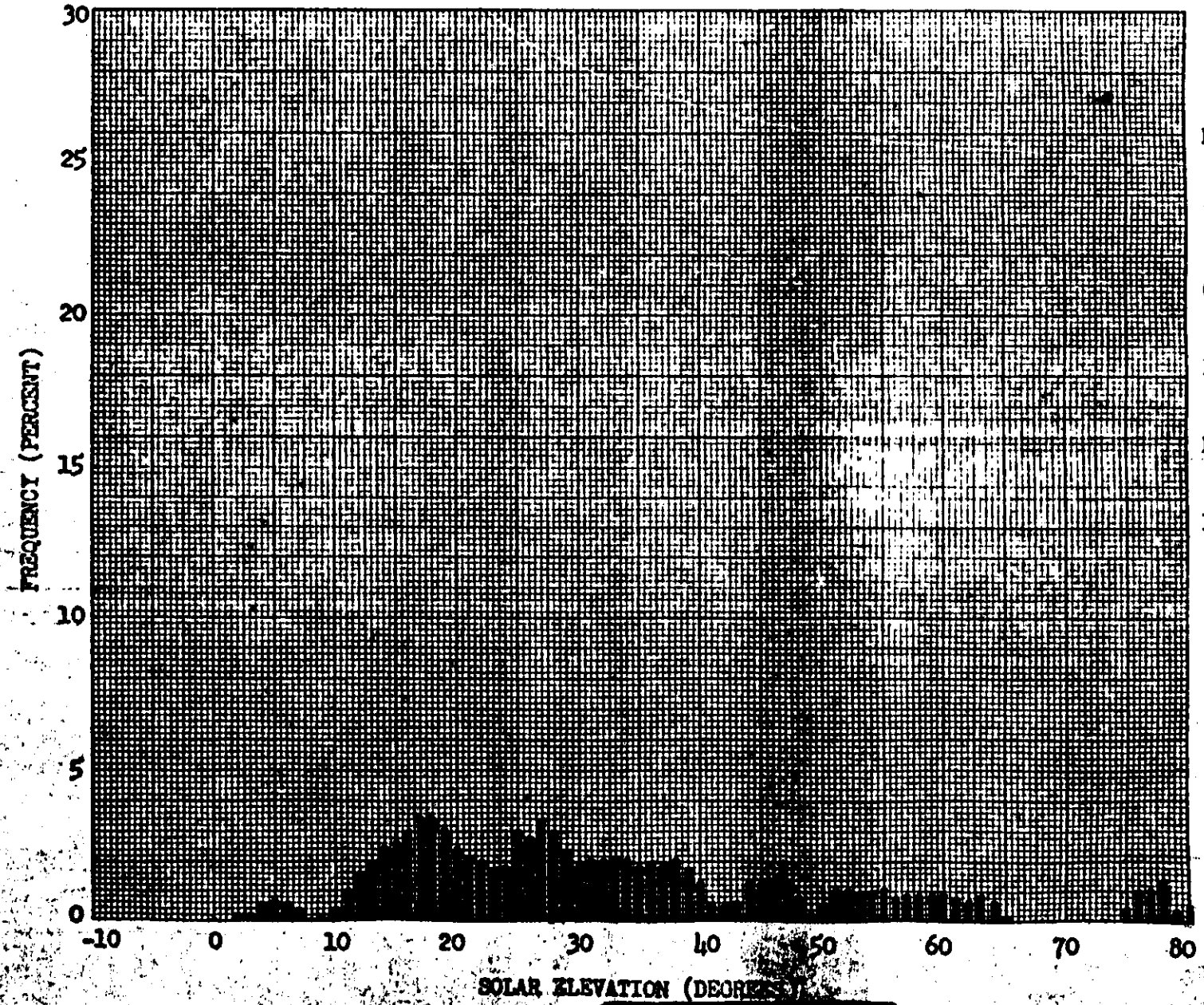


Figure 8-2

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1017-2

Payload No: J-14

Camera No: 140

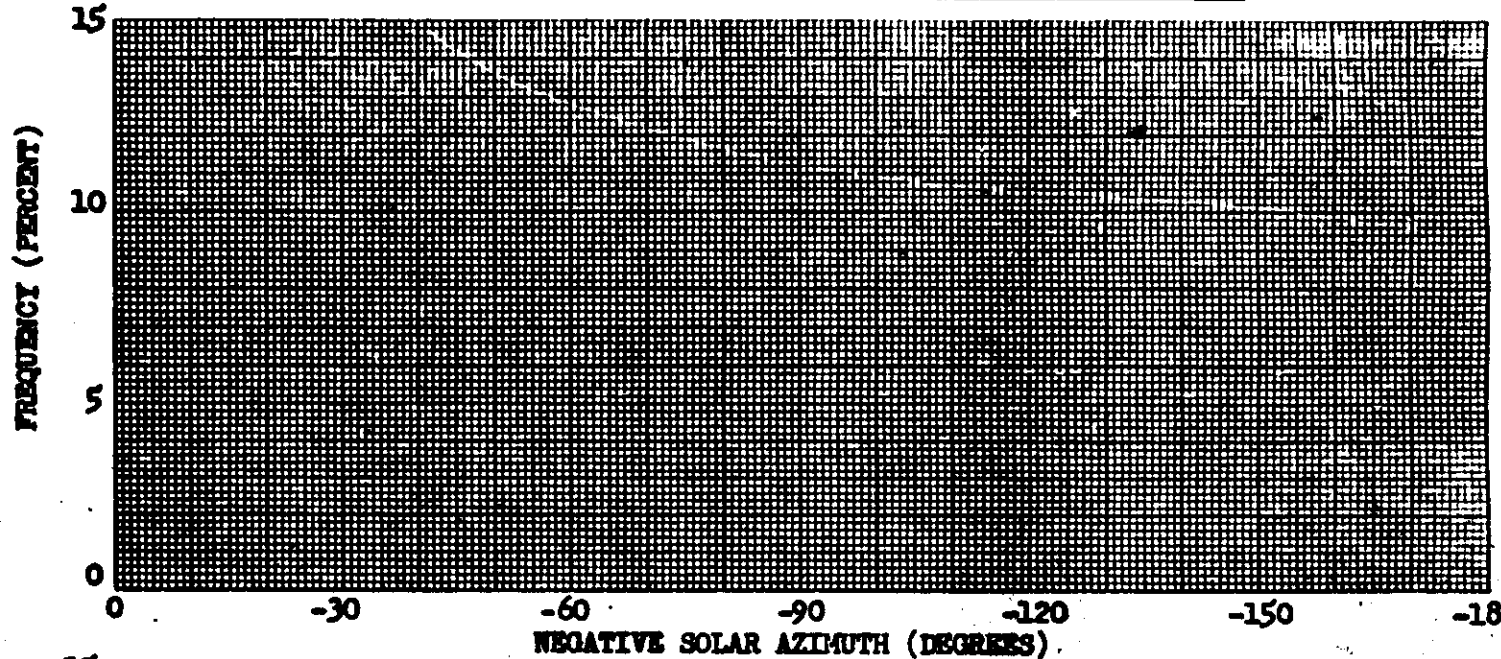
Launch Date: 2/25/65

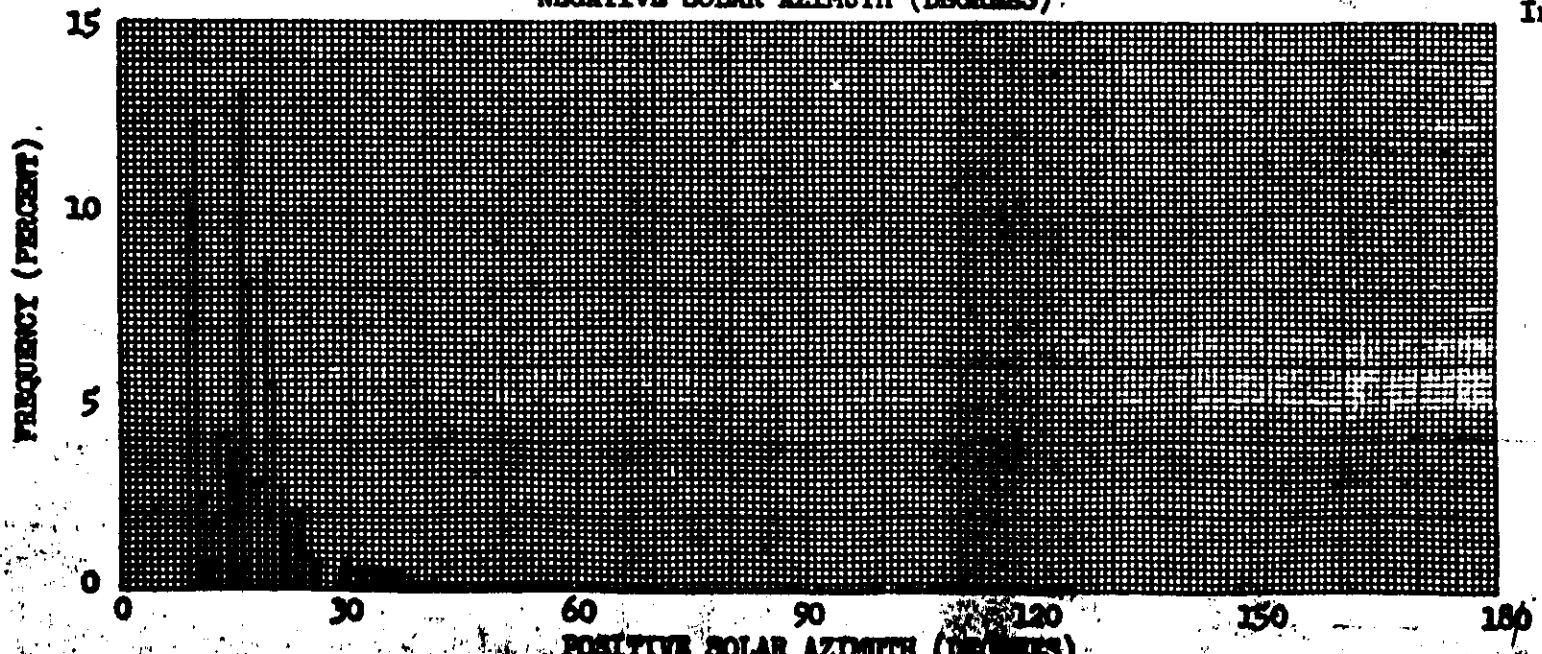
Launch Time: 2144 Z

Inclination: 75°

Figure 8-3

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1017-8

Payload No: J-14

Camera No: 140

Launch Date: 2/25/65

Launch Time: 2144 Z

Inclination: 75°

SIGN NOTATION

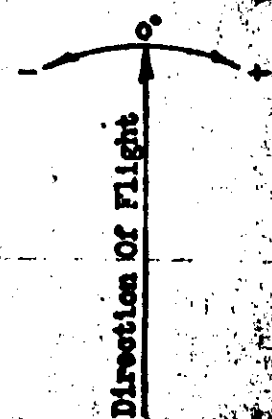
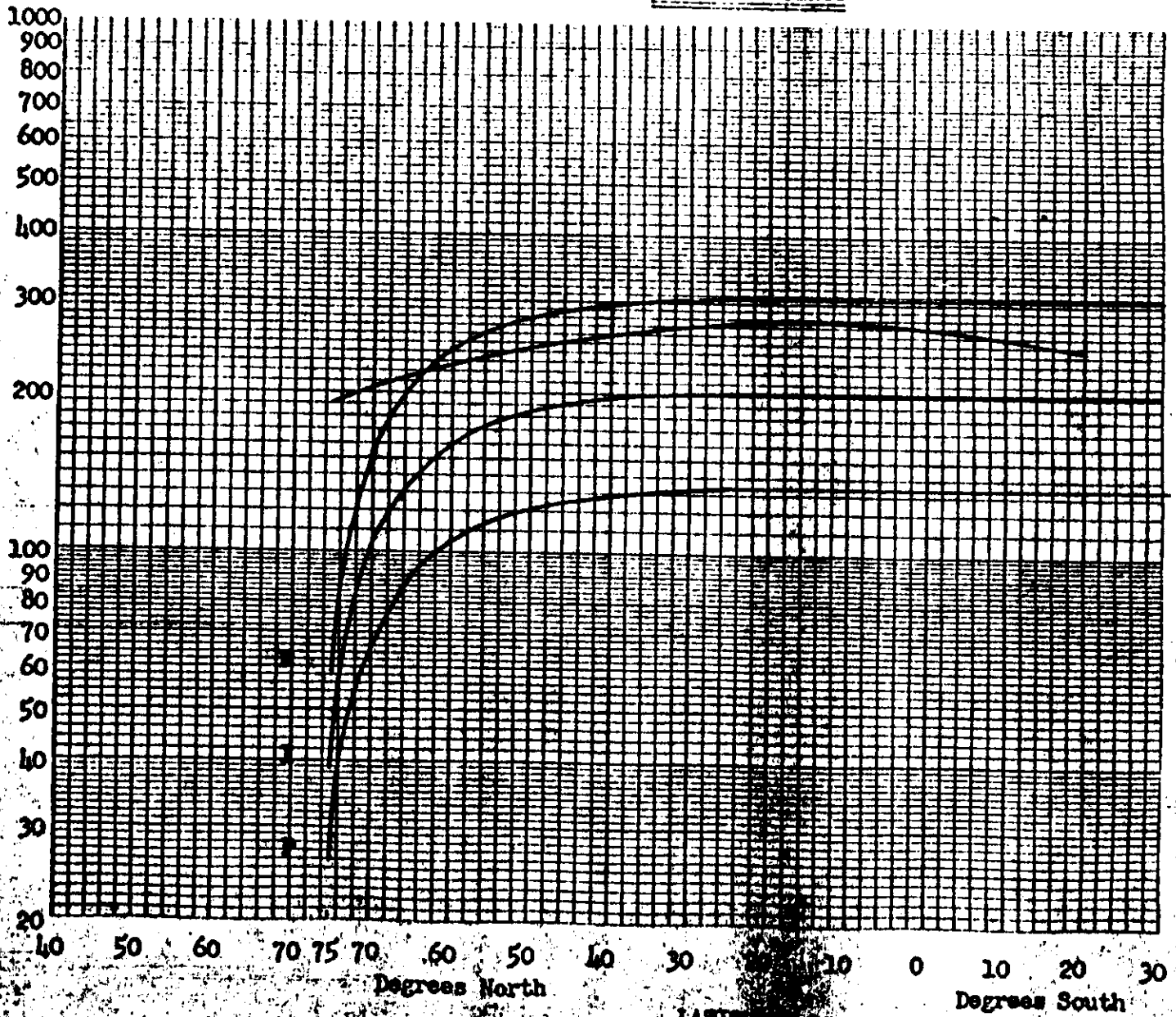


Figure B-4

EXPOSURE POINTS



Mission No: 1018

Payload No: J-14

Camera No: 140

Pass No: 8

Launch Date: 2/25/65

Launch Time: 2114 Z

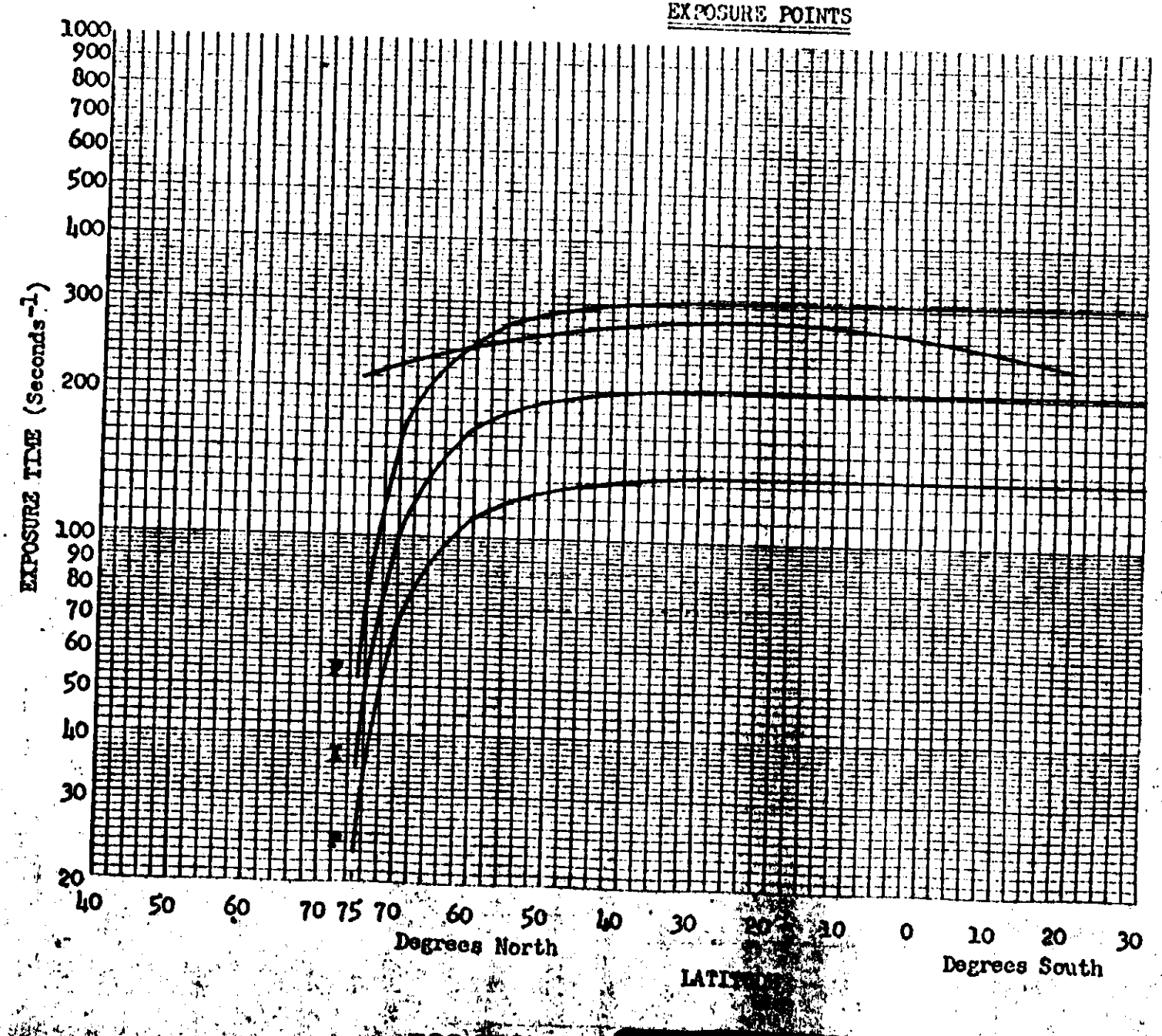
Slit Width: .250

Filter Type: Wratten 2[illegible]

Film Type: 4404

Figure 8-5

EXPOSURE POINTS



Mission No: 1017

Payload No: J-14

Camera No: 140

Pass No: 72

Launch Date: 2/25/65

Launch Time: 2144 Z

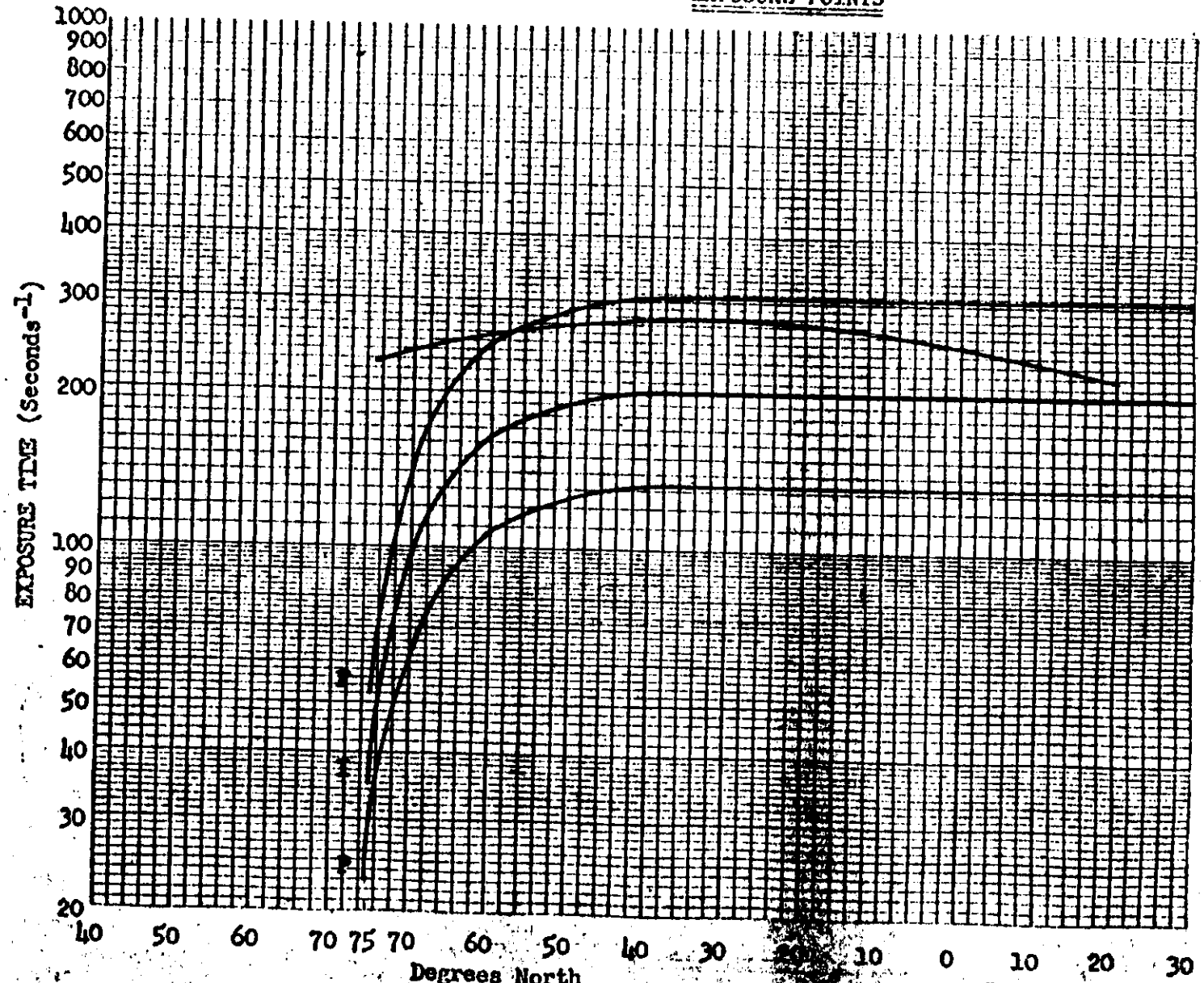
Slit Width: .250

Filter Type: Wratten 25

Film Type: 4404

Figure 8-6

EXPOSURE POINTS



Mission No: 1017

Payload No: J-34

Camera No: 140

Pass No: 136

Launch Date: 2/25/65

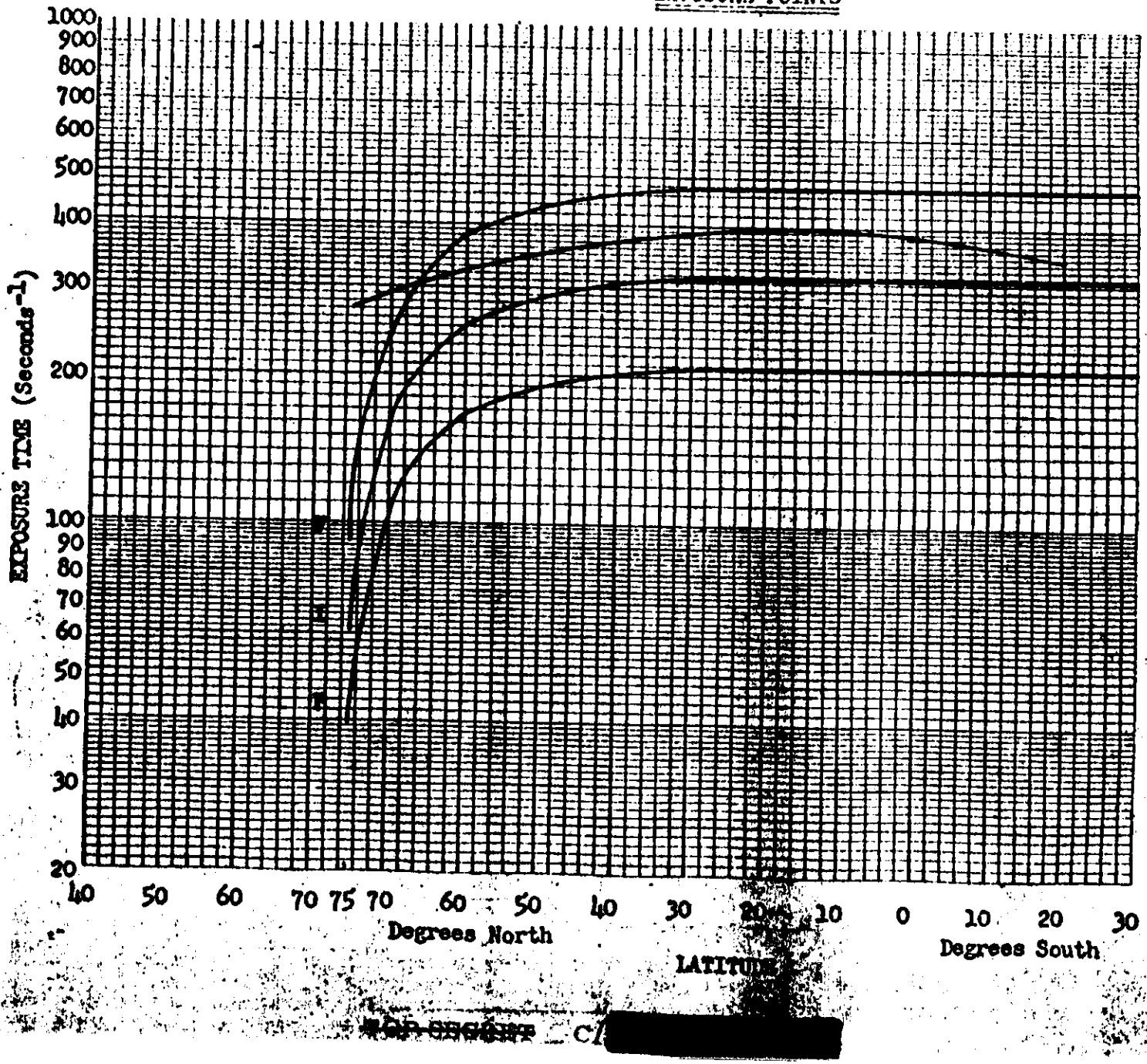
Launch Time: 2144 Z

Slit Width: .250

Filter Type: Wratten 25

Film Type: 4404

EXPOSURE POINTS



Mission No: 1017

Payload No: J-14

Camera No: 165

Pass No: 8

Launch Date: 2/25/65

Launch Time: 2114 Z

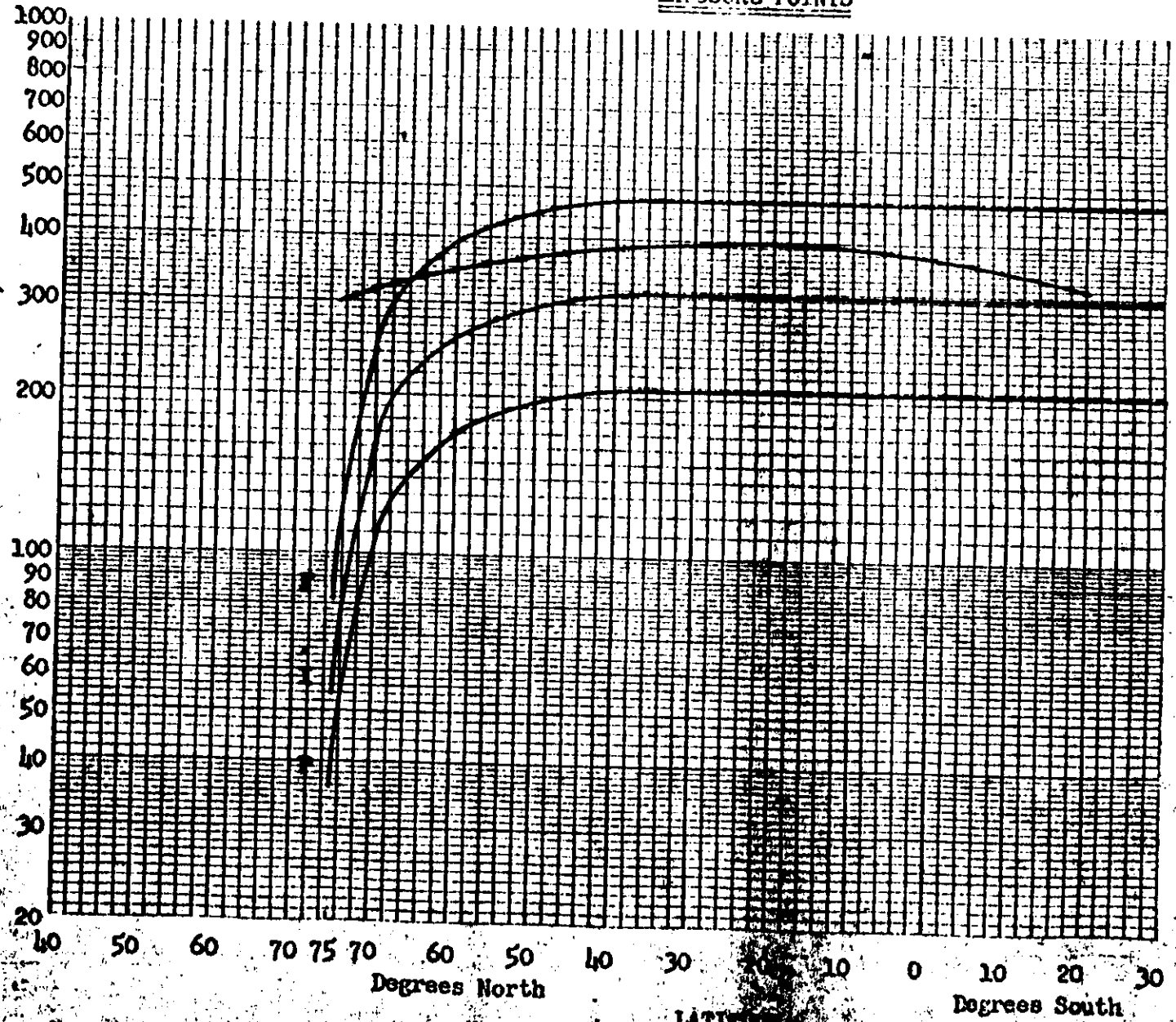
Slit Width: .175

Filter Type: Wratten 21

Film Type: 4404

Figure 8-8

EXPOSURE POINTS



Mission No: 1017

Payload No: J-14

Camera No: 165

Pass No: 72

Launch Date: 2/25/65

Launch Time: 2144 Z

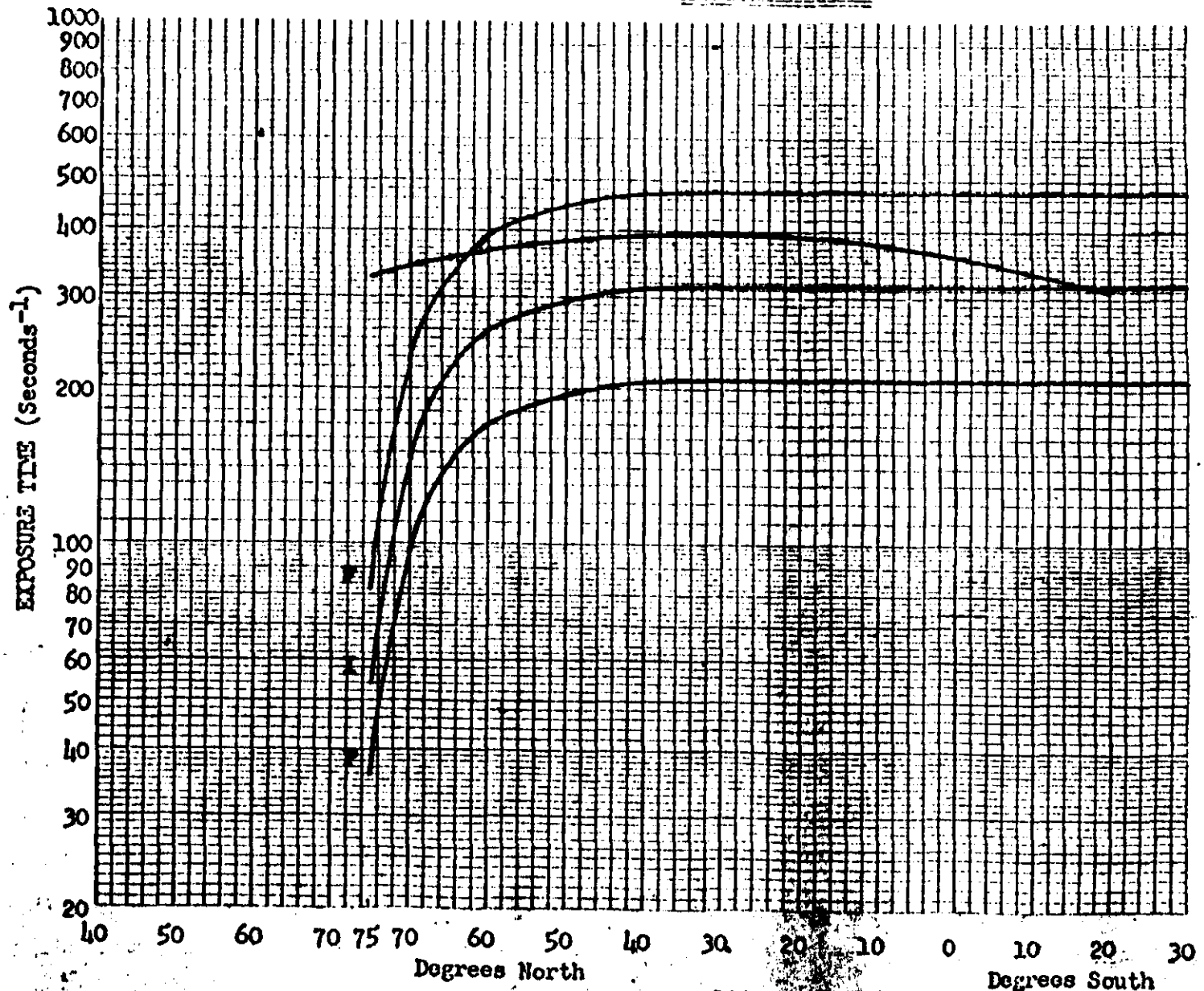
SIIt Width: .175

Filter Type: Wratten 23

Film Type: 4404

Figure 8-9

EXPOSURE POINTS



Mission No: 1017

Payload No: J-14

Camera No: 165

Pass No: 136

Launch Date: 2/25/65

Launch Time: 2144 Z

Slit Width: .175

Filter Type: Wratten 21

Film Type: 4404

Figure 8-10

SECTION 9

DIFFUSE DENSITY MEASUREMENTS

The diffuse density measurements made by AFSPPF were computer sorted at A/P to permit analysis of the density ranges encountered at the three processing levels. A study of sorting techniques showed that no absolute method was available to separate the density values as the accuracy of the Processing History published by [redacted] appears rather low and processing transition phases are not accounted for. The sorting technique selected uses the base plus fog density values where measurements up to 0.09 density are considered as having receiving 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
1017-1	FWD	Predicted	0	0	100
		Reported	13	63	24
		Computed	0	82	18
1017-1	AFT	Predicted	0	17	83
		Reported	24	58	18
		Computed	4	90	6
1017-2	FWD	Predicted	0	0	100
		Reported	5	62	33
		Computed	7	77	16
1017-2	AFT	Predicted	0	7	93
		Reported	18	62	20
		Computed	0	89	11

The tabulations of density frequency distributions for Missions 1017-1 and 1017-2 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.

[redacted]

MISSION 1017-1 INSTR - FRWD 4-29-65 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	215	0 PC	10 PC	76 PC	13 PC	1 PC
FULL	46	2 PC	0 PC	85 PC	13 PC	0 PC
ALL LEVELS	261	1 PC	8 PC	77 PC	13 PC	1 PC

MISSION 1017-1 INSTR - AFT 4-29-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	11	0 PC	27 PC	45 PC	0 PC	27 PC
INTERMEDIATE	233	0 PC	13 PC	75 PC	11 PC	1 PC
FULL	17	6 PC	0 PC	76 PC	18 PC	0 PC
ALL LEVELS	261	1 PC	13 PC	74 PC	11 PC	2 PC

MISSION 1017-2 INSTR - FRWD 4-29-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	16	0 PC	19 PC	75 PC	0 PC	6 PC
INTERMEDIATE	180	0 PC	17 PC	73 PC	11 PC	0 PC
FULL	38	18 PC	0 PC	79 PC	3 PC	0 PC
ALL LEVELS	234	3 PC	14 PC	74 PC	9 PC	0 PC

MISSION 1017-2 INSTR - AFT 4-29-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	1	0 PC	0 PC	100 PC	0 PC	0 PC
INTERMEDIATE	212	0 PC	15 PC	75 PC	8 PC	1 PC
FULL	25	16 PC	0 PC	60 PC	24 PC	0 PC
ALL LEVELS	238	2 PC	13 PC	74 PC	10 PC	1 PC

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

[redacted]

Table 9-1

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1017-1 and 1017-2 received an MIP rating of 85. A summary is tabulated below of the MTF/AIM resolution values measured by AFSPPF and [redacted] The microdensitometer slit used by AFSPPF and [redacted] was 1 micron by 80 microns.

Mission	Camera	AFSPPF	[redacted]
1017-1	FWD	57	78
1017-1	AFT	70	94
1017-2	FWD	65	80
1017-2	AFT	69	86

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

Observed targets as small as large aircraft nacelle were identified in the aft camera photography. Nacelles observed on aircraft photographed by the aft camera could not be detected in forward camera photography. Observations were made from photography of Wright-Patterson Air Force Base, pass D-30. Noticeable haze over the target area was confirmed by index camera photography. Vehicles were often detected when located on known road systems in both cameras.

USAF Bar target patterns were photographed by the master and slave cameras at Wright-Patterson Air Force Base and Fort Huachuca, Arizona. Weather obscured Bar target patterns located at Edwards Air Force Base, California. Bar target ground resolution for the master and slave cameras original negative and duplicate positive was determined by three members of the Performance Evaluation Team. The averaged ground resolution value for each panoramic camera is shown as follows for the target areas where weather permitted evaluation:

Location	Target Type	Pass	Ground Resolution (Feet) Master	Slave
Wright-Pat.	"B" Fixed Reflectance 60%/5%	D-30	10 DP	9 DP
Fort Huachuca	Fixed High Contrast	D-63	10 ON 11 DP	10 ON 11 DP

DP - Dupe Positive
ON - Original Negative

Bar targets yielding 10 feet of ground resolution at Fort Huachuca during pass D-63 are equivalent to a resolution of 104 lines per millimeter inflight for the master and slave camera systems.

SECTION 12

MISSION 1017-1 STELLAR INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-21
Index Reseau	D-21
Stellar Reseau	21

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

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

C. POST FLIGHT EVALUATION

Stellar Camera

The stellar camera operated throughout Mission 1017-1. All 66 feet of film supplied to the camera was transported into SRV #1. Stellar imagery is rated better than Mission 1015 and 1016. More than 50 stars were recorded in each of 420 stellar formats. Approximately 30% of each stellar format was degraded by flare light from the 11 inch stellar baffle. Some stellar imagery was present in the light flared area of most formats. Stellar fiducials were rated poor due to difficulty in resolving the reseau cross. The correlation mark was acceptable. No corona discharge marking was observed. Minor infrequent edge static was present but did not degrade stellar imagery.

Index Camera

The index camera produced 420 frames of photography during the mission. Overall quality and resolution were good.

SECTION 13

MISSION 1017-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D-60
Index Reseau	68
Stellar Reseau	01

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

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

C. POST FLIGHT EVALUATION

Stellar Camera

S/I #D-60 malfunctioned in orbit generating only 45 formats of stellar imagery. In excess of 400 stellar formats were expected. Failure is attributed to a possible solenoid malfunction in the S/I camera that caused a mismetering and multiple exposure condition. Approximately 70% of the

stellar formats produced were multiple exposed. Stellar formats were multiple exposed from 2 to 5 times. Many stars were visible in all multiple exposures. Although some formats were exposed up to 10 seconds, flare light fog remained moderate with many stars present throughout most of the format area. In view of this, it is not likely that 3 to 4 seconds stellar exposure that occurred throughout mission 1016-2 was responsible for the gross light flare that degraded stellar imagery.

Approximately 30% of the stellar formats produced in mission 1017-2 were single exposed. These formats contained excellent stellar imagery combined with low earth flare fog from the 5-inch extended baffle. Sixty-eight (68) stars were recorded in all single exposed stellar formats.

Index Camera

The Index Camera produced 29 frames of terrain imagery that were multiple exposed and had little to no information content value. Camera failure is attributed to a possible solenoid malfunction in the S/I camera.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for both Mission 1017-1 and 1017-2 were derived from the reduction of the Stellar camera photography. This attitude data is supplied to A/P by NPIC.

The attitude errors for each frame and the attitude control rates are calculated at the A/P computer facility. The computer also plots the frequency distribution of the rates and errors. Figures 14-1 through 14-6 show these distributions for Mission 1017-1 and Figures 14-7 through 14-10 for Mission 1017-2.

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.

	Mission 1017-1		Mission 1017-2	
Value	90%	Range	90%	Range
Pitch Error (^{o})	0.49	-0.95 to +0.50	0.69	-1.35 to +0.80
Roll Error (^{o})	0.76	-0.30 to +1.25	0.45	-0.65 to +0.90
Yaw Error (^{o})	2.50	-3.4 to +1.0	N/A	N/A
Pitch Rate (^{o}/hr.)	35.30	-95 to +75	36.49	-80 to +75
Roll Rate (^{o}/hr.)	32.18	-95 to +100	34.05	-60 to +70
Yaw Rate (^{o}/hr.)	38.38	-56 to +66	N/A	N/A

The loss of the stellar photography from Mission 1017-2 required an additional effort to determine vehicle attitude from the basic data available in the horizon camera and index camera photography. Yaw data was not derived.

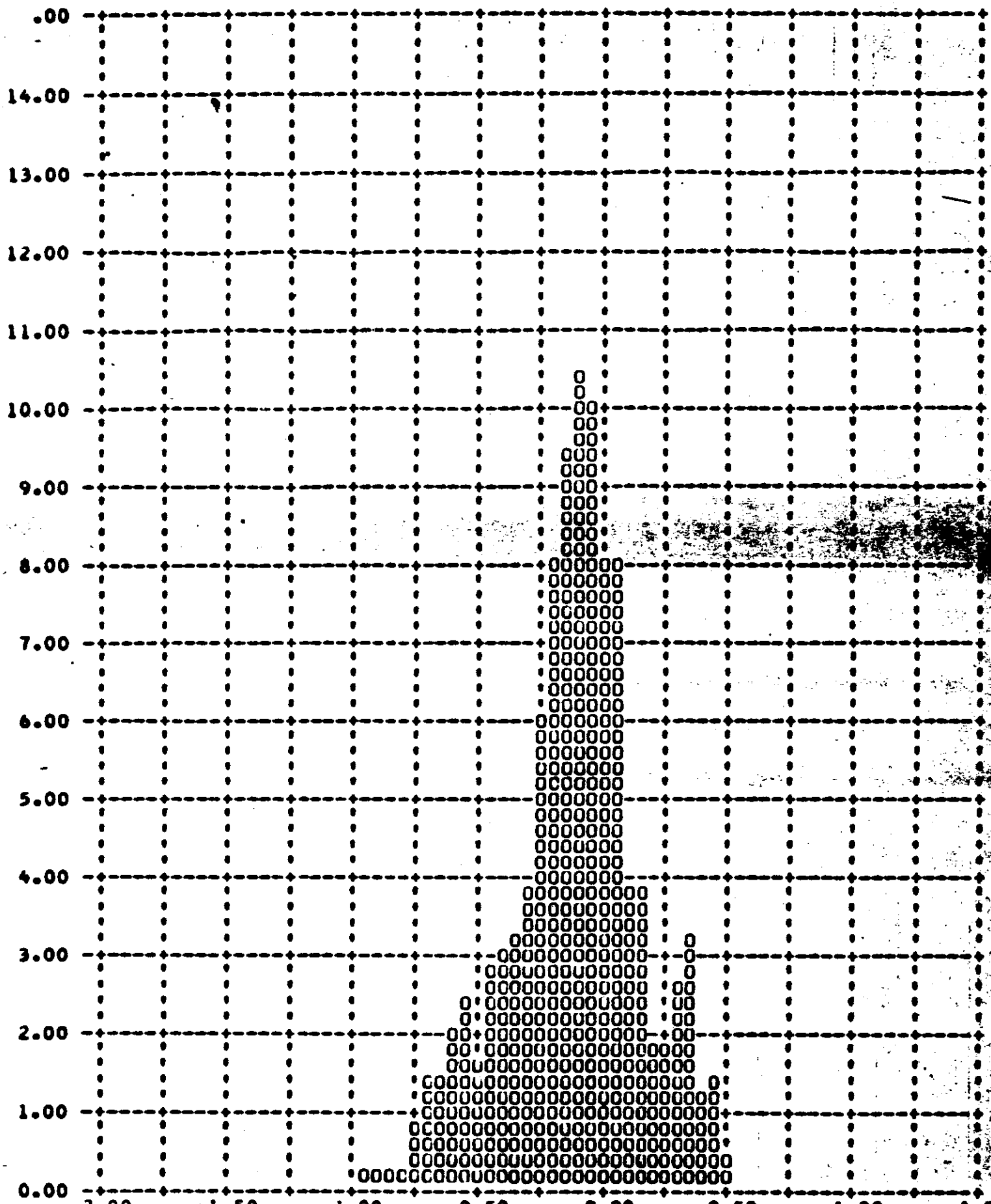
The yaw error is higher than normally experienced. This vehicle had a yaw programmer on board. An analysis of the data and the photographic result indicates that the programmer was operating out of phase. The calculated cross track resolution limit was 11 feet for 90% of the photographic operations at the center of format. The out of phase programmer shifted the point of best resolution away from the center of format. CORN resolution targets indicated 10 feet ground resolution. Inspection of the film did not show any noticeable quality degradation from previous missions.

[redacted]

MISSION 1017A1 ~~TOP SECRET~~ [redacted]

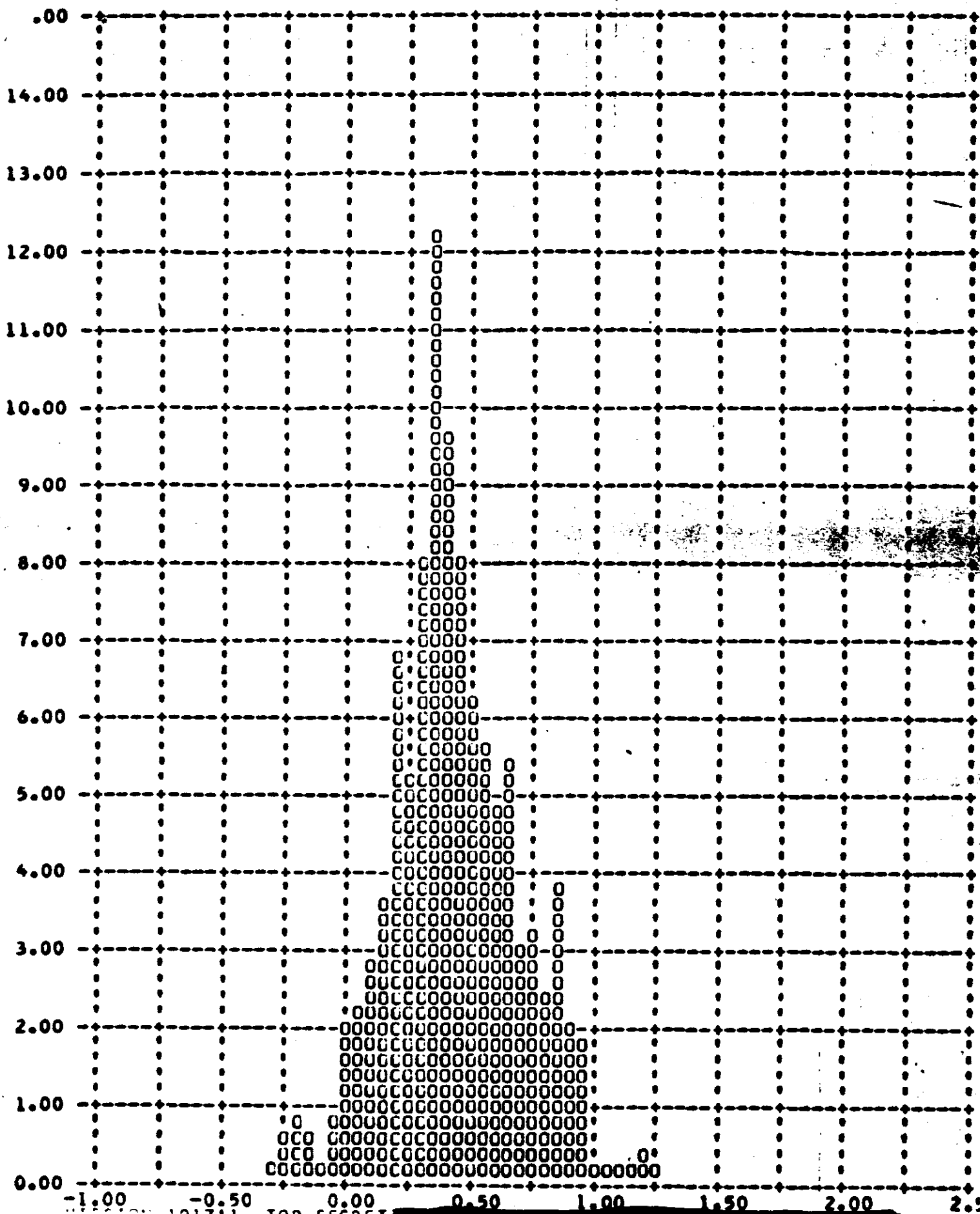
-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.49

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



1-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.76

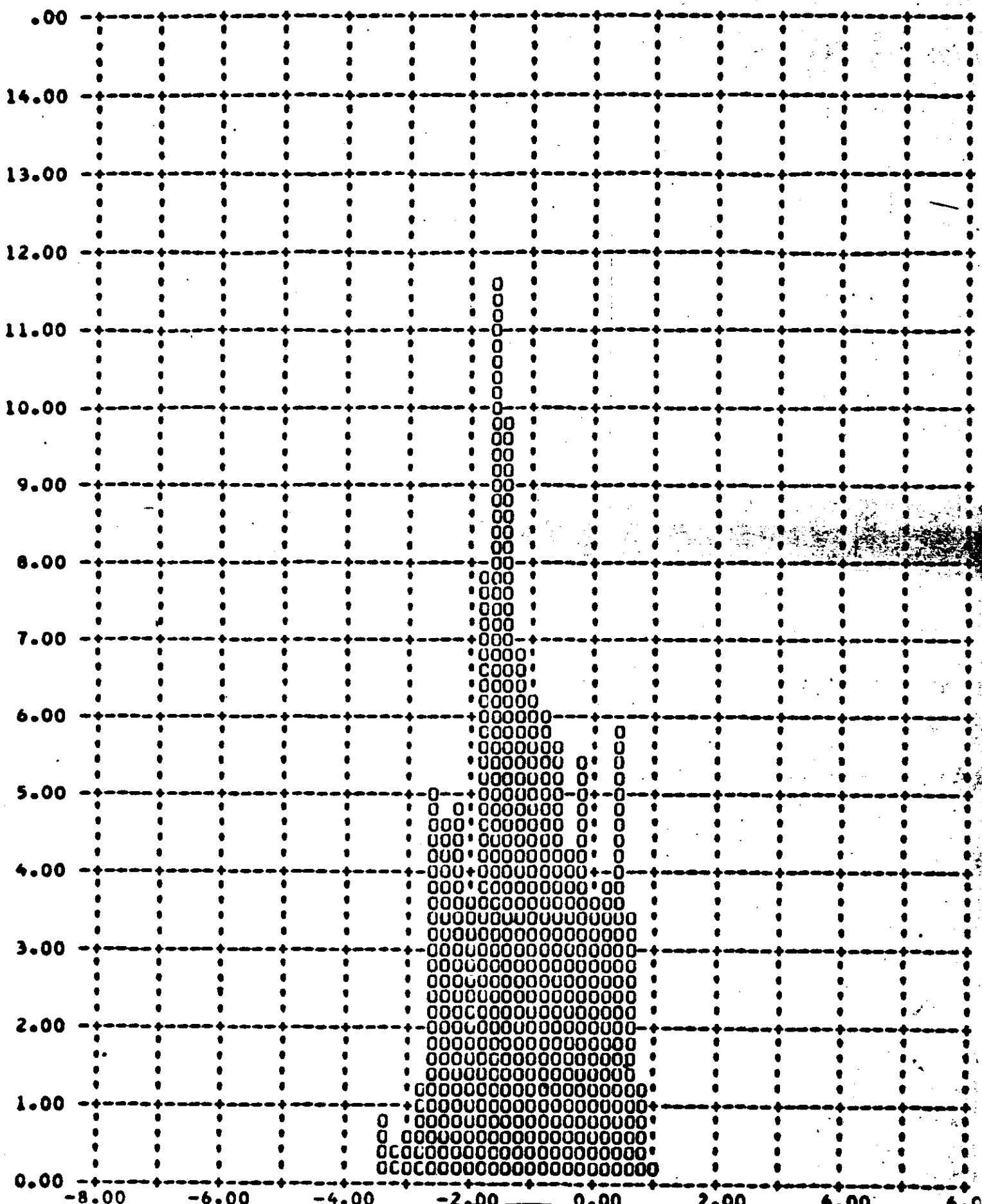
Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 1017A1 TOP SECRET [redacted]

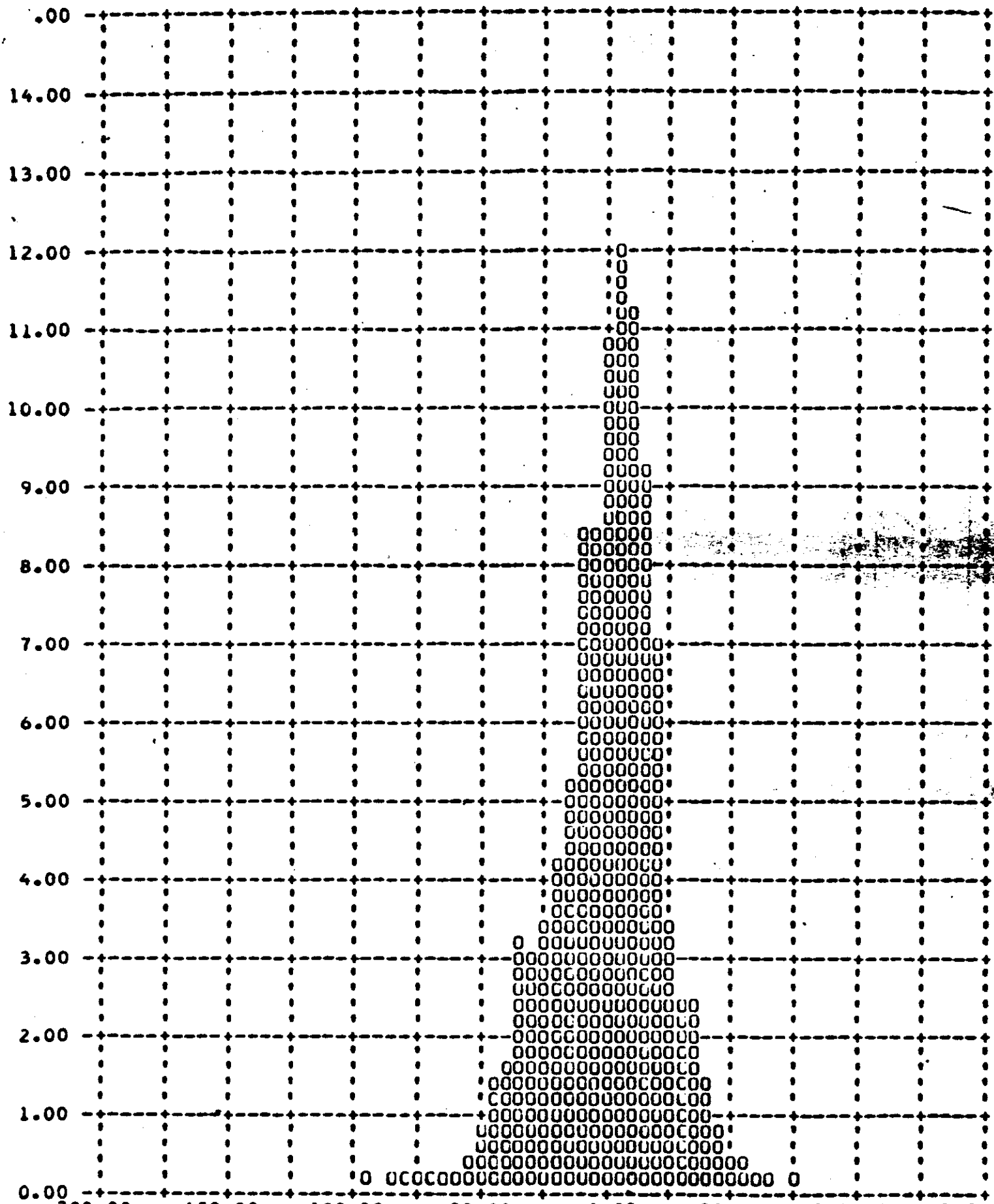
-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 2.50

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



)-14 A BUCKET - AFT INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 35.30

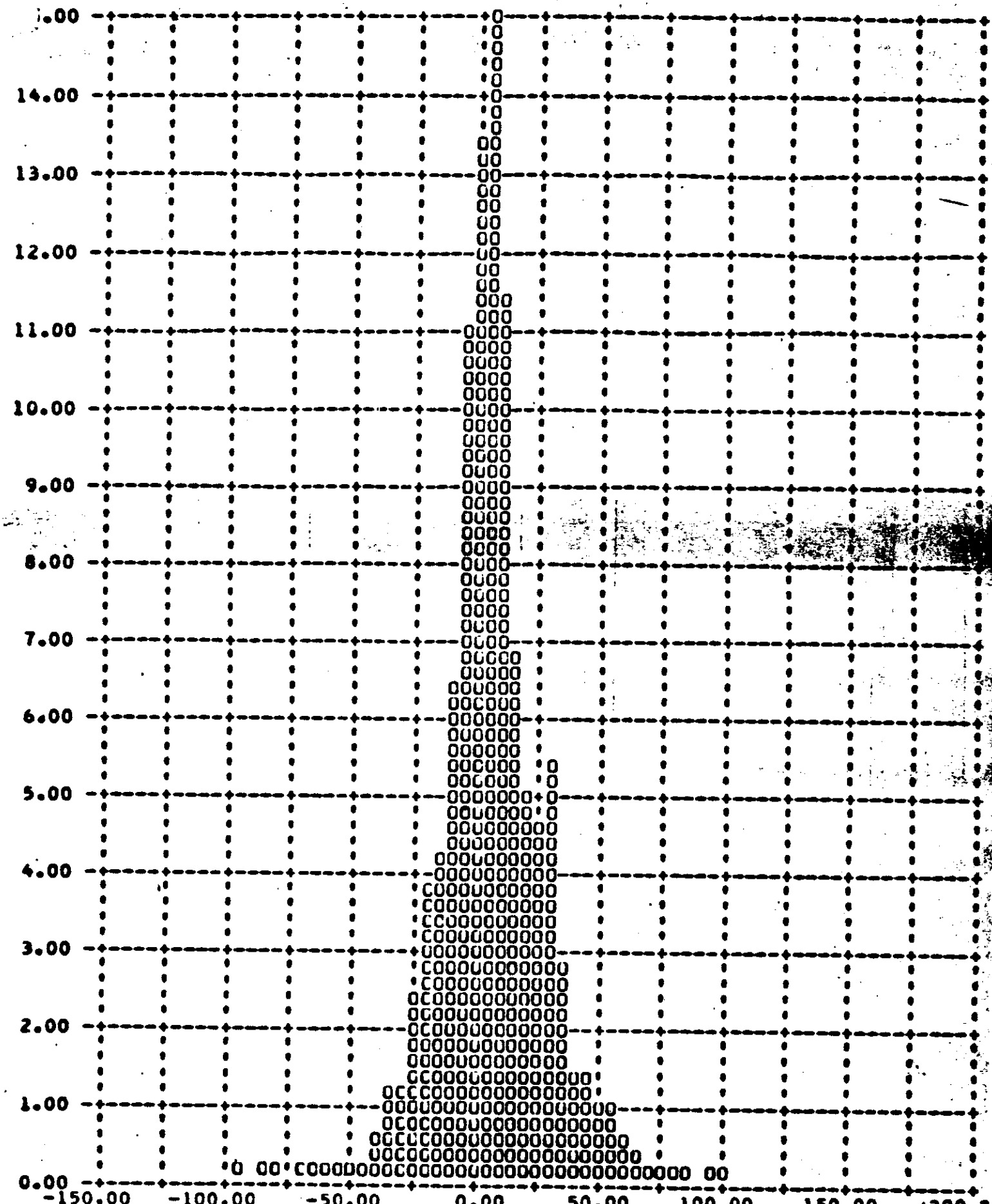
Y PITCH RATE ERRCR - DEG/HOUR (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 1017A1 ~~TOP SECRET~~ [redacted]

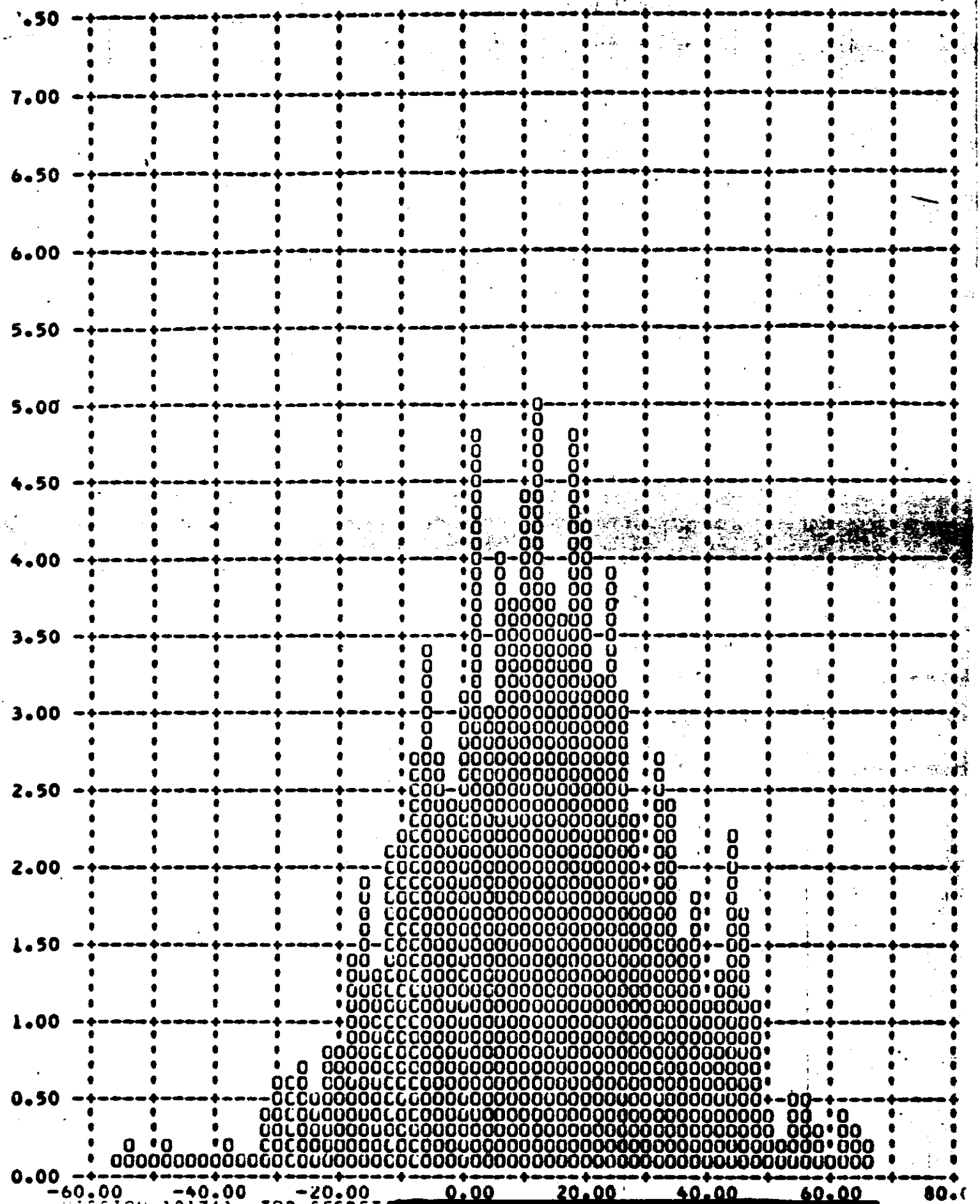
J-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 32.18

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



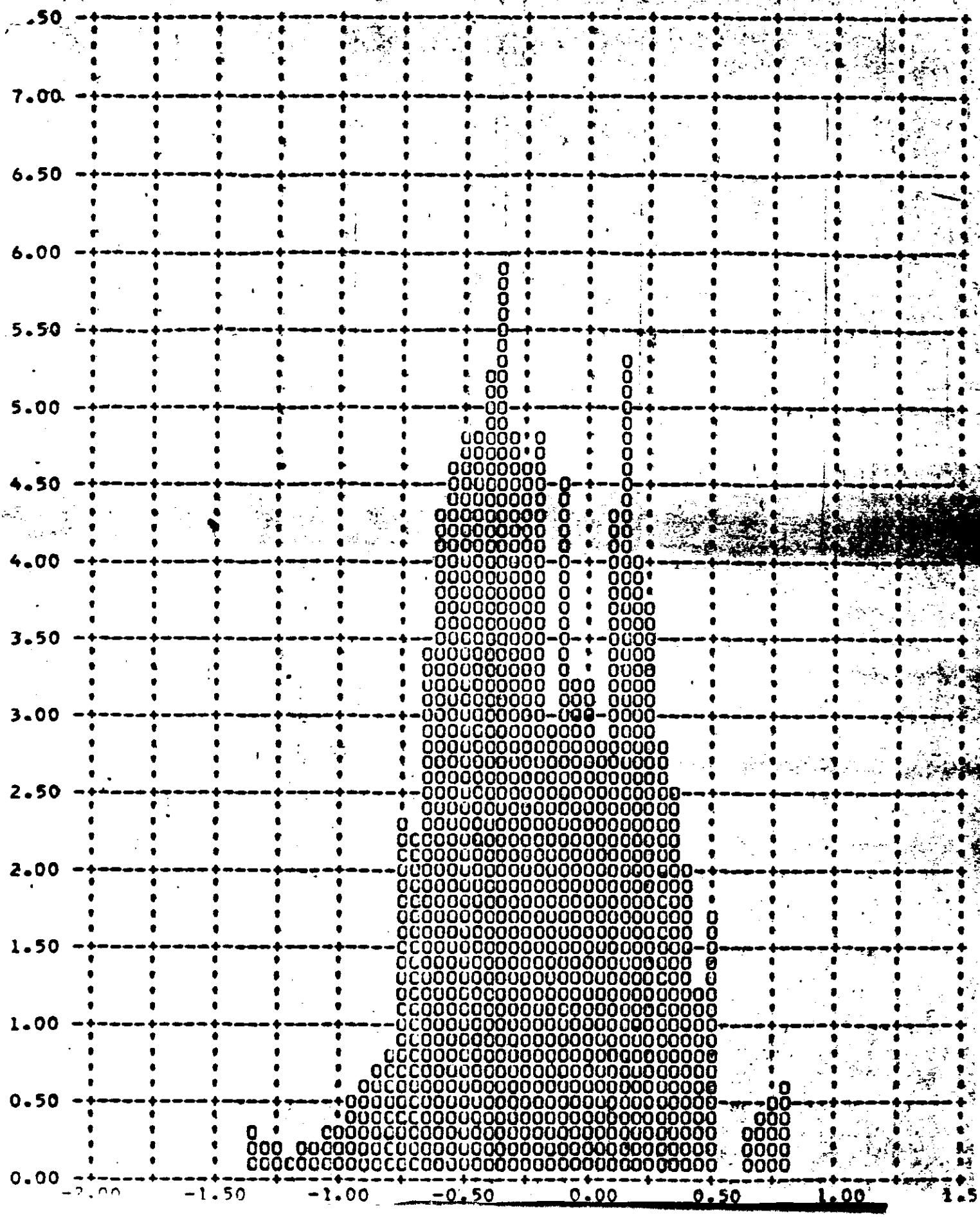
J-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 38.38

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



14 B-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 0.69

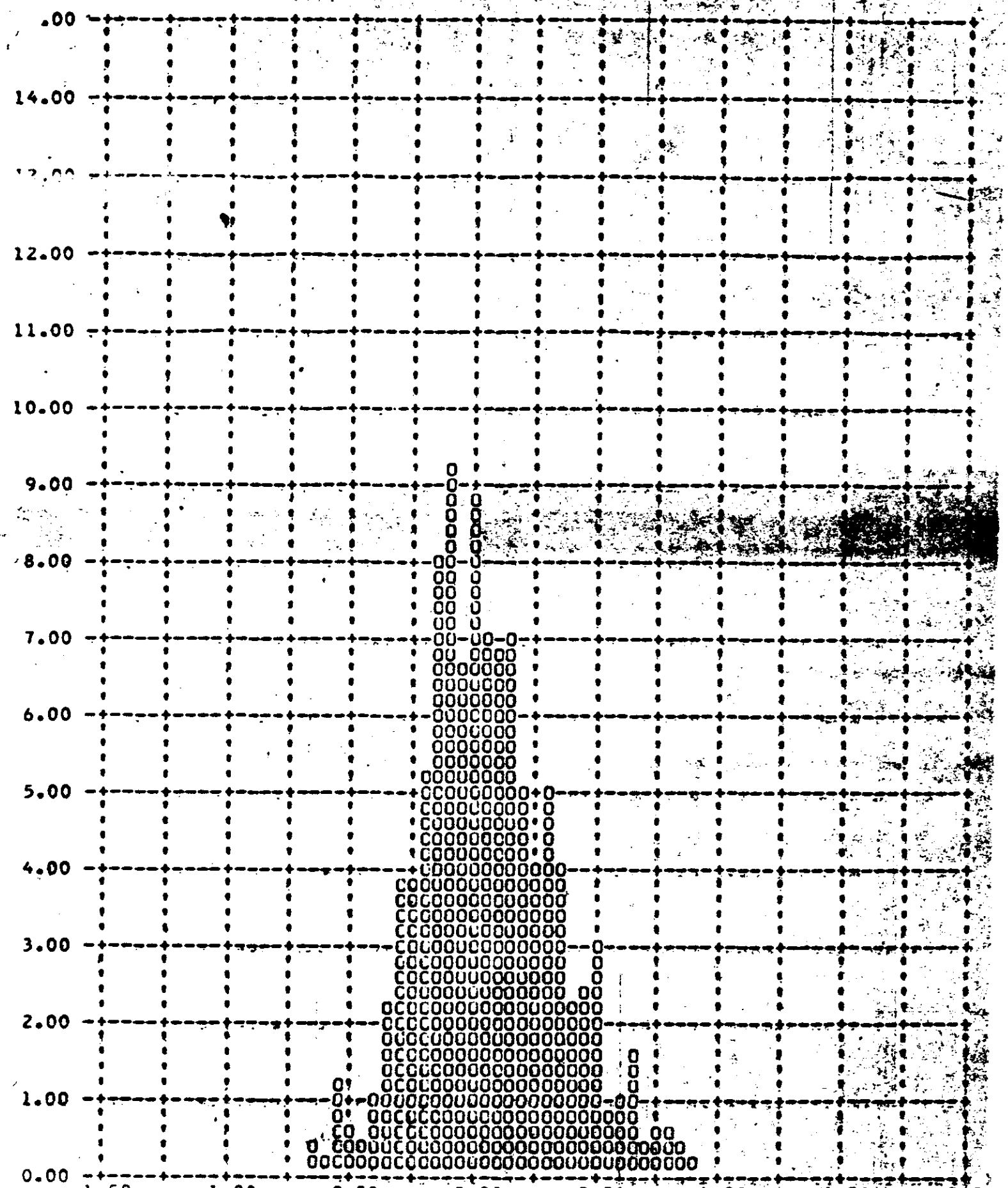
Y PITCH ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 10178 [redacted]

14 B-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH DP OMITTED * 90 PERCENT = 0.9

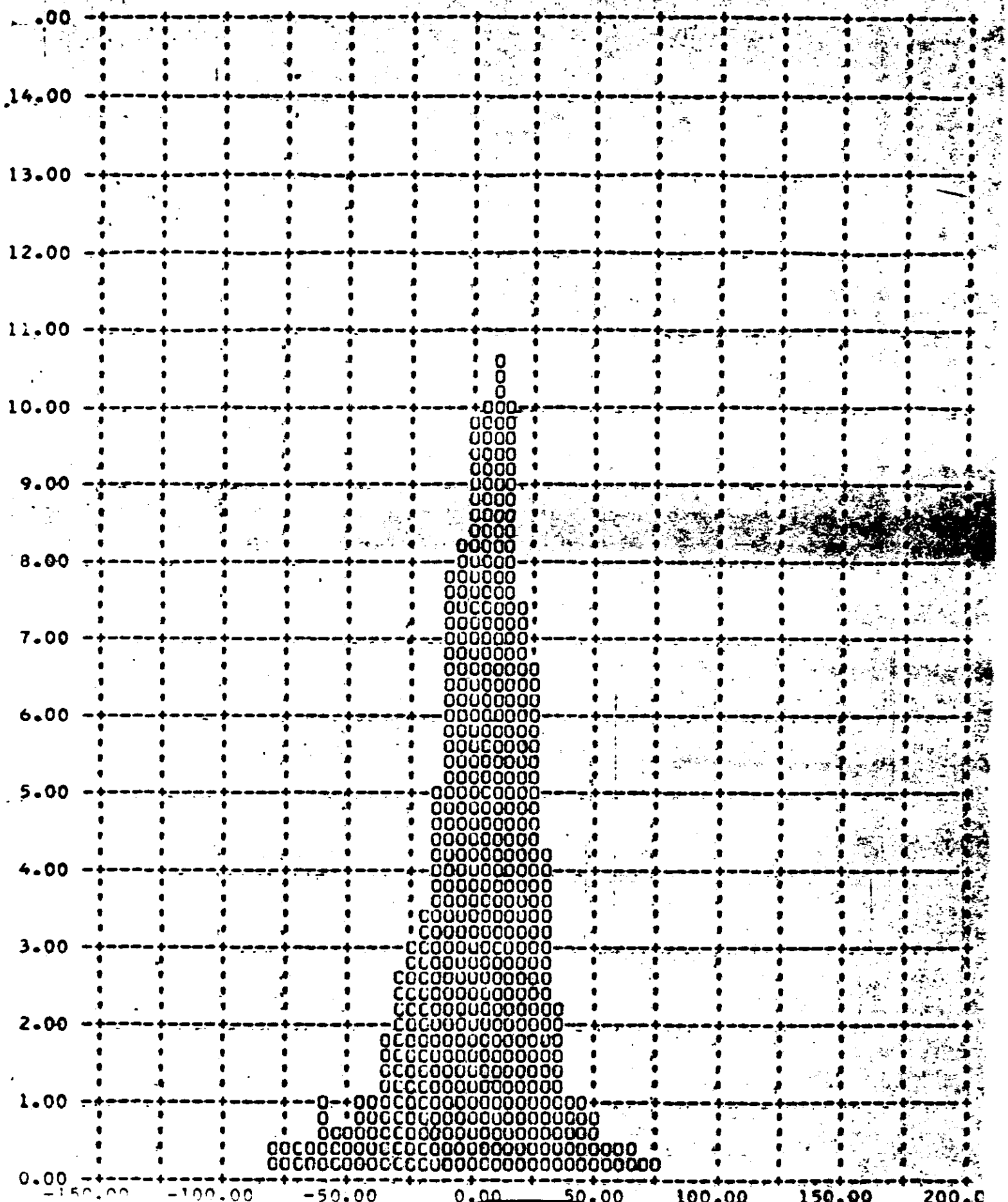
Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 10178I (TOP SECRET [redacted]

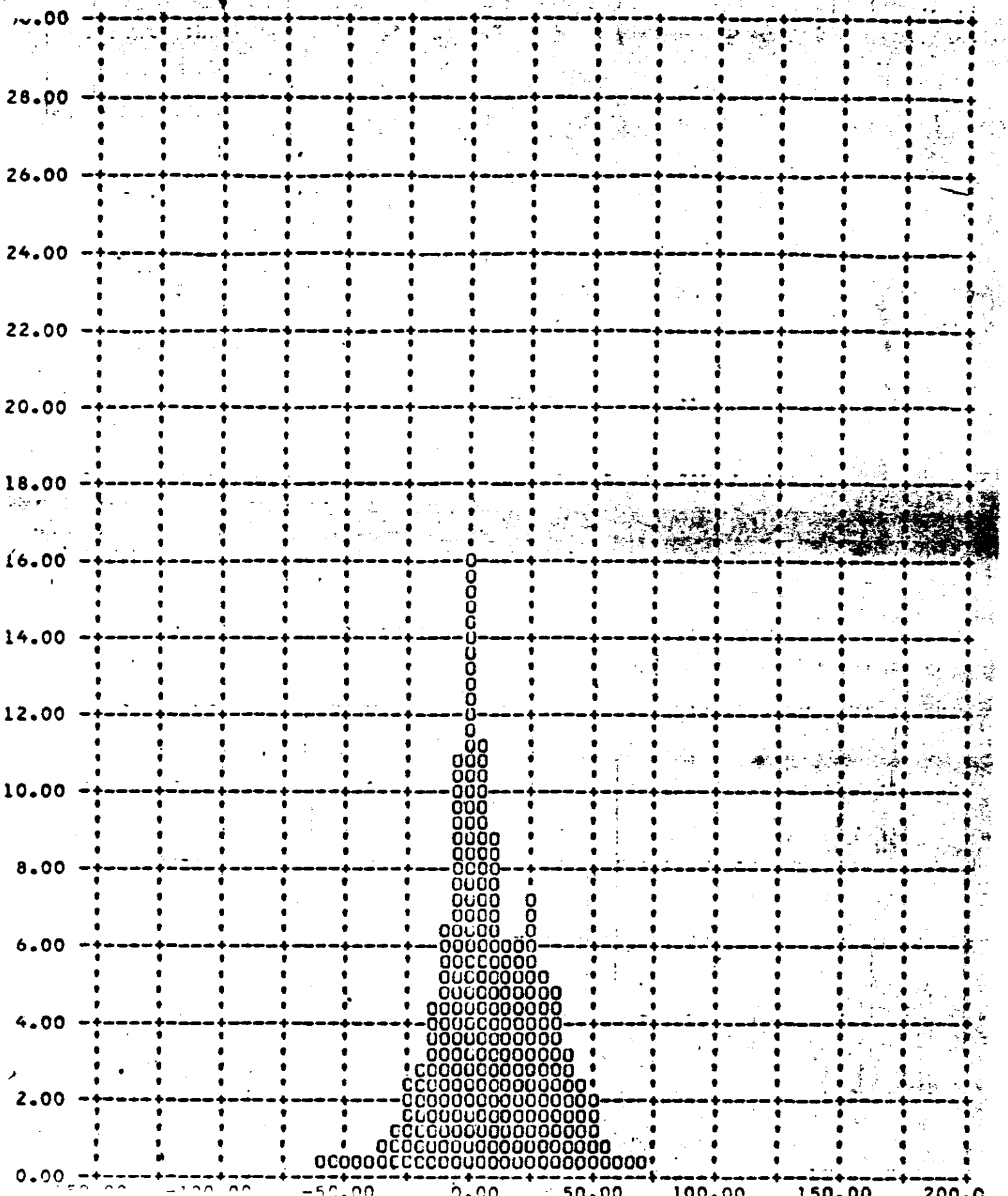
14 B-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH 7 OMITTED 90 PERCENT = 36.59

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



14 B-BUCKET FORWARD INSTRUME FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 34.05

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



SECTION 15

IMAGE SMEAR ANALYSIS

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

The computer rejects the first six frames of all operations as the large V/h error induced by camera start-up is not representative of the overall system operations. The frequency distribution of the V/h errors and resolution limits are computer plotted and are shown in Figures 15-1 through 15-10.

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

The loss of stellar photography on the -2 mission precluded the derivation of yaw data which is a factor in the cross track resolution calculation.

Yaw Steering Experiments

Programmed vehicle yaw was effected beginning with pass D-09 and continuing through pass D-85 inclusive. The vehicle was yawed from 3/4 to 1 1/2 degree, depending upon the latitude of the system, to compensate for potential image smear during panoramic exposure due to the earth's rotation velocity.

Approximately 1/2 degree of residual uncompensated yaw angle remained after yaw steering control was implemented.

A visual comparison was made of identical terrain photographed with and without yaw steering control to determine if programmed yaw steering improved the detail present in terrain imagery.

The results of the comparison made by two members of the Performance Evaluation Team are as follows:

Photography With No Yaw Steering		Photography With Yaw Steering	Latitude	Comment Based on Visual Comparison of Identical Terrain
D-04	vs.	D-20	50°N	Ground detail comparable
D-04	vs.	D-20	65°N	" " "
D-08	vs.	D-24	65°N	" " "

Frames from the passes above were selected for final analysis after many other pass and frame combinations were compared and eliminated because of obvious weather differences such as snow and cloud formations that made analysis impossible.

MISSION 1017

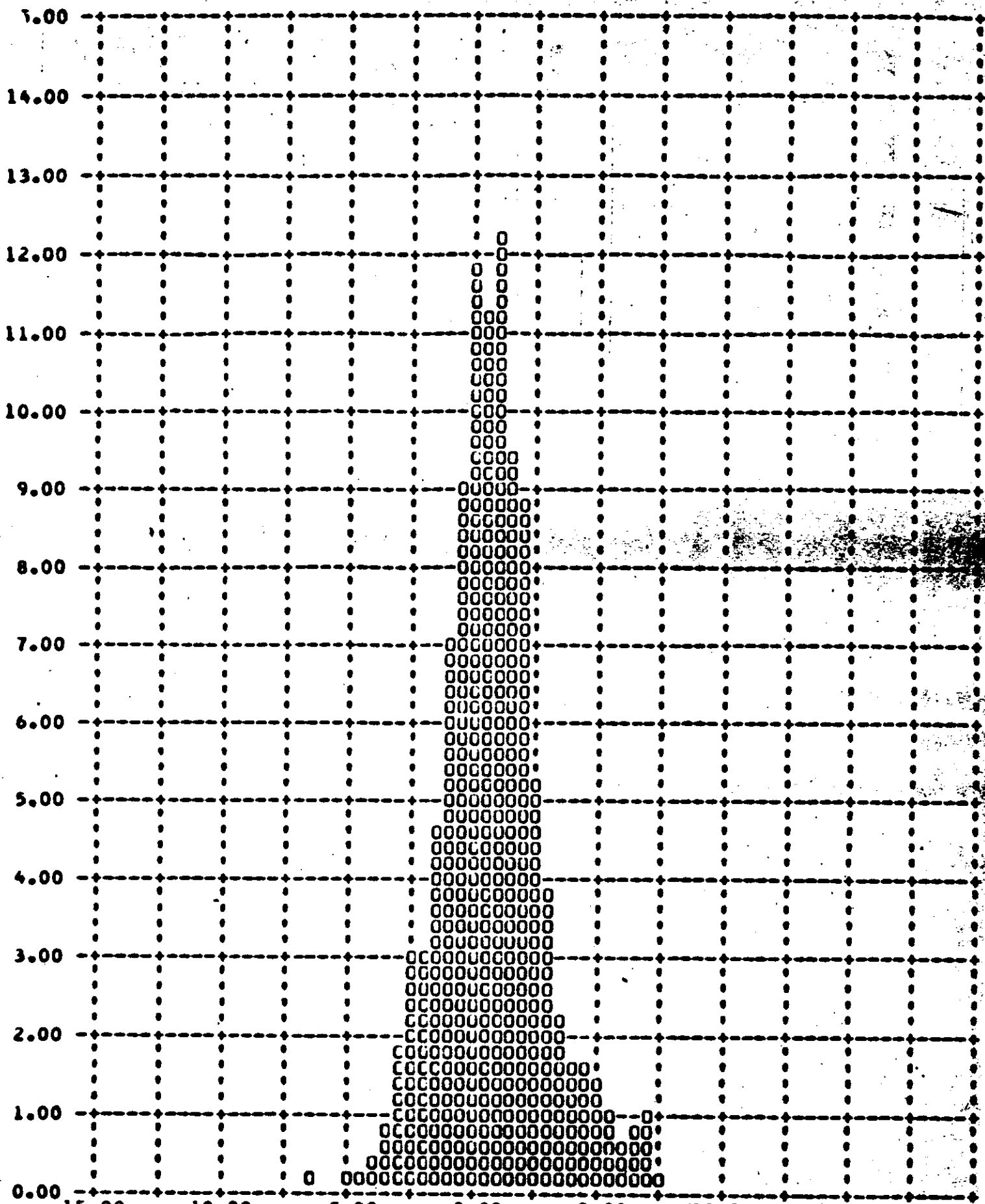
V/h RATIO AND RESOLUTION LIMITS

VALUE	UNITS	CAMERA	Mission 1017-1 90%	Mission 1017-1 Range	Mission 1017-2 90%	Mission 1017-2 Range
V/H Ratio Error	%	FWD	3.30	-6.5 to +7.5	1.81	-4.4 to +2.2
		AFT	4.32	-4.5 to +9.5	2.52	-6.2 to +2.0
Along Track Resolution Limit	Feet	FWD	9.81	0.5 to 16.0	6.17	0.2 to 7.8
		AFT	8.30	0.2 to 13.0	3.84	0.2 to 5.0
Cross Track Resolution Limit	Feet	FWD	11.61	0.2 to 16.5	N/A	N/A
		AFT	8.06	0.2 to 11.4	N/A	N/A

TABLE 15-1

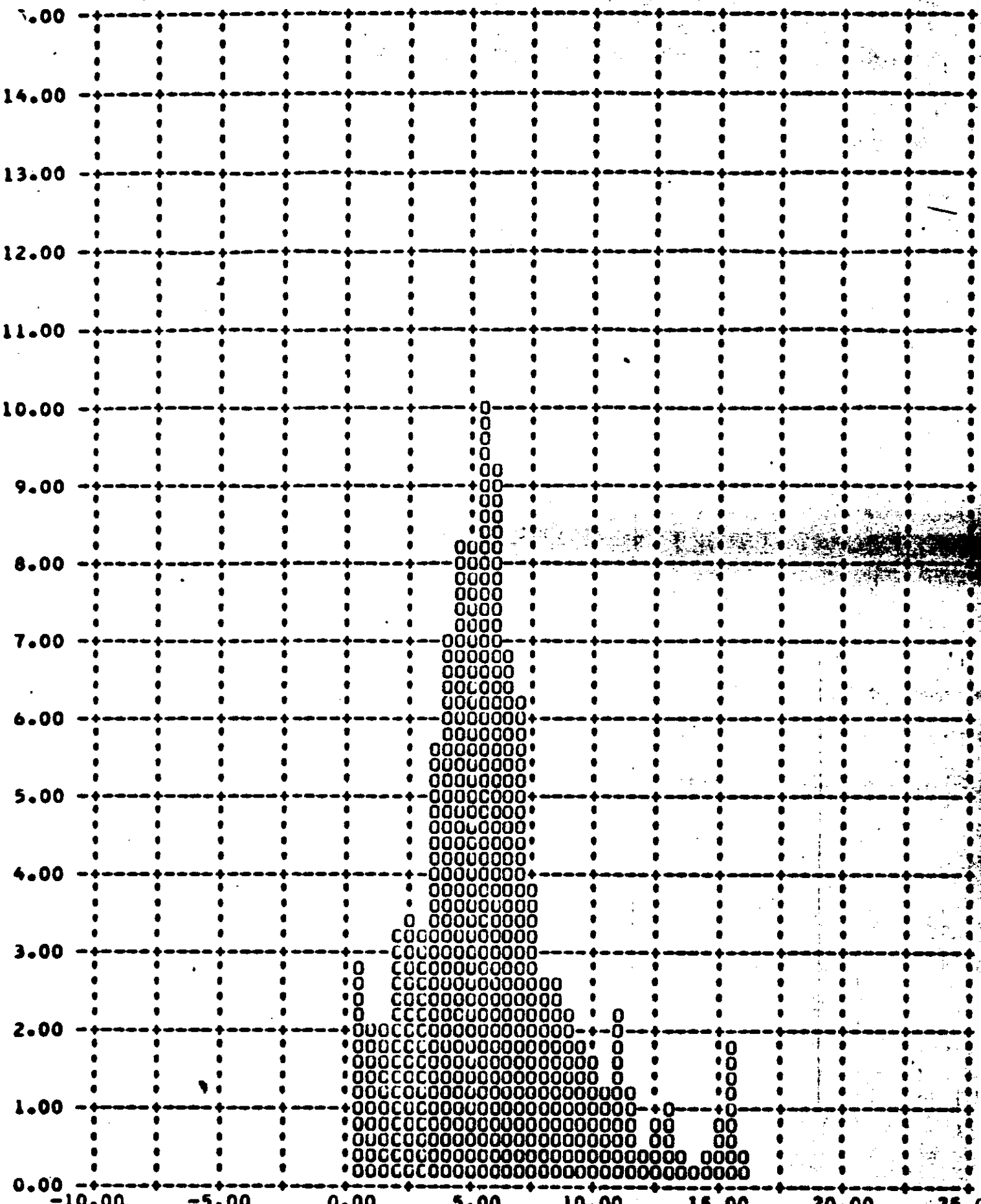
J-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 3.30

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



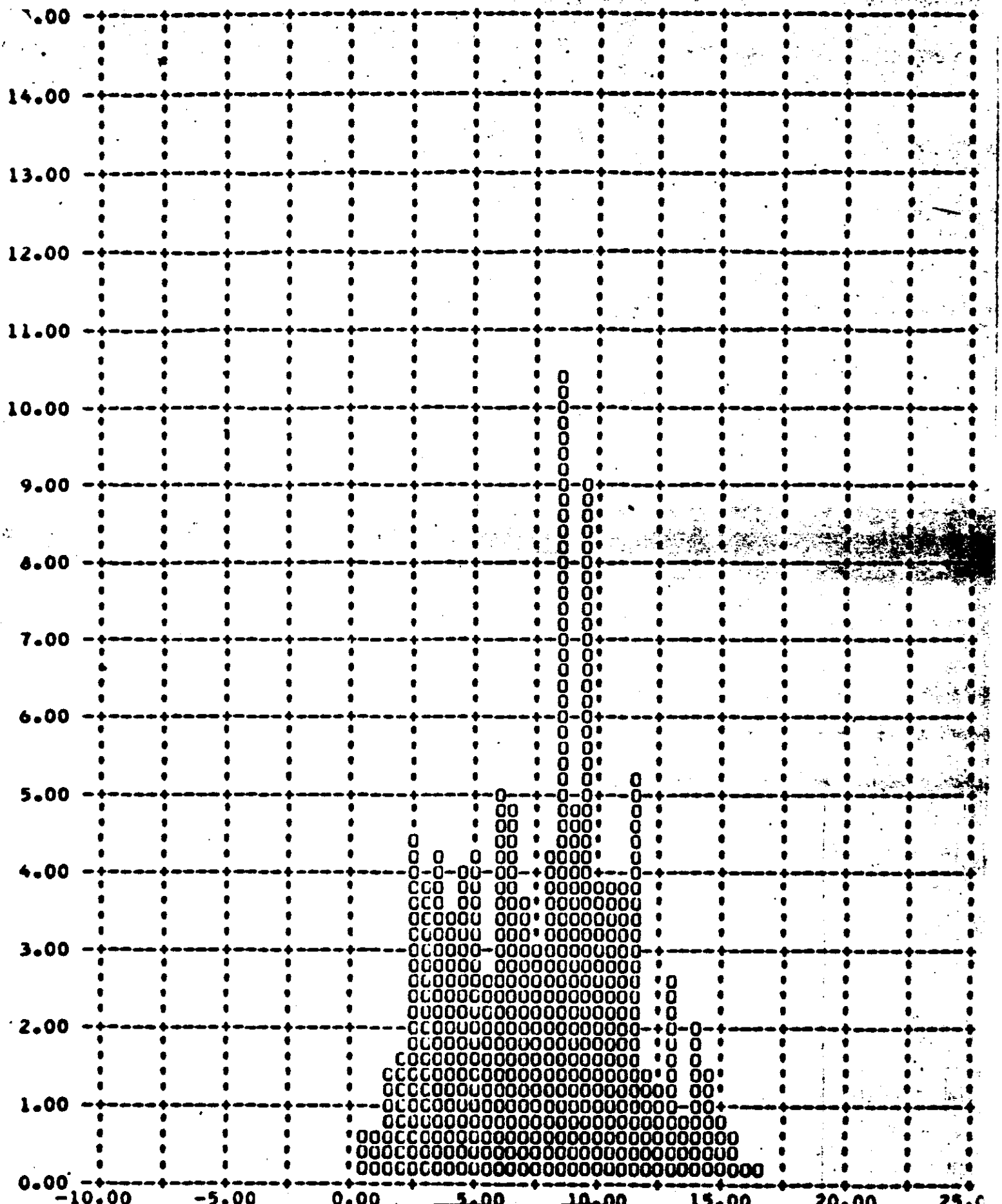
J-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 9.81

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



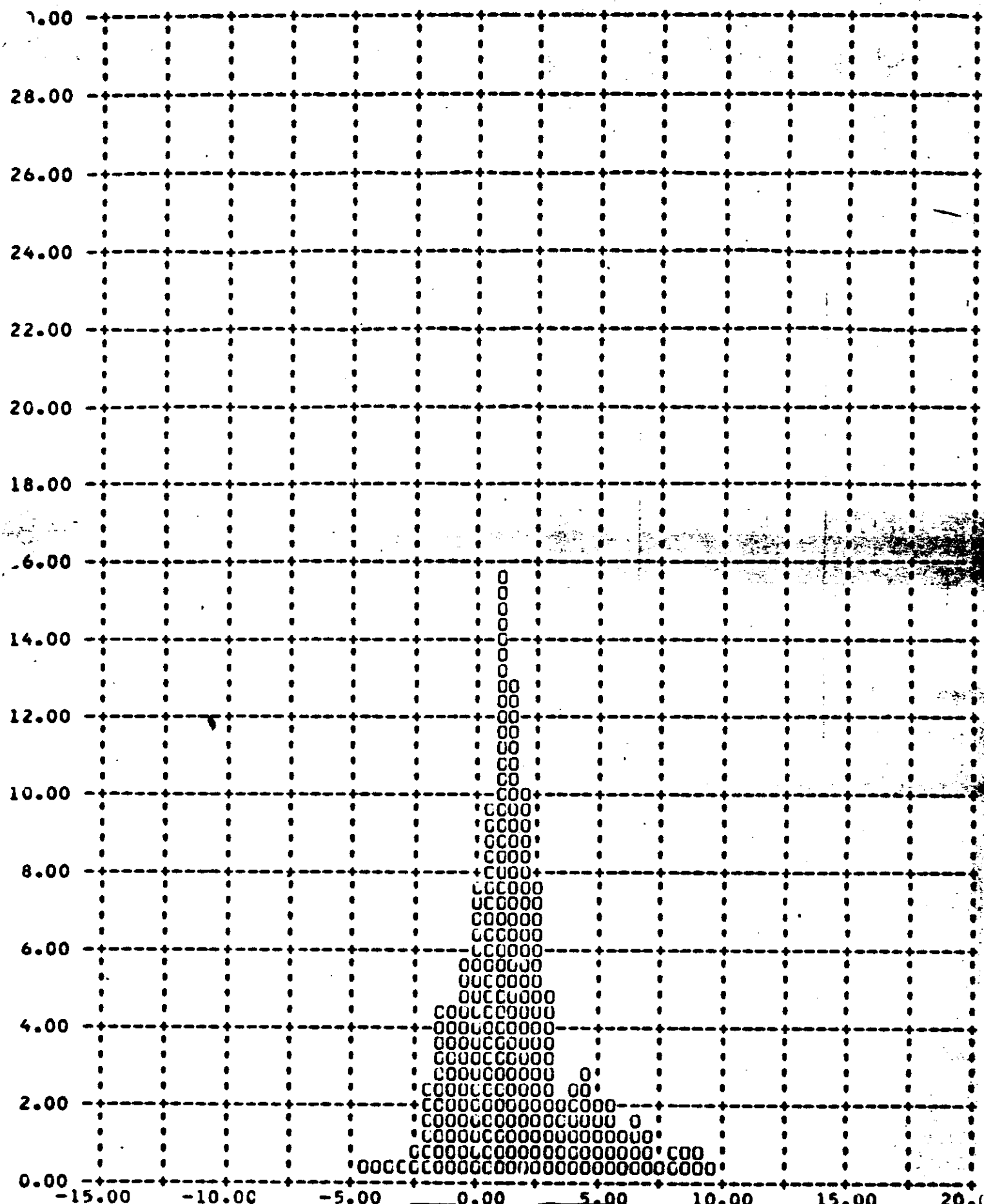
1-14 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 11.61

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



)-14 A BUCKET - AFT INSTR , FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 4.32

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



I-14 A BUCKET - AFT INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 8.30

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

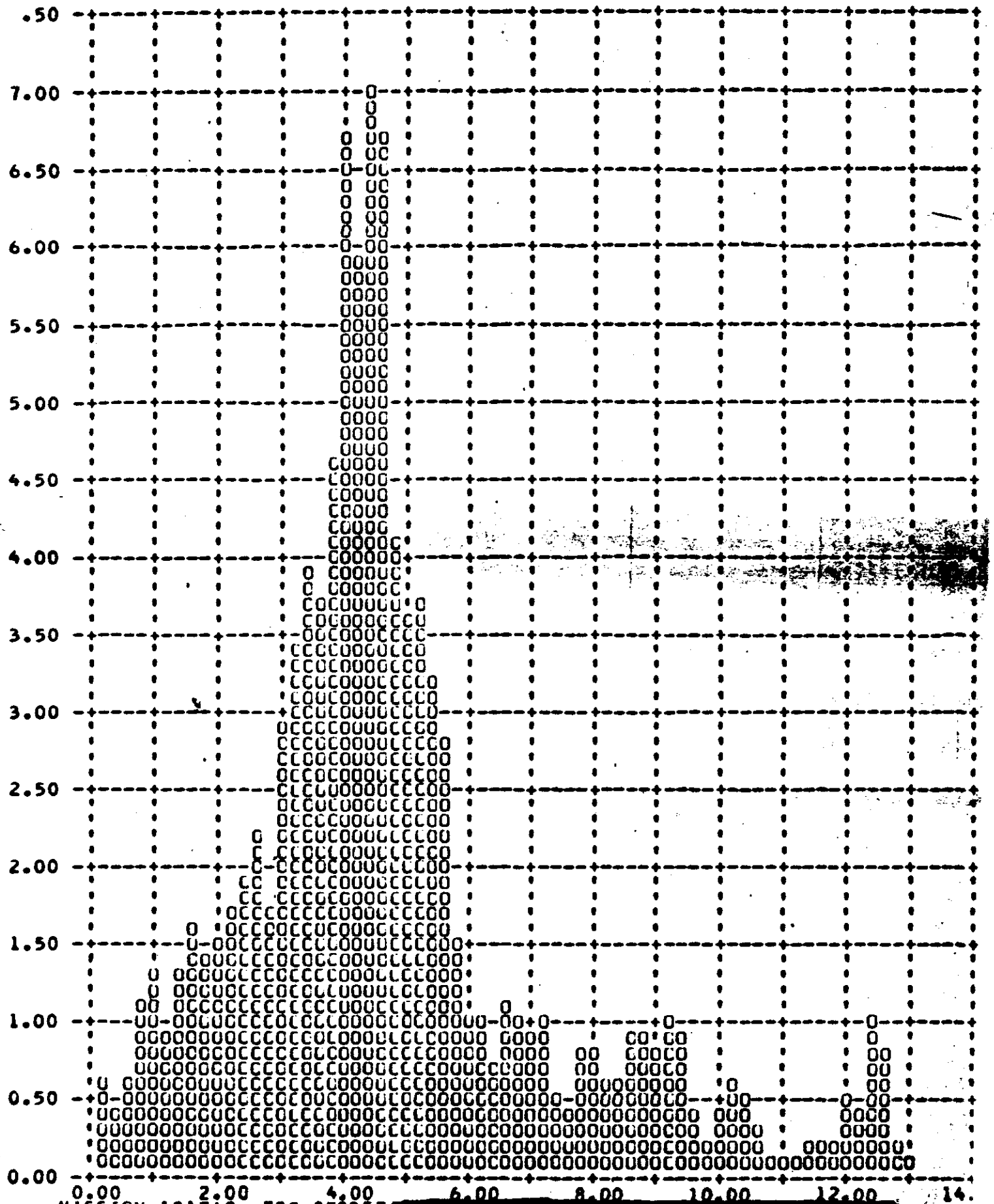
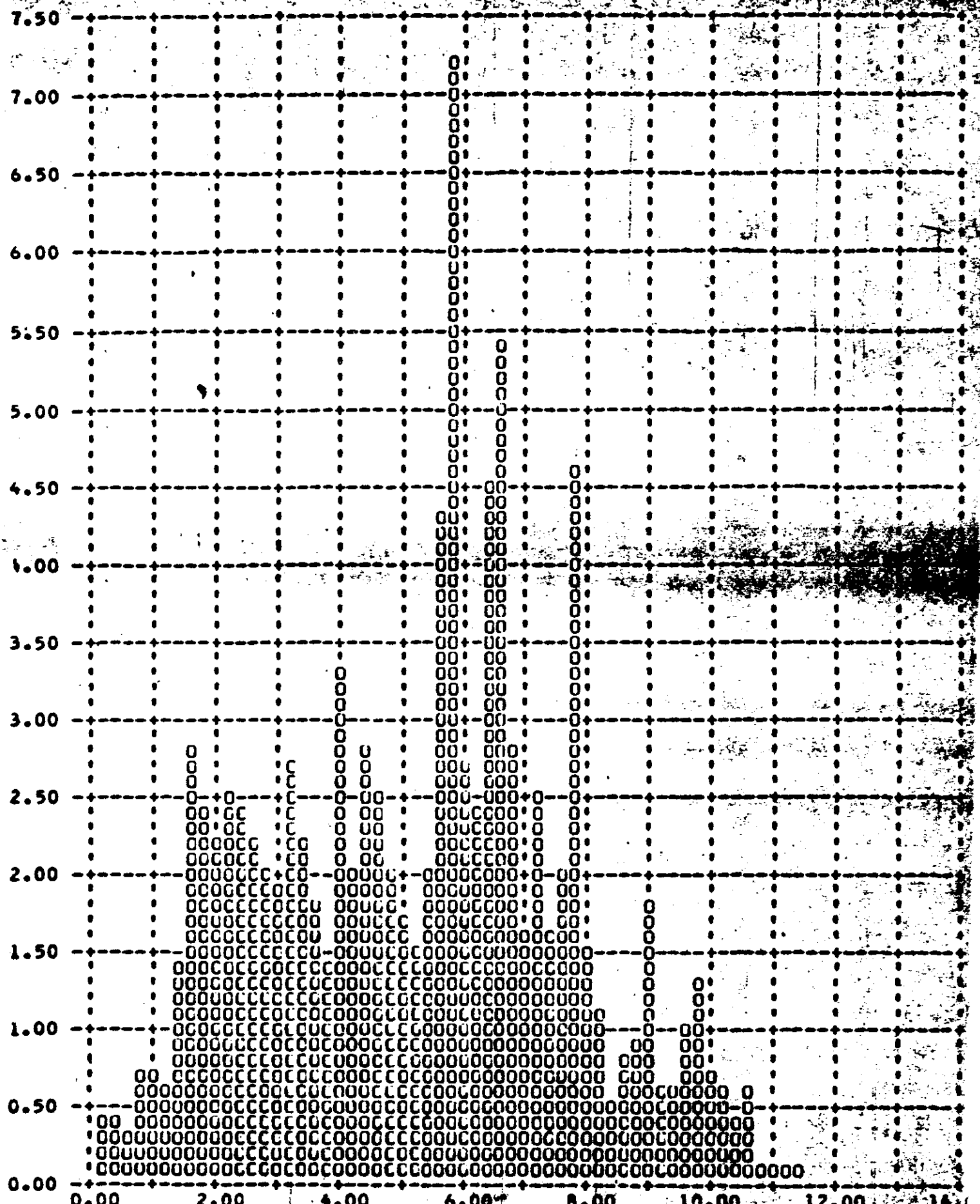


Figure 15-5

MISSION 1017A2

-14 A BUCKET - AFT INSTR - FRAMES 1-6 OF EACH OP OMITTED - 90 PERCENT - 8.00

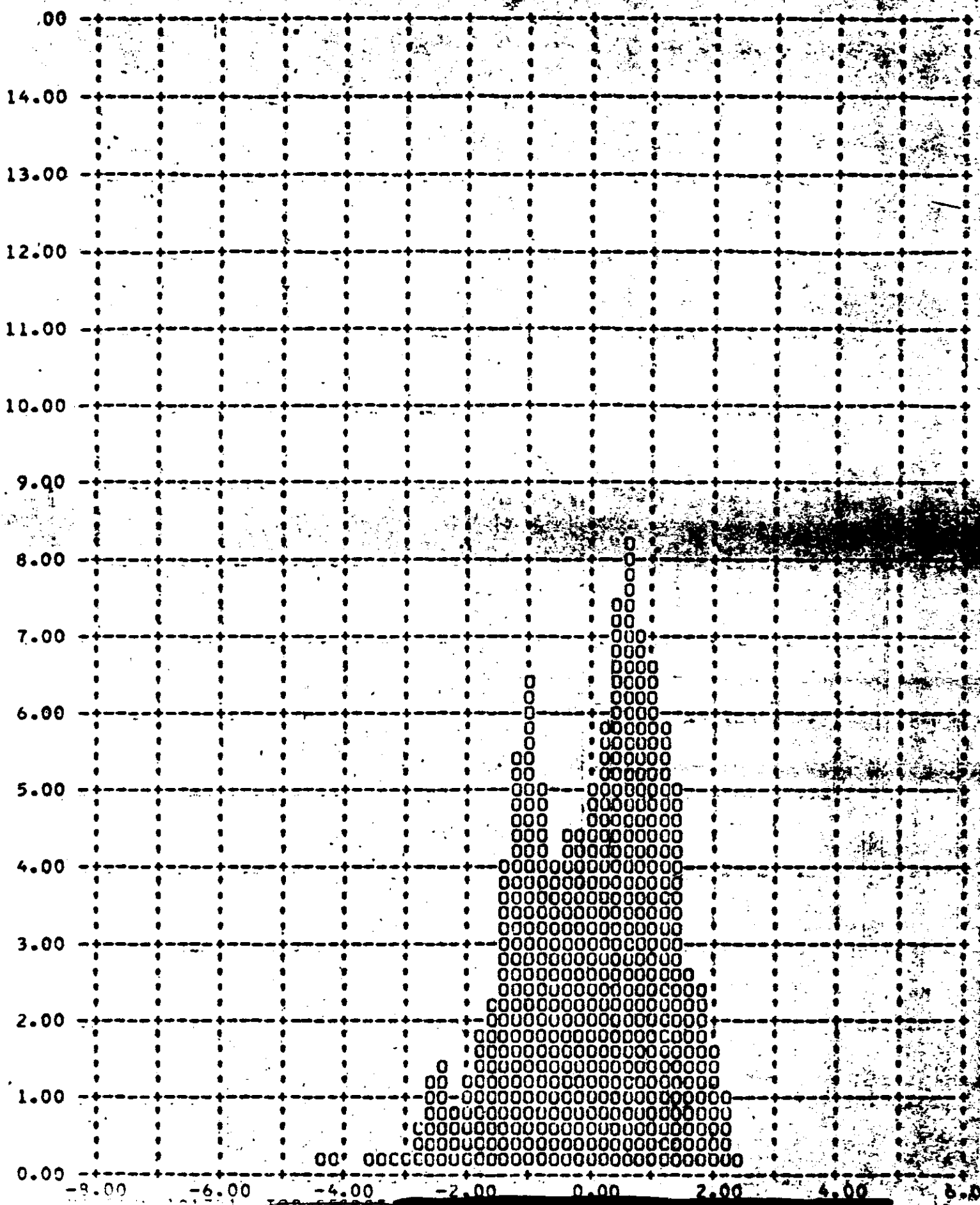
Y - CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 10178[illegible]

14 B-BUCKET FORWARD INSTRUME FRAMES 1-4 OF EACH OP OMITTED 90 PERCENT [illegible]

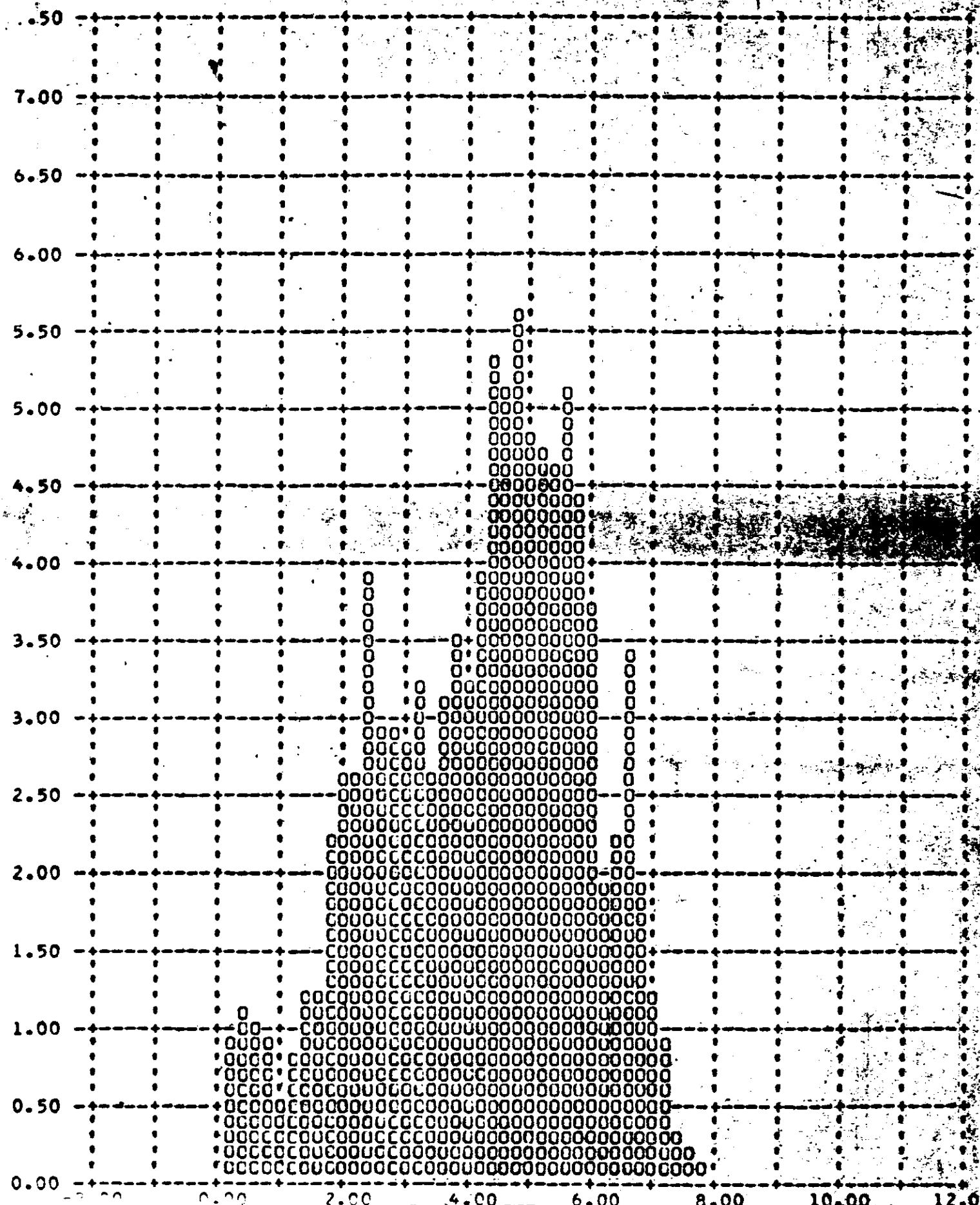
Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT (Y)



MISSION 101781 [redacted]

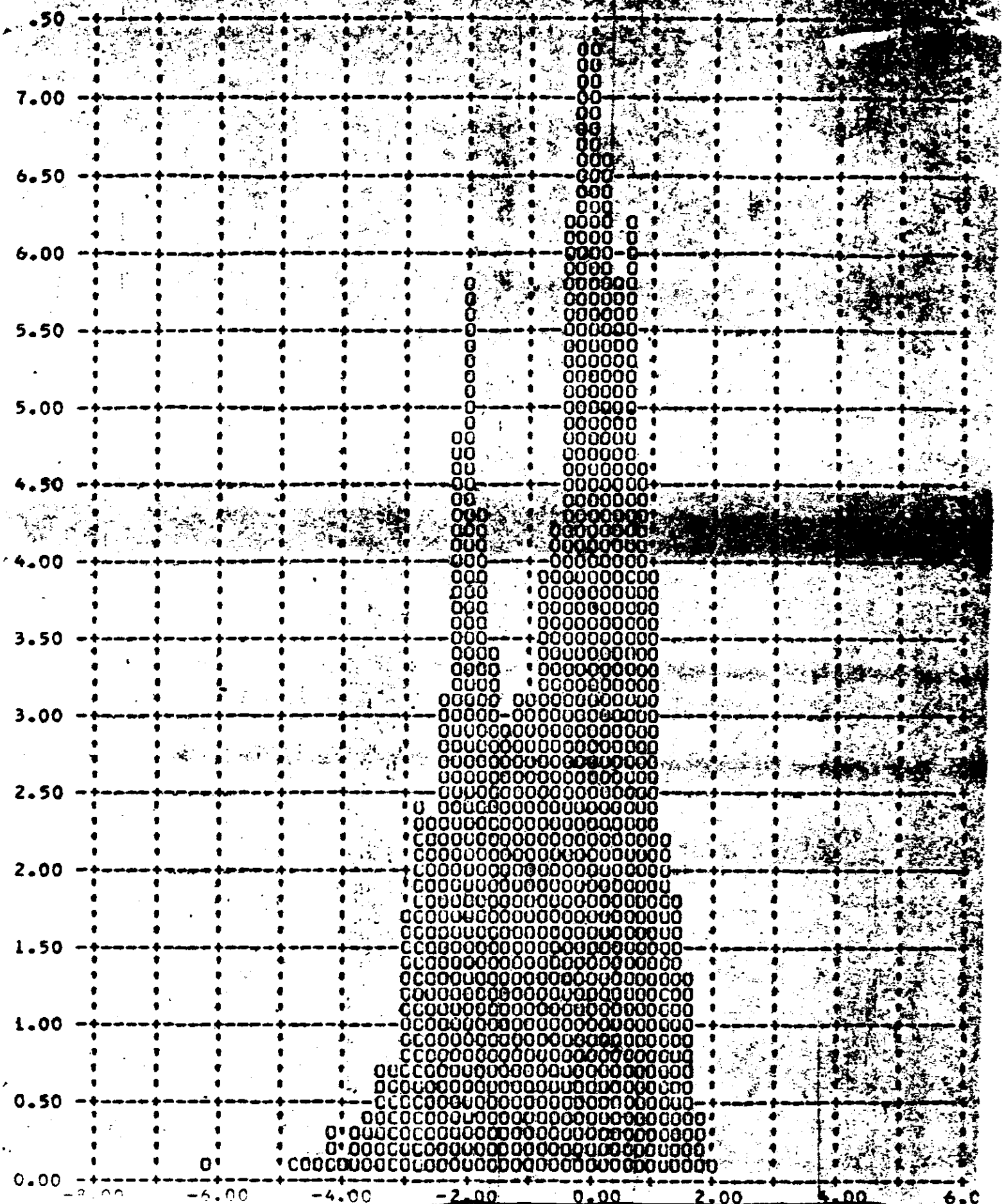
14 B-BUCKET FORWARD INSTROME FRAMES 1-6 OF EACH OF OMITTED .90 PERCENT [redacted]

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



14 8-BUCKET ADJUSTMENT

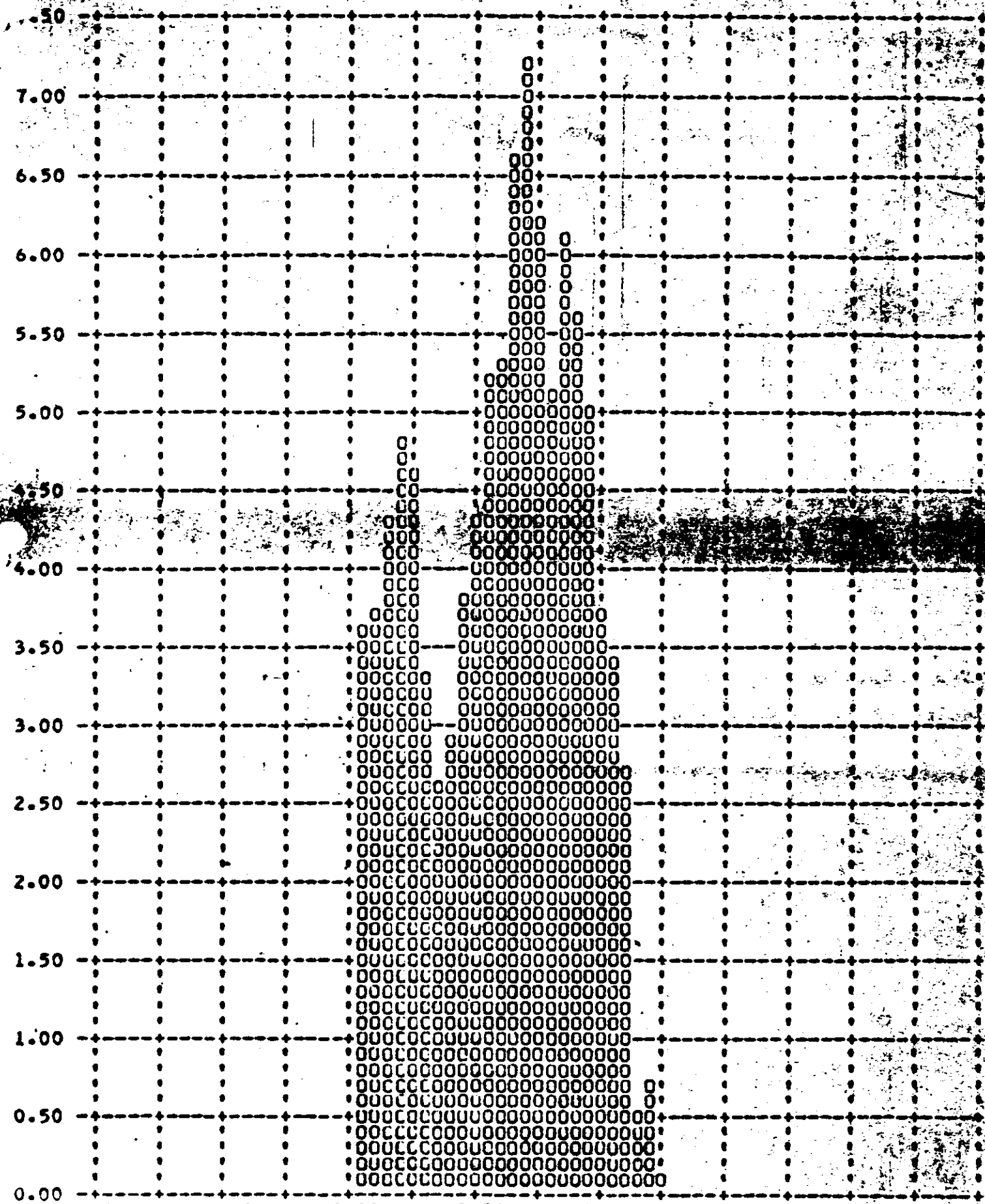
Y V/H RATIO ERROR - PERCENT (X) VERSUS FREQUENCY - PERCENT



MISSION 10178[illegible]

14 B-BUCKET AFT INSTRUMENT FRAMES 1-6 OF EACH OF OMITTED - 90 PERCENT = [illegible]

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



SECTION 16

RADIATION DOSAGE

Each recovery system flown on a Corona mission contains a sealed packet of Eastman Type 3401 and Royal X Pan emulsions to determine the total radiation received at the take-up cassette. Both film types have been irradiated by LMSC at various levels and the base plus fog densities recorded after controlled processing.

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

	Mission 1017-1		Mission 1017-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 3401	0.15	0.4 R	0.17	0.5 R
Royal X Pan	0.17	0.25 R	0.19	0.3 R

The 3404 type film used to produce the panoramic photography was unaffected by the low radiation level experienced in flight due to its low sensitivity. 3401 and 3400 type films used for stellar-index photography were unaffected by inflight radiation due to shielding provided by flight hardware and lead coated film chutes between S/I cameras and SRV #1 and #2.

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 Table 17-1.

Panoramic Camera Reliability

Sample Size - 94 opportunities to operate.
No failures
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 99.3% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 35 vehicles x 2 doors = 70 opportunities to operate
Estimated Reliability = 99.0% at 50% confidence level

Payload Command and Control

Sample Size - 4760 hours operation in sample
One failure
Estimated Reliability = 96.7% at 50% confidence level

Payload Clock Reliability

Sample Size - 4760 hours operation in sample
No failures
Estimated Reliability = 98.6% at 50% confidence level

Estimated Reliability of Payload Functioning on orbit = 97.6% at 50% confidence level

Recovery System Reliability

36 opportunities to recover
1 failure - improper separation due to water seal - cutter failure
Estimated Reliability = 95.4% at 50% confidence level

Stellar-Index Camera Reliability

Sample begins with J5
Sample size = 8925 cycles
One failure
Estimated Reliability = 92.3% at 50% confidence level

Horizon Camera Reliability

Sample begins with J5 - 37,500 cycles
Estimated Reliability of Single Camera = 97.3% 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 / 0 / 98.6	3124 / 0 / 98.0	3124 / 0 / 98.0	96.1	18 / 1 / 90.7	3400 / 3 / 83.1	12,000 / 0 / 94.7
1009	64 / 1 / 97.4	54 / 0 / 98.7	3216 / 0 / 98.0	3216 / 0 / 98.0	96.2	20 / 1 / 91.8	4250 / 3 / 89.3	15,000 / 0 / 95.4
1010	68 / 1 / 97.6	56 / 0 / 98.8	3432 / 0 / 98.1	3432 / 0 / 98.1	96.4	22 / 1 / 92.5	5100 / 3 / 73.7	18,000 / 0 / 96.4
1011	72 / 1 / 97.7	58 / 0 / 98.9	3600 / 0 / 98.1	3600 / 0 / 98.1	96.5	24 / 1 / 93.0	5925 / 0[a] / 94.7	21,000 / 0 / 96.5
1012	76 / 1 / 97.8	60 / 0 / 98.9	3720 / 0 / 98.2	3720 / 0 / 98.2	96.9	26 / 1 / 93.5	5925 / 0 / 94.7	24,000 / 0 / 96.8
1013	78 / 1 / 97.9	62 / 0 / 99.0	3840 / 1 / 96.9	3840 / 0 / 98.3	96.0	28 / 1 / 94.0	5950 / 0 / 95.1	25,500 / 0 / 96.8
1014	82 / 1 / 97.9	64 / 0 / 99.0	4056 / 1 / 96.1	4056 / 0 / 98.3	96.1	30 / 1 / 94.4	6375 / 1 / 89.6	28,500 / 0 / 96.8
1015	86 / 1 / 98.0	66 / 0 / 99.0	4320 / 1 / 96.3	4320 / 0 / 98.4	96.1	32 / 1 / 94.8	7225 / 1 / 90.6	31,500 / 0 / 96.7
1016	90 / 1 / 98.1	68 / 0 / 99.0	4560 / 1 / 96.5	4560 / 0 / 98.5	96.4	34 / 1 / 95.2	7650 / 1 / 91.0	34,500 / 0 / 97.0
1017	94 / 1 / 98.3	70 / 0 / 99.0	4760 / 1 / 96.7	4760 / 0 / 98.6	97.6	36 / 1 / 95.4	8925 / 1 / 92.3	37,500 / 0 / 97.0

[redacted]

Table 12

SECTION 18

SUMMARY DATA

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

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

MISSION SUMMARY

MISSION NUMBER	PAYLOAD NUMBER	VEHICLE NUMBER	LAUNCH DATE	LAUNCH TIME	ORBIT INCLINATION (°)	PERIGEE ALTITUDE (NM)	PERIGEE LOCATION (°N)	RECOVERY PASS	MASTER CAMERA CAMERA NUMBER	MASTER CAMERA SLIT (")	MASTER CAMERA FILTER TYPE	SLAVE CAMERA CAMERA NUMBER	SLAVE CAMERA SLIT (")	SLAVE CAMERA FILTER TYPE	STELLAR-INDEX CAMERA NUMBER
1004	J-08	1174	2/15/64	2138 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	029/29/29 / 042/42/37
1006	J-09	1176	6/4/64	2259 Z	79.9	84.0	63.2	65 / 128	148	0.200	W-21	149	0.200	W-21	048/47/48 / 049/53/42
1007	J-07	1609	6/19/64	2318 Z	85.0	99.2	41.5°	65 / 128	144	0.250	W-25	145	0.200	W-21	043/43/43 / 054/56/51
1008	J-10	1177	7/10/64	2314 Z	85.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	042/43/48 / 038/35/33
1009	J-12	1608	8/5/64	2316 Z	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	036/34/56 / 038/38/34
1010	J-11	1178	9/14/64	2254 Z	84.9	97.4	42.8	65 / 144	152	0.175	W-21	153	0.175	W-21	041/41/41 / 044/46/44
1011	J-32	1170	10/5/64	2130 Z	79.9	99.3	20.9	65 / —	160	0.175	W-21	161	0.175	W-21	030/30/30 / 037/37/37
1012	J-13	1179	10/17/64	2202 Z	75.0	96.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	051/51/47 / 046/52/53
1013	J-15	1173	11/2/64	2130 Z	80.0	100.0	25.0	65 / 81	158	0.225	W-21	159	0.225	W-21	052/49/55 / 047/48/54
1014	J-16	1180	11/18/64	2036 Z	70.0	103.8	65.6	81 / 145	162	0.250	W-25	139	0.175	W-21	053/59/49 / 050/44/46
1015	J-17	1607	12/19/64	2110 Z	74.9	96.7	21.5	81 / 178	138	0.250	W-25	141	0.175	W-21	061/61/61 / 058/59/56
1016	J-18	1606	1/15/65	2101 Z	74.9	99.4	30.2	81 / 189	132	0.250	W-25	133	0.175	W-21	055/56/50 / 059/50/59
1017	J-14	1611	2/25/65	2144 Z	75.0	97.2	25.9	81 / 145	140	0.250	W-25	165	0.175	W-21	021/21/21 / 060/61/[illegible]

Table 18-1

PERFORMANCE SUMMARY

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES.	AFSPPL MTF/AIM SLIT (μ)	AFSPPL MTF/AIM AVERAGE	SLIT (μ)	AVERAGE	[redacted] SLIT (μ)	AVERAGE ALL	AVERAGE HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (7HR) PITCH	90% ATTITUDE RATES (7HR) ROLL	90% ATTITUDE RATES (7HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1004-1	FWD	124	85	78	350	97	43	109	320	115	127	0.48	0.42	1.08	30.0	25.0	21.0	5.1	7.7	8.3
	AFT			86		80		96		117	124									
1004-2	FWD	125	85	76		88		113		82	90	0.74	0.50	0.91	44.0	30.0	29.0	4.9	8.8	8.8
	AFT			73		83		106		89	95									
1006-1	FWD	148	90	78	350	88	43	88	320	84	97	0.47	0.42	1.14	28.8	28.5	27.8	15.4	13.8	8.7
	AFT			74		71		80		87	92									
1006-2	FWD	149	90	85		64		81		84	90	0.49	0.40	1.08	31.1	27.9	30.0	11.8	10.1	7.8
	AFT			83		78		90		87	94									
1007-1	FWD	144	85	80	350	80	43	87	320	82	91	0.58	0.46	1.43	37.6	23.9	29.9	3.6	5.1	9.6
	AFT			86		63		83		97	110							4.6	8.1	7.6
1007-2	FWD	145	85	79		72		81		68	74	0.84	0.47	—	43.0	28.8	—	3.2	2.4	—
	AFT			81		77		92		74	81							4.2	1.8	—
1008-1	FWD	150	85	80	350	80	43	88	320	81	89	0.69	0.59	0.94	43.8	23.9	29.6	2.9	4.9	8.0
	AFT			76		73		89		86	95									
1008-2	FWD	151	85	82		84		96		83	92	0.53	0.38	0.71	42.9	24.0	32.5	2.9	4.2	8.4
	AFT			78		91		83		85	91									
1009-1	FWD	154	85	92	350	80	—	—	80	75	88	0.59	0.65	0.71	29.2	22.7	27.6	3.5	5.3	3.9
	AFT			89		85				75	83									
1009-2	FWD	155	85	94		85				76	84	0.98	0.65	0.59	33.6	23.9	27.2	2.8	4.9	5.8
	AFT			87		87				72	79									
1010-1	FWD	152	85	90	350	90	80	88	80	87	96	0.68	0.30	0.87	39.1	23.8	30.8	4.8	2.3	4.0
	AFT			88		88		80		92	103									
1010-2	FWD	153	85	92		81		82		82	93	0.89	0.70	1.21	45.4	23.8	30.7	4.6	7.9	3.8
	AFT			90		82		85		87	98									
1011-1	FWD	160	90	84	350	78	80	96	80	78	87	0.77	0.39	0.97	43.1	28.9	31.1	2.5	5.3	8.8
	AFT	161		84		77		86		85	93									
1012-1	FWD	156	85	92	—	—	80	91	80	84	98	0.88	0.51	—	47.1	33.2	—	1.5	4.8	—
	AFT			91				87		89	100									
1012-2	FWD	157	85	91				89		84	91	0.92	0.77	0.81	45.2	30.7	40.4	5.9	3.5	5.9
	AFT			89				96		85	98									
1013-1	FWD	158	85	88	—	—	80	94	80	85	99	0.94	0.32	1.34	36.9	29.8	35.3	3.7	7.8	8.3
	AFT	159		77				87		81	103	0.84	0.32	1.34	34.9	29.8	34.3	4.5	5.8	8.2
1014-1	FWD	162	80	87	—	—	80	78	80	74	86	0.68	0.41	1.46	35.0	36.1	38.8	2.8	6.2	8.8
	AFT			83				80		95	107	0.68	0.41	1.44	34.8	36.0	38.3	3.3	2.8	8.3
1014-2	FWD	139	80	83				75		70	77	1.09	0.58	—	38.4	36.4	—	1.4	6.4	—
	AFT			86				84		80	88	1.08	0.59	—	38.1	36.0	—	3.2	6.2	—
1015-1	FWD	138	85	87	—	—	80	76	80	90		0.78	0.38	0.83	47.0	29.4	38.2	5.0	5.8	7.8
	AFT			87				73		97	—	0.84	0.38	0.83	46.9	29.2	38.2	6.3	3.4	8.3
1015-2	FWD	141	85	85				72		88		0.94	[redacted]							
	AFT			82				72		90										
1016-1	FWD	132	85	85	—	—	80	86	80	81		0.78	0.83	2.01	48.9	30.2	40.4	2.0	5.5	10.8
	AFT			83				81		94	—	0.78	0.83	2.01	48.4	30.1	40.4	2.8	3.4	7.4
1016-2	FWD	133	85	90				88		82		0.83	0.93	2.19	42.2	27.2	39.9	1.8	4.8	8.8
	AFT			91				86		91		0.83	0.93	2.19	42.2	27.3	39.9	2.3	3.3	7.1
1017-1	FWD	140	85	78	—	—	80	87	80	78	86	0.68	0.76	2.50	38.5	32.2	38.4	3.3	8.8	11.8
	AFT			78				78		94	107	0.68	0.76	2.49	38.3	32.0	38.3	4.3	6.3	8.1
1017-2	FWD	165	85	89				65		80	94	0.45	—	—	38.5	34.0	—	1.8	6.8	—
	AFT			85				89		86	101	0.45	—	—	38.3	33.8	—	2.3	8.3	—

DATA NOT PRESENTLY AVAILABLE

Table 18-2

EXPOSURE - PROCESSING SUMMARY

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
1004-1	FWD	-3	61	25	124	5	76	19	4	79	17	0	79	21	0.26	1.89	0.83	0.78	0.43	2.43	1.97	2.02	1.00	2.43	2.04	2.08	0	4	60	31	5	35
	AFT	-3	61	25	124	5	74	21	4	79	17	0	80	20	0.22	1.56	0.78	0.70	0.93	2.46	1.92	1.94	1.08	2.43	1.98	2.03	1	4	67	26	3	30
1004-2	FWD	-4	68	10	131	7	76	17	37	50	13	4	83	13	0.29	1.80	0.83	0.78	0.36	2.30	1.84	1.90	0.41	2.37	1.87	1.93	0	4	59	27	9	35
	AFT	-4	68	10	131	7	76	17	37	50	13	4	77	19	0.29	1.91	0.81	0.73	0.56	2.39	1.89	1.99	0.43	2.46	1.89	1.98	0	4	67	20	9	30
1006-1	FWD	38	86	82	140	1	99	0	1	51	48	0	51	49	0.23	1.81	0.71	0.68	0.80	2.31	1.58	1.52	1.31	2.40	2.20	2.24	0	5	72	21	1	80
	AFT	38	86	82	140	1	99	0	0	23	77	0	24	76	0.36	1.66	0.87	0.84	0.96	2.35	1.72	1.72	1.14	2.40	2.24	2.28	0	1	58	40	1	80
1006-2	FWD	32	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	95
	AFT	32	84	36	147	2	98	0	35	40	25	21	54	25	0.26	1.34	0.62	0.58	0.68	2.19	1.48	1.47	1.56	2.50	2.12	2.16	0	11	77	9	3	45
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0.28	1.82	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	80
	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	2.33	2.20	2.24	1	13	80	5	1	80
1007-2	FWD	32	87	43	112	0	25	75	3	28	69	0	28	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	85
	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	85
1008-1	FWD	30	51	80	102	0	100	0	4	32	64	1	35	64	0.32	1.48	0.86	0.82	0.78	2.24	1.55	1.54	1.46	2.35	2.21	2.24	2	2	86	8	1	85
	AFT	30	51	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	85
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	78	23	1	85
	AFT	29	56	42	105	0	100	0	3	30	67	0	29	71	0.32	1.64	0.77	0.76	0.73	2.10	1.55	1.55	1.10	2.35	2.18	2.22	1	3	89	27	0	85
1009-1	FWD	12	49	42	132	0	100	0	1	26	73	0	34	66	0.32	1.40	0.65	0.62	0.83	2.41	1.53	1.52	0.83	2.51	2.30	2.36	5	4	77	14	0	80
	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	5	75	20	0	80
1009-2	FWD	23	58	35	138	2	98	0	3	21	76	0	40	60	0.29	1.55	0.69	0.64	0.73	2.37	1.53	1.55	1.06	2.45	2.25	2.30	4	4	74	17	0	85
	AFT	23	58	35	138	2	98	0	4	47	49	0	56	44	0.26	1.47	0.69	0.64	0.44	2.48	1.61	1.60	1.81	2.50	2.31	2.34	1	4	77	18	0	85
1010-1	FWD	18	47	48	83	0	21	79	0	13	87	0	9	91	0.28	1.14	0.52	0.47	0.43	2.38	1.38	1.32	1.11	2.42	2.16	2.20	18	3	78	4	0	80
	AFT	18	47	48	83	0	21	79	0	19	81	0	16	84	0.27	1.25	0.57	0.52	0.78	2.42	1.45	1.41	0.98	2.46	2.20	2.28	9	4	81	6	0	80
1010-2	FWD	15	52	38	76	0	50	50	0	16	84	0	13	87	0.26	1.51	0.55	0.50	0.88	2.36	1.41	1.38	1.00	2.44	2.14	2.20	22	4	67	8	0	80
	AFT	15	52	38	76	0	50	50	0	23	77	0	25	75	0.20	1.48	0.59	0.56	0.80	2.40	1.47	1.45	1.29	2.48	2.18	2.22	13	3	76	8	0	80
1011-1	FWD	2	55	33	66	0	64	36	2	23	75	2	23	75	0.18	0.99	0.50	0.46	0.86	2.46	1.48	1.43	0.78	2.40	2.07	2.16	17	11	70	2	0	80
	AFT	2	55	33	66	0	67	33	3	47	50	0	37	63	0.24	1.48	0.60	0.56	0.50	2.35	1.57	1.55	0.74	2.37	2.11	2.18	3	7	81	8	0	80
1012-1	FWD	0	45	38	71	0	64	36	7	56	37	0	65	35	0.25	1.50	0.59	0.53	0.56	2.39	1.40	1.42	0.90	2.39	1.93	2.00	6	17	68	10	0	80
	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	80
1012-2	FWD	0	57	34	106	0	77	23	6	44	50	0	49	51	0.30	1.20	0.58	0.55	0.75	2.32	1.49	1.42	0.67	2.34	1.91	2.00	4	9	80	7	0	80
	AFT	0	57	34	106	0	77	23	3	15	82	0	10	90	0.30	1.27	0.68	0.62	0.46	2.33	1.85	1.58	0.70	2.38	1.96	2.02	4	0	72	23	0	80
1013-1	FWD	0	56	28	83	0	64	36	0	42	58	0	55	45	0.20	1.68	0.56	0.36	0.66	2.28	1.56	1.59	1.21	2.41	2.03	2.10	7	13	76	4	0	47
	AFT	0	56	26	82	0	64	36	2	7	91	0	33	67	0.28	1.56	0.68	0.48	0.84	2.28	1.89	1.83	1.10	2.36	1.97	2.03	8	8	74	16	0	47
1014-1	FWD	0	59	15	71	0	21	79	1	38	61	0	63	37	0.17	0.99	0.40	0.36	0.82	2.36	1.40	1.42	1.01	2.38	1.94	2.08	27	33	39	1	0	40
	AFT	0	59	14	69	0	31	69	0	13	87	0	36	64	0.18	1.26	0.51	0.48	0.88	2.28	1.42	1.49	0.42	2.43	1.91	2.00	19	12	64	5	0	40
1014-2	FWD	0	77	0	38	0	21	79	0	26	74	0	61	39	0.17	1.08	0.36	0.31	0.52	2.32	1.30	1.36	0.42	2.36	1.72	1.80	31	40	27	2	0	40
	AFT	0	76	0	34	0	29	71	0	5	95	0	68	32	0.18	1.49	0.44	0.40	0.57	2.28	1.34	1.45	0.26	2.44	1.71	1.84	19	29	50	2	0	40
1015-1	FWD	5	68	18	66	0	8	92	2	2	96	0	2	98	0.25	1.70	0.84	0.47	0.67	2.28	1.44	1.46	0.46	2.41	1.88	1.90	28	0	65	7	0	45
	AFT	4	68	18	67	0	30	70	0	5	95	0	4	96	0.29	1.20	0.60	0.56	0.84	2.28	1.49	1.50	0.80	2.36	1.86	1.95	14	0	77	8	0	45
1015-2	FWD	0	80	-2	71	0	10	90	0	10	90	0	11	89	0.22	1.10	0.50	0.46	0.84	2.27	1.29	1.30	0.26	2.34	1.69	1.78	28	4	65	3	0	40
	AFT	0	79	-2	71	0	21	79	0	9	91	0	9	91	0.28	1.21	0.59	0.52	0.84	2.28	1.37	1.38	0.38	2.40	1.74	1.80	17	1	70	12	0	40
1016-1	FWD	5	69	13	76	0	7	93	1	41	58	0	59	41	0.13	1.55	0.81	0.45	0.82	2.45	1.67	1.68	0.85	2.44	1.91	1.90	19	17	56	8	1	45
	AFT	4	69	12	76	0	27	73	0	26	74	0	42	58	0.28	1.65	0.64	0.58	0.82	2.34	1.69	1.72	0.98	2.46	1.90	1.92	11	9	62	17	1	45
1016-2	FWD	1	84	-4	76	0	8	92	0	31	69	0	48	52	0.18	1.86	0.48	0.44	0.82	2.36	1.45	1.44	0.34	2.80	1.76	1.82	22	18	56	3	0	40
	AFT	0	84	-4	76	0	19	81	1	27	72	0	40	60	0.20	1.88	0.55	0.49	0.82	2.32	1.52	1.60	0.30	2.49	1.75	1.82	23	5	65	6	1	40
1017-1	FWD	-1	80	21	99	0	0	100	15	69	24	0	82	18	0.20	1.65	0.66	0.61	0.88	2.28	1.74	1.78	0.60	2.32	1.93	2.00	1	8	77	13	1	25
	AFT	-1	87	19	98	0	17	83	24	58	18	0	80	16	0.20	1.62	0.64	0.60	0.88	2.29	1.75	1.75	1.18	2.36	1.89	1.90	1	13	74	11	1	25
1017-2	FWD	-1	78	2	139	0	0	100	8	62	33	0	77	23	0.22	1.22	0.58	0.55	0.84	2.30	1.70	1.80	0.86	2.37	1.93	1.94	3	14	74	9	0	30
	AFT	-1	79	-2	139	0	7	93	10	62	28	0	89	11	0.20	1.54	0.64	0.62	0.84	2.30	1.62	1.68	0.38	2.34	1.85	1.92	2	13	74	10	1	30

SECTION A

[redacted]

APPENDIX

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MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 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	1	0	0	0	0	0	1	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	1	0	0	0	0	0	1	0	0
0.23	0	0	0	1	0	0	0	0	0	1	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	1	0	0	0	0	0	1	0	0
0.29	0	0	0	1	0	0	0	0	0	1	0	0
0.30	0	0	0	5	0	0	0	0	0	5	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	1	0	0	1	0	0	2	0	0
0.33	0	0	0	1	0	0	0	0	0	1	0	0
0.34	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0	0	0	1	0	0	0	0	0	1	0	0
0.36	0	0	0	4	0	0	0	0	0	4	0	0
0.37	0	0	0	3	0	0	0	0	0	3	0	0
0.38	0	0	0	1	0	0	0	0	0	1	0	0
0.39	0	0	0	1	0	0	0	0	0	1	0	0
0.40	0	0	0	10	0	0	2	0	0	12	0	0
0.41	0	0	0	5	0	0	2	0	0	7	0	0
0.42	0	0	0	5	0	0	2	0	0	7	0	0
0.43	0	0	0	3	0	0	0	0	0	3	0	0
0.44	0	0	0	6	0	0	0	0	0	6	0	0
0.45	0	0	0	4	0	0	0	0	0	4	0	0
0.46	0	0	0	6	0	0	1	0	0	6	1	0
0.47	0	0	0	1	0	0	0	0	0	1	0	0
0.48	0	0	0	2	0	0	0	0	0	2	0	0
0.49	0	0	0	3	0	0	1	0	0	4	0	0
0.50	0	0	0	2	0	0	3	0	0	5	0	0
SUBTOTAL	0	0	0	64	0	0	9	1	0	73	1	0

[redacted]

TABLE A-1

[redacted]

MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 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	0	0	2	0	0
0.52	0	0	0	9	0	0	0	0	0	9	0	0
0.53	0	0	0	2	0	0	1	0	0	3	0	0
0.54	0	0	0	6	0	0	0	0	0	6	0	0
0.55	0	0	0	4	0	0	0	0	0	4	0	0
0.56	0	0	0	7	0	0	0	0	0	7	0	0
0.57	0	0	0	2	0	0	0	0	0	2	0	0
0.58	0	0	0	6	0	0	1	0	0	7	0	0
0.59	0	0	0	4	0	0	1	0	0	5	0	0
0.60	0	0	0	8	0	0	2	0	1	10	0	1
0.61	0	0	0	2	0	0	1	0	0	3	0	0
0.62	0	0	0	8	0	0	1	0	0	9	0	0
0.63	0	0	0	0	0	0	0	0	0	0	0	0
0.64	0	0	0	3	0	0	1	0	0	4	0	0
0.65	0	0	0	5	0	0	1	0	0	6	0	0
0.66	0	0	0	2	0	0	0	0	0	2	0	0
0.67	0	0	0	3	0	0	0	0	0	3	0	0
0.68	0	0	0	4	0	0	1	0	0	5	0	0
0.69	0	0	0	1	0	0	2	0	0	3	0	0
0.70	0	0	0	7	0	0	2	0	0	9	0	0
0.71	0	0	0	2	0	0	1	0	0	3	0	0
0.72	0	0	0	3	0	0	3	0	0	6	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	3	0	0	0	0	0	3	0	0
0.75	0	0	0	2	0	0	0	0	0	2	0	0
0.76	0	0	0	1	0	0	1	0	0	2	0	0
0.77	0	0	0	0	0	0	1	0	0	1	0	0
0.78	0	0	0	2	0	0	1	0	0	3	0	0
0.79	0	0	0	0	0	0	1	0	0	1	0	0
0.80	0	0	0	7	0	0	0	0	0	7	0	0
0.81	0	0	0	1	0	0	0	0	0	1	0	0
0.82	0	0	0	2	0	0	1	0	0	3	0	0
0.83	0	0	0	0	0	0	2	0	0	2	0	0
0.84	0	0	0	3	0	0	1	0	0	4	0	0
0.85	0	0	0	1	0	0	0	0	0	1	0	0
0.86	0	0	0	3	0	0	1	0	0	4	0	0
0.87	0	0	0	1	0	0	0	0	0	1	0	0
0.88	0	0	0	2	0	0	0	0	0	2	0	0
0.89	0	0	0	1	0	0	0	0	0	1	0	0
0.90	0	0	0	3	1	0	3	0	0	6	1	0
0.91	0	0	0	3	0	0	0	0	0	3	0	0
0.92	0	0	0	3	0	0	0	0	0	3	0	0
0.93	0	0	0	0	0	0	0	0	0	0	0	0
0.94	0	0	0	1	0	0	0	0	0	1	0	0
0.95	0	0	0	2	0	0	0	0	0	2	0	0
0.96	0	0	0	2	0	0	0	0	0	2	0	0
0.97	0	0	0	1	0	0	0	0	0	1	0	0
0.98	0	0	0	2	0	0	1	0	0	3	0	0
0.99	0	0	0	1	0	0	0	0	0	1	0	0
1.00	0	0	0	3	2	0	0	0	0	3	2	0
SUBTOTAL	0	0	0	136	4	0	32	2	1	168	6	1

[redacted]

TABLE A-1

[redacted]

MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	1	0	0	0	0	0	1	0
1.02	0	0	0	1	0	0	0	0	0	1	0	0
1.03	0	0	0	1	0	0	0	0	0	1	0	0
1.04	0	0	0	1	1	0	0	0	0	2	0	0
1.05	0	0	0	1	1	0	0	0	0	2	1	0
1.06	0	0	0	1	1	0	0	0	0	3	1	0
1.07	0	0	0	1	0	0	0	0	0	3	0	0
1.08	0	0	0	0	0	0	0	0	0	1	0	0
1.09	0	0	0	0	0	0	0	0	0	1	0	0
1.10	0	0	0	1	0	0	0	0	0	1	0	0
1.11	0	0	0	0	0	0	0	1	0	1	0	0
1.12	0	0	0	0	0	0	0	1	0	1	0	0
1.13	0	0	0	1	0	0	0	0	0	1	1	0
1.14	0	0	0	1	0	0	0	0	0	1	0	0
1.15	0	0	0	0	1	0	0	0	0	1	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	1	0	0	0	0	0	1	0
1.21	0	0	0	1	0	0	0	0	0	1	0	0
1.22	0	0	0	0	1	0	0	0	0	1	1	0
1.23	0	0	0	1	1	0	0	0	0	1	1	0
1.24	0	0	0	1	0	0	0	0	0	1	0	0
1.25	0	0	0	1	0	0	0	0	0	1	0	0
1.26	0	0	0	0	0	0	0	0	0	0	0	0
1.27	0	0	0	0	1	0	0	0	0	0	1	0
1.28	0	0	0	0	2	0	0	0	0	0	2	0
1.29	0	0	0	0	2	0	0	0	0	0	2	0
1.30	0	0	0	1	1	0	0	0	0	1	2	0
1.31	0	0	0	1	0	0	0	0	0	1	2	0
1.32	0	0	0	1	0	0	0	0	0	1	2	0
1.33	0	0	0	1	0	0	0	0	0	1	2	0
1.34	0	0	0	1	0	0	0	0	0	1	2	0
1.35	0	0	0	0	4	0	0	0	0	1	4	0
1.36	0	0	0	1	2	0	0	0	0	1	2	0
1.37	0	0	0	0	2	0	0	0	0	0	2	0
1.38	0	0	0	1	3	0	0	0	0	1	4	0
1.39	0	0	0	1	2	0	0	0	0	1	3	0
1.40	0	0	0	0	2	0	0	0	0	0	3	0
1.41	0	0	0	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	6	0	0	0	0	0	6	0
1.43	0	0	0	0	1	0	0	0	0	0	1	0
1.44	0	0	0	0	1	0	0	0	0	0	1	0
1.45	0	0	0	0	4	0	0	0	0	0	4	0
1.46	0	0	0	0	0	0	0	0	0	0	0	0
1.47	0	0	0	0	1	0	0	0	0	0	1	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	1	0	0	0	0	0	1	0
1.50	0	0	0	0	4	1	0	2	0	0	6	1
SUBTOTAL	0	0	0	14	40	7	5	13	1	19	53	8

[redacted]

TABLE A-1

[redacted]

MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	0	0	0	0	0
1.52	0	0	0	0	1	1	0	0	0	0	1	1
1.53	0	0	0	0	4	1	0	0	0	0	4	1
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	1	0	0	0	0
1.56	0	0	0	0	0	0	0	1	0	0	1	0
1.57	0	0	0	0	1	2	0	1	0	0	1	3
1.58	0	0	0	0	2	1	0	0	0	0	3	1
1.59	0	0	0	0	1	7	0	0	0	0	1	7
1.60	0	0	0	0	7	3	0	0	1	0	7	4
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	3	0	0	0	0	0	3	0
1.63	0	0	0	0	5	2	0	0	0	0	5	2
1.64	0	0	0	0	2	1	0	0	0	0	2	1
1.65	0	0	0	1	0	0	0	0	0	1	0	0
1.66	0	0	0	0	5	1	0	1	0	0	6	1
1.67	0	0	0	0	2	1	0	0	0	0	1	4
1.68	0	0	0	0	4	1	0	0	0	0	4	1
1.69	0	0	0	0	1	3	0	0	0	0	1	4
1.70	0	0	0	0	4	1	0	0	0	0	4	1
1.71	0	0	0	0	1	2	0	0	0	0	1	2
1.72	0	0	0	0	6	2	0	0	0	0	6	2
1.73	0	0	0	0	3	0	0	0	0	0	3	0
1.74	0	0	0	0	2	1	0	0	0	0	2	1
1.75	0	0	0	0	3	1	0	1	0	0	4	1
1.76	0	0	0	0	1	2	0	0	0	0	2	2
1.77	0	0	0	0	0	0	0	1	0	0	1	0
1.78	0	0	0	0	1	7	0	1	0	0	1	8
1.79	0	0	0	0	2	0	0	0	0	0	2	0
1.80	0	0	0	0	3	1	0	1	0	0	4	1
1.81	0	0	0	0	1	7	0	1	0	0	2	8
1.82	0	0	0	0	0	3	0	0	0	0	0	3
1.83	0	0	0	0	3	1	0	2	0	0	5	1
1.84	0	0	0	0	1	3	0	0	0	0	1	3
1.85	0	0	0	0	4	2	0	0	0	0	4	2
1.86	0	0	0	0	1	2	0	1	0	0	2	3
1.87	0	0	0	0	3	1	0	0	0	0	3	1
1.88	0	0	0	0	2	1	0	0	0	0	2	1
1.89	0	0	0	0	1	8	0	1	0	0	2	8
1.90	0	0	0	0	2	1	0	0	0	0	2	1
1.91	0	0	0	0	2	0	0	1	0	0	3	0
1.92	0	0	0	0	1	0	0	0	0	0	1	0
1.93	0	0	0	0	6	1	0	1	0	0	7	1
1.94	0	0	0	0	5	1	0	0	0	0	5	1
1.95	0	0	0	0	2	3	0	1	0	0	4	3
1.96	0	0	0	0	3	1	0	0	0	0	4	1
1.97	0	0	0	0	3	0	0	1	0	0	4	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	1	0	0	1
2.00	0	0	0	0	9	4	0	1	9	0	10	4
SUBTOTAL	0	0	0	1	130	58	0	17	7	1	147	65

[redacted]

TABLE A-1

[redacted]

MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	1	0	0	1	0	0	2	0
2.02	0	0	0	0	4	2	0	0	0	0	4	2
2.03	0	0	0	0	1	0	0	2	0	0	3	0
2.04	0	0	0	0	0	5	0	1	0	0	1	5
2.05	0	0	0	0	3	2	0	1	1	0	1	4	2	3
2.06	0	0	0	0	3	2	0	0	1	0	0	4	2	3
2.07	0	0	0	0	2	1	3	0	0	1	0	4	2	3
2.08	0	0	0	0	2	1	3	0	0	1	0	4	2	3
2.09	0	0	0	0	1	3	0	0	1	2	0	2	2	5
2.10	0	0	0	0	3	1	5	0	0	2	1	0	2	5
2.11	0	0	0	0	1	3	1	5	0	0	2	1	0	2	5
2.12	0	0	0	0	1	3	1	5	0	0	2	1	0	2	5
2.13	0	0	0	0	0	1	3	4	0	0	2	1	0	2	5
2.14	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.15	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.16	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.17	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.18	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.19	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.20	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.21	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.22	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.23	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.24	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.25	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.26	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.27	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.28	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.29	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.30	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.31	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.32	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.33	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.34	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.35	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.36	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.37	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.38	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.39	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.40	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.41	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.42	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.43	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.44	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.45	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.46	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.47	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.48	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.49	0	0	0	0	0	1	4	0	1	1	0	0	2	5
2.50	0	0	0	0	0	1	4	0	1	1	0	0	2	5
SUBTOTAL	0	0	0	0	41	45	0	13	22	0	54	67

[redacted]

TABLE A-1

[redacted]

MISSION • 1017-1 • INSTRUMENT • FRWD 4-29-65 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	215	215	110	46	46	31	261	261	141

MISSION 1017-1 INSTR - FRWD 4-29-65 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	215	0 PC	10 PC	76 PC	13 PC	1 PC
FULL	46	2 PC	0 PC	85 PC	13 PC	0 PC
ALL LEVELS	261	1 PC	8 PC	77 PC	13 PC	1 PC

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

[redacted]

TABLE A-1

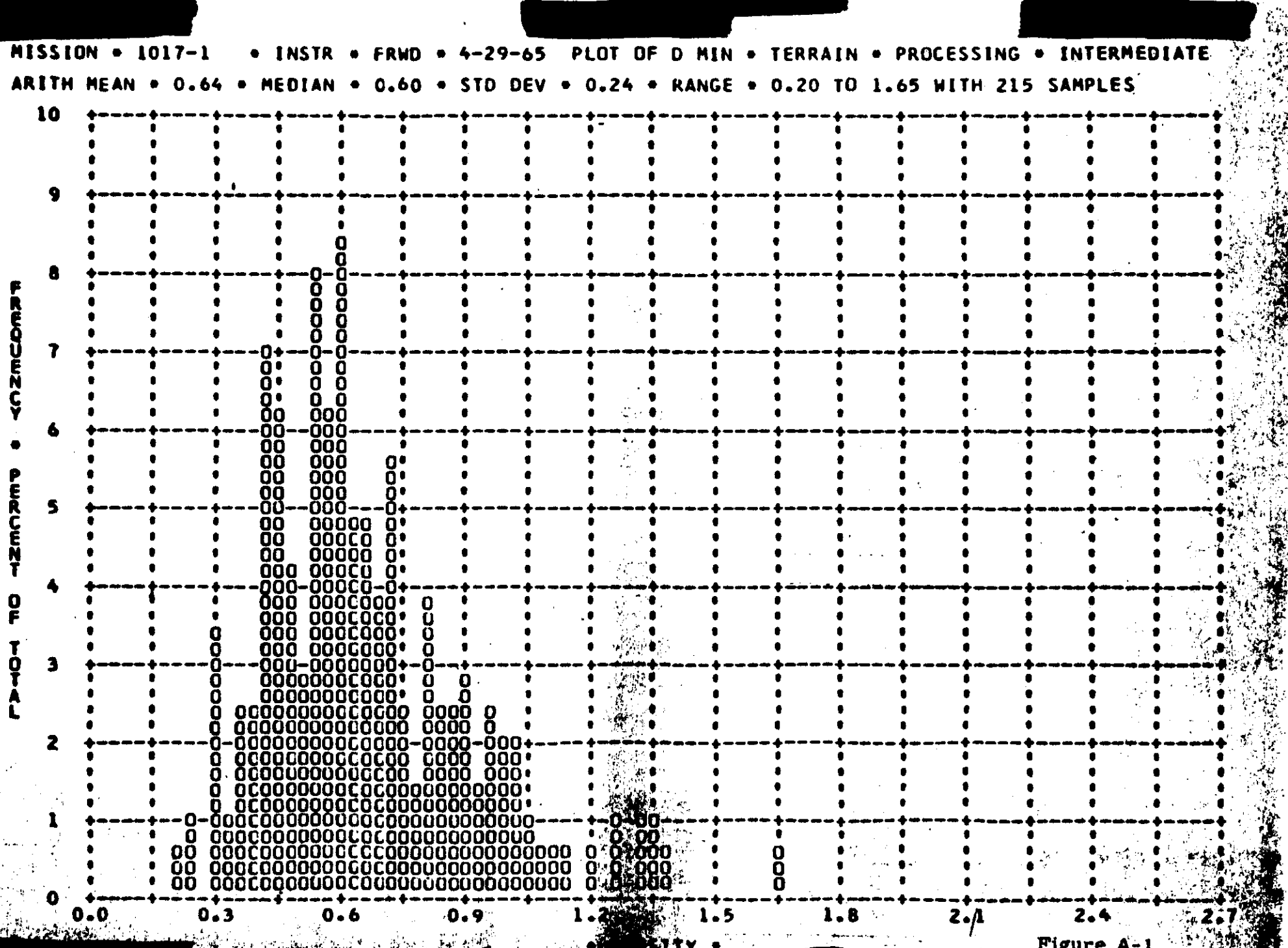

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 0.64 • MEDIAN • 0.60 • STD DEV • 0.24 • RANGE • 0.20 TO 1.65 WITH 215 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

Figure A-1

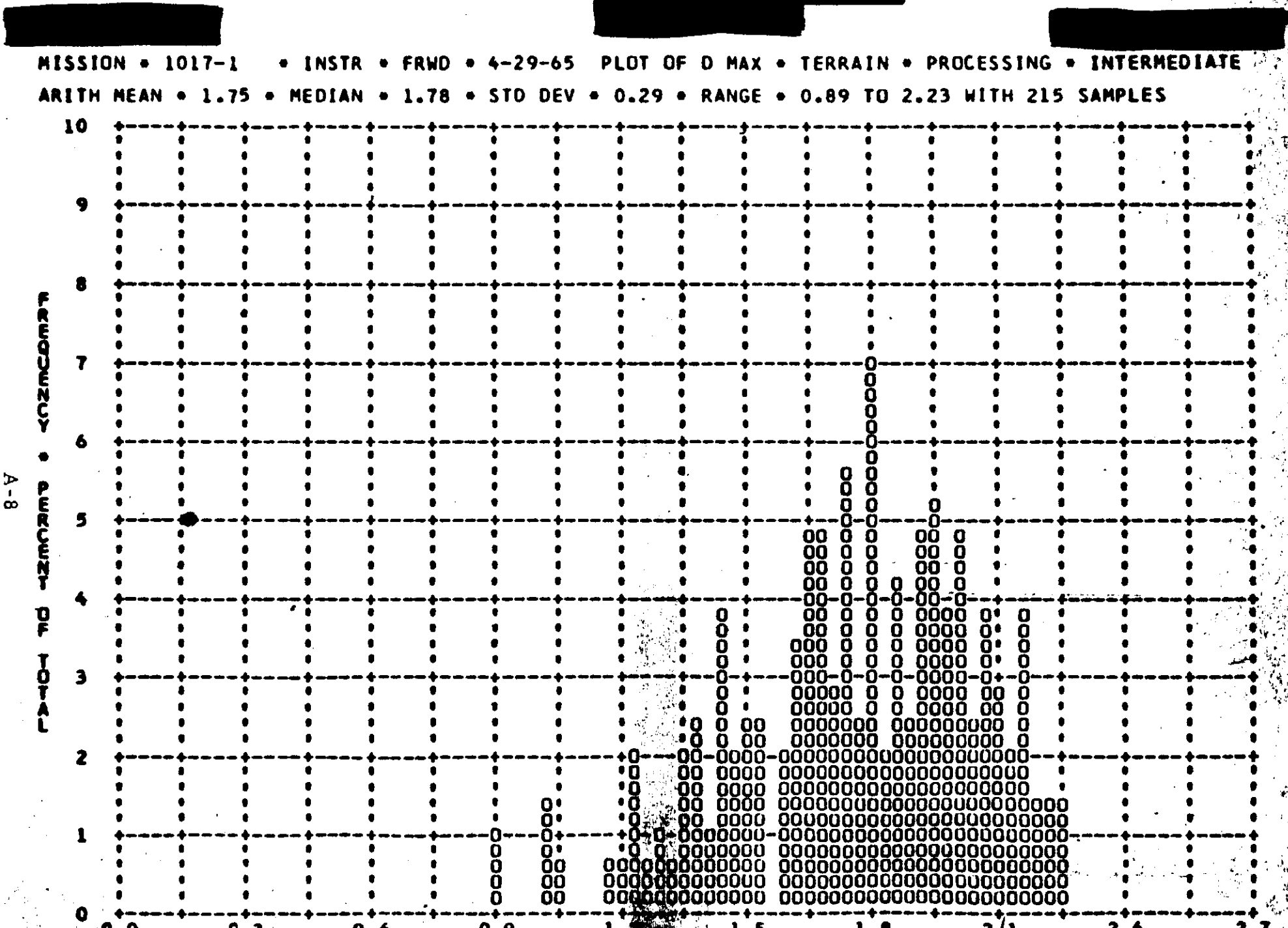

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.75 • MEDIAN • 1.78 • STD DEV • 0.29 • RANGE • 0.89 TO 2.23 WITH 215 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

Figure A-2

[redacted]

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.90 • MEDIAN • 1.96 • STD DEV • 0.24 • RANGE • 1.12 TO 2.30 WITH 110 SAMPLES

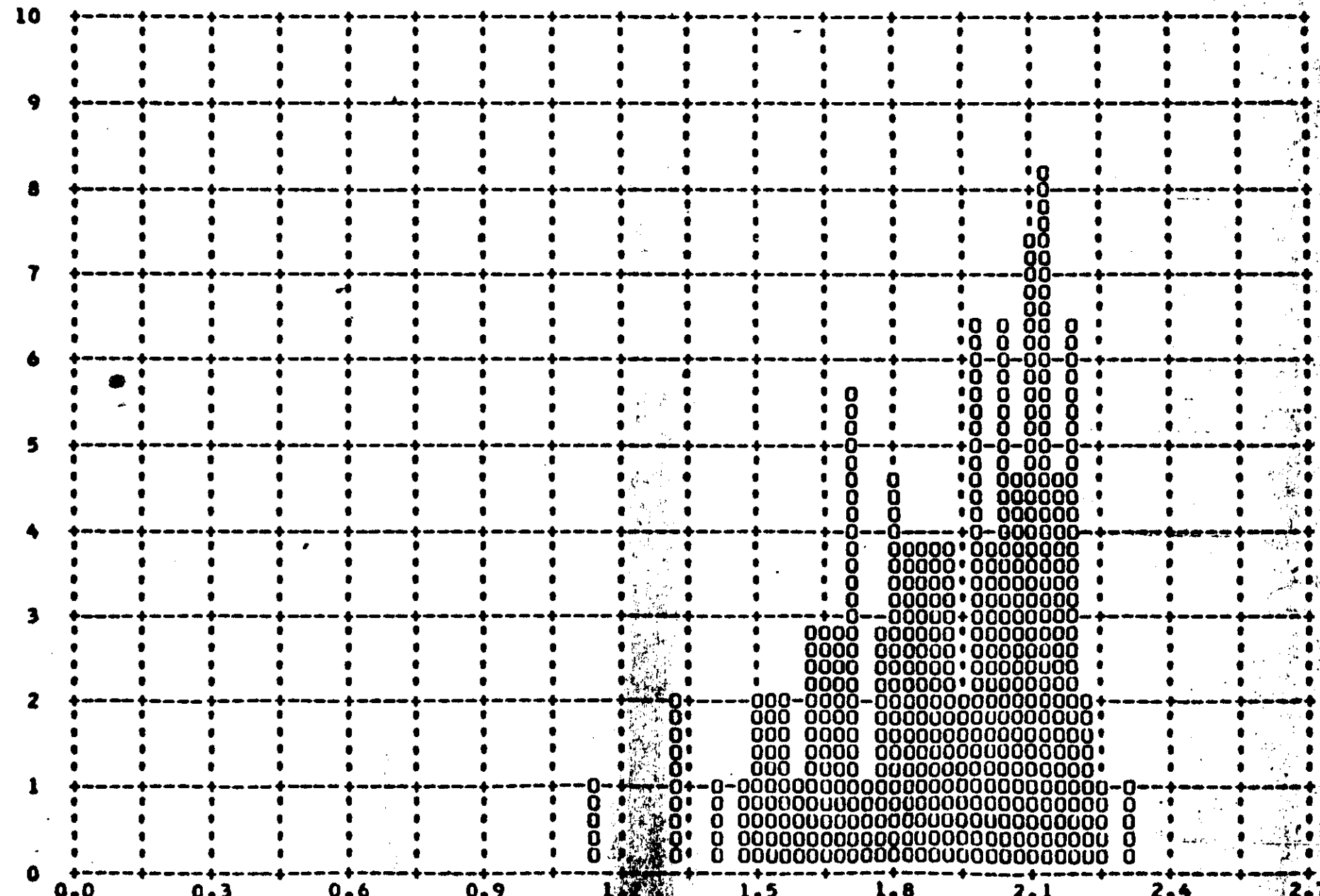


Figure A-3

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.71 • MEDIAN • 0.70 • STD DEV • 0.20 • RANGE • 0.32 TO 1.08 WITH 46 SAMPLES

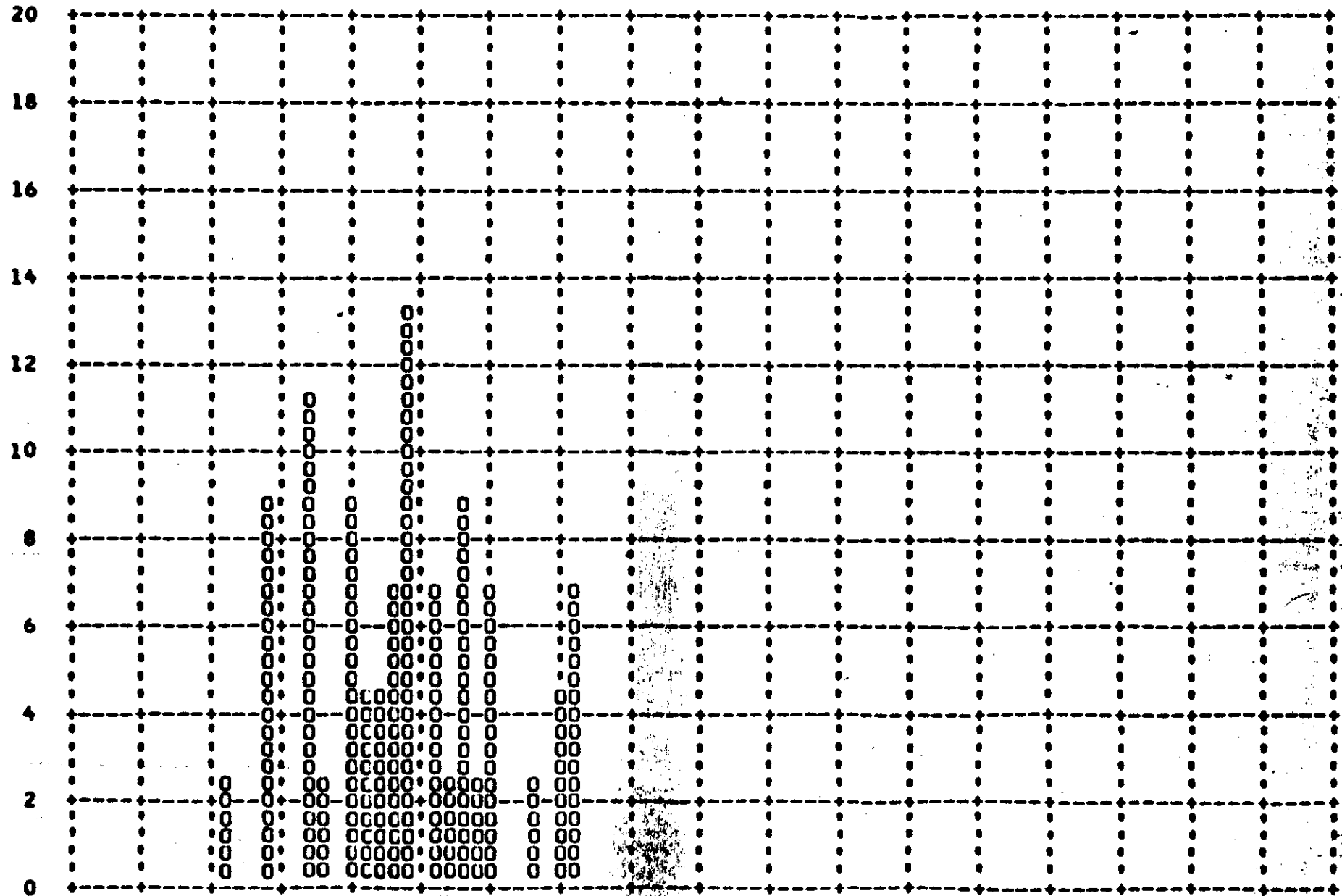


Figure A-4

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.69 • MEDIAN • 1.82 • STD DEV • 0.40 • RANGE • 0.46 TO 2.15 WITH 46 SAMPLES.

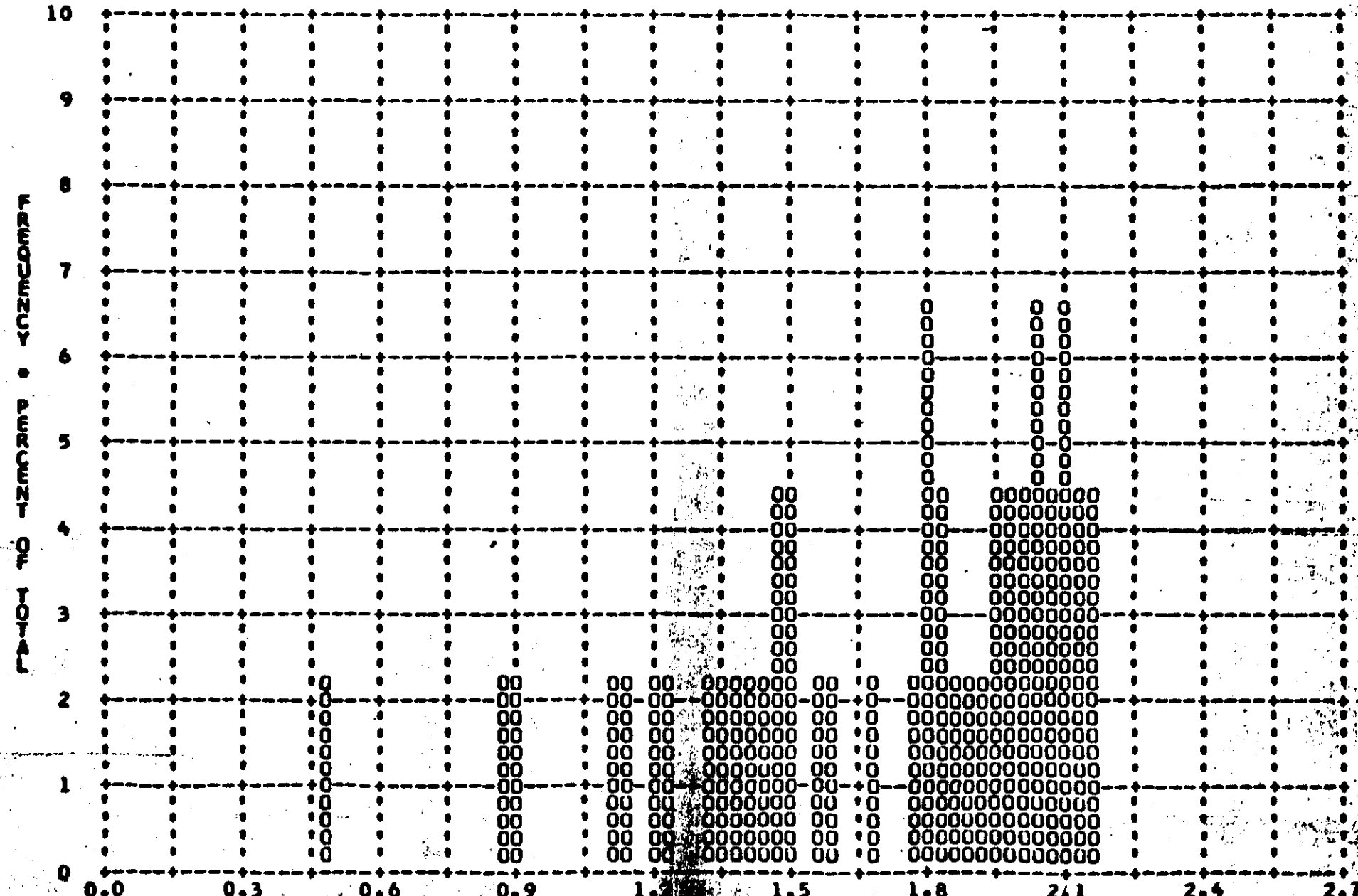


Figure A-5

[redacted]

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 2.04 • MEDIAN • 2.11 • STD DEV • 0.36 • RANGE • 0.60 TO 2.32 WITH 31 SAMPLES

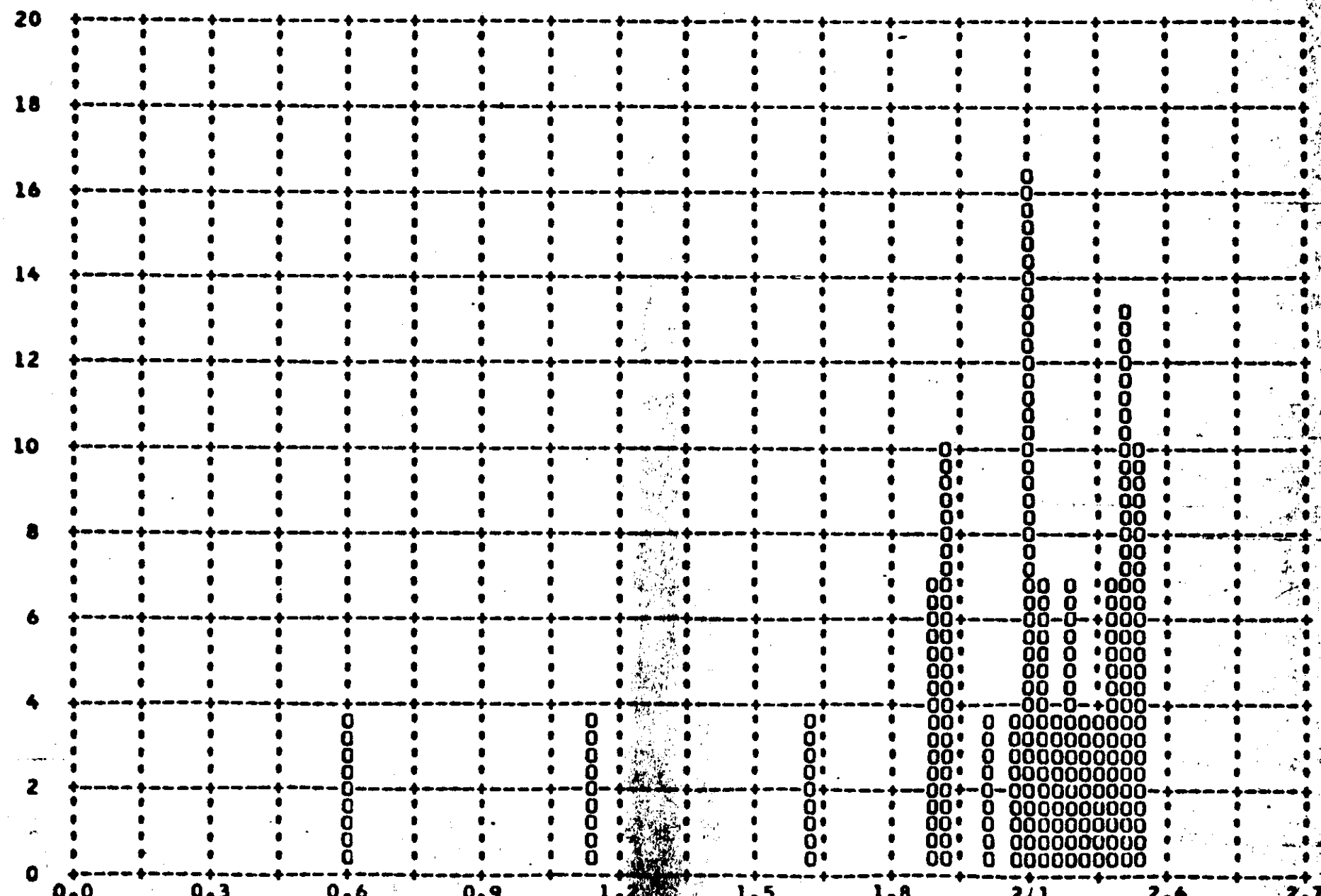


Figure A-6

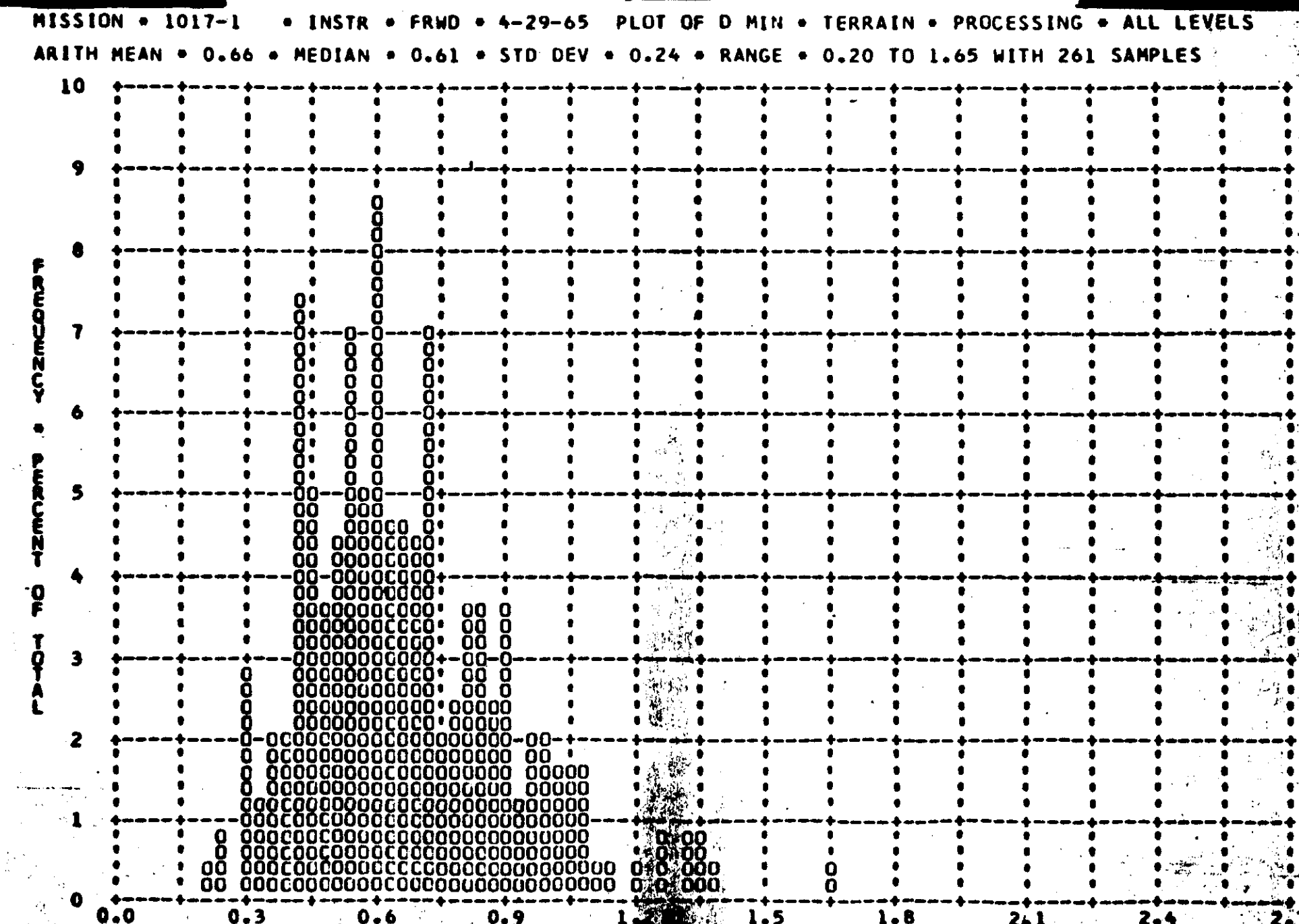

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 0.66 • MEDIAN • 0.61 • STD DEV • 0.24 • RANGE • 0.20 TO 1.65 WITH 261 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.5
1.8
2.1
2.4
2.7
DENSITY •

Figure A-7

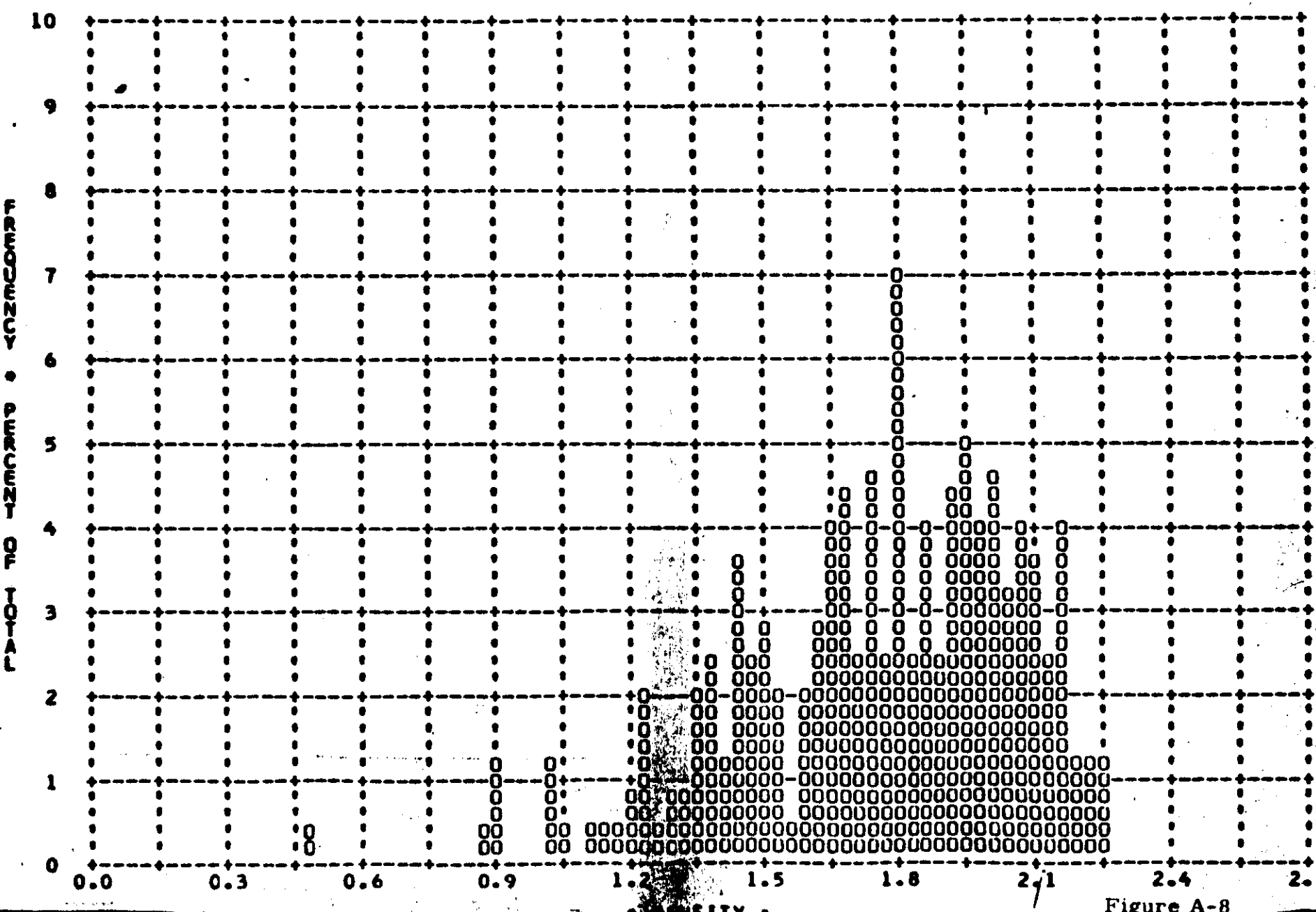

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.74 • MEDIAN • 1.78 • STD DEV • 0.31 • RANGE • 0.46 TO 2.23 WITH 261 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

Figure A-8

MISSION • 1017-1 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.93 • MEDIAN • 2.00 • STD DEV • 0.28 • RANGE • 0.60 TO 2.32 WITH 141 SAMPLES

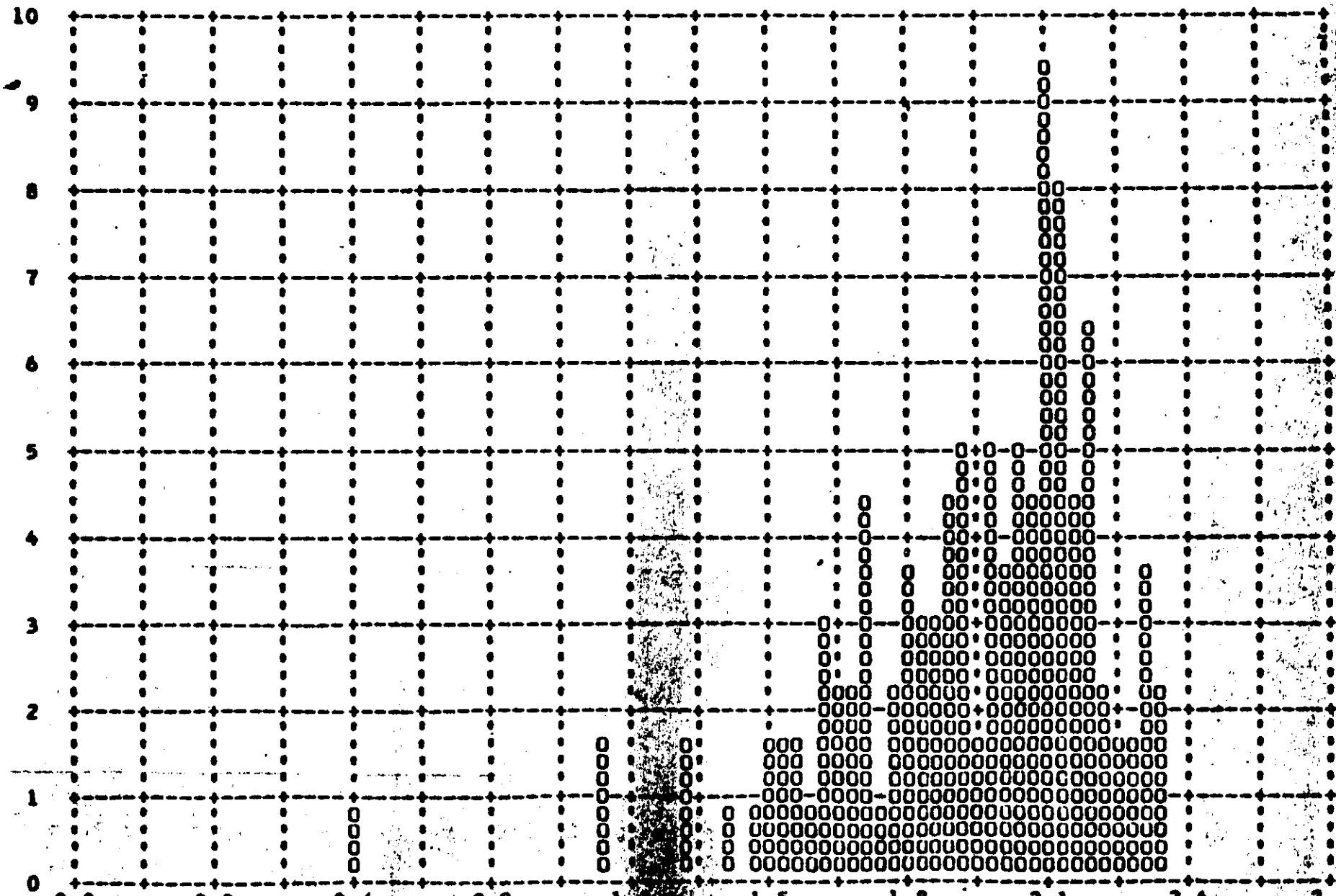


Figure A-9

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 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	1	0	0	0	0	0	1	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	1	0	0	0	0	0	1	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	1	0	0	0	0	0	1	0	0
0.25	0	0	0	2	0	0	0	0	0	2	0	0
0.26	0	0	0	4	0	0	0	0	0	4	0	0
0.27	0	0	0	1	0	0	0	0	0	1	0	0
0.28	0	0	0	1	0	0	0	0	0	1	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	2	0	0	1	0	0	0	0	0	3	0	0
0.31	0	0	0	1	0	0	0	0	0	1	0	0
0.32	0	0	0	2	0	0	0	0	0	2	0	0
0.33	0	0	0	1	0	0	0	0	0	1	0	0
0.34	0	0	0	1	0	0	0	0	0	1	0	0
0.35	0	0	0	3	0	0	0	0	0	3	0	0
0.36	0	0	0	5	0	0	0	0	0	5	0	0
0.37	0	0	0	2	0	0	1	0	0	3	0	0
0.38	1	0	0	5	0	0	0	0	0	6	0	0
0.39	0	0	0	1	0	0	0	0	0	1	0	0
0.40	0	0	0	5	0	0	0	0	0	5	0	0
0.41	0	0	0	2	0	0	0	0	0	2	0	0
0.42	1	0	0	5	0	0	0	0	0	6	0	0
0.43	0	0	0	1	0	0	0	0	0	1	0	0
0.44	1	0	0	3	0	0	0	0	0	4	0	0
0.45	0	0	0	4	0	0	0	0	0	4	0	0
0.46	0	0	0	5	0	0	0	0	0	5	0	0
0.47	0	0	0	1	0	0	0	0	0	1	0	0
0.48	0	0	0	5	0	0	1	0	0	6	0	0
0.49	0	0	0	2	0	0	0	0	0	2	0	0
0.50	0	0	0	10	0	0	0	0	0	10	0	0
SUBTOTAL	5	0	0	74	0	0	3	0	0	82	0	0

[redacted]

TABLE A-2

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 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	0	0	0	0	0	0	0	0	0
0.52	0	0	0	7	0	0	1	0	0	8	0	0
0.53	0	0	0	2	0	0	0	0	0	2	0	0
0.54	0	0	0	5	0	0	0	0	0	5	0	0
0.55	0	0	0	7	0	0	0	0	0	7	0	0
0.56	0	0	0	9	0	0	0	0	0	9	0	0
0.57	0	0	0	6	0	0	0	0	0	6	0	0
0.58	0	0	0	7	0	0	0	0	0	7	0	0
0.59	0	0	0	2	0	0	0	0	0	2	0	0
0.60	0	0	0	7	1	0	1	0	0	8	1	0
0.61	0	0	0	2	0	0	1	0	0	3	0	0
0.62	0	0	0	6	0	0	0	0	0	6	0	0
0.63	0	0	0	3	0	0	0	0	0	3	0	0
0.64	0	0	0	4	0	0	1	0	0	5	0	0
0.65	0	0	0	5	0	0	0	0	0	5	0	0
0.66	0	0	0	7	0	0	0	0	0	7	0	0
0.67	0	0	0	1	0	0	0	0	0	1	0	0
0.68	1	0	0	0	0	0	0	0	0	1	0	0
0.69	1	0	0	0	0	0	0	0	0	1	0	0
0.70	0	0	0	8	1	0	0	0	0	8	1	0
0.71	0	0	0	2	0	0	0	0	0	2	0	0
0.72	0	0	0	6	0	0	2	0	0	8	0	0
0.73	0	0	0	2	0	0	0	0	0	2	0	0
0.74	0	0	0	5	0	0	0	0	0	5	0	0
0.75	0	0	0	2	0	0	0	0	0	2	0	0
0.76	1	0	0	0	0	0	0	0	0	1	0	0
0.77	1	0	0	0	0	0	0	0	0	1	0	0
0.78	0	0	0	5	0	0	0	0	0	5	0	0
0.79	0	1	0	2	0	0	0	0	0	2	0	0
0.80	1	0	0	4	0	0	0	0	0	5	0	0
0.81	1	0	0	0	0	0	0	0	0	1	0	0
0.82	0	0	0	0	0	0	0	0	0	0	0	0
0.83	0	0	0	0	0	0	0	0	0	0	0	0
0.84	0	0	0	2	0	0	1	0	0	3	0	0
0.85	0	0	0	2	0	0	1	0	0	3	0	0
0.86	0	0	0	1	1	0	2	0	0	4	1	0
0.87	0	0	0	2	1	0	0	0	0	2	1	0
0.88	0	0	0	1	0	0	0	0	0	1	0	0
0.89	0	0	0	6	0	0	1	0	0	7	0	0
0.90	0	0	0	0	0	0	0	0	0	0	0	0
0.91	0	0	0	2	0	0	0	0	0	2	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	1	0	0	0	0	0	1	0	0
0.94	0	0	0	0	0	0	0	0	0	0	0	0
0.95	0	0	0	3	0	0	1	0	0	4	0	0
0.96	0	0	0	0	0	0	0	0	0	0	0	0
0.97	0	0	0	1	0	0	0	0	0	1	0	0
0.98	2	0	0	1	0	0	0	0	0	3	0	0
0.99	0	0	0	1	0	0	0	0	0	1	0	0
1.00	0	0	0	2	0	0	0	0	0	2	0	0
SUBTOTAL	5	0	0	142	5	0	12	0	0	159	5	0

[redacted]

TABLE A-2

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	2	1	0	0	0	0	2	1	0
1.03	0	0	0	2	0	0	0	0	0	2	0	0
1.04	0	0	0	3	0	0	0	0	0	3	0	0
1.05	0	0	0	1	0	0	0	0	0	1	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	0	0	0	0	0	0
1.08	0	0	0	0	1	0	1	0	0	1	2	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	1	0	0	0	0	0	1	0	0
1.12	1	0	0	1	0	0	0	0	0	2	0	0
1.13	0	0	0	0	0	0	0	0	0	0	0	0
1.14	0	1	0	0	1	0	0	0	0	0	2	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	1	0	0	0	0	0	0	1	0	1
1.19	0	0	0	1	0	0	0	0	0	1	0	0
1.20	0	0	0	0	0	0	1	0	0	1	0	0
1.21	0	0	0	0	0	0	0	0	0	0	0	0
1.22	0	0	0	0	1	0	0	1	0	0	2	0
1.23	0	0	0	1	0	0	0	0	0	1	0	0
1.24	0	0	0	1	0	0	0	0	0	1	0	0
1.25	0	0	0	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	1	0	0	0	0	0	1	0
1.30	0	0	0	0	1	0	1	0	0	0	1	0
1.31	0	0	0	0	1	0	0	0	0	0	1	0
1.32	0	0	0	1	0	3	1	0	0	1	0	2
1.33	0	0	0	1	0	2	1	0	0	1	0	2
1.34	0	0	0	0	1	0	0	0	0	0	1	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	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	2	0	0	0	0	2	0
1.40	0	0	1	0	0	3	0	0	0	0	4	1
1.41	0	0	0	0	0	1	0	0	0	0	1	0
1.42	0	0	0	0	0	0	0	0	0	0	0	0
1.43	0	0	1	0	0	1	0	0	0	0	0	1
1.44	0	0	0	0	0	1	0	0	0	0	0	1
1.45	0	0	0	1	2	1	0	0	0	1	3	1
1.46	0	0	1	0	2	1	0	0	0	0	3	1
1.47	0	0	0	0	0	0	0	0	0	0	1	0
1.48	0	0	0	0	1	0	0	0	0	0	1	0
1.49	0	0	0	0	1	0	0	0	0	0	1	0
1.50	0	1	0	0	0	0	0	0	0	0	1	0
SUBTOTAL	1	4	3	16	25	8	2	5	2	19	34	13

[redacted]

TABLE A-2

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	1	1	0	0	0	0	1	1
1.52	0	0	0	0	1	0	0	0	0	0	1	0
1.53	0	0	0	0	0	1	0	0	0	0	0	1
1.54	0	0	0	0	1	4	0	0	0	0	1	4
1.55	0	0	1	0	1	1	0	0	0	0	1	2
1.56	0	0	0	0	0	1	0	0	0	0	0	1
1.57	0	0	0	0	1	5	0	0	0	0	1	5
1.58	0	0	0	0	0	2	0	0	0	0	0	2
1.59	0	0	0	0	0	8	0	0	0	0	0	8
1.60	0	0	0	0	0	2	0	0	0	0	0	2
1.61	0	0	0	0	1	0	0	0	0	0	1	0
1.62	0	0	0	0	1	6	0	0	0	0	1	6
1.63	0	0	0	0	0	3	0	0	0	0	0	3
1.64	0	0	0	0	1	4	0	0	0	0	1	5
1.65	0	0	0	0	0	3	0	0	0	0	0	3
1.66	0	0	0	0	0	6	0	0	0	0	0	6
1.67	0	0	1	0	0	3	0	0	0	0	0	4
1.68	0	0	0	0	1	0	0	0	0	0	1	0
1.69	0	0	0	0	0	2	0	0	0	0	0	2
1.70	0	0	1	0	1	0	0	0	0	0	1	1
1.71	0	0	0	0	0	4	0	0	0	0	0	4
1.72	0	0	0	0	0	1	0	0	0	0	0	3
1.73	0	0	0	0	0	7	0	0	0	0	0	7
1.74	0	0	0	0	0	1	0	0	0	0	0	1
1.75	0	0	0	0	0	2	0	0	0	0	0	2
1.76	0	0	0	0	0	1	0	0	0	0	0	1
1.77	0	0	0	0	0	2	0	0	0	0	0	2
1.78	0	0	0	0	0	5	0	0	0	0	0	5
1.79	0	0	0	0	0	1	0	0	0	0	0	1
1.80	0	0	1	0	0	1	0	0	0	0	0	2
1.81	0	0	0	0	0	7	0	0	0	0	0	7
1.82	0	0	0	0	0	1	0	0	0	0	0	1
1.83	0	0	0	0	0	2	0	0	0	0	0	2
1.84	0	0	0	0	0	5	0	0	0	0	0	5
1.85	0	0	1	0	0	3	0	0	0	0	0	4
1.86	0	0	0	0	0	1	0	0	0	0	0	1
1.87	0	0	0	0	0	4	0	0	0	0	0	4
1.88	0	0	0	0	0	3	0	0	0	0	0	3
1.89	0	0	0	0	0	2	0	0	1	0	0	3
1.90	0	0	0	0	0	3	0	0	0	0	0	3
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	8	0	0	0	0	0	9
1.93	0	0	0	0	0	2	0	0	0	0	0	2
1.94	0	0	0	0	0	3	0	0	0	0	0	4
1.95	0	0	0	0	0	2	0	0	1	0	0	2
1.96	0	0	0	0	0	5	0	0	0	0	0	5
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	5	0	0	0	0	0	5
1.99	0	0	0	0	0	1	0	0	0	0	0	1
2.00	0	0	0	0	0	9	0	0	1	0	0	9
SUBTOTAL	0	7	8	1	154	58	0	11	2	1	172	68

[redacted]

TABLE A-2

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 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	1	0	0	0	0	0	1
2.02	0	0	0	0	5	1	0	0	0	0	5	1
2.03	0	0	0	0	3	1	0	0	0	0	3	1
2.04	0	0	0	0	2	4	0	0	0	0	2	4
2.05	0	0	0	0	3	2	0	0	0	0	3	2
2.06	0	0	0	0	4	2	0	0	0	0	4	2
2.07	0	0	0	0	1	5	0	0	0	0	1	5
2.08	0	0	0	0	5	1	0	0	0	0	5	1
2.09	0	0	0	0	1	2	0	0	0	0	1	2
2.10	0	0	0	0	2	1	0	0	0	0	2	1
2.11	0	0	0	0	1	2	0	0	0	0	1	2
2.12	0	0	0	0	6	1	0	0	0	0	6	1
2.13	0	0	0	0	4	3	0	0	0	0	4	3
2.14	0	0	0	0	1	1	0	0	0	0	1	1
2.15	0	0	0	0	1	1	0	0	0	0	1	1
2.16	0	0	0	0	1	1	0	0	1	0	1	1
2.17	0	0	0	0	2	1	0	0	0	0	2	1
2.18	0	0	0	0	1	3	0	0	0	0	1	3
2.19	0	0	0	0	1	1	0	0	0	0	1	1
2.20	0	0	0	0	0	3	0	0	0	0	0	3
2.21	0	0	0	0	2	2	0	0	0	0	2	2
2.22	0	0	0	0	1	4	0	0	0	0	1	4
2.23	0	0	0	0	1	1	0	0	0	0	1	1
2.24	0	0	0	0	1	0	0	0	0	0	1	0
2.25	0	0	0	0	0	1	0	0	0	0	0	1
2.26	0	0	0	0	0	1	0	0	0	0	0	1
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	1	0	0	0	0	0	1	0
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	1	0	0	0	0	0	1
2.32	0	0	0	0	0	1	0	0	1	0	0	2
2.33	0	0	0	0	0	1	0	0	1	0	0	2
2.34	0	0	0	0	0	1	0	0	1	0	0	2
2.35	0	0	0	0	0	0	0	0	1	0	0	1
2.36	0	0	0	0	0	0	0	0	3	0	0	3
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	49	40	0	1	9	0	50	49

[redacted]

TABLE A-2

[redacted]

MISSION • 1017-1 • INSTRUMENT • AFT 4-29-65 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	11	11	11	233	233	106	17	17	13	261	261	130

MISSION 1017-1 INSTR - AFT 4-29-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	11	0 PC	27 PC	45 PC	0 PC	27 PC
INTERMEDIATE	233	0 PC	13 PC	75 PC	11 PC	1 PC
FULL	17	6 PC	0 PC	76 PC	18 PC	0 PC
ALL LEVELS	261	1 PC	13 PC	74 PC	11 PC	2 PC

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

[redacted]

TABLE A-2

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 0.65 • MEDIAN • 0.68 • STD DEV • 0.30 • RANGE • 0.30 TO 1.12 WITH 11 SAMPLES

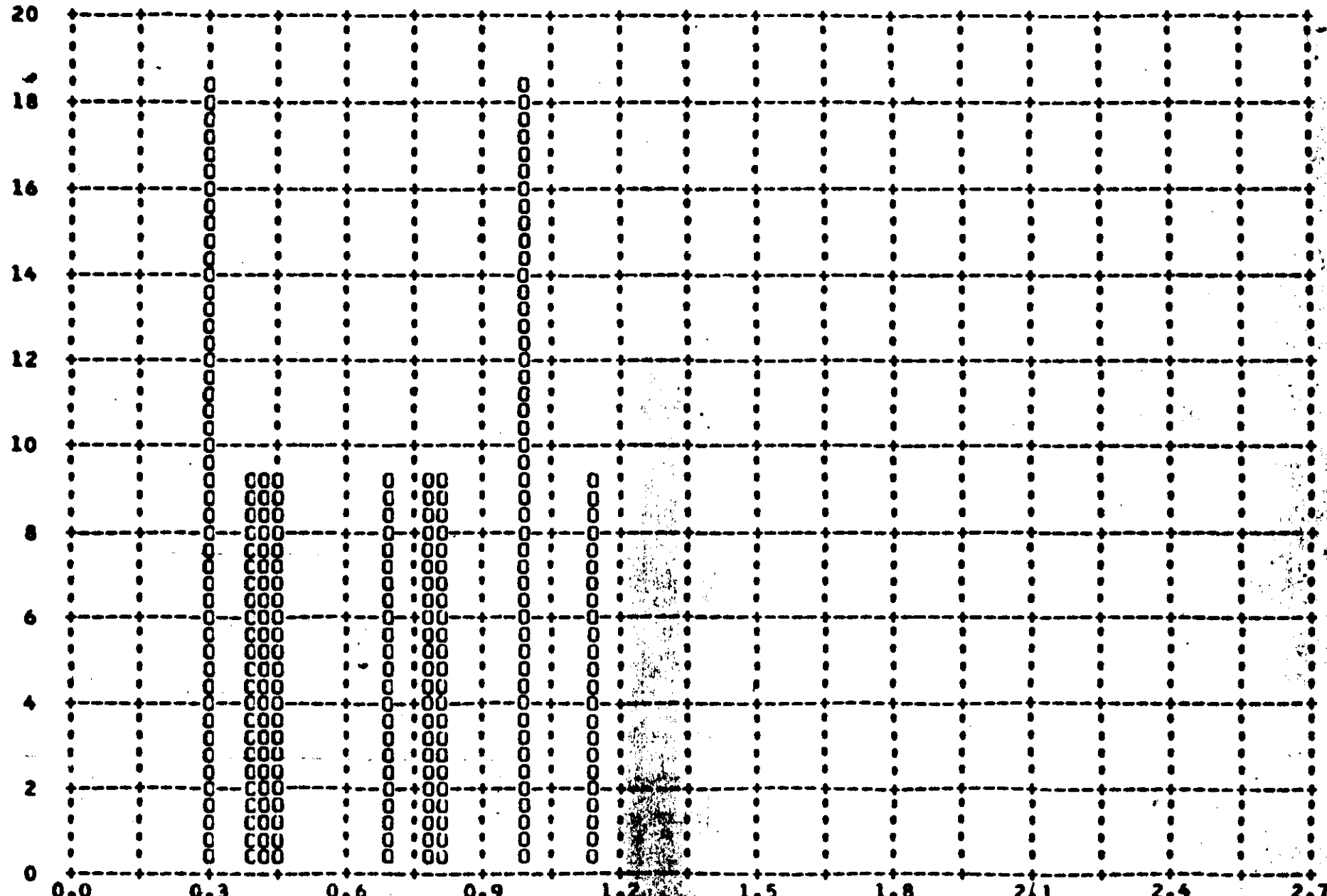


Figure A-10

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 1.60 • MEDIAN • 1.67 • STD DEV • 0.21 • RANGE • 1.14 TO 1.85 WITH 11 SAMPLES

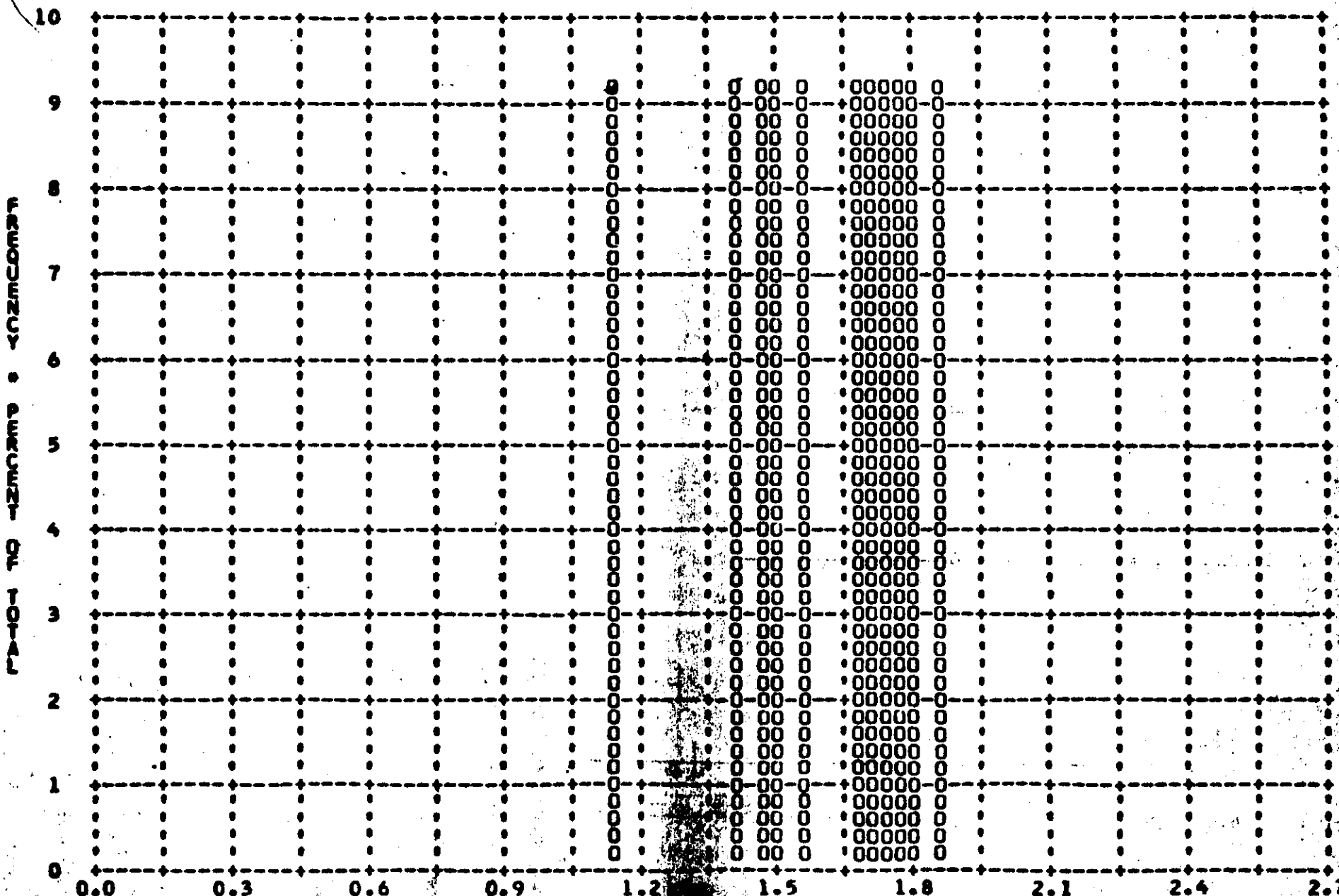


Figure A-11

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • PRIMARY

ARITH MEAN • 1.68 • MEDIAN • 1.80 • STD DEV • 0.24 • RANGE • 1.18 TO 1.90 WITH 11 SAMPLES

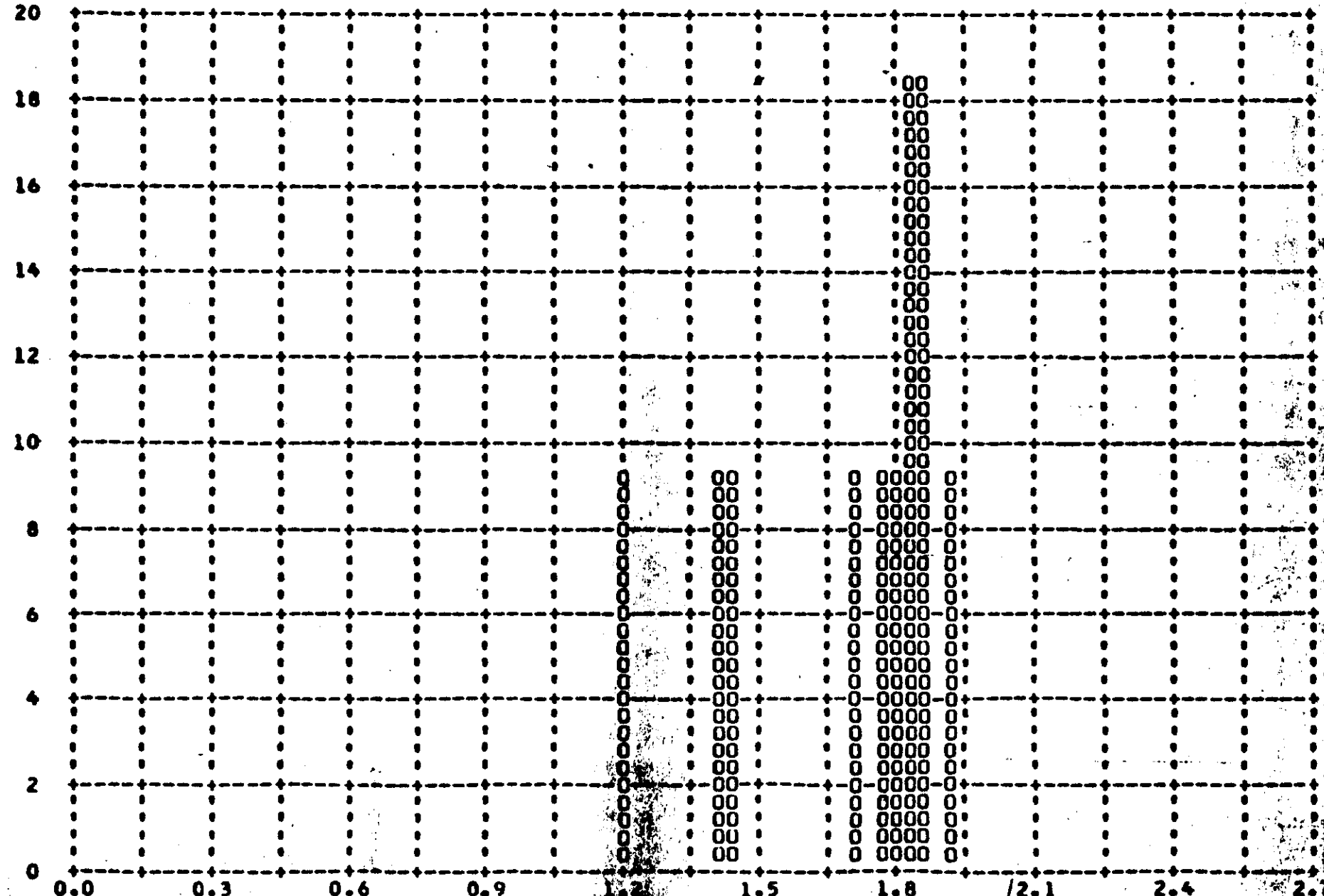


Figure A-12

[redacted] [redacted] [redacted]

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.63 • MEDIAN • 0.58 • STD DEV • 0.23 • RANGE • 0.20 TO 1.62 WITH 233 SAMPLES

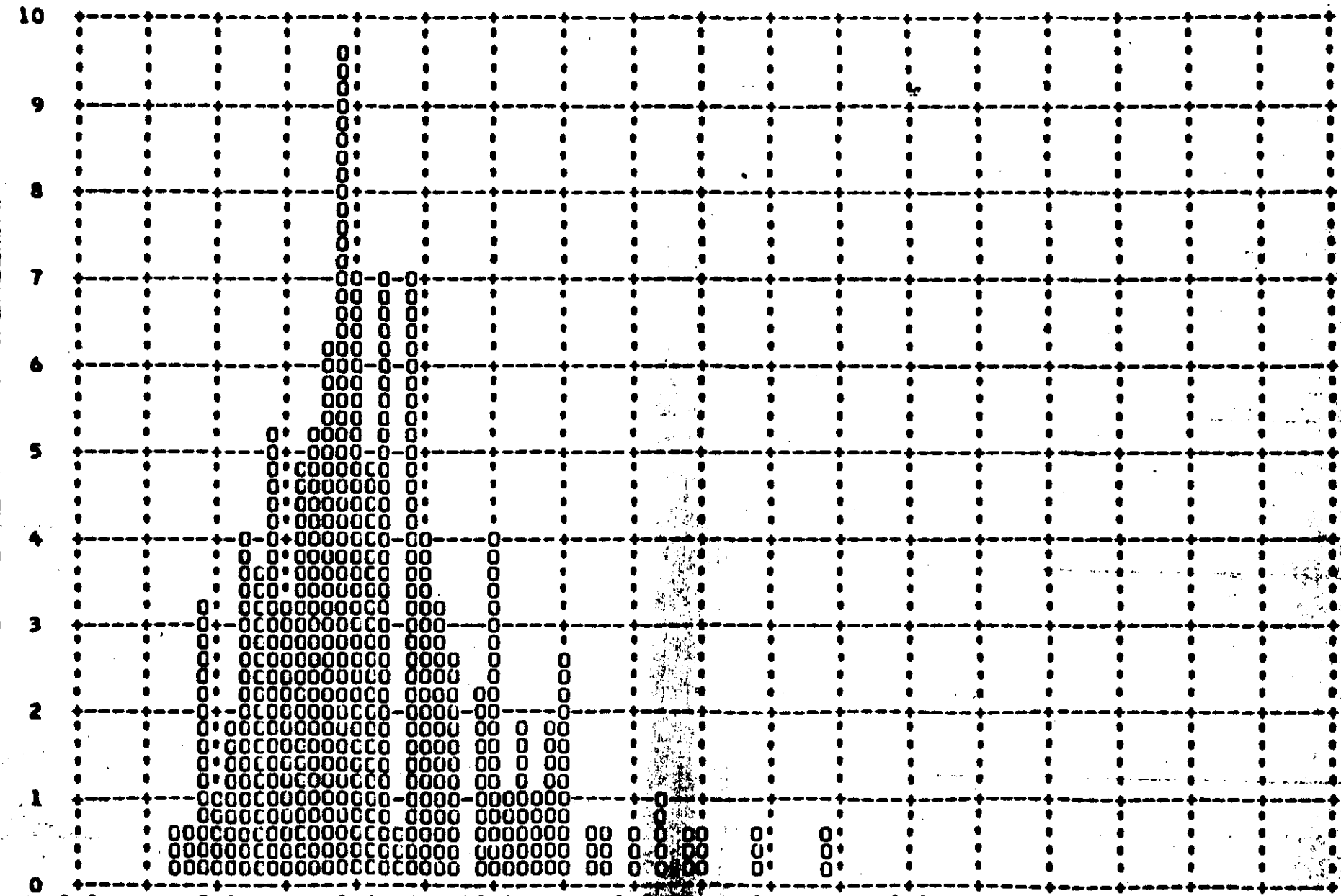


Figure A-13

[redacted]

[redacted]

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.77 • MEDIAN • 1.77 • STD DEV • 0.28 • RANGE • 0.60 TO 2.29 WITH 233 SAMPLES

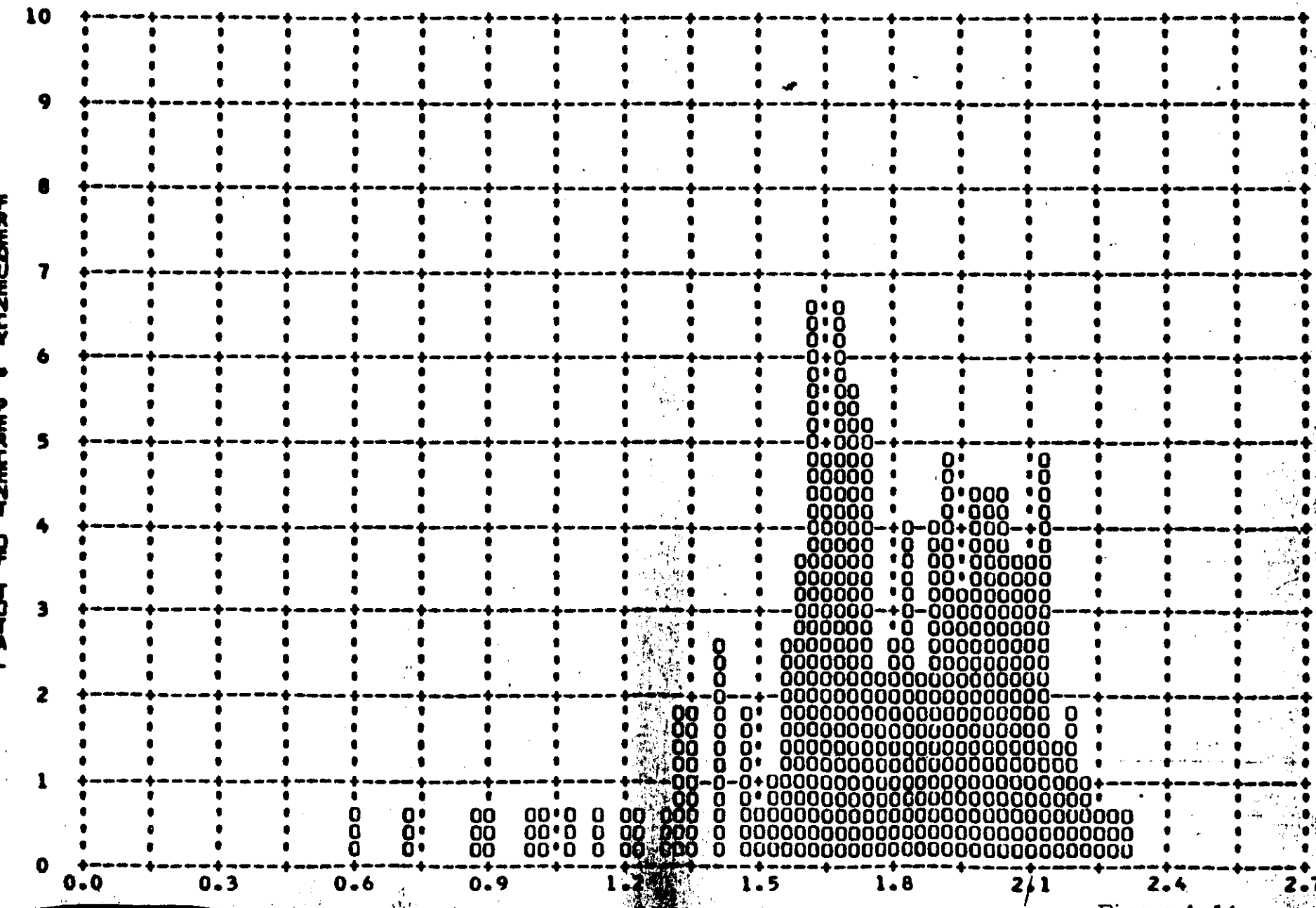


Figure A-14

[redacted]

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.89 • MEDIAN • 1.90 • STD DEV • 0.25 • RANGE • 1.30 TO 2.34 WITH 106 SAMPLES

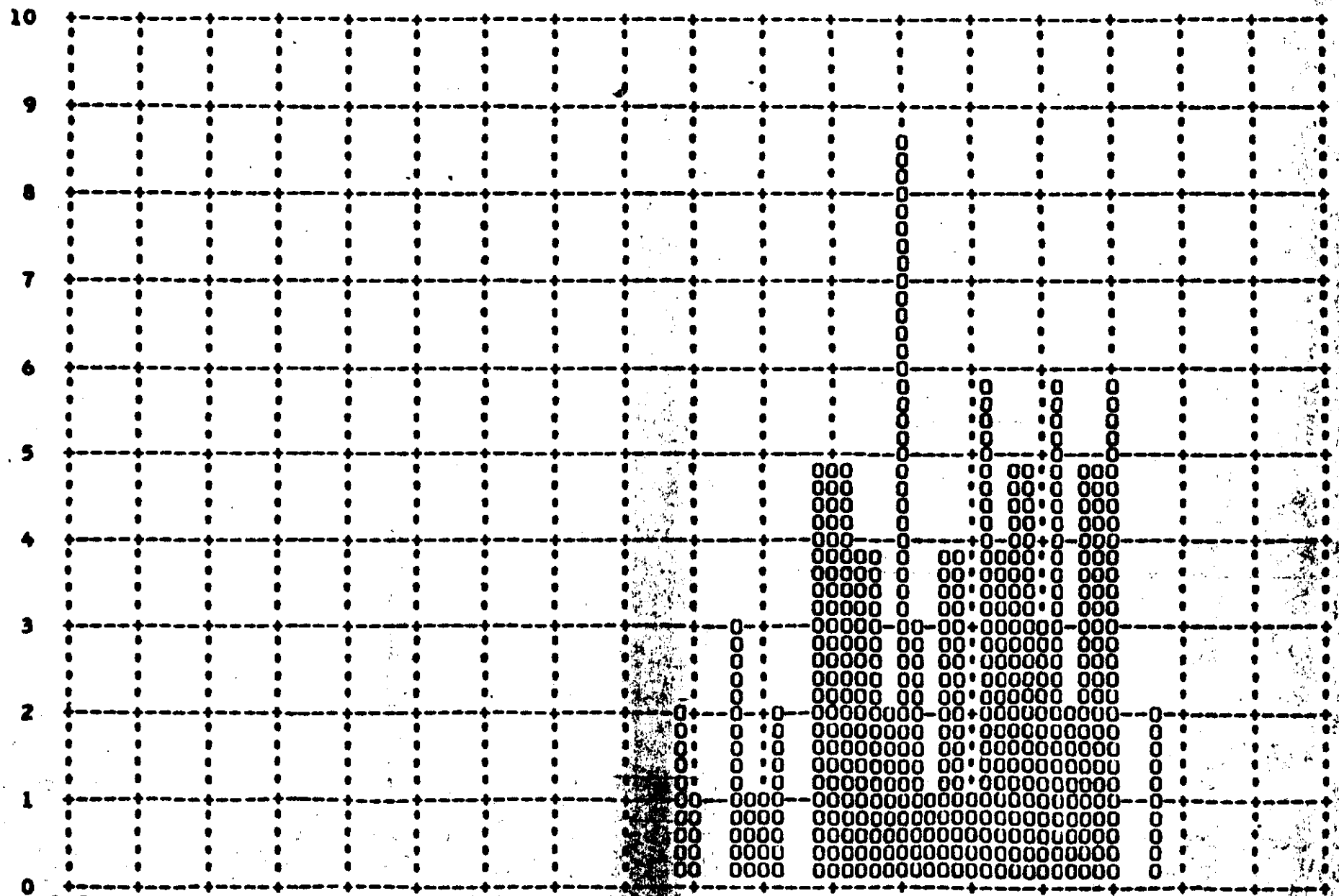
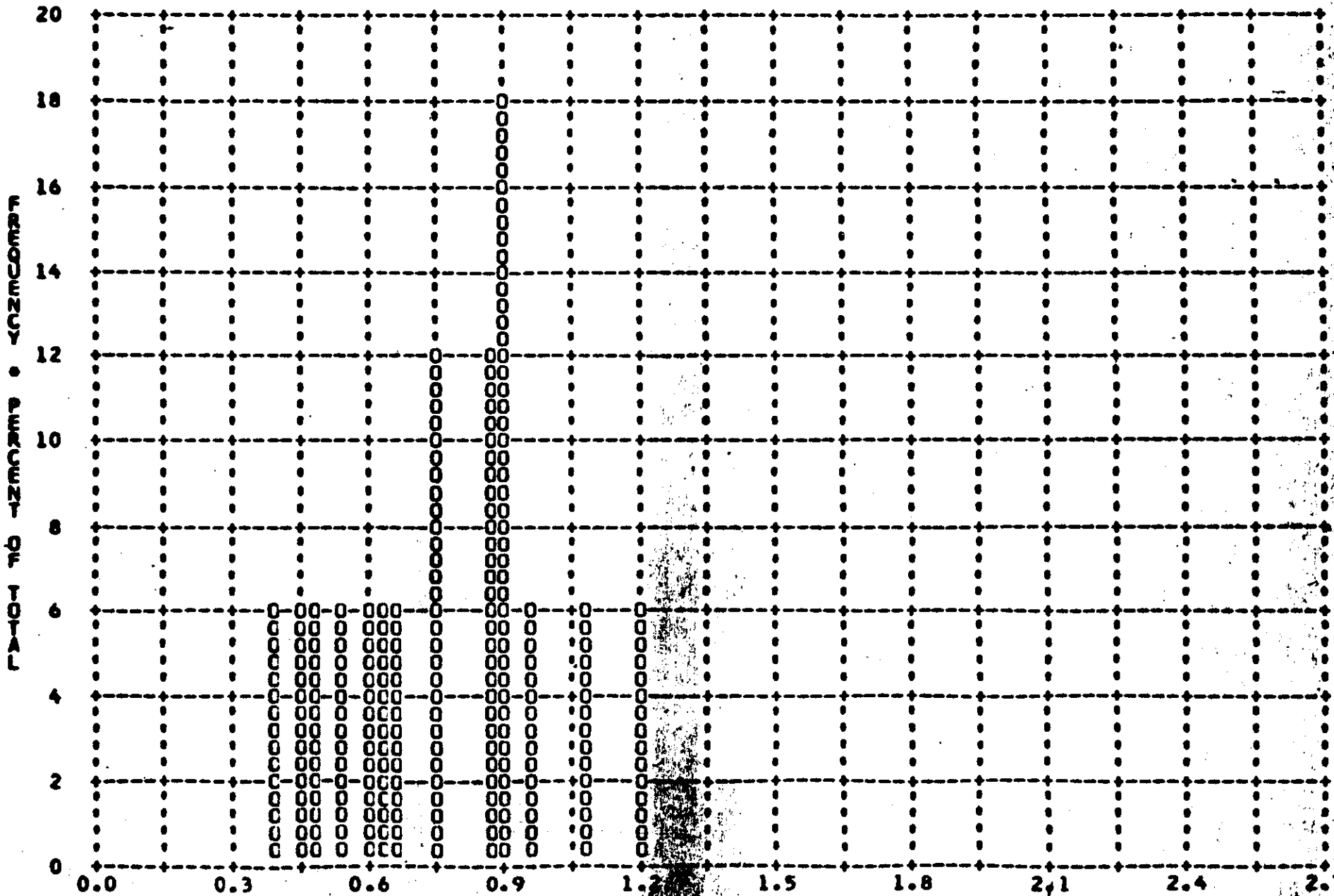


Figure A-15

[redacted] TOP SECRET C [redacted]

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.75 • MEDIAN • 0.73 • STD DEV • 0.23 • RANGE • 0.37 TO 1.20 WITH 17 SAMPLES



[redacted] TOP SECRET C [redacted]

Figure A-16

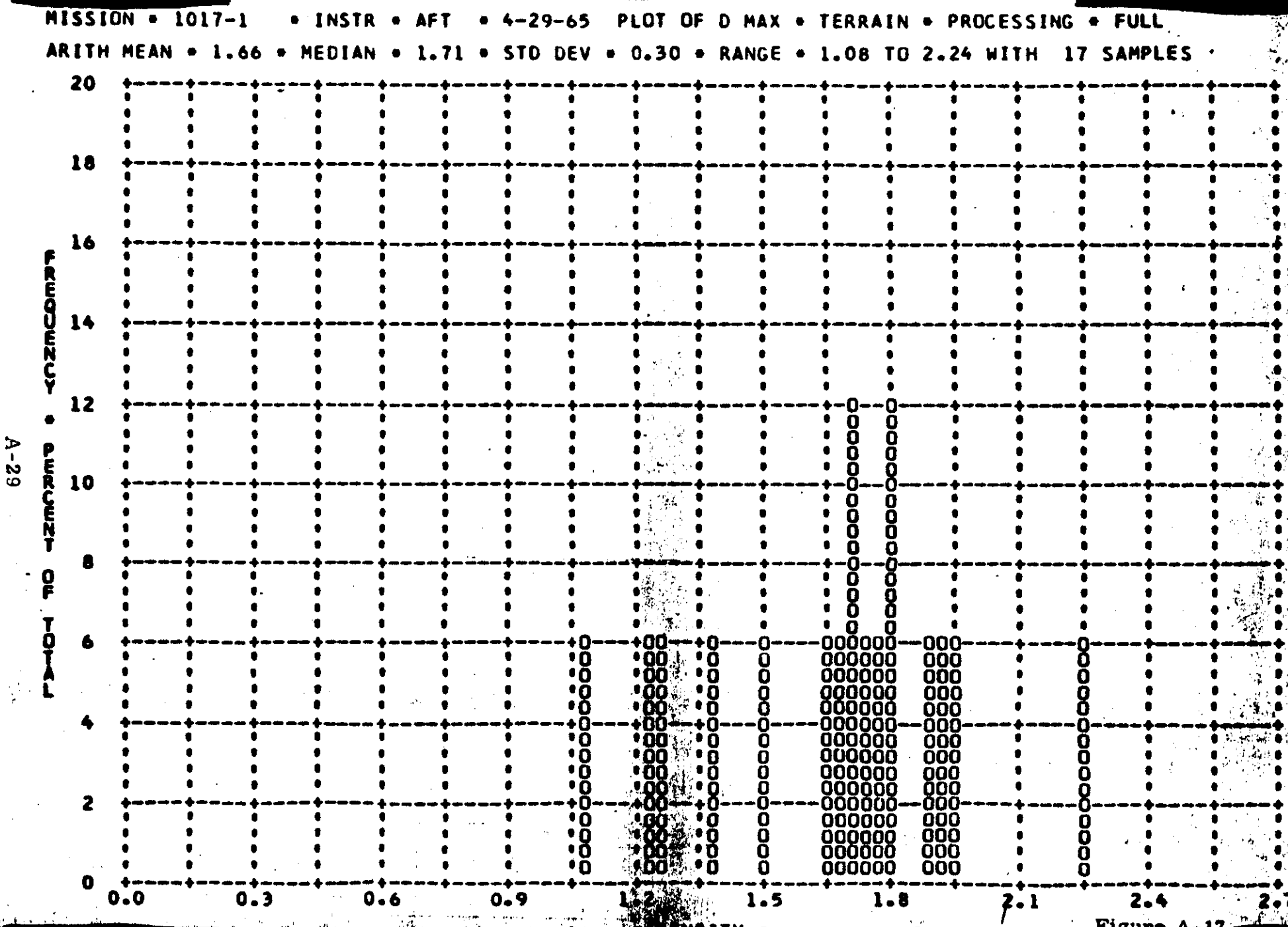

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.66 • MEDIAN • 1.71 • STD DEV • 0.30 • RANGE • 1.08 TO 2.24 WITH 17 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

Figure A-17

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 2.11 • MEDIAN • 2.29 • STD DEV • 0.36 • RANGE • 1.32 TO 2.36 WITH 13 SAMPLES

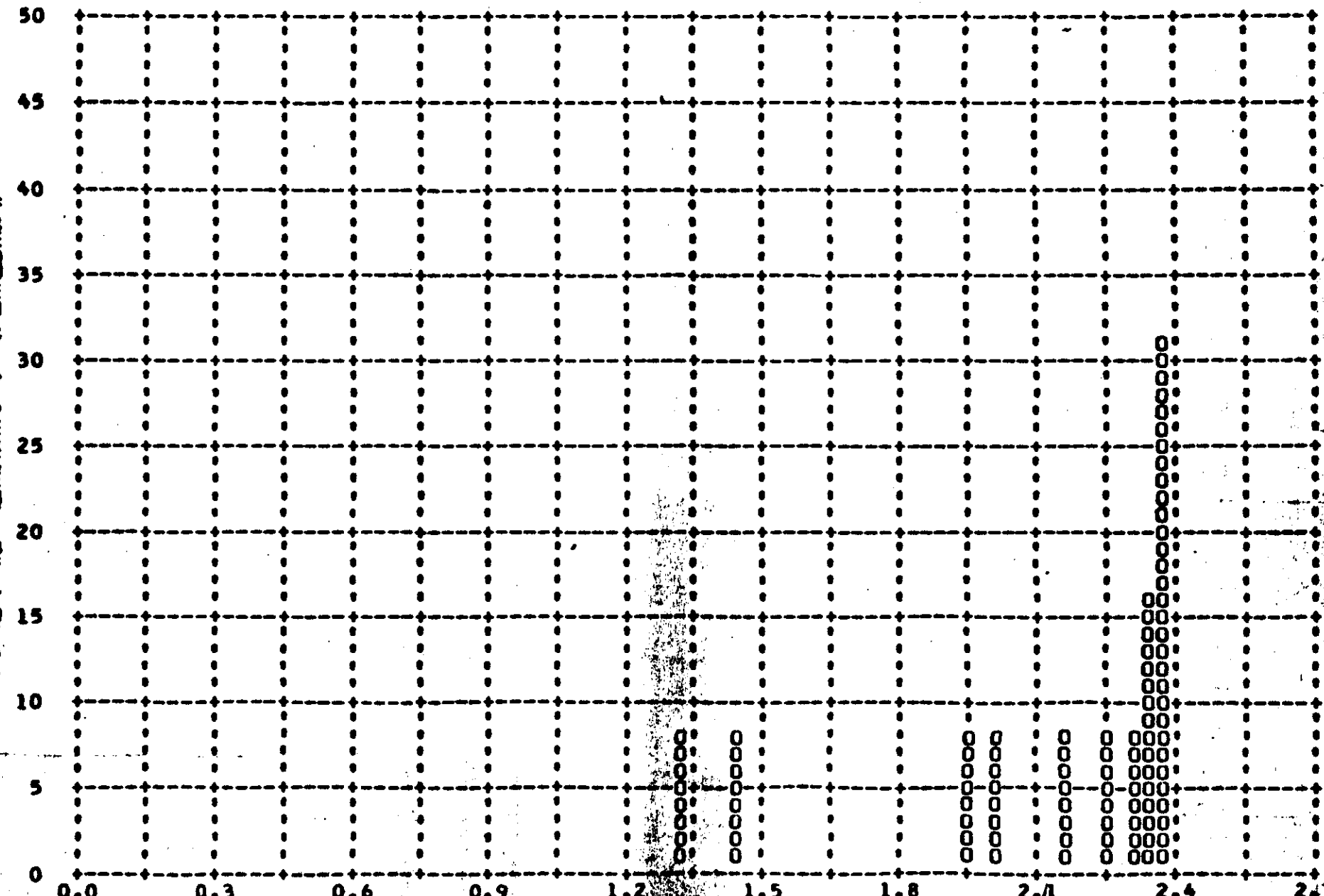


Figure A-18

[redacted]

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.64 • MEDIAN • 0.60 • STD DEV • 0.24 • RANGE • 0.20 TO 1.62 WITH 261 SAMPLES

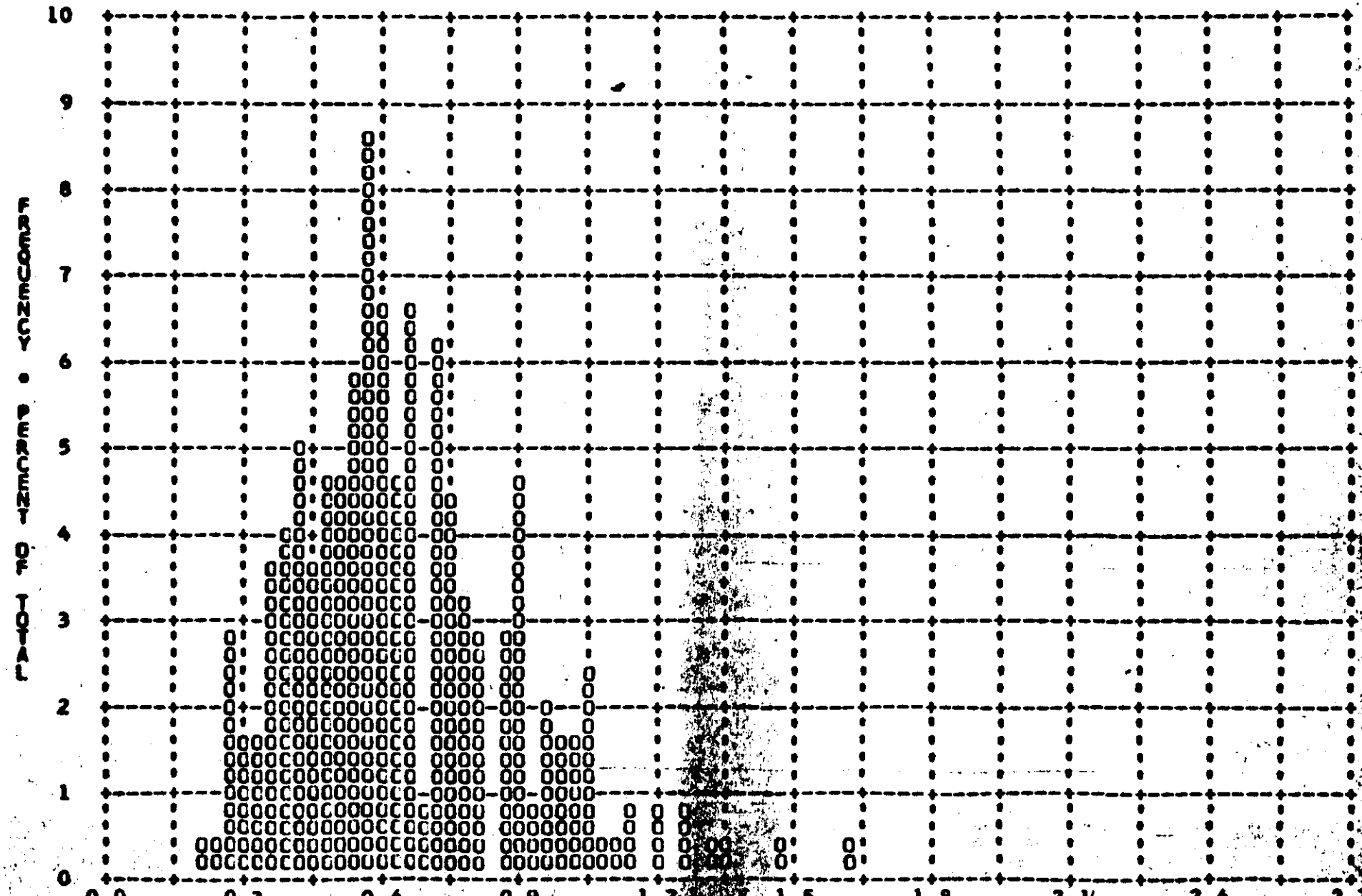


Figure A-19

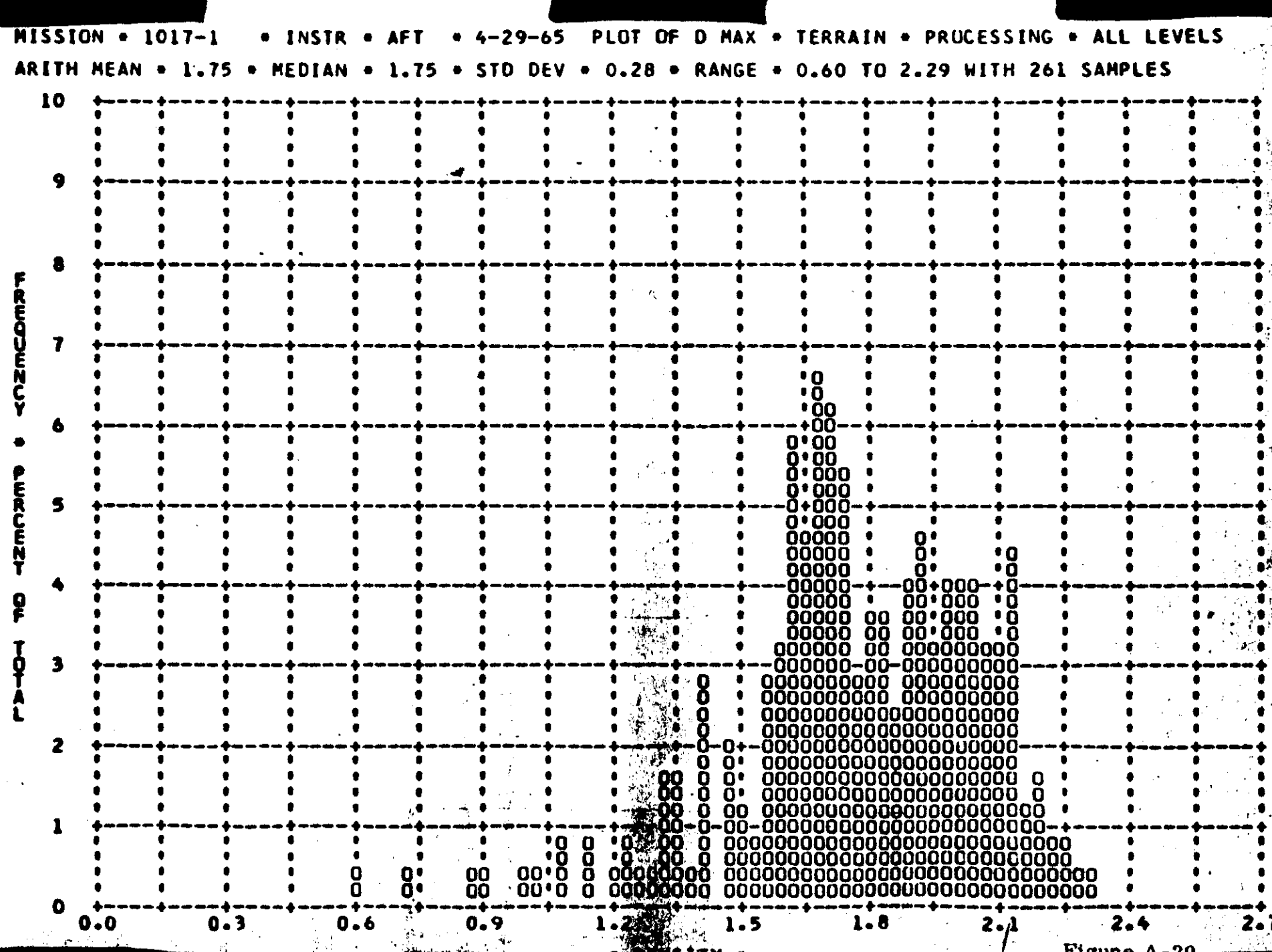

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.75 • MEDIAN • 1.75 • STD DEV • 0.28 • RANGE • 0.60 TO 2.29 WITH 261 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• DENSITY •

Figure A-20

MISSION • 1017-1 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.89 • MEDIAN • 1.90 • STD DEV • 0.27 • RANGE • 1.18 TO 2.36 WITH 130 SAMPLES

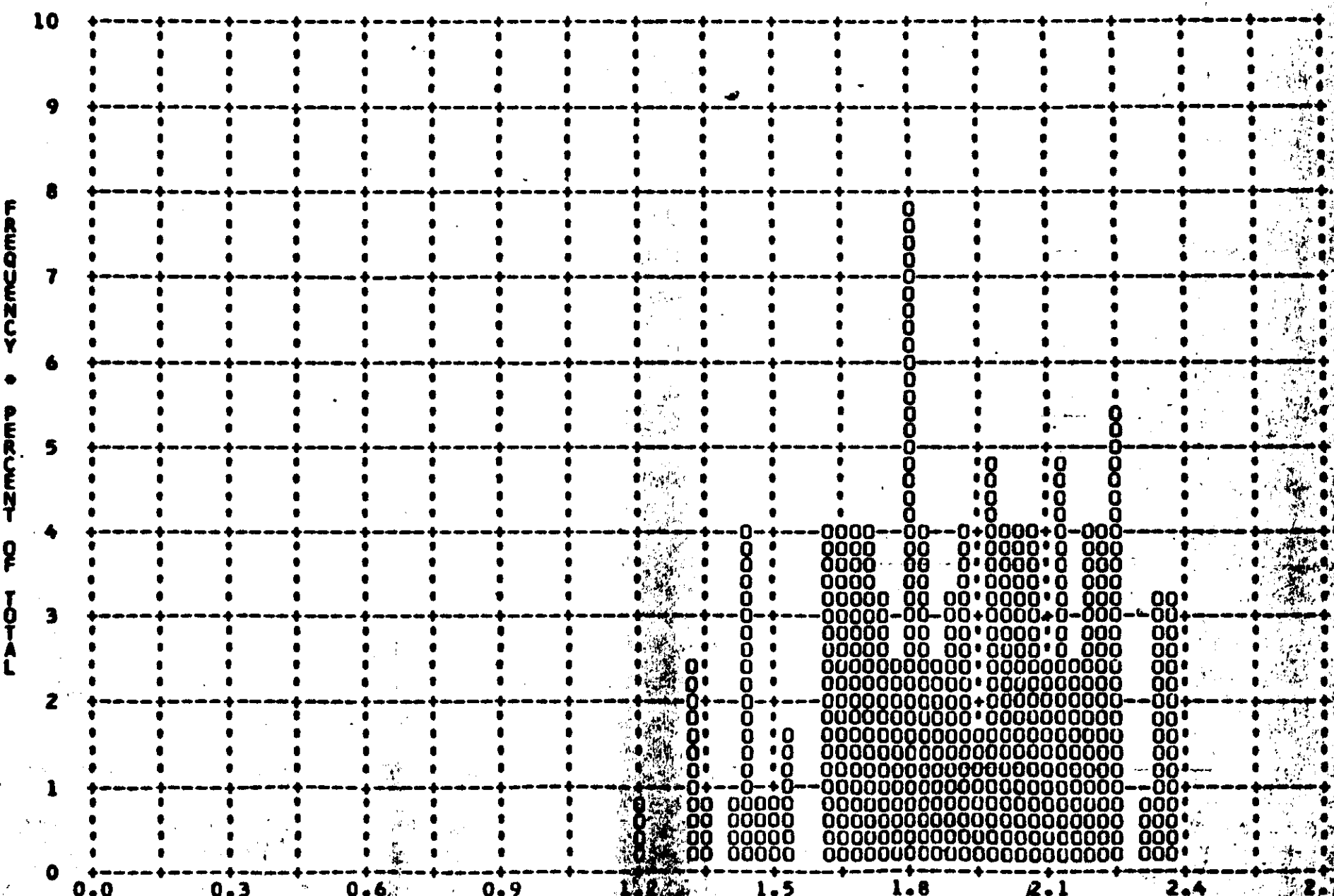


Figure A-21

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 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	1	0	0	0	0	0	1	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	1	0	0	0	0	0	1	0	0
0.26	1	0	0	0	0	0	1	0	0	2	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	1	0	0	3	0	0	0	0	0	4	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	2	0	0	1	0	0	2	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	6	0	0	2	0	0	8	0	0
0.33	0	0	0	2	0	0	2	0	0	2	0	0
0.34	1	0	0	2	0	0	0	0	0	3	0	0
0.35	0	0	0	4	0	0	0	0	0	4	0	0
0.36	0	0	0	1	0	0	1	0	0	2	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	4	0	0	1	0	0	4	0	0
0.39	0	0	0	3	0	0	0	0	0	3	0	0
0.40	0	0	0	1	0	0	0	0	0	1	0	0
0.41	0	0	0	1	0	0	0	0	0	1	0	0
0.42	0	0	0	9	0	0	1	0	0	10	0	0
0.43	0	0	0	4	0	0	0	0	0	4	0	0
0.44	0	0	0	9	0	0	4	0	0	13	0	0
0.45	0	0	0	4	0	0	0	0	0	4	0	0
0.46	1	0	0	10	0	0	1	0	0	12	0	0
0.47	0	0	0	3	0	0	1	0	0	4	0	0
0.48	1	0	0	5	0	0	0	0	0	6	0	0
0.49	0	0	0	2	0	0	0	0	0	2	0	0
0.50	0	0	0	5	0	0	0	0	0	5	0	0
SUBTOTAL	5	0	0	83	0	0	14	1	0	102	1	0

[redacted]

TABLE A-3

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	2	0	0	0	0	0	2	0	0
0.52	1	0	0	1	0	0	1	0	0	3	0	0
0.53	0	0	0	1	0	0	1	0	0	2	0	0
0.54	1	0	0	5	0	0	0	0	0	6	0	0
0.55	0	0	0	4	0	0	0	0	0	4	0	0
0.56	0	0	0	4	0	0	0	0	0	4	0	0
0.57	0	0	0	5	0	0	0	0	0	5	0	0
0.58	0	0	0	4	0	0	2	0	0	6	0	0
0.59	0	0	0	1	0	0	0	0	0	1	0	0
0.60	0	0	0	4	0	0	4	0	0	8	0	0
0.61	0	0	0	2	0	0	1	0	0	3	0	0
0.62	0	0	0	7	0	0	1	0	0	8	0	0
0.63	2	0	0	2	0	0	1	0	0	5	0	0
0.64	0	0	0	2	0	0	2	0	0	4	0	0
0.65	2	0	0	0	0	0	1	0	0	3	0	0
0.66	0	0	0	1	0	0	2	0	0	3	0	0
0.67	1	0	0	3	0	0	1	0	0	4	0	0
0.68	0	0	0	2	0	0	2	0	0	4	0	0
0.69	0	0	0	2	0	0	1	0	0	3	0	0
0.70	1	0	0	2	0	0	0	0	0	3	0	0
0.71	0	0	0	3	0	0	0	0	0	3	0	0
0.72	0	0	0	0	0	0	1	0	0	1	0	0
0.73	0	0	0	3	0	0	0	0	0	3	0	0
0.74	0	0	0	0	0	0	1	0	0	1	0	0
0.75	0	0	0	1	0	0	0	0	0	1	0	0
0.76	0	0	0	3	0	0	1	0	0	4	0	0
0.77	1	0	0	2	0	0	0	0	0	3	0	0
0.78	0	0	0	1	0	0	1	0	0	2	0	0
0.79	0	0	0	1	0	0	0	0	0	1	0	0
0.80	0	0	0	1	0	0	1	0	0	2	0	0
0.81	1	0	0	0	0	0	0	0	0	1	0	0
0.82	0	0	0	1	0	0	1	0	0	2	0	0
0.83	0	0	0	1	0	0	0	0	0	1	0	0
0.84	1	0	0	1	0	0	0	0	0	2	0	0
0.85	0	0	0	0	0	0	1	0	0	1	0	0
0.86	1	0	0	1	0	0	0	0	0	2	0	0
0.87	0	0	0	0	0	0	1	0	0	1	0	0
0.88	0	0	0	2	0	0	0	0	0	3	0	0
0.89	0	0	0	0	0	0	1	0	0	1	0	0
0.90	0	0	0	4	0	0	0	0	0	5	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	4	0	0	0	0	0	5	0	0
0.93	0	0	0	0	0	0	1	0	0	1	0	0
0.94	0	0	0	2	0	0	0	0	0	2	0	0
0.95	0	0	0	0	0	0	1	0	0	1	0	0
0.96	0	0	0	2	0	0	0	0	0	2	0	0
0.97	0	0	0	0	0	0	1	0	0	1	0	0
0.98	1	0	0	1	0	0	0	0	0	2	0	0
0.99	0	0	0	0	0	0	1	0	0	1	0	0
1.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	11	0	0	86	5	0	24	4	1	121	9	1

[redacted]

TABLE A-3

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	1	0	0	0	0	0	1	0	0
1.02	0	0	0	1	0	0	0	0	0	1	0	0
1.03	0	0	0	0	0	0	0	0	0	0	0	0
1.04	0	0	0	0	0	1	0	0	0	0	0	1
1.05	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	1	0	0	0	0	0	1	0	0
1.07	0	0	0	0	0	0	0	0	0	0	0	0
1.08	0	0	0	1	0	1	0	0	0	1	0	1
1.09	0	0	0	0	1	0	0	0	0	0	1	0
1.10	0	1	0	0	0	0	0	0	0	0	1	0
1.11	0	0	0	1	0	0	0	0	0	1	0	0
1.12	0	0	0	3	0	1	0	0	0	3	0	1
1.13	0	0	0	0	1	0	0	0	0	0	1	0
1.14	0	0	0	1	0	3	0	0	0	1	0	3
1.15	0	0	0	0	2	0	0	0	0	0	2	0
1.16	0	0	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	1	0	0	0	0	0	1
1.18	0	1	0	0	0	0	0	0	0	0	0	0
1.19	0	0	0	0	1	0	0	0	1	0	1	0
1.20	0	0	0	1	0	1	0	0	0	1	0	1
1.21	0	0	0	0	1	2	0	0	0	0	1	2
1.22	0	0	0	1	0	0	0	0	0	1	0	0
1.23	0	0	0	0	0	0	0	0	1	0	0	1
1.24	0	0	0	0	0	1	0	0	0	0	0	1
1.25	0	0	0	0	0	0	0	0	0	0	0	0
1.26	0	0	0	0	0	0	0	0	1	0	0	0
1.27	0	2	0	0	0	0	0	0	0	0	2	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	1	0	0	0	0	0	1	0	0
1.31	0	0	1	0	0	0	0	0	0	0	0	1
1.32	0	0	0	2	0	2	0	0	0	2	0	2
1.33	0	0	0	0	0	0	0	0	1	0	0	0
1.34	0	0	0	2	0	2	0	0	0	2	0	2
1.35	0	0	0	0	0	0	0	0	0	0	0	0
1.36	0	0	0	2	0	0	0	0	0	2	0	0
1.37	0	0	0	0	0	0	0	0	0	0	0	0
1.38	0	0	0	0	1	1	0	0	0	0	1	1
1.39	0	0	1	0	0	0	0	0	0	0	0	2
1.40	0	1	0	0	1	1	0	0	0	0	2	1
1.41	0	0	0	0	1	2	0	0	0	0	1	2
1.42	0	1	0	0	1	1	0	0	0	0	2	1
1.43	0	0	0	0	1	2	0	0	1	0	1	3
1.44	0	1	0	0	1	1	0	0	0	0	2	1
1.45	0	0	0	0	1	2	0	0	0	0	1	2
1.46	0	0	0	0	1	1	0	0	0	0	2	1
1.47	0	0	0	0	1	2	0	0	0	0	1	2
1.48	0	0	0	0	2	0	0	0	0	0	2	0
1.49	0	0	0	0	0	0	0	0	1	0	0	1
1.50	0	0	0	0	5	0	0	0	0	0	5	0
SUBTOTAL	0	7	3	11	41	8	0	5	1	11	53	12

[redacted]

TABLE A-3

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	1	0	0	0	0	0	1	0
1.52	0	0	0	0	3	1	0	0	0	0	3	1
1.53	0	0	1	0	0	1	0	1	0	0	1	2
1.54	0	0	0	0	2	0	0	1	0	0	3	0
1.55	0	0	0	0	0	3	0	0	0	0	3	0
1.56	0	0	0	0	0	1	0	0	0	0	1	0
1.57	0	0	0	0	0	2	0	0	0	0	2	0
1.58	0	0	0	0	0	3	1	0	0	0	4	0
1.59	0	0	0	0	0	3	0	1	0	0	4	0
1.60	0	0	1	0	0	1	3	0	0	0	1	4
1.61	0	0	1	0	0	0	4	0	0	0	1	5
1.62	0	1	0	0	0	0	4	0	1	0	0	5
1.63	0	1	0	0	0	0	2	0	1	0	0	3
1.64	0	1	0	0	0	0	2	5	3	0	0	3
1.65	0	1	0	0	0	0	2	2	3	0	0	3
1.66	0	0	0	0	0	0	2	2	0	0	0	2
1.67	0	0	0	0	0	0	1	2	0	0	0	1
1.68	0	0	0	0	0	0	1	2	0	0	0	1
1.69	0	0	0	0	0	0	0	2	0	0	0	2
1.70	0	0	0	0	0	0	0	2	0	0	0	1
1.71	0	2	0	0	0	0	0	0	0	0	2	1
1.72	0	2	0	1	0	0	0	0	0	0	2	1
1.73	0	0	0	0	0	1	0	0	0	0	0	1
1.74	0	0	0	0	0	1	0	0	0	0	0	1
1.75	0	0	0	0	0	2	0	0	0	0	2	1
1.76	0	0	0	0	0	1	0	0	0	0	1	2
1.77	0	0	0	0	0	2	0	0	0	0	2	0
1.78	0	0	0	0	0	2	0	0	2	0	0	4
1.79	0	0	0	0	0	2	0	0	2	0	0	2
1.80	0	0	1	0	0	0	7	2	1	0	0	8
1.81	0	0	1	0	0	0	2	2	0	0	0	4
1.82	0	0	0	0	0	0	2	2	0	0	0	4
1.83	0	0	0	0	0	2	0	1	1	0	0	2
1.84	0	0	0	0	0	0	2	1	0	0	0	3
1.85	0	0	0	0	0	1	0	2	0	0	0	3
1.86	0	0	0	0	0	0	3	2	0	0	0	5
1.87	0	0	0	0	0	0	2	3	0	0	0	3
1.88	0	0	0	0	0	0	1	5	0	0	0	3
1.89	0	0	0	0	0	1	9	0	2	0	0	1
1.90	0	0	0	0	0	1	9	0	2	0	0	1
1.91	0	0	0	0	0	0	3	1	3	0	0	4
1.92	0	0	1	0	1	0	0	0	0	0	1	0
1.93	0	0	1	0	0	0	1	1	2	0	0	2
1.94	0	0	0	0	1	0	0	0	0	0	1	0
1.95	0	0	0	0	0	0	4	1	0	0	0	5
1.96	0	0	0	1	0	0	0	0	0	0	1	0
1.97	0	0	1	0	0	0	0	0	0	0	0	1
1.98	0	0	0	0	0	0	0	0	0	0	0	1
1.99	0	0	0	0	0	0	0	0	0	0	0	1
2.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	8	9	0	99	65	0	20	9	0	127	83

[redacted]

TABLE A-3

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	1	0	0	1	0	0	2	0
2.02	0	0	0	0	3	2	0	0	0	0	3	2
2.03	0	0	0	0	3	0	0	0	0	0	3	0
2.04	0	0	0	0	4	1	0	0	0	0	4	1
2.05	0	0	0	0	0	1	0	0	1	0	0	2
2.06	0	1	0	0	2	1	0	0	0	0	3	1
2.07	0	0	0	0	2	0	0	1	0	0	1	0
2.08	0	0	0	0	3	0	2	0	0	0	5	2
2.09	0	0	0	0	1	2	3	0	0	0	1	3
2.10	0	0	0	0	2	1	0	0	0	0	2	1
2.11	0	0	0	0	2	1	4	0	0	0	2	1
2.12	0	0	0	0	1	2	0	0	0	0	1	2
2.13	0	0	0	0	2	1	0	0	0	0	2	1
2.14	0	0	0	0	1	2	2	0	0	0	1	2
2.15	0	0	0	0	1	2	2	0	0	0	1	2
2.16	0	0	2	0	2	1	2	0	0	0	3	3
2.17	0	0	1	0	2	2	3	0	0	0	3	3
2.18	0	0	2	0	2	3	0	0	0	0	3	5
2.19	0	0	0	0	1	1	0	0	0	0	1	1
2.20	0	0	1	0	0	2	1	0	0	0	1	3
2.21	0	0	0	0	1	1	0	0	1	0	1	4
2.22	0	0	1	0	0	2	1	0	0	0	1	4
2.23	0	0	0	0	0	1	1	0	1	0	0	1
2.24	0	0	0	0	1	0	1	0	0	0	1	1
2.25	0	0	0	0	0	1	1	0	0	0	1	1
2.26	0	0	0	0	0	1	1	0	0	0	1	1
2.27	0	0	0	0	0	0	1	0	0	0	0	1
2.28	0	0	0	0	0	0	0	0	4	0	0	4
2.29	0	0	0	0	0	0	0	0	2	0	0	2
2.30	0	0	0	0	0	1	0	0	2	0	0	3
2.31	0	0	0	0	0	0	2	0	1	0	0	3
2.32	0	0	0	0	0	0	2	0	0	0	0	3
2.33	0	0	0	0	0	0	0	0	1	0	0	1
2.34	0	0	0	0	0	0	0	0	1	0	0	1
2.35	0	0	0	0	0	0	0	0	1	0	0	1
2.36	0	0	0	0	0	0	0	0	1	0	0	2
2.37	0	0	0	0	0	0	0	0	2	0	0	2
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	1	7	0	35	41	0	8	19	0	44	67

[redacted]

TABLE A-3

[redacted]

MISSION • 1017-2 • INSTRUMENT • FRWD 4-29-65 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	16	16	19	180	180	114	38	38	30	234	234	163

MISSION 1017-2 INSTR - FRWD 4-29-65 PROCESSING AND EXPOSURE ANALYSI

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	16	0 PC	19 PC	75 PC	0 PC	6 PC
INTERMEDIATE	180	0 PC	17 PC	73 PC	11 PC	0 PC
FULL	38	18 PC	0 PC	79 PC	3 PC	0 PC
ALL LEVELS	234	3 PC	14 PC	74 PC	9 PC	0 PC

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

[redacted]

TABLE A-3

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 0.61 • MEDIAN • 0.64 • STD DEV • 0.22 • RANGE • 0.26 TO 0.98 WITH 16 SAMPLES

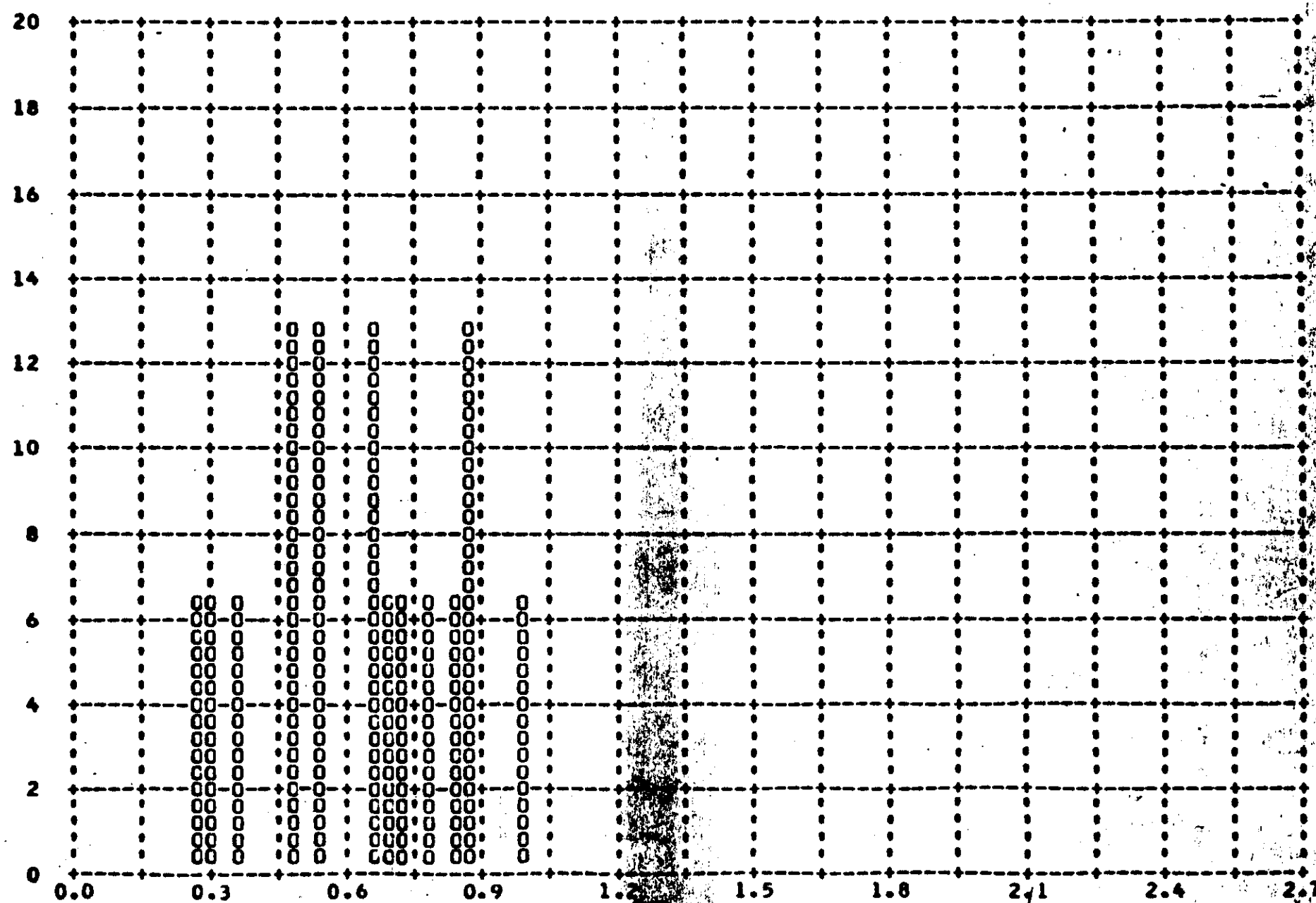


Figure A-22

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 1.59 • MEDIAN • 1.64 • STD DEV • 0.31 • RANGE • 1.10 TO 2.06 WITH 16 SAMPLES

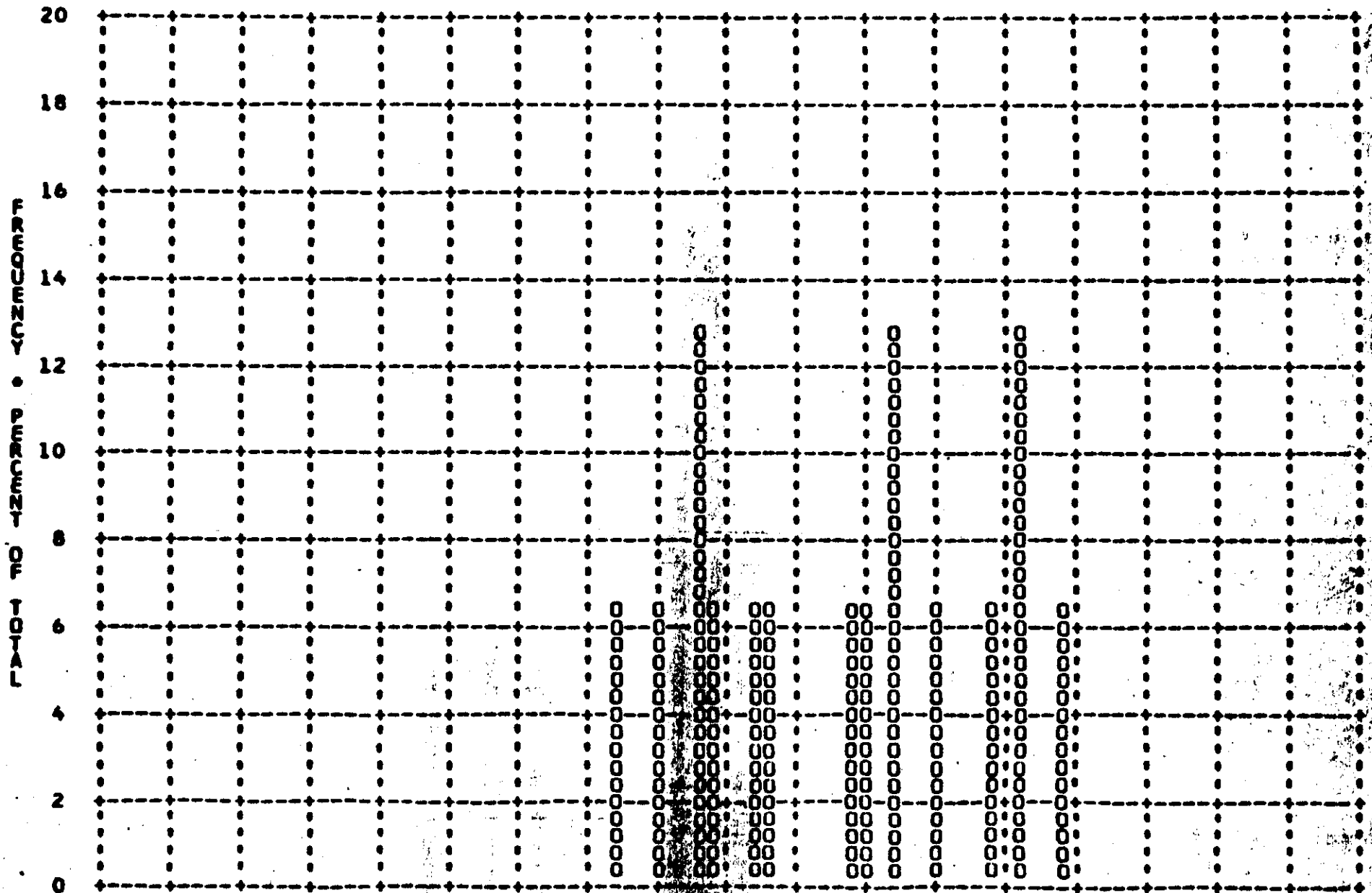


Figure A-23

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • PRIMARY

ARITH MEAN • 1.87 • MEDIAN • 1.90 • STD DEV • 0.31 • RANGE • 1.24 TO 2.22 WITH 19 SAMPLES

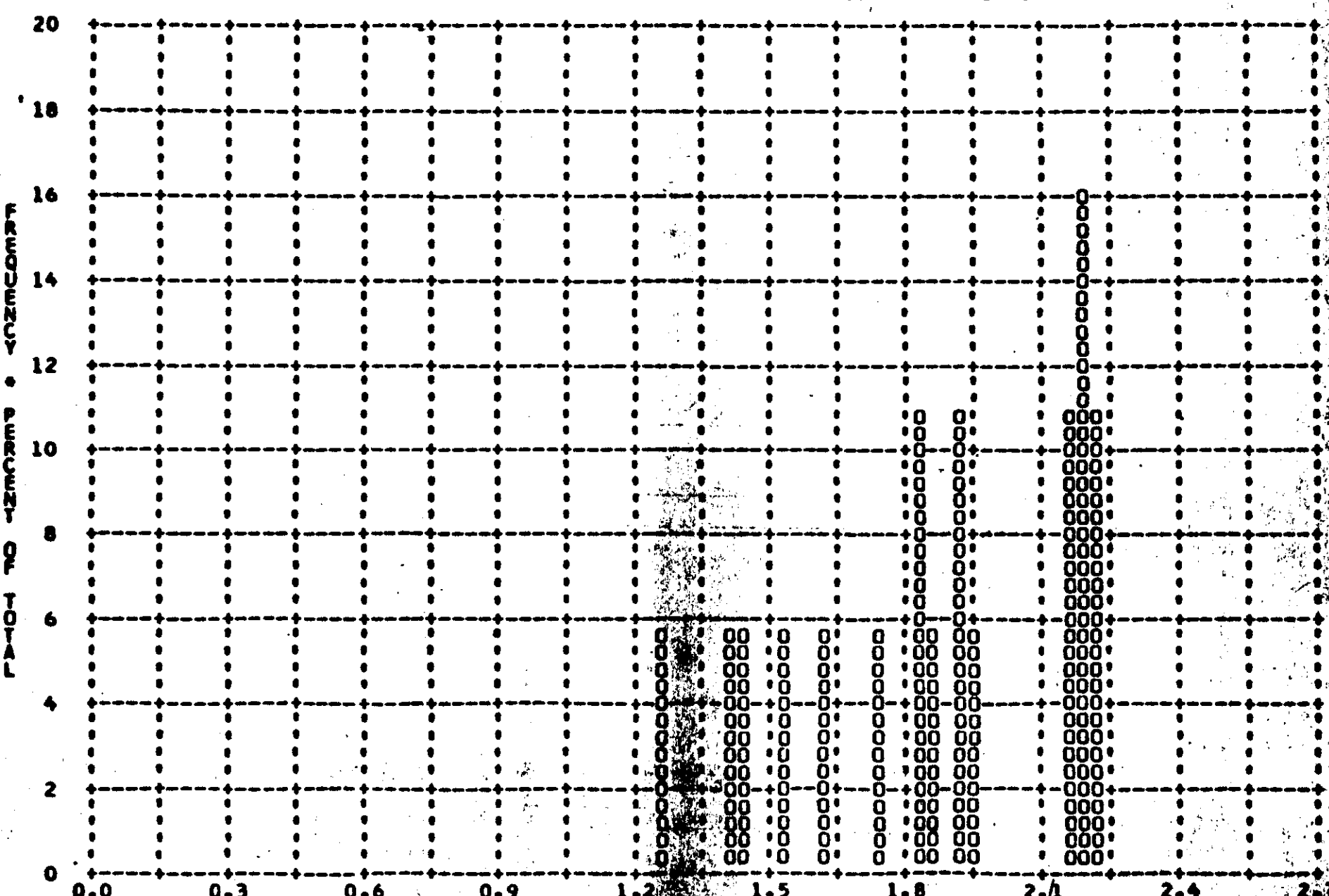


Figure A-24

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.58 • MEDIAN • 0.54 • STD DEV • 0.22 • RANGE • 0.22 TO 1.22 WITH 180 SAMPLES

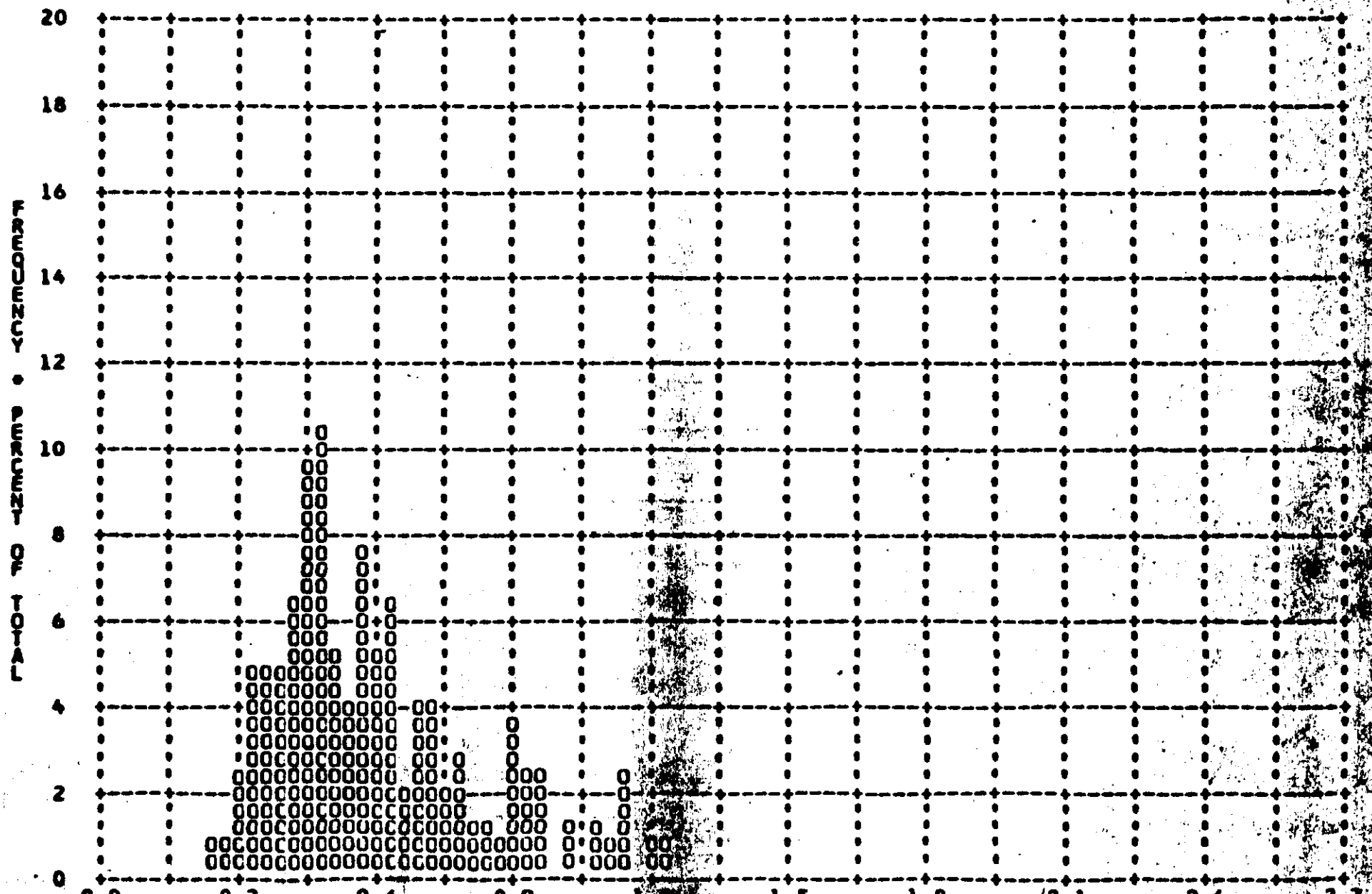


Figure A-25

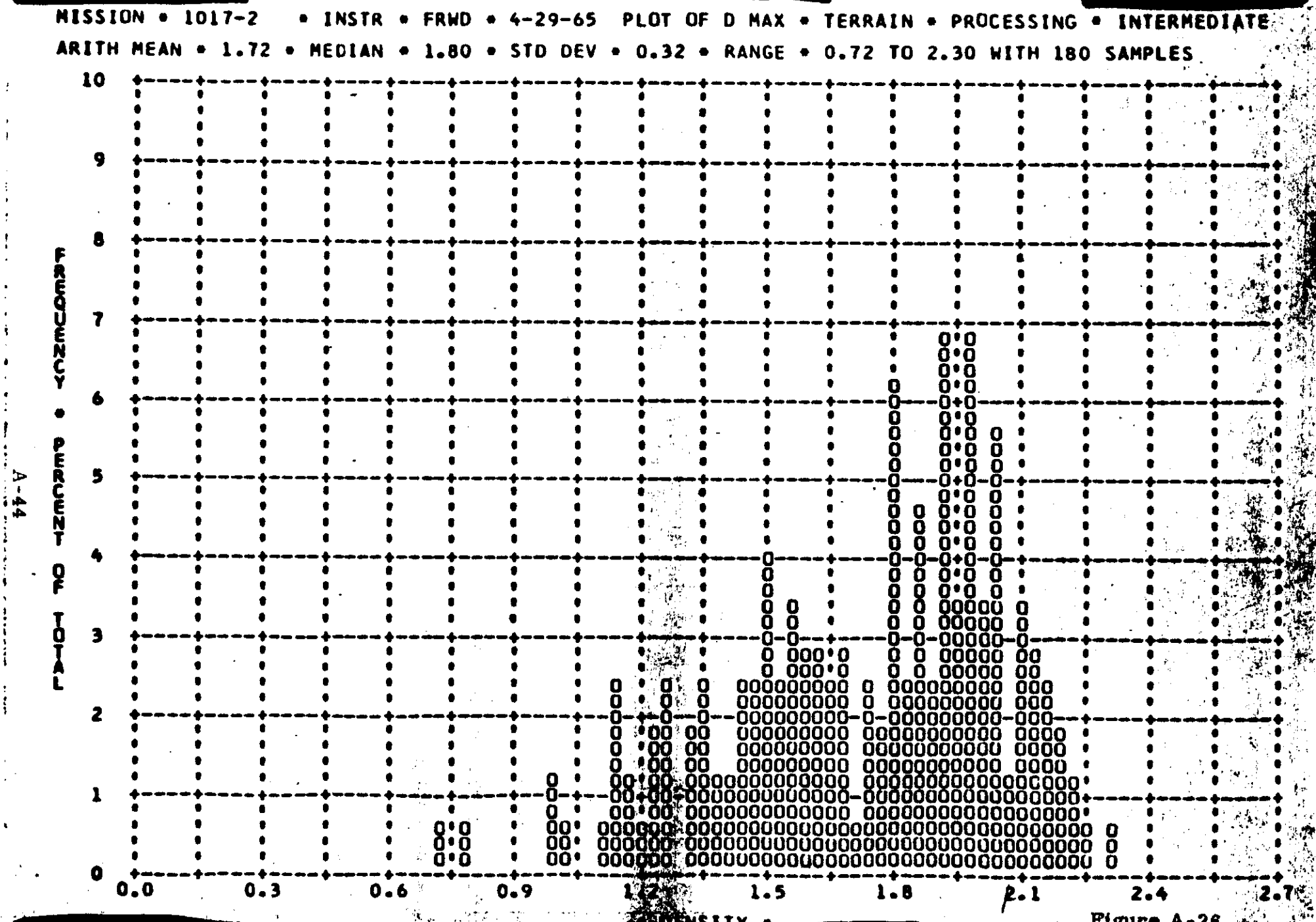

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.72 • MEDIAN • 1.80 • STD DEV • 0.32 • RANGE • 0.72 TO 2.30 WITH 180 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
DENSITY •

Figure A-26

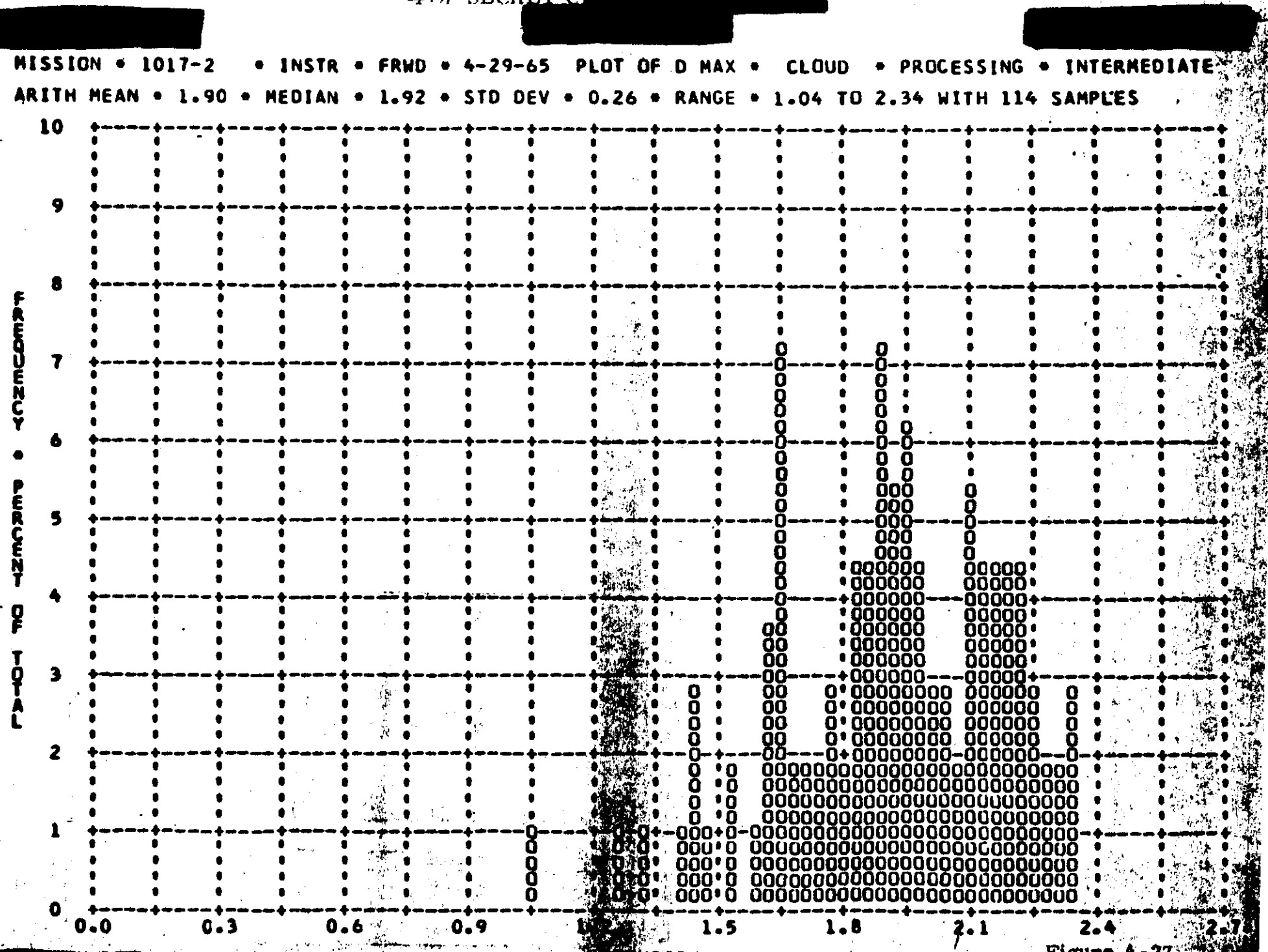
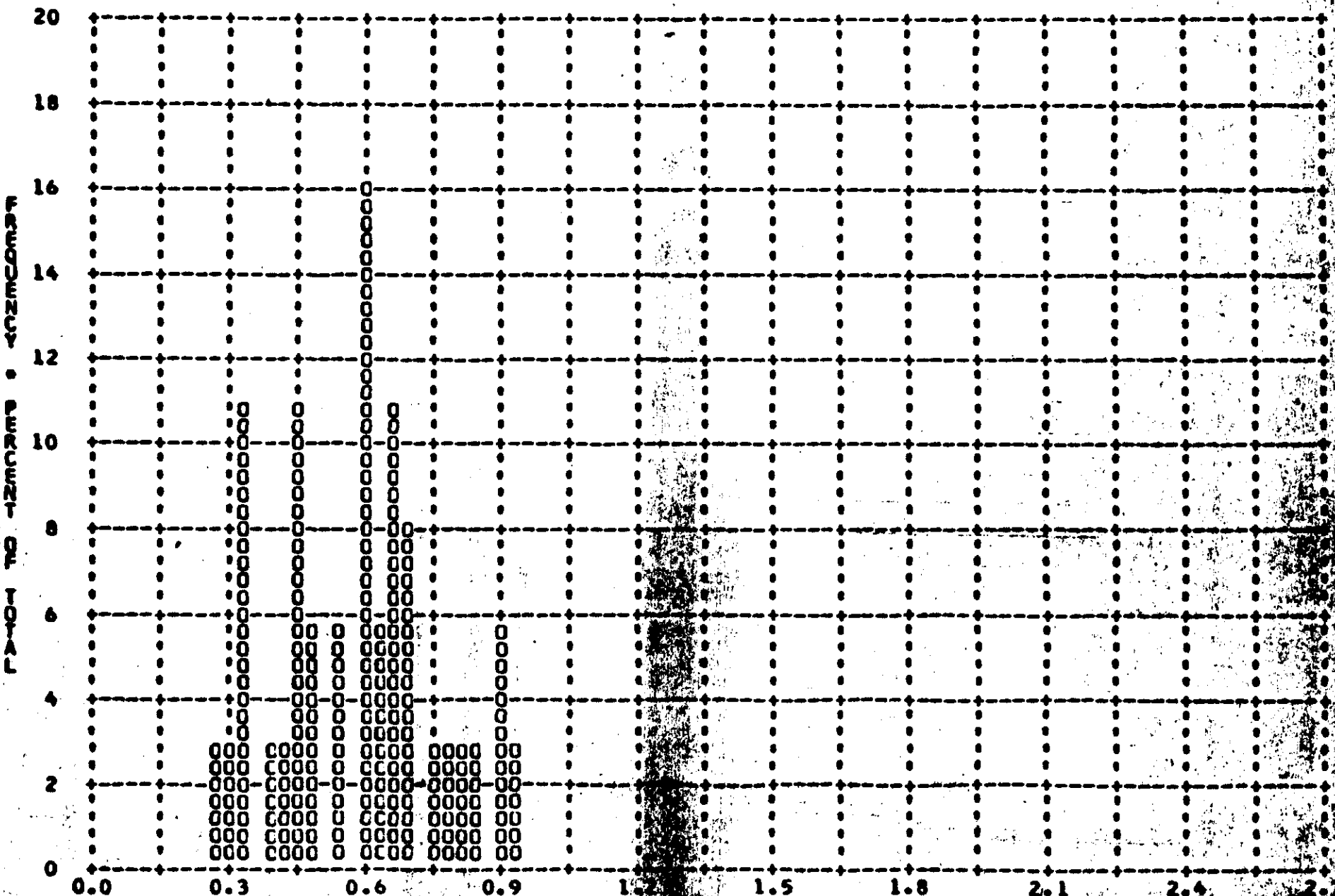

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.90 • MEDIAN • 1.92 • STD DEV • 0.26 • RANGE • 1.04 TO 2.34 WITH 114 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.5
1.8
2.1
2.4
2.7
DENSITY •

Figure A-27

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.57 • MEDIAN • 0.60 • STD DEV • 0.18 • RANGE • 0.26 TO 0.92 WITH 38 SAMPLES



 [redacted]

Figure A-28

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.65 • MEDIAN • 1.81 • STD DEV • 0.46 • RANGE • 0.37 TO 2.24 WITH 38 SAMPLES

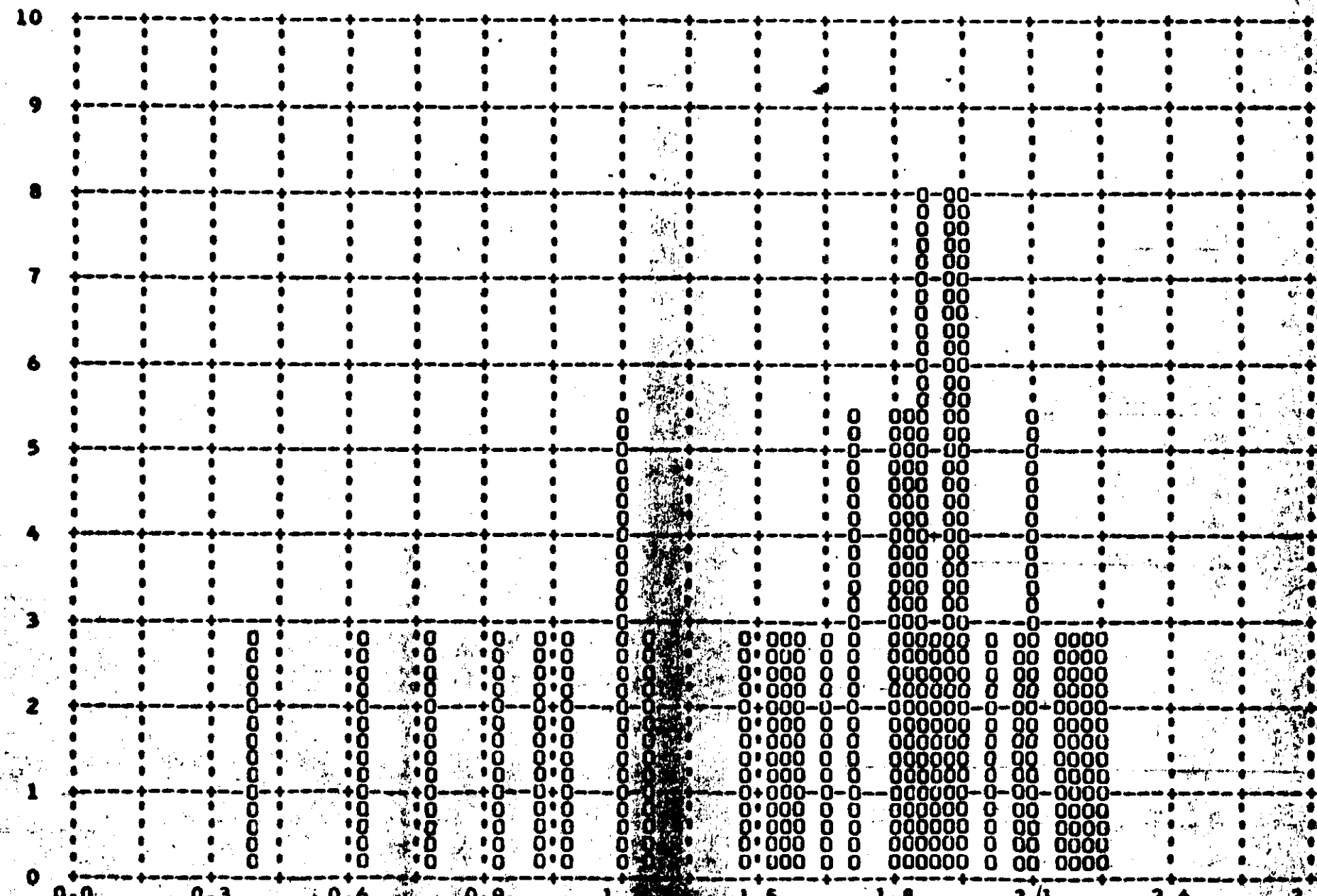


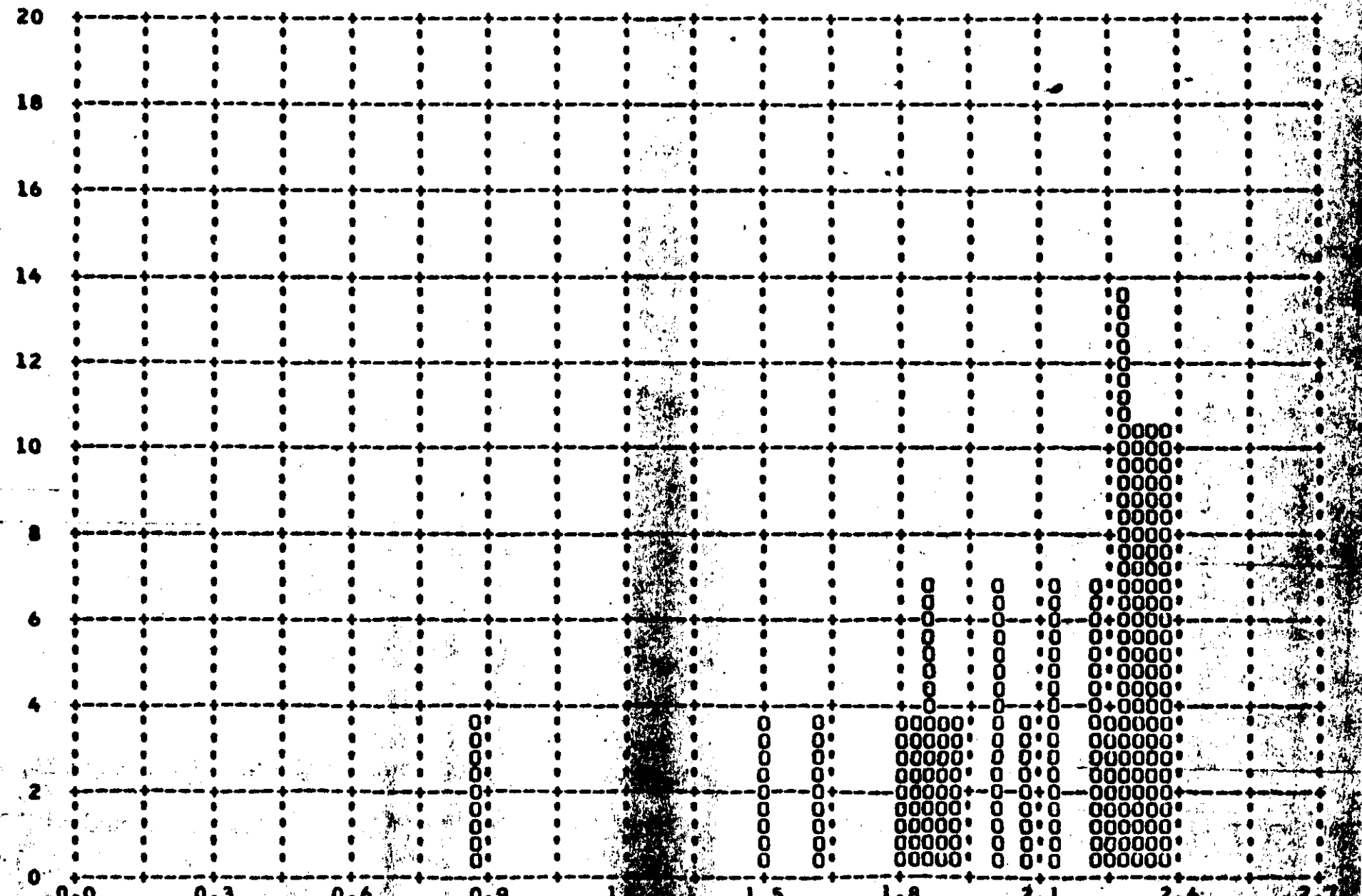
Figure A-29

[redacted]

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 2.07 • MEDIAN • 2.22 • STD DEV • 0.33 • RANGE • 0.86 TO 2.37 WITH 30 SAMPLES



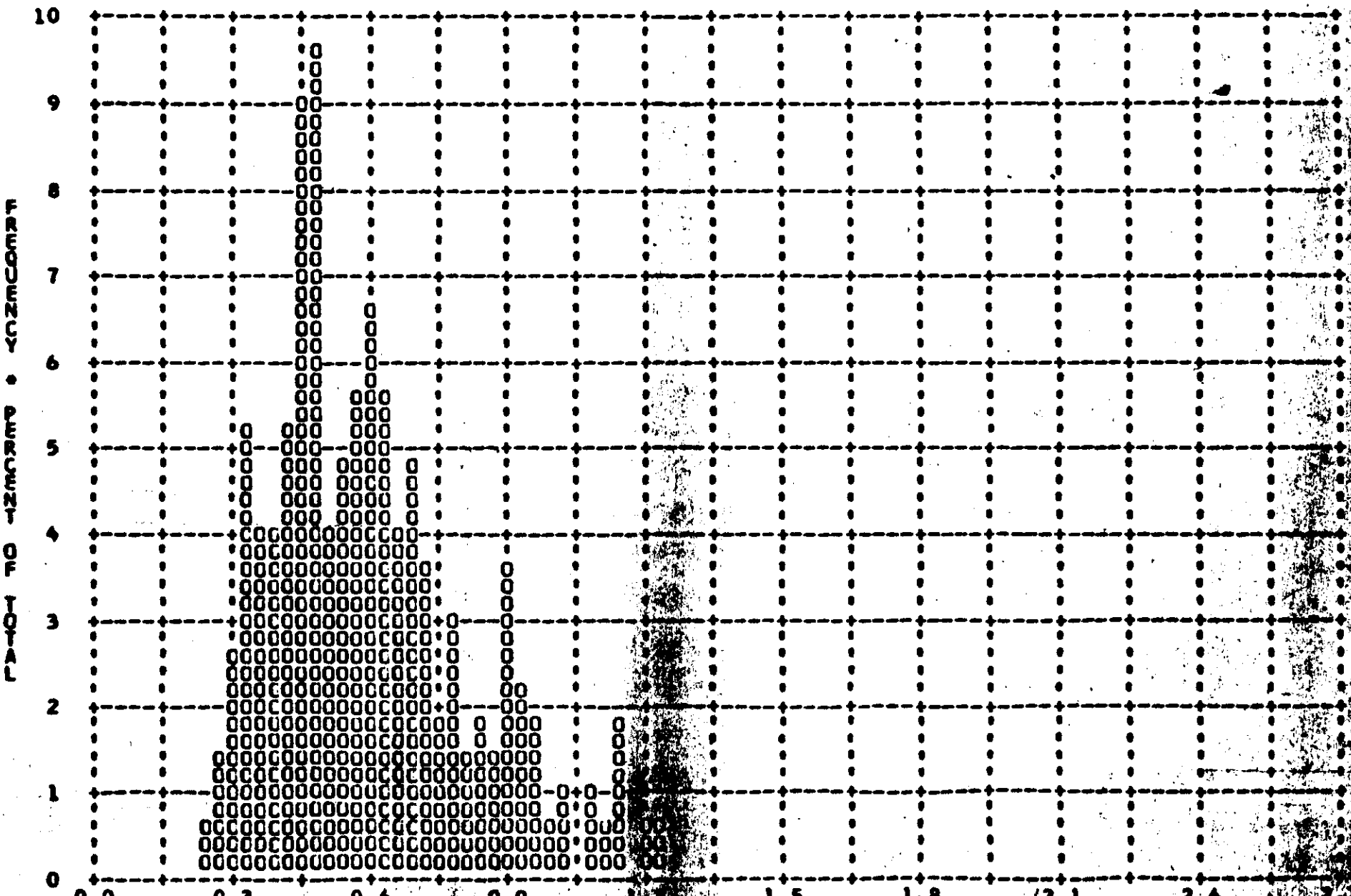
[redacted]

Figure A-30

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.58 • MEDIAN • 0.55 • STD DEV • 0.21 • RANGE • 0.22 TO 1.22 WITH 234 SAMPLES



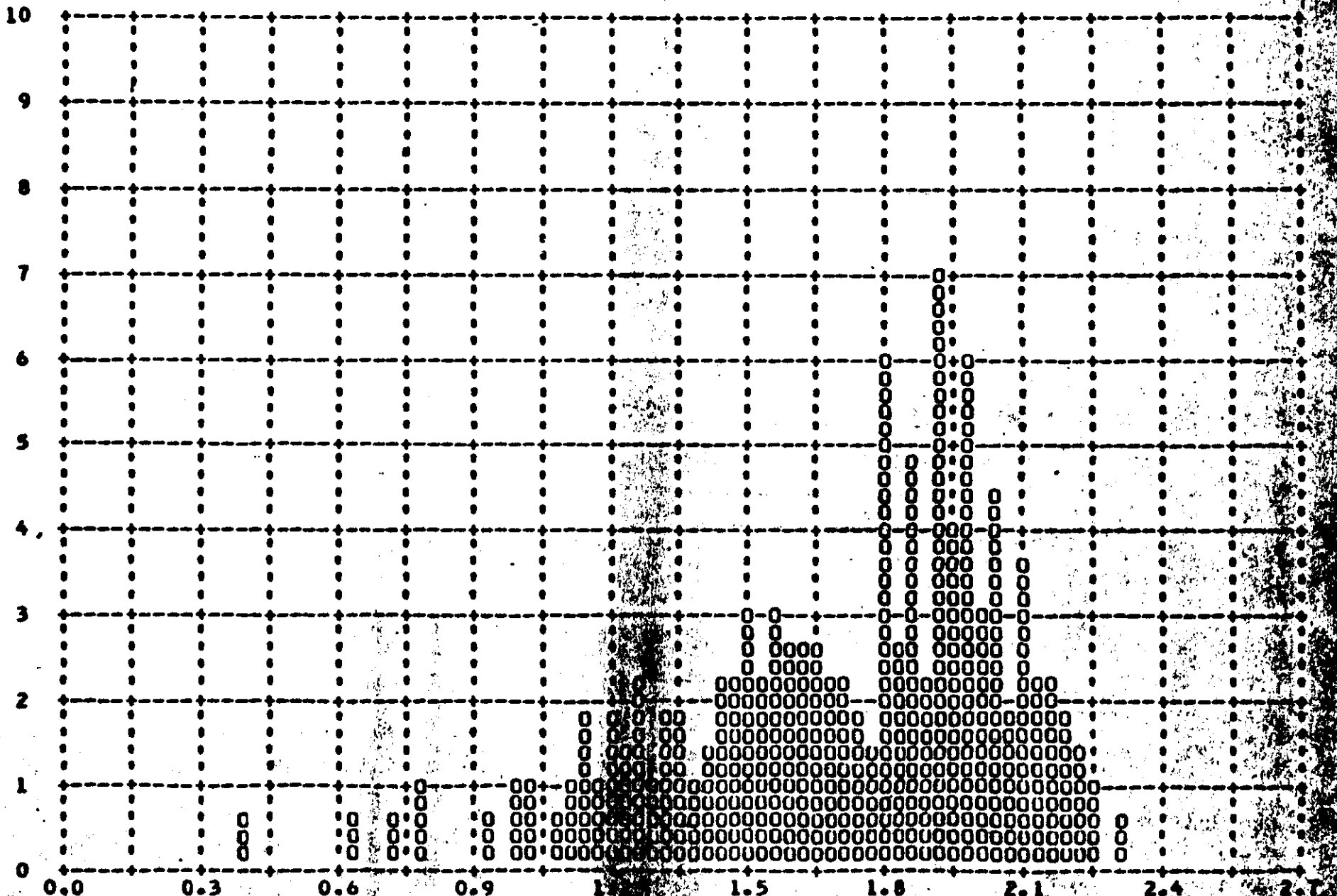
[redacted]

Figure A-11

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.70 • MEDIAN • 1.80 • STD DEV • 0.35 • RANGE • 0.37 TO 2.30 WITH 234 SAMPLES



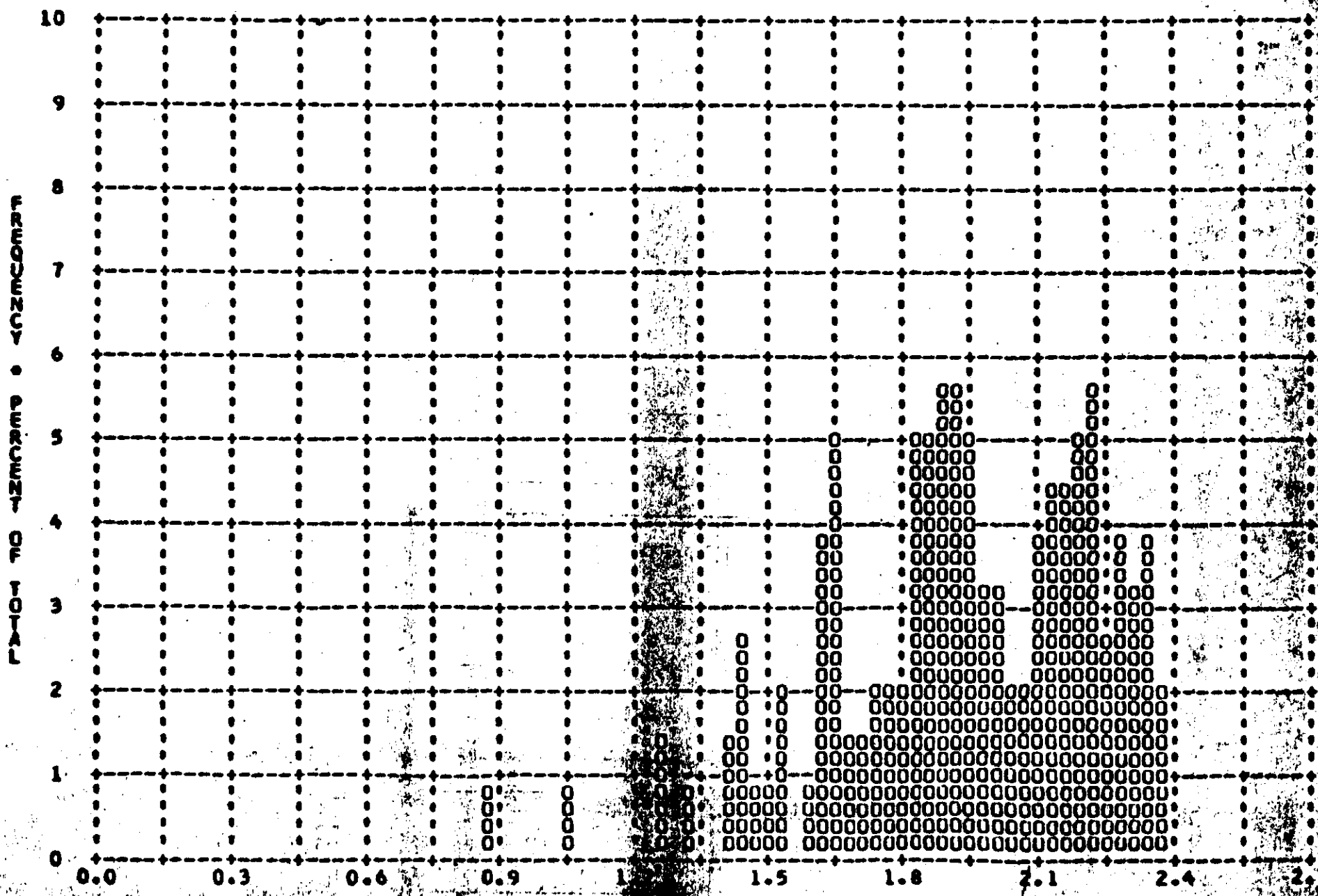
[redacted]

Figure A-32

[redacted]

MISSION • 1017-2 • INSTR • FRWD • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.93 • MEDIAN • 1.94 • STD DEV • 0.28 • RANGE • 0.86 TO 2.37 WITH 163 SAMPLES



[redacted]

Figure A-32

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 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	1	0	0	1	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	1	0	0	0	0	0	1	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	1	0	0	0	0	0	1	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	2	0	0	0	0	0	2	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	2	0	0	1	0	0	3	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	3	0	0	0	0	0	3	0	0
0.31	0	0	0	0	0	0	1	0	0	1	0	0
0.32	0	0	0	5	0	0	0	0	0	5	0	0
0.33	0	0	0	0	0	0	1	0	0	1	0	0
0.34	0	0	0	5	0	0	0	0	0	5	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	3	0	0	0	0	0	3	0	0
0.37	0	0	0	0	0	0	1	0	0	1	0	0
0.38	0	0	0	6	0	0	0	0	0	6	0	0
0.39	0	0	0	0	0	0	1	0	0	1	0	0
0.40	0	0	0	5	0	0	0	0	0	5	0	0
0.41	0	0	0	0	0	0	1	0	0	1	0	0
0.42	0	0	0	4	0	0	0	0	0	4	0	0
0.43	0	0	0	0	0	0	1	0	0	1	0	0
0.44	0	0	0	5	0	0	1	0	0	6	0	0
0.45	0	0	0	0	0	0	1	0	0	1	0	0
0.46	0	0	0	3	0	0	1	0	0	4	0	0
0.47	0	0	0	0	0	0	0	0	0	0	0	0
0.48	0	0	0	8	0	0	0	0	0	8	0	0
0.49	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0	0	0	6	0	0	0	0	0	6	0	0
SUBTOTAL	0	0	0	64	0	0	7	3	1	71	3	1

[redacted]

TABLE A-4

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 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	3	0	0	0	0	0	3	0	0
0.52	0	0	0	6	0	0	1	0	0	7	0	0
0.53	0	0	0	2	0	0	0	0	0	2	0	0
0.54	0	0	0	7	0	0	0	0	0	7	0	0
0.55	0	0	0	1	0	0	0	1	0	1	1	0
0.56	0	0	0	3	0	0	1	0	0	4	1	0
0.57	0	0	0	2	0	0	0	0	0	2	0	0
0.58	0	0	0	10	0	0	0	0	0	10	0	0
0.59	0	0	0	0	0	0	0	0	0	0	0	0
0.60	1	0	0	6	0	0	0	0	0	7	0	0
0.61	0	0	0	1	0	0	0	0	0	1	0	0
0.62	0	0	0	6	0	0	0	0	0	6	0	0
0.63	0	0	0	1	0	0	0	0	0	1	0	0
0.64	0	0	0	6	0	0	0	0	0	6	0	0
0.65	0	0	0	2	0	0	0	0	0	2	0	0
0.66	0	0	0	7	0	0	1	0	0	8	0	0
0.67	0	0	0	0	1	0	0	0	0	0	1	0
0.68	0	0	0	9	1	0	0	0	0	10	1	0
0.69	0	0	0	1	0	0	0	0	0	1	0	0
0.70	0	0	0	14	0	0	0	0	0	14	0	0
0.71	0	0	0	4	0	0	0	0	0	4	0	0
0.72	0	0	0	4	0	0	1	0	0	5	0	0
0.73	0	0	0	1	0	0	0	0	0	1	0	0
0.74	0	0	0	3	0	0	0	0	0	3	0	0
0.75	0	0	0	2	0	0	0	0	0	2	0	0
0.76	0	0	0	5	0	0	0	0	0	5	0	0
0.77	0	0	0	5	0	0	0	0	0	5	0	0
0.78	0	0	0	3	0	0	1	0	0	4	0	0
0.79	0	0	0	1	0	0	0	0	0	1	0	0
0.80	0	0	0	3	1	0	0	0	0	4	1	0
0.81	0	0	0	2	0	0	0	0	0	2	0	0
0.82	0	0	0	0	0	0	0	0	0	0	0	0
0.83	0	0	0	4	0	0	1	0	0	5	0	0
0.84	0	0	0	1	0	0	1	0	0	2	0	0
0.85	0	0	0	3	0	0	0	0	0	3	0	0
0.86	0	0	0	0	0	0	0	0	0	0	0	0
0.87	0	0	0	3	0	0	0	0	0	3	0	0
0.88	0	0	0	3	0	0	0	0	0	3	0	0
0.89	0	0	0	6	0	0	2	0	0	8	0	0
0.90	0	0	0	4	1	0	0	0	0	5	1	0
0.91	0	0	0	4	0	0	1	0	0	5	0	0
0.92	0	0	0	0	1	0	1	0	0	1	1	0
0.93	0	0	0	0	1	0	1	0	0	1	1	0
0.94	0	0	0	1	0	0	0	0	0	1	0	0
0.95	0	0	0	1	1	0	0	0	0	1	1	0
0.96	0	0	0	1	1	0	0	0	0	2	1	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	1	0	0	134	5	0	15	2	2	150	7	2

[redacted]

TABLE A-4

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	1	0	0	0	0	0	1	0	0
1.03	0	0	0	0	0	0	0	0	0	1	0	0
1.04	0	0	0	3	0	0	1	0	0	4	0	0
1.05	0	0	0	1	0	0	0	0	0	1	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	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	1	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	0	1	13	75	22	3	10	0	16	85	23

[redacted]

TABLE A-4

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	0	0	0	0	0
1.52	0	0	0	0	0	4	0	0	0	0	0	4
1.53	0	0	0	0	0	4	0	0	0	0	0	4
1.54	0	0	0	1	2	1	0	0	0	1	2	1
1.55	0	0	0	0	3	1	0	1	0	0	3	1
1.56	0	0	0	0	3	1	0	0	0	0	3	1
1.57	0	0	0	0	3	0	0	1	0	0	3	1
1.58	0	0	0	0	2	0	0	0	0	0	2	0
1.59	0	0	0	0	2	0	0	0	0	0	2	0
1.60	0	0	0	0	4	1	0	0	0	0	5	1
1.61	0	0	0	0	4	0	0	0	0	0	5	0
1.62	0	0	1	0	2	0	0	0	0	0	2	0
1.63	0	0	0	0	2	1	0	0	0	0	2	1
1.64	0	0	0	0	1	1	0	0	0	0	1	1
1.65	0	0	0	0	2	1	0	0	0	0	2	1
1.66	0	0	0	0	1	2	0	0	0	0	1	2
1.67	0	0	1	0	2	0	0	0	0	0	2	0
1.68	0	1	0	0	9	2	0	0	0	0	10	2
1.69	0	0	0	0	3	0	0	0	0	0	3	0
1.70	0	0	0	0	3	3	0	0	1	0	3	4
1.71	0	0	0	0	3	0	0	0	0	0	3	0
1.72	0	0	0	0	1	2	0	0	0	0	1	2
1.73	0	0	0	0	2	0	0	0	0	0	2	0
1.74	0	0	0	0	6	0	0	0	0	0	6	0
1.75	0	0	0	0	0	1	0	0	0	0	0	1
1.76	0	0	0	0	1	1	0	0	0	0	1	1
1.77	0	0	0	0	1	0	0	0	0	0	1	0
1.78	0	0	0	0	1	4	0	0	0	0	1	4
1.79	0	0	0	0	3	0	0	0	0	0	3	0
1.80	0	0	0	0	1	0	0	0	0	0	1	0
1.81	0	0	0	0	5	0	0	0	0	0	5	0
1.82	0	0	0	0	5	1	0	0	0	0	5	1
1.83	0	0	0	0	9	1	0	0	0	0	9	1
1.84	0	0	0	0	1	2	0	0	0	0	1	2
1.85	0	0	0	0	9	3	0	0	1	0	9	4
1.86	0	0	0	0	3	5	0	0	0	0	3	5
1.87	0	0	0	0	5	0	0	0	0	0	5	0
1.88	0	0	0	0	1	0	0	0	0	0	1	0
1.89	0	0	0	0	4	0	0	0	0	0	4	0
1.90	0	0	0	0	8	0	0	0	0	0	8	0
1.91	0	0	0	0	8	0	0	0	0	0	8	0
1.92	0	0	0	0	2	0	0	0	0	0	2	0
1.93	0	0	0	0	8	1	0	0	0	0	8	1
1.94	0	0	0	0	4	1	0	0	1	0	4	2
1.95	0	0	0	0	1	1	0	0	0	0	1	1
1.96	0	0	0	0	1	1	0	0	0	0	1	1
1.97	0	0	0	0	1	0	0	0	0	0	1	0
1.98	0	0	0	0	1	2	0	0	0	0	1	2
1.99	0	0	0	0	0	3	0	0	0	0	0	3
2.00	0	0	0	0	9	4	0	0	0	0	9	4
SUBTOTAL	0	1	1	1	106	78	0	6	7	1	113	86

[redacted]

TABLE A-4

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	0	0	0	0	0
2.02	0	0	0	0	4	2	0	1	0	0	5	2
2.03	0	0	0	0	0	5	0	0	1	0	0	6
2.04	0	0	0	0	5	0	0	1	0	0	6	0
2.05	0	0	0	0	5	0	0	0	1	0	5	0
2.06	0	0	0	0	0	1	0	0	0	0	0	2
2.07	0	0	0	0	3	0	0	0	1	0	3	0
2.08	0	0	0	0	3	1	0	0	0	0	3	1
2.09	0	0	0	0	1	5	0	0	0	0	1	5
2.10	0	0	0	0	5	0	0	0	1	0	5	0
2.11	0	0	0	0	0	4	0	0	0	0	0	4
2.12	0	0	0	0	0	0	0	0	2	0	0	6
2.13	0	0	0	0	0	0	0	0	0	0	0	0
2.14	0	0	0	0	0	2	0	0	2	0	0	4
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	1	0	0	0	0	0	1
2.17	0	0	0	0	1	0	0	0	0	0	1	0
2.18	0	0	0	0	0	3	0	0	0	0	0	3
2.19	0	0	0	0	0	0	0	0	0	0	0	0
2.20	0	0	0	0	0	1	0	0	0	0	0	1
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	3	0	0	2	0	0	5
2.23	0	0	0	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	2	0	0	1	0	0	3
2.25	0	0	0	0	1	0	0	0	1	0	1	0
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	1	2	0	0	0	0	1	2
2.28	0	0	0	0	0	3	0	0	1	0	0	4
2.29	0	0	0	0	0	0	0	0	1	0	0	1
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	26	42	0	4	18	0	30	60

[redacted]

TABLE A-4

[redacted]

MISSION • 1017-2 • INSTRUMENT • AFT 4-29-65 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	[redacted]					
TOTAL	1	1	2	212	212	142	25	25	28	238	238	[redacted]

MISSION 1017-2 INSTR - AFT 4-29-65 PROCESSING AND EXPOSURE ANALYSI

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	1	0 PC	0 PC	100 PC	0 PC	0 PC
INTERMEDIATE	212	0 PC	15 PC	75 PC	8 PC	1 PC
FULL	25	16 PC	0 PC	60 PC	24 PC	0 PC
ALL LEVELS	238	2 PC	13 PC	74 PC	10 PC	1 PC

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND 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

[redacted]

TABLE A-4

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 0.60 • MEDIAN • 0.60 • STD DEV • 0.00 • RANGE • 0.60 TO 0.60 WITH 1 SAMPLES

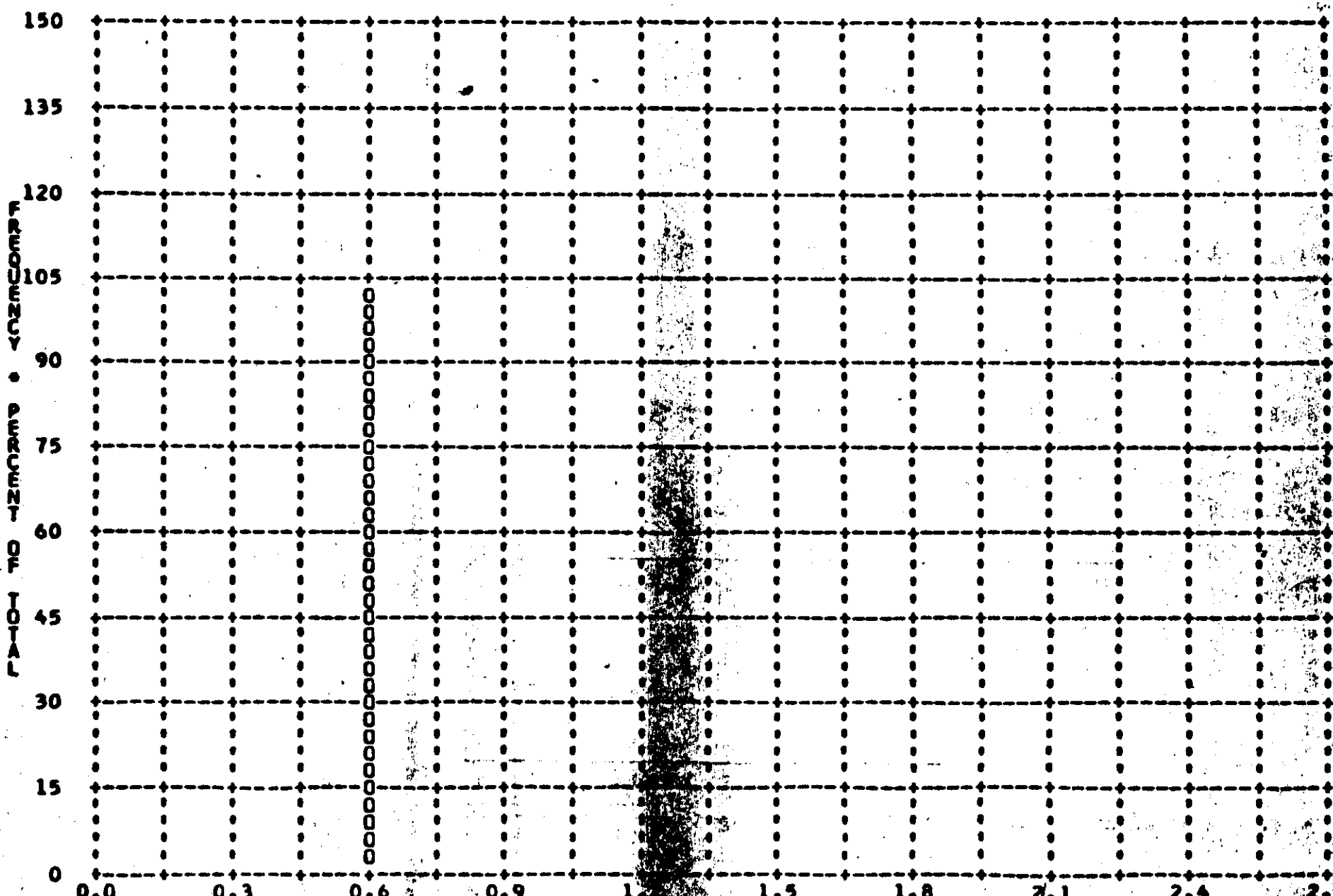


Figure A-33

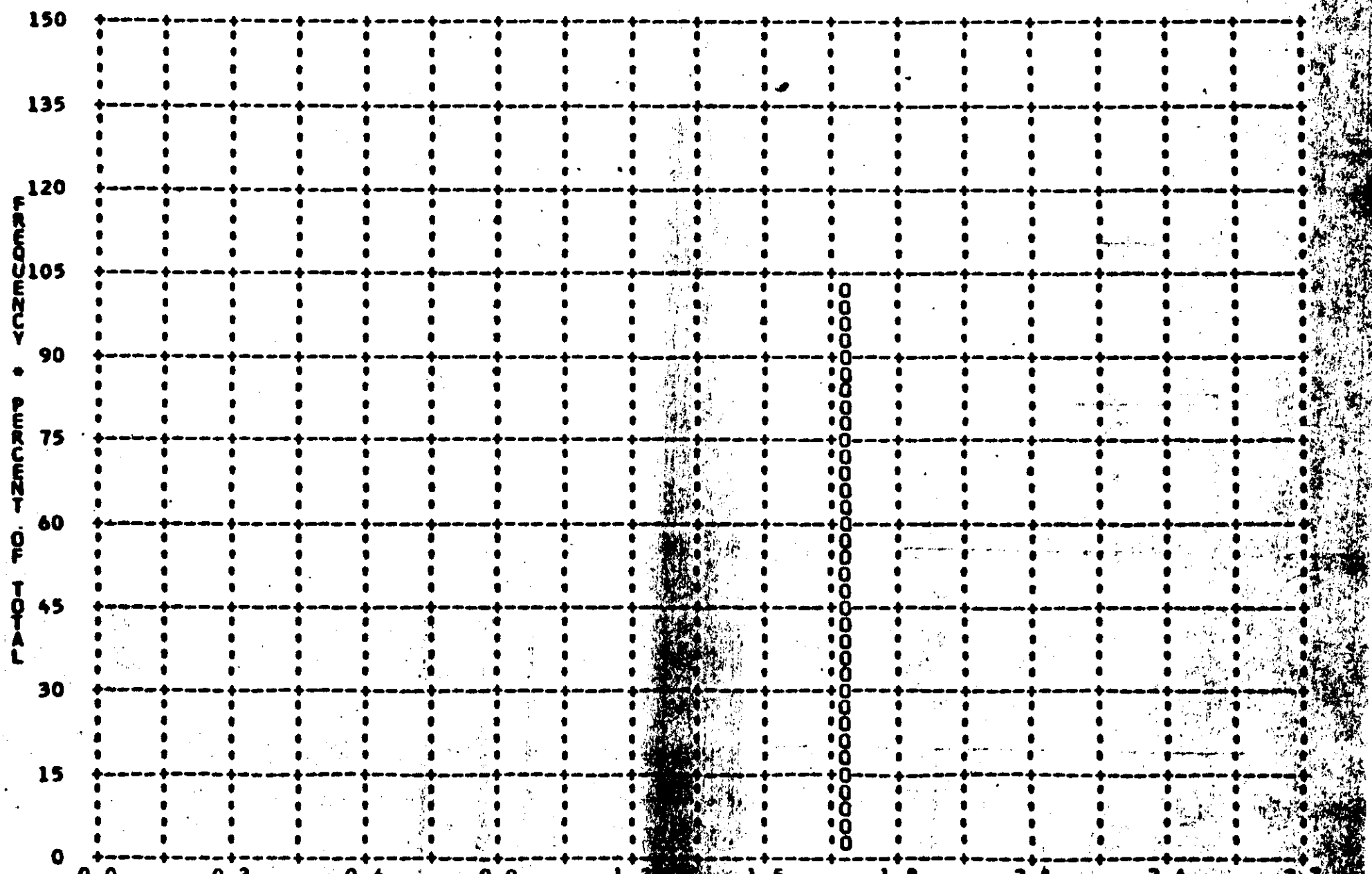

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • PRIMARY
ARITH MEAN • 1.68 • MEDIAN • 1.68 • STD DEV • 0.00 • RANGE • 1.68 TO 1.68 WITH 1 SAMPLES
FREQUENCY • PERCENT OF TOTAL
150
135
120
105
90
75
60
45
30
15
0
0.0
0.3
0.6
0.9
1.5
1.8
2.4

Figure A-34

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • PRIMARY

ARITH MEAN • 1.35 • MEDIAN • 1.62 • STD DEV • 0.38 • RANGE • 1.08 TO 1.62 WITH 2 SAMPLES

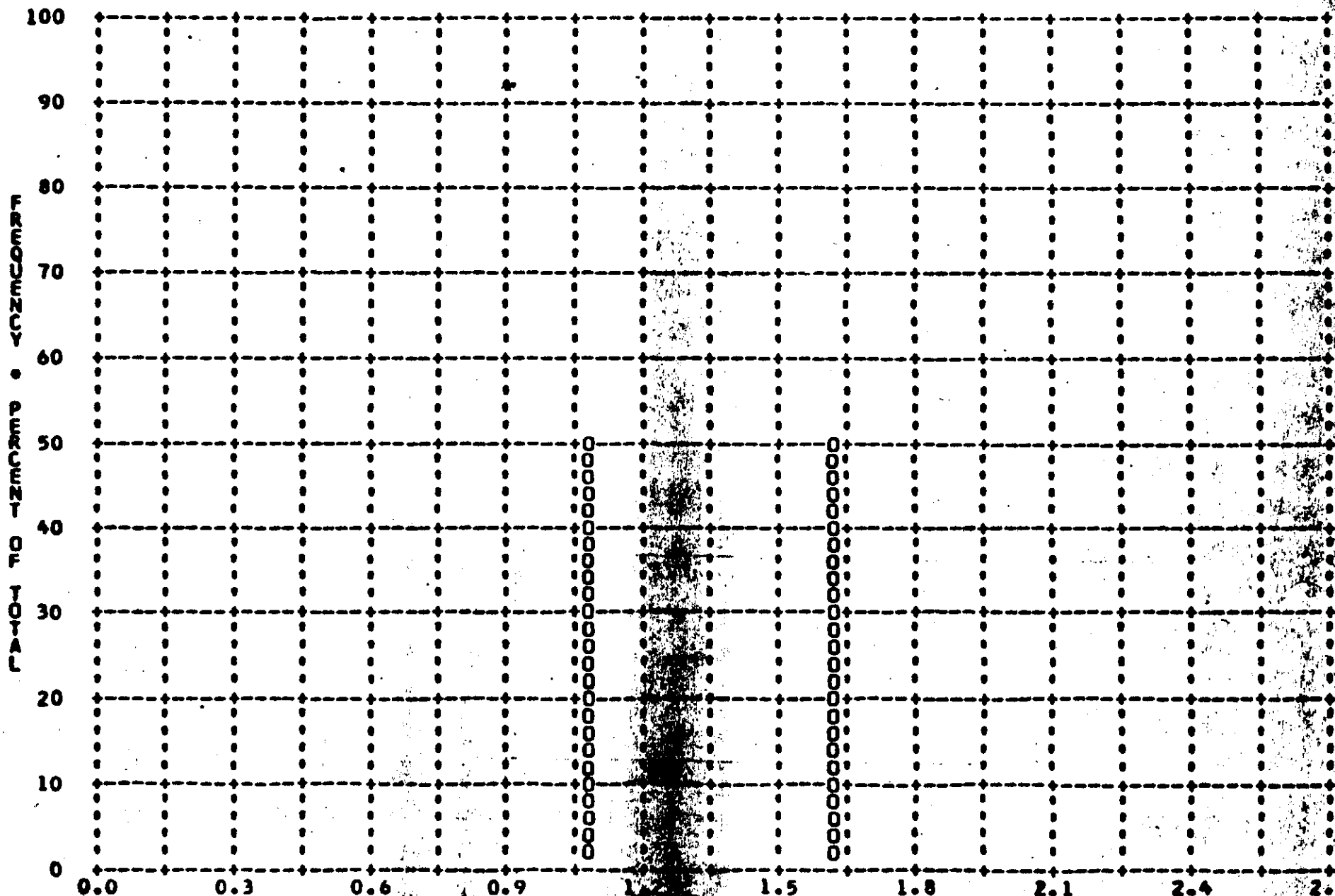
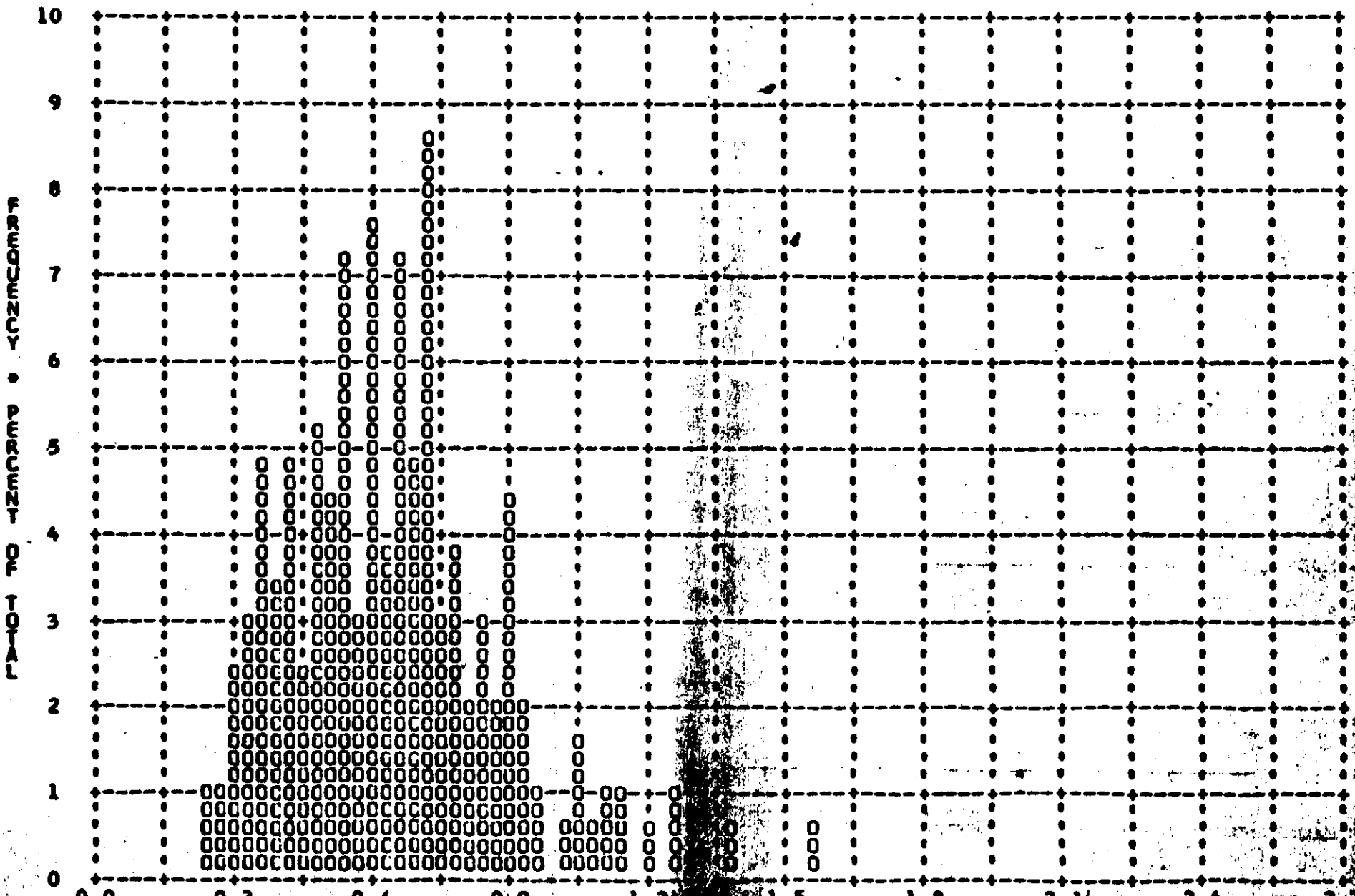


Figure A-35

[redacted]

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 0.63 • MEDIAN • 0.62 • STD DEV • 0.22 • RANGE • 0.22 TO 1.54 WITH 212 SAMPLES



[redacted]

Figure [redacted]

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.65 • MEDIAN • 1.70 • STD DEV • 0.31 • RANGE • 0.67 TO 2.26 WITH 212 SAMPLES

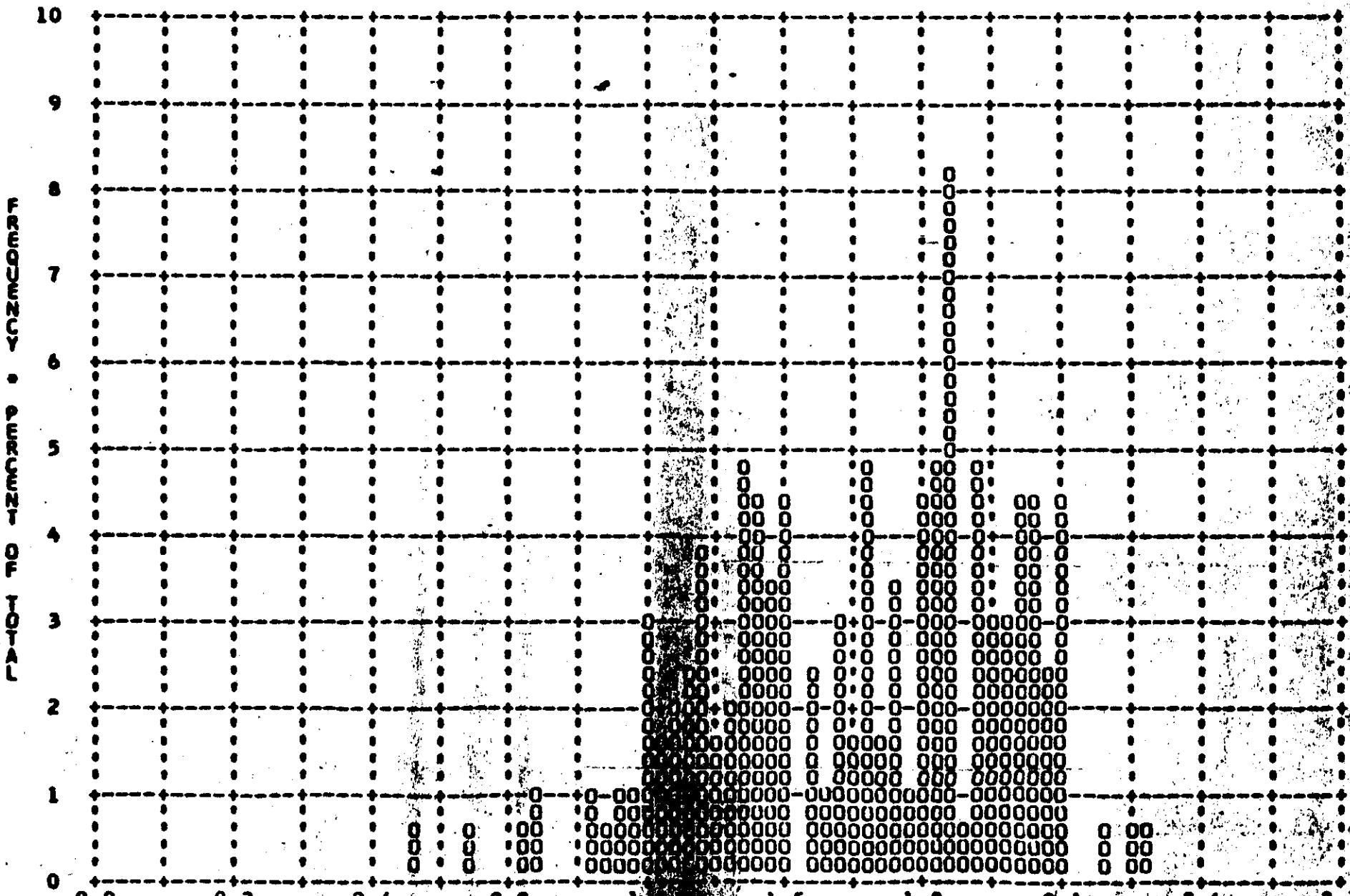


Figure A-37

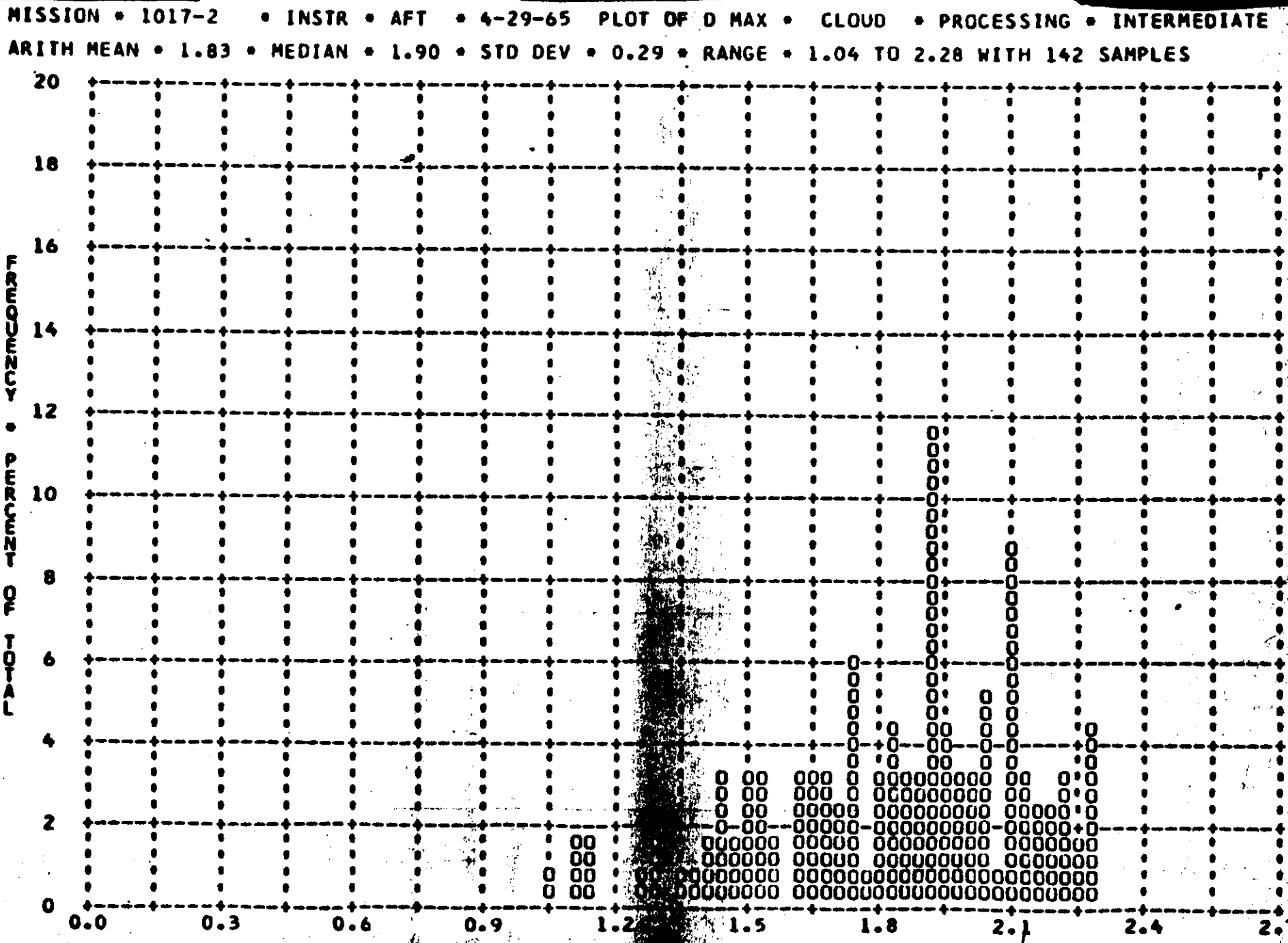

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE
ARITH MEAN • 1.83 • MEDIAN • 1.90 • STD DEV • 0.29 • RANGE • 1.04 TO 2.28 WITH 142 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
• SITY •

Figure A-38

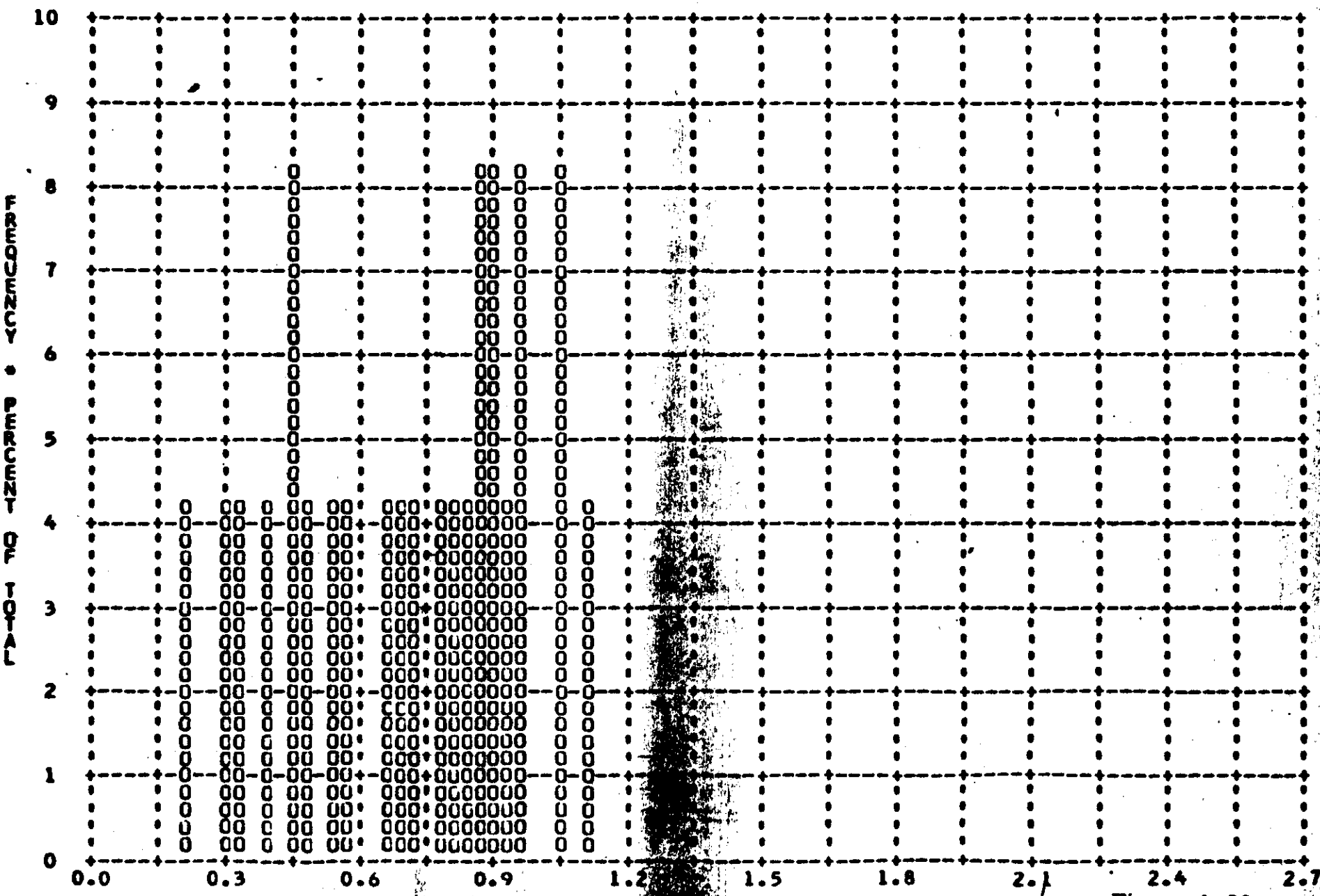

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.70 • MEDIAN • 0.78 • STD DEV • 0.26 • RANGE • 0.20 TO 1.10 WITH 25 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7
ITY •

Figure A-39

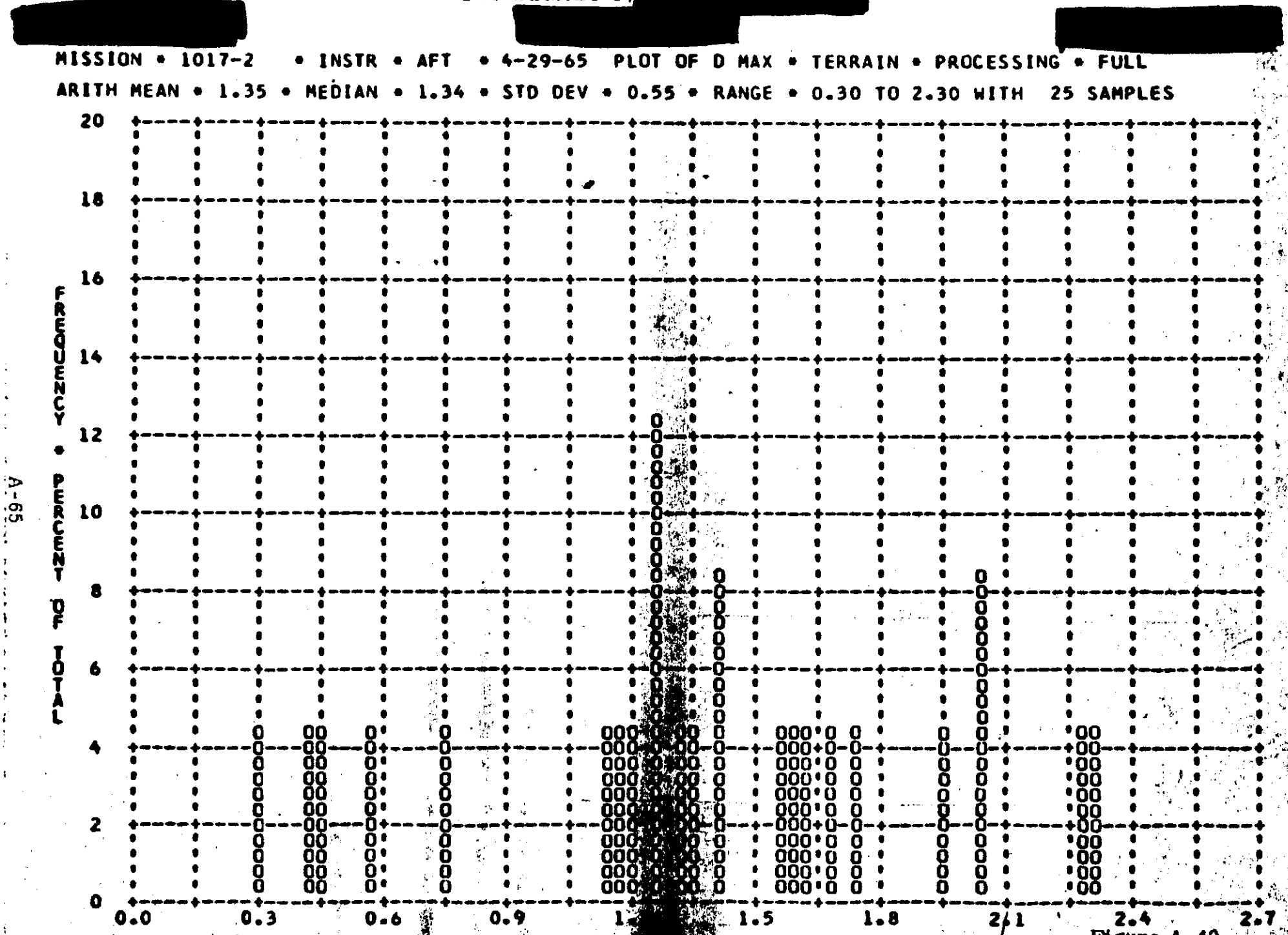

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL
ARITH MEAN • 1.35 • MEDIAN • 1.34 • STD DEV • 0.55 • RANGE • 0.30 TO 2.30 WITH 25 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.2
1.5
1.8
2.1
2.4
2.7

Figure A-40

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.96 • MEDIAN • 2.12 • STD DEV • 0.50 • RANGE • 0.38 TO 2.34 WITH 28 SAMPLES

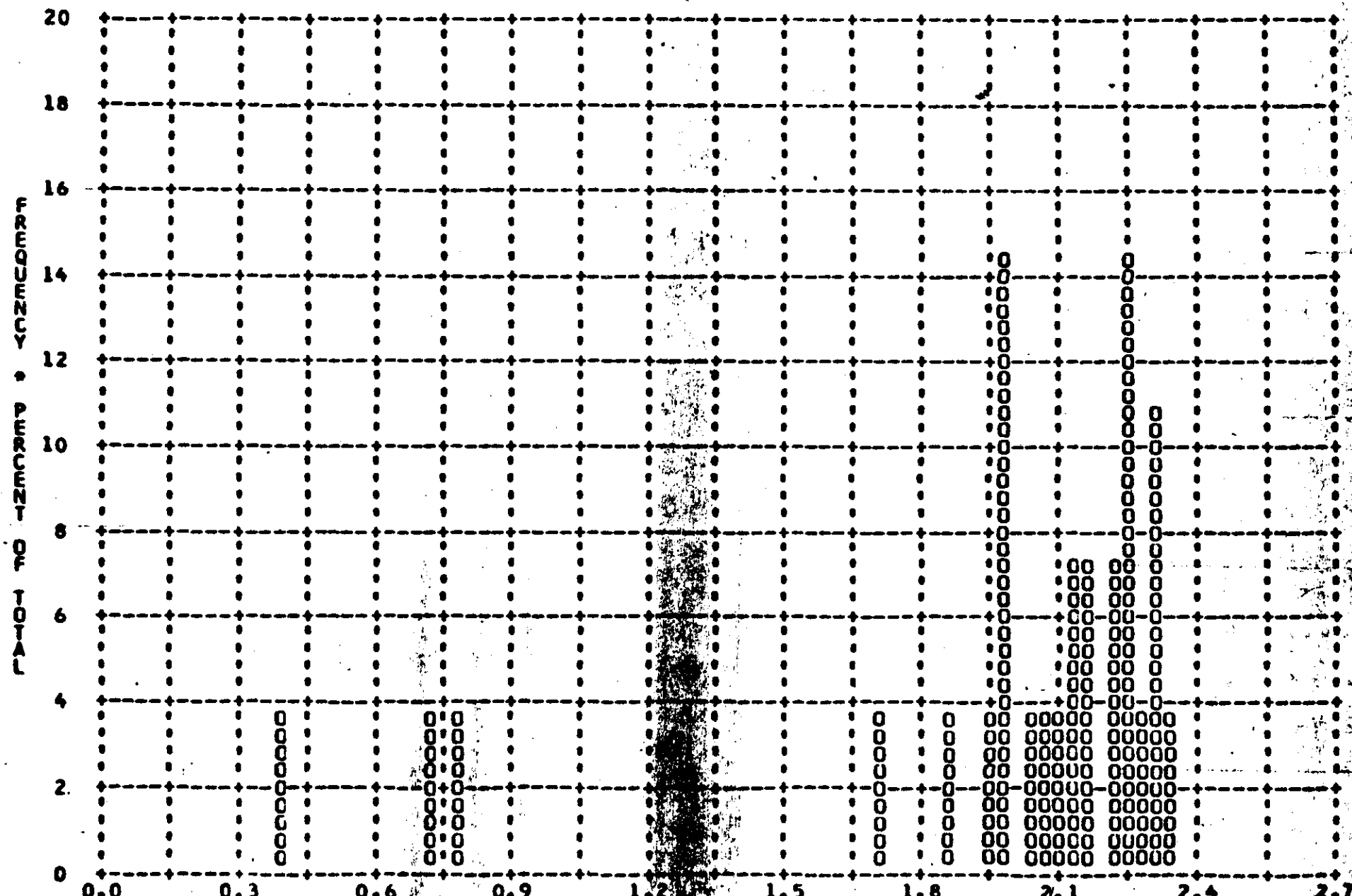


Figure A-41

[redacted]

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.64 • MEDIAN • 0.62 • STD DEV • 0.23 • RANGE • 0.20 TO 1.54 WITH 238 SAMPLES

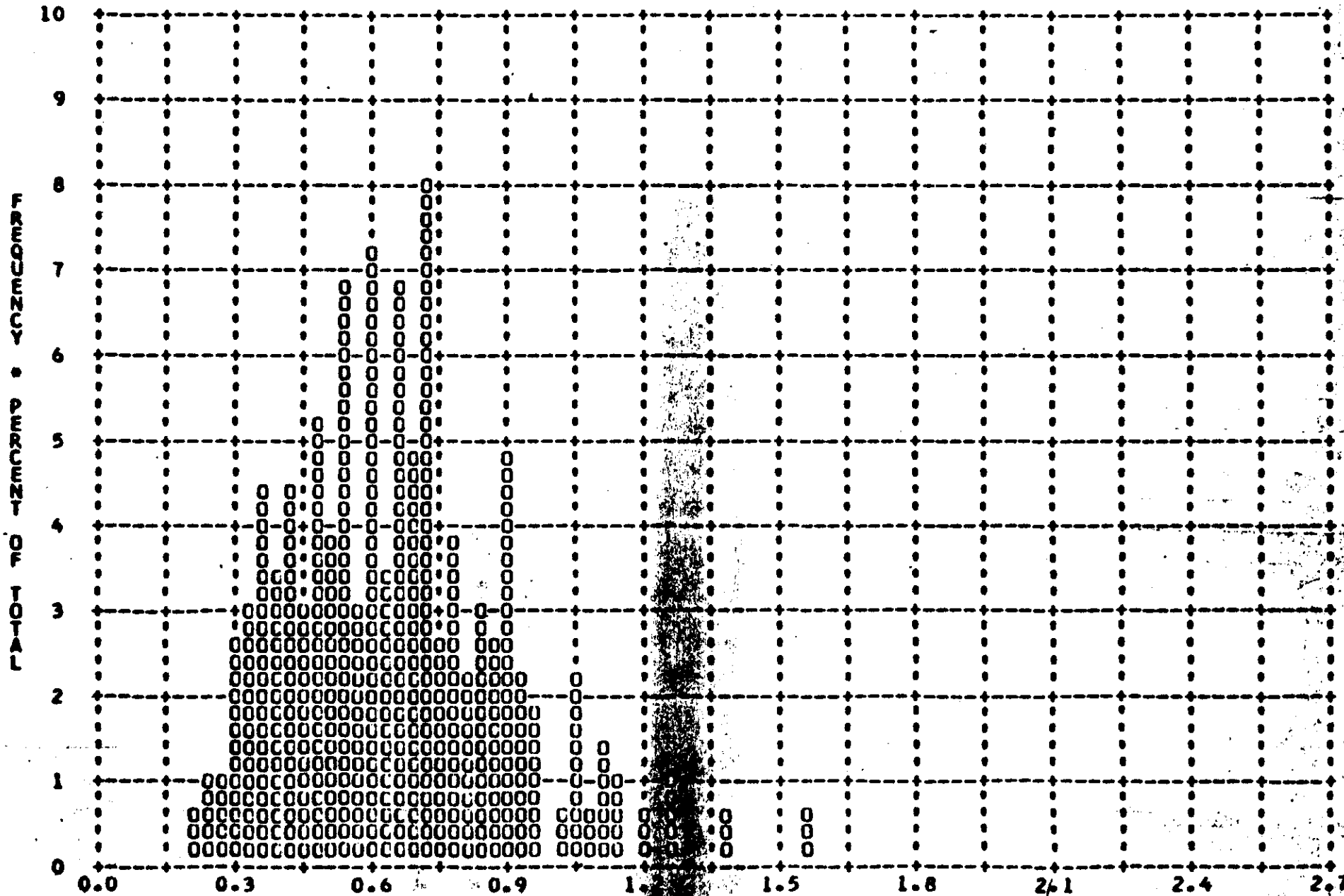


Figure A-42

[redacted]

[redacted]

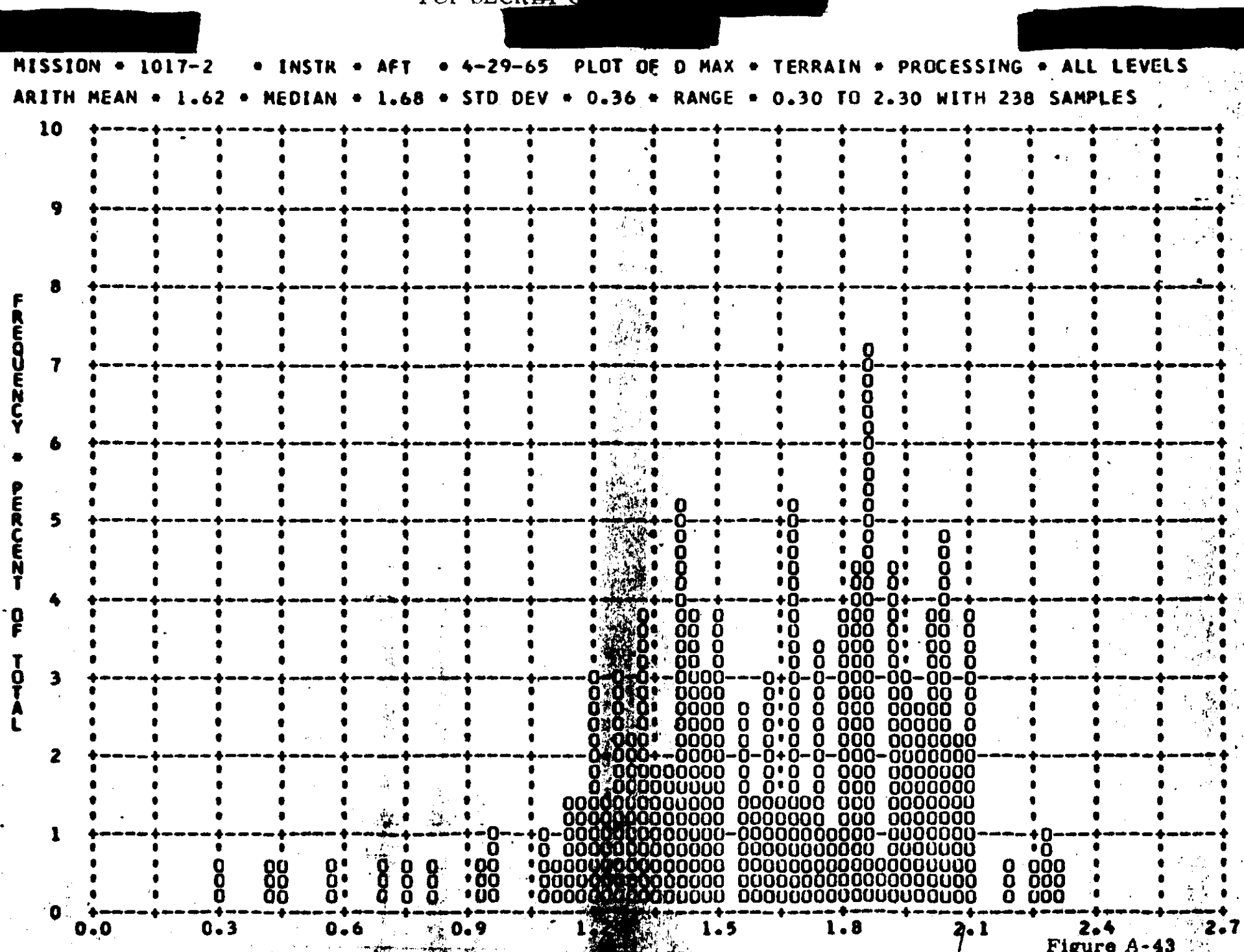

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS
ARITH MEAN • 1.62 • MEDIAN • 1.68 • STD DEV • 0.36 • RANGE • 0.30 TO 2.30 WITH 238 SAMPLES
FREQUENCY • PERCENT OF TOTAL
10
9
8
7
6
5
4
3
2
1
0
0.0
0.3
0.6
0.9
1.5
1.8
2.1
2.4
2.7

Figure A-43

MISSION • 1017-2 • INSTR • AFT • 4-29-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.85 • MEDIAN • 1.92 • STD DEV • 0.34 • RANGE • 0.38 TO 2.34 WITH 172 SAMPLES

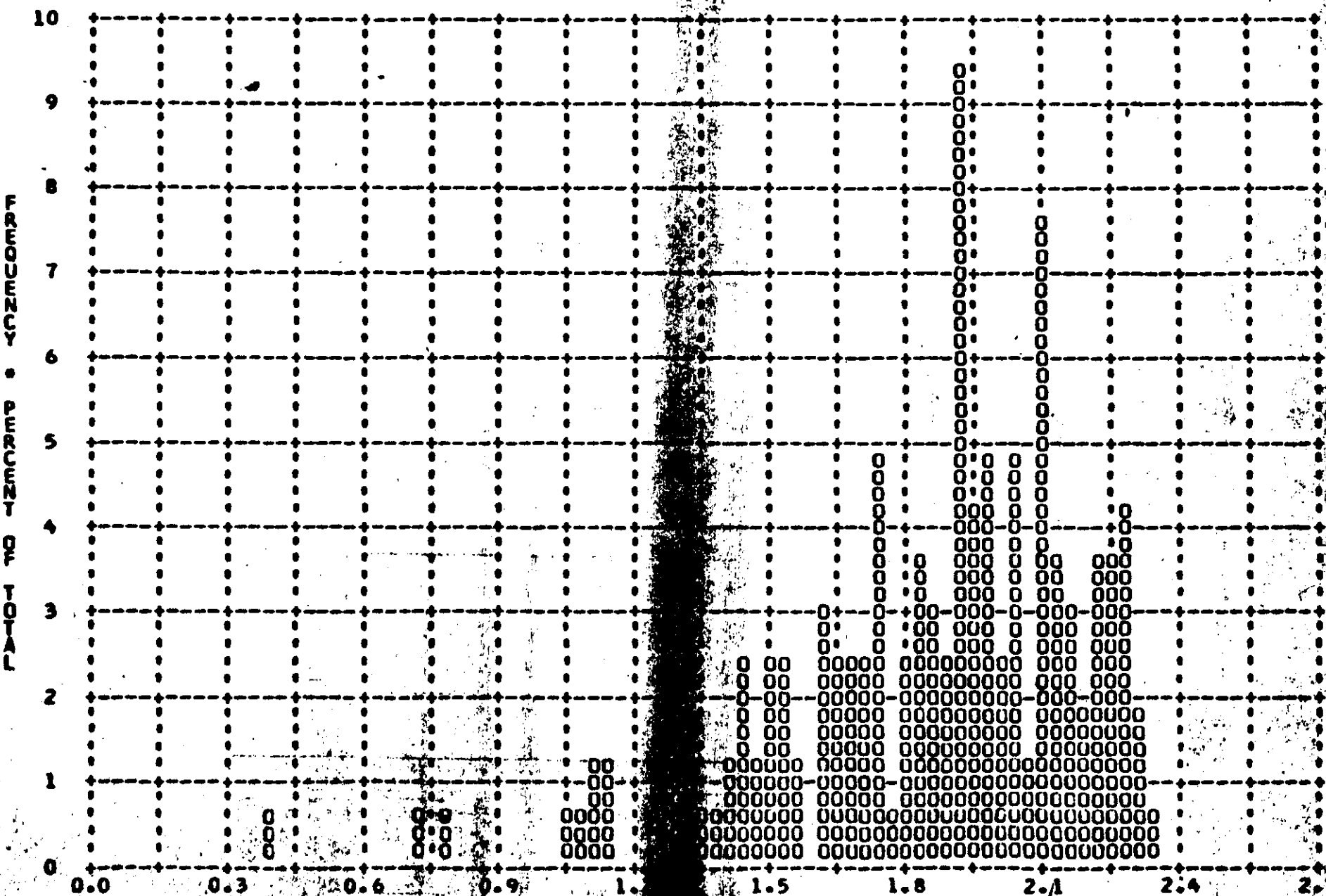


Figure A-44

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