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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1033-1 and 1033-2

FTV 1630, J-33

12 May 1967

Approved: [redacted]
Manager
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Program [redacted]

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No. [redacted]

7 July 1967

TO: [redacted]

THRU: [redacted]

FROM: [redacted]

SUBJECT: MISSION 1033-1 AND 1033-2 FINAL REPORT

Enclosed is the Final Performance Evaluation Report for Mission 1033-1 and 1033-2.

[redacted]
Advanced Projects

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FOREWORD

This report details the performance of the payload system during the operational phase of the [redacted] Flight Test Vehicle 1630.

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

This document is the final payload test and performance evaluation report for Missions 1033-1 and 1033-2 which was launched on 24 May 1966.

[redacted]

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INTRODUCTION

This report presents the final performance evaluation of Missions 1033-1 and 1033-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-33 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 reports published [redacted]

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

SECTION 1

SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The payload section of Mission 1033, placed into orbit by Flight Test Vehicle #1630 and LV-2A booster #469, 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-33 payload system. This Corona "J" system is designed to acquire search and reconnaissance photography of selected areas of the earth from orbital altitudes. The planned mission was two, 5 day photographic periods with no inactive period.

The orbit was designed by A/P, at customer request, to give daily coverage of three specified area targets. Coincidentally, it afforded good coverage of many other primary targets. The general orbit parameters featured low (66°) inclination, a relatively short/higher drag period yielding second-day synchronism, and 100 N.M. Perigee on the northbound side.

Because of the longitudinal spacing between the three main targets, it was necessary to operate the system in the northbound direction as well as the normal southbound. In turn, this necessitated a relatively late launch to provide proper illumination for all target areas; extensive A/P studies indicated optimum liftoff for exposure purposes was 0245Z (6:45 PM, PST) ± 15 min. A launch at this time would have provided continuous proper illumination above 45°N, which included all primary target areas, plus the greater amount of usable bonus coverage. However, it was also necessary to assure adequate illumination for the recovery area (24°N, southbound). For this reason, the desired liftoff was set back to 0200Z to provide at least a half hour of sunlight on every mission day for possible recovery operations. This compromised northbound coverage late in the mission.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 0200:33 Z (1900:33 PDT) on 24 May 1966. 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 1C33-1 consisted of a 5 day operation and was completed by air recovery on 28 May 1966. Mission 1033-2 completed a six day operation and was air recovered on 4 June 1966.

ORBITAL PARAMETERS

Parameter	Predicted	Orbit 42 Actuals	Orbit 130 Actuals
Period (Min.)	88.96	88.93	88.826
Perigee (N.M.)	100.1	101.83	100.45
Apogee (N.M.)	157.1	154.55	151.46
Inclination (Deg.)	66.01	66.032	66.032
Perigee Latitude (Deg. N.)	61.93	60.75	63.744
Eccentricity	0.0080	0.00739	0.00717

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1033

Master Camera No: 10[illegible]

Slave Camera No: 19[illegible]

Supply Cassette No: [illegible]

Clock No: [illegible]

Yaw Programmer No: [illegible]

"A" Recovery Subsystem No: [illegible]

"A" Stellar-Index Camera No: [illegible]

"B" Recovery Subsystem No: [illegible]

"B" Stellar-Index Camera No: [illegible]

Pressure Make-up Unit No: [illegible]

FIGURE 1-2

C. PANORAMIC CAMERAS

The panoramic cameras operated throughout both missions and provided better than average quality photography. The cloud cover was 45% and 50% on -1 and -2 missions respectively.

D. STELLAR-INDEX CAMERAS

The -1 mission S/I unit operated satisfactorily. The -2 Stellar camera shutter failed to open intermittently. The -2 hot wire cutter fired prematurely. The photo record on both missions was usable.

E. OTHER SUBSYSTEMS

The clock, instrumentation, command, recovery and pressure make-up systems performed satisfactorily. The thermal environment averaged 20°F higher than normal.

SECTION 2

PRE-FLIGHT SYSTEMS TESTS

A. ENVIRONMENTAL TESTING

1. Test Objective

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

2. Test Summary

The J-33 payload system was tested in the Sunnyvale TASC chamber to determine thermal and orbital effects on the system. The test, from January 22 to January 28, 1966, was composed of three days in Mission 1, three days in Mission 2, and part of one day in a thermal soak.

Random current spikes at the instrument on command were seen from Rev 9 in the "B" mode until the end of the test. These spikes were observed on all the current monitors and the V/h monitor. The current spikes could not be measured for amplitude because no calibrations were supplied on the Sanborn recorders. There was also an arcing from the chamber heating elements to the payload system. This arcing caused random pulses on the + regulated current and V/h channels.

Cycle rates were acceptable for the master and slave instruments. The master camera cycle rate errors ranged from 1% slow to 2.25% fast but averaged 1.5% fast. The slave camera cycle rate errors ranged from 0% to 2.25% fast for orbits 1A through 14A; from 2.0% slow to 0% for orbits 15A through 4B; and from 1% slow to 1% fast for orbits 5B through 14B. The slow down of slave camera after orbit 14A is unexplained.

There were IRIG "C" time syncs on the morning of the twenty-third and twenty-fourth. These syncs caused errors in the clock correlation, but the clock itself is acceptable.

Instrument #194 exhibited excessive corona. Metering rollers were changed and a second altitude test showed no corona present. The lowest internal camera pressure was 0.8-microns during the second test.

3. Panoramic Camera Performance

Both instruments operated satisfactorily throughout the test.

The 99/101 per cent clutch ratios averaged 7/5 for both instruments.

The cycle periods, take-up voltage and V/h program voltage were acceptable.

A deactivate sequence was performed with both instruments operating 4 cycles and the lens stopping in the stowed position.

The cut and wrap operation was normal with both instruments operating 3 cycles and the lens stopping in the stowed position.

FILM CONSUMPTION (Cycles)

	Master	Slave
-1 Mission		
Cycle Counter	2800	2854
Footage Pot (Hump Rack)	2802	2818
Actual	2800	2854
-2 Mission		
Cycle Counter	2899	2948
Footage Pot	2962	3064
Actual	2899	2948

4. Stellar/Index Performance

The Stellar/Index camera operated satisfactorily throughout the A phase with normal camera slewing during the cut and wrap operation.

The B phase Stellar/Index camera operated satisfactorily with normal camera slewing during the B recovery sequence.

5. Temperature Summary -

Average Panoramic Instrument Temperatures (^{o}F)

Date	-1 Mission Day	Master High	Master Low	Slave High	Slave Low	Orbits
22nd	1	94	72	86	70	1 - 4
23rd	2	91	85	83	78	5 - 10
24th	3	88	85	80	76	11 - 14
25th	4	63	58	60	58	15 - C&W

	-2 Mission Day	Master High	Master Low	Slave High	Slave Low	
25th	1	60	59	58	58	1 - 2
26th	2	82	59	81	60	3 - 7
27th	3	80	72	79	72	8 - 12
28th	4	72	70	72	71	13 - Recovery

6. Pressure Make-up System Performance

The pressure make-up system operated satisfactorily throughout the test. The average gas consumption was approximately 7.9 lbs/minute of instrument operate time. The maximum pressure attained with the PMU was approximately 48 microns during instrument operation.

The minimum pressure attained during the test was approximately 2 microns during a static condition.

[redacted]

7. Instrumentation

The instrumentation system performed satisfactorily thoughout the altitude test.

B. RESOLUTION TEST

Resolution and theodolite tests were performed on 2 February 1966. Results of the thru-focus resolution tests of pan instruments 194 and 195 show the following characteristics:

Master Pan Instrument No. 194

Maximum high contrast resolution 182 lines/mm at 0.000 focal position.

Maximum low contrast resolution 116 lines/mm at - .001 focal position.

Slave Instrument No. 195

Maximum high contrast resolution 169 lines/mm at 0.000 focal position.

Maximum low contrast resolution 116 lines/mm at 0.000 focal position.

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

C. LIGHT LEAK TEST

J-33 was subjected to the System Light Leak test on 28 March, 1 April, and 4 April 1966.

The first test revealed unacceptable film fog that was traced to a defective bath tub fitting at the Master/Slave barrel interface and excessive Master drum leaks. Light leaks were repaired and the test of 1 April was completed. The 1 April test was found to be invalid due to inadvertent use of 3404 type film in the Master camera in place of standard light leak test film type 3401. The test of 4 April demonstrated that the subject light leaks were

significantly suppressed as evidenced by the presence of minor acceptable fog attributed to the normal drum/felt seals of the Master and Slave cameras.

The J-33 system was accepted without further film light leak testing.

D. FLIGHT LOADING AND CERTIFICATION

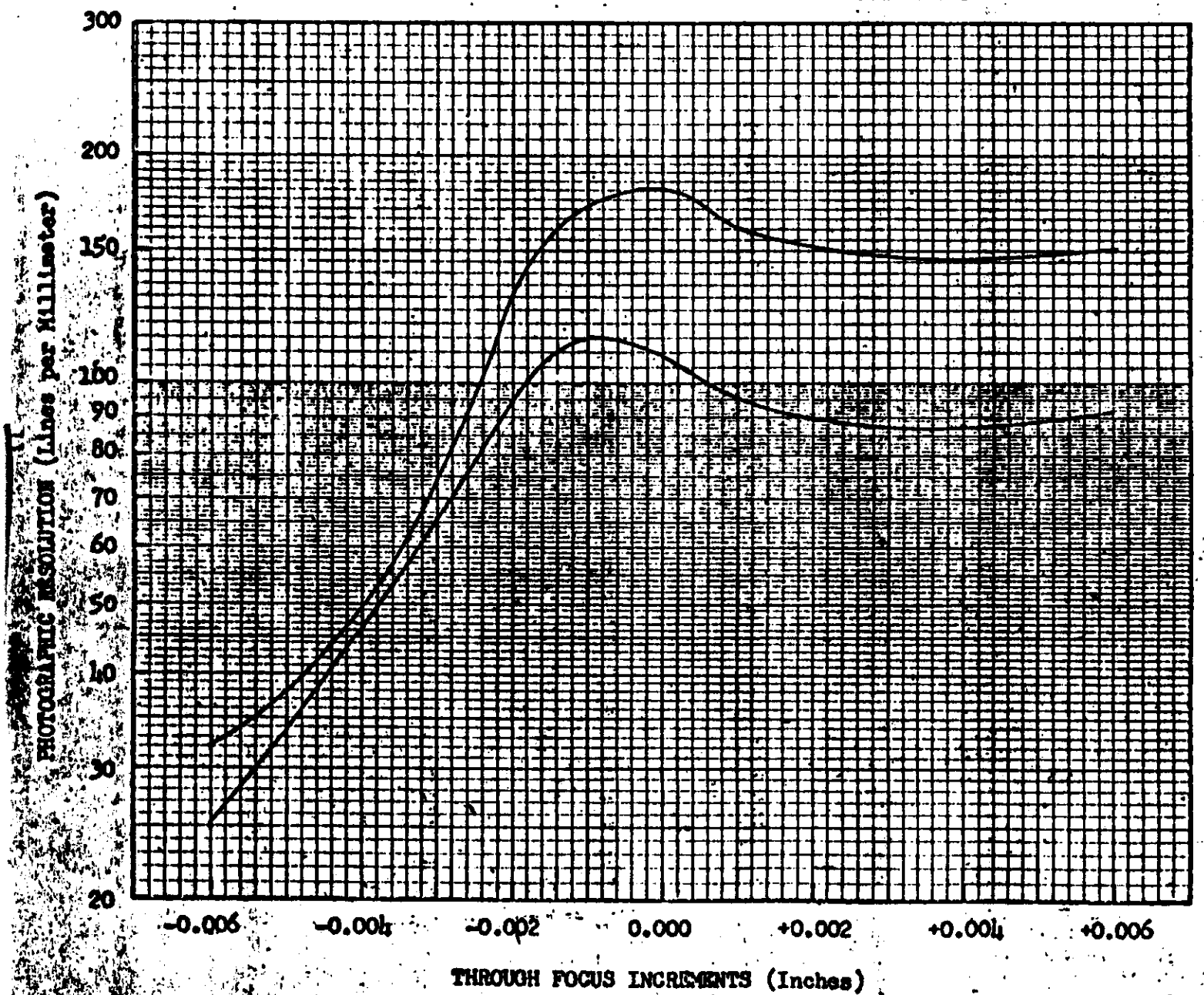
The J-33 System Flight Readiness Test was completed on 18 May 1966. The test was repeated the second time to verify operation of the No. 6 binary bit lamp in Master Instrument #194. The No. 6 binary bit was out in the first test and present in the second test. No lamp change was made to correct the problem. However, the No. 6 bit electrical disconnect pins were cleaned prior to running the second test.

Instrument 195 blanking pulse sometimes removed two (2) timing pips instead of one. A waiver was recommended.

The J-33 Flight Readiness Test film was exceptionally clean and free of physical damage.

The supply cassette was loaded with flight film on 19 May 1966. On 20 May 1966, J-33 system was threaded with flight film and operated to verify final film tracking and system operation. The system performed well.

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 194

Payload No: J-33

Resolution (1/mm)

High Contrast: 182

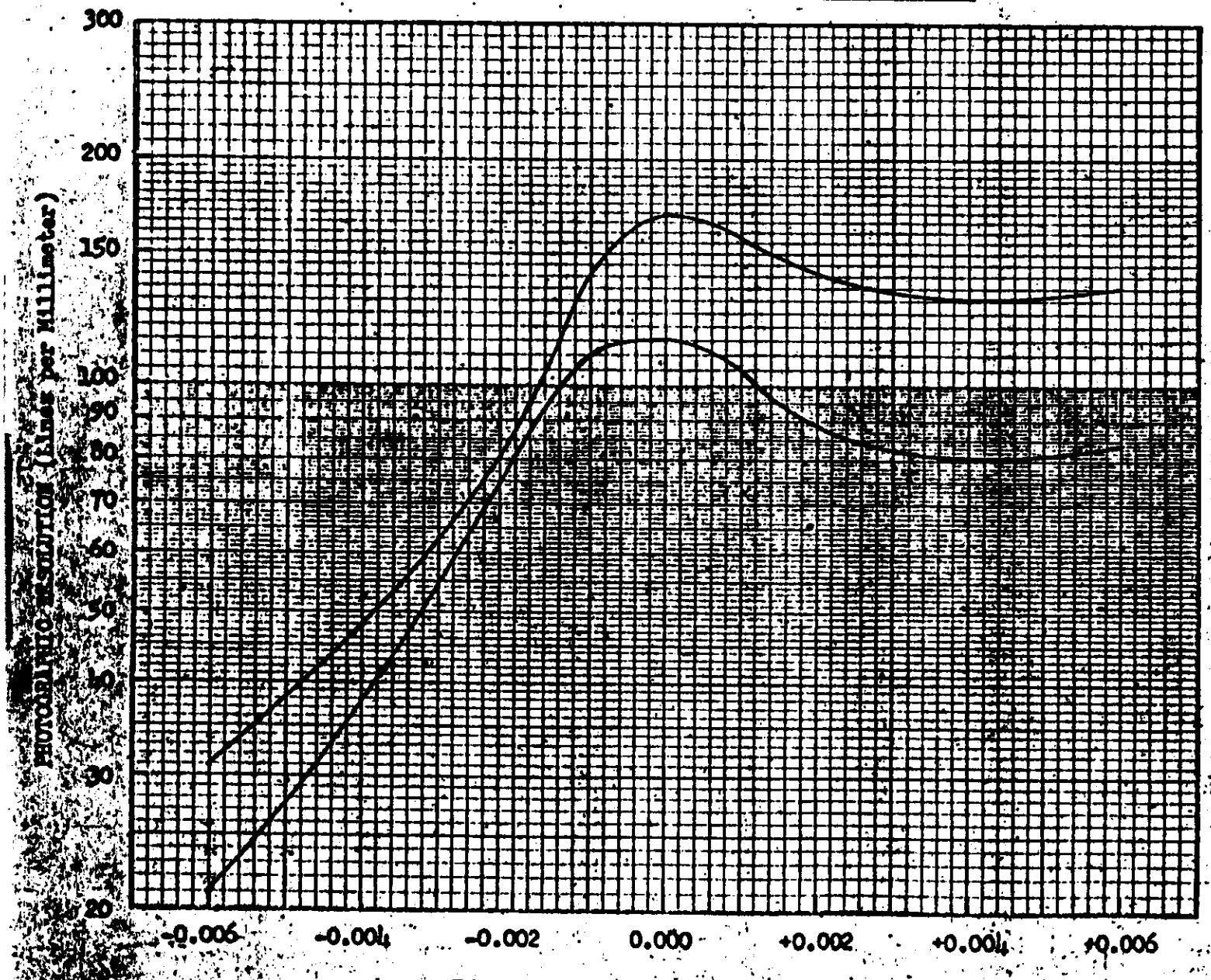
Low Contrast: 116

Film Type: 3404

Test Date: 2/8/66

FIGURE 2-1

PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 195

Payload No: J-33

Resolution (l/mm)

High Contrast: 169

Low Contrast: 116

Film Type: 3404

Test Date: 2/8/66

FIGURE 2-2

SECTION 3

FLIGHT OPERATIONS

A. SUMMARY

FTV 1630 was an Agena (SO1-B) and utilized an improved Thor booster (S/N 469). The vehicle had the capability for dual recovery and deactivate/reactivate. The Agena/payload system was a tail first in orbit configuration. This was the first vehicle to operationally employ the orbital-adjust-system (OAS). The vehicle carried 4 orbit-adjust rockets which were enabled by real-time commands and executed by orbital programmer brush commands.

OAS rocket No. 1 was enabled and successfully fired on pass 107 in the boost mode. A near predicted increase of 13 seconds in period was achieved. The remaining three firings were accomplished after second recovery on Revs 184 and 192. All three firings were satisfactory.

The payload system was a standard dual recovery reconnaissance camera system.

The camera payload chute attached to the parachute cover was removed.

The fairing temperature instrumentation was modified to obtain increased temperature range capability (500°F vs 250°F).

The flight consisted of a five day first mission and a six day second mission with the deactivate/reactivate capability not being utilized.

All launch, ascent, and injection events occurred as programmed which resulted in achieving the desired orbit. A short in the vehicle telemetry indicated numerous false indications of possible failures during ascent. The only ascent discrepancy was a short circuit of OAS breakwire monitors No. 2 and No. 4. However, OAS rockets No. 2 and No. 4 were successfully fired after second recovery.

Both panoramic cameras operated satisfactorily throughout the flight. Average cycle rates on both instruments deviated from the pre-flight calibrated values by less than 1.0%.

The -1 and -2 Stellar/Index cameras operated normally throughout the flight.

The clock, instrumentation, command, and the pressure make-up system functioned properly throughout the flight.

The thermal environment of this mission was approximately 20°F higher than predicted.

Both the -1 and -2 recovery systems were successfully recovered by air catch on Revs 82 and 178 respectively.

B. PANORAMIC CAMERA PERFORMANCE

Camera system dynamics were normal throughout the -1 and -2 missions. The film transport of both camera systems were normal. Cycle rate data (Table 3-1) indicates that the camera systems were generally less than 1% fast from the calibrated systems value. The Master and Slave instruments were generally less than 0.5% apart throughout most of the flight. The 99/101 average clutch ratio was 6/6 for both instruments. Camera film depletion occurred prior to the engineering operation on Rev 176.

Panoramic Film Consumption - Frames

	Actual	
	Master	Slave
Pre-Launch	102	100
-1 Mission	3005	2984
-2 Mission	2933	2949
TOTAL	6040	6023

FMC Match

The following changes were required to maintain V/h control of less than 5% throughout the mission. The V/h ramp, amplitude, and delay time were changed on Rev 5 to compensate the actual orbit achieved. The V/h ramp and delay time were changed on Rev 30 to compensate normal perigee shift. The V/h delay time was changed on Rev 111 to compensate the period and perigee change due to the OAS firing. The V/h ramp and delay time were changed on Rev 141 to compensate normal orbit decay.

C. STELLAR/INDEX CAMERA OPERATION

The -1 Stellar/Index camera operation was normal throughout the mission with telemetry indicating proper metering and shutter operation.

The -2 Stellar/Index camera operation was also normal throughout the mission with no abnormalities noted by telemetry.

D. INSTRUMENTATION AND COMMAND SYSTEM PERFORMANCE

The instrumentation and command system operated satisfactorily throughout the -1 and -2 missions with no abnormalities evident. The mono delay time was within the specified tolerance and operated satisfactorily.

E. CLOCK PERFORMANCE

The payload clock system performed satisfactorily during both phases of the mission. The clock/system time correlation data obtained from the [redacted] acquisitions are included in Table 3-2. The relatively large scatter noted in these data cannot be explained as data reduction errors.

F. PRESSURE MAKE-UP SYSTEM PERFORMANCE

The pressure make-up system operated normally throughout the flight. However, the average gas consumption increased slightly over previous missions. The average gas consumption was 8.3 Lbs/Min for a total instrument operate time of 249 minutes. The gas consumption rate was 6.2 Lbs/Min for the -1 mission and 10.3 Lbs/Min for the -2 mission.

The supply pressure dropped from 2610 psig at launch to 550 psig at the end of the -2 mission.

G. THERMAL ENVIRONMENT

The thermal environment was approximately 20°F higher than the pre-flight predictions.

There are several conditions which could have resulted in the higher temperature environment. However, all but two possibilities have been systematically eliminated as possible contributing factors. These two possible causes are the excessive ablation of material from the ablative shell during ascent and/or the degradating of the paint pattern by ascent heating.

This orbit was a low period orbit with a 66 degree inclination angle. It was necessary to have a dog-leg on ascent which resulted in a more pronounced flight path angle in achieving the desired orbit. This condition results in high ascent heating of the nose and skin surfaces. Further investigation is being conducted in an attempt to identify to what extent each of these probable factors contributed to the thermal control system performance.

Temperature data for the [redacted] acquisitions are included in Table 3-3. The average instrument temperatures varied from a high of 103°F on the master and 95°F for the slave and a low of 85°F for the master and 76°F for the slave. (Refer to Figures 3-1 to 3-3).

The ascent high range fairing temperature sensors and the barrel No. 2 temperature sensors are plotted in Figures 3-4 and 3-5 respectively. These data are from Link II from launch plus 166 seconds until launch plus 418 seconds. The point of maximum heating occurred prior to 166 seconds.

J-33 194/195 FLIGHT

REV. MODE	OP	RAMP R	RAMP A	TUR SECS	SYSTEM CALIB.	INST. 194 ACTUAL	INST. 194 UNIT DEV.	INST. 194 SYSTEM DEV.	INST. 195 ACTUAL	INST. 195 UNIT DEV.	INST. 195 SYSTEM DEV.	194/195 DIFF.
10	A	4	8	1540	2.349	2.340	0.63F	0.22F	2.330	0.24F	0.65F	-0.43
16	A	4	8	2990	2.692	2.675	1.05F	0.61F	2.690	0.38S	0.06F	0.56
32	A	3	8	3095	2.624	2.620	0.58F	0.15F	2.593	0.74F	1.17F	-1.03
48	A	3	8	3095	2.624	2.620	0.58F	0.15F	2.620	0.29S	0.15F	-0.00
74	A	3	8	1642	2.221	2.200	1.32F	0.94F	2.230	0.45S	0.42S	1.36
90	B	3	8	1640	2.221	2.242	0.54S	0.93S	2.220	0.00F	0.06F	-0.98
96	B	3	8	3095	2.624	2.660	0.94S	1.38S	2.640	1.06S	0.62S	-0.75
112	B	3	8	2895	2.533	2.545	0.06S	0.49S	2.533	0.44S	0.01S	-0.47
128	B	3	8	2895	2.533	2.570	1.04S	1.48S	2.560	1.51S	1.08S	-0.39
144	B	2	8	3095	2.525	2.530	0.24F	0.19S	2.531	0.66S	0.23S	0.04
160	B	2	8	3095	2.525	2.530	0.24F	0.19S	2.520	0.22S	0.21F	-0.40

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

TABLE 3-1

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a/ [redacted]

CLOCK SUMMARY

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.594591630 05	C.281446721C 06	0.5945916980 05	-0.0068	10	
0.656485800 04	C.3149544270 06	0.6564870620 04	-0.0126	16	
0.584769400 05	C.3668665160 06	0.5847695160 05	-0.0116	26	
0.556763800 04	C.4C03572250 06	0.5567655440 04	-0.0174	32	
0.574574780 05	C.4522470520 06	0.5745747440 05	0.0036	42	
0.452987800 04	C.4857194390 06	0.4529856280 04	0.0217	48	
0.563891130 05	C.7077890000 03	0.5638911030 05	0.0027	58	
0.338817100 04	C.3410682500 05	0.3388141120 04	0.0299	64	
0.550429350 05	0.857616270D 05	0.5504293520 05	-0.0002	74	
0.207594800 04	C.1191946420 06	0.2075944990 04	0.0030	80	
0.540998560 05	C.1712185490 06	0.5409984400 05	0.0120	90	
C.111350900 04	C.2046322240 06	0.1113513810 04	-0.0048	96	
0.528330580 05	C.2563517760 06	0.5283305780 05	0.0002	106	
0.863417530 05	C.2898604620 06	0.8634173870 05	0.0143	112	
0.517953680 05	C.3417141060 06	0.5179537470 05	-0.0067	122	
0.852426120 05	0.3751613600 06	0.8524262350 05	-0.0115	128	
0.506565980 05	0.4269753450 06	0.5065660050 05	-0.0025	138	
C.840724700 05	C.4603912230 06	0.8407247340 05	-0.0034	144	
0.494459730 05	0.5121647370 06	0.4944597940 05	-0.0064	154	
C.827906780 05	C.8638543000 04	0.8279069220 05	-0.0142	160	
0.481696380 05	C.6041747900 05	0.4816962020 05	0.0178	170	
0.813137530 05	C.9356162460 05	0.8131376010 05	-0.0071	176	

A0=-0.2219895078D 06 A1= 0.9999998457250 00
SIGMA=C.01182 NO. POINTS= 22
RATIO OF CLOCK TIME TO SYS TIME= 0.1000000154280 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.594591630 05	C.281448721C 06	0.5945916160 05	0.0014	10	
C.656485800 04	0.3149544270 06	0.6564864300 04	-0.0063	16	
0.584769400 05	C.3668665160 06	0.5847694790 05	-0.0079	26	
0.556763800 04	C.4C03572250 06	0.5567653300 04	-0.0153	32	
0.574574780 05	C.4522470520 06	0.5745747440 05	0.0036	42	
0.452987800 04	C.4857194390 06	0.4529857340 04	0.0207	48	
0.563891130 05	C.7077890000 03	0.5638911280 05	0.0002	58	
0.338817100 04	C.3410682500 05	0.3388144420 04	0.0266	64	
0.550429350 05	C.8576162700 05	C.5504293930 05	-0.0043	74	
0.207594800 04	0.1191946420 06	0.2075949550 04	-0.0015	80	
0.540998560 05	C.1712185490 06	0.5409984880 05	0.0072	90	
0.111350900 04	C.2046322240 06	0.1113518660 04	-0.0097	96	
0.528330580 05	0.2563517760 06	0.5283306240 05	-0.0044	106	
0.863417530 05	C.2898604620 06	0.8634174290 05	0.0102	112	
0.517953680 05	C.3417141060 06	0.5179537800 05	-0.0100	122	
C.852426120 05	C.3751613600 06	0.8524262600 05	-0.0140	128	
0.506565980 05	0.4269753450 06	0.5065660160 05	-0.0036	138	
0.840724700 05	C.4603912230 06	0.8407247330 05	-0.0033	144	
C.494459730 05	C.5121647370 06	0.4944597720 05	-0.0042	154	
0.827906780 05	C.8638543000 04	0.8279068860 05	-0.0106	160	
0.481696380 05	C.6041747900 05	0.4816961390 05	0.0241	170	
0.813137530 05	C.9356162460 05	0.8131375190 05	0.0011	176	

A0=-0.2219895378D 06 A1= 0.9999999423850 00
A2=-0.6670306531C681D-13 SIGMA=0.01104 NO. POINTS= 22

TABLE 3-2

TABLE 3-3

J-33 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED																					
											A	B										
MASTER CAMERA	0	10	16	26	32	42	48	58	64	74	80	90	96	106	112	122	128	138	144	154	160	170	176
3	61	81	87	87	91	88	92	90	93	92	92	84	81	81	80	81	80	81	79	80	78	79	77
4	60	87	76	94	97	95	97	97	100	97	97	91	88	87	86	86	86	86	85	85	83	85	83
5	58	91	98	97	101	99	103	101	103	103	103	95	91	91	90	90	90	90	89	90	87	89	86
6	60	100	103	104	109	106	109	109	110	109	110	103	100	100	99	98	98	98	96	97	95	95	93
7	52	87	92	92	95	93	97	95	97	96	96	90	88	87	87	85	85	85	85	84	82	82	82
8	59	89	97	95	100	97	98	99	102	98	102	93	90	89	88	89	87	88	87	88	86	86	85
9	58	94	100	98	107	102	106	104	108	104	108	98	95	95	95	94	95	94	93	93	93	93	81
10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	62	99	104	101	114	103	113	109	115	106	115	98	99	96	99	95	97	93	96	93	94	90	92
12	64	84	91	90	95	92	96	94	96	95	96	87	84	84	83	83	82	83	82	83	81	82	81
13	56	95	99	98	103	101	103	104	104	104	104	96	93	93	91	92	89	91	89	90	87	88	85
AVG	59	92	95	96	101	98	101	100	103	100	103	94	91	91	90	89	89	89	88	88	87	87	85
Slave Camera																							
3	57	93	96	79	103	95	101	101	105	101	100	94	94	92	94	91	93	90	91	88	90	86	87
4	57	84	92	89	94	91	95	93	96	95	96	88	88	86	85	84	85	84	84	84	82	82	81
5	57	85	90	89	92	91	93	94	96	95	96	88	86	87	85	86	84	86	84	85	82	85	82
6	55	81	87	87	89	88	90	90	92	91	92	85	82	82	81	80	80	80	80	80	78	79	78
7	59	90	97	95	99	97	100	99	101	100	101	93	91	90	90	89	90	88	88	88	87	86	86
8	58	81	87	87	90	88	92	91	94	93	94	87	85	85	83	84	83	83	82	83	80	82	80
9	56	78	83	83	86	85	86	87	90	89	90	82	81	81	79	81	80	80	79	80	78	79	77
10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	61	75	80	79	83	80	85	83	85	84	85	78	77	76	76	74	76	75	75	74	74	73	74
12	54	82	93	87	96	89	94	91	98	93	98	87	88	85	87	84	86	83	84	82	82	80	80
13	55	80	85	85	88	87	88	89	90	90	90	83	81	81	80	80	79	79	78	79	77	77	76
AVG	57	83	89	86	92	89	92	92	95	93	95	87	85	85	84	83	84	83	83	83	81	79	78
Supply Bopel																							
1	57	61	66	68	70	71	72	74	76	74	76	71	69	69	68	67	66	67	67	66	69	65	64
2	59	70	77	77	81	79	83	82	85	83	86	78	78	76	75	75	75	75	74	75	74	73	72

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

TABLE 3-3

J-33 TEMPERATURE SUMMARY

SENSOR	ORBITS ACQUIRED										A | B											
Fair ("A") Barrel #1 ("B")		10	16	26	32	42	48	58	64	74	80	90	96	106	112	122	128	138	144	154	160	170	176
1	248	63	132	56	132	49	132	42	138	27	138	36	52	29	52	22	55	26	52	22	49	19	52
2	327	18	18	OBL	18	OBL	26	-6	34	-6	26	42	56	38	52	38	52	38	52	42	56	35	59
3	246	21	20	OBL	21	OBL	21	+5	35	5	21	83	186	70	186	67	186	64	186	61	188	57	193
4	200	64	71	64	71	57	77	57	84	50	77	114	187	102	182	96	179	87	166	77	171	68	166
5	222	104	158	111	158	104	158	104	163	104	153	107	121	101	115	98	115	92	104	83	95	74	86
6	224	139	204	132	209	120	209	120	214	95	209	--	--	--	--	--	--	--	--	--	--	--	--
Barrel #2																							
1	125	102	125	108	125	105	122	108	125	102	125	99	111	26	105	90	102	84	93	78	84	65	81
2	129	129	171	129	176	123	177	123	182	100	123	106	173	33	171	88	168	82	162	73	157	67	154
3	184	114	153	102	155	93	158	87	163	56	165	75	163	62	166	59	166	55	166	52	169	46	174
4	232	34	58	54	61	37	58	41	58	41	60	37	47	34	51	34	47	34	47	37	47	30	54
5	235	54	71	57	71	54	74	54	74	47	74	43	57	40	64	33	60	33	57	33	57	29	57
Conic Adapter																							
1	107	81	118	86	124	86	121	86	121	81	121	74	110	64	107	60	101	57	92	50	86	39	83
Clock																							
1	81	71	77	75	81	77	81	79	83	79	81	67	67	65	69	65	67	65	65	63	63	61	63
2	81	70	75	73	79	73	79	75	81	77	79	68	66	66	68	64	66	64	66	62	64	60	62
Thrust Cone "A" to "B" SRV																							
1	113	44	51	48	53	49	53	50	55	51	55	79	76	76	75	74	74	74	72	74	71	71	70
2	67	67	70	71	73	72	73	75	76	76	76	93	93	92	91	88	88	88	88	87	86	84	84
Stellar/Index "A" to "B"																							
1	64	61	67	67	70	67	73	70	76	67	73	76	73	70	73	67	73	70	73	67	67	61	67
2	55	58	64	67	67	64	67	67	67	67	67	72	69	69	69	66	69	69	69	69	63	63	66
Recovery Battery "B" SRV																							
1	62	74	78	85	86	88	89	91	91	91	94	84	79	77	77	75	85	82	77	88	77	82	82
Master Cassette "A" SRV																							
2	105	73	73	74	74	76	75	77	78	77	78	--	--	--	--	--	--	--	--	--	--	--	--

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

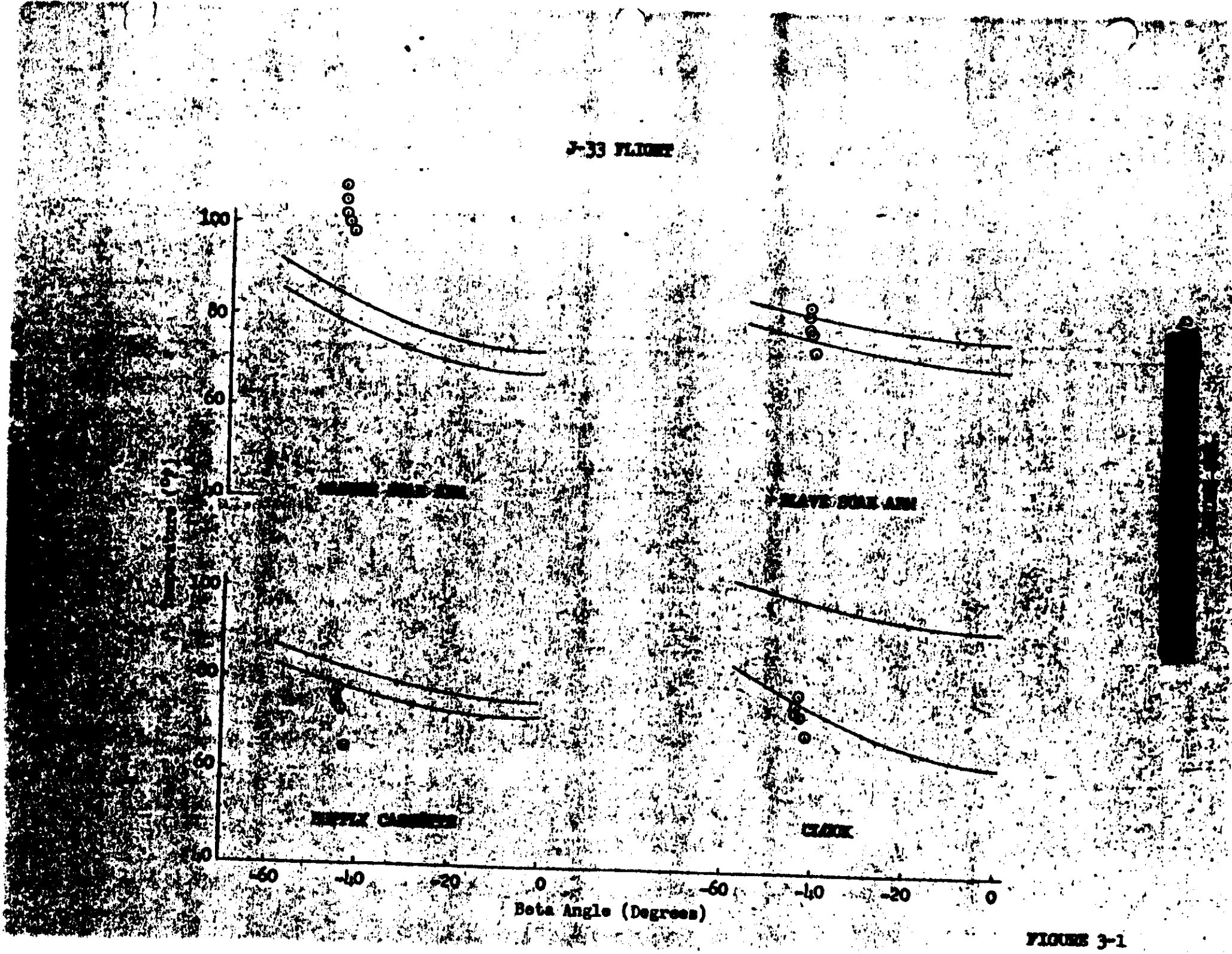

J-33 FLIGHT
100
80
60
50
60
50
-60
-40
-20
0
-60
-40
-20
0
Beta Angle (Degrees)

FIGURE 3-1

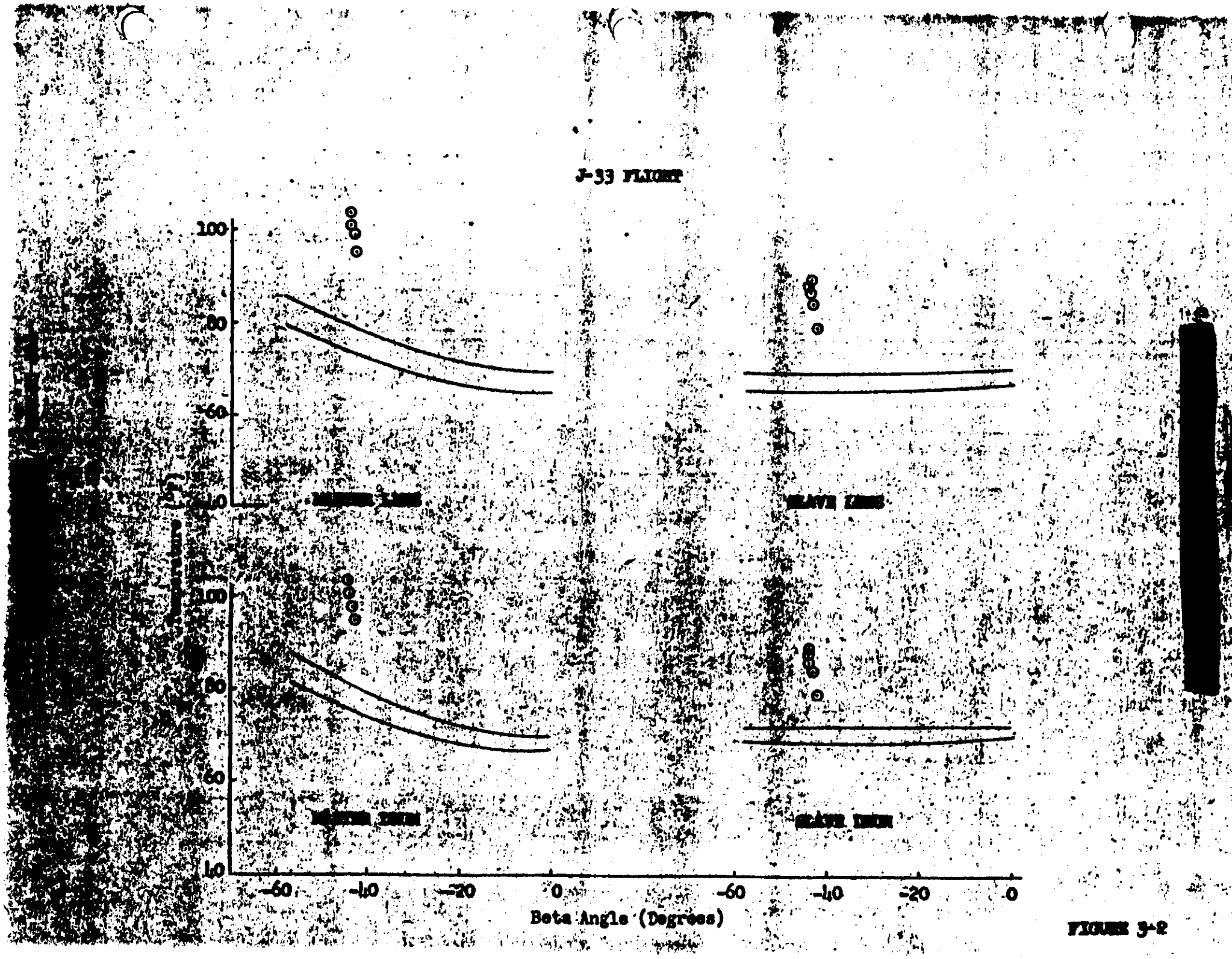

J-33 FLIGHT
100
80
60
40
100
80
60
40
-60
-40
-20
0
-60
-40
-20
0
Beta Angle (Degrees)

FIGURE 3-2

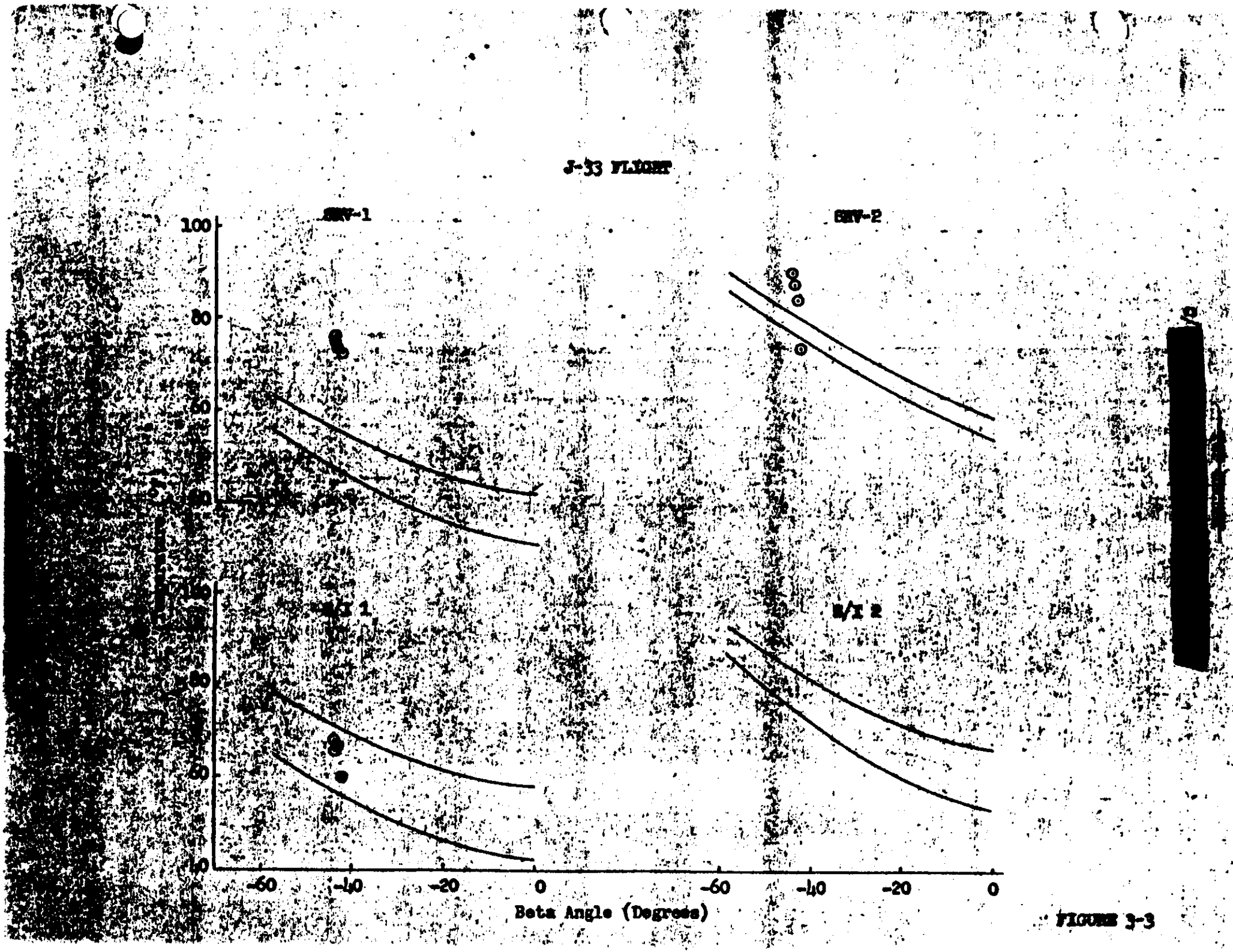

J-33 FLIGHT
ENV-1
ENV-2
B/I 1
B/I 2
100
80
60
40
-60
-40
-20
0
Beta Angle (Degrees)

FIGURE 3-3

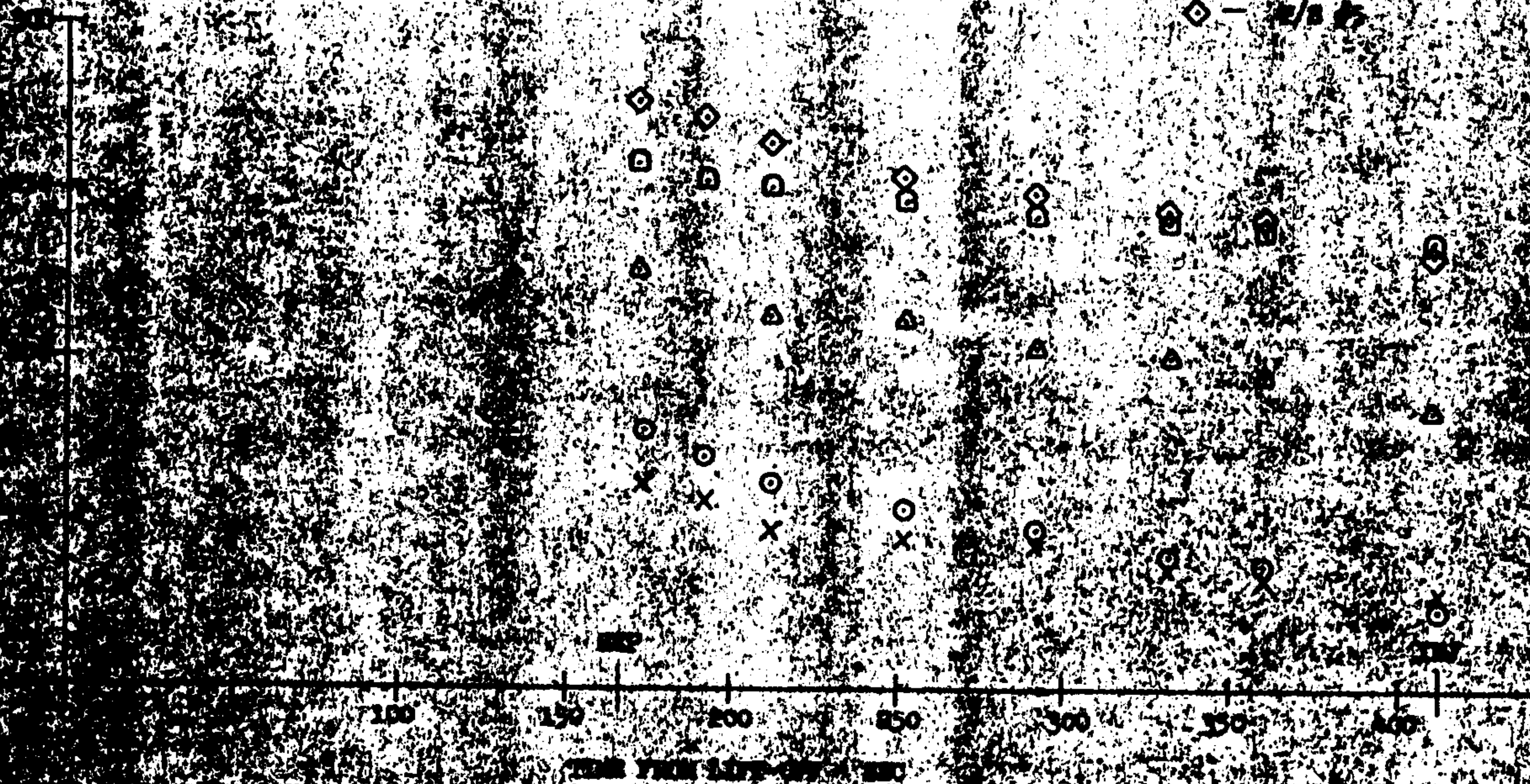
J-3 PAIRING TECHNIQUES
DURING ASCENT

Pairing #1
Pairing #2
Pairing #3
Pairing #4
Pairing #5

Time from Lift-Off, sec

FIGURE 3-4

J-33 AFT BARREL TEMPERATURE
DURING ASCENT



[redacted]

FIGURE 3-9

SECTION 4

MISSION 1033-1 RECOVERY SYSTEM

SRV #717 was received at A/P on 11 October 1965. The receiving weight was 151.9 pounds. After modifications and incorporation of outstanding E.O.'s the SRV was delivered to systems test for incorporation into the J-33 system.

The capsule was shipped to VAFB on 5 May 1966.

The -1 recovery system was successfully recovered by air catch on Rev. 82, 29 May 1966 at 0470 Z. All re-entry sequence events monitored were normal and occurred within tolerance. The re-entry sequence of events is contained in Table 4-1.

Predicted Impact	20° 03' N/150° 34' W
Actual Impact	19° 36' N/159° 20' W

Telemetry indicated the thrustcone did not come off until 95 seconds after the normal thrustcone separation time. This condition was attributed to a temporary hang-up of a thrustcone separation switch.

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

MISSION 1033-1

RECOVERY SEQUENCY OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
*Arm	76.88	77.0 ± 1.0
*Transfer	1.99	2.0 ± .25
Electrical Disconnect	1.01	0.900 ± 0.430
Separation	---	---
**Spin	3.35	3.4 ± 0.30
Retro	7.46	7.55 ± 0.45
Despin	10.74	10.75 ± 0.59
T/C Separation	1.55	1.5 ± 0.15
***"G" Switch Open	578.71	578.90
Parachute Cover Off	33.98	34.0 ± 0.08
Drogue Chute Deployed	0.71	0.63 ± 0.08
Main Chute Bag Separate	9.83	10.25 ± 1.5
Main Chute Deployed	0.49	0.52 ± 0.13
Main Chute Disreef	3.96	4.50 ± 0.80

* From Separation

** From Electrical Disconnect

*** From Retro

TABLE 4-1

SECTION 5

MISSION 1033-2 RECOVERY SYSTEM

SRV #718 was received at A/P on 11 October 1965. The receiving weight was 146.2 pounds. After modification and the incorporation of outstanding E.O.'s the capsule was delivered to systems test for mating to the J-33 system.

The capsule was shipped to VAFB on 5 May 1966.

The -2 recovery system was successfully recovered by air catch on Rev. 178, 4 June 1966 at 0207 Z. The impact point was approximately 11 N.M. north of the predicted impact point.

Predicted Impact	25° 01.3' N/159° 06.2' W
Actual Impact	25° 12.0' N/159° 20.0' W

When separation occurred, the separation monitor failed to indicate the capsule off condition. This anomaly was attributed to a bad separation switch.

It was reported by the recovery aircarft that the flashing light was inoperative.

The condition of the recovered capsule was satisfactory with damage limited to normal paint blistering due to the re-entry environment.

MISSION 1033-2

RECOVERY SEQUENCE OF EVENTS

Event	Delta Time (Seconds) Actual	Nominal
*Arm	76.95	77.0 ± 1
*Transfer	2.00	2.0 ± 0.25
Electrical Disconnect	0.85	0.900 ± 0.430
Separation	---	---
**Spin	3.35	3.4 ± 0.30
Retro	7.55	7.55 ± 0.45
Despin	N/A	10.75 ± 0.59
T/C Separation	N/A	1.5 ± 0.15
***"G" Switch Open	N/A	578.90
Parachute Cover Off	N/A	34.0 ± 0.08
Drogue Chute Deployed	N/A	0.63 ± 0.08
Main Chute Bag Separate	N/A	10.25 ± 1.5
Main Chute Deployed	N/A	0.52 ± 0.13
Main Chute Disreef	N/A	4.5 ± 0.80

* From Separation
** From Electrical Disconnect
*** From Retro
N/A - Due to Signal Noise

TABLE 5-1

SECTION 6

MISSION 1033 PANORAMIC CAMERAS

A. COMPONENT ASSIGNMENT

Component	MASTER Serial Number	SLAVE Serial Number
Main Camera	194	195
Main Camera Lens	2002435	1962435
Supply Horizon Camera	280-06	282-06
Supply Horizon Camera Lens	E12836	E12849
Take-up Horizon Camera	280-05	282-05
Take-up Horizon Camera Lens	E12895	E12874
Supply Cassette	SC-45	SC-45

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

Lens	24" f/3.5	24" f/3.5
Slit Width	0.200	0.200
Filter Type	Wratten 21	Wratten 21
Film Type	Eastman Type 3404	Eastman Type 3404

Supply Horizon Camera:

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

Take-up Horizon Camera:

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

C. POST FLIGHT PERFORMANCE

The image quality obtained during both missions was good despite the high occurrence of atmospheric haze as noted on the Index photography. The MIP (85) frames were from the forward looking instrument on ascending passes. The user commented on the ascending photography being better than that usually encountered. The reasons for this observation was probably the near circular orbit, which provides equal photo scale on ascending and descending passes, and the variation in target lighting on the multiple passes.

The selection of the Wratten 21 filter, rather than the 23A or 25, on the master camera was propitious since 10% of the underexposure was reported on this mission.

The horizon cameras on the sun side of the vehicle were severely veiled and unusable. The condition existed on the master camera frame pass D-1 to A-114 and on the slave throughout both missions. This veiling has been prevalent on recent missions and possible contributory factors such as beta angle, orbit inclination and hardware changes are being correlated.

On both cameras throughout the mission a variation of image quality across the format was evident under magnification. A higher (20°F) than normal thermal environment could have caused the focus shift. The orbit inclination required a "dog-leg" in the ascent trajectory which may have degraded the thermal control paint pattern.

SECTION 7

MISSION 1033 STELLAR-INDEX CAMERAS

A. COMPONENT ASSIGNMENT

Component	-1 MISSION Serial Number	-2 MISSION Serial Number
Camera	D-91	D-84
Index Reseau	105	102
Index Camera Lens	819190	819957
Stellar Reseau	109	75
Stellar Camera Lens	11359	10727

B. CAMERA DATA AND FLIGHT SETTINGS

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

C. POST FLIGHT EVALUATION

The -1 Stellar/Index camera operated properly throughout the mission. The 430 frames returned by each unit were of generally good quality, with no corona or static observed.

Stellar flare level was low. Most images appeared slightly elongated or doubled, but usable, with over fifteen stars present on each frame. Minor degradation was caused by a continuous longitudinal abrasion located outside the format, occasional pressure marks, and lateral emulsion cracks on the last three feet. Images of unidentified foreign particles were present on five early frames.

No anomalies were noted for the index material.

The -2 Stellar camera shutter intermittently failed to open during film transport. This delay in closing was due to excessive internal friction in the shutter. Subsequent camera systems are to be equipped with stronger shutter closing springs.

The -2 stellar images appear as odd configurations. There were over 20 stellar images per frame and the majority of the mission record was usable.

The -2 Stellar/Index film was exhausted before the end of the pan camera photography. It was discovered that the films had been cut by the hot wire cutter at the "arm" command before the normal film slewing to the recovery bucket. Corrective action has been taken in the electrical circuit to prevent this premature cut.

The percentage of clear terrain frames on the -1 mission was 21% and on the -2 mission 14%.

SECTION 8

PANORAMIC CAMERA EXPOSURE

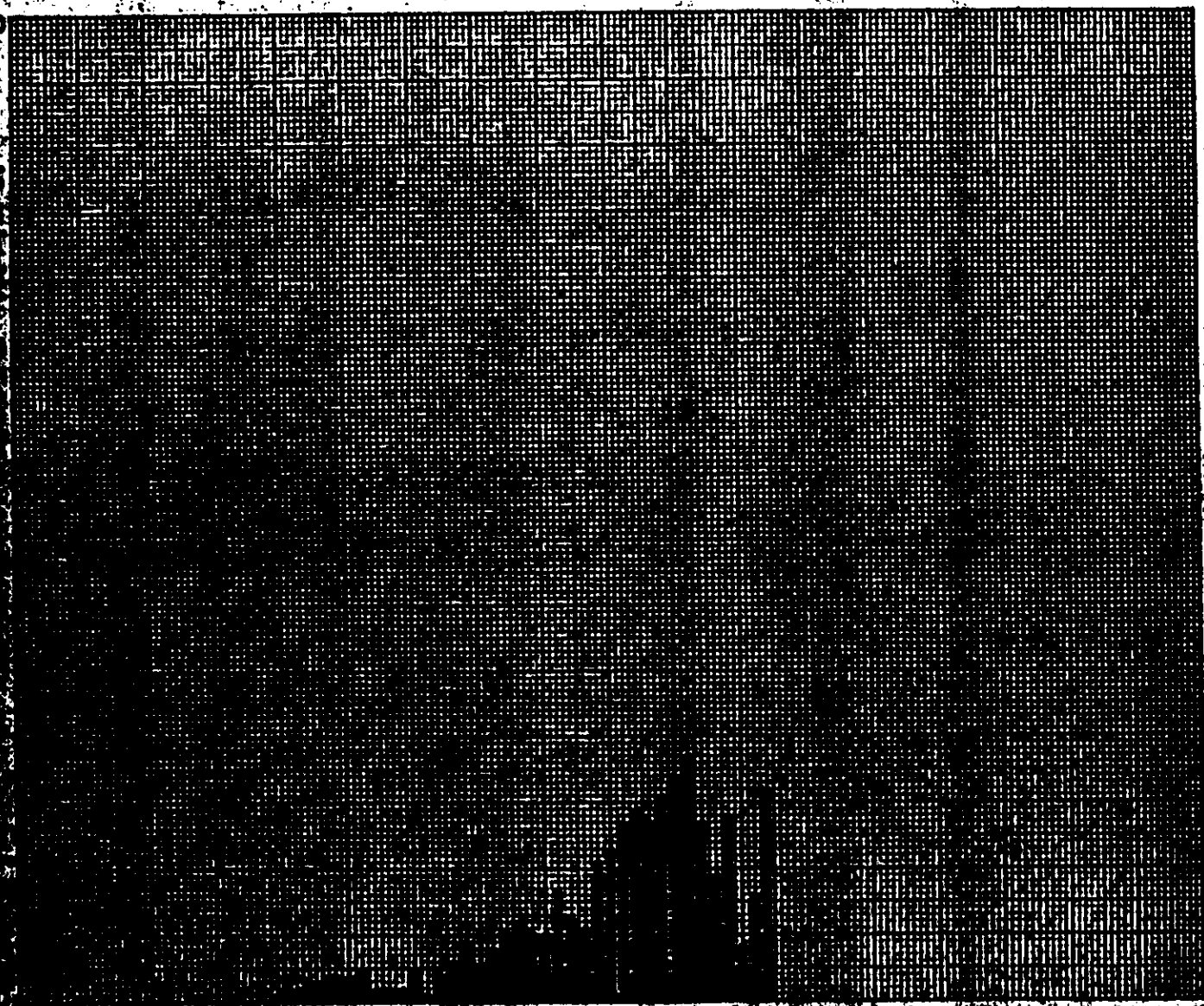
The exposure condition for both the panoramic cameras were a 0.200 inch wide slit and Wratten 21 filter. These conditions place the nominal exposure between the intermediate and full level processing curves as published [redacted] for 3404 emulsion.

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

The nominal exposure times are shown as a function of latitude for passes D 1, D 56, D 120 and A 176 in Figures 8-5 to 8-8. 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 [redacted]

Mission	Camera		% Primary	% Intermediate	% Full
1033-1	FWD	Predicted	0	89	11
		Reported	0	3	97
1033-1	AFT	Predicted	0	10	90
		Reported	2.5	8	89.5
1033-2	FWD	Predicted	0	84	16
		Reported	1.3	3.9	94.8
1033-2	AFT	Predicted	0	14	86
		Reported	0.3	4.7	95

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: ~~1013~~

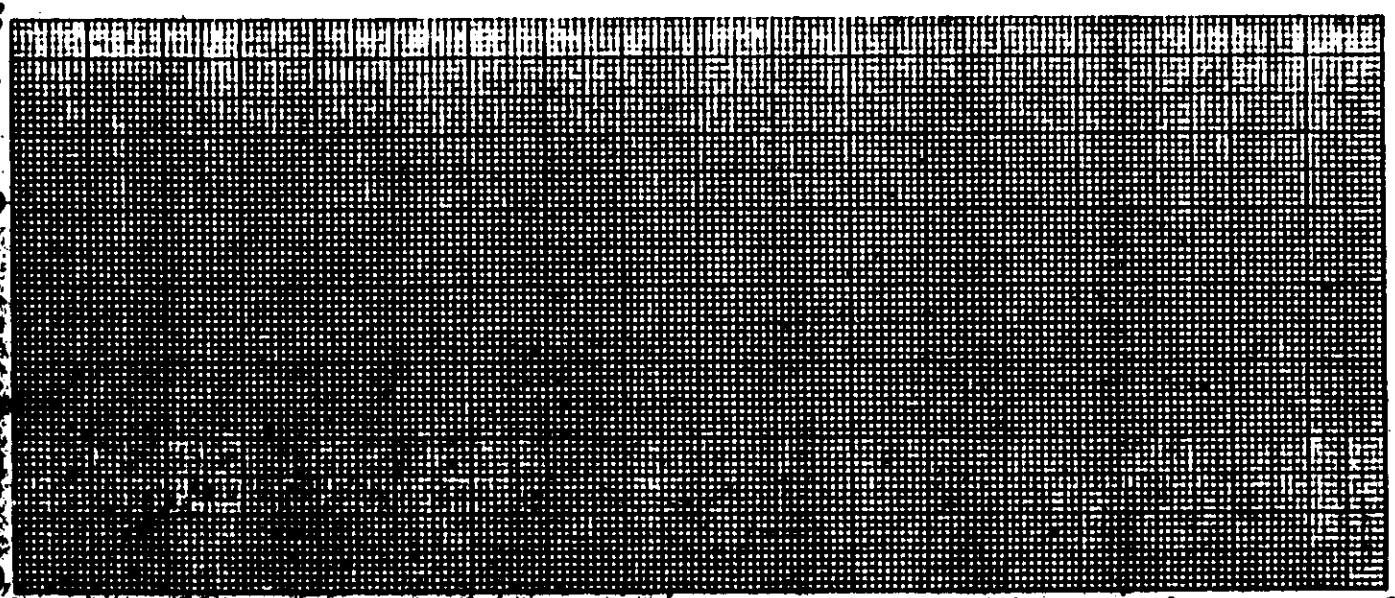
Payload No: J-13

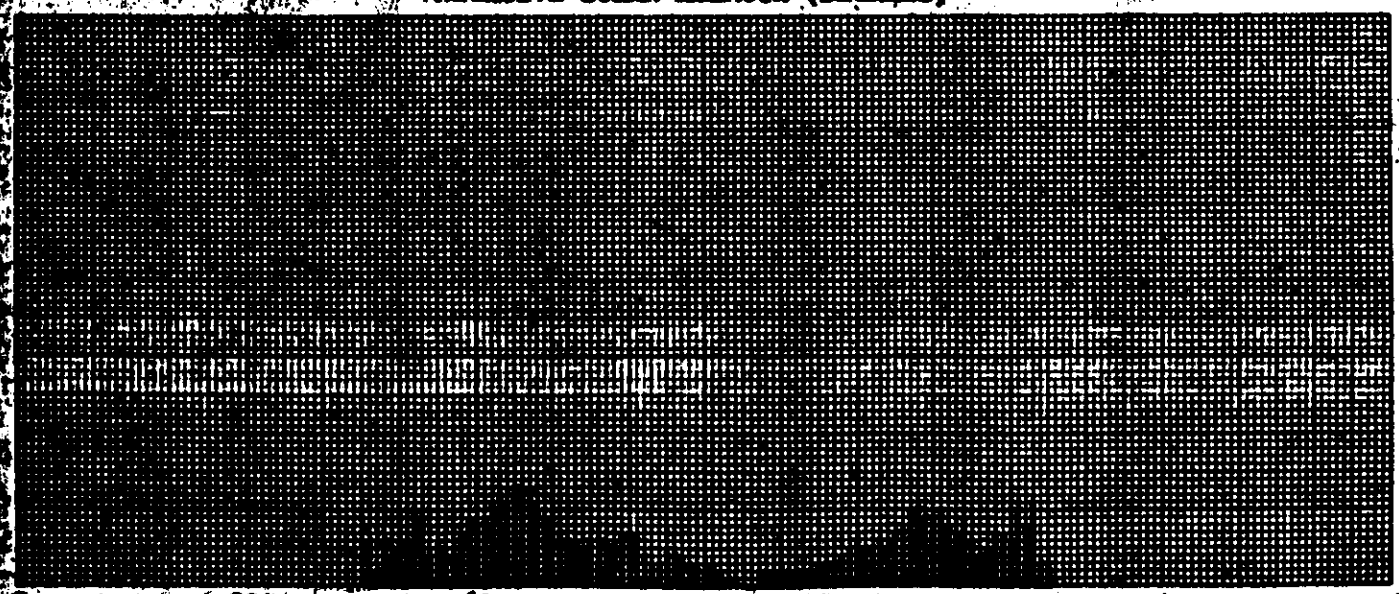
Launch Date: 3/28/74

Launch Time: 0213

Inclination: 64°

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1033-2

Payload No: J-33

Camera No: 194

Launch Date: 5/24/66

Launch Time: 0213 Z

Inclination: 66°

SIGN NOTATION

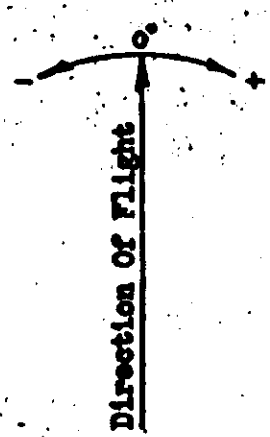
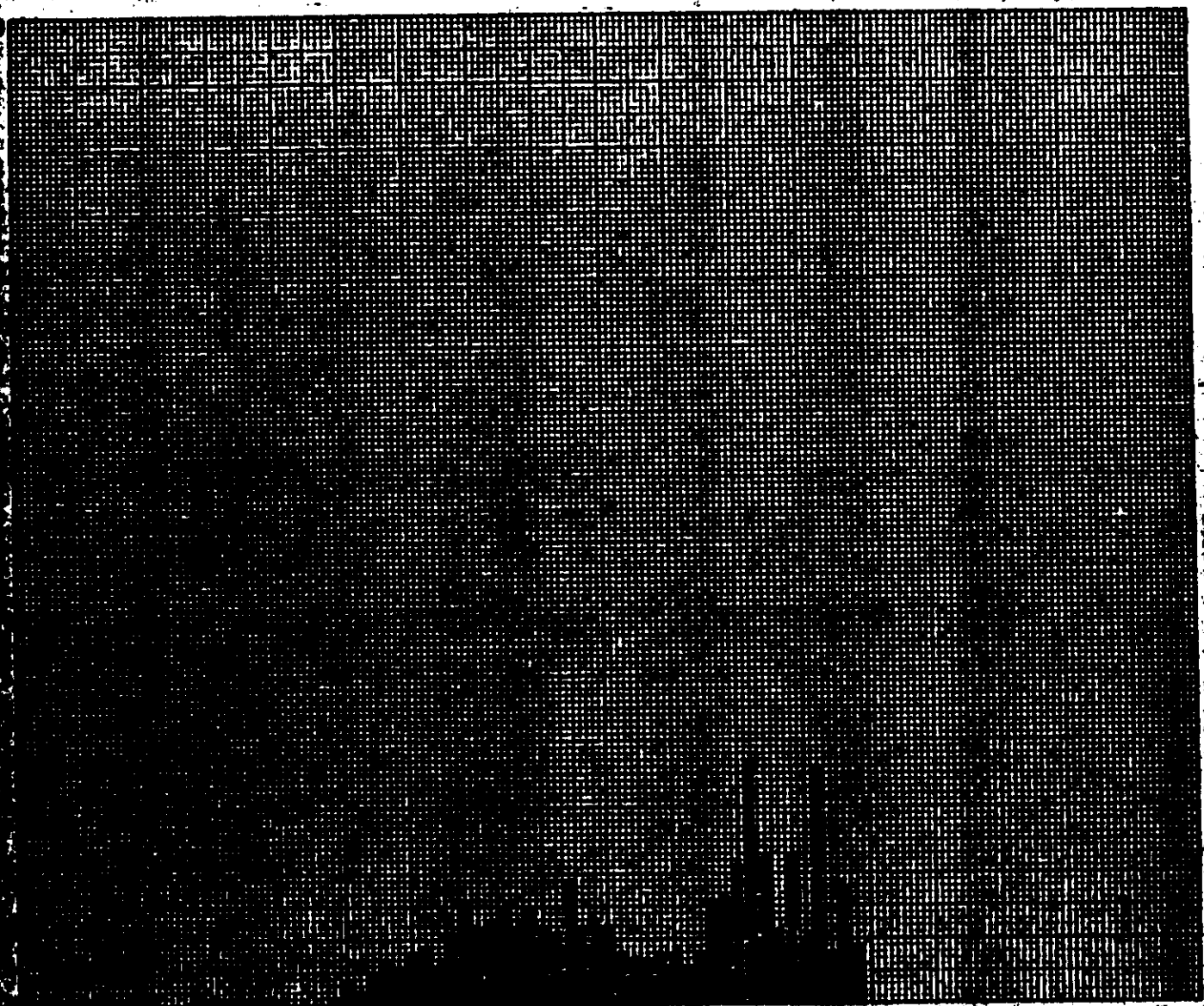


FIGURE 8-2

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1033-8

Payload No: J-33

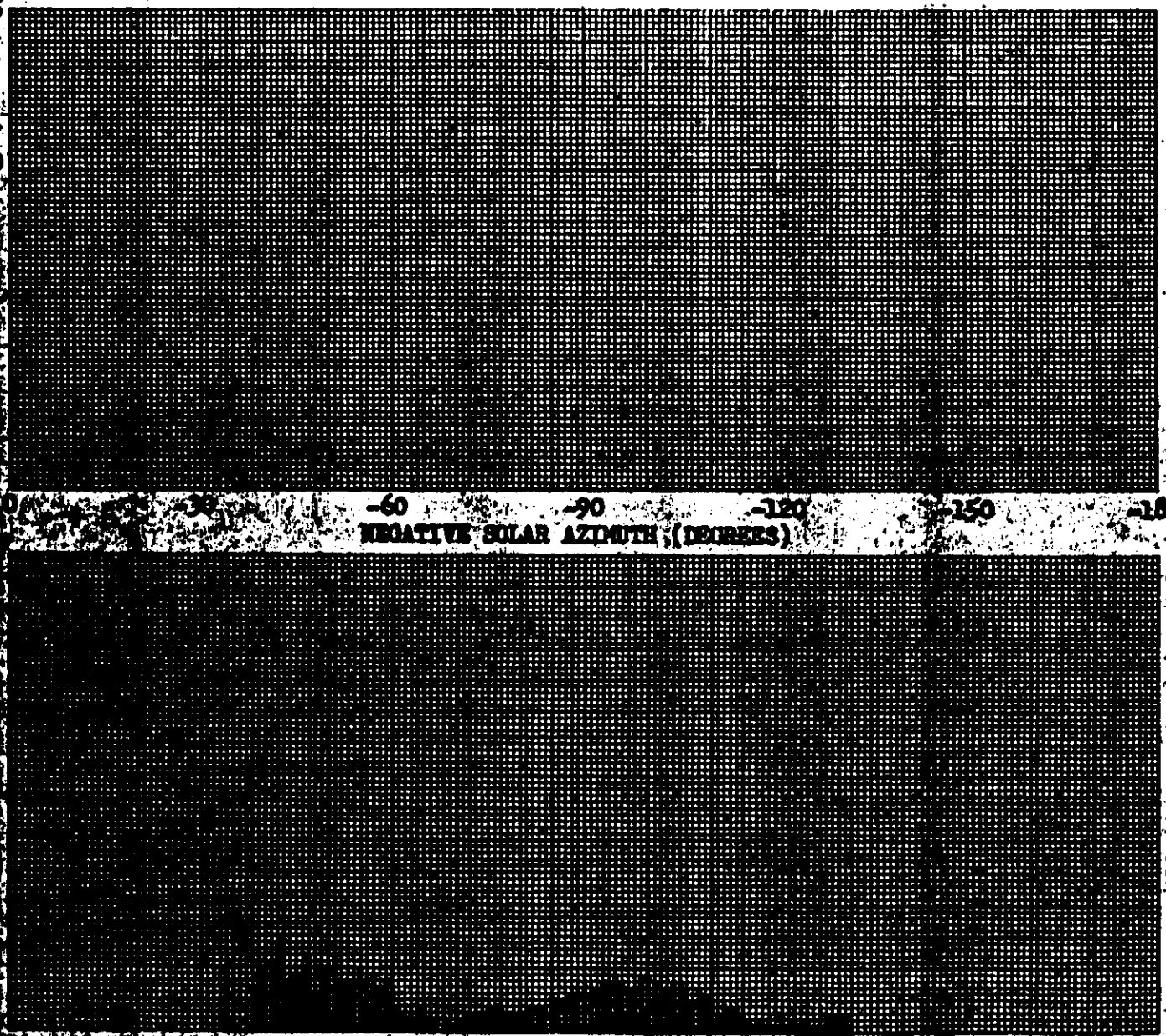
Camera No: 19A

Launch Date: 5/24/66

Launch Time: 0213Z

Inclination: 66°

SOLAR AZIMUTH FREQUENCY DISTRIBUTION



Mission No: 10300

Payload No: J-33

Camera No: 19

Launch Date: 5/21/66

Launch Time: 0223 Z

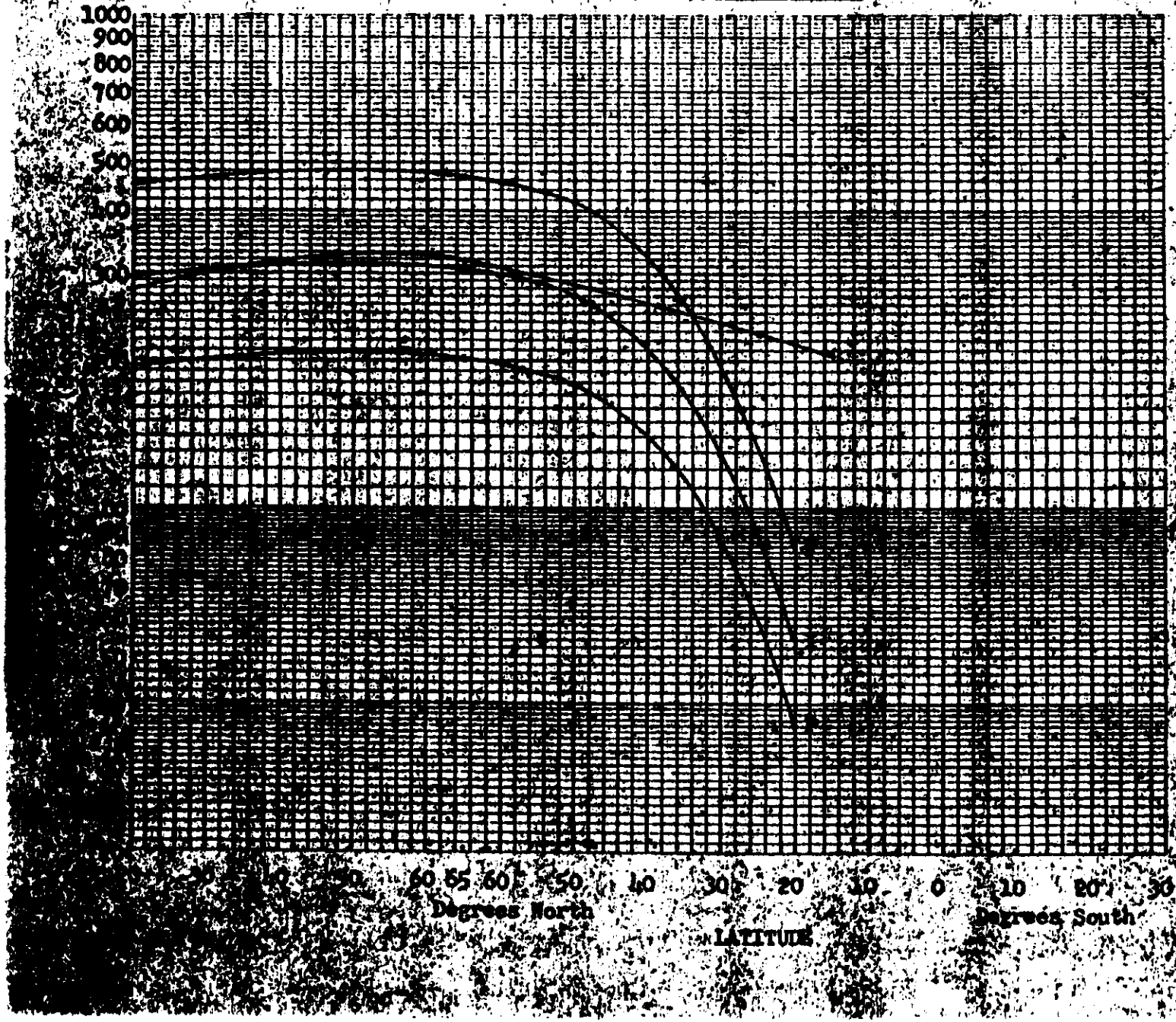
Inclination: 66°

SUN ROTATION

Direction of Flight

FIGURE 5-4

EXPOSURE POINTS



Mission No: 1033

Payload No: J-33

Camera No: 19[illegible]

Pass No: 1

Launch Date: [illegible]

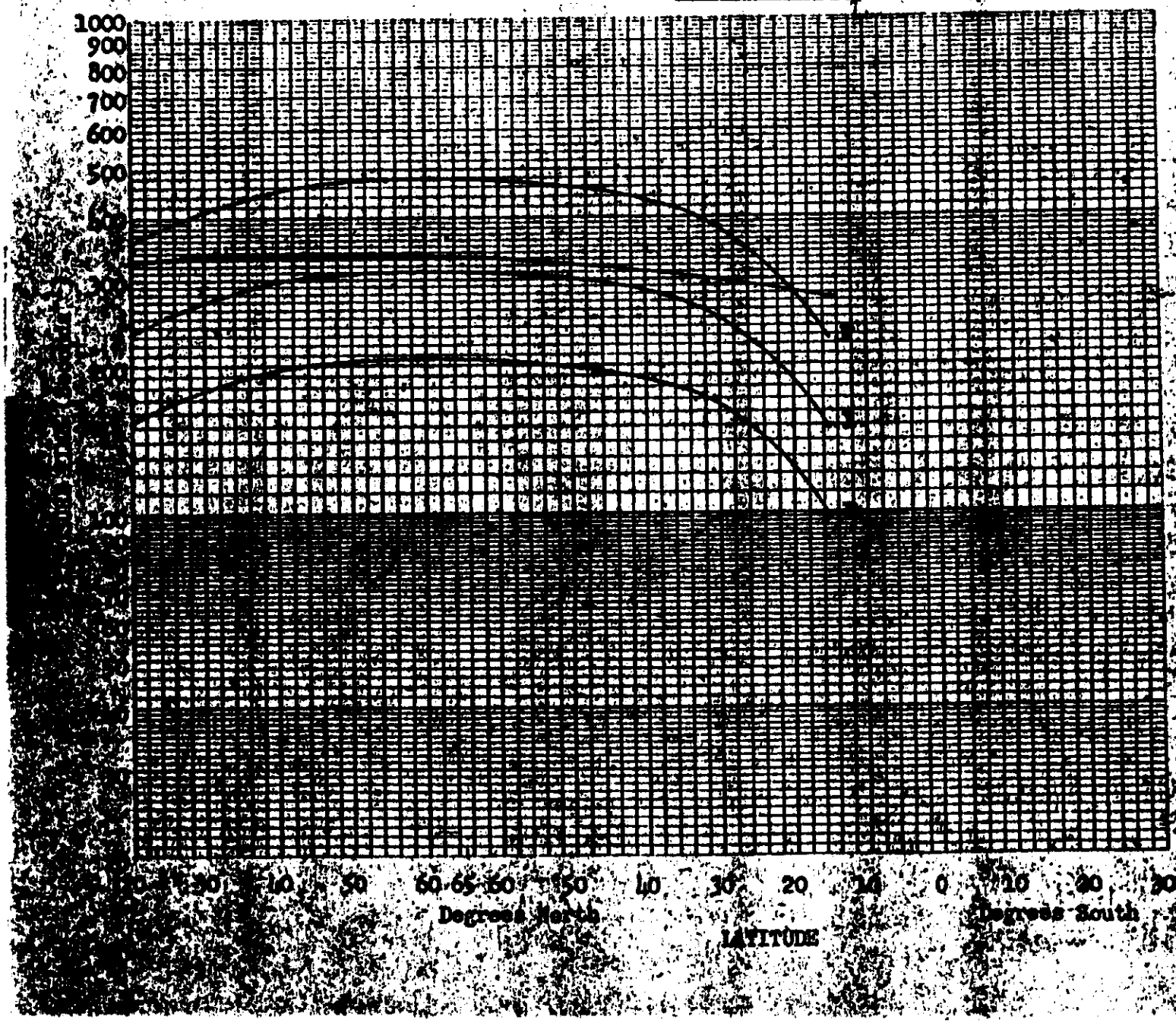
Launch Time: 0900 [illegible]

Tilt Width: [illegible]

Filter Type: [illegible]

Film Type: [illegible]

FIGURE 6-7



Mission No: 1033

Payload No: J-33

Camera No: 194 - 195

Pass No: 56

Launch Date: 5/24/66

Launch Time: 0800 Z

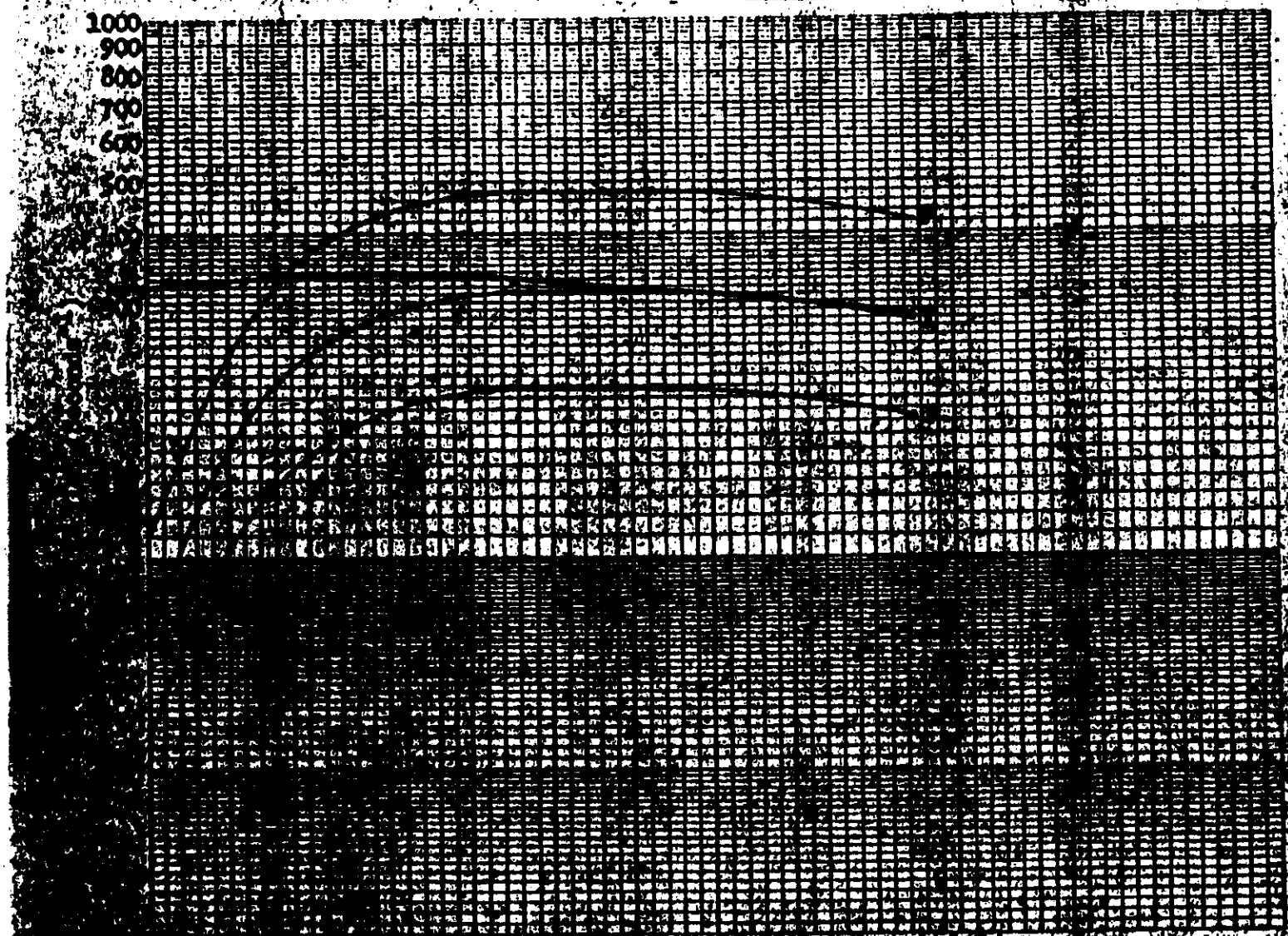
Film Width: 2.800

Filter Type: Wratten 25

Film Type: 3404

FIGURE 2-6

EXPOSURE POINTS



Mission No: 1033

Payload No: J-33

Camera No:

Pass No:

Launch Date:

Launch Time:

Page 48 of 154

Container # 5 Drawer # A Doc # 66

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 [redacted] appears rather low and processing transition phases are not accounted for. The sorting technique selected uses the base plus fog density values where measurements up to 0.09 density are considered as having received Primary processing, 0.10 to 0.17 as Intermediate and above 0.17 density as Full. The percentage of original negative that was processed at each level, based on the computer sort, is tabulated below with the predicted and reported processing percentages.

Mission	Camera		Primary	Intermediate	Full
1033-1	FWD	Predicted	0	89	11
		Reported	0	3	97
		Computed	0	2	98
1033-1	AFT	Predicted	0	10	90
		Reported	2.5	8	89.5
		Computed	0	3	97
1033-2	FWD	Predicted	0	84	16
		Reported	1.3	3.9	94.8
		Computed	0	0	100
1033-2	AFT	Predicted	0	14	86
		Reported	0.3	4.7	95
		Computed	0	1	99

The tabulations of density frequency distributions for Missions 1033-1 and 1033-2 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-16.

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.

A density range chart, Figure 9-1, is included in this report. This type of chart for Missions 1004 to 1031 is included in the A/P final report for Mission 1031.

These charts are produced from the same density measurements previously mentioned in this section. The computer produced the mean, median and range figures for the various processing levels used. The chart includes the number of frames (samples) in which the density measurements were made. These measurements are made on approximately every tenth frame throughout the mission.

J MISSION DENSITY RANGES

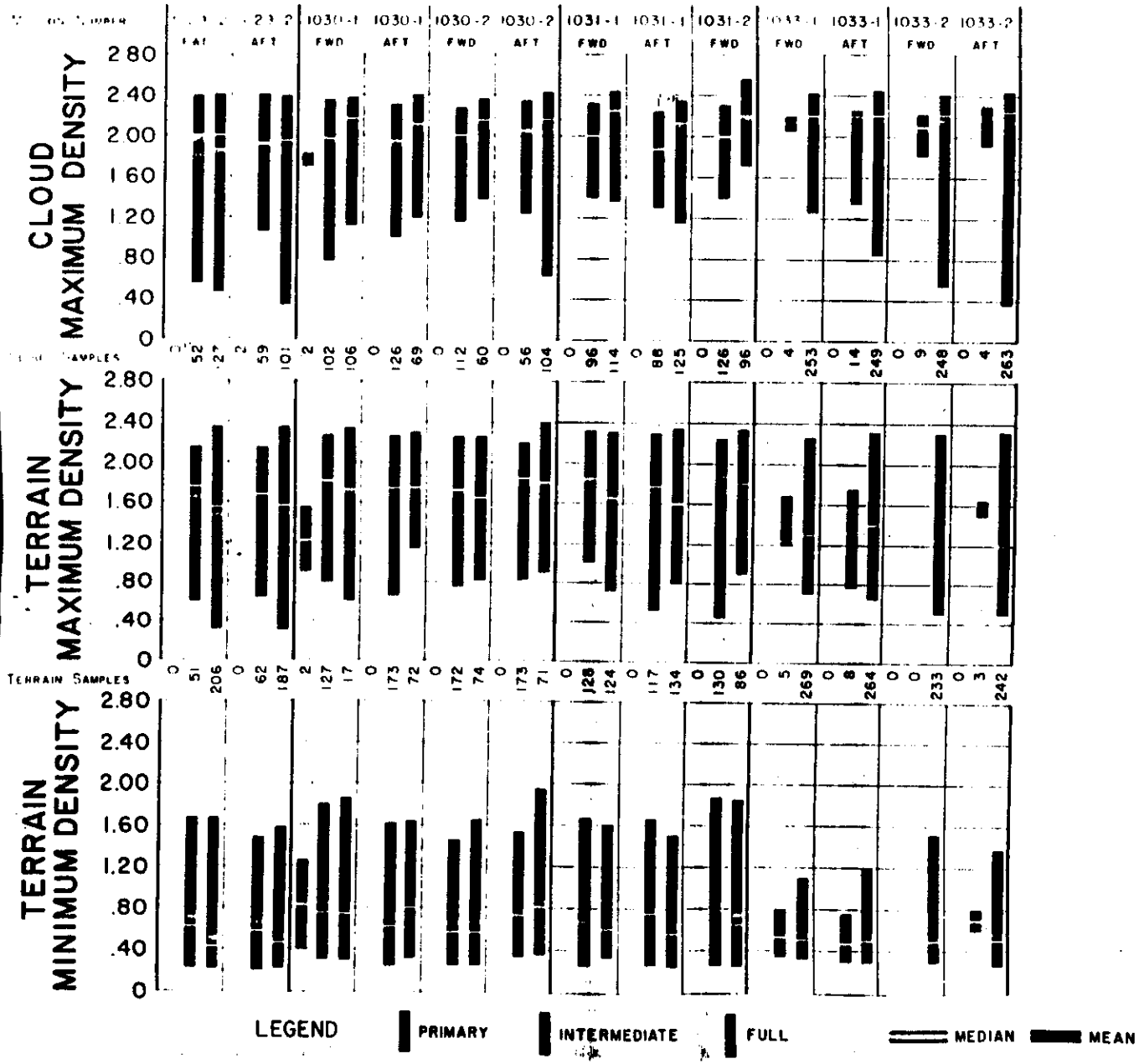


FIGURE 9-1

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

MISSION 1033-1 INSTR - FRWD 8/25/66 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	5	0 PC	40 PC	60 PC	0 PC	0 PC
FULL	269	11 PC	0 PC	86 PC	3 PC	0 PC
ALL LEVELS	274	11 PC	1 PC	85 PC	3 PC	0 PC

MISSION 1033-1 INSTR - AFT 8/25/66 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	8	0 PC	25 PC	75 PC	0 PC	0 PC
FULL	264	8 PC	0 PC	90 PC	2 PC	0 PC
ALL LEVELS	272	8 PC	1 PC	90 PC	1 PC	0 PC

MISSION 1033-2 INSTR - FRWD 8/25/66 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	0	0 PC	0 PC	0 PC	0 PC	0 PC
FULL	233	16 PC	0 PC	79 PC	5 PC	0 PC
ALL LEVELS	233	16 PC	0 PC	79 PC	5 PC	0 PC

MISSION 1033-2 INSTR - AFT 8/25/66 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	3	0 PC	0 PC	100 PC	0 PC	0 PC
FULL	242	12 PC	0 PC	84 PC	4 PC	0 PC
ALL LEVELS	245	12 PC	0 PC	84 PC	4 PC	0 PC

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

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

TABLE 9-1

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Missions 1033-1 and 1033-2 received an MIP rating of 85. A summary is tabulated below of the MTF/AIM resulution values measured by AFSPPF and [redacted] The microdensitometer slit used by AFSPPF and [redacted] was 1 micron by 80 microns.

Mission	Camera	AFSPPF	[redacted]
1033-1	FWD	94	87
1033-1	AFT	93	72
1033-2	FWD	90	98
1033-2	AFT	92	73

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.

The ground resolution determined from the average AFSPPF MTF/AIM resulution was 12.4 feet on the forward looking camera and 12.1 feet on the aft looking camera.

SECTION II

OBSERVED DATA

Most photographic passes over the ZI had 90-100% cloud cover or were over water. Passes A-10, A-74, and A-90 were clear and suitable for analysis of the photographic operation. Corn targets were not deployed for this mission.

The image quality varied from edge to edge during this mission on both cameras. This anomaly was noticeable at 60X magnification on Pass A-10, FWD, frame 8. This frame is representative of the problem. The camera number edge had sharper detail than the 200 PPS edge. The aft looking camera displayed sharper imagery on the 200 PPS edge of the format.

The forward looking camera on passes A-10, A-74, and A-90 produced better photographic detail than the aft camera. These passes covered the same area over northern California. The nacelles on aircraft at Beale AFB provided the basis for selecting the forward over the aft photography. The forward image quality was better on the 2 missions as observed on pass A-90.

SECTION 12

VEHICLE ATTITUDE [redacted]

The vehicle attitude errors for both Mission 1033-1 and 1033-2 were derived from the reduction of the Stellar camera photography. This attitude data is supplied to A/P by [redacted].

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 12-1 through 12-6 show these distributions for Mission 1033-1 and Figures 12-7 through 12-12 for Mission 1033-2.

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 1033-1		Mission 1033-2	
Value	90%	Range	90%	Range
Pitch Error (°)	0.11	-0.38 to + 0.20	0.21	-0.30 to + 0.56
Roll Error (°)	0.33	-0.22 to + 0.68	0.24	-0.40 to + 0.32
Yaw Error (°)	0.80	-0.15 to + 1.10	1.09	+0.40 to + 1.42
Pitch Rate (°/hr.)	11.31	-68 to + 52	22.32	-60 to + 85
Roll Rate (°/hr.)	34.90	-85 to + 100	49.31	-95 to + 100
Yaw Rate (°/hr.)	27.29	-60 to + 85	17.50	-56 to + 24

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

FRAMES/PAGE EACH OP OMITTED 90 PERCENT = 0.

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

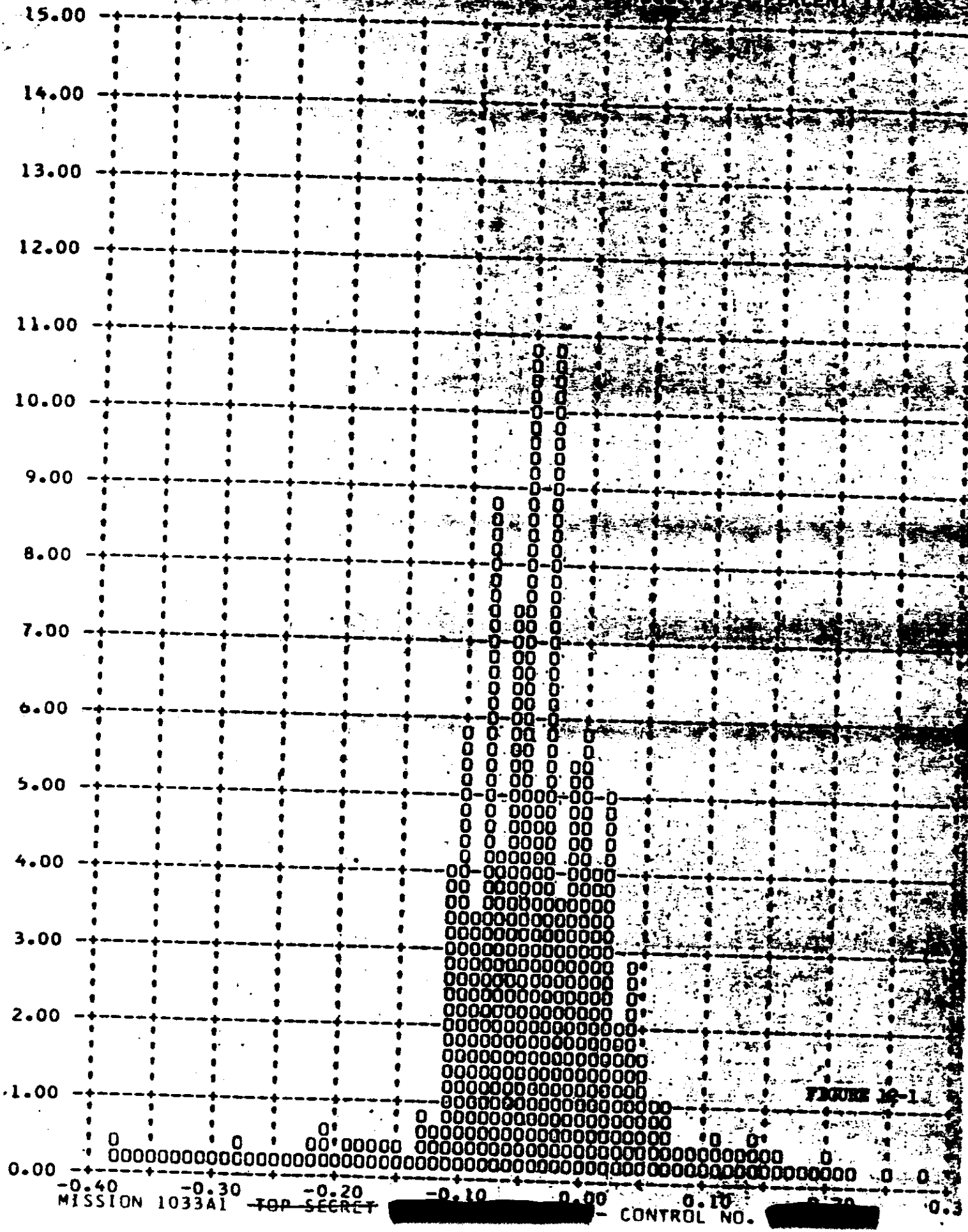


FIGURE 10-1

FRAMES 1-6 OF EACH OR OMITTED 90 PERCENT = 0.

Y ROLL ANGLE ERROR - DEGREES 1 DIVERSION FREQUENCY - PERCENT (Y)

15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00

-0.60 -0.40 -0.20 0.00 0.20 0.40 0.60 0.8

FIGURE 12-2

FRAMES 1-6 OF EACH OP OMITTED. 90 PERCENT = 0.60

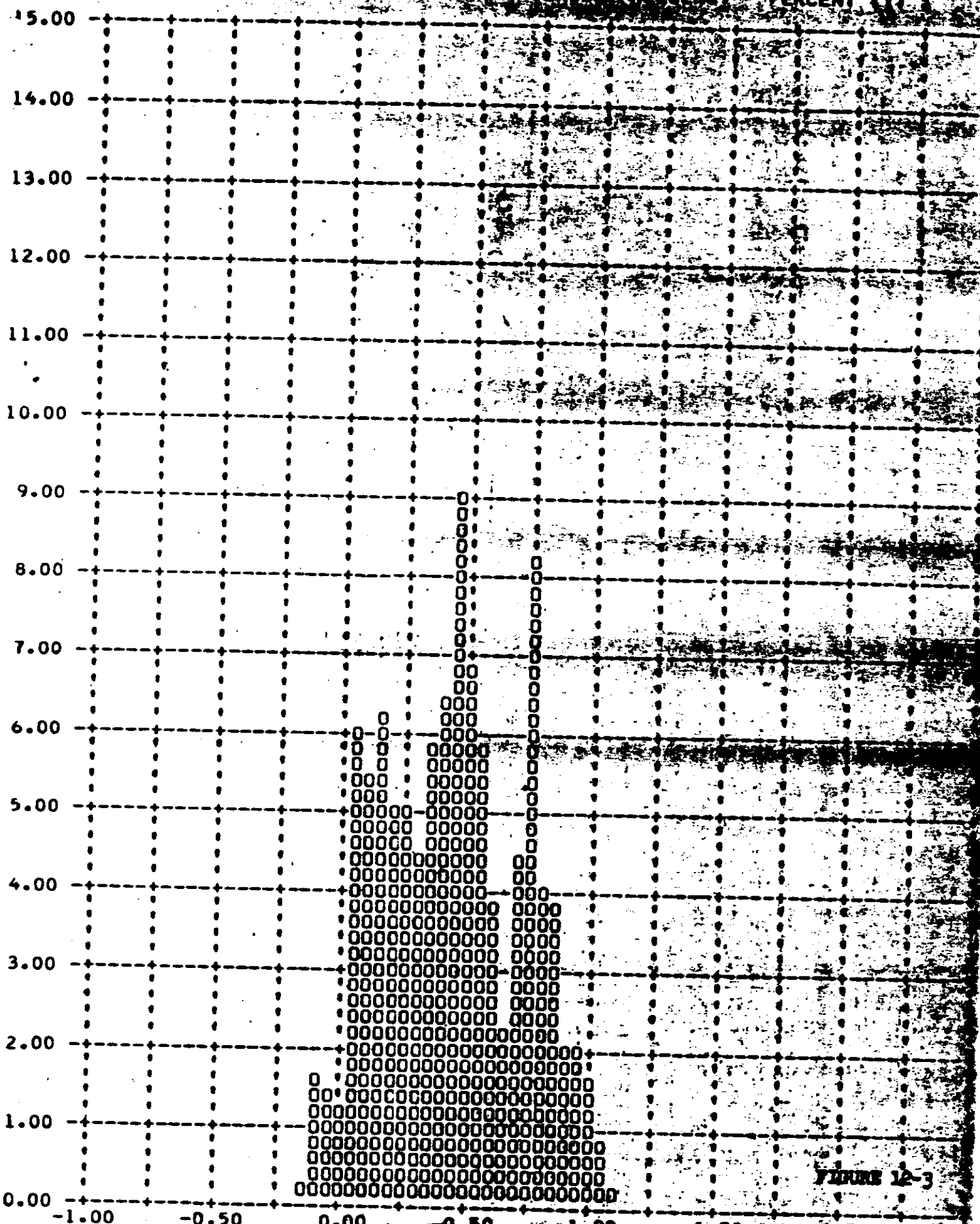


FIGURE 12-3

FRAMES 1-6 OF EACH OMITTED 90 PERCENT = 11.31

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

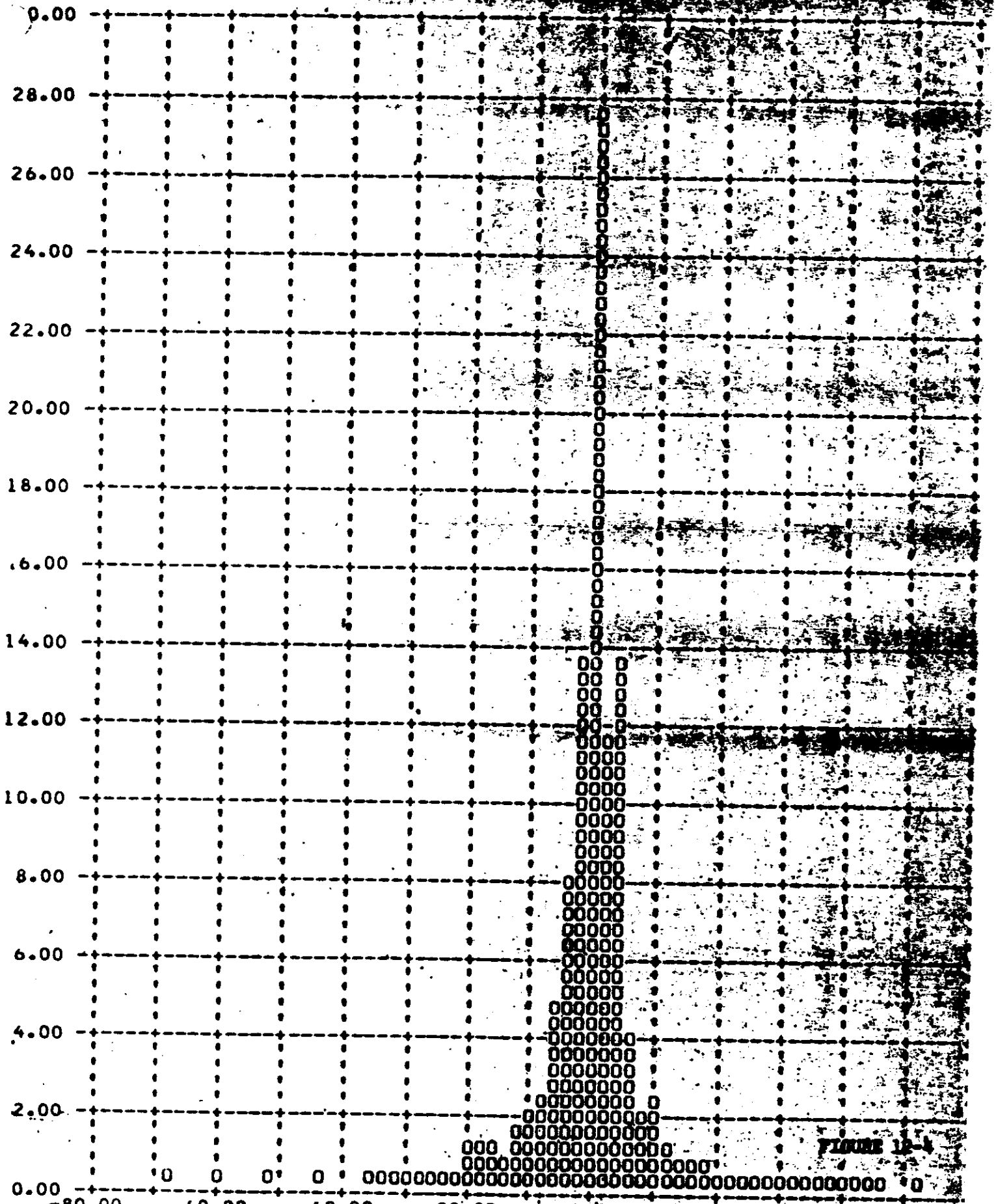


FIGURE 12-4

FRAMES 1-5 DELETED OR OMITTED 90 PERCENT = 34.5

Y ROLL RATE ERROR - DEG/HOUR X VELOCITY - PERCENT X 1/4

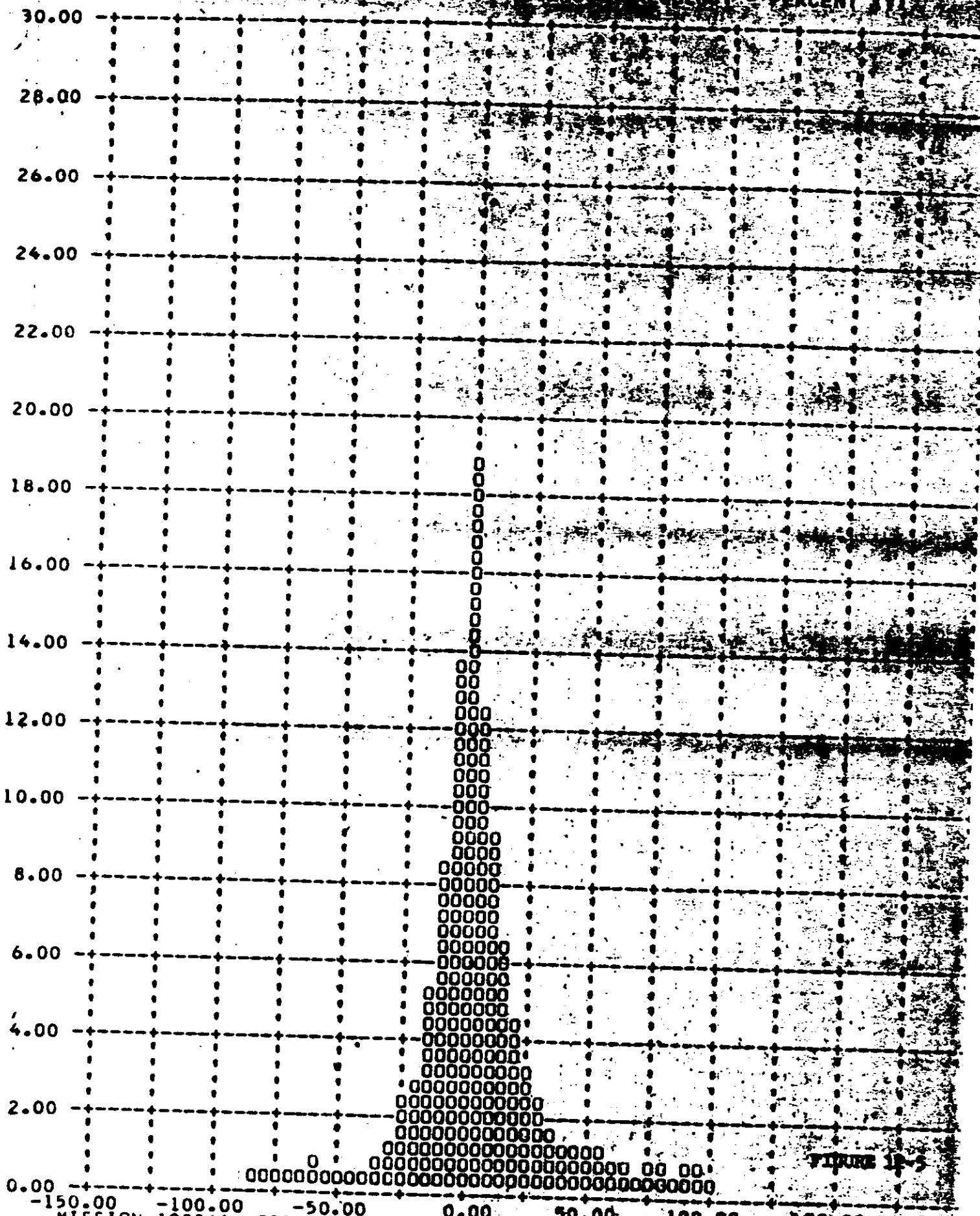


FIGURE 10-5

FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 27.2

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

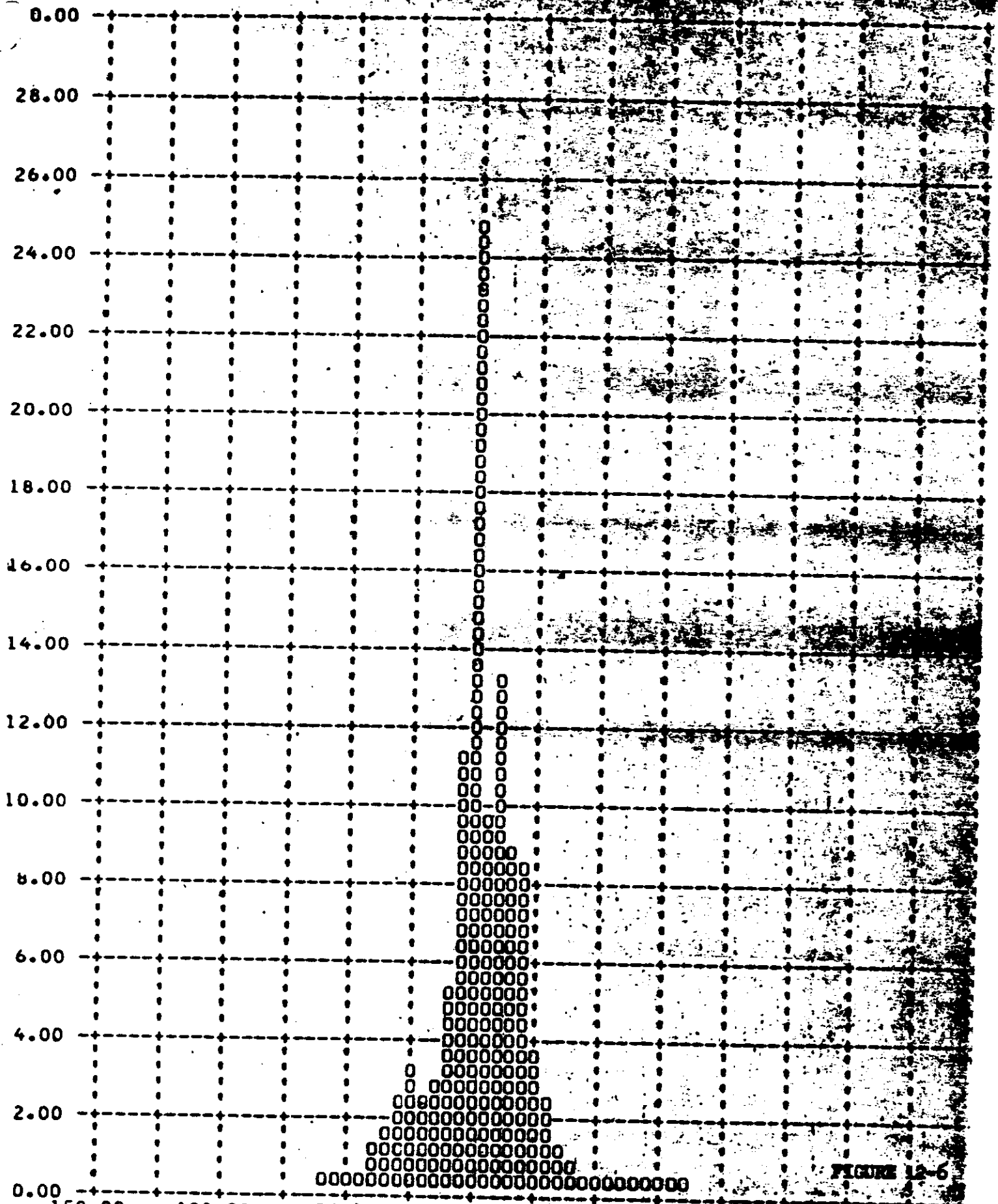


FIGURE 12-6

FRAMES 1-6 OF EACH OF OMITTED 90 PERCENT = 0.72

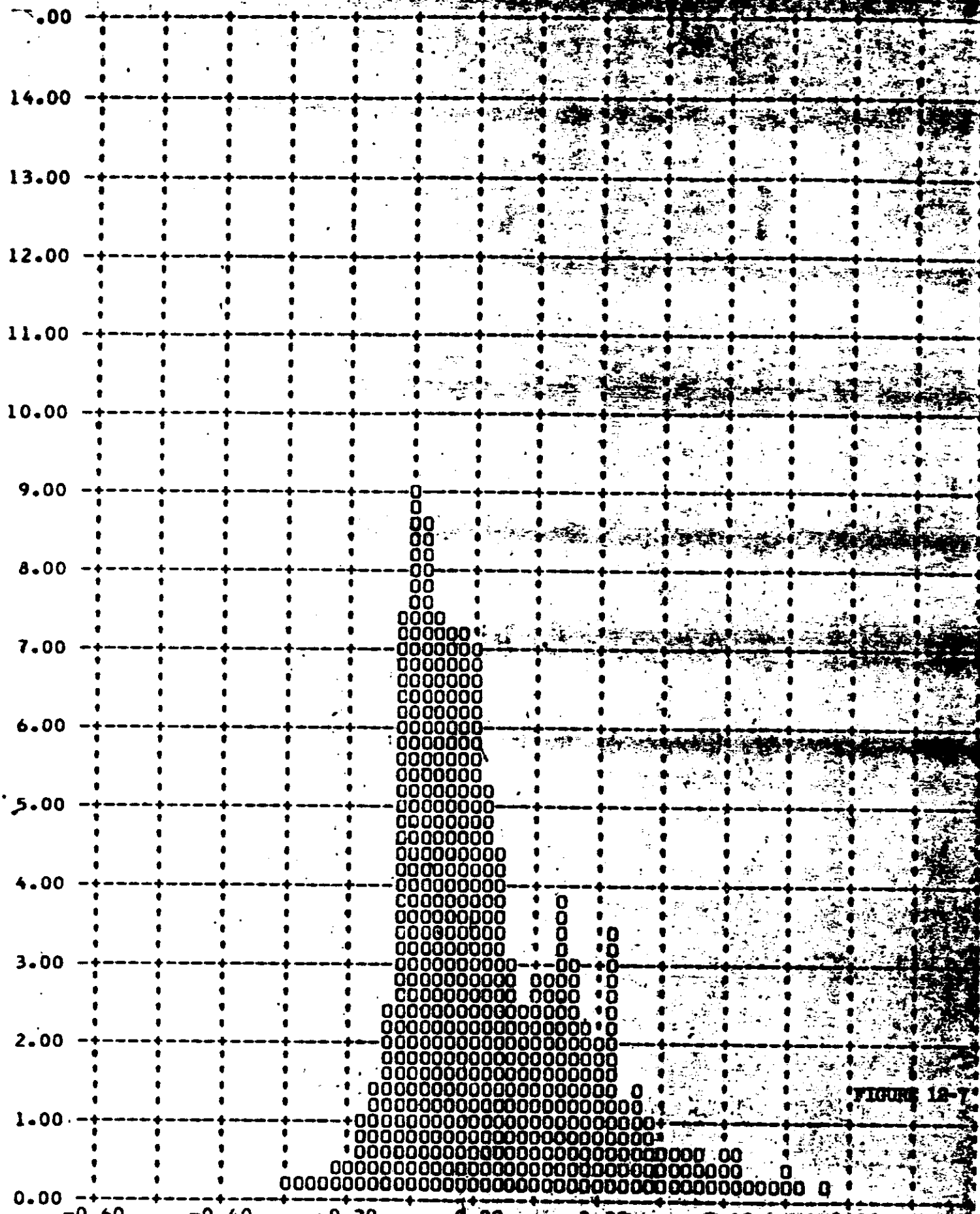


FIGURE 12-7

FRAMES 1-6 TOP ELEC [illegible] DELETED 90 PERCENT = 0.24

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

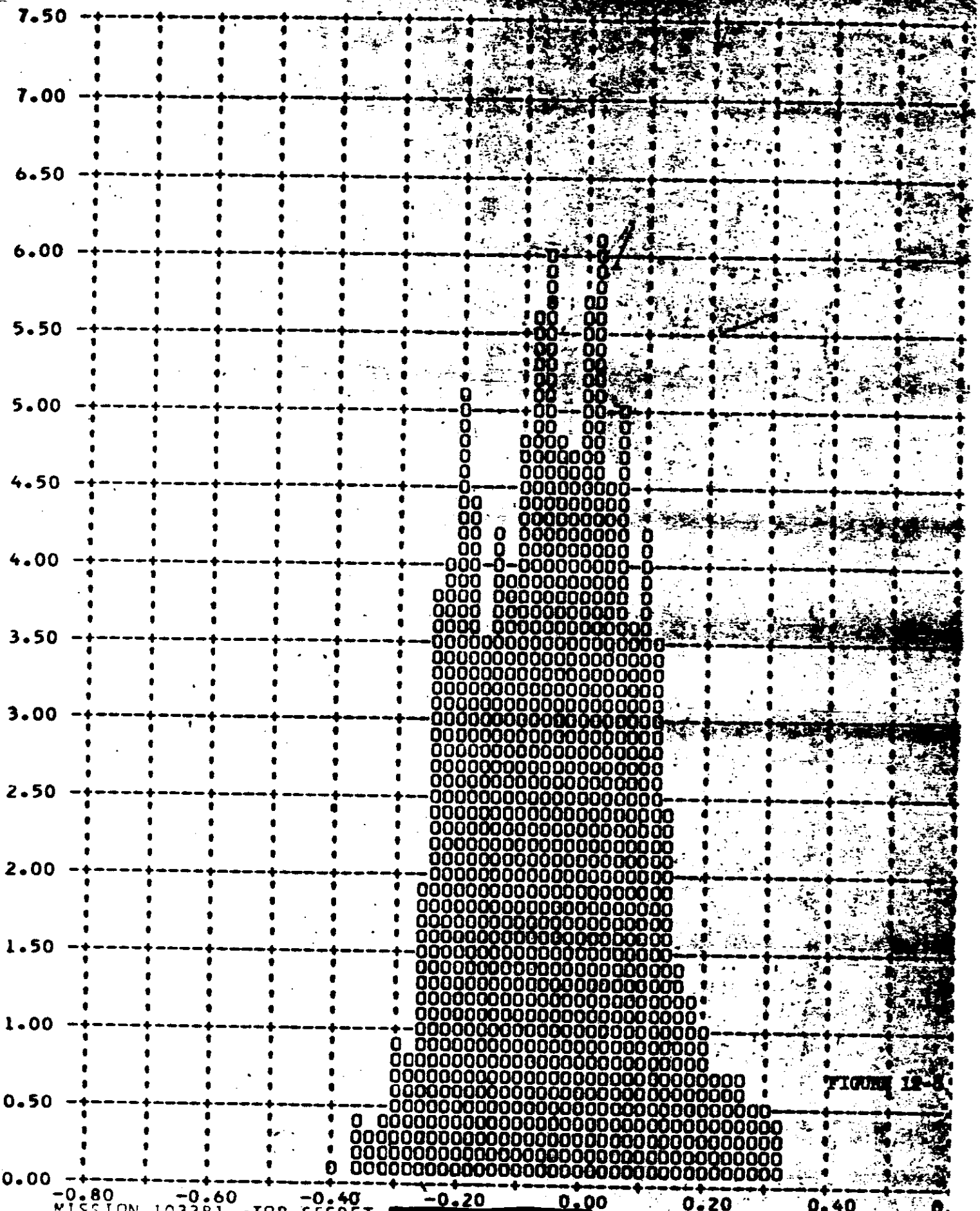


FIGURE 12-6

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 1.0

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

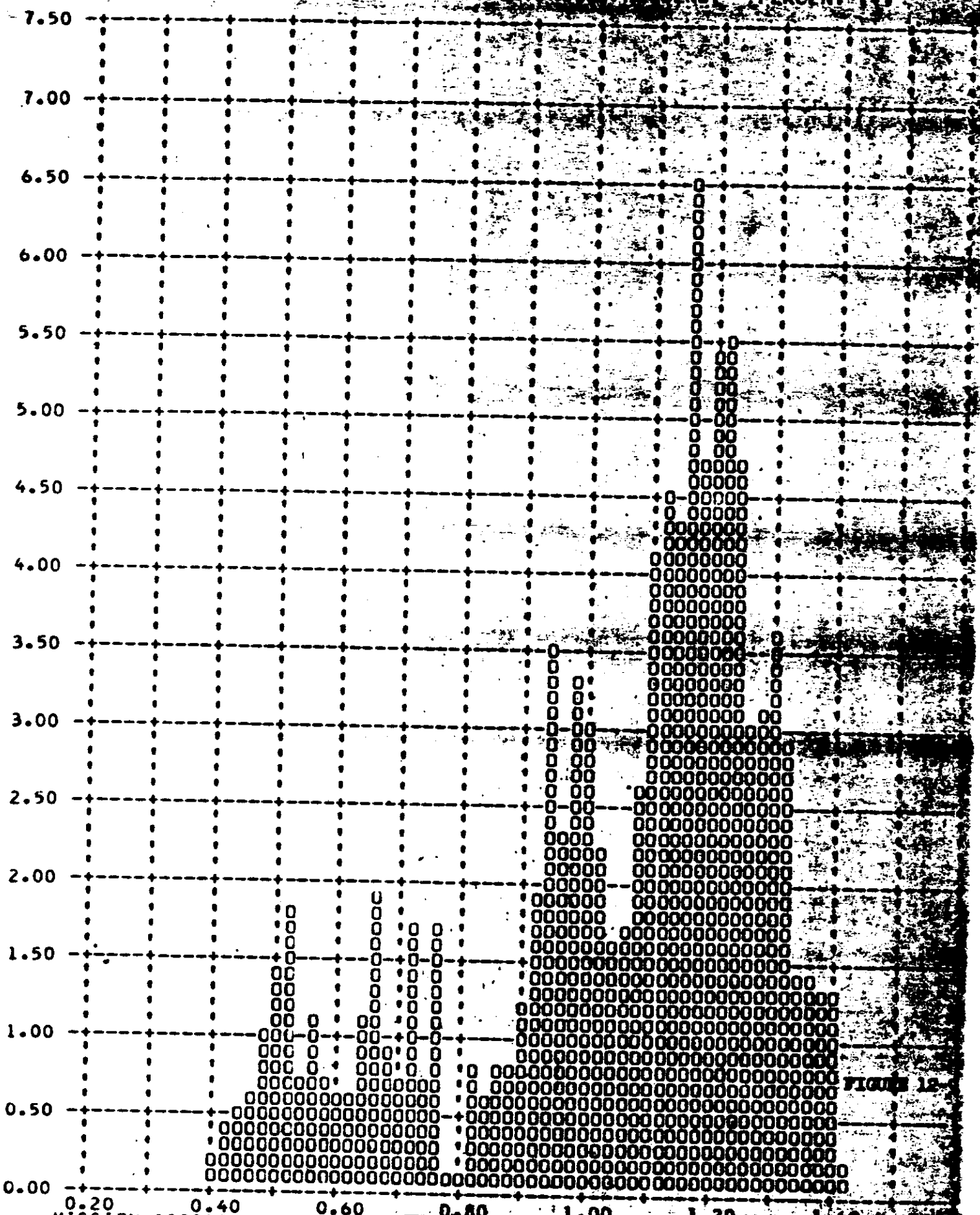


FIGURE 12.

FRAMES 1-6 DELETED OR OMITTED 90 PERCENT = 22.32

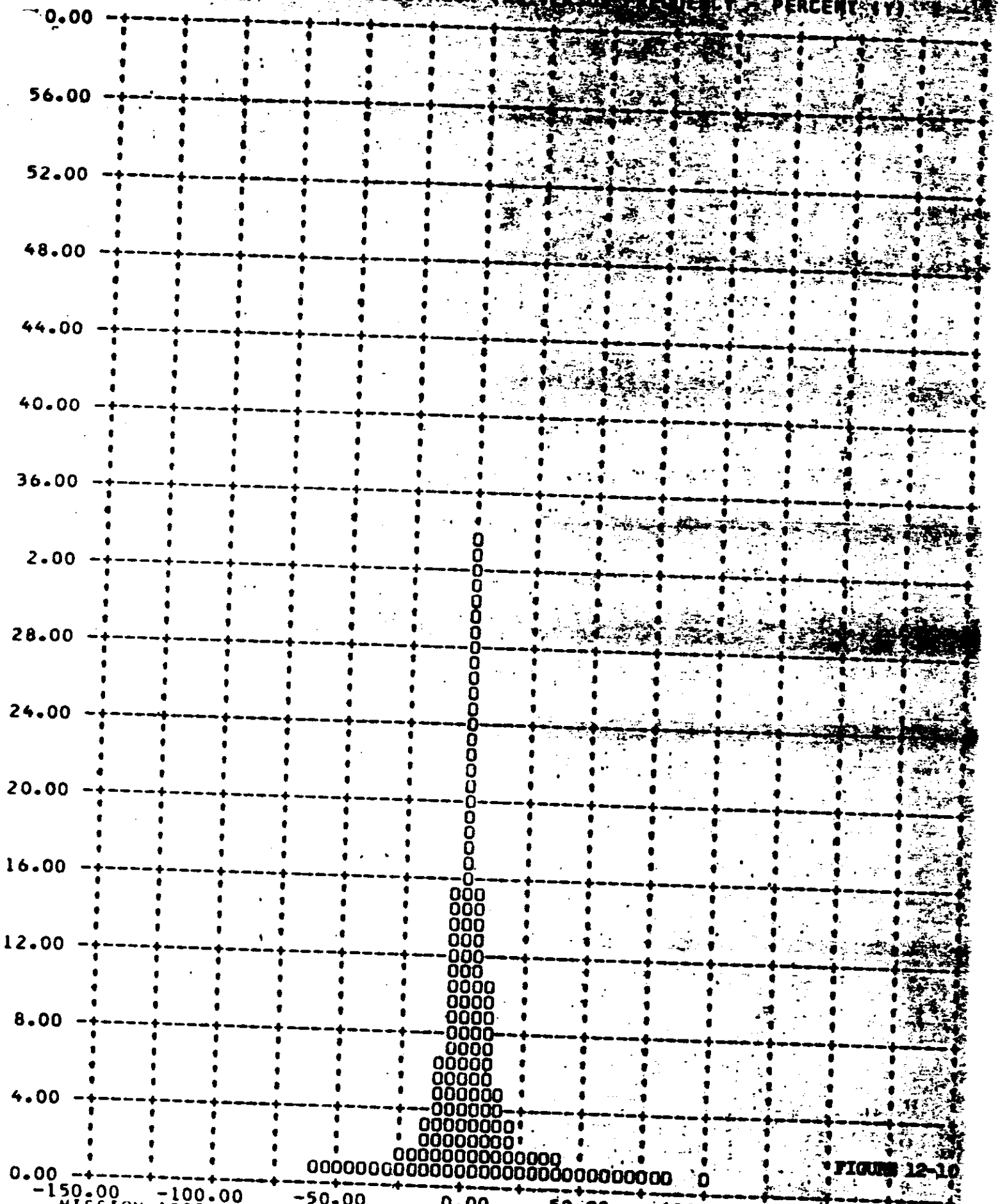


FIGURE 12-10

FRAMES 1-6 OF EACH OR OMITTED = 90 PERCENT = 69.3

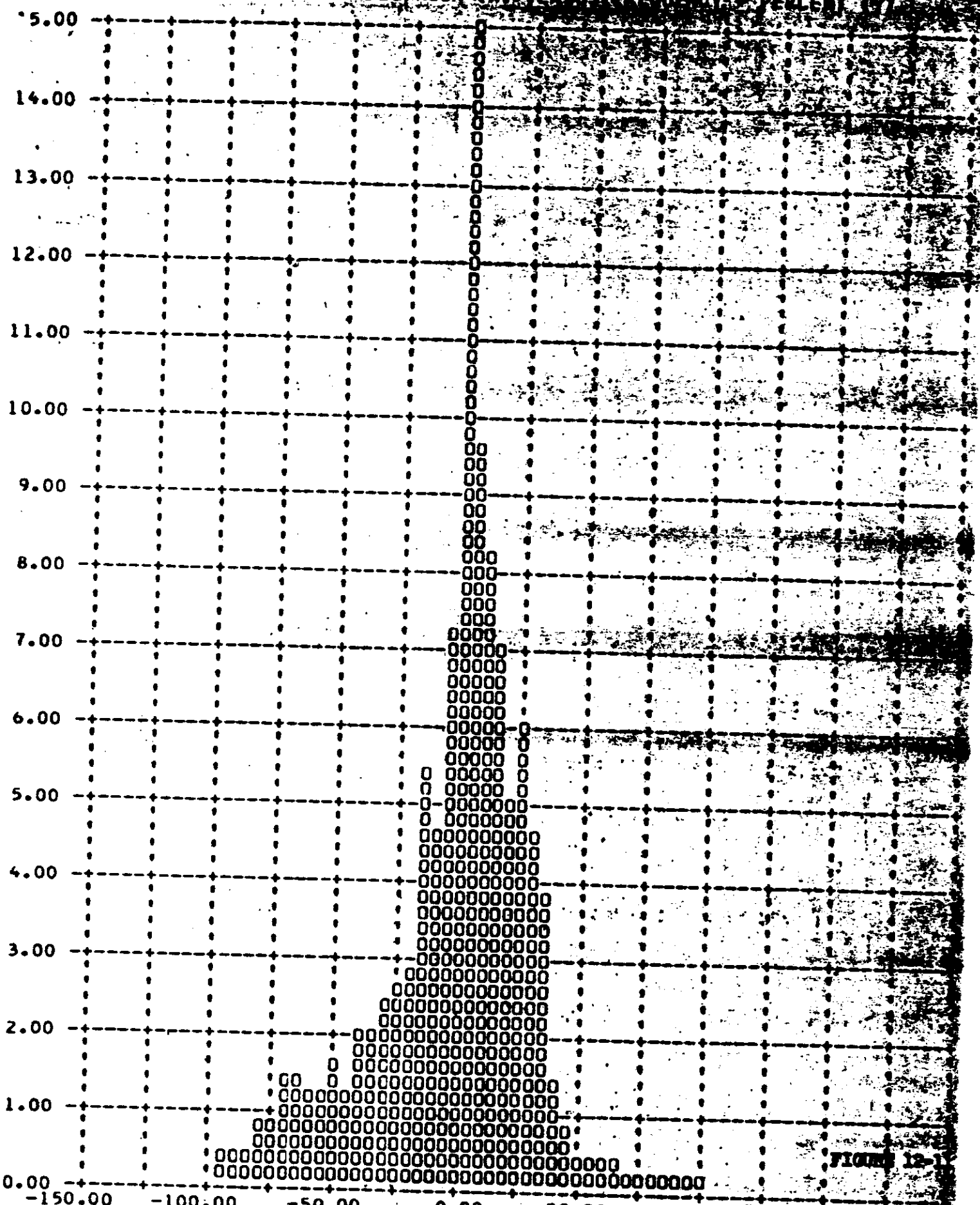


FIGURE 12-1

FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 17.50

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

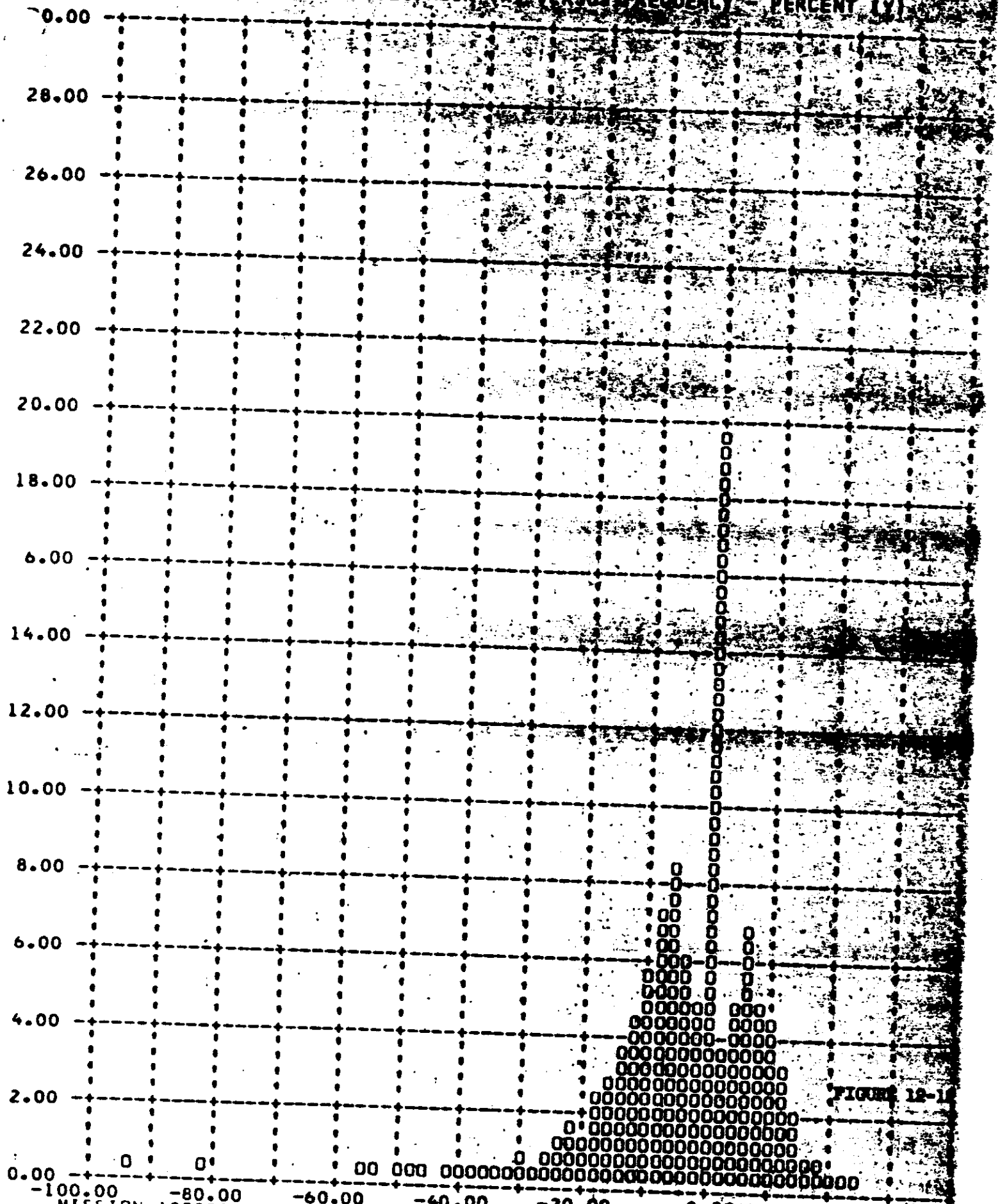


FIGURE 12-1

SECTION 13

IMAGE SMEAR ANALYSIS

The frame correlation tape supplied to A/P by MPIC 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 13-1 through 13-12.

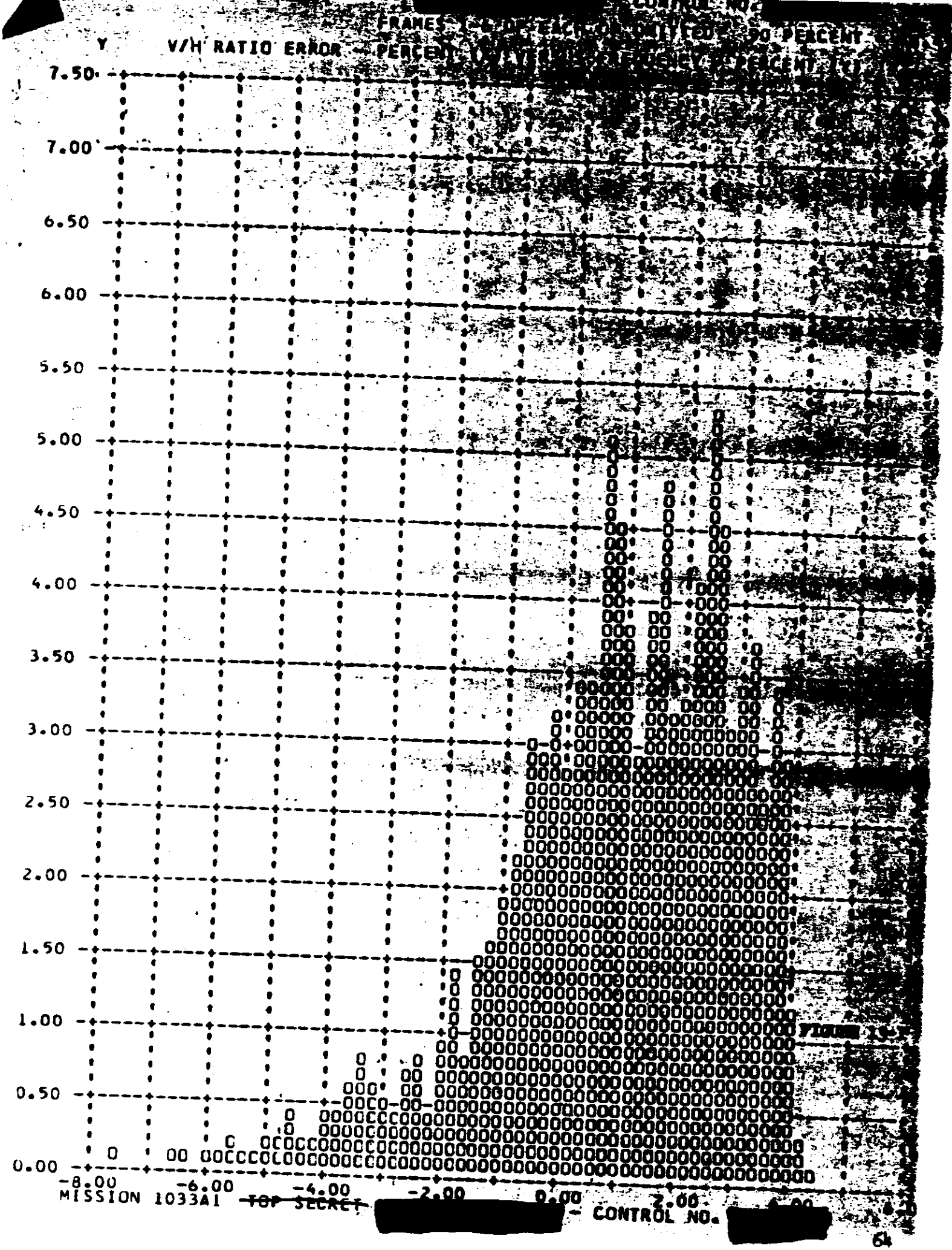
The summary table 13-1 presents the maximum V/h ratio errors and resolution limits that existed during 90% of the photographic operations and the total range of values during all operations that were computed.

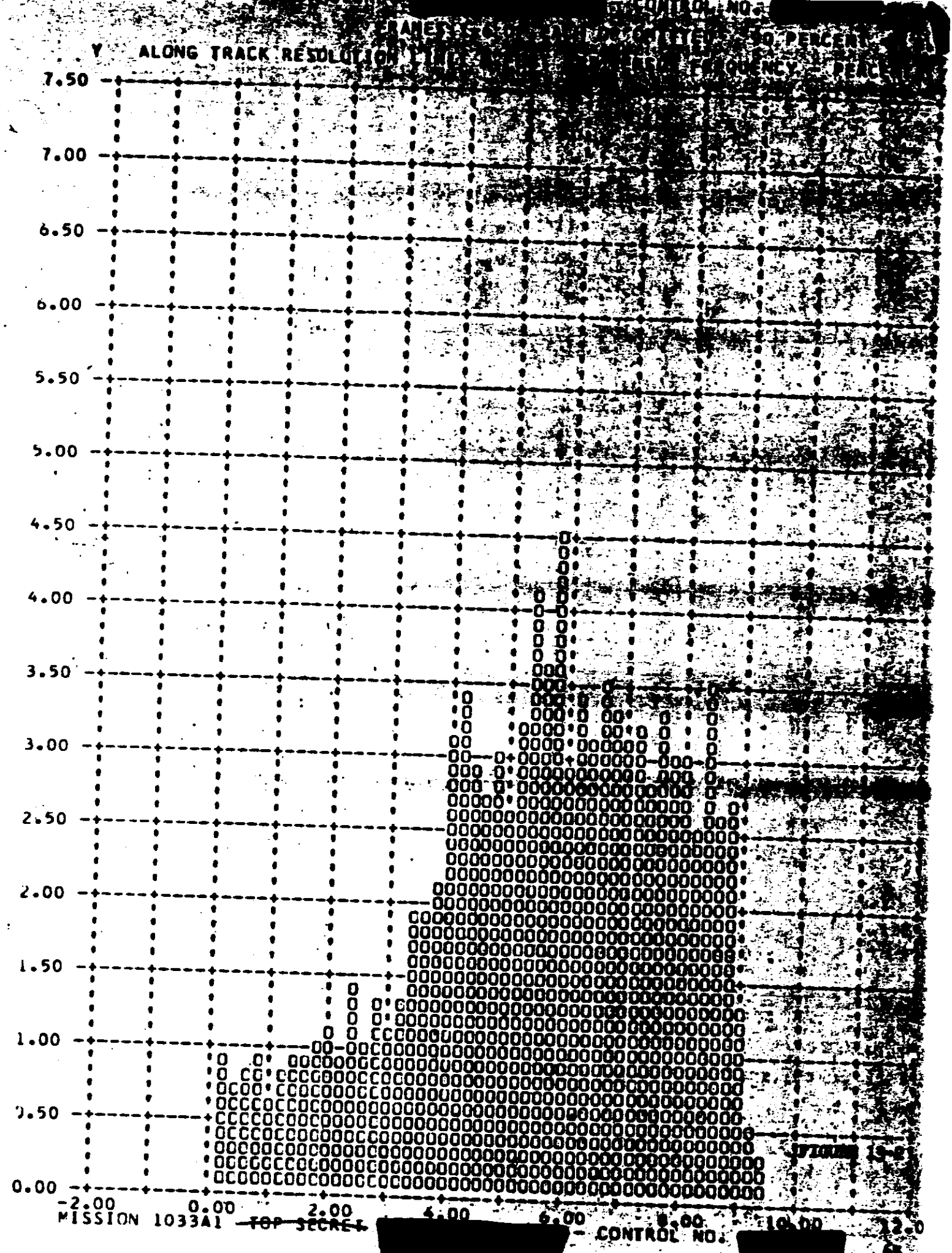
MISSION 1033

V/h RATIO AND RESOLUTION LIMITS

VALUE	UNITS	CAMERA	MISSION 1033-1 90%	MISSION 1033-1 Range	MISSION 1033-2 90%	MISSION 1033-2 Range
V/h Ratio Error	%	FWD	3.45	-7.60 to +4.4	2.55	-7.0 to +2.8
		AFT	4.86	+0.6 to +5.2	2.85	-6.6 to +4.2
Along Track Resolution Limit	Feet	FWD	8.23	0.2 to 9.4	5.75	0.2 to 11.4
		AFT	8.14	4.8 to 11.0	7.26	0.2 to 10.2
Cross Track Resolution Limit	Feet	FWD	6.15	0.2 to 11.0	6.91	0.2 to 8.8
		AFT	5.59	2.6 to 7.0	6.72	0.2 to 8.6

TABLE 13-1

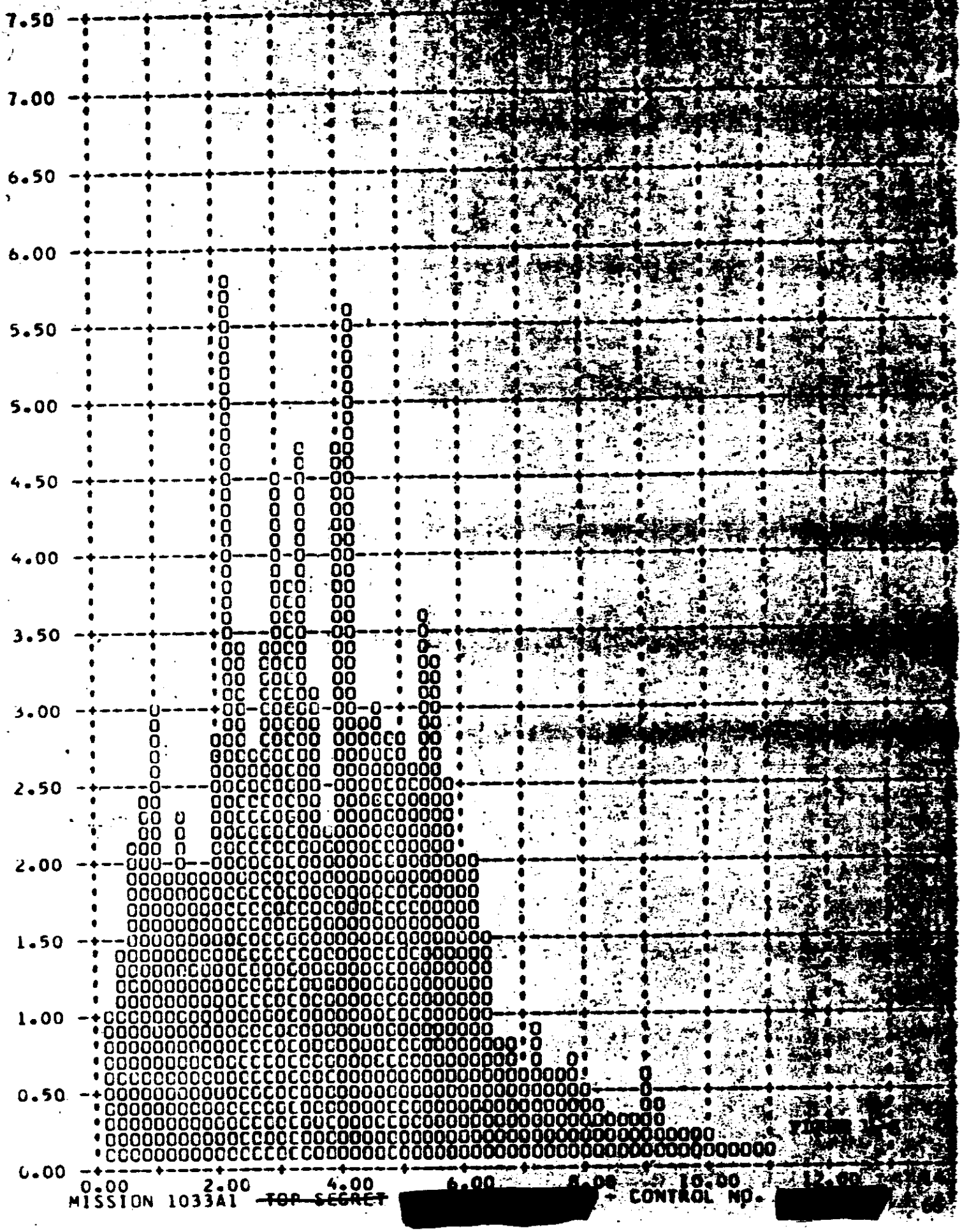

FRAMES
PERCENT
Y V/H RATIO ERROR - PERCENT
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-8.00
-6.00
-4.00
-2.00
0.00
2.00


Y ALONG TRACK RESOLUTION
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-2.00
0.00
2.00
4.00
6.00
8.00
10.00
12.0

MISSION 1033A1

FRAMES

Y CROSS TRACK RESOLUTION LIMIT



FRAMES 1-6 DELETED OR OMITTED - 40 PERCENT

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

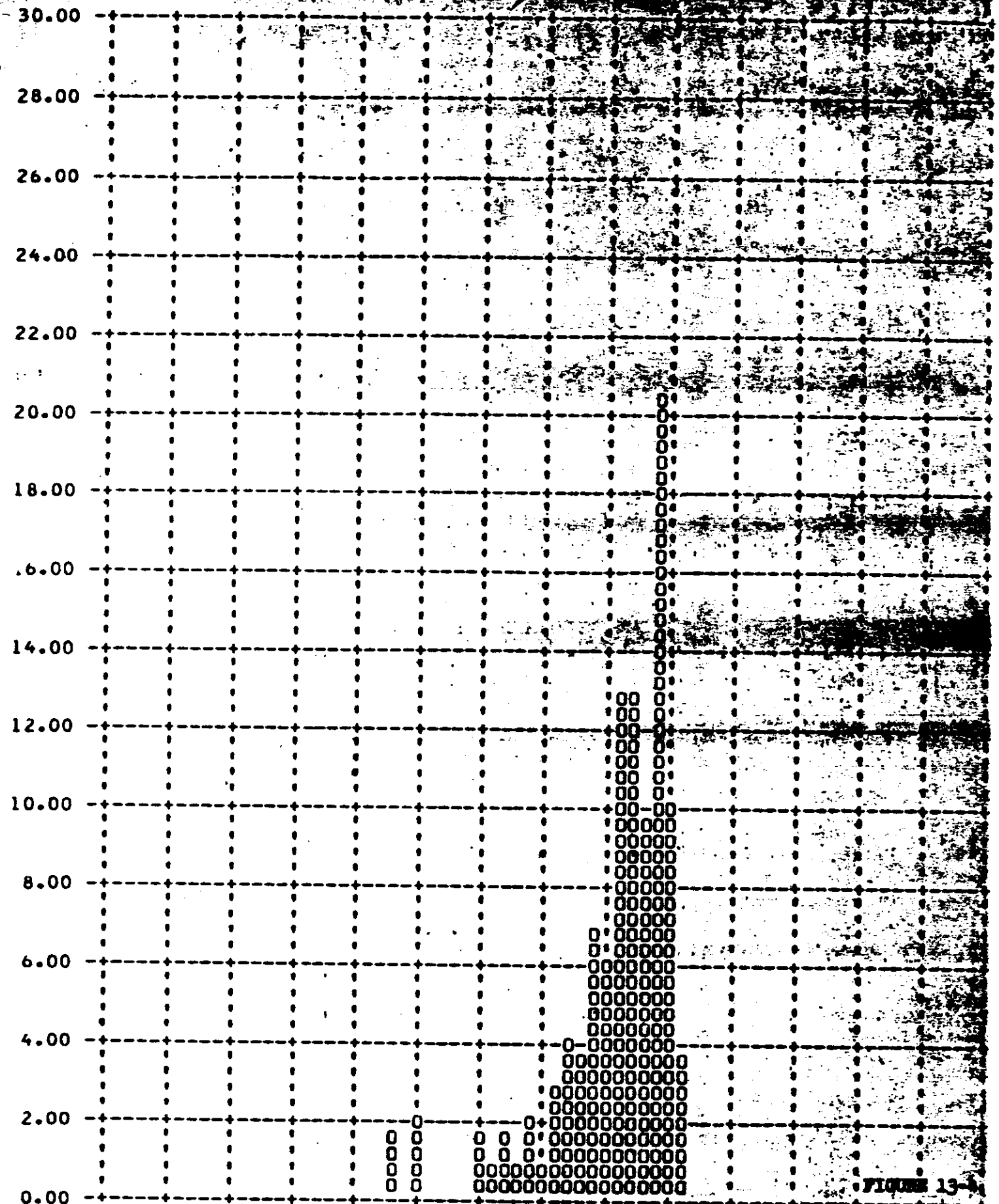


FIGURE 13-4

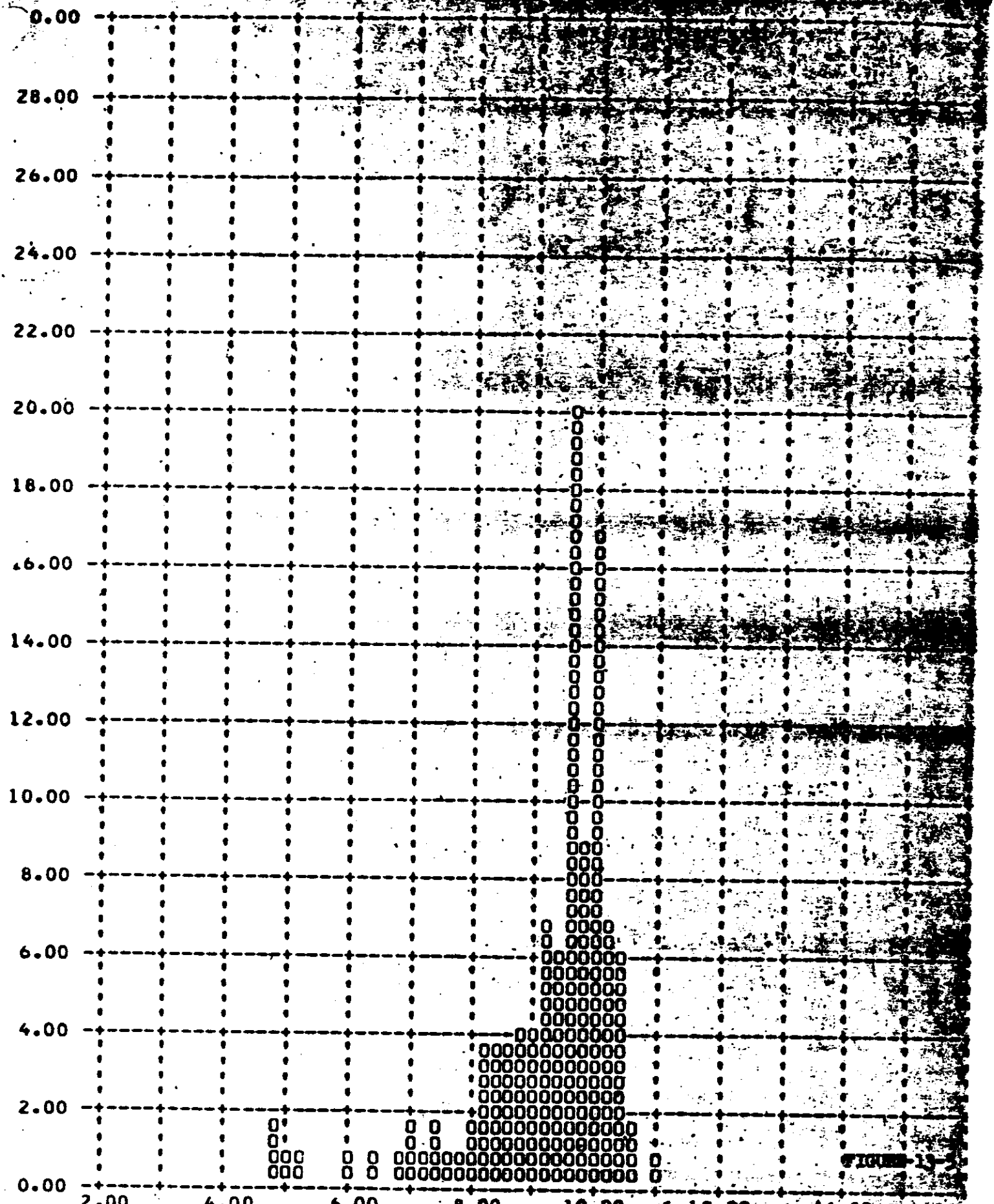

Y ALONG TRACK RESOLUTION LIMIT
0.00
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.

FIGURE 15-3

X FRAMES [illegible] DELETED 90 PERCENT = [illegible]

Y CROSS TRACK RESOLUTION LIMIT [illegible] PERCENT [illegible]

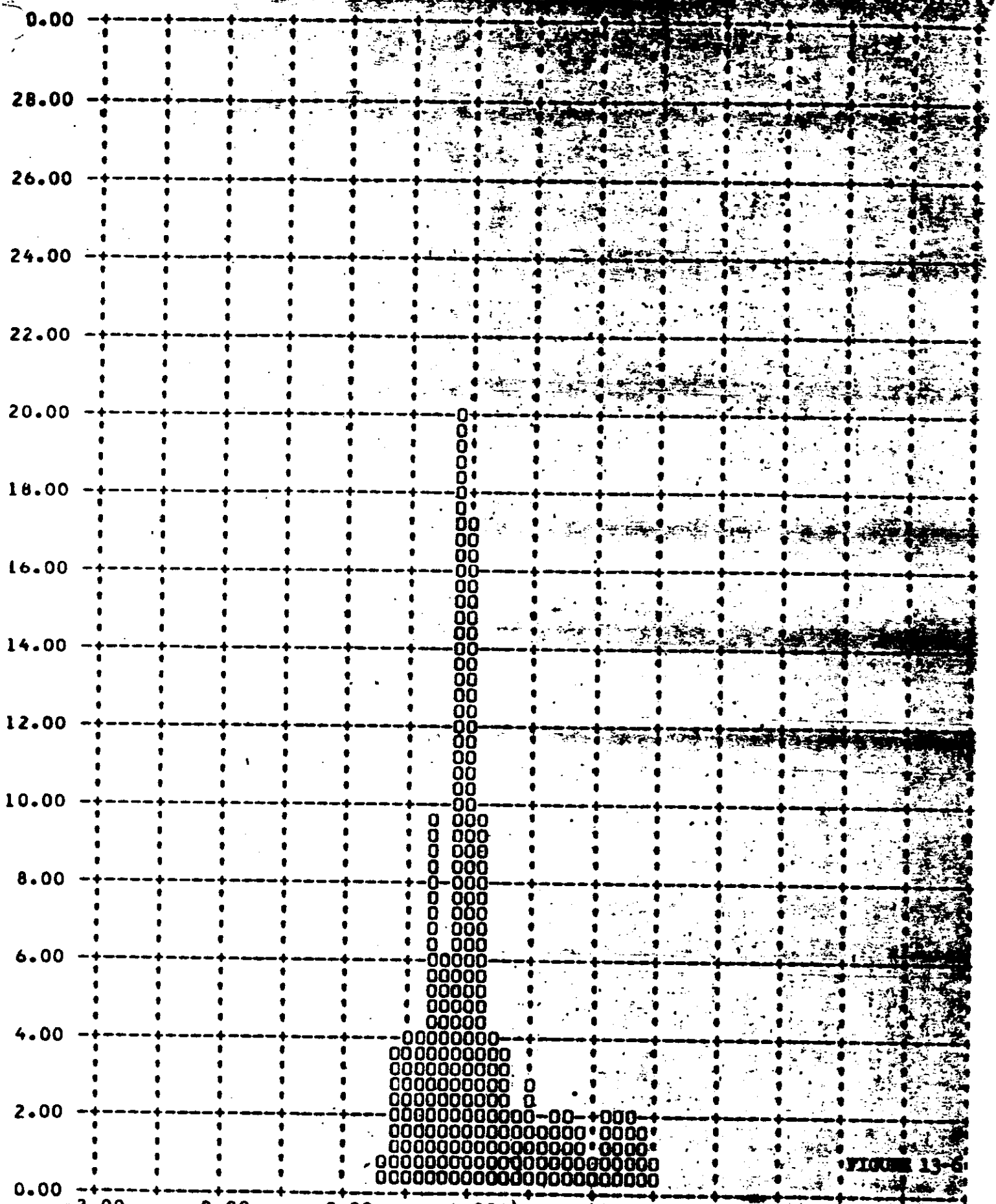


FIGURE 13-6

FRAMES [illegible] OF [illegible] OMITTED X 90 PERCENT [illegible]

Y V/H RATIO ERROR - PERCENT [illegible] FREQUENCY - PERCENT [illegible]

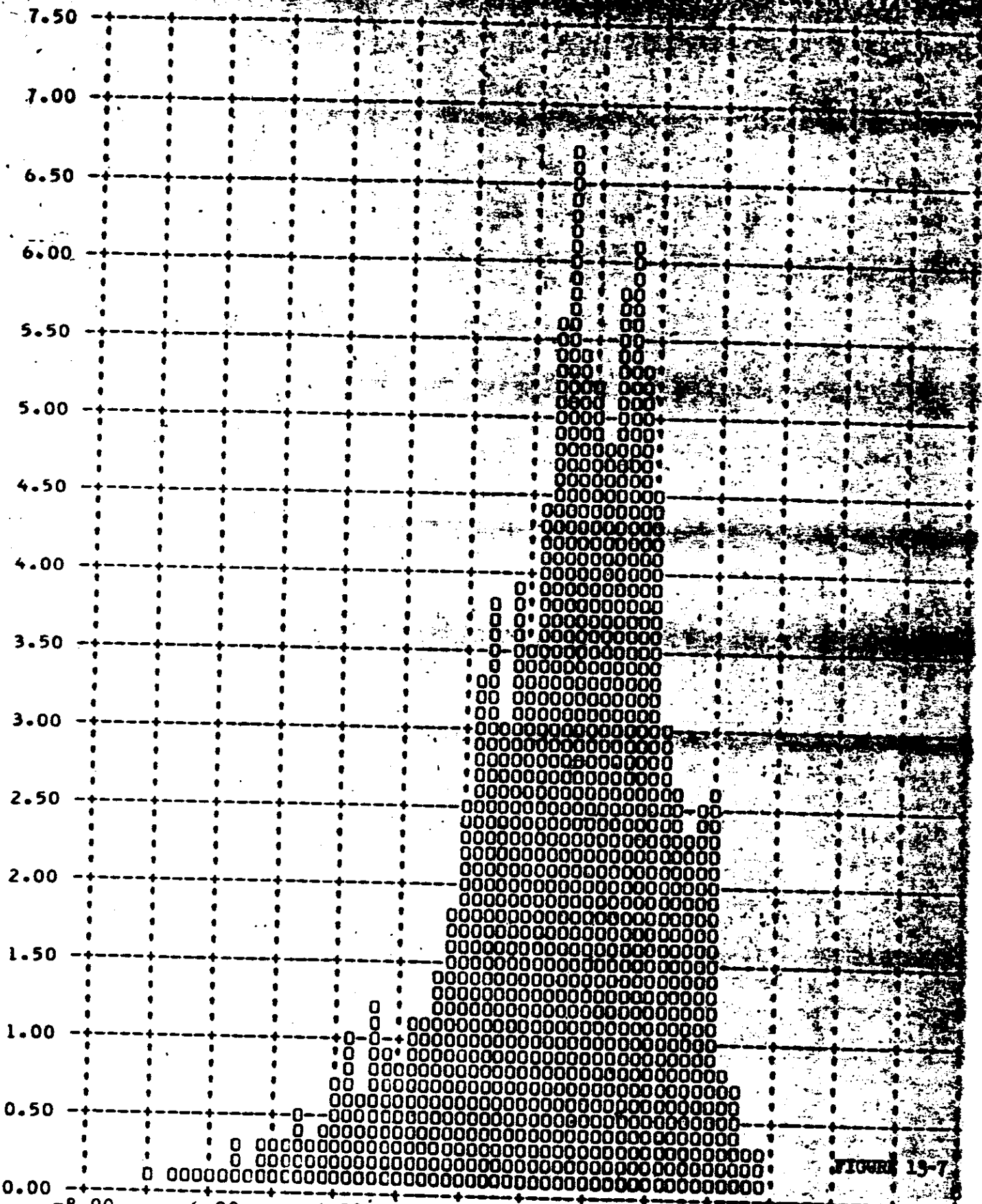


FIGURE 19-7

FRAMES [illegible] OF EACH [illegible] OMITTED. 90 PERCENT [illegible] SET

Y ALONG TRACK RESOLUTION LINE [illegible] FREQUENCY - PERCENT [illegible]

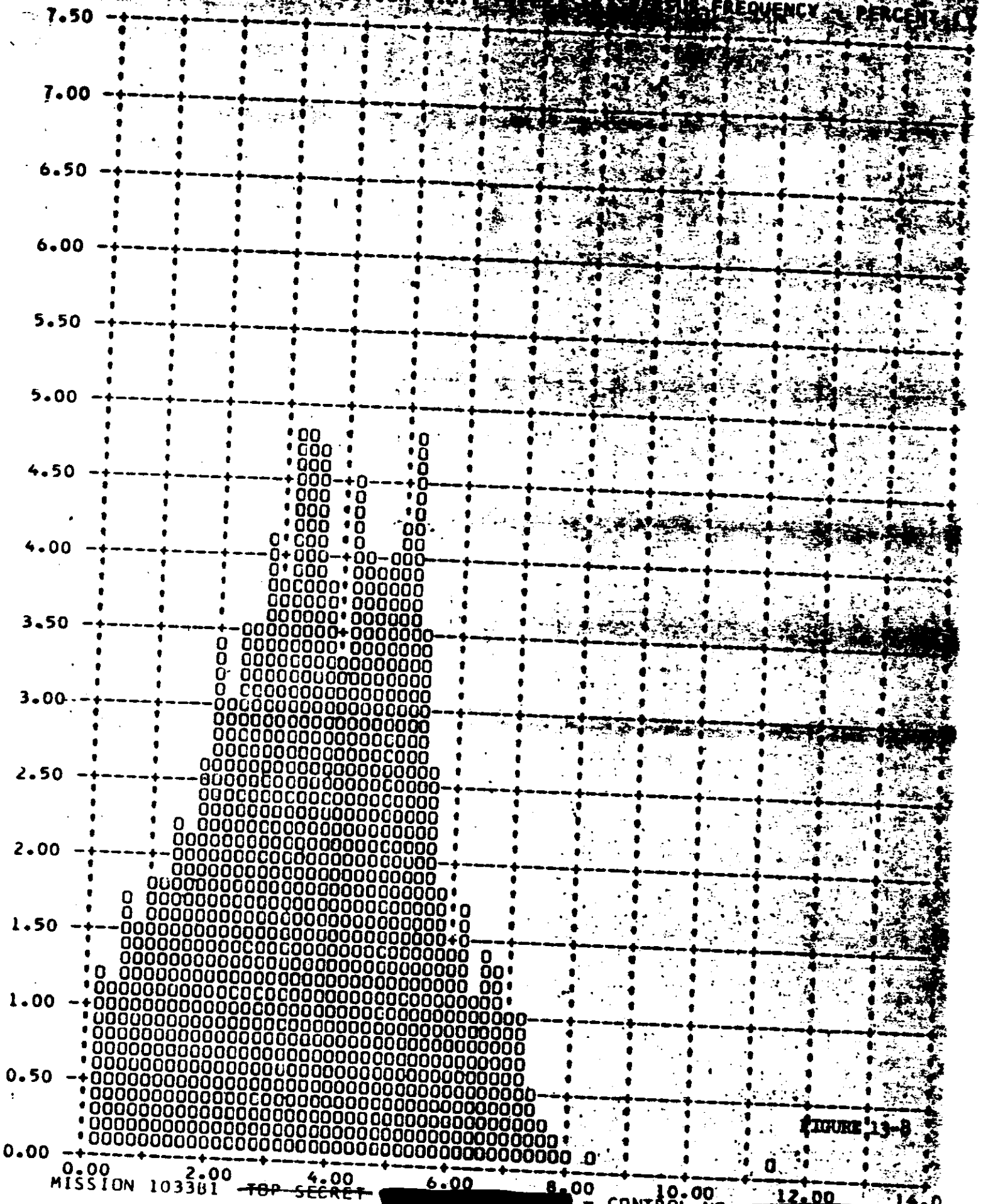
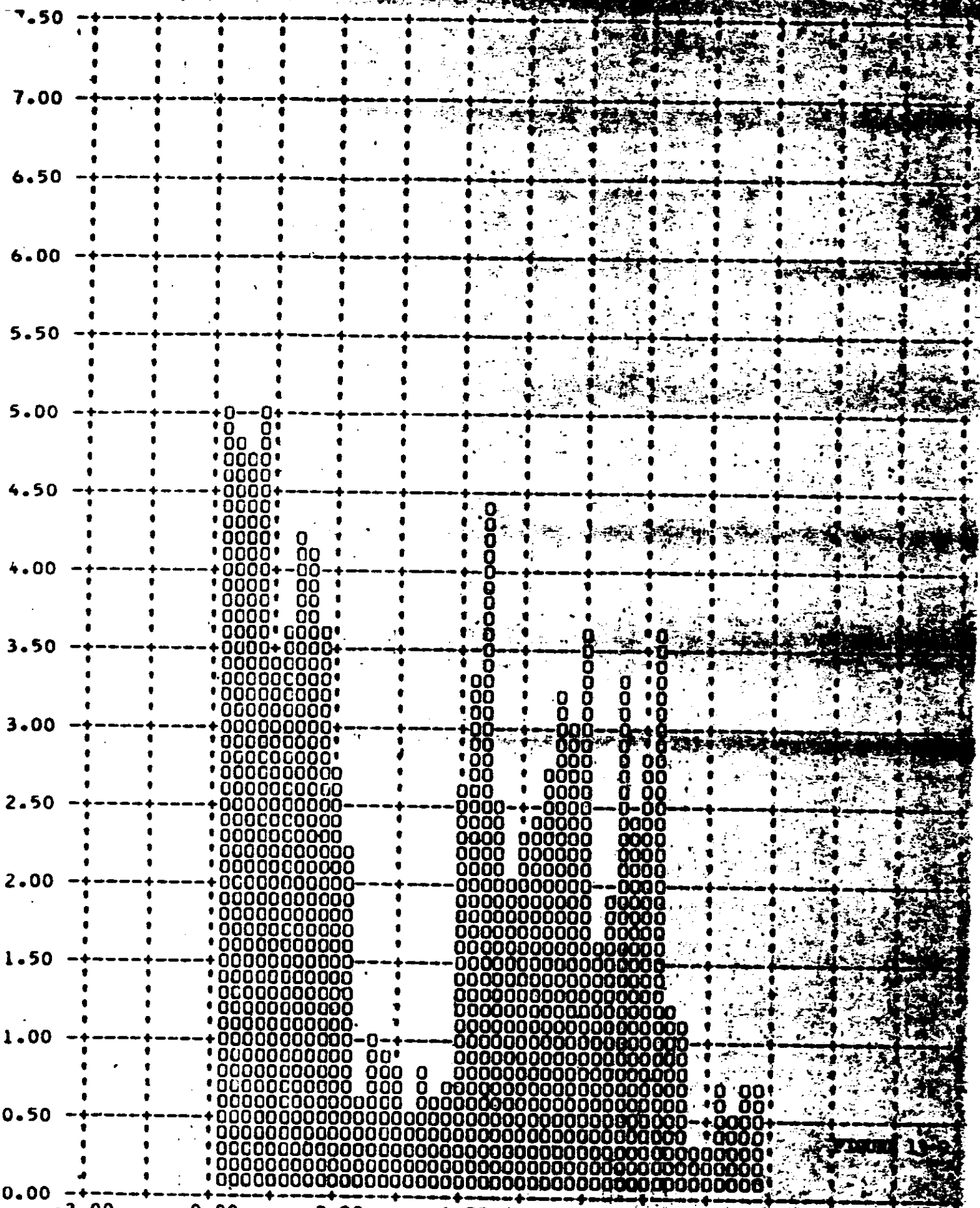
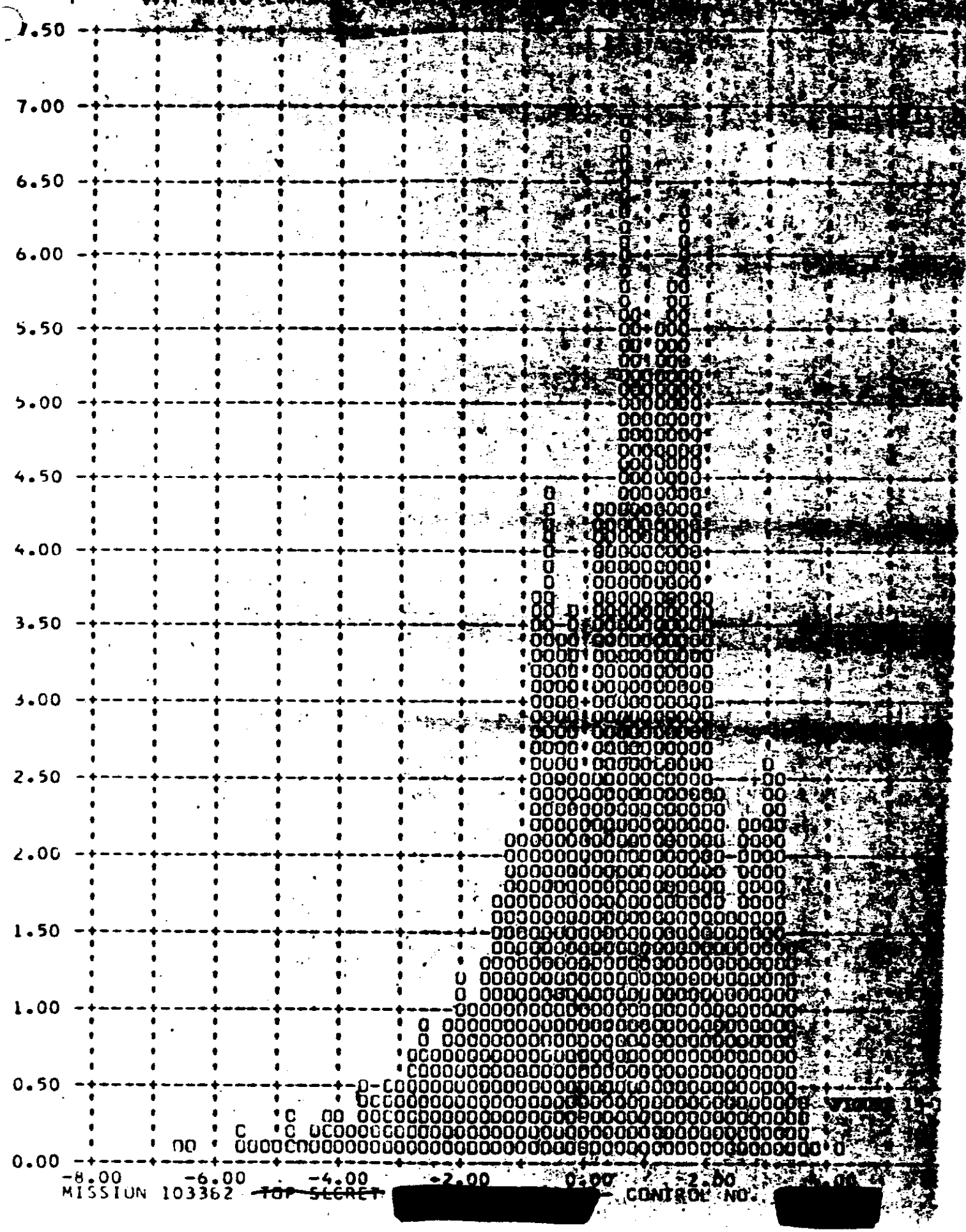


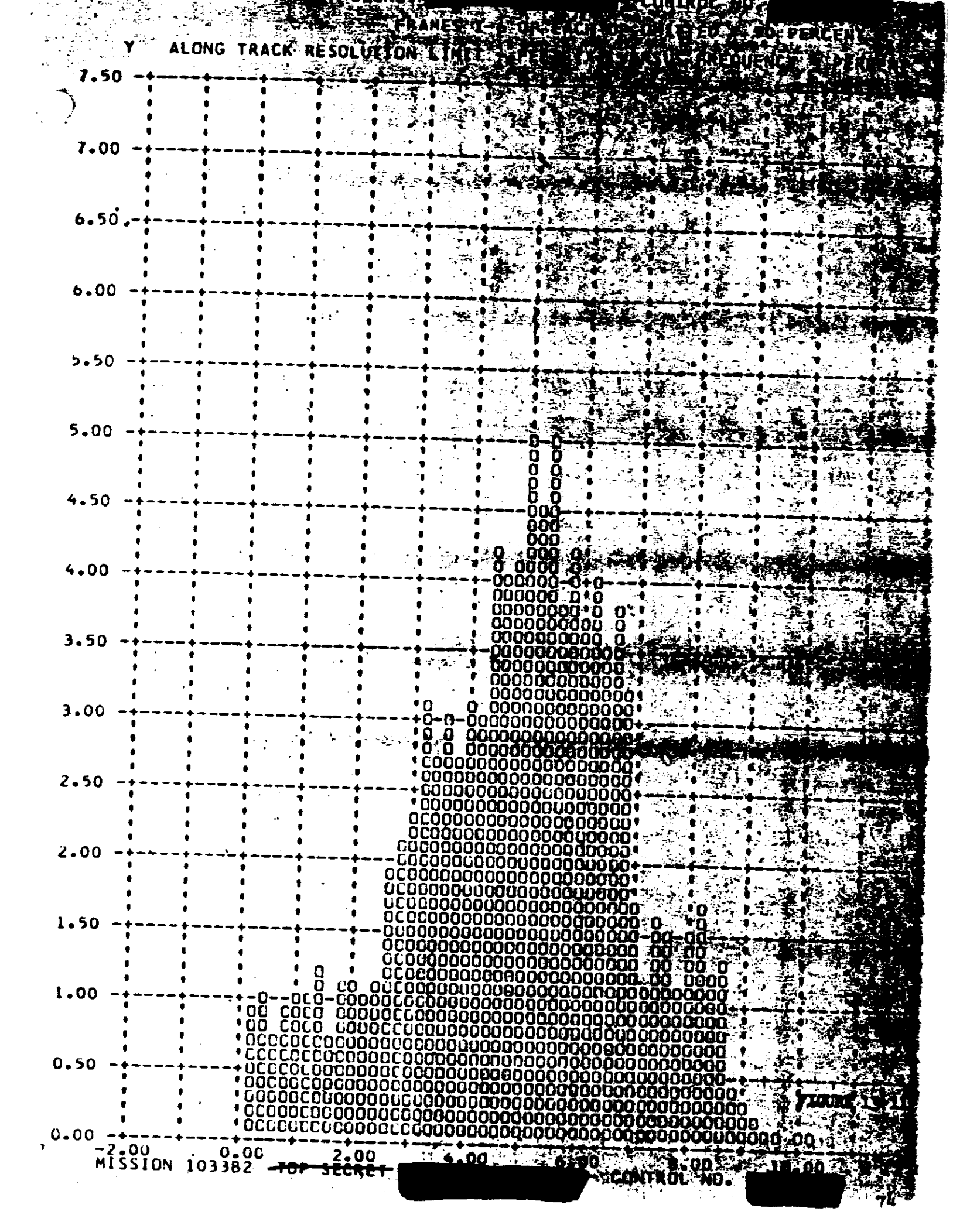
FIGURE 13-8

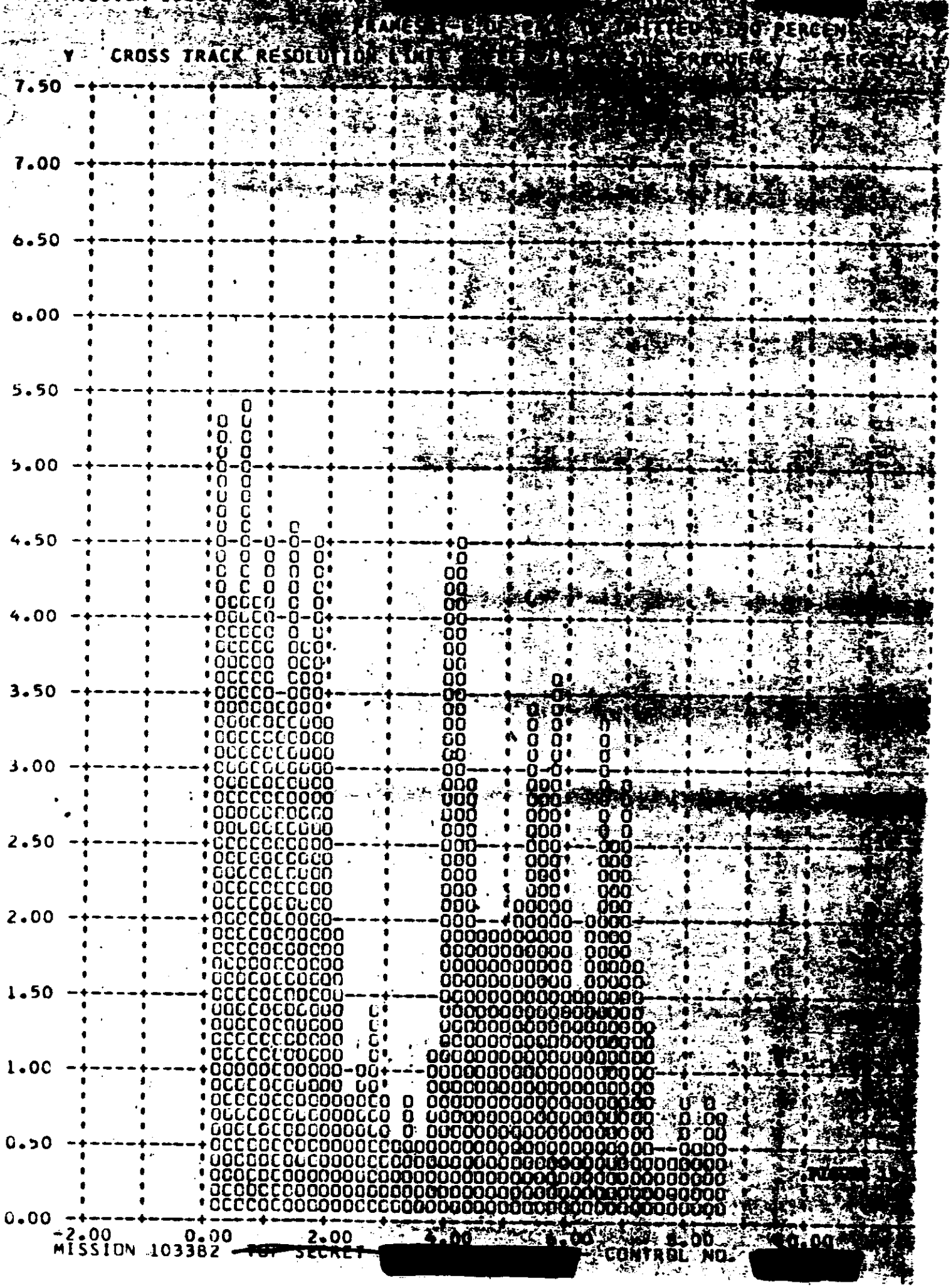
FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT 6.9

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




Y
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-8.00
-6.00
-4.00
-2.00
0.00
2.00


Y ALONG TRACK RESOLUTION LIMIT
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-2.00
0.00
2.00
MISSION 103382 TOP SECRET
CONTROL NO.


Y CROSS TRACK RESOLUTION (LINE
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-2.00
0.00
2.00

SECTION 14

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 1033-1		Mission 1033-2	
Emulsion	B + F Density	Radiation	B + F Density	Radiation
Type 3401	0.18	0.60 R	0.19	0.60 R
Royal X Pan	0.20	0.30 R	0.23	0.35 R

The mean total radiation seen by the take-up cassettes during both missions was approximately 0.45 roentgens. This is below the level that will degrade the panoramic photography.

SECTION 15

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 15-1.

Panoramic Camera Reliability

Sample Size - 147 opportunities to operate
One failure - S/I Programmer on System J-19
Assume - 3000 cycles per camera per mission
Estimated Reliability = 98.9% at 50% confidence level

Main Camera Door Reliability

Sample Size - 50 vehicles x 2 doors = 100 opportunities to operate
Estimated Reliability = 99.3% at 50% confidence level

Payload Command and Control

Sample Size - 7968 hours operation in sample
Two failures
Estimated Reliability = 96.8% at 50% confidence level

Payload Clock Reliability

Sample Size - 7968 hours operation in sample
No failures
Estimated Reliability - 99.2% at 50% confidence level

Estimated Reliability of Payload Functioning on orbit = 97.1% at 50% confidence level

Recovery System Reliability

65 opportunities to recover
1 failure - improper separation due to water [redacted]
Estimated Reliability = 97.4% at 50% confidence level

Stellar-Index Camera Reliability

Sample begins with J-5
Sample size = 19,130 cycles
Four failures
Estimated Reliability = 90.2% at 50% confidence level

Horizon Camera Reliability

Sample begins with J-5 - 79,500 cycles
Estimated Reliability of Single Camera = 98.7% 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 BLOCK			ON-ORBIT FUNCTIONS	RECOVERY SYSTEM			STELLAR + INDEX CAMERAS			HORIZON CAMERAS		
	SAMPLE (OPERATIONS)	FAILURES	RELIABILITY	SAMPLE (DOORS)	FAILURES	RELIABILITY	SAMPLE (HOURS)	FAILURES	RELIABILITY	SAMPLE (HOURS)	FAILURES	RELIABILITY	RELIABILITY	SAMPLE (CAPSULES)	FAILURES	RELIABILITY	SAMPLE (CYCLES)	FAILURES	RELIABILITY	SAMPLE (CYCLES)	FAILURES	RELIABILITY
1006 TO 1008	90	1	97.3	52	0	98.6	3124	0	99.0	3124	0	99.0	96.1	10	1	90.7	3400	3	99.1	12,000	[illegible]	[illegible]
1009	84	1	97.4	84	0	98.7	3216	0	99.0	3216	0	99.0	96.8	20	1	91.6	4200	3	99.3	[illegible]	0	[illegible]
1010	66	1	97.6	56	0	98.8	3432	0	99.1	3432	0	99.1	96.4	22	1	92.6	5100	3	73.?	[illegible]	0	[illegible]
1011	72	1	97.7	58	0	98.9	3600	0	99.1	3600	0	99.1	96.6	24	1	93.0	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]
1012	76	1	97.8	60	0	98.9	3720	0	[illegible]	3720	0	99.2	96.6	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1013	76	1	97.8	62	0	[illegible]	3840	1	[illegible]	3840	0	[illegible]	96.6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1014	[illegible]	[illegible]	97.9	[illegible]	0	[illegible]	[illegible]	1	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97.8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[redacted]

[redacted]

ESTIMATED RELIABILITY SUMMARY

(AT 50% CONFIDENCE LEVEL)

MISSION NUMBER	PRIMARY FUNCTIONS													SECONDARY FUNCTIONS								
	PANORAMIC CAMERA			PANORAMIC CAMERA DOORS			COMMAND & CONTROL SYSTEM			PAYLOAD CLOCK			ON-ORBIT FUNCTIONS	RECOVERY SYSTEM			STELLAR-INDEX CAMERAS			HORIZON CAMERAS		
	SAMPLE	FAILURES	RELIABILITY	SAMPLE	FAILURES	RELIABILITY	SAMPLE	FAILURES	RELIABILITY	SAMPLE	FAILURES	RELIABILITY	RELIABILITY	SAMPLE	FAILURES	RELIABILITY	SAMPLE	FAILURES	RELIABILITY	SAMPLE	FAILURES	RELIABILITY
1020	108	1	98.5	78	0	99.1	5544	1	97.1	5544	0	98.9	96.9	43	1	96.1	10,680	2	89.9	48,000	0	[illegible]
1021	104	1	98.5	76	0	99.1	6376	1	97.0	6376	0	98.8	96.9	41	1	96.0	9830	2	89.1	46,800	0	[illegible]
1022	112	1	98.5	80	0	99.2	5784	1	97.3	5784	0	98.9	96.9	46	1	96.3	11,650	2	90.7	81,000	0	[illegible]
1023	114	1	98.6	82	0	99.2	6000	2	96.6	6000	0	98.9	96.2	47	1	[illegible]	12,190	2	91.1	84,000	[illegible]	[illegible]
1024	118	1	98.6	84	0	99.2	6240	2	97.0	6240	0	98.9	96.3	49	1	96.6	13,040	2	[illegible]	87,000	[illegible]	[illegible]
1025	122	1	98.6	86	0	99.2	6480	2	96.1	6480	0	99.0	96.4	51	1	96.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1026	126	1	98.7	88	0	99.2	6720	2	[illegible]	6720	0	99.0	96.5	53	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1027	[illegible]	[illegible]	98.7	90	0	99.2	6744	2	96.3	6744	0	99.0	96.6	[illegible]	1	97.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	98.7	[illegible]	[illegible]	99.2	[illegible]	2	[illegible]	6960	0	99.0	96.7	[illegible]	1	97.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	96.8	[illegible]	[illegible]	97.1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	96.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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
1033	SAMPLE 147 FAILURES 1 RELIABILITY 98.9	SAMPLE 100 FAILURES 0. RELIABILITY 99.3	SAMPLE 7968 FAILURES 2 RELIABILITY 96.8	SAMPLE 7968 FAILURES 0 RELIABILITY 99.2	RELIABILITY 97.1	SAMPLE 65 FAILURES 1 RELIABILITY 97.4	SAMPLE 19,130 FAILURES 4 RELIABILITY 90.2	SAMPLE 79,800 FAILURES 0 RELIABILITY [illegible]

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SECTION 16

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 16-1 through 16-3.

The summary data was started with Mission 1005 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, 1005 and 10[redacted] are deleted.

[redacted]

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-05	1174	2/15/64	2138 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	029/29/29
1006	J-09	1176	6/4/64	2259 Z	79.9	84.0	83.2	65 / 128	148	0.200	W-21	149	0.200	W-21	048/47/48
1007	J-07	1600	6/19/64	2318 Z	89.0	99.2	41.5	65 / 128	144	0.250	W-25	145	0.200	W-21	043/43/43
1008	J-10	1177	7/10/64	2314 Z	85.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	046/45/46
1009	J-12	1605	8/5/64	2316 Z	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	056/54/56
1010	J-11	1178	9/14/64	2254 Z	84.9	97.4	42.5	65 / 144	152	0.175	W-21	153	0.175	W-21	041/41/41
1011	J-3X	1170	10/5/64	2150 Z	79.9	99.3	20.9	65 / —	160	0.175	W-21	161	0.175	W-21	030/30/30
1012	J-13	1179	10/17/64	2202 Z	75.0	98.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	061/61/47
1013	J-15	1173	11/2/64	2130 Z	80.0	100.0	25.0	68 / 81	158	0.225	W-21	159	0.225	W-21	[illegible]
1014	J-16	1100	11/18/64	2036 Z	70.0	103.2	65.8	81 / 148	162	[illegible]	W-25	139 (?)	0.175 (?)	W-21	[illegible]
1015	J-17	1607	12/19/64	2110 Z	74.9	96.7	21.8	81 / 175	138	[illegible]	[illegible]	141	[illegible]	[illegible]	[illegible]
1016	J-18	1608	1/15/65	2101 Z	74.9	99.4	30.2	81 / [illegible]	132	[illegible]	[illegible]	133 (?)	[illegible]	[illegible]	[illegible]
—	[illegible]	1611	[illegible]	2144 Z	75.0	97.2	[illegible]	81 / [illegible]	140	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	2111 Z	[illegible]	100.2	[illegible]	[illegible]	122	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	2144 Z	[illegible]	[illegible]	[illegible]	90 / —	118 (?)	[illegible]	[illegible]	119	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	75.1	97.1	[illegible]	97 / [illegible]	136 (?)	[illegible]	[illegible]	[illegible]	0.175 (?)	[illegible]	[illegible]
—	J-21	[illegible]	[illegible]	[illegible]	75.0	100.2	[illegible]	81 / 161	166	0.175	W-21	167	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	99.7	[illegible]	[illegible] / 144	168	0.250	[illegible]	169	0.175	W-21	[illegible]
—	J-23	[illegible]	[illegible]	[illegible]	70.0	97.8	25.0	81 / 144	170	0.225	W-25	171	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	60.0	[illegible]	[illegible]	81 / 161	172	[illegible]	[illegible]	173 (?)	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81 / [illegible]	142	[illegible]	[illegible]	[illegible]	0.175	W-21	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	81 / [illegible]	174	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	164	[illegible]	[illegible]	165	[illegible]	[illegible]	[illegible]
—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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
1029	J-27	1623	2/2/66	2132 Z	75.1	99.5	22.5	81/160	178	0.275	W-25	179	0.175	W-21	D76/94/91 / D76/79/96
1030	J-29	1622	3/9/66	2202 Z	75.0	97.5	18.7	81/159	182	0.278	W-25	183	0.175	W-21	D94/100/107 / D82/105/102
1031	J-30	1627	4/7/66	2202 Z	75.1	104.5	23.3	113/177	184	0.225	W-23A	185	0.150	W-21	D83/101/89 / D86/106/86
1032	J-28	1625	5/3/66	1925 Z	—	—	—	—/—	160	0.150	W-21	181	0.150	W-21	D81/97/101 / D80/73/103
1033	J-33	1630	5/24/66	0213 Z	66.1	102.0	60.7	82/178	194	0.200	W-21	195	0.200	W-21	D91/105/109 / D84/102/7

PERFORMANCE SUMMARY

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPL SLIT (μ)	AFSPPL AVERAGE	MTF/AIM SLIT (μ)	MTF/AIM AVERAGE	[redacted] SLIT (μ)	[redacted] ALL	[redacted] HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (?/HR) PITCH	90% ATTITUDE RATES (?/HR) ROLL	90% ATTITUDE RATES (?/HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1004-1 1004-2	FWD AFT FWD AFT	124 125	85 85	78 86 76 73	350	97 80 88 83	43	109 96 113 106	320	115 117 82 89	127 124 90 95	0.45 0.74	0.42 0.50	1.08 0.91	30.0 44.0	25.0 30.0	21.0 29.0	9.1 4.9	7.7 8.6	[illegible]
1005-1 1005-2	FWD AFT FWD AFT	148 149	90 90	78 74 88 83	350	65 71 64 72	43	88 90 81 90	320	84 87 84 87	97 98 90 94	0.41 0.49	0.42 0.40	1.14 1.08	26.8 31.1	28.5 27.9	27.8 30.0	15.4 11.6	13.8 10.1	[illegible] 7.0
1007-1 1007-2	FWD AFT FWD AFT	144 145	85 85	80 86 79 81	350	60 63 72 77	43	87 83 81 92	320	82 97 68 74	91 110 74 81	0.96 0.84	0.46 0.47	1.43 —	37.6 43.0	23.9 25.8	29.9 —	3.6 4.6 3.2 4.2	[illegible] 2.4 2.4 [illegible]	[illegible]
1008-1 1008-2	FWD AFT FWD AFT	150 151	85 89	80 76 82 79	350	80 73 84 91	43	95 89 96 83	320	81 88 83 85	89 95 92 91	0.59 0.63	0.39 0.36	0.94 0.71	43.8 42.9	23.9 24.0	29.6 32.8	2.9 [illegible]	[illegible]	[illegible]
1009-1 1009-2	FWD AFT FWD AFT	154 155	88 88	92 89 94 87	350	80 85 85 87	—	—	80	75 79 76 72	88 83 84 79	0.68 0.48	0.65 0.65	0.71 0.89	29.8 [illegible]	22.7 23.9	27.8 27.2	[illegible]	[illegible]	[illegible]
1010-1 1010-2	FWD AFT FWD AFT	182 183	85 85	90 88 92 90	350	90 86 81 82	80	88 80 82 88	80	87 92 82 87	96 103 93 96	0.93 0.89	0.30 0.70	0.87 1.21	[illegible]	23.6 23.8	[illegible]	[illegible]	[illegible]	[illegible]
1011-1	FWD AFT	160 161	90	84 84	350	76 77	80	96 86	80	78 83	87 93	0.77	0.39	0.97	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1012-1 1012-2	FWD AFT FWD AFT	156 157	85 85	92 91 91 89	—	—	80	91 87 89 96	80	84 89 84 85	98 100 91 98	[illegible] 0.97	0.51 0.77	— 0.81	[illegible]	[illegible] 30.7	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT	158 159	88	89 77	—	—	80	94 97	80	[illegible]	99 103	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT FWD AFT	162 [illegible]	80 80	87 83 83 86	—	—	80	78 80 78 84	80	[illegible]	[illegible]	[illegible]	0.41 0.41 [illegible] [illegible]	1.46 1.44 [illegible] [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT FWD AFT	138 141	88 88	[illegible]	—	—	80	76 73 73 72	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT FWD AFT	132 135	88 88	[illegible]	—	—	80	[illegible]	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT FWD AFT	[illegible]	[illegible]	[illegible]	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD AFT FWD AFT	[illegible]	[illegible]	[illegible]	—	—	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TOP SECRET C/[redacted]

PERFORMANCE SUMMARY

MISSION NUMBER	CAMERA	SERIAL NUMBER	M I P VALUE	VISUAL RES	AFSPPF SLIT (μ)	AFSPPF AVERAGE	MTF/AIM SLIT (μ)	MTF/AIM AVERAGE	SLIT (μ)	[redacted] ALL	HIGH	90% ATTITUDE ERROR (°) PITCH	ROLL	YAW	90% ATTITUDE RATES (°/HR) PITCH	ROLL	YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	CROSS TRACK
1019-1	FWD	118	85	81	—	—	80	76	80	88	104	0.43	0.36	0.97	31.6	34.7	33.0	3.3	9.3	9.1
	AFT	119		99				63		87	101	0.44	0.37	0.96	31.8	34.9	33.1	3.8	9.0	6.9
1020-1	FWD	136	80	88	—	—	80	69	80	78	90	0.46	0.35	0.78	37.4	31.8	26.7	5.4	9.0	8.4
	AFT	137		89				82		94	105	0.46	0.35	0.78	37.4	31.8	26.7	5.3	4.2	4.9
1020-2	FWD		—	—				—		—	—	0.41	0.17	1.06	42.6	23.8	42.5	3.5	4.4	7.6
	AFT			—				—		—	—	0.41	0.17	1.06	42.6	23.8	42.5	3.4	4.5	[illegible]
1021-1	FWD	166	85	88	—	—	80	77	80	86	99	0.55	0.37	0.81	34.9	32.6	26.2	8.7	8.8	[illegible]
	AFT	167		90				90		98	109	0.55	0.38	0.81	34.8	33.0	26.3	5.4	8.6	[illegible]
1021-2	FWD		85	85				74		88	112	0.59	0.65	—	44.7	30.6	—	3.1	9.2	[illegible]
	AFT			74				62		—	—	—	—	—	—	—	—	—	—	[illegible]
1022-1	FWD	168	85	88	—	—	80	66	80	78	91	0.47	0.51	0.89	28.3	27.1	23.8	3.8	8.8	[illegible]
	AFT	169		91				83		101	111	0.47	0.51	0.90	27.9	26.8	23.8	3.0	8.2	[illegible]
1022-2	FWD		85	90				68		74	84	0.40	0.51	0.90	29.4	27.3	31.0	2.8	8.0	[illegible]
	AFT			92				92		99	110	0.40	0.51	0.90	29.4	27.3	31.1	1.8	4.9	[illegible]
1023-1	FWD	170	85	—	—	—	80	84	80	97	110	0.49	0.33	0.50	33.0	28.7	23.5	3.4	4.0	[illegible]
	AFT	171						87		83	101	0.49	0.33	0.50	38.9	28.7	23.5	3.8	2.7	[illegible]
1023-2	FWD		85					71		76	87	0.42	0.36	0.53	29.7	21.0	28.6	2.4	3.9	[illegible]
	AFT							89		68	76	0.43	0.37	0.53	29.8	21.3	28.6	2.4	2.7	[illegible]
1024-1	FWD	172	85	—	—	—	80	79	80	90	102	0.42	0.25	0.92	32.2	24.9	30.5	2.6	[illegible]	[illegible]
	AFT	173						95		94	105	0.42	0.25	0.92	32.2	24.9	30.4	2.1	[illegible]	[illegible]
1024-2	FWD		85					86		89	101	0.36	0.31	0.93	30.4	24.5	30.4	[illegible]	[illegible]	[illegible]
	AFT							96		100	114	0.36	0.31	0.93	30.6	23.8	[illegible]	[illegible]	[illegible]	[illegible]
1025-1	FWD	142	85	—	—	—	80	87	80	80	97	0.50	0.41	0.85	[illegible]	28.7	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	127						97		101	114	0.51	0.42	0.85	[illegible]	29.7	[illegible]	[illegible]	[illegible]	[illegible]
1025-2	FWD		85					85		96	107	0.52	0.44	0.82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT							91		89	108	0.52	0.44	0.82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1026-1	FWD	174	85	—	—	—	80	76	80	88	92	0.65	0.24	0.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	175						88		98	113	0.65	0.84	0.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1026-2	FWD		86					85		92	104	0.55	0.86	0.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT							93		90	103	0.59	0.85	0.88	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1027-1	FWD	164	85	—	—	—	80	69	80	80	—	0.57	0.37	0.74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	163						79		92		0.61	0.37	0.74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1028-1	FWD	176	85	—	—	—	80	81	80	[illegible]	[illegible]	0.82	0.37	0.50	[illegible]	29.9	30.3	[illegible]	[illegible]	[illegible]
	AFT	177						92		93	[illegible]	0.52	0.37	0.50	[illegible]	29.0	30.3	[illegible]	[illegible]	[illegible]
1028-2	FWD		89					88		87	[illegible]	0.76	0.52	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]
	AFT							77		[illegible]	[illegible]	0.76	0.52	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]
1029-1	FWD	178	85	[illegible]	80	[illegible]	80	[illegible]	80	77	[illegible]	0.87	[illegible]	0.77	[illegible]	31.3	34.4	[illegible]	[illegible]	[illegible]
	AFT	179				81		95		73	[illegible]	0.88	0.33	0.77	[illegible]	30.9	34.6	[illegible]	[illegible]	[illegible]
1029-2	FWD		85			83		82		77	[illegible]	0.64	0.48	[illegible]	[illegible]	32.5	[illegible]	[illegible]	[illegible]	[illegible]
	AFT					91		94		[illegible]	[illegible]	[illegible]	0.48	[illegible]	[illegible]	32.1	[illegible]	[illegible]	[illegible]	[illegible]
1030-1	FWD	182	85	[illegible]	80	[illegible]	80	78	80	[illegible]	[illegible]	0.87	0.26	0.80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	183				74		73		77	[illegible]	0.87	0.25	0.80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1030-2	FWD		86			77		81		71	[illegible]	0.70	0.27	0.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT					81		74		71	[illegible]	0.70	0.26	0.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1031-1	FWD	184	85	[illegible]	[illegible]	85	80	70	[illegible]	[illegible]	[illegible]	0.90	0.47	0.86	[illegible]	17.3	[illegible]	5.1	[illegible]	[illegible]
	AFT	185				87		71		[illegible]	[illegible]	[illegible]	0.41	0.91	[illegible]	18.7	[illegible]	[illegible]	[illegible]	[illegible]
1031-2	FWD		86			81		84		[illegible]	[illegible]	0.87	0.20	0.76	[illegible]	19.3	[illegible]	3.4	[illegible]	[illegible]
	AFT					[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1032-1	FWD	186	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]				[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1032-2	FWD		[illegible]			[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT					[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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	0.76	0.70	0.93	2.45	1.92	1.94	1.08	2.43	1.98	2.03	1	4	67	26	3	35
1004-2	FWD	-4	58	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	[illegible]
	AFT	-4	58	10	131	7	76	17	37	50	13	4	77	19	0.29	1.91	0.81	0.73	0.36	2.39	1.89	1.99	0.43	2.46	1.89	1.98	0	4	67	20	9	[illegible]
1006-1	FWD	38	56	52	140	1	99	0	1	51	48	0	51	49	0.23	1.81	0.71	0.68	0.80	2.31	1.56	1.52	1.31	2.40	2.20	2.24	0	5	72	21	1	[illegible]
	AFT	38	56	52	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	[illegible]
1006-2	FWD	32	64	36	147	2	98	0	30	41	29	11	59	30	0.21	1.14	0.53	0.50	0.56	2.28	1.49	1.50	1.30	2.33	2.11	2.16	2	21	72	4	0	[illegible]
	AFT	32	64	36	147	2	98	0	35	40	25	21	54	25	0.26	1.34	0.62	0.58	0.65	2.19	1.48	1.47	1.56	2.50	2.12	2.16	0	11	77	9	3	[illegible]
1007-1	FWD	12	49	80	103	0	5	95	1	20	79	0	25	75	0.26	1.22	0.52	0.47	0.62	2.20	1.44	1.40	1.22	1.38	2.17	2.21	20	8	67	5	[illegible]	[illegible]
	AFT	11	49	48	102	0	100	0	10	42	48	6	77	17	0.26	1.78	0.58	0.55	0.78	2.31	1.52	1.52	1.54	2.39	2.20	2.24	1	13	80	5	1	[illegible]
1007-2	FWD	32	57	43	112	0	25	75	3	28	69	0	26	74	0.26	1.23	0.51	0.48	0.70	2.32	1.44	1.40	0.90	2.37	2.18	2.20	18	9	71	2	0	[illegible]
	AFT	31	57	38	111	0	100	-0	19	41	40	3	88	9	0.24	1.56	0.60	0.56	0.44	2.27	1.80	1.82	0.84	2.41	2.17	2.25	1	16	74	9	1	[illegible]
1008-1	FWD	30	51	50	102	0	100	0	4	32	64	1	35	64	0.32	1.48	0.66	0.62	0.78	2.24	1.55	1.54	1.48	2.35	2.21	2.24	2	2	88	8	1	[illegible]
	AFT	30	51	50	102	0	100	0	4	27	69	0	34	66	0.32	1.57	0.71	0.69	0.81	2.21	1.57	1.58	1.08	2.37	2.21	2.24	1	1	84	15	0	[illegible]
1008-2	FWD	29	58	42	105	0	100	0	3	31	66	0	27	73	0.14	1.81	0.78	0.72	0.57	2.10	1.54	1.55	1.09	2.40	2.20	2.25	2	1	73	23	1	[illegible]
	AFT	29	56	42	105	0	100	0	3	30	67	0	29	71	0.32	1.64	0.77	0.76	0.73	2.10	1.55	1.55	1.10	2.35	2.18	2.22	1	3	69	27	0	[illegible]
1009-1	FWD	12	49	42	132	0	100	0	1	26	73	0	34	66	0.32	1.40	0.65	0.62	0.85	2.41	1.63	1.52	0.83	2.51	2.30	2.36	5	4	77	14	[illegible]	[illegible]
	AFT	12	49	42	132	0	100	0	0	40	60	0	45	55	0.28	1.42	0.70	0.64	0.92	2.28	1.58	1.55	0.63	2.51	2.32	2.36	1	5	73	20	[illegible]	[illegible]
1009-2	FWD	23	58	35	138	2	98	-0	3	21	76	0	40	60	0.29	1.35	0.69	0.64	0.73	2.37	1.53	1.53	1.06	2.48	2.28	2.30	4	[illegible]	78	17	[illegible]	[illegible]
	AFT	25	58	35	138	2	98	0	4	47	49	0	56	44	0.20	1.47	0.69	0.64	0.44	2.42	1.61	1.60	1.61	2.50	2.31	2.34	1	[illegible]	77	10	[illegible]	[illegible]
1010-1	FWD	18	47	46	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	2.30	2.20	18	3	75	4	[illegible]	[illegible]
	AFT	18	47	45	83	0	21	79	0	19	81	0	16	84	0.27	1.28	0.57	0.52	0.78	2.42	1.45	1.41	0.96	2.46	2.20	2.28	9	4	81	[illegible]	[illegible]	[illegible]
1010-2	FWD	15	58	38	78	0	50	50	0	16	84	0	13	87	0.26	1.51	0.55	0.50	0.52	2.36	1.41	1.39	1.00	2.49	2.14	2.20	22	4	67	[illegible]	[illegible]	[illegible]
	AFT	15	52	38	78	0	50	50	0	23	77	0	25	75	0.20	1.40	0.50	0.56	0.80	2.40	1.47	1.45	1.29	2.48	2.18	2.22	13	5	78	8	[illegible]	[illegible]
[illegible]	FWD	2	[illegible]	33	86	[illegible]	64	36	2	23	75	2	23	75	0.18	0.99	0.50	0.48	0.56	2.36	1.46	1.43	0.78	2.40	[illegible]	[illegible]	17	[illegible]	70	[illegible]	[illegible]	[illegible]
	AFT	2	[illegible]	33	[illegible]	[illegible]	67	33	3	47	50	0	37	63	0.24	1.46	[illegible]	[illegible]	0.50	2.39	1.37	1.35	0.74	2.37	[illegible]	[illegible]	[illegible]	7	81	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	45	36	71	0	64	36	7	66	37	0	65	35	0.23	1.30	[illegible]	0.53	0.54	2.36	1.40	1.42	0.80	[illegible]	[illegible]	2.00	[illegible]	[illegible]	66	[illegible]	[illegible]	[illegible]
	AFT	0	45	36	71	0	64	36	0	33	67	0	49	[illegible]	0.26	1.40	[illegible]	[illegible]	0.47	2.27	1.44	1.40	0.72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	74	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	57	34	106	0	77	23	[illegible]	44	50	0	45	[illegible]	0.30	1.20	[illegible]	[illegible]	0.73	2.32	1.49	1.42	0.67	[illegible]	[illegible]	2.00	[illegible]	[illegible]	80	[illegible]	[illegible]	[illegible]
	AFT	0	57	34	106	0	77	[illegible]	3	13	82	0	10	90	0.30	1.27	[illegible]	[illegible]	[illegible]	2.33	[illegible]	1.58	0.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	72	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	[illegible]	[illegible]	83	[illegible]	[illegible]	[illegible]	0	42	[illegible]	0	[illegible]	[illegible]	0.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.21	2.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	7	91	0	33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	[illegible]	15	71	0	21	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.36	1.40	1.42	[illegible]	[illegible]	[illegible]	2.08	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	[illegible]	14	[illegible]	[illegible]	31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.32	1.30	1.36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.34	[illegible]	[illegible]	[illegible]	[illegible]	1.84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.44	1.46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.49	1.50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.34	[illegible]	[illegible]	1.36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.36	[illegible]	1.37	1.36	0.38	2.40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.70	2.48	1.67	1.68	[illegible]	[illegible]	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	[illegible]	82	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.73	1.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TOP SECRET C/[redacted]

EXPOSURE - PROCESSING SUMMARY

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
1019-1	FWD	24	70	24	152	0	21	73	22	32	46	4	56	40	0.26	1.92	0.71	0.61	0.60	2.15	1.45	1.50	0.84	2.26	1.94	2.00	4	7	64	17	7	45
	AFT	23	70	21	152	0	92	8	26	55	19	3	87	10	0.13	1.70	0.66	0.60	0.39	2.26	1.46	1.45	0.80	2.30	1.96	2.02	1	13	70	14	3	46
1020-1	FWD	30	75	19	156	0	19	81	13	48	39	1	58	41	0.23	1.30	0.55	0.52	0.80	2.28	1.57	1.54	1.40	2.38	2.10	2.16	1	18	78	4	0	42
	AFT	29	75	17	156	0	64	36	15	56	29	0	74	26	0.23	1.20	0.59	0.54	0.70	2.20	1.47	1.46	1.22	2.29	2.04	2.10	0	18	76	8	0	42
1020-2	FWD	47	69	18	35	INSUFFICIENT DATA																										
	AFT	46	68	17	33																											
1021-1	FWD	15	66	-148	-23	0	68	32	14	39	47	1	52	47	0.25	1.90	0.64	0.58	0.74	2.18	1.50	1.60	0.97	2.36	1.92	2.00	5	9	72	11	3	[illegible]
	AFT	14	66	-147	-25	0	99	1	15	38	47	0	57	43	0.17	1.70	0.65	0.57	0.54	2.24	1.45	1.42	0.85	2.30	1.90	2.00	5	5	75	12	[illegible]	[illegible]
1021-2	FWD	13	52	-133	-41	0	29	71	13	41	46	0	57	43	0.18	1.52	0.54	0.50	0.60	2.36	1.36	1.34	1.05	2.23	1.82	1.85	14	13	68	6	[illegible]	[illegible]
	AFT	13	52	-133	-41	0	100	0	53	25	22	0	50	50	0.33	1.38	0.76	0.76	0.70	2.30	1.52	1.50	1.30	2.36	1.34	1.94	6	0	71	21	[illegible]	[illegible]
1022-1	FWD	28	67	30	160	0	36	64	8	36	56	0	42	58	0.18	1.49	0.45	0.40	0.54	2.42	1.57	1.60	1.32	2.55	2.24	2.29	30	19	47	3	[illegible]	[illegible]
	AFT	27	67	26	150	0	89	11	7	42	51	0	53	47	0.24	1.48	0.57	0.50	0.52	2.30	1.63	1.68	1.30	2.47	2.21	2.25	4	15	71	[illegible]	0	[illegible]
1022-2	FWD	29	74	21	152	0	8	92	1	37	62	0	43	57	0.20	0.99	0.39	0.35	0.62	2.66	1.45	1.45	1.16	2.46	2.23	2.28	35	28	35	1	[illegible]	[illegible]
	AFT	28	74	19	152	0	100	0	10	44	46	0	53	47	0.21	1.40	0.48	0.44	0.80	2.32	1.81	1.52	1.45	2.49	2.25	2.28	10	25	61	4	0	[illegible]
1023-1	FWD	22	82	8	164	0	5	95	19	54	27	0	72	28	0.15	1.26	0.38	0.35	0.43	2.41	1.22	1.22	0.87	2.41	2.06	2.11	20	44	34	2	0	[illegible]
	AFT	20	81	5	163	0	11	89	0	39	61	0	42	58	0.20	1.40	0.53	0.48	0.41	2.21	1.31	1.37	0.94	2.45	2.15	2.20	13	14	65	7	[illegible]	[illegible]
1023-2	FWD	29	81	-13	177	0	7	93	0	19	81	0	18	82	0.22	1.38	0.48	0.42	0.41	2.03	1.18	1.22	0.90	2.41	2.03	2.11	35	-2	60	2	[illegible]	[illegible]
	AFT	28	80	-13	178	0	3	97	0	34	66	0	28	72	0.22	1.60	0.52	0.48	0.44	2.31	1.24	1.24	1.08	2.46	2.10	2.17	13	10	73	4	0	[illegible]
1024-1	FWD	10	61	24	137	0	0	100	0	57	43	0	72	28	0.17	1.74	0.35	0.32	0.40	2.28	1.22	1.15	0.58	2.34	1.97	2.05	27	49	23	[illegible]	[illegible]	[illegible]
	AFT	9	61	21	136	0	0	100	0	28	72	0	82	18	0.20	1.22	0.40	0.37	0.48	2.32	1.30	1.24	0.94	2.40	[illegible]	2.06	[illegible]	46	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	9	79	-11	151	0	0	100	12	19	69	0	25	75	0.24	1.17	0.46	0.42	0.35	2.40	1.30	1.27	1.01	2.45	1.91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	8	79	9	151	0	0	100	1	22	77	0	66	34	0.20	1.39	0.47	0.40	0.29	2.26	1.31	1.32	0.90	2.40	1.89	[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	1	70	-123	-18	0	68	32	10	41	49	0	56	44	0.18	1.42	0.43	0.37	0.29	2.36	1.37	1.39	0.42	2.35	1.81	1.92	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	70	-121	-19	0	72	28	8	49	43	0	61	39	0.18	1.69	0.49	0.42	0.26	2.26	1.33	1.38	0.23	2.32	[illegible]	1.80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	56	-124	-31	0	71	29	3	42	55	0	56	44	0.18	1.22	0.45	0.38	0.26	2.24	1.32	1.33	0.63	2.29	1.79	1.89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	56	-122	-33	0	73	27	3	45	52	0	51	49	0.21	1.32	0.53	0.48	0.39	2.18	1.31	1.35	0.48	[illegible]	1.71	1.79	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	57	23	135	0	4	96	0	21	79	0	24	76	0.20	1.26	0.38	0.33	0.31	2.27	1.22	1.22	0.40	[illegible]	1.77	1.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	57	21	135	0	5	95	0	4	96	0	38	62	0.20	1.16	0.39	0.34	0.24	2.36	1.29	1.30	0.37	2.30	1.76	1.86	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	1	72	6	64	0	0	100	1	5	94	0	5	95	0.19	1.32	0.36	0.30	0.23	2.17	1.05	1.02	0.48	2.26	[illegible]	1.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	57	13	78	0	0	100	2	5	93	0	15	85	0.21	1.35	0.39	0.32	0.27	[illegible]	1.08	1.03	0.30	2.26	1.81	1.70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1027-1	FWD	3	63	26	110	0	0	100	0	0	100	0	3	97	0.26	1.34	[illegible]	0.46	0.50	[illegible]	1.45	1.52	0.71	[illegible]	[illegible]	2.10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	2	63	26	108	0	0	100	0	21	79	0	20	80	0.26	1.34	[illegible]	0.53	0.34	2.30	1.46	1.46	0.40	[illegible]	1.96	2.06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	3	73	15	135	0	4	96	0	4	96	0	11	89	0.22	1.08	0.37	0.32	0.40	2.32	1.42	1.42	0.62	2.30	1.77	1.83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	1	73	14	133	0	5	95	0	16	84	0	11	89	0.20	1.01	0.44	0.38	0.30	2.23	1.35	1.40	0.69	[illegible]	1.72	1.77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	2	81	5	48	0	3	97	1	9	90	0	15	85	0.23	0.98	[illegible]	0.35	0.37	2.20	1.36	1.36	0.30	[illegible]	1.72	1.77	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	1	80	5	43	0	10	90	0	6	94	0	6	94	0.22	1.40	[illegible]	0.40	[illegible]	2.21	1.40	1.43	0.30	[illegible]	[illegible]	1.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	3	83	18	130	0	8	92	1	16	83	0	14	86	0.25	1.80	0.64	[illegible]	0.50	2.30	1.72	1.78	0.48	2.30	2.03	2.08	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	2	52	16	128	0	20	80	0	21	79	0	25	75	0.16	1.75	[illegible]	0.48	0.20	2.25	1.82	1.65	0.36	2.40	1.91	1.95	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	0	80	4	146	0	4	96	2	28	70	0	20	80	0.22	1.68	[illegible]	0.45	0.31	[illegible]	1.92	1.89	0.45	2.30	[illegible]	2.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	0	80	3	145	0	10	90	2	24	74	0	25	75	0.20	1.88	[illegible]	0.49	0.30	2.34	1.82	1.80	0.34	2.40	[illegible]	1.83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	[illegible]	83	27	130	0	50	48	3	32	65	1	52	47	0.30	1.86	0.81	0.75	0.61	[illegible]	1.78	1.79	0.78	[illegible]	2.01	2.08	[illegible]	[illegible]	61	[illegible]	[illegible]	[illegible]
	AFT	4	65	22	129	0	53	47	0	46	54	0	41	[illegible]	0.25	1.84	[illegible]	0.69	0.66	2.30	1.69	1.74	1.00	2.40	1.97	[illegible]	[illegible]	[illegible]	64	[illegible]	[illegible]	[illegible]
[illegible]	FWD	3	78	10	158	[illegible]	42	57	0	53	47	0	70	30	0.24	1.83	0.64	0.67	0.78	2.36	1.69	1.70	1.47	2.30	[illegible]	2.05	[illegible]	[illegible]	71	[illegible]	[illegible]	[illegible]
	AFT	2	78	7	157	[illegible]	23	76	0	28	72	0	30	70	0.34	1.94	[illegible]	0.77	0.93	[illegible]	1.79	1.82	0.63	[illegible]	2.08	2.10	[illegible]	[illegible]	66	[illegible]	[illegible]	[illegible]
[illegible]	FWD	17	70	20	140	0	99	1	18	34	48	0	51	[illegible]	0.25	1.67	[illegible]	0.43	0.72	[illegible]	1.74	1.90	1.86	[illegible]	2.10	2.19	[illegible]	[illegible]	70	[illegible]	[illegible]	[illegible]
	AFT	17	70	19	140	0	14	86	15	43	42	0	47	[illegible]	0.24	1.66	[illegible]	0.62	0.83	[illegible]	1.65	1.70	1.15	[illegible]	2.00	2.05	[illegible]	[illegible]	70	[illegible]	[illegible]	[illegible]
	FWD	14	82	6	67	0	99	[illegible]	[illegible]	53	39	0	50	[illegible]	0.25	[illegible]	[illegible]	0.72	0.46	[illegible]	1.73	1.82	1.40	[illegible]	2.09	2.07	[illegible]	[illegible]	84	[illegible]	[illegible]	[illegible]
	AFT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	FWD	10	47	46	135	[illegible]	[illegible]	11	[illegible]	3	87	10	2	[illegible]	[illegible]	1.10	[illegible]	0.80	0.76	[illegible]	[illegible]	1.30	1.86	[illegible]	[illegible]	2.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFT	11	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.20	[illegible]	0.64	0.84	[illegible]	[illegible]	[illegible]	0.84	[illegible]	[illegible]	2.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.70	0.34	[illegible]	[illegible]	2.21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SECTION A

APPENDIX

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

MISSION * 1033-1 * INSTRUMENT * FRWD * 9/25/66 * DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0	0	0	0	0	0	0	0	0	0	0	0
0.34	0	0	0	0	0	0	0	0	0	0	0	0
0.35	0	0	0	0	0	0	0	0	0	0	0	0
0.36	0	0	0	0	0	0	0	0	0	0	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	0	0	0	0	0	0	0	0	0
0.39	0	0	0	0	0	0	0	0	0	0	0	0
0.40	0	0	0	0	0	0	0	0	0	0	0	0
0.41	0	0	0	0	0	0	0	0	0	0	0	0
0.42	0	0	0	0	0	0	0	0	0	0	0	0
0.43	0	0	0	0	0	0	0	0	0	0	0	0
0.44	0	0	0	0	0	0	0	0	0	0	0	0
0.45	0	0	0	0	0	0	0	0	0	0	0	0
0.46	0	0	0	0	0	0	0	0	0	0	0	0
0.47	0	0	0	0	0	0	0	0	0	0	0	0
0.48	0	0	0	0	0	0	0	0	0	0	0	0
0.49	0	0	0	0	0	0	0	0	0	0	0	0
0.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	2	0	0	138	0	0	140	0	0

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

TABLE A-1

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

MISSION * 1033-1 * INSTRUMENT * FRWD 8/25/66 DENSITY FREQ. DISTR.

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	6	0	0	6	0	0
0.52	0	0	0	0	0	0	12	0	0	12	0	0
0.53	0	0	0	0	0	0	10	0	0	11	0	0
0.54	0	0	0	0	0	0	8	0	0	8	0	0
0.55	0	0	0	0	0	0	6	0	0	6	0	0
0.56	0	0	0	0	0	0	4	0	0	4	0	0
0.57	0	0	0	0	0	0	7	0	0	7	0	0
0.58	0	0	0	0	0	0	5	0	0	5	0	0
0.59	0	0	0	0	0	0	5	0	0	5	0	0
0.60	0	0	0	0	0	0	5	0	0	5	0	0
0.61	0	0	0	0	0	0	7	0	0	7	0	0
0.62	0	0	0	0	0	0	4	0	0	4	0	0
0.63	0	0	0	0	0	0	1	0	0	1	0	0
0.64	0	0	0	0	0	0	4	0	0	4	0	0
0.65	0	0	0	0	0	0	3	0	0	3	0	0
0.66	0	0	0	0	0	0	4	0	0	4	0	0
0.67	0	0	0	0	0	0	3	0	0	3	0	0
0.68	0	0	0	0	0	0	1	0	0	1	0	0
0.69	0	0	0	0	0	0	5	0	0	5	0	0
0.70	0	0	0	0	0	0	2	0	0	2	0	0
0.71	0	0	0	0	0	0	2	0	0	2	0	0
0.72	0	0	0	0	0	0	3	0	0	3	0	0
0.73	0	0	0	0	0	0	1	0	0	1	0	0
0.74	0	0	0	0	0	0	2	0	0	2	0	0
0.75	0	0	0	0	0	0	1	0	0	1	0	0
0.76	0	0	0	0	0	0	2	0	0	2	0	0
0.77	0	0	0	0	0	0	1	0	0	1	0	0
0.78	0	0	0	0	0	0	1	0	0	1	0	0
0.79	0	0	0	0	0	0	1	0	0	1	0	0
0.80	0	0	0	0	0	0	2	0	0	2	0	0
0.81	0	0	0	0	0	0	1	0	0	1	0	0
0.82	0	0	0	0	0	0	1	0	0	1	0	0
0.83	0	0	0	0	0	0	1	0	0	1	0	0
0.84	0	0	0	0	0	0	1	0	0	1	0	0
0.85	0	0	0	0	0	0	1	0	0	1	0	0
0.86	0	0	0	0	0	0	1	0	0	1	0	0
0.87	0	0	0	0	0	0	1	0	0	1	0	0
0.88	0	0	0	0	0	0	1	0	0	1	0	0
0.89	0	0	0	0	0	0	1	0	0	1	0	0
0.90	0	0	0	0	0	0	1	0	0	1	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	0	0	0	1	0	0	1	0	0
0.93	0	0	0	0	0	0	1	0	0	1	0	0
0.94	0	0	0	0	0	0	1	0	0	1	0	0
0.95	0	0	0	0	0	0	1	0	0	1	0	0
0.96	0	0	0	0	0	0	1	0	0	1	0	0
0.97	0	0	0	0	0	0	1	0	0	1	0	0
0.98	0	0	0	0	0	0	1	0	0	1	0	0
0.99	0	0	0	0	0	0	1	0	0	1	0	0
1.00	0	0	0	0	0	0	1	0	0	1	0	0
SUBTOTAL	0	0	0	3	0	0	126	20	0	129	20	0

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

TABLE A-1

MISSION * 1033-1 * INSTRUMENT * FRWD 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	0	0	0	1	5	0	1	5	0
1.03	0	0	0	0	0	0	0	3	0	0	3	0
1.04	0	0	0	0	0	0	0	6	0	0	6	0
1.05	0	0	0	0	0	0	0	1	0	0	1	0
1.06	0	0	0	0	0	0	0	2	0	0	2	0
1.07	0	0	0	0	0	0	0	6	0	0	6	0
1.08	0	0	0	0	0	0	2	0	0	2	0	0
1.09	0	0	0	0	0	0	1	8	0	1	8	0
1.10	0	0	0	0	0	0	0	4	0	0	4	0
1.11	0	0	0	0	0	0	0	3	0	0	3	0
1.12	0	0	0	0	0	0	0	2	0	0	2	0
1.13	0	0	0	0	0	0	0	4	0	0	4	0
1.14	0	0	0	0	0	0	0	0	0	0	0	0
1.15	0	0	0	0	0	0	0	2	0	0	2	0
1.16	0	0	0	0	0	0	0	1	0	0	1	0
1.17	0	0	0	0	0	0	0	4	0	0	4	0
1.18	0	0	0	0	0	0	0	14	0	0	15	0
1.19	0	0	0	0	0	0	0	5	0	0	5	0
1.20	0	0	0	0	1	0	0	3	0	0	4	0
1.21	0	0	0	0	0	0	0	4	0	0	4	0
1.22	0	0	0	0	0	0	0	2	0	0	2	0
1.23	0	0	0	0	0	0	0	4	0	0	4	0
1.24	0	0	0	0	0	0	0	7	1	0	7	1
1.25	0	0	0	0	0	0	0	4	1	0	4	1
1.26	0	0	0	0	0	0	0	2	0	0	2	0
1.27	0	0	0	0	0	0	0	0	0	0	0	0
1.28	0	0	0	0	0	0	0	3	0	0	3	0
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	0	0	0	0	6	0	0	6	0
1.31	0	0	0	0	0	0	0	0	0	0	0	0
1.32	0	0	0	0	0	0	0	1	0	0	1	0
1.33	0	0	0	0	0	0	0	3	0	0	3	0
1.34	0	0	0	0	0	0	0	0	0	0	0	0
1.35	0	0	0	0	0	0	0	1	0	0	1	0
1.36	0	0	0	0	0	0	0	3	0	0	3	0
1.37	0	0	0	0	0	0	0	1	0	0	1	0
1.38	0	0	0	0	0	0	0	0	0	0	0	0
1.39	0	0	0	0	0	0	0	1	0	0	1	0
1.40	0	0	0	0	0	0	0	3	0	0	3	0
1.41	0	0	0	0	0	0	0	1	0	0	1	0
1.42	0	0	0	0	0	0	0	4	0	0	4	0
1.43	0	0	0	0	0	0	0	3	0	0	3	0
1.44	0	0	0	0	0	0	0	2	0	0	2	0
1.45	0	0	0	0	0	0	0	6	1	0	6	1
1.46	0	0	0	0	0	0	0	0	0	0	0	0
1.47	0	0	0	0	0	0	0	1	0	0	1	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	0	0	0	1	0	0	1	0
1.50	0	0	0	0	0	0	0	9	0	0	9	0
SUBTOTAL	0	0	0	0	3	0	5	180	2	5	183	2

MISSION * 1033-1 * INSTRUMENT * FRND; 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM
1.51	0	0	0	0	0	0	0	1	0	0	2	0
1.52	0	0	0	0	0	0	0	2	0	0	2	0
1.53	0	0	0	0	0	0	0	2	0	0	2	0
1.54	0	0	0	0	0	0	0	2	0	0	2	0
1.55	0	0	0	0	0	0	0	2	0	0	2	0
1.56	0	0	0	0	0	0	0	2	0	0	2	0
1.57	0	0	0	0	0	0	0	2	0	0	2	0
1.58	0	0	0	0	0	0	0	2	0	0	2	0
1.59	0	0	0	0	0	0	0	2	0	0	2	0
1.60	0	0	0	0	0	0	0	2	0	0	2	0
1.61	0	0	0	0	0	0	0	2	0	0	2	0
1.62	0	0	0	0	0	0	0	2	0	0	2	0
1.63	0	0	0	0	0	0	0	2	0	0	2	0
1.64	0	0	0	0	0	0	0	2	0	0	2	0
1.65	0	0	0	0	0	0	0	2	0	0	2	0
1.66	0	0	0	0	0	0	0	2	0	0	2	0
1.67	0	0	0	0	0	0	0	2	0	0	2	0
1.68	0	0	0	0	0	0	0	2	0	0	2	0
1.69	0	0	0	0	0	0	0	2	0	0	2	0
1.70	0	0	0	0	0	0	0	2	0	0	2	0
1.71	0	0	0	0	0	0	0	2	0	0	2	0
1.72	0	0	0	0	0	0	0	2	0	0	2	0
1.73	0	0	0	0	0	0	0	2	0	0	2	0
1.74	0	0	0	0	0	0	0	2	0	0	2	0
1.75	0	0	0	0	0	0	0	2	0	0	2	0
1.76	0	0	0	0	0	0	0	2	0	0	2	0
1.77	0	0	0	0	0	0	0	2	0	0	2	0
1.78	0	0	0	0	0	0	0	2	0	0	2	0
1.79	0	0	0	0	0	0	0	2	0	0	2	0
1.80	0	0	0	0	0	0	0	2	0	0	2	0
1.81	0	0	0	0	0	0	0	2	0	0	2	0
1.82	0	0	0	0	0	0	0	2	0	0	2	0
1.83	0	0	0	0	0	0	0	2	0	0	2	0
1.84	0	0	0	0	0	0	0	2	0	0	2	0
1.85	0	0	0	0	0	0	0	2	0	0	2	0
1.86	0	0	0	0	0	0	0	2	0	0	2	0
1.87	0	0	0	0	0	0	0	2	0	0	2	0
1.88	0	0	0	0	0	0	0	2	0	0	2	0
1.89	0	0	0	0	0	0	0	2	0	0	2	0
1.90	0	0	0	0	0	0	0	2	0	0	2	0
1.91	0	0	0	0	0	0	0	2	0	0	2	0
1.92	0	0	0	0	0	0	0	2	0	0	2	0
1.93	0	0	0	0	0	0	0	2	0	0	2	0
1.94	0	0	0	0	0	0	0	2	0	0	2	0
1.95	0	0	0	0	0	0	0	2	0	0	2	0
1.96	0	0	0	0	0	0	0	2	0	0	2	0
1.97	0	0	0	0	0	0	0	2	0	0	2	0
1.98	0	0	0	0	0	0	0	2	0	0	2	0
1.99	0	0	0	0	0	0	0	2	0	0	2	0
2.00	0	0	0	0	0	0	0	2	0	0	2	0
SUBTOTAL	0	0	0	0	2	0	0	58	44	0	60	44

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

MISSION * 1033-1 * INSTRUMENT * FRVD * 8735766 DENSITY FREQUENCY

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FOCUS MIN	FOCUS MAX	FOCUS LIM	AGC MIN	AGC MAX	AGC LIM
2.01	0	0	0	0	0	0	0	0	0	0	0	0
2.02	0	0	0	0	0	0	0	0	3	0	0	3
2.03	0	0	0	0	0	0	0	0	14	0	0	14
2.04	0	0	0	0	0	0	0	0	43	0	0	43
2.05	0	0	0	0	0	0	0	0	52	0	0	52
2.06	0	0	0	0	0	0	0	0	62	0	0	62
2.07	0	0	0	0	0	0	0	0	121	0	0	121
2.08	0	0	0	0	0	0	0	0	121	0	0	121
2.09	0	0	0	0	0	0	0	0	104	0	0	104
2.10	0	0	0	0	0	0	0	0	104	0	0	104
2.11	0	0	0	0	0	0	0	0	46	0	0	46
2.12	0	0	0	0	0	0	0	0	61	0	0	61
2.13	0	0	0	0	0	0	0	0	134	0	0	134
2.14	0	0	0	0	0	0	0	0	134	0	0	134
2.15	0	0	0	0	0	0	0	0	46	0	0	46
2.16	0	0	0	0	0	0	0	0	57	0	0	57
2.17	0	0	0	0	0	0	0	0	72	0	0	72
2.18	0	0	0	0	0	0	0	0	72	0	0	72
2.19	0	0	0	0	0	0	0	0	143	0	0	143
2.20	0	0	0	0	0	0	0	0	163	0	0	163
2.21	0	0	0	0	0	0	0	0	134	0	0	134
2.22	0	0	0	0	0	0	0	0	67	0	0	67
2.23	0	0	0	0	0	0	0	0	157	0	0	157
2.24	0	0	0	0	0	0	0	0	99	0	0	99
2.25	0	0	0	0	0	0	0	0	95	0	0	95
2.26	0	0	0	0	0	0	0	0	57	0	0	57
2.27	0	0	0	0	0	0	0	0	133	0	0	133
2.28	0	0	0	0	0	0	0	0	94	0	0	94
2.29	0	0	0	0	0	0	0	0	66	0	0	66
2.30	0	0	0	0	0	0	0	0	64	0	0	64
2.31	0	0	0	0	0	0	0	0	43	0	0	43
2.32	0	0	0	0	0	0	0	0	32	0	0	32
2.33	0	0	0	0	0	0	0	0	20	0	0	20
2.34	0	0	0	0	0	0	0	0	12	0	0	12
2.35	0	0	0	0	0	0	0	0	10	0	0	10
2.36	0	0	0	0	0	0	0	0	00	0	0	00
2.37	0	0	0	0	0	0	0	0	00	0	0	00
2.38	0	0	0	0	0	0	0	0	00	0	0	00
2.39	0	0	0	0	0	0	0	0	00	0	0	00
2.40	0	0	0	0	0	0	0	0	00	0	0	00
2.41	0	0	0	0	0	0	0	0	00	0	0	00
2.42	0	0	0	0	0	0	0	0	00	0	0	00
2.43	0	0	0	0	0	0	0	0	00	0	0	00
2.44	0	0	0	0	0	0	0	0	00	0	0	00
2.45	0	0	0	0	0	0	0	0	00	0	0	00
2.46	0	0	0	0	0	0	0	0	00	0	0	00
2.47	0	0	0	0	0	0	0	0	00	0	0	00
2.48	0	0	0	0	0	0	0	0	00	0	0	00
2.49	0	0	0	0	0	0	0	0	00	0	0	00
2.50	0	0	0	0	0	0	0	0	00	0	0	00
SUBTOTAL	0	0	0	0	0	4	0	11	207	0	11	21

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

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

MISSION * 1033-1 * INSTRUMENT * FRWD 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	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	5	5	4	269	269	253	274	274	257

MISSION 1033-1 INSTR - FRWD 8/25/66 PROCESSING AND EXPOSURE ANALYS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	5	0 PC	40 PC	60 PC	0 PC	0 PC
FULL	269	11 PC	0 PC	86 PC	3 PC	0 PC
ALL LEVELS	274	11 PC	1 PC	85 PC	3 PC	0 PC

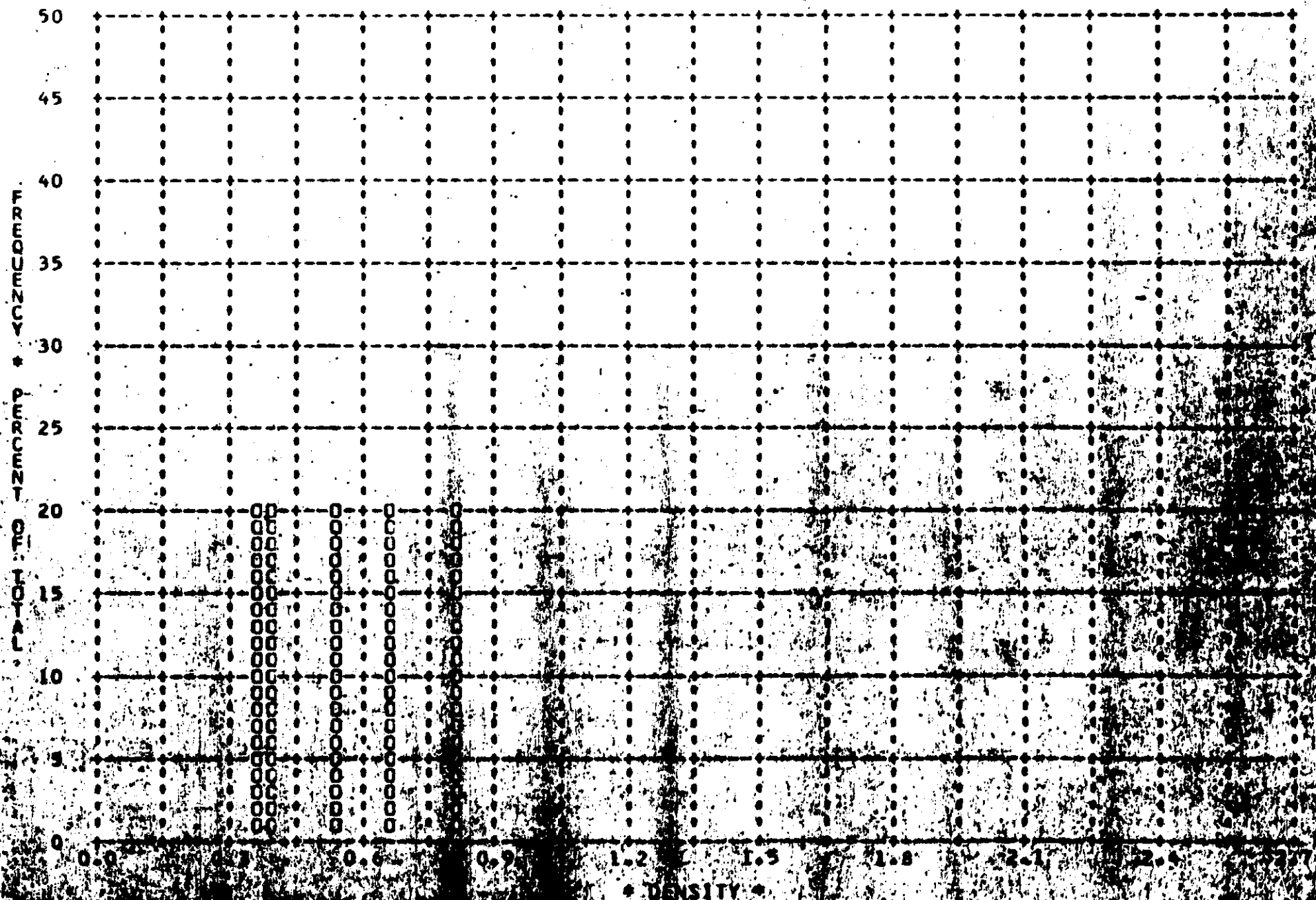
PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND UP
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND UP
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70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

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

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

MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF 0 MIN * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 0.54 * MEDIAN * 0.53 * STD DEV * 0.19 * RANGE * 0.35 TO 0.79 WITH 5 SAMPLES



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

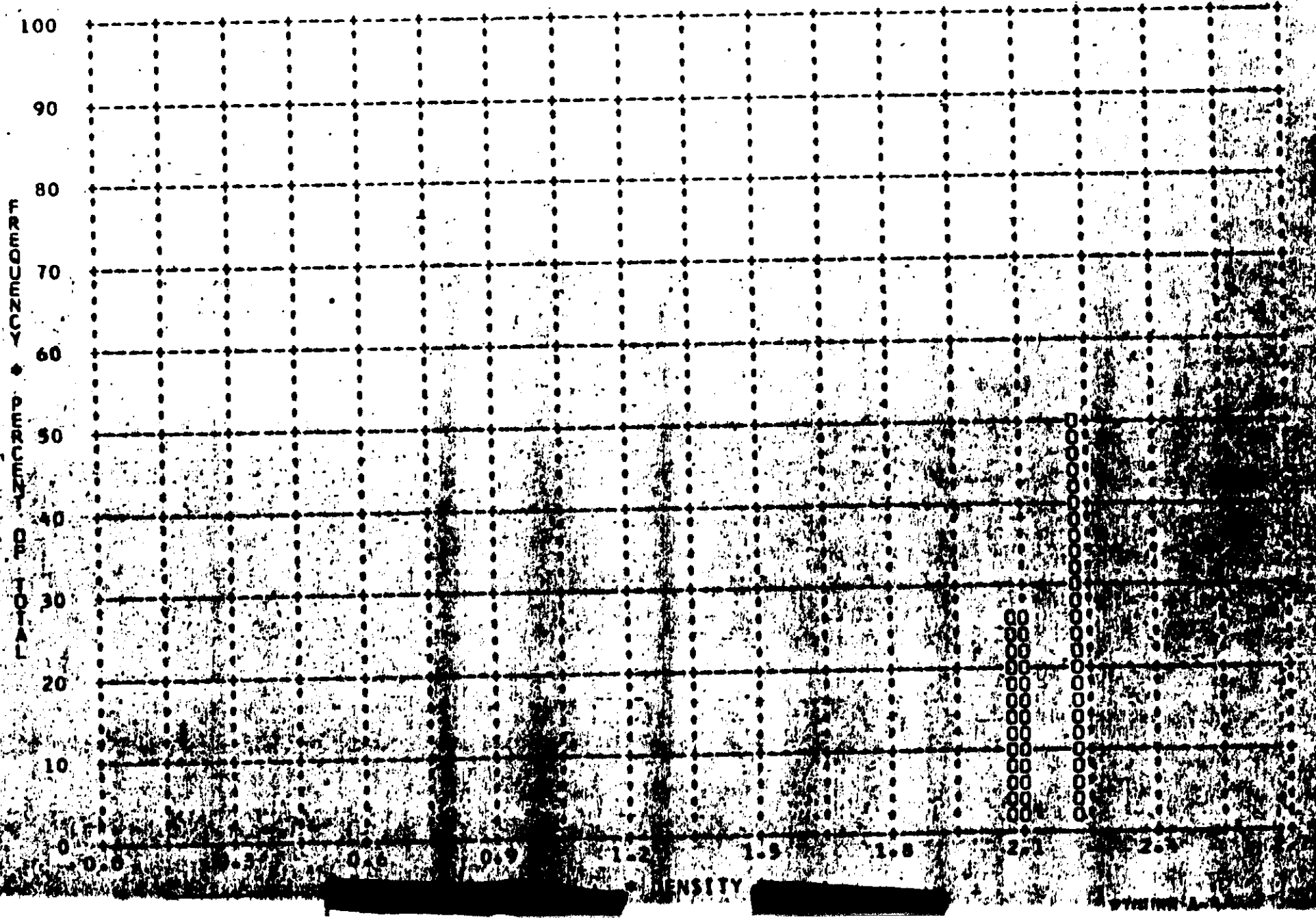
MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 1.38 * MEDIAN * 1.25 * STD DEV * 0.22 * RANGE * 1.20 TO 1.69 WITH 5 SAMPLES

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

MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * INTERMEDIATE

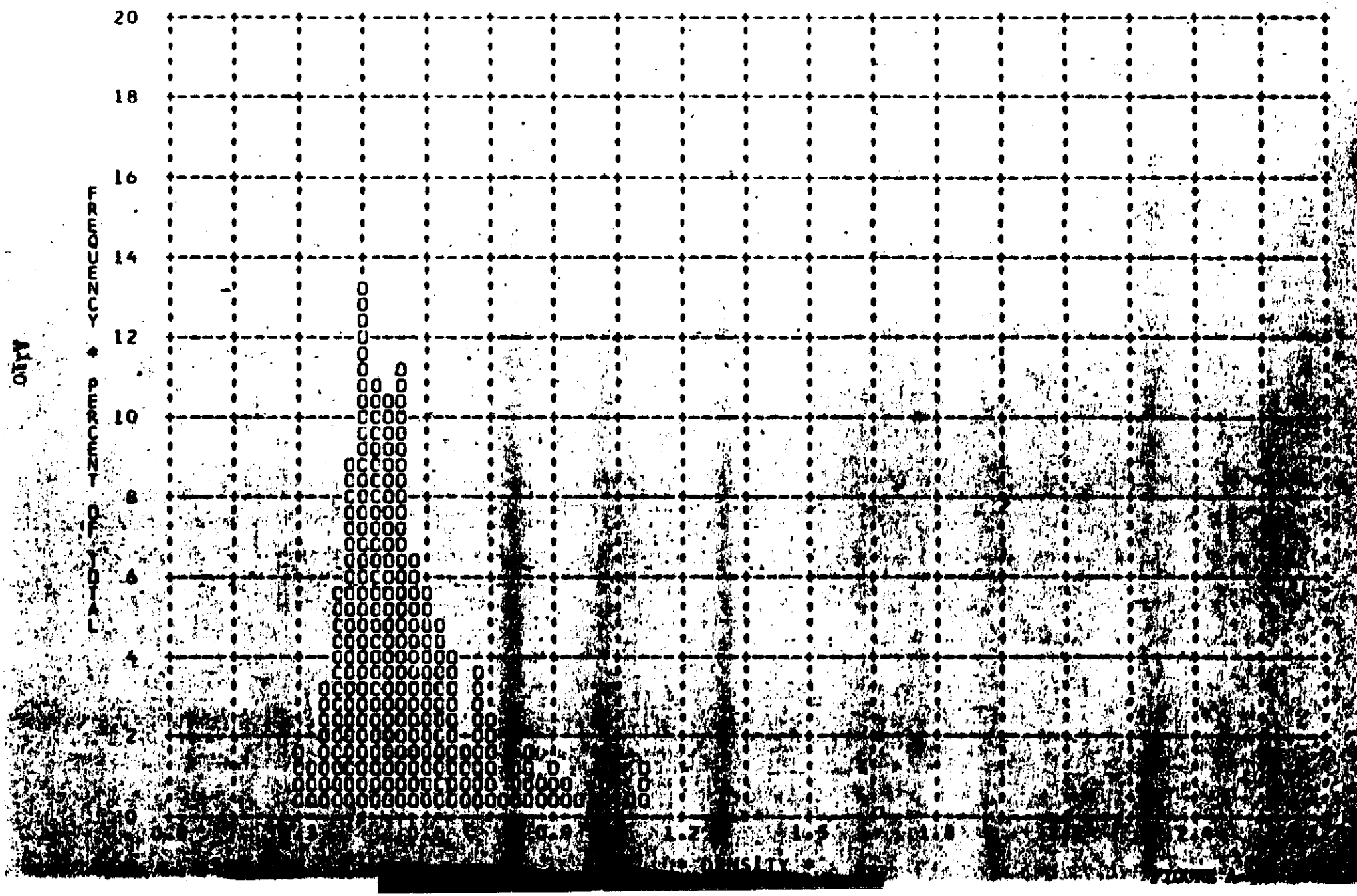
ARITH MEAN * 2.13 * MEDIAN * 2.20 * STD DEV * 0.08 * RANGE * 2.05 TO 2.20 WITH 4 SAMPLES



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

MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * FULL

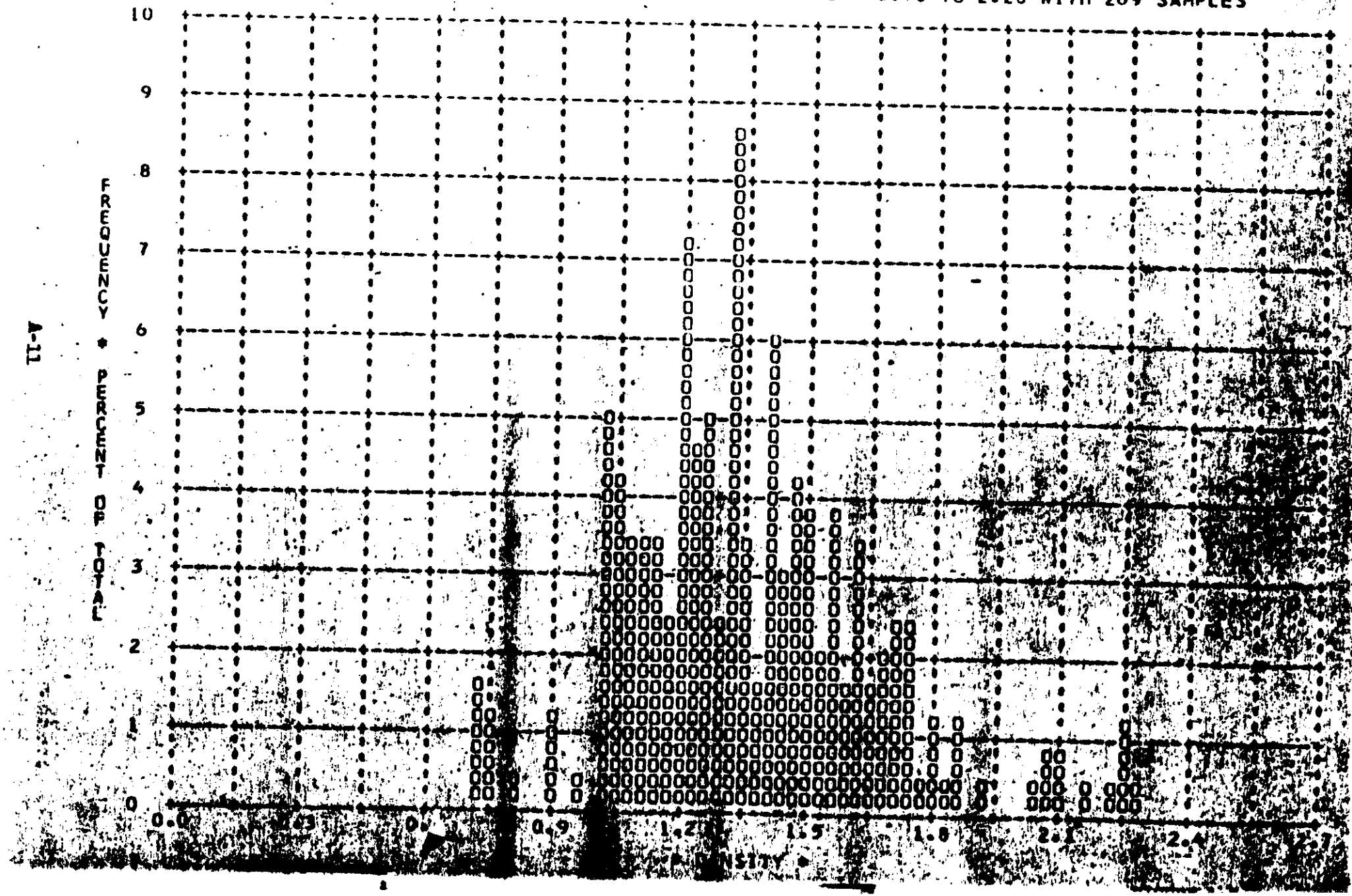
ARITH MEAN * 0.54 * MEDIAN * 0.50 * STD DEV * 0.15 * RANGE * 0.28 TO 1.10 WITH 269 SAMPLES



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

MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * FULL

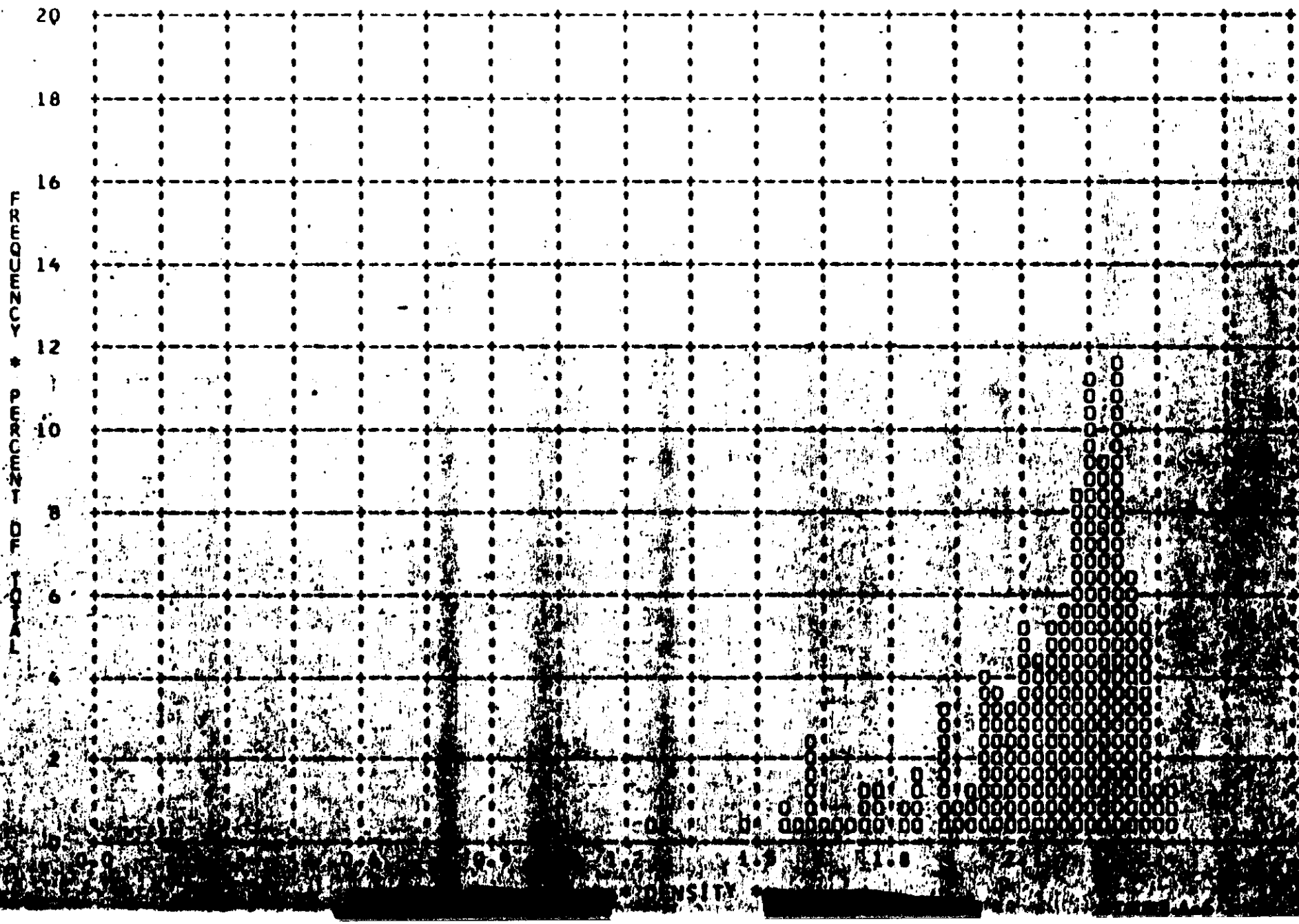
ARITH MEAN * 1.35 * MEDIAN * 1.30 * STD DEV * 0.29 * RANGE * 0.70 TO 2.28 WITH 269 SAMPLES



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

MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * FULL

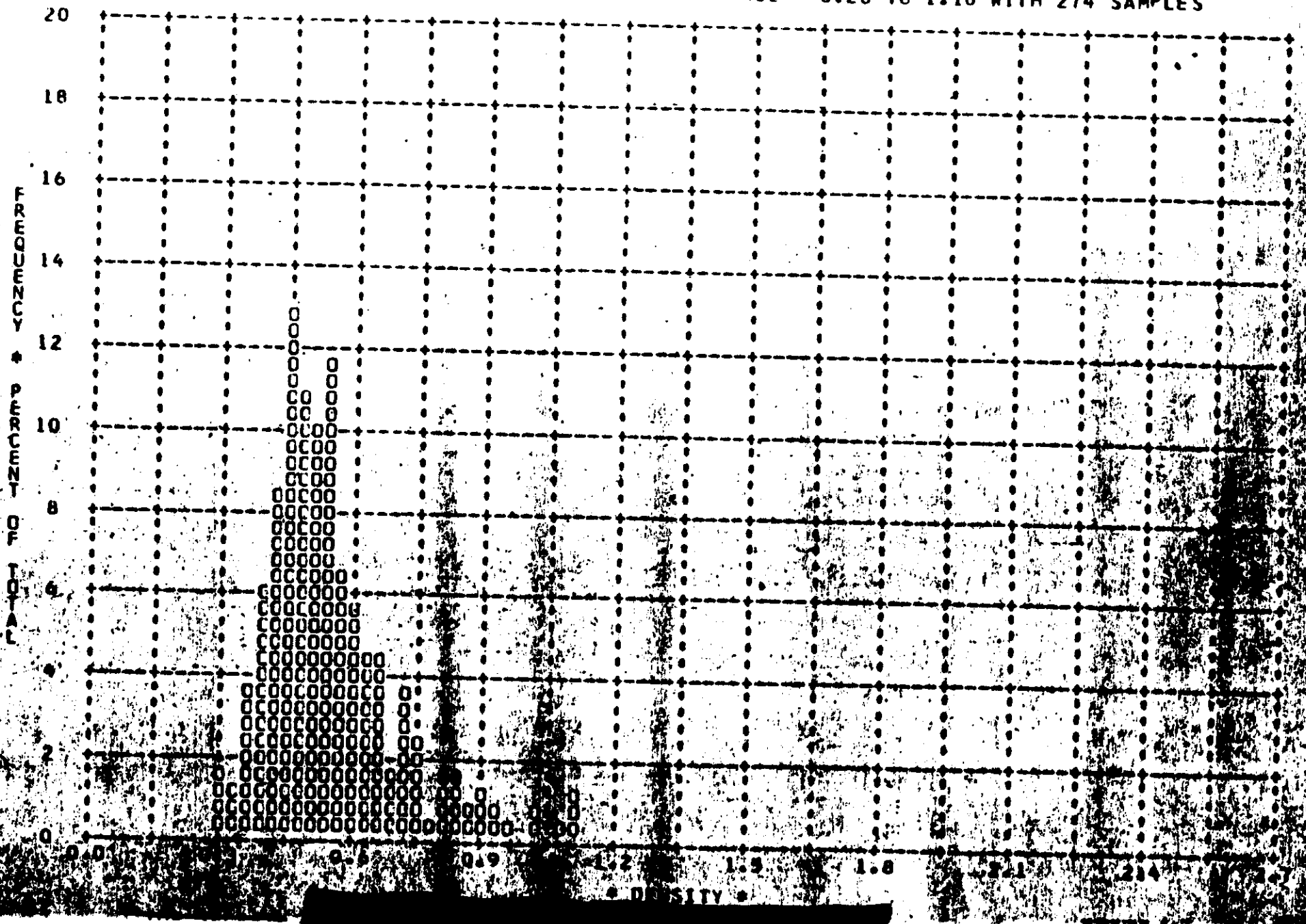
ARITH MEAN * 2.15 * MEDIAN * 2.20 * STD DEV * 0.20 * RANGE * 1.26 TO 2.42 WITH 253 SAMPLES



A-12

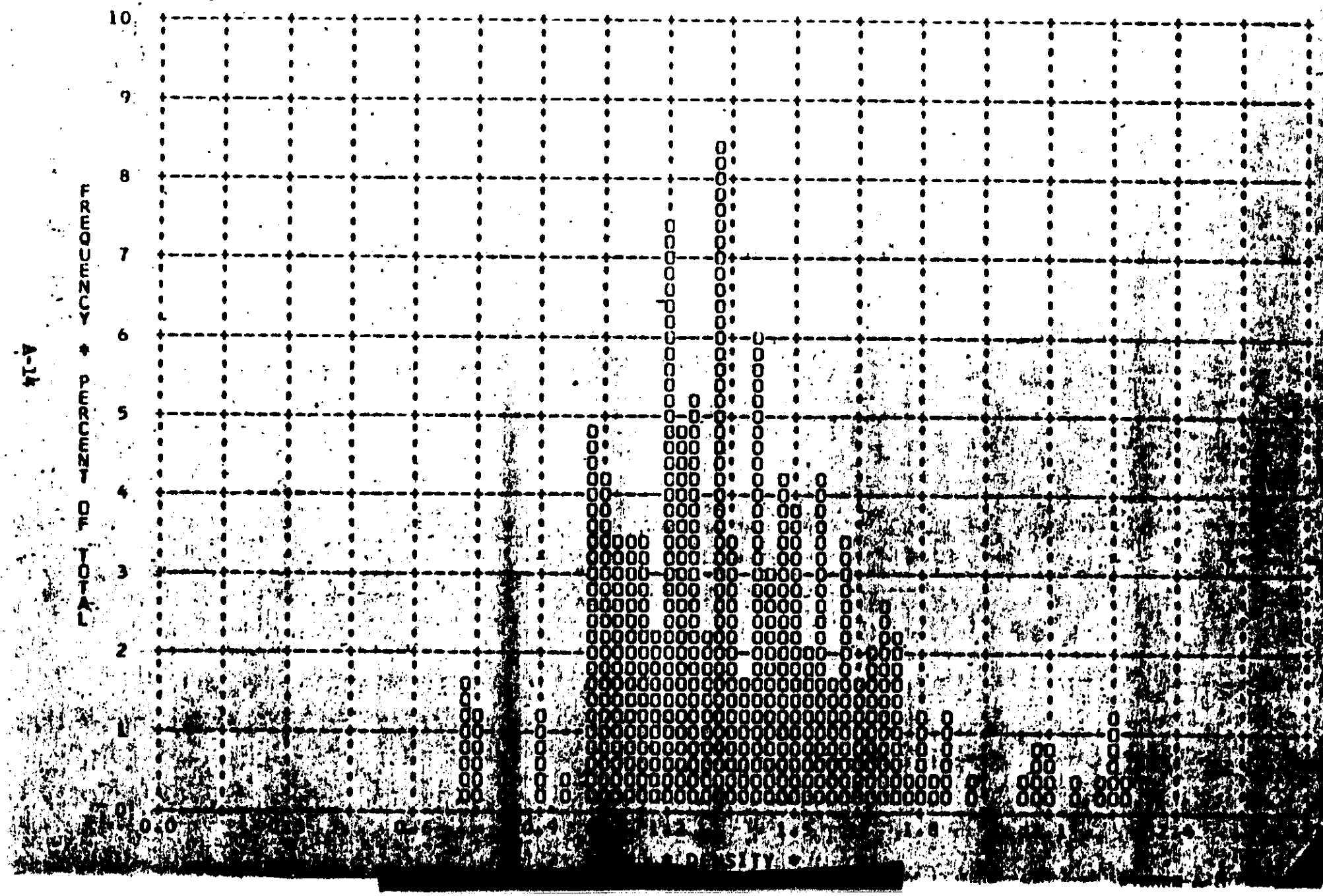
MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF 0 MIN * TERRAIN * PROCESSING * ALL LEVELS

ARITH MEAN * 0.54 * MEDIAN * 0.50 * STD DEV * 0.15 * RANGE * 0.28 TO 1.10 WITH 274 SAMPLES



MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * ALL LEVELS

ARITH MEAN * 1.35 * MEDIAN * 1.30 * STD DEV * 0.29 * RANGE * 0.70 TO 2.28 WITH 274 SAMPLES



MISSION * 1033-1 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * ALL LEVELS

ARITH MEAN * 2.15 * MEDIAN * 2.20 * STD DEV * 0.20 * RANGE * 1.26 TO 2.42 WITH 257 SAMPLES

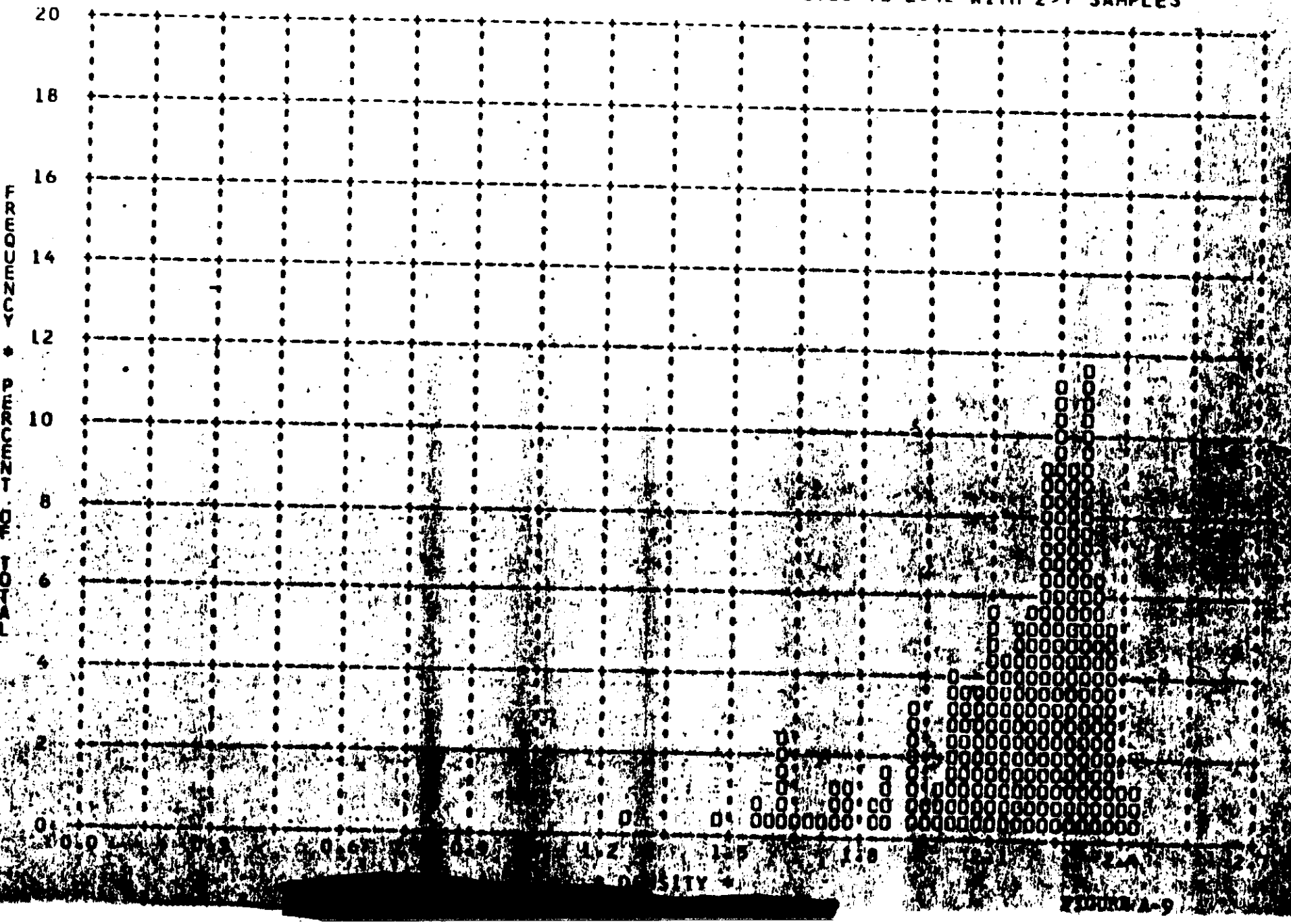


FIGURE A-9

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

MISSION * 1033-1 * INSTRUMENT * AFT 8/25/64 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	1	0	0	1	0	0
0.31	0	0	0	1	0	0	2	0	0	3	0	0
0.32	0	0	0	1	0	0	1	0	0	2	0	0
0.33	0	0	0	0	0	0	1	0	0	1	0	0
0.34	0	0	0	0	0	0	2	0	0	2	0	0
0.35	0	0	0	0	0	0	2	0	0	2	0	0
0.36	0	0	0	0	0	0	4	0	0	4	0	0
0.37	0	0	0	0	0	0	3	0	0	3	0	0
0.38	0	0	0	0	0	0	3	0	0	3	0	0
0.39	0	0	0	0	0	0	3	0	0	3	0	0
0.40	0	0	0	0	0	0	11	0	0	11	0	0
0.41	0	0	0	1	0	0	2	0	0	3	0	0
0.42	0	0	0	0	0	0	6	0	0	6	0	0
0.43	0	0	0	0	0	0	5	0	0	5	0	0
0.44	0	0	0	0	0	0	15	0	0	15	0	0
0.45	0	0	0	0	0	0	9	0	0	9	0	0
0.46	0	0	0	1	0	0	16	0	0	17	0	0
0.47	0	0	0	0	0	0	6	0	0	6	0	0
0.48	0	0	0	1	0	0	9	0	0	10	0	0
0.49	0	0	0	0	0	0	16	0	0	16	0	0
0.50	0	0	0	1	0	0	24	0	0	25	0	0
SUBTOTAL	0	0	0	6	0	0	141	0	0	147	0	0

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

MISSION * 1033-1 * INSTRUMENT * AFT 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	PULL MIN	PULL MAX	PULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	5	0	0	5	0	0
0.52	0	0	0	1	0	0	6	0	0	6	0	0
0.53	0	0	0	0	0	0	3	0	0	3	0	0
0.54	0	0	0	0	0	0	8	0	0	8	0	0
0.55	0	0	0	0	0	0	7	0	0	7	0	0
0.56	0	0	0	0	0	0	15	0	0	15	0	0
0.57	0	0	0	0	0	0	5	0	0	5	0	0
0.58	0	0	0	0	0	0	7	0	0	7	0	0
0.59	0	0	0	0	0	0	5	0	0	5	0	0
0.60	0	0	0	0	0	0	7	0	0	7	0	0
0.61	0	0	0	0	0	0	3	0	0	3	0	0
0.62	0	0	0	0	0	0	5	0	0	5	0	0
0.63	0	0	0	0	0	0	5	0	0	5	0	0
0.64	0	0	0	0	0	0	10	0	0	10	0	0
0.65	0	0	0	0	0	0	2	0	0	2	0	0
0.66	0	0	0	0	0	0	5	0	0	5	0	0
0.67	0	0	0	0	0	0	2	0	0	2	0	0
0.68	0	0	0	0	0	0	2	0	0	2	0	0
0.69	0	0	0	0	0	0	2	0	0	2	0	0
0.70	0	0	0	0	0	0	5	0	0	5	0	0
0.71	0	0	0	0	0	0	1	0	0	1	0	0
0.72	0	0	0	0	0	0	2	0	0	2	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	0	0	0	3	0	0	3	0	0
0.75	0	0	0	1	0	0	1	0	0	1	0	0
0.76	0	0	0	1	0	0	0	0	0	1	0	0
0.77	0	0	0	0	0	0	1	0	0	1	0	0
0.78	0	0	0	1	0	0	0	0	0	1	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	0	0	0	2	0	0	2	0	0
0.81	0	0	0	0	0	0	1	0	0	1	0	0
0.82	0	0	0	1	0	0	0	0	0	1	0	0
0.83	0	0	0	0	0	0	1	0	0	1	0	0
0.84	0	0	0	0	0	0	1	0	0	1	0	0
0.85	0	0	0	0	0	0	3	0	0	3	0	0
0.86	0	0	0	0	0	0	1	0	0	1	0	0
0.87	0	0	0	0	0	0	0	0	0	0	0	0
0.88	0	0	0	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	1	0	0	1	0	0
0.90	0	0	0	0	0	0	2	0	0	2	0	0
0.91	0	0	0	0	0	0	1	0	0	1	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	0	0	0	0	0	0	0	0	0
0.94	0	0	0	0	0	0	0	0	0	0	0	0
0.95	0	0	0	0	0	0	2	0	0	2	0	0
0.96	0	0	0	0	0	0	1	0	0	1	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	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	6	0	0	6	0
SUBTOTAL	0	0	0	2	2	0	120	21	1	122	23	1

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

MISSION * 1033-1 * INSTRUMENT * AFT 8/25/66 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	1	0	0	1	0	0
1.02	0	0	0	0	0	0	0	2	0	0	2	0
1.03	0	0	0	0	0	0	0	1	0	0	1	0
1.04	0	0	0	0	0	0	0	2	0	0	2	0
1.05	0	0	0	0	0	0	0	3	0	0	3	0
1.06	0	0	0	0	0	0	0	1	0	0	1	0
1.07	0	0	0	0	0	0	0	4	0	0	4	0
1.08	0	0	0	0	0	0	0	1	0	0	1	0
1.09	0	0	0	0	0	0	0	1	0	0	1	0
1.10	0	0	0	0	0	0	0	1	0	0	1	0
1.11	0	0	0	0	0	0	1	3	0	1	3	0
1.12	0	0	0	0	0	0	0	2	0	0	2	0
1.13	0	0	0	0	0	0	0	1	0	0	1	0
1.14	0	0	0	0	0	0	0	3	0	0	3	0
1.15	0	0	0	0	0	0	0	1	0	0	1	0
1.16	0	0	0	0	0	0	0	2	0	0	2	0
1.17	0	0	0	0	0	0	0	1	0	0	1	0
1.18	0	0	0	1	0	0	0	1	0	1	1	0
1.19	0	0	0	0	0	0	0	2	0	0	2	0
1.20	0	0	0	0	0	0	0	3	0	0	3	0
1.21	0	0	0	0	0	0	0	1	0	0	1	0
1.22	0	0	0	0	0	0	0	2	0	0	2	0
1.23	0	0	0	0	0	0	0	3	0	0	3	0
1.24	0	0	0	0	0	0	0	2	0	0	2	0
1.25	0	0	0	0	0	0	0	4	0	0	4	0
1.26	0	0	0	0	0	0	0	3	0	0	3	0
1.27	0	0	0	0	0	0	0	1	0	0	1	0
1.28	0	0	0	0	0	0	0	2	0	0	2	0
1.29	0	0	0	0	0	0	0	5	0	0	5	0
1.30	0	0	0	0	0	0	0	3	0	0	3	0
1.31	0	0	0	0	0	0	0	6	0	0	6	0
1.32	0	0	0	1	0	0	0	4	0	1	4	0
1.33	0	0	0	0	0	0	0	1	0	0	1	0
1.34	0	0	0	0	0	0	0	6	0	0	6	0
1.35	0	0	0	0	0	0	0	4	0	0	4	0
1.36	0	0	0	0	0	0	0	1	0	0	1	0
1.37	0	0	0	0	0	0	0	6	0	0	6	0
1.38	0	0	0	0	0	0	0	5	0	0	5	0
1.39	0	0	0	0	0	0	0	7	0	0	7	0
1.40	0	0	0	0	0	0	0	5	0	0	5	0
1.41	0	0	0	0	0	0	1	7	0	1	7	0
1.42	0	0	0	0	0	0	0	6	0	0	6	0
1.43	0	0	0	0	0	0	0	5	0	0	5	0
1.44	0	0	0	0	0	0	0	5	0	0	5	0
1.45	0	0	0	0	0	0	0	2	0	0	2	0
1.46	0	0	0	0	0	0	0	1	0	0	1	0
1.47	0	0	0	0	0	0	0	1	0	0	1	0
1.48	0	0	0	0	0	0	0	1	0	0	1	0
1.49	0	0	0	0	0	0	0	1	0	0	1	0
1.50	0	0	0	0	0	0	0	1	0	0	1	0
SUBTOTAL	0	0	0	0	2	1	3	151	6	3	153	6

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

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

MISSION * 1033-1 * INSTRUMENT * AFT * 8Y25/66 * DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	TOP FULL MIN	TOP FULL MAX	TOP FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	3	0	0	3	0
1.52	0	0	0	0	0	0	0	7	0	0	7	0
1.53	0	0	0	0	0	0	0	4	0	0	4	0
1.54	0	0	0	0	0	0	0	6	0	0	6	0
1.55	0	0	0	0	0	0	0	2	0	0	2	0
1.56	0	0	0	0	0	0	0	3	0	0	3	0
1.57	0	0	0	0	0	0	0	1	0	0	1	0
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	0	0	0	0
1.61	0	0	0	0	0	0	0	1	0	0	1	0
1.62	0	0	0	0	0	0	0	2	0	0	2	0
1.63	0	0	0	0	0	0	0	2	0	0	2	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	0	0	0	0	0
1.68	0	0	0	0	0	0	0	0	0	0	0	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	0	0	0	0	0
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	4	3	0	86	42	0	90	45

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

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

MISSION * 1033-1 * INSTRUMENT * AFT 8/25/66 DENSITY FREQUENCY DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ACC LEVELS MIN	ACC LEVELS MAX	ACC LEVELS LIM
2.01	0	0	0	0	0	0	0	0	0	0	0	0
2.02	0	0	0	0	0	0	0	0	0	0	0	0
2.03	0	0	0	0	0	0	0	0	0	0	0	0
2.04	0	0	0	0	0	0	0	0	0	0	0	0
2.05	0	0	0	0	0	0	0	0	0	0	0	0
2.06	0	0	0	0	0	0	0	0	0	0	0	0
2.07	0	0	0	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	0	0	0	0	0	0	0
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	0	0	0	0	0	0	0	0
2.14	0	0	0	0	0	0	0	0	0	0	0	0
2.15	0	0	0	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	0	0	0	0
2.18	0	0	0	0	0	0	0	0	0	0	0	0
2.19	0	0	0	0	0	0	0	0	0	0	0	0
2.20	0	0	0	0	0	0	0	0	0	0	0	0
2.21	0	0	0	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	0	0	0	0
2.29	0	0	0	0	0	0	0	0	0	0	0	0
2.30	0	0	0	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	10	0	6	200	0	16	210

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

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

MISSION * 1033-1 * INSTRUMENT * AFT 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	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	8	8	14	264	264	249	272	272	263

MISSION 1033-1 INSTR - AFT 8/25/66 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	8	0 PC	25 PC	75 PC	0 PC	0 PC
FULL	264	8 PC	0 PC	90 PC	2 PC	0 PC
ALL LEVELS	272	8 PC	1 PC	90 PC	1 PC	0 PC

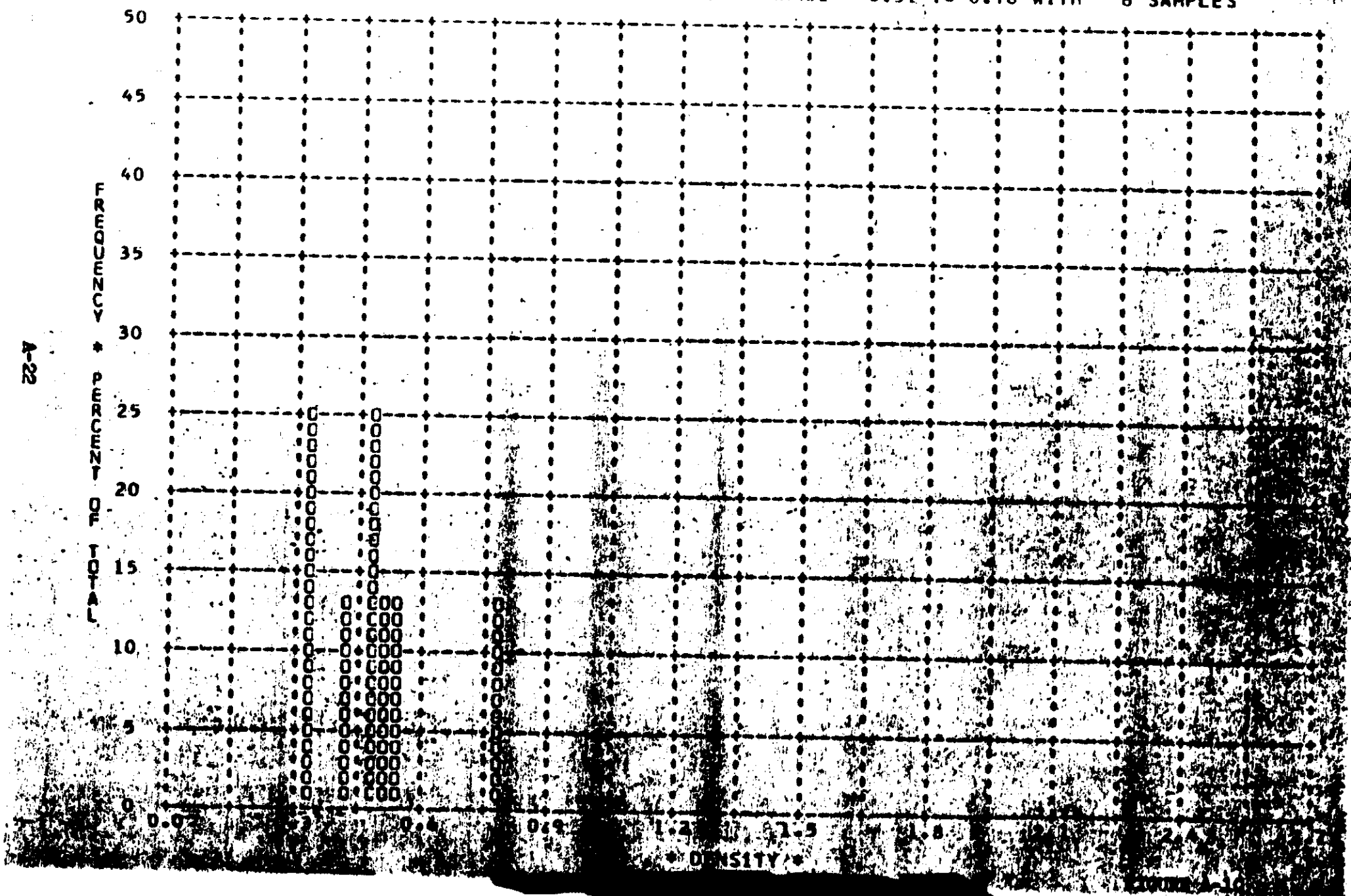
PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND UP
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND UP
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70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

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

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

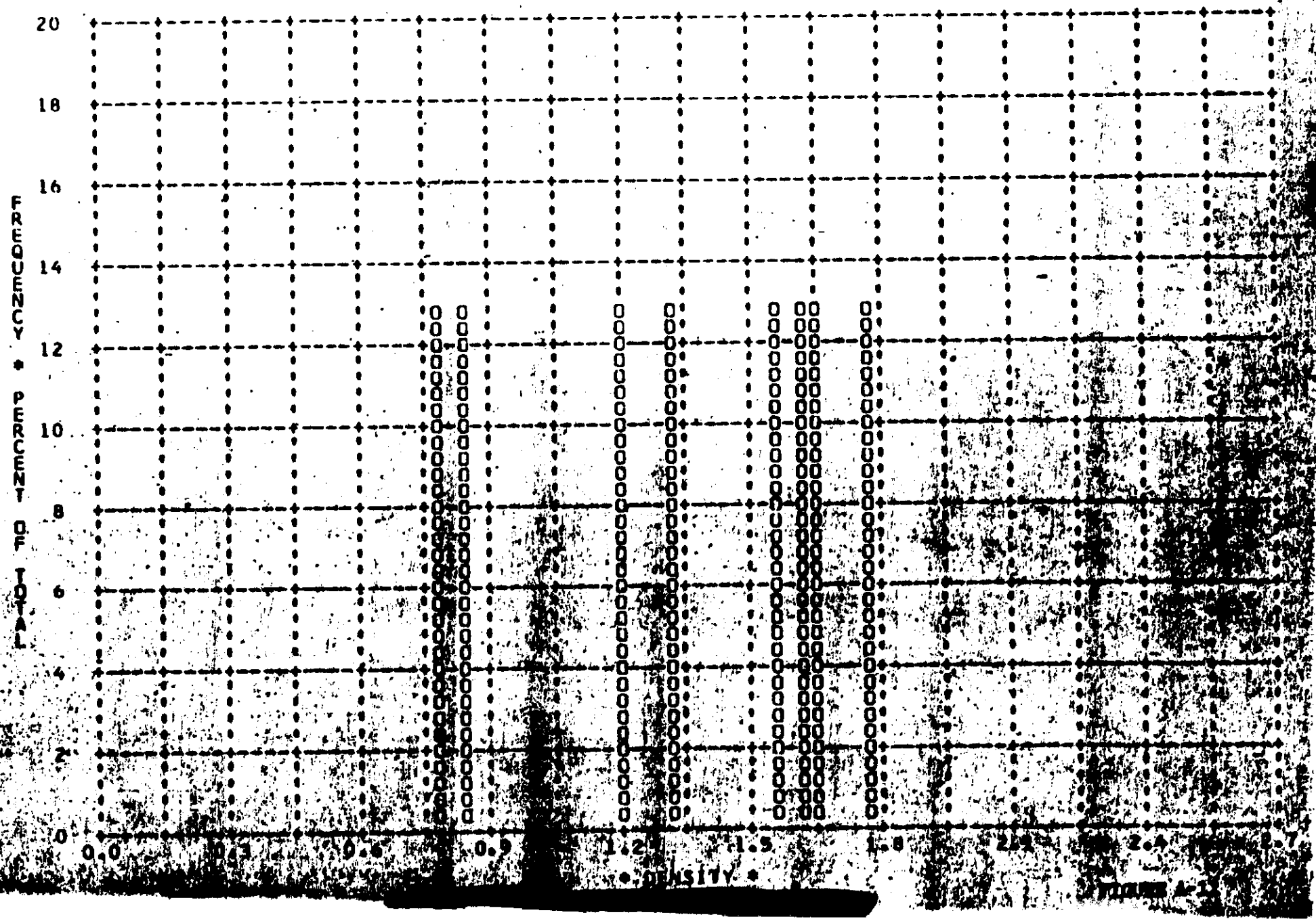
MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 0.47 * MEDIAN * 0.48 * STD DEV * 0.14 * RANGE * 0.31 TO 0.76 WITH 8 SAMPLES



MISSION * 1033-1 * INSTR * AFT * 8/25/66-PLOT OF D MAX * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 1.33 * MEDIAN * 1.55 * STD DEV * 0.37 * RANGE * 0.78 TO 1.75 WITH 8 SAMPLES

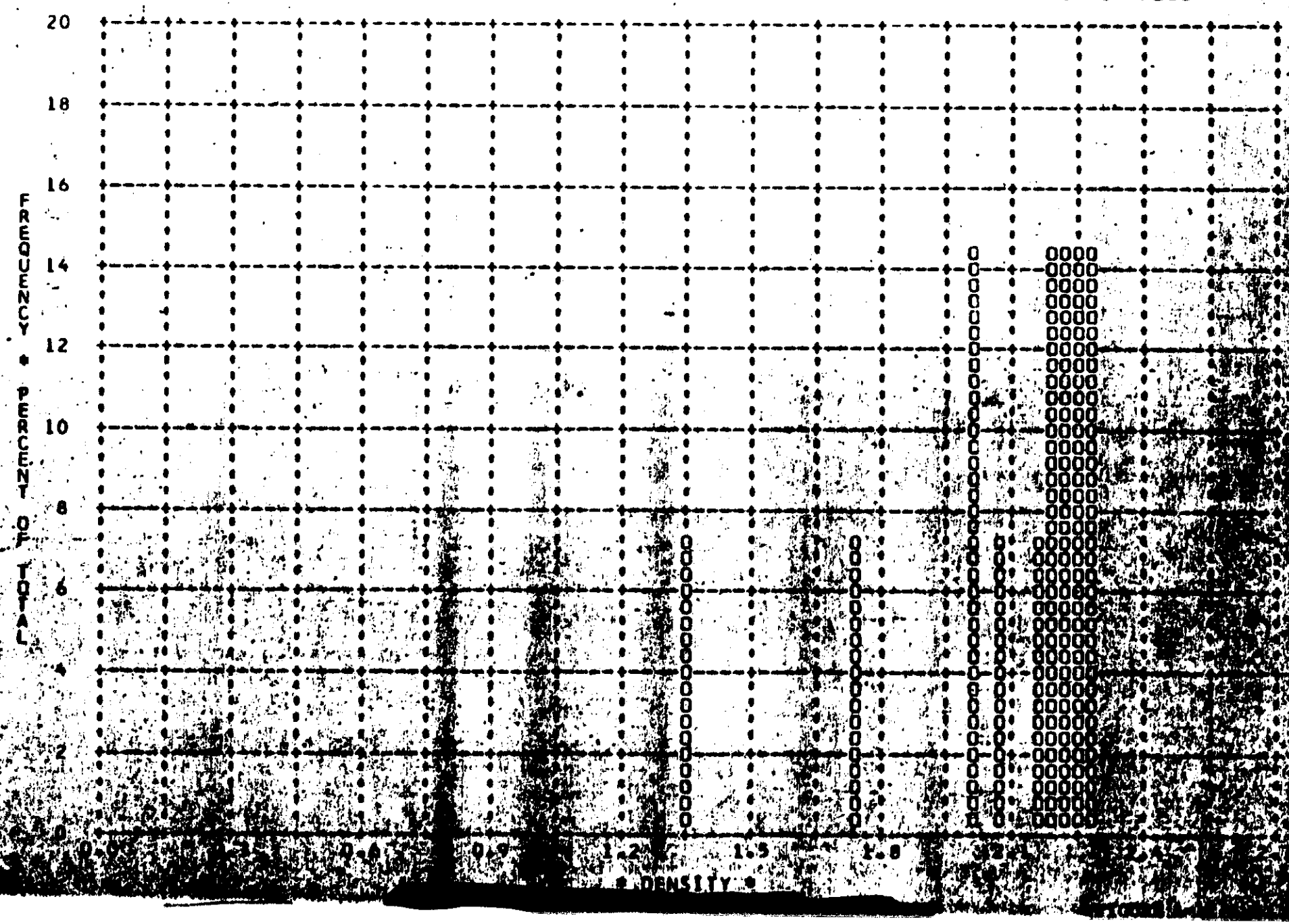


[redacted]

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

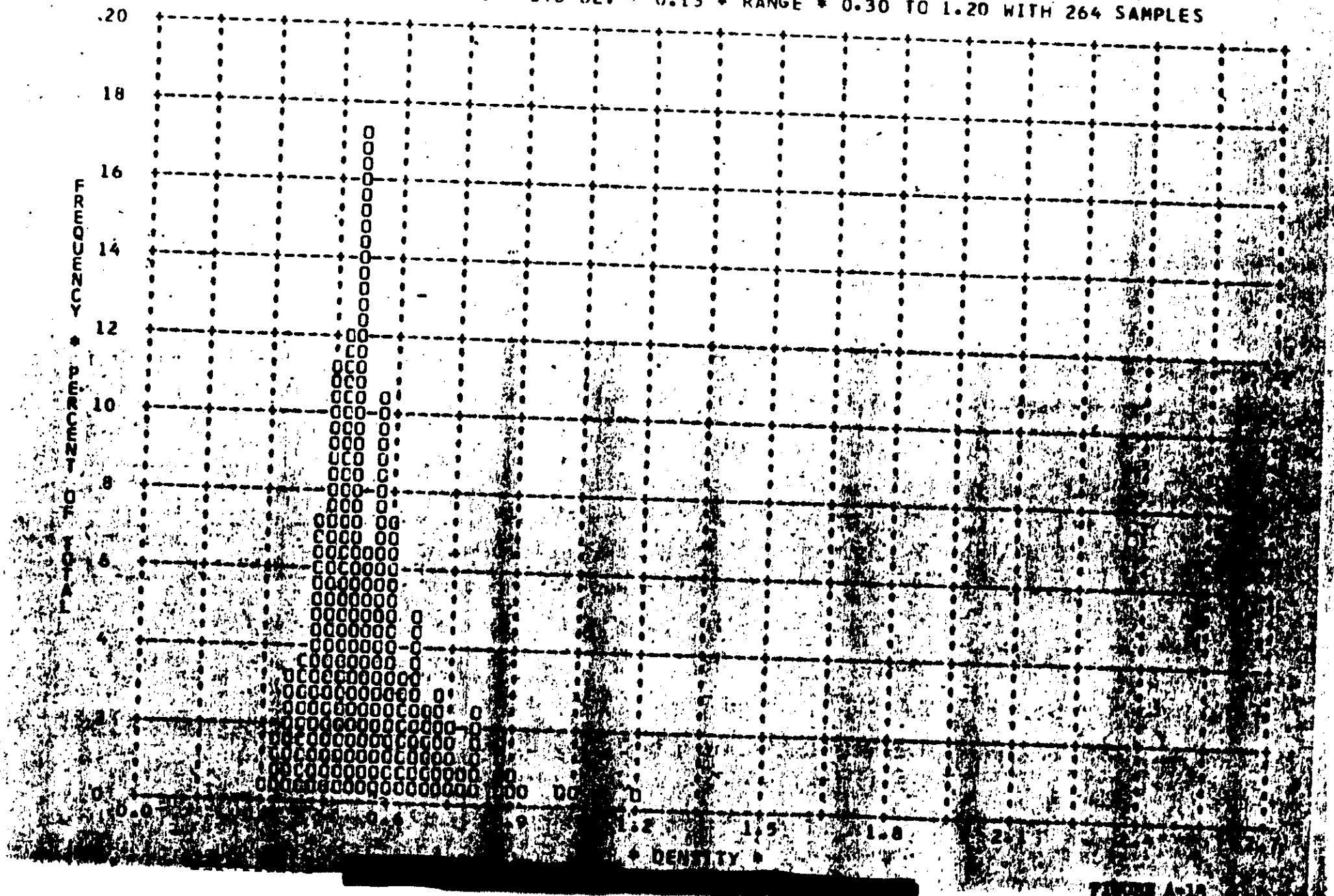
MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * INTERMEDIATE

ARITH MEAN * 2.08 * MEDIAN * 2.19 * STD DEV * 0.26 * RANGE * 1.34 TO 2.26 WITH 14 SAMPLES



MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * FULL

ARITH MEAN * 0.54 * MEDIAN * 0.50 * STD DEV * 0.13 * RANGE * 0.30 TO 1.20 WITH 264 SAMPLES

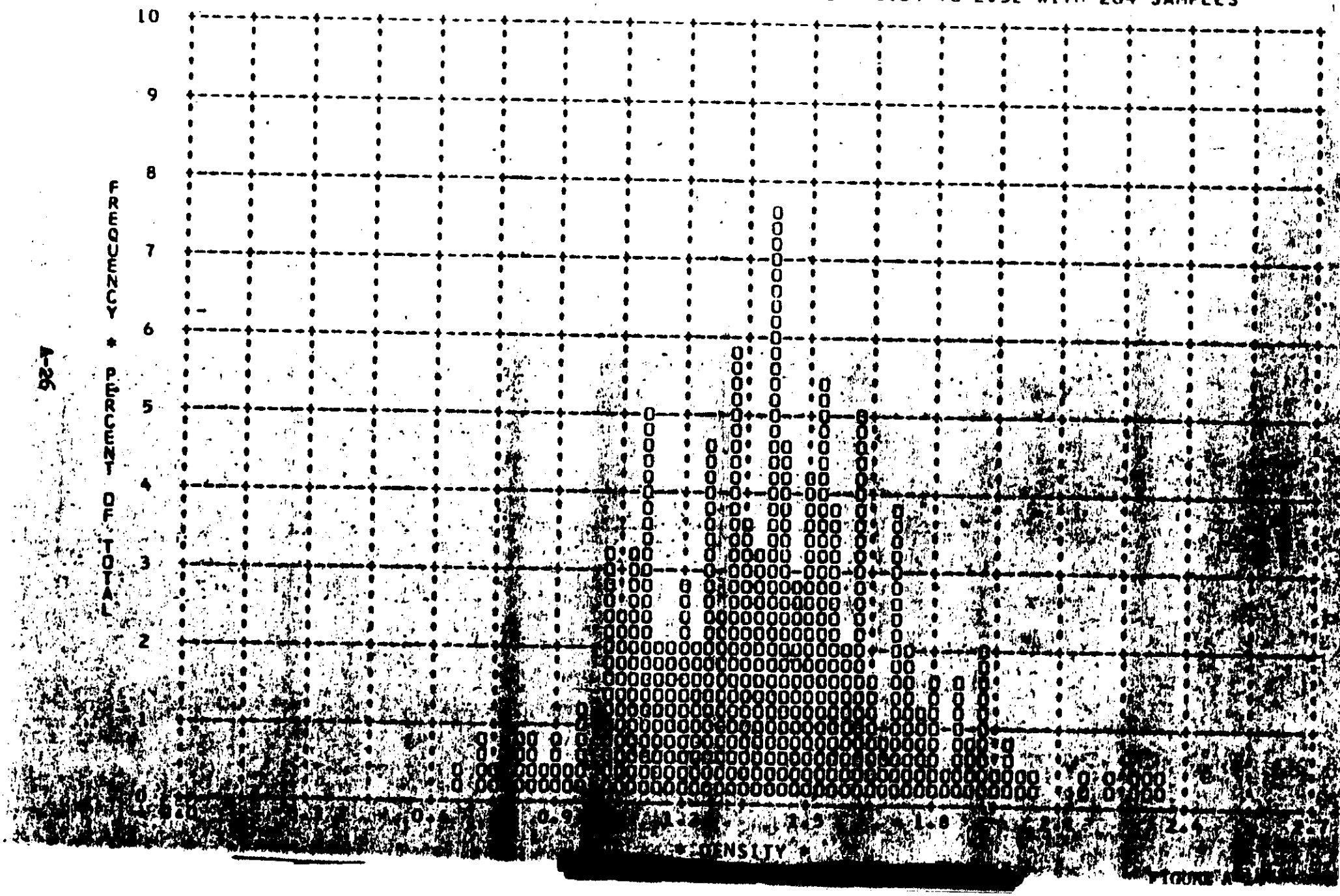


[redacted]

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

MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * FULL

ARITH MEAN * 1.40 * MEDIAN * 1.40 * STD DEV * 0.29 * RANGE * 0.64 TO 2.32 WITH 264 SAMPLES



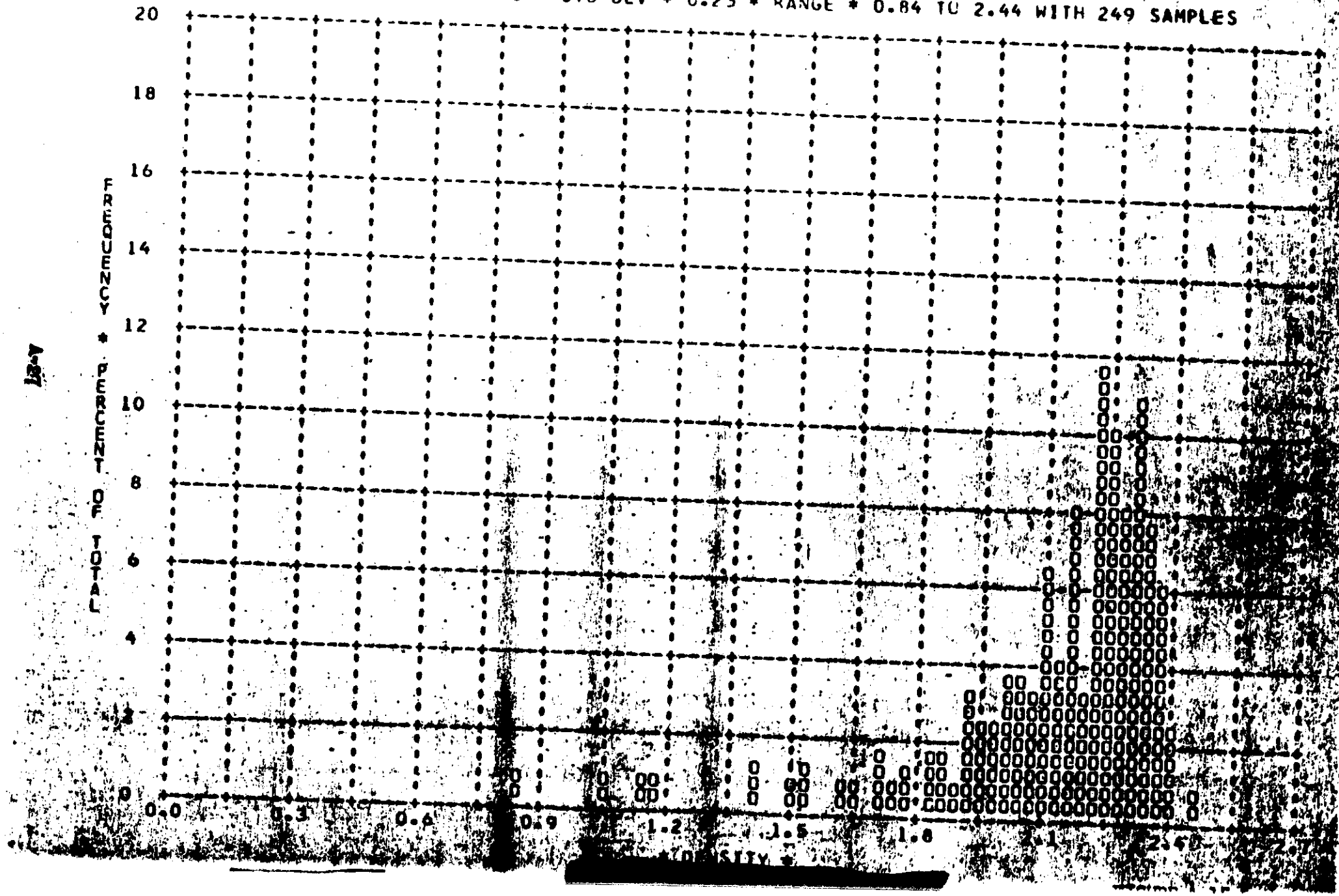
4-26

FIGURE 4

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

MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * FULL

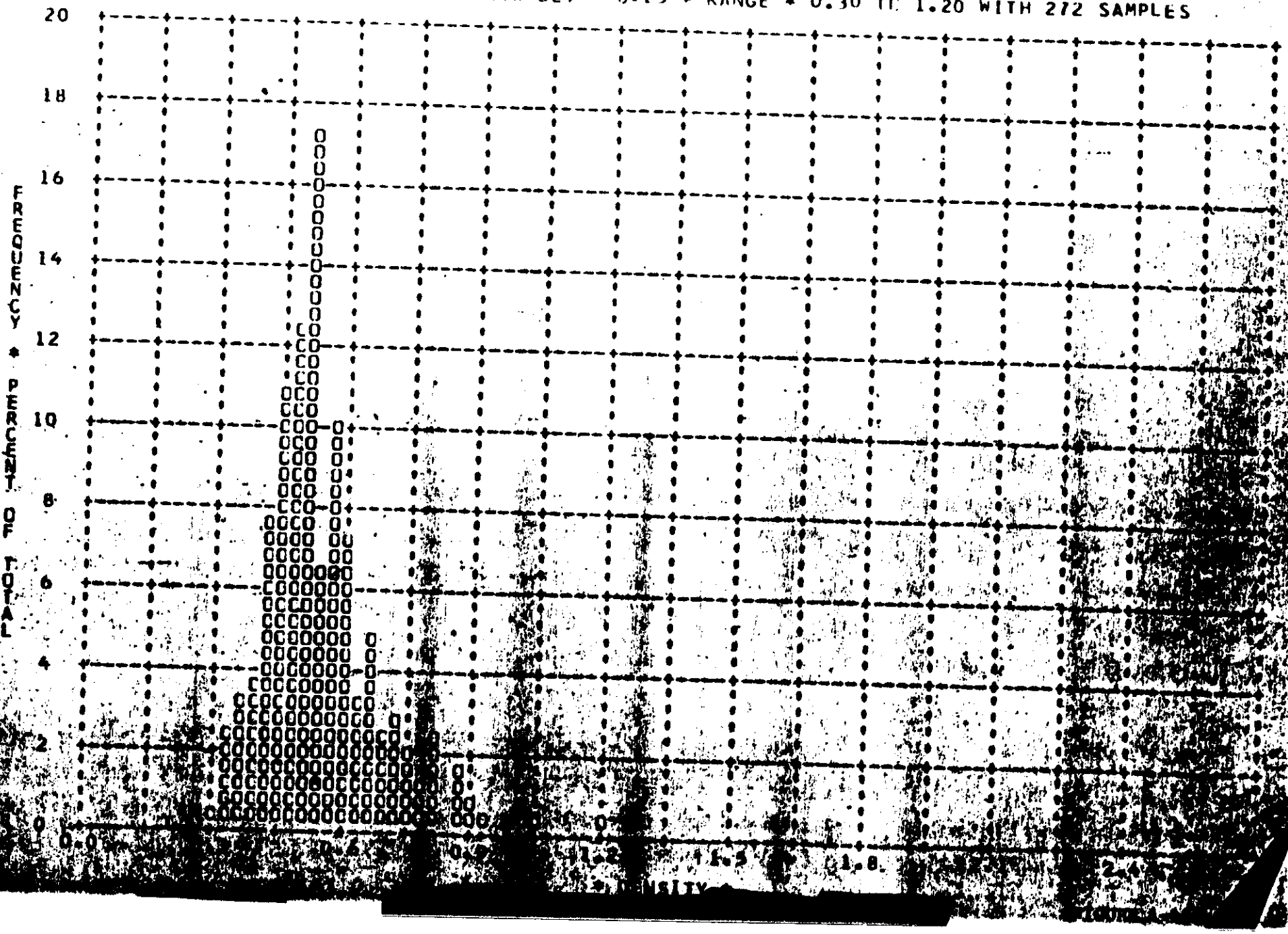
ARITH MEAN * 2.14 * MEDIAN * 2.20 * STD DEV * 0.23 * RANGE * 0.84 TO 2.44 WITH 249 SAMPLES



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

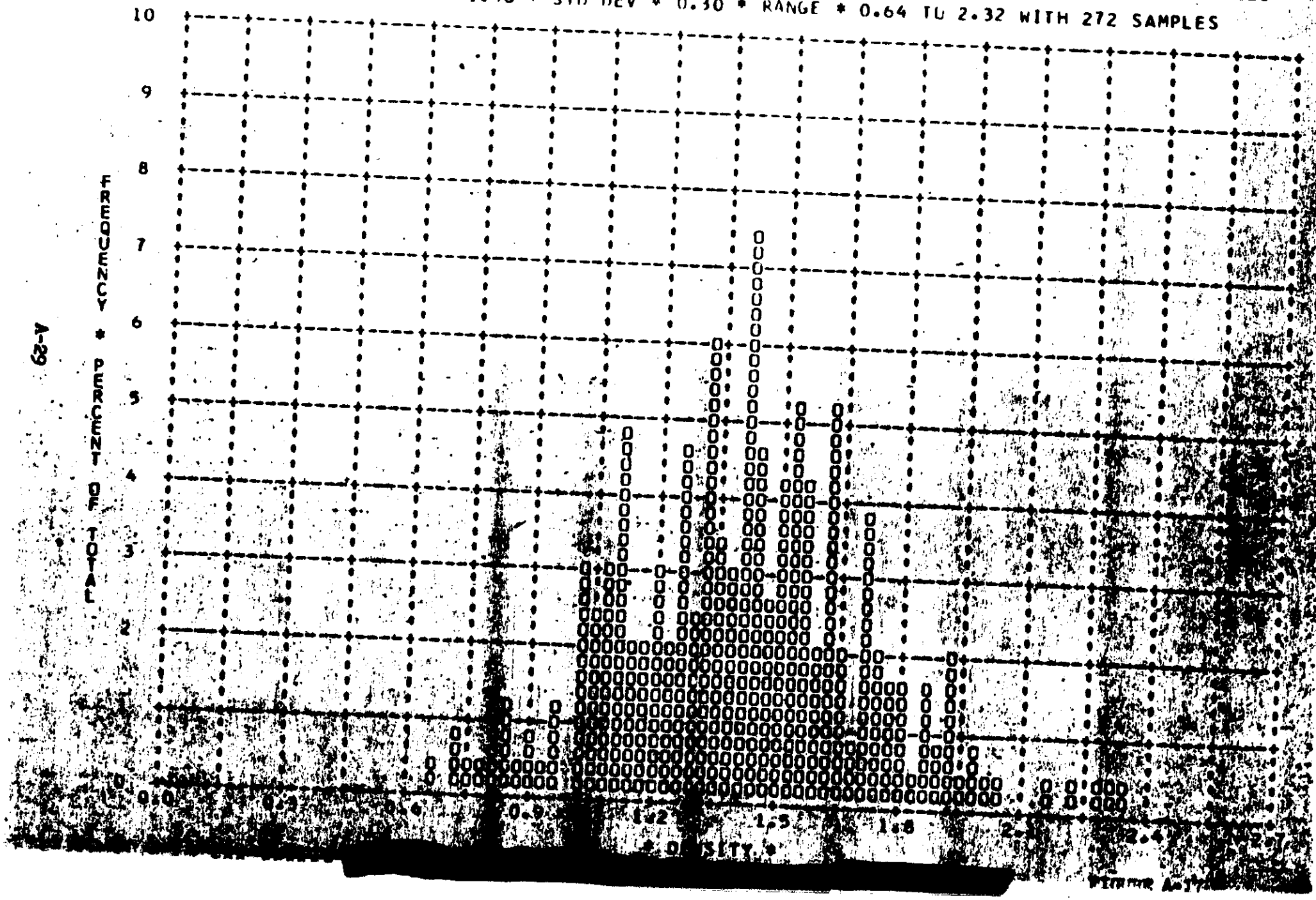
MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * ALL LEVELS

ARITH MEAN * 0.53 * MEDIAN * 0.50 * STD DEV * 0.13 * RANGE * 0.30 TO 1.20 WITH 272 SAMPLES



MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * ALL LEVELS

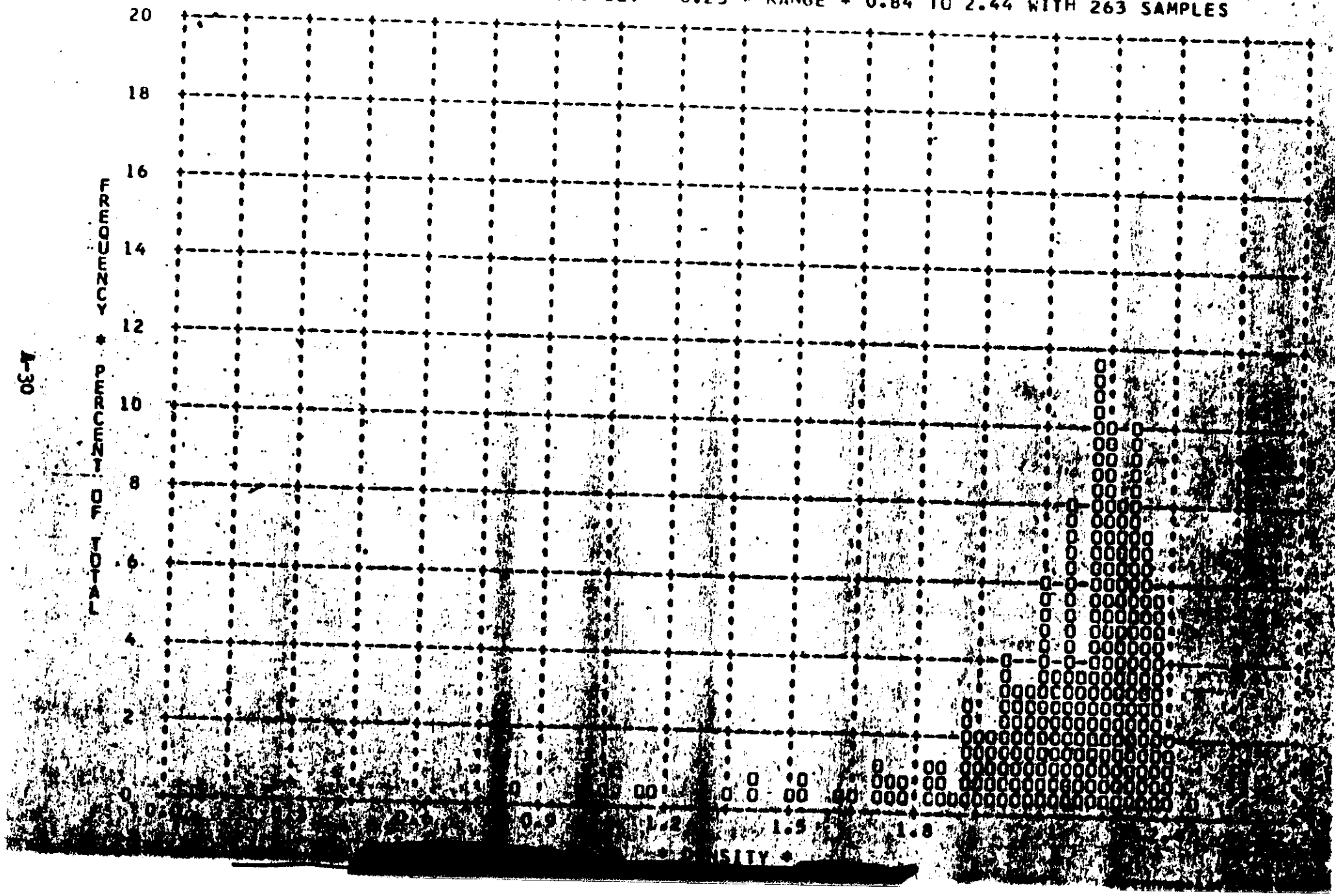
ARITH MEAN * 1.40 * MEDIAN * 1.40 * STD DEV * 0.30 * RANGE * 0.64 TO 2.32 WITH 272 SAMPLES



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

MISSION * 1033-1 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * ALL LEVELS

ARITH MEAN * 2.13 * MEDIAN * 2.20 * STD DEV * 0.23 * RANGE * 0.84 TO 2.44 WITH 263 SAMPLES



MISSION * 1033-2 * INSTRUMENT * FWD 07/23/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	0	0	0	0	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	0	0	0	0	0	0
0.32	0	0	0	0	0	0	0	0	0	0	0	0
0.33	0	0	0	0	0	0	3	0	0	3	0	0
0.34	0	0	0	0	0	0	1	0	0	1	0	0
0.35	0	0	0	0	0	0	3	0	0	3	0	0
0.36	0	0	0	0	0	0	5	0	0	5	0	0
0.37	0	0	0	0	0	0	2	0	0	2	0	0
0.38	0	0	0	0	0	0	6	0	0	6	0	0
0.39	0	0	0	0	0	0	7	0	0	7	0	0
0.40	0	0	0	0	0	0	13	0	0	13	0	0
0.41	0	0	0	0	0	0	8	0	0	8	0	0
0.42	0	0	0	0	0	0	7	0	0	7	0	0
0.43	0	0	0	0	0	0	14	0	0	14	0	0
0.44	0	0	0	0	0	0	6	0	0	6	0	0
0.45	0	0	0	0	0	0	11	0	0	11	0	0
0.46	0	0	0	0	0	0	6	0	0	6	0	0
0.47	0	0	0	0	0	0	5	0	0	5	0	0
0.48	0	0	0	0	0	0	11	0	0	11	0	0
0.49	0	0	0	0	0	0	10	0	0	10	0	0
0.50	0	0	0	0	0	0	137	3	0	137	3	0
SUBTOTAL												

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

MISSION * 1033-2 * INSTRUMENT * FRWD 8/23/66 - DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	0	0	0	0	0	0
0.52	0	0	0	0	0	0	0	0	0	0	0	0
0.53	0	0	0	0	0	0	0	0	0	0	0	0
0.54	0	0	0	0	0	0	0	0	0	0	0	0
0.55	0	0	0	0	0	0	0	0	0	0	0	0
0.56	0	0	0	0	0	0	0	0	0	0	0	0
0.57	0	0	0	0	0	0	0	0	0	0	0	0
0.58	0	0	0	0	0	0	0	0	0	0	0	0
0.59	0	0	0	0	0	0	0	0	0	0	0	0
0.60	0	0	0	0	0	0	0	0	0	0	0	0
0.61	0	0	0	0	0	0	0	0	0	0	0	0
0.62	0	0	0	0	0	0	0	0	0	0	0	0
0.63	0	0	0	0	0	0	0	0	0	0	0	0
0.64	0	0	0	0	0	0	0	0	0	0	0	0
0.65	0	0	0	0	0	0	0	0	0	0	0	0
0.66	0	0	0	0	0	0	0	0	0	0	0	0
0.67	0	0	0	0	0	0	0	0	0	0	0	0
0.68	0	0	0	0	0	0	0	0	0	0	0	0
0.69	0	0	0	0	0	0	0	0	0	0	0	0
0.70	0	0	0	0	0	0	0	0	0	0	0	0
0.71	0	0	0	0	0	0	0	0	0	0	0	0
0.72	0	0	0	0	0	0	0	0	0	0	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	0	0	0	0	0	0	0	0	0
0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.76	0	0	0	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	0	0	0	0	0	0	0	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	0	0	0	0	0	0	0	0	0
0.81	0	0	0	0	0	0	0	0	0	0	0	0
0.82	0	0	0	0	0	0	0	0	0	0	0	0
0.83	0	0	0	0	0	0	0	0	0	0	0	0
0.84	0	0	0	0	0	0	0	0	0	0	0	0
0.85	0	0	0	0	0	0	0	0	0	0	0	0
0.86	0	0	0	0	0	0	0	0	0	0	0	0
0.87	0	0	0	0	0	0	0	0	0	0	0	0
0.88	0	0	0	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	0	0	0	0	0	0
0.90	0	0	0	0	0	0	0	0	0	0	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	0	0	0	0	0	0	0	0	0
0.93	0	0	0	0	0	0	0	0	0	0	0	0
0.94	0	0	0	0	0	0	0	0	0	0	0	0
0.95	0	0	0	0	0	0	0	0	0	0	0	0
0.96	0	0	0	0	0	0	0	0	0	0	0	0
0.97	0	0	0	0	0	0	0	0	0	0	0	0
0.98	0	0	0	0	0	0	0	0	0	0	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	88	53	2	88	53	2

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

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

MISSION * 1033-2 * INSTRUMENT * FRND * 8/25/66 * DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	2	0	0	2	0
1.02	0	0	0	0	0	0	0	3	0	0	3	0
1.03	0	0	0	0	0	0	0	5	0	0	5	0
1.04	0	0	0	0	0	0	0	9	0	0	9	0
1.05	0	0	0	0	0	0	0	12	0	0	12	0
1.06	0	0	0	0	0	0	0	15	0	0	15	0
1.07	0	0	0	0	0	0	0	12	0	0	12	0
1.08	0	0	0	0	0	0	0	10	0	0	10	0
1.09	0	0	0	0	0	0	0	6	0	0	6	0
1.10	0	0	0	0	0	0	0	5	0	0	5	0
1.11	0	0	0	0	0	0	0	2	0	0	2	0
1.12	0	0	0	0	0	0	0	1	0	0	1	0
1.13	0	0	0	0	0	0	0	1	0	0	1	0
1.14	0	0	0	0	0	0	0	0	0	0	0	0
1.15	0	0	0	0	0	0	0	0	0	0	0	0
1.16	0	0	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	0	0	0	0	0
1.18	0	0	0	0	0	0	0	0	0	0	0	0
1.19	0	0	0	0	0	0	0	0	0	0	0	0
1.20	0	0	0	0	0	0	0	0	0	0	0	0
1.21	0	0	0	0	0	0	0	0	0	0	0	0
1.22	0	0	0	0	0	0	0	0	0	0	0	0
1.23	0	0	0	0	0	0	0	0	0	0	0	0
1.24	0	0	0	0	0	0	0	0	0	0	0	0
1.25	0	0	0	0	0	0	0	0	0	0	0	0
1.26	0	0	0	0	0	0	0	0	0	0	0	0
1.27	0	0	0	0	0	0	0	0	0	0	0	0
1.28	0	0	0	0	0	0	0	0	0	0	0	0
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	0	0	0	0	0	0	0	0	0
1.31	0	0	0	0	0	0	0	0	0	0	0	0
1.32	0	0	0	0	0	0	0	0	0	0	0	0
1.33	0	0	0	0	0	0	0	0	0	0	0	0
1.34	0	0	0	0	0	0	0	0	0	0	0	0
1.35	0	0	0	0	0	0	0	0	0	0	0	0
1.36	0	0	0	0	0	0	0	0	0	0	0	0
1.37	0	0	0	0	0	0	0	0	0	0	0	0
1.38	0	0	0	0	0	0	0	0	0	0	0	0
1.39	0	0	0	0	0	0	0	0	0	0	0	0
1.40	0	0	0	0	0	0	0	0	0	0	0	0
1.41	0	0	0	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	0	0	0	0	0	0	0	0
1.43	0	0	0	0	0	0	0	0	0	0	0	0
1.44	0	0	0	0	0	0	0	0	0	0	0	0
1.45	0	0	0	0	0	0	0	0	0	0	0	0
1.46	0	0	0	0	0	0	0	0	0	0	0	0
1.47	0	0	0	0	0	0	0	0	0	0	0	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	0	0	0	0	0	0	0	0
1.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	1	100	1	1	100	1

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

MISSION * 1033-2 * INSTRUMENT * FRND 8/29/69 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	2	0	0	2	0
1.52	0	0	0	0	0	0	0	0	0	0	0	0
1.53	0	0	0	0	0	0	0	0	0	0	0	0
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	0	0	0	0	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0	0	0	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	0	0	0	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	0	0	0	0	0
1.63	0	0	0	0	0	0	0	0	0	0	0	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	0	0	0	0	0
1.68	0	0	0	0	0	0	0	0	0	0	0	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	0	0	0	0	0
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	2	1	61	40	1	61	42

MISSION * 1033-2 * INSTRUMENT * FRWD 8/23/66 DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FUEL MIN	FUEL MAX	FUEL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.01	0	0	0	0	0	0	0	1	1	0	1	1
2.02	0	0	0	0	0	0	0	1	1	0	1	1
2.03	0	0	0	0	0	0	0	1	1	0	1	1
2.04	0	0	0	0	0	0	0	1	1	0	1	1
2.05	0	0	0	0	0	0	0	1	1	0	1	1
2.06	0	0	0	0	0	0	0	1	1	0	1	1
2.07	0	0	0	0	0	0	0	2	2	0	2	2
2.08	0	0	0	0	0	0	0	3	3	0	3	3
2.09	0	0	0	0	0	0	0	4	4	0	4	4
2.10	0	0	0	0	0	0	0	14	14	0	14	14
2.11	0	0	0	0	0	0	0	6	6	0	6	6
2.12	0	0	0	0	0	0	0	7	7	0	7	7
2.13	0	0	0	0	0	0	0	4	4	0	4	4
2.14	0	0	0	0	0	0	0	5	5	0	5	5
2.15	0	0	0	0	0	0	0	8	8	0	8	8
2.16	0	0	0	0	0	0	0	6	6	0	6	6
2.17	0	0	0	0	0	0	0	5	5	0	5	5
2.18	0	0	0	0	0	0	0	3	3	0	3	3
2.19	0	0	0	0	0	0	0	3	3	0	3	3
2.20	0	0	0	0	0	0	0	10	10	0	11	11
2.21	0	0	0	0	0	0	0	6	6	0	6	6
2.22	0	0	0	0	0	0	0	5	5	0	6	6
2.23	0	0	0	0	0	0	0	7	7	0	7	7
2.24	0	0	0	0	0	0	0	6	6	0	6	6
2.25	0	0	0	0	0	0	0	5	5	0	5	5
2.26	0	0	0	0	0	0	0	5	5	0	5	5
2.27	0	0	0	0	0	0	0	5	5	0	5	5
2.28	0	0	0	0	0	0	0	7	7	0	7	7
2.29	0	0	0	0	0	0	0	4	4	0	4	4
2.30	0	0	0	0	0	0	0	14	14	0	14	14
2.31	0	0	0	0	0	0	0	6	6	0	6	6
2.32	0	0	0	0	0	0	0	19	19	0	19	19
2.33	0	0	0	0	0	0	0	3	3	0	3	3
2.34	0	0	0	0	0	0	0	3	3	0	3	3
2.35	0	0	0	0	0	0	0	12	12	0	12	12
2.36	0	0	0	0	0	0	0	5	5	0	5	5
2.37	0	0	0	0	0	0	0	6	6	0	6	6
2.38	0	0	0	0	0	0	0	6	6	0	6	6
2.39	0	0	0	0	0	0	0	6	6	0	6	6
2.40	0	0	0	0	0	0	0	7	7	0	7	7
2.41	0	0	0	0	0	0	0	5	5	0	5	5
2.42	0	0	0	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	7	0	8.203		0	8.215	

MISSION * 1033-2 * INSTRUMENT * FRND 8/25/66 * DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
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	0	0	9	233	233	248	233	233	257

MISSION 1033-2 INSTR - FRND 8/25/66 PROCESSING AND EXPOSURE ANALYSI

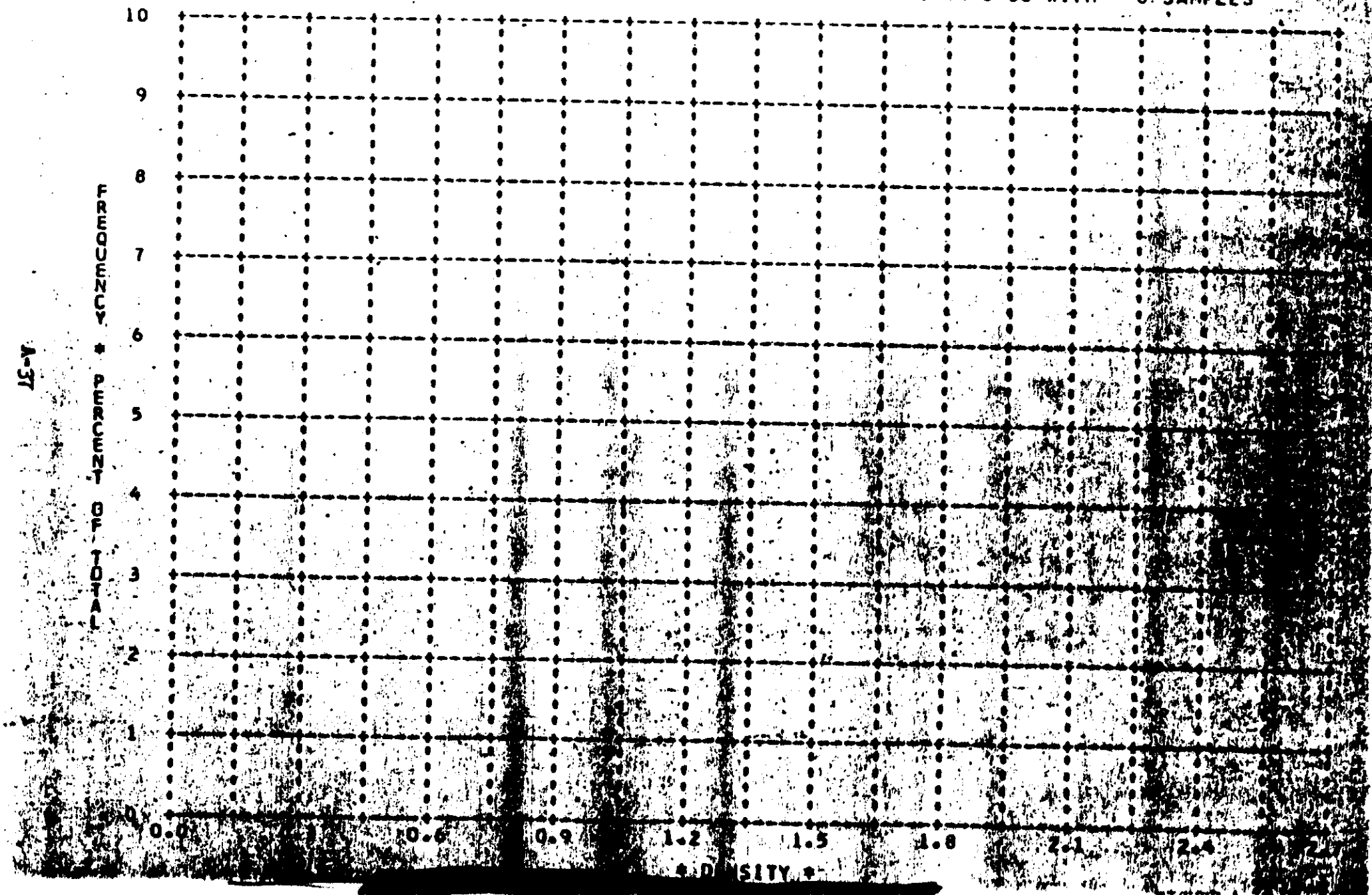
PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	0	0 PC	0 PC	0 PC	0 PC	0 PC
FULL	233	16 PC	0 PC	79 PC	5 PC	0 PC
ALL LEVELS	233	16 PC	0 PC	79 PC	5 PC	0 PC

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

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 0.00 * MEDIAN * 0.00 * STD DEV * 0.00 * RANGE * 2.70 TO 0.00 WITH 0 SAMPLES

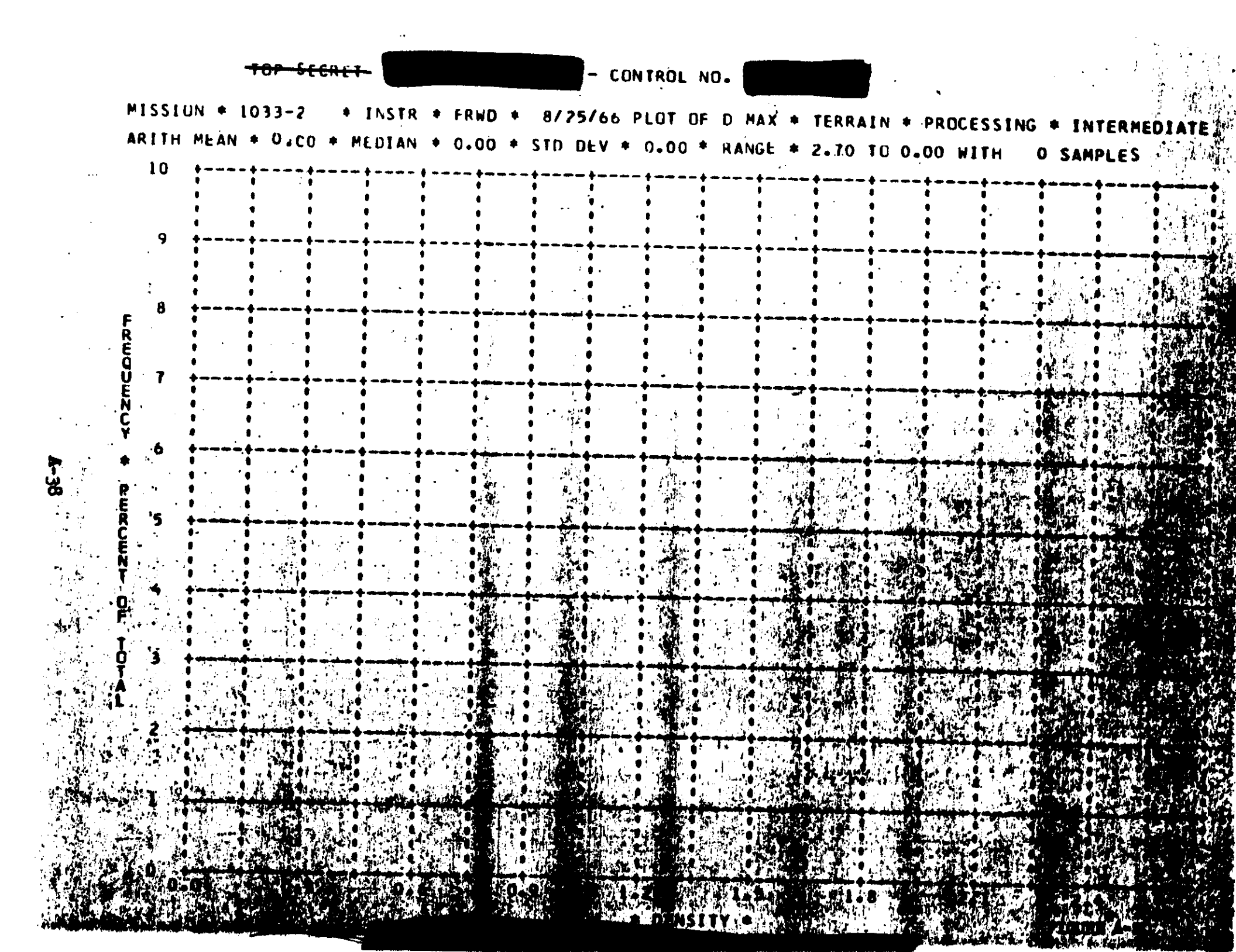


A-37

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * INTERMEDIATE

ARITH MEAN * 0.00 * MEDIAN * 0.00 * STD DEV * 0.00 * RANGE * 2.70 TO 0.00 WITH 0 SAMPLES



MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * INTERMEDIATE

ARITH MEAN * 2.08 * MEDIAN * 2.10 * STD DEV * 0.12 * RANGE * 1.82 TO 2.22 WITH 9 SAMPLES

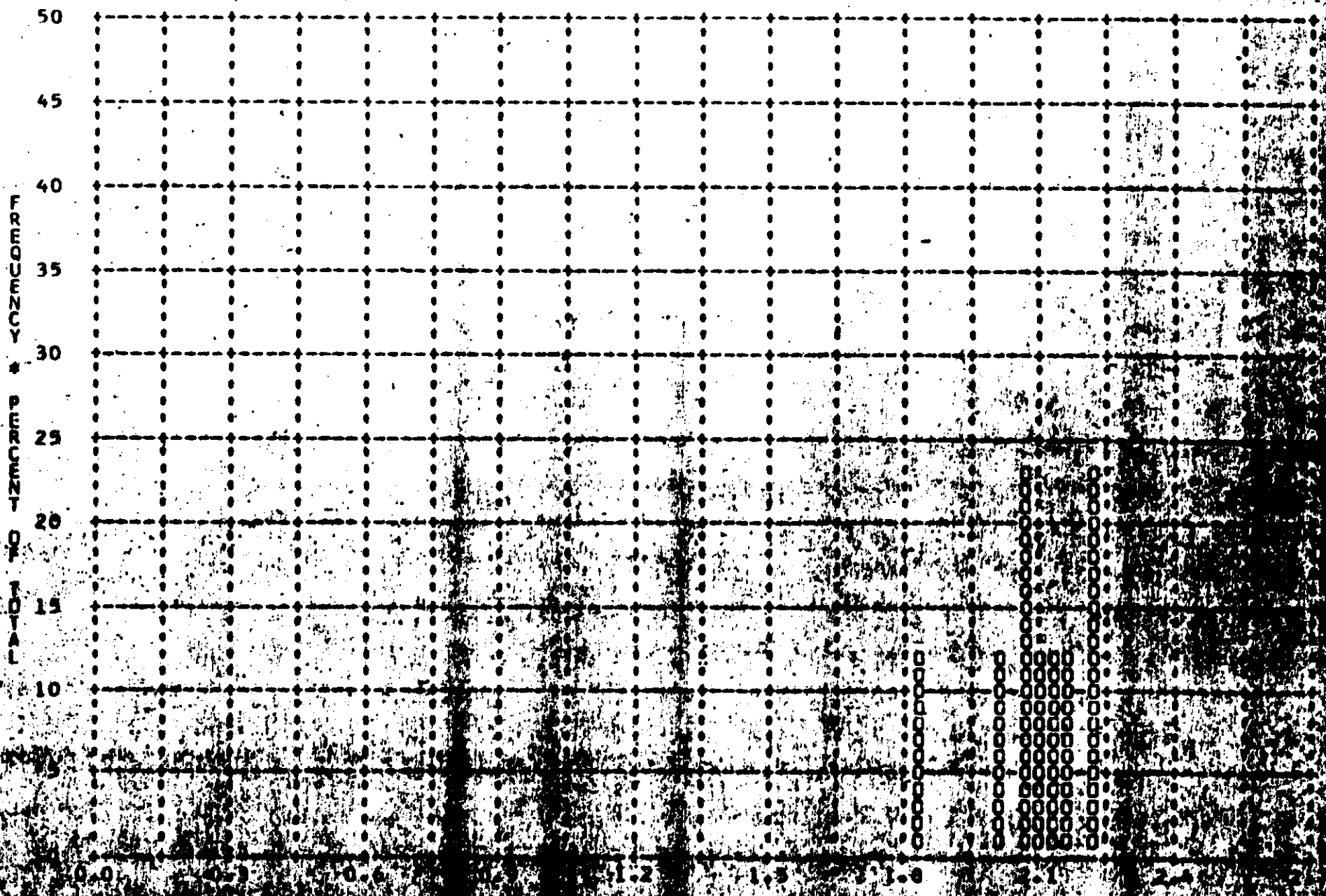
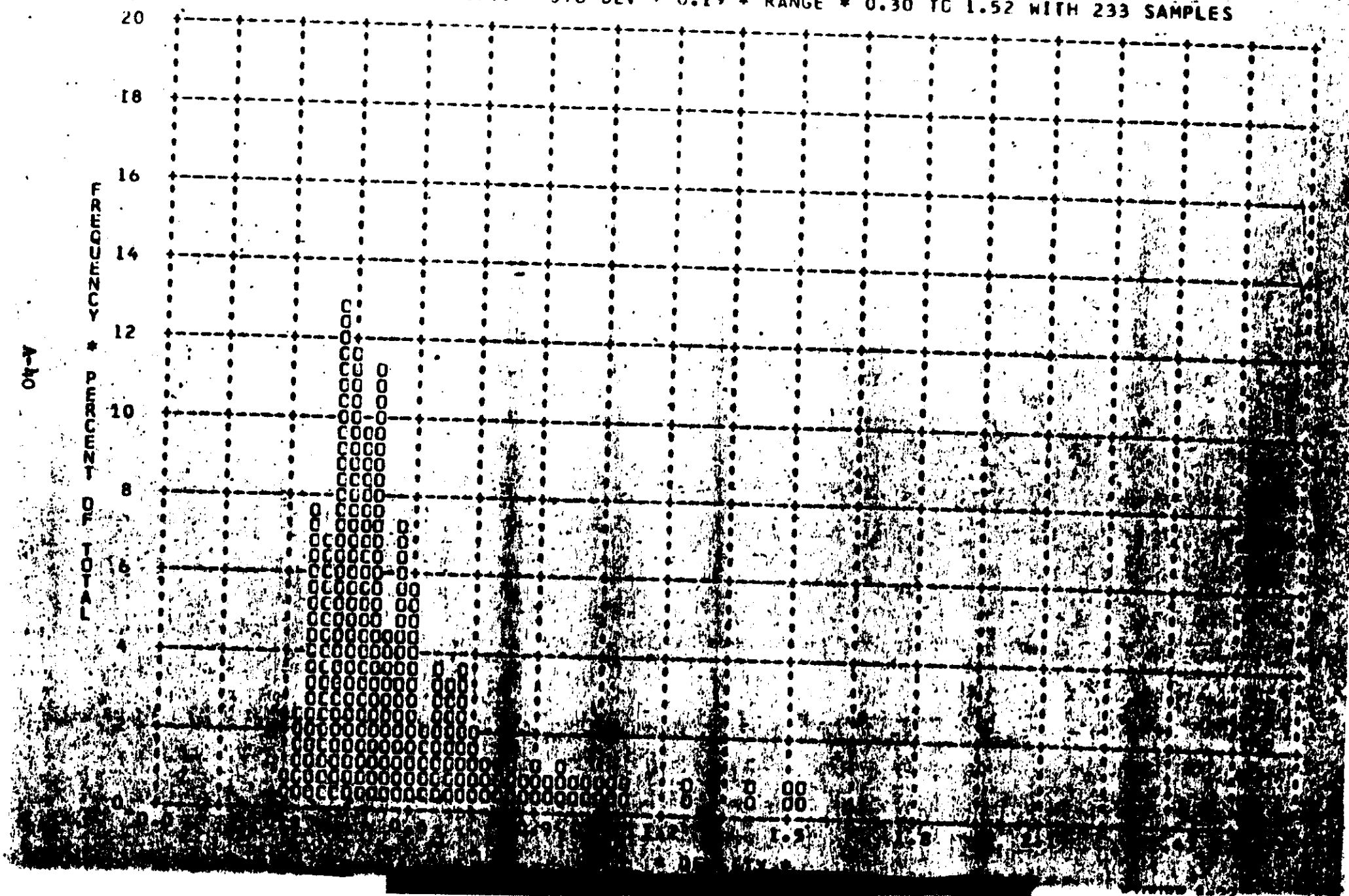


FIGURE A-21

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * FULL

ARITH MEAN * 0.53 * MEDIAN * 0.49 * STD DEV * 0.19 * RANGE * 0.30 TO 1.52 WITH 233 SAMPLES

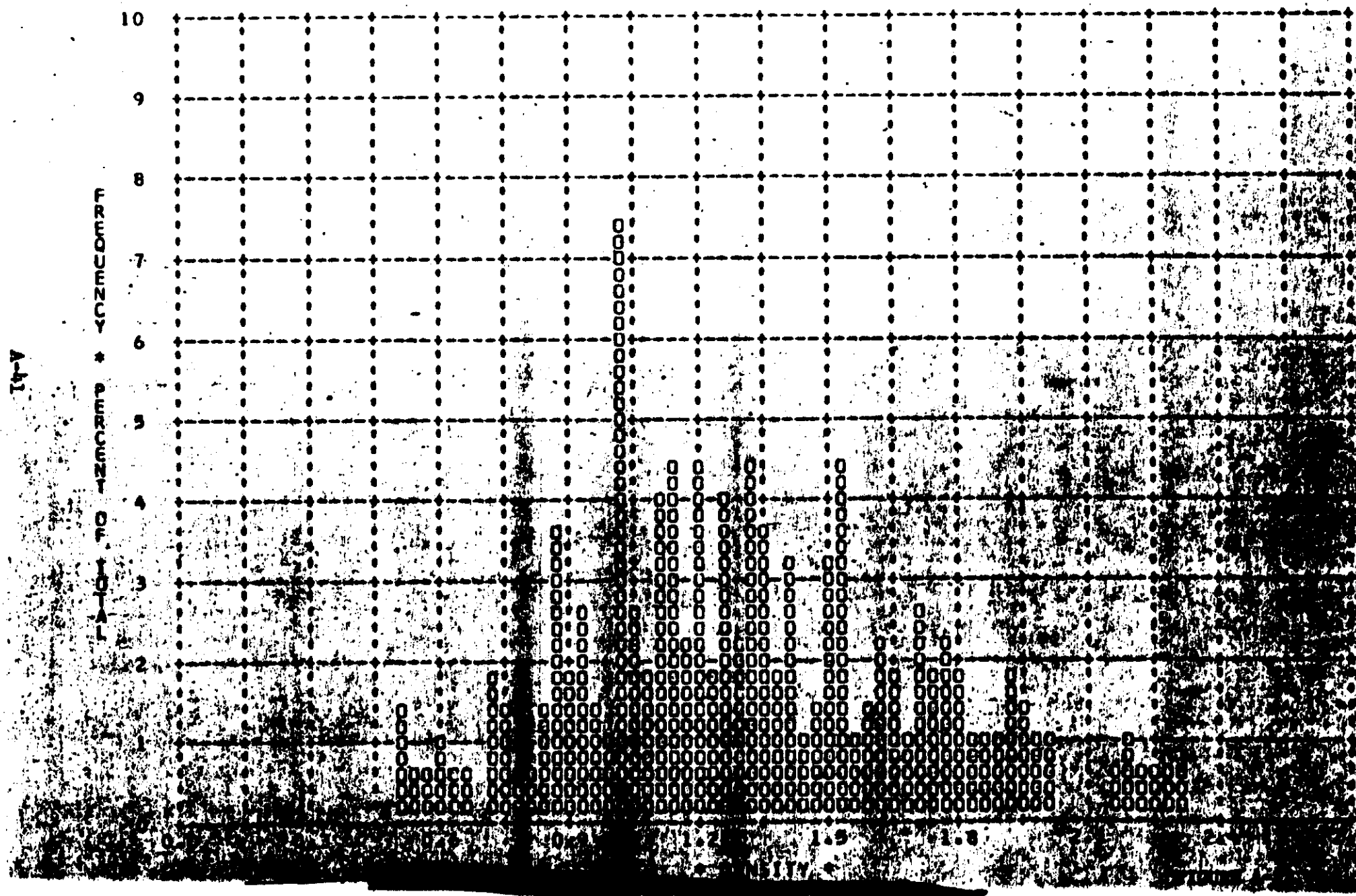


A-40

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * FULL

ARITH MEAN * 1.30 * MEDIAN * 1.26 * STD DEV * 0.38 * RANGE * 0.49 TO 2.30 WITH 233 SAMPLES

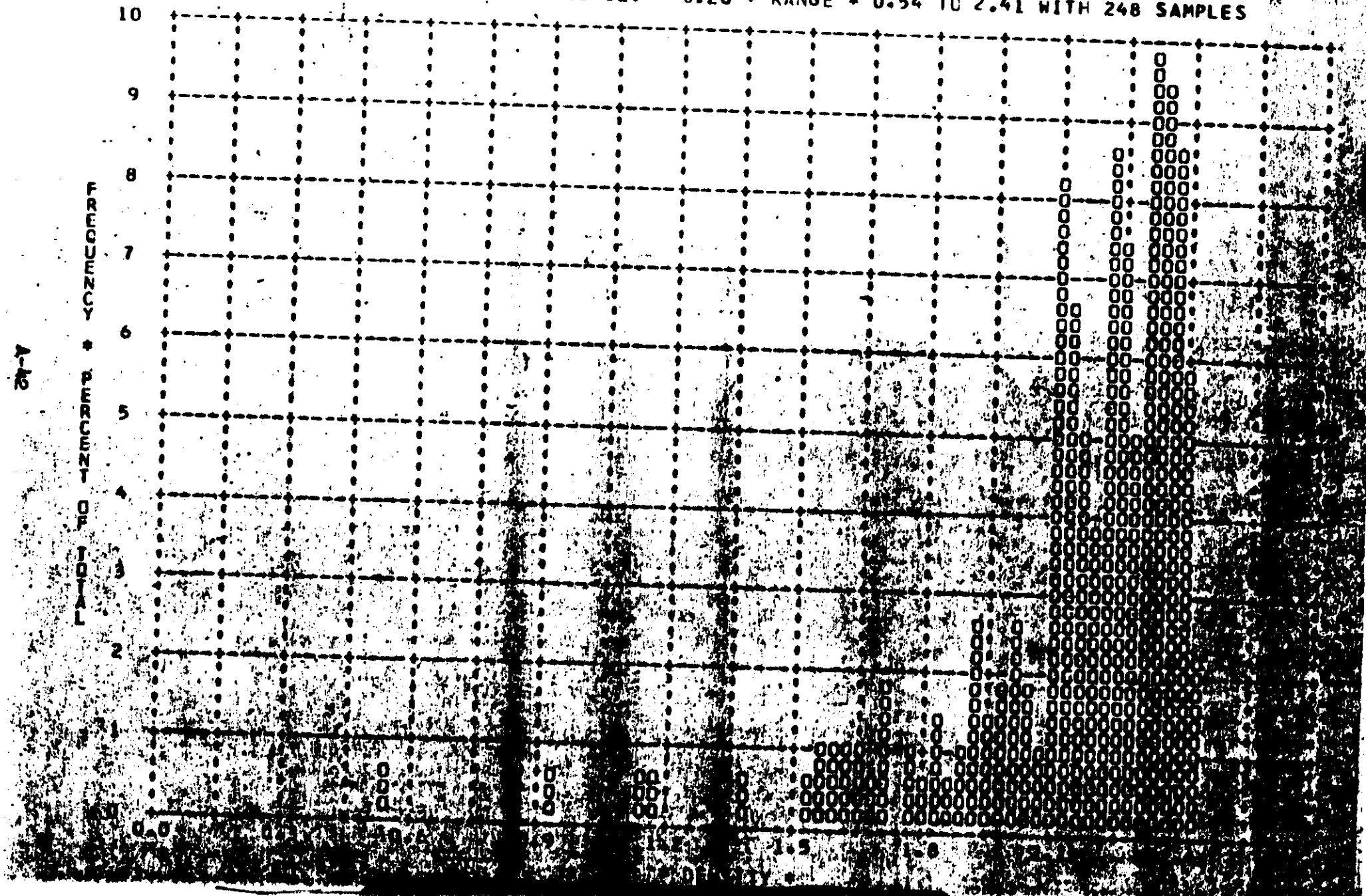


A-41

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * FULL

ARITH MEAN * 2.15 * MEDIAN * 2.21 * STD DEV * 0.26 * RANGE * 0.54 TO 2.41 WITH 248 SAMPLES

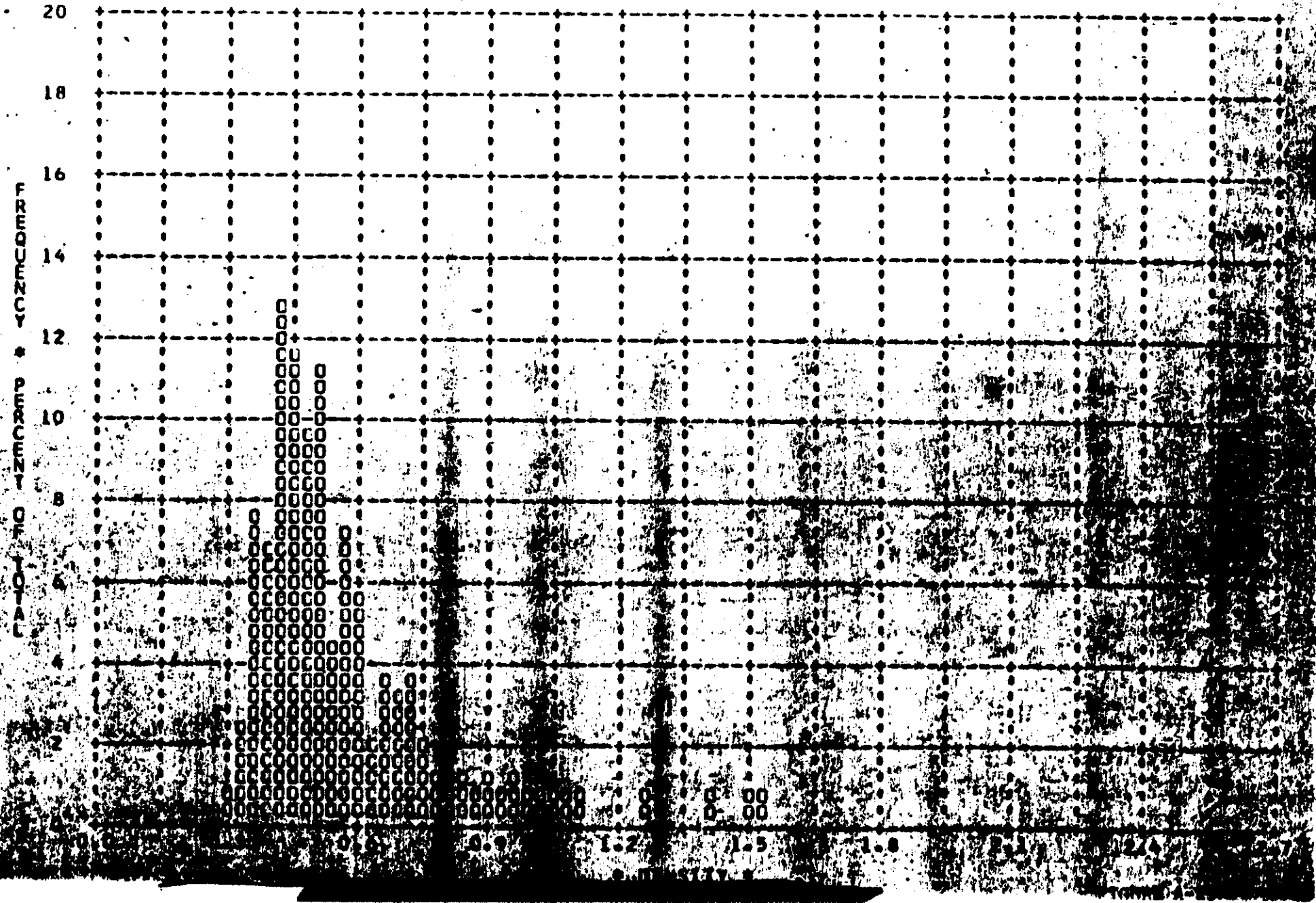


A-16

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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * ALL LEVELS

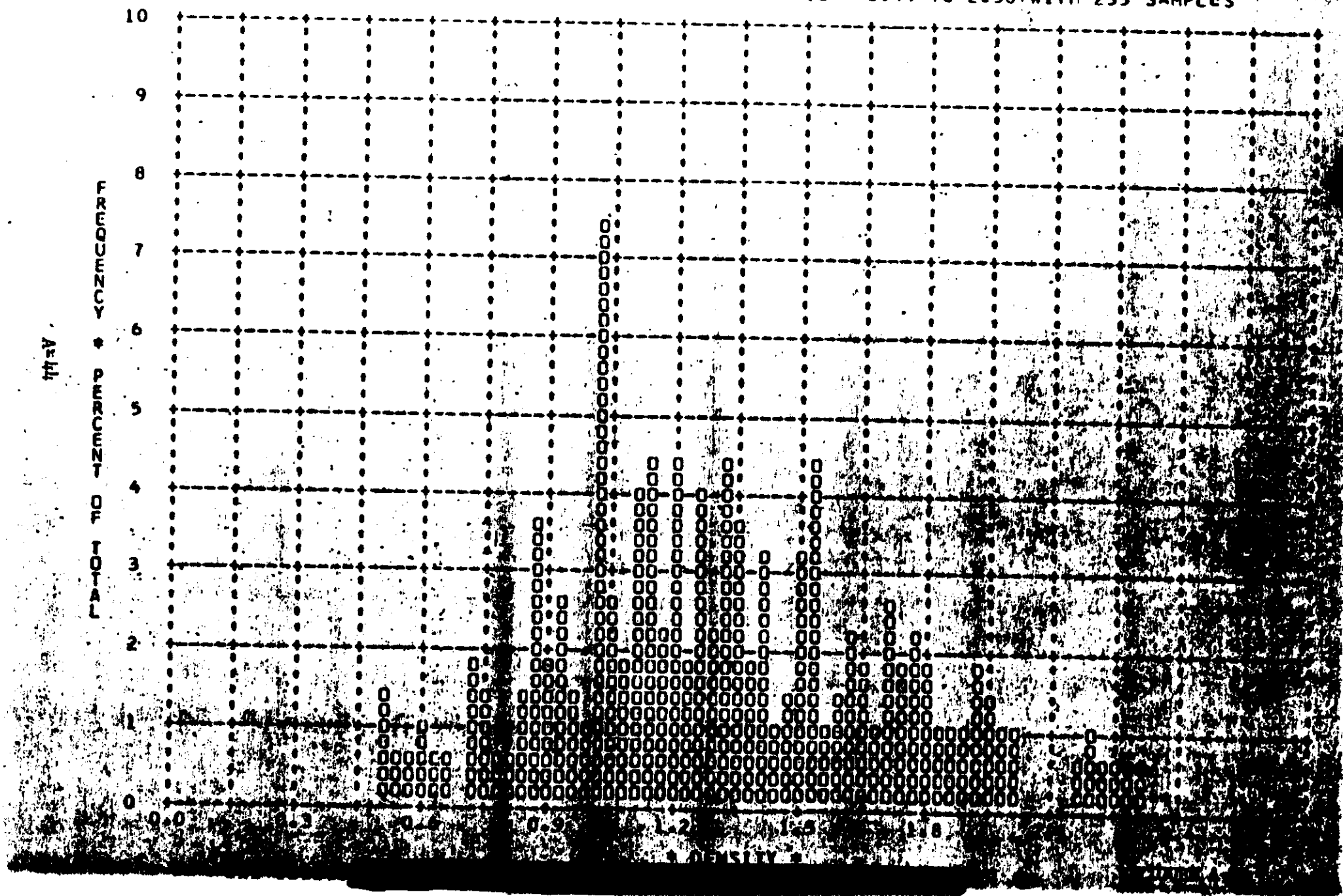
ARITH MEAN * 0.53 * MEDIAN * 0.49 * STD DEV * 0.19 * RANGE * 0.30 TO 1.52 WITH 233 SAMPLES



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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * ALL LEVELS

ARITH MEAN * 1.30 * MEDIAN * 1.26 * STD DEV * 0.38 * RANGE * 0.49 TO 2.30 WITH 233 SAMPLES



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

MISSION * 1033-2 * INSTR * FRWD * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * ALL LEVELS

ARITH MEAN * 2.15 * MEDIAN * 2.21 * STD DEV * 0.25 * RANGE * 0.54 TO 2.41 WITH 257 SAMPLES

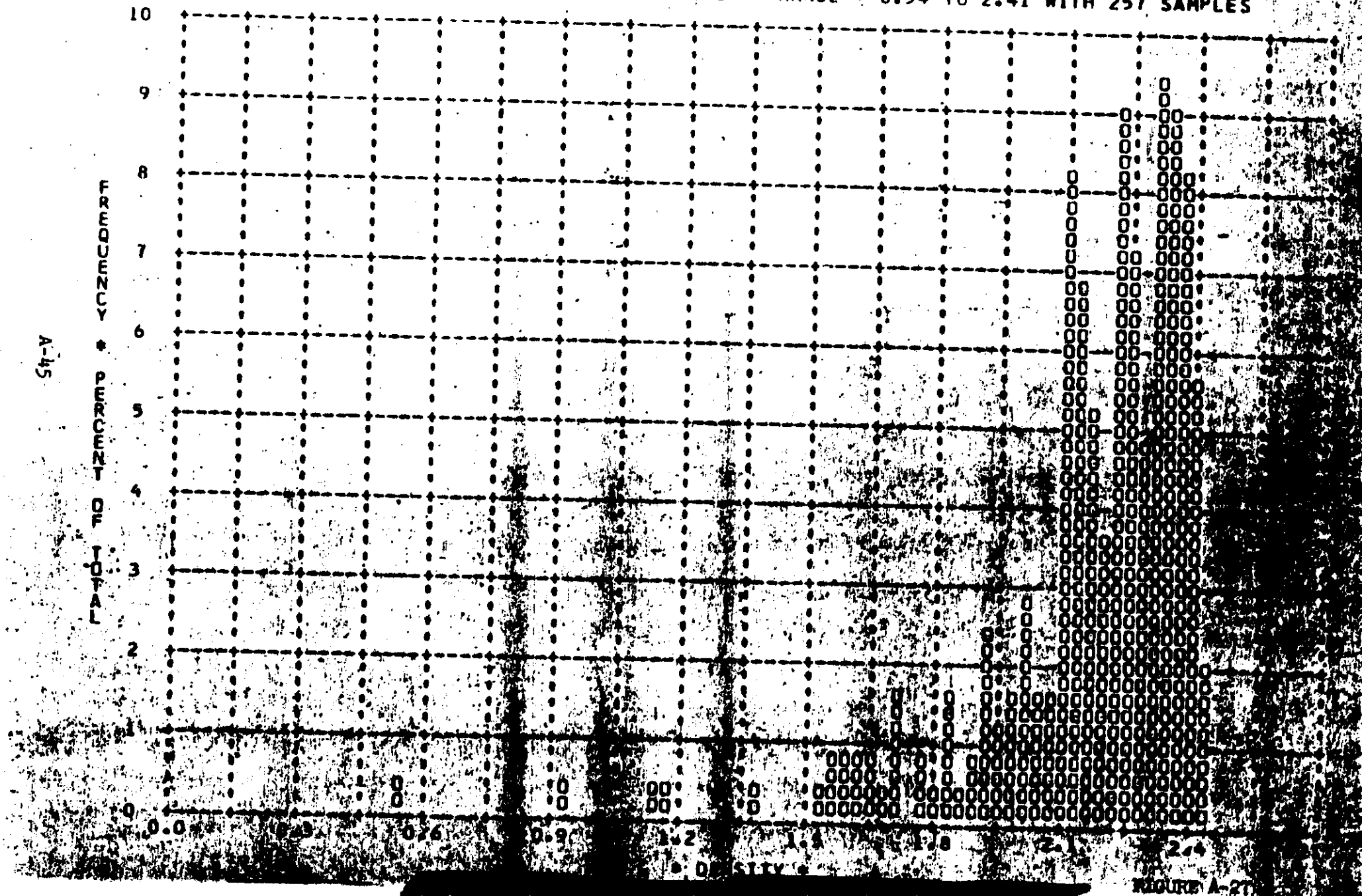


FIGURE A-21

MISSION * 1033-2 * INSTRUMENT * MET * 8/23/6[redacted] * DENSITY FREQUENCY

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	POLE MIN	POLE MAX	POLE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	0	0	0	0	0	0	0	0	0	0	0	0
0.03	0	0	0	0	0	0	0	0	0	0	0	0
0.04	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0	0	0	0	0	0	0	0	0	0	0	0
0.06	0	0	0	0	0	0	0	0	0	0	0	0
0.07	0	0	0	0	0	0	0	0	0	0	0	0
0.08	0	0	0	0	0	0	0	0	0	0	0	0
0.09	0	0	0	0	0	0	0	0	0	0	0	0
0.10	0	0	0	0	0	0	0	0	0	0	0	0
0.11	0	0	0	0	0	0	0	0	0	0	0	0
0.12	0	0	0	0	0	0	0	0	0	0	0	0
0.13	0	0	0	0	0	0	0	0	0	0	0	0
0.14	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0	0	0	0	0	0	0	0	0	0	0	0
0.16	0	0	0	0	0	0	0	0	0	0	0	0
0.17	0	0	0	0	0	0	0	0	0	0	0	0
0.18	0	0	0	0	0	0	0	0	0	0	0	0
0.19	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0	0	0	0	0	0	0	0	0	0	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	0	0	0	0	0	0	0	0	0
0.23	0	0	0	0	0	0	0	0	0	0	0	0
0.24	0	0	0	0	0	0	0	0	0	0	0	0
0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.26	0	0	0	0	0	0	2	0	0	2	0	0
0.27	0	0	0	0	0	0	2	0	0	2	0	0
0.28	0	0	0	0	0	0	0	0	0	0	0	0
0.29	0	0	0	0	0	0	1	0	0	1	0	0
0.30	0	0	0	0	0	0	0	0	0	0	0	0
0.31	0	0	0	0	0	0	2	0	0	2	0	0
0.32	0	0	0	0	0	0	2	0	0	2	0	0
0.33	0	0	0	0	0	0	2	0	0	2	0	0
0.34	0	0	0	0	0	0	2	0	0	2	0	0
0.35	0	0	0	0	0	0	3	0	0	3	0	0
0.36	0	0	0	0	0	0	2	0	0	2	0	0
0.37	0	0	0	0	0	0	0	0	0	0	0	0
0.38	0	0	0	0	0	0	3	0	0	3	0	0
0.39	0	0	0	0	0	0	6	0	0	6	0	0
0.40	0	0	0	0	0	0	15	0	0	15	0	0
0.41	0	0	0	0	0	0	7	0	0	7	0	0
0.42	0	0	0	0	0	0	11	0	0	11	0	0
0.43	0	0	0	0	0	0	6	0	0	6	0	0
0.44	0	0	0	0	0	0	12	0	0	12	0	0
0.45	0	0	0	0	0	0	8	0	0	8	0	0
0.46	0	0	0	0	0	0	10	0	0	10	0	0
0.47	0	0	0	0	0	0	4	0	0	4	0	0
0.48	0	0	0	0	0	0	7	0	0	7	0	0
0.49	0	0	0	0	0	0	7	0	0	7	0	0
0.50	0	0	0	0	0	0	13	1	0	13	1	0
SUBTOTAL	0	0	0	0	0	0	129	1	1	129	1	1

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

MISSION * 1033-2 * INSTRUMENT * AFT [redacted] 3/29/[redacted] DENSITY FREQ DIST

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	0	0	0	[redacted]					
0.52	0	0	0	0	0	0						
0.53	0	0	0	0	0	0						
0.54	0	0	0	0	0	0						
0.55	0	0	0	0	0	0						
0.56	0	0	0	0	0	0						
0.57	0	0	0	0	0	0						
0.58	0	0	0	0	0	0						
0.59	0	0	0	0	0	0						
0.60	0	0	0	0	0	0						
0.61	0	0	0	0	0	0						
0.62	0	0	0	0	0	0						
0.63	0	0	0	0	0	0						
0.64	0	0	0	0	0	0						
0.65	0	0	0	0	0	0						
0.66	0	0	0	0	0	0						
0.67	0	0	0	0	0	0						
0.68	0	0	0	0	0	0						
0.69	0	0	0	0	0	0						
0.70	0	0	0	0	0	0						
0.71	0	0	0	0	0	0						
0.72	0	0	0	0	0	0						
0.73	0	0	0	0	0	0						
0.74	0	0	0	0	0	0						
0.75	0	0	0	0	0	0						
0.76	0	0	0	0	0	0						
0.77	0	0	0	0	0	0						
0.78	0	0	0	0	0	0						
0.79	0	0	0	0	0	0						
0.80	0	0	0	0	0	0						
0.81	0	0	0	0	0	0						
0.82	0	0	0	0	0	0						
0.83	0	0	0	0	0	0						
0.84	0	0	0	0	0	0						
0.85	0	0	0	0	0	0						
0.86	0	0	0	0	0	0						
0.87	0	0	0	0	0	0						
0.88	0	0	0	0	0	0						
0.89	0	0	0	0	0	0						
0.90	0	0	0	0	0	0						
0.91	0	0	0	0	0	0						
0.92	0	0	0	0	0	0						
0.93	0	0	0	0	0	0						
0.94	0	0	0	0	0	0						
0.95	0	0	0	0	0	0						
0.96	0	0	0	0	0	0						
0.97	0	0	0	0	0	0						
0.98	0	0	0	0	0	0						
0.99	0	0	0	0	0	0						
1.00	0	0	0	0	0	0						
SUBTOTAL	0	0	0	3	6	0	106	67	2	109	[redacted]	

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

TABLE A-

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

MISSION * 1033-2 * INSTRUMENT * AFT * 8/29/66 DENSITY FREQ DISTR

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

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

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

MISSION * 1033-2 * INSTRUMENT * AFT 8/23/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FUEL MIN	FUEL MAX	FUEL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.51	0	0	0	0	0	0	0	1	0	0	1	0
1.52	0	0	0	0	0	0	0	1	0	0	1	0
1.53	0	0	0	0	0	0	0	1	0	0	1	0
1.54	0	0	0	0	0	0	0	1	0	0	1	0
1.55	0	0	0	0	0	0	0	1	0	0	1	0
1.56	0	0	0	0	0	0	0	1	0	0	1	0
1.57	0	0	0	0	0	0	0	1	0	0	1	0
1.58	0	0	0	0	0	0	0	1	0	0	1	0
1.59	0	0	0	0	0	0	0	1	0	0	1	0
1.60	0	0	0	0	0	0	0	1	0	0	1	0
1.61	0	0	0	0	0	0	0	1	0	0	1	0
1.62	0	0	0	0	0	0	0	1	0	0	1	0
1.63	0	0	0	0	0	0	0	1	0	0	1	0
1.64	0	0	0	0	0	0	0	1	0	0	1	0
1.65	0	0	0	0	0	0	0	1	0	0	1	0
1.66	0	0	0	0	0	0	0	1	0	0	1	0
1.67	0	0	0	0	0	0	0	1	0	0	1	0
1.68	0	0	0	0	0	0	0	1	0	0	1	0
1.69	0	0	0	0	0	0	0	1	0	0	1	0
1.70	0	0	0	0	0	0	0	1	0	0	1	0
1.71	0	0	0	0	0	0	0	1	0	0	1	0
1.72	0	0	0	0	0	0	0	1	0	0	1	0
1.73	0	0	0	0	0	0	0	1	0	0	1	0
1.74	0	0	0	0	0	0	0	1	0	0	1	0
1.75	0	0	0	0	0	0	0	1	0	0	1	0
1.76	0	0	0	0	0	0	0	1	0	0	1	0
1.77	0	0	0	0	0	0	0	1	0	0	1	0
1.78	0	0	0	0	0	0	0	1	0	0	1	0
1.79	0	0	0	0	0	0	0	1	0	0	1	0
1.80	0	0	0	0	0	0	0	1	0	0	1	0
1.81	0	0	0	0	0	0	0	1	0	0	1	0
1.82	0	0	0	0	0	0	0	1	0	0	1	0
1.83	0	0	0	0	0	0	0	1	0	0	1	0
1.84	0	0	0	0	0	0	0	1	0	0	1	0
1.85	0	0	0	0	0	0	0	1	0	0	1	0
1.86	0	0	0	0	0	0	0	1	0	0	1	0
1.87	0	0	0	0	0	0	0	1	0	0	1	0
1.88	0	0	0	0	0	0	0	1	0	0	1	0
1.89	0	0	0	0	0	0	0	1	0	0	1	0
1.90	0	0	0	0	0	0	0	1	0	0	1	0
1.91	0	0	0	0	0	0	0	1	0	0	1	0
1.92	0	0	0	0	0	0	0	1	0	0	1	0
1.93	0	0	0	0	0	0	0	1	0	0	1	0
1.94	0	0	0	0	0	0	0	1	0	0	1	0
1.95	0	0	0	0	0	0	0	1	0	0	1	0
1.96	0	0	0	0	0	0	0	1	0	0	1	0
1.97	0	0	0	0	0	0	0	1	0	0	1	0
1.98	0	0	0	0	0	0	0	1	0	0	1	0
1.99	0	0	0	0	0	0	0	1	0	0	1	0
2.00	0	0	0	0	0	0	0	1	0	0	1	0
SUBTOTAL	0	0	0	0	2	1	0	57	43	0	5	1

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

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

MISSION * 1033-2 * INSTRUMENT * AFT 8/25/66 DENSITY [illegible]

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	1	0	0	1
2.02	0	0	0	0	0	0	0	0	1	0	0	1
2.03	0	0	0	0	0	0	0	0	1	0	0	1
2.04	0	0	0	0	0	0	0	0	1	0	0	1
2.05	0	0	0	0	0	0	0	0	1	0	0	1
2.06	0	0	0	0	0	0	0	0	1	0	0	1
2.07	0	0	0	0	0	0	0	0	1	0	0	1
2.08	0	0	0	0	0	0	0	0	1	0	0	1
2.09	0	0	0	0	0	0	0	0	1	0	0	1
2.10	0	0	0	0	0	0	0	0	1	0	0	1
2.11	0	0	0	0	0	0	0	0	1	0	0	1
2.12	0	0	0	0	0	0	0	0	1	0	0	1
2.13	0	0	0	0	0	0	0	0	1	0	0	1
2.14	0	0	0	0	0	0	0	0	1	0	0	1
2.15	0	0	0	0	0	0	0	0	1	0	0	1
2.16	0	0	0	0	0	0	0	0	1	0	0	1
2.17	0	0	0	0	0	0	0	0	1	0	0	1
2.18	0	0	0	0	0	0	0	0	1	0	0	1
2.19	0	0	0	0	0	0	0	0	1	0	0	1
2.20	0	0	0	0	0	0	0	0	1	0	0	1
2.21	0	0	0	0	0	0	0	0	1	0	0	1
2.22	0	0	0	0	0	0	0	0	1	0	0	1
2.23	0	0	0	0	0	0	0	0	1	0	0	1
2.24	0	0	0	0	0	0	0	0	1	0	0	1
2.25	0	0	0	0	0	0	0	0	1	0	0	1
2.26	0	0	0	0	0	0	0	0	1	0	0	1
2.27	0	0	0	0	0	0	0	0	1	0	0	1
2.28	0	0	0	0	0	0	0	0	1	0	0	1
2.29	0	0	0	0	0	0	0	0	1	0	0	1
2.30	0	0	0	0	0	0	0	0	1	0	0	1
2.31	0	0	0	0	0	0	0	0	1	0	0	1
2.32	0	0	0	0	0	0	0	0	1	0	0	1
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	1
2.37	0	0	0	0	0	0	0	0	1	0	0	1
2.38	0	0	0	0	0	0	0	0	1	0	0	1
2.39	0	0	0	0	0	0	0	0	1	0	0	1
2.40	0	0	0	0	0	0	0	0	1	0	0	1
2.41	0	0	0	0	0	0	0	0	1	0	0	1
2.42	0	0	0	0	0	0	0	0	1	0	0	1
2.43	0	0	0	0	0	0	0	0	1	0	0	1
2.44	0	0	0	0	0	0	0	0	1	0	0	1
2.45	0	0	0	0	0	0	0	0	1	0	0	1
2.46	0	0	0	0	0	0	0	0	1	0	0	1
2.47	0	0	0	0	0	0	0	0	1	0	0	1
2.48	0	0	0	0	0	0	0	0	1	0	0	1
2.49	0	0	0	0	0	0	0	0	1	0	0	1
2.50	0	0	0	0	0	0	0	0	1	0	0	1
SUBTOTAL	0	0	0	0	0	3	0	7	210	0	7	213

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

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

MISSION * 1033-2 * INSTRUMENT * AFT 8/25/66 DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
2.51	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	3	3	4	242	242	263	245	245	267

MISSION 1033-2 INSTR - AFT 8/25/66 PROCESSING AND EXPOSURE ANALYS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP&PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0
INTERMEDIATE	3	0 PC	0 PC	100 PC	0 PC	0
FULL	242	12 PC	0 PC	84 PC	4 PC	0
ALL LEVELS	245	12 PC	0 PC	84 PC	4 PC	0

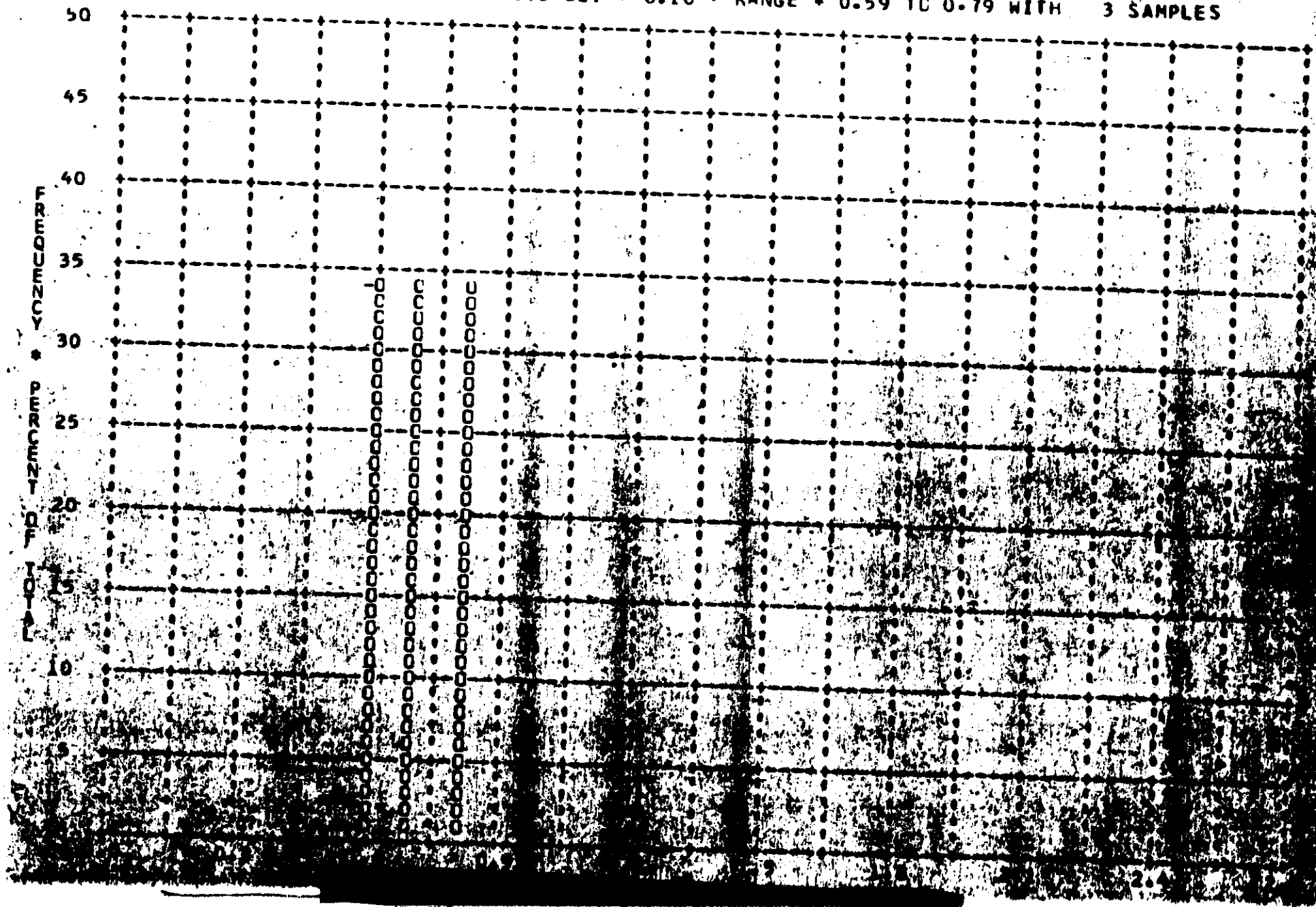
PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP&PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND U
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.34	1.35 AND U
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70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

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

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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * INTERMEDIATE

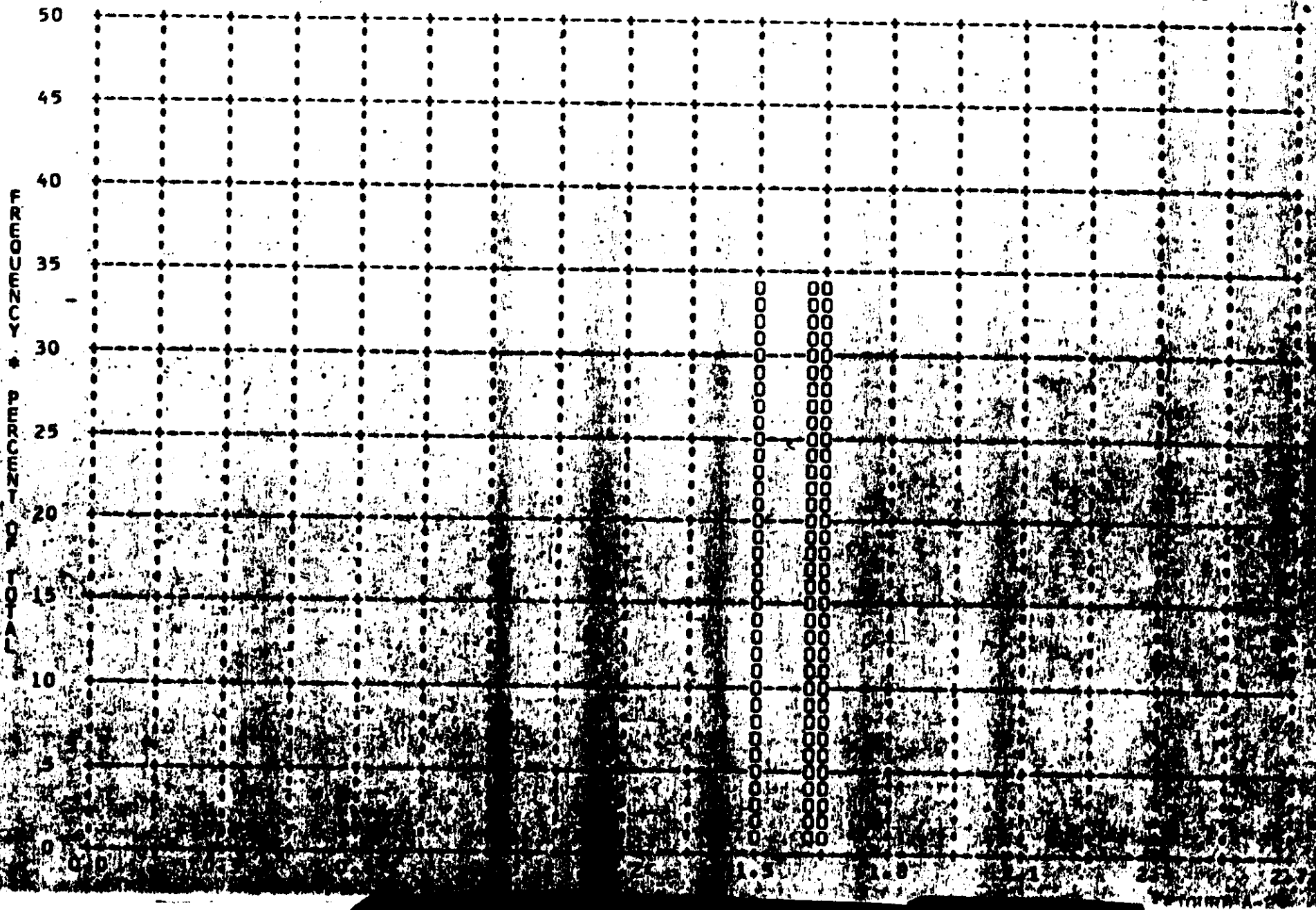
ARITH MEAN * 0.69 * MEDIAN * 0.69 * STD DEV * 0.10 * RANGE * 0.59 TO 0.79 WITH 3 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * INTERMEDIATE

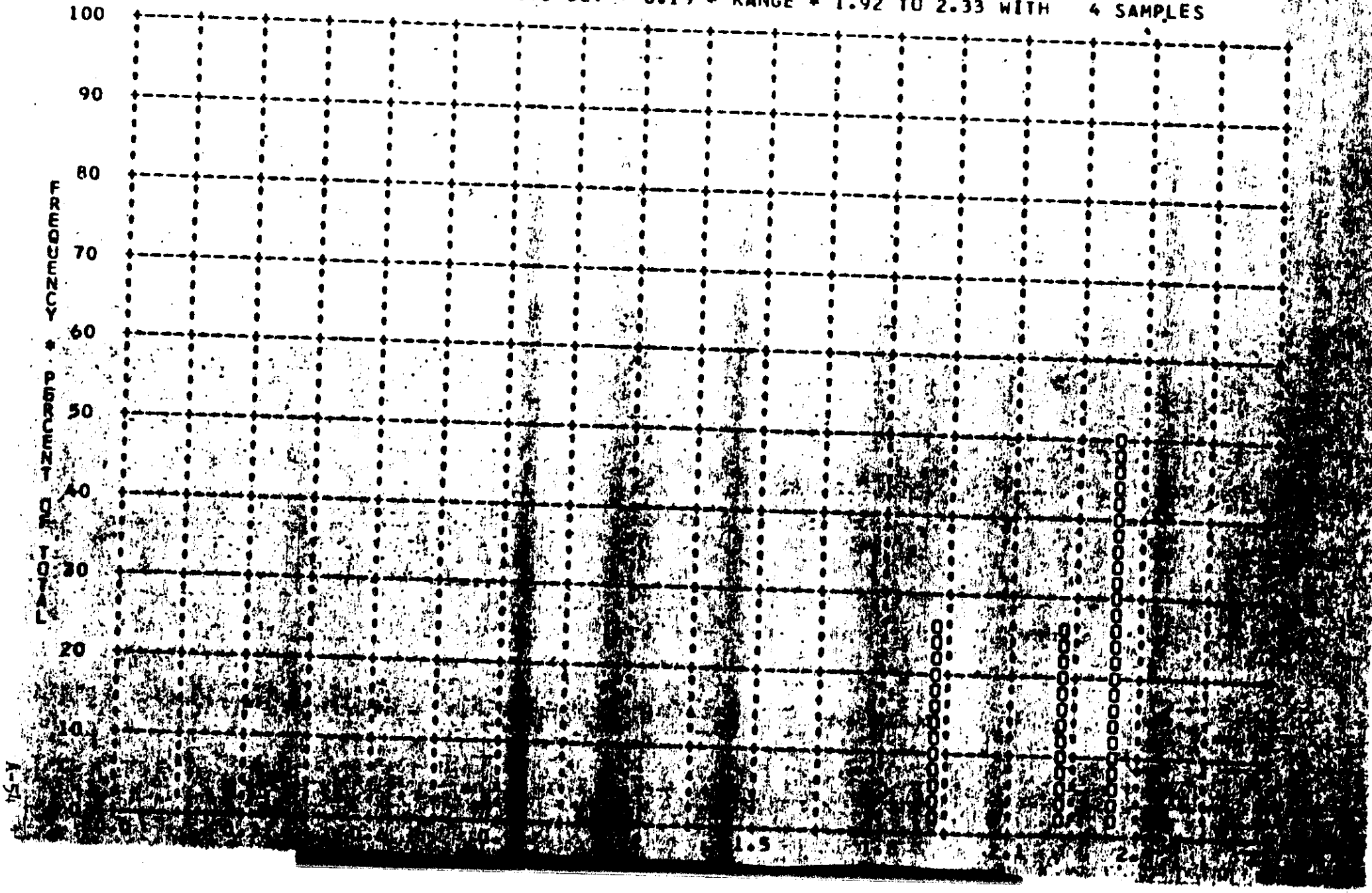
ARITH MEAN * 1.58 * MEDIAN * 1.60 * STD DEV * 0.07 * RANGE * 1.50 TO 1.64 WITH 3 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * INTERMEDIATE *

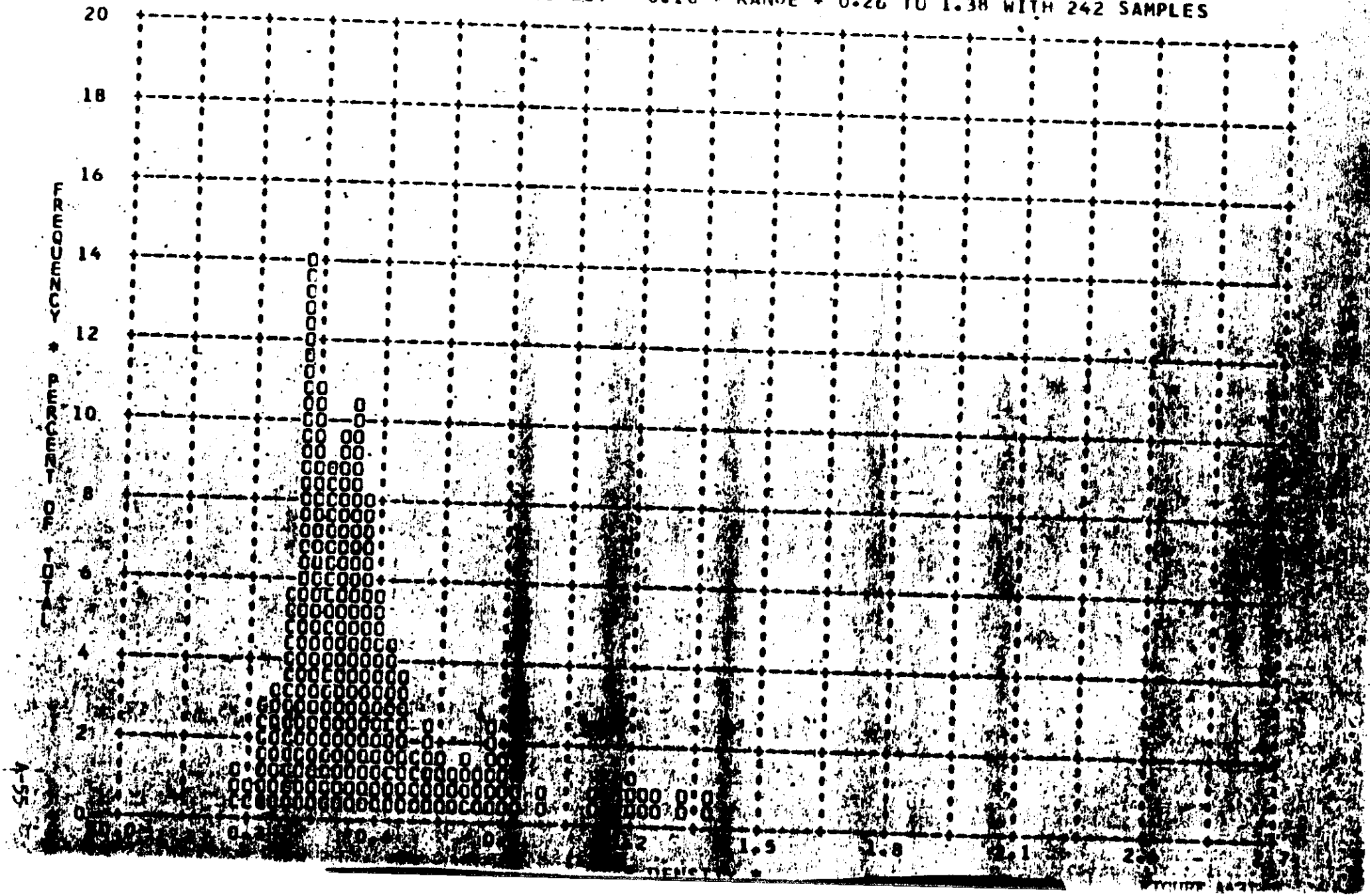
ARITH MEAN * 2.20 * MEDIAN * 2.32 * STD DEV * 0.19 * RANGE * 1.92 TO 2.33 WITH 4 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * FULL

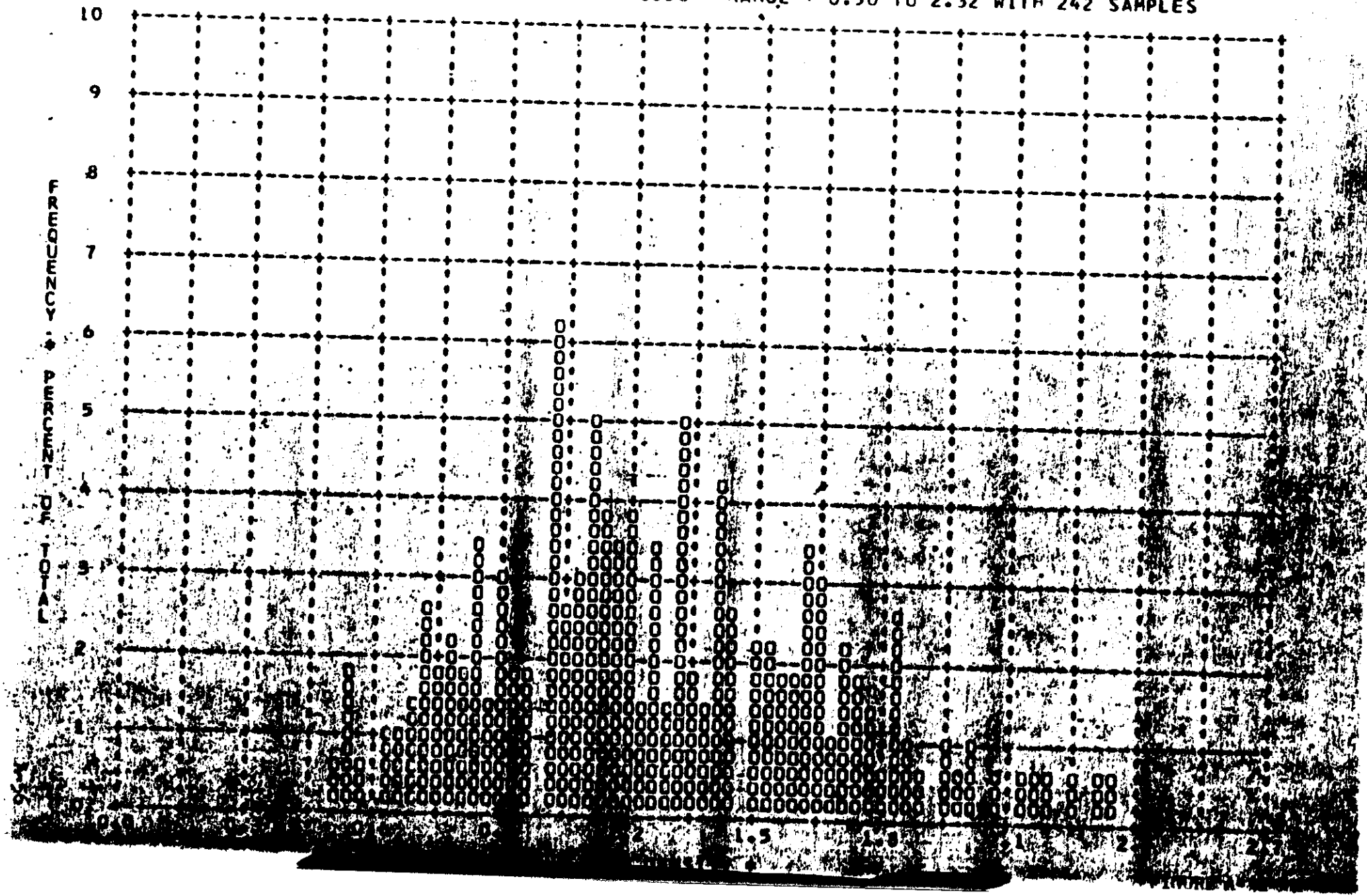
ARITH MEAN * 0.54 * MEDIAN * 0.50 * STD DEV * 0.18 * RANGE * 0.26 TO 1.38 WITH 242 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * FULL

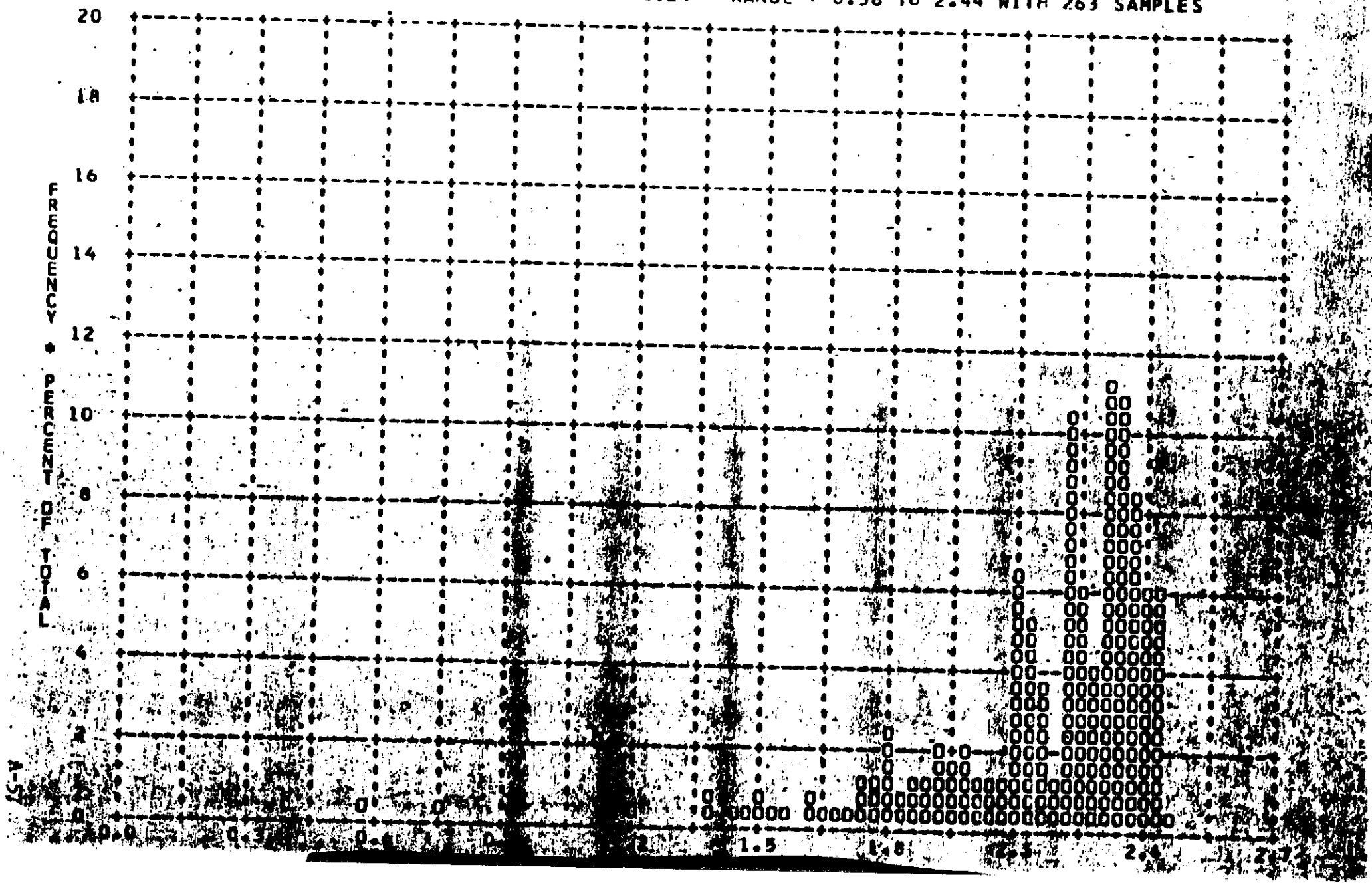
ARITH MEAN * 1.25 * MEDIAN * 1.20 * STD DEV * 0.38 * RANGE * 0.50 TO 2.32 WITH 242 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * FULL

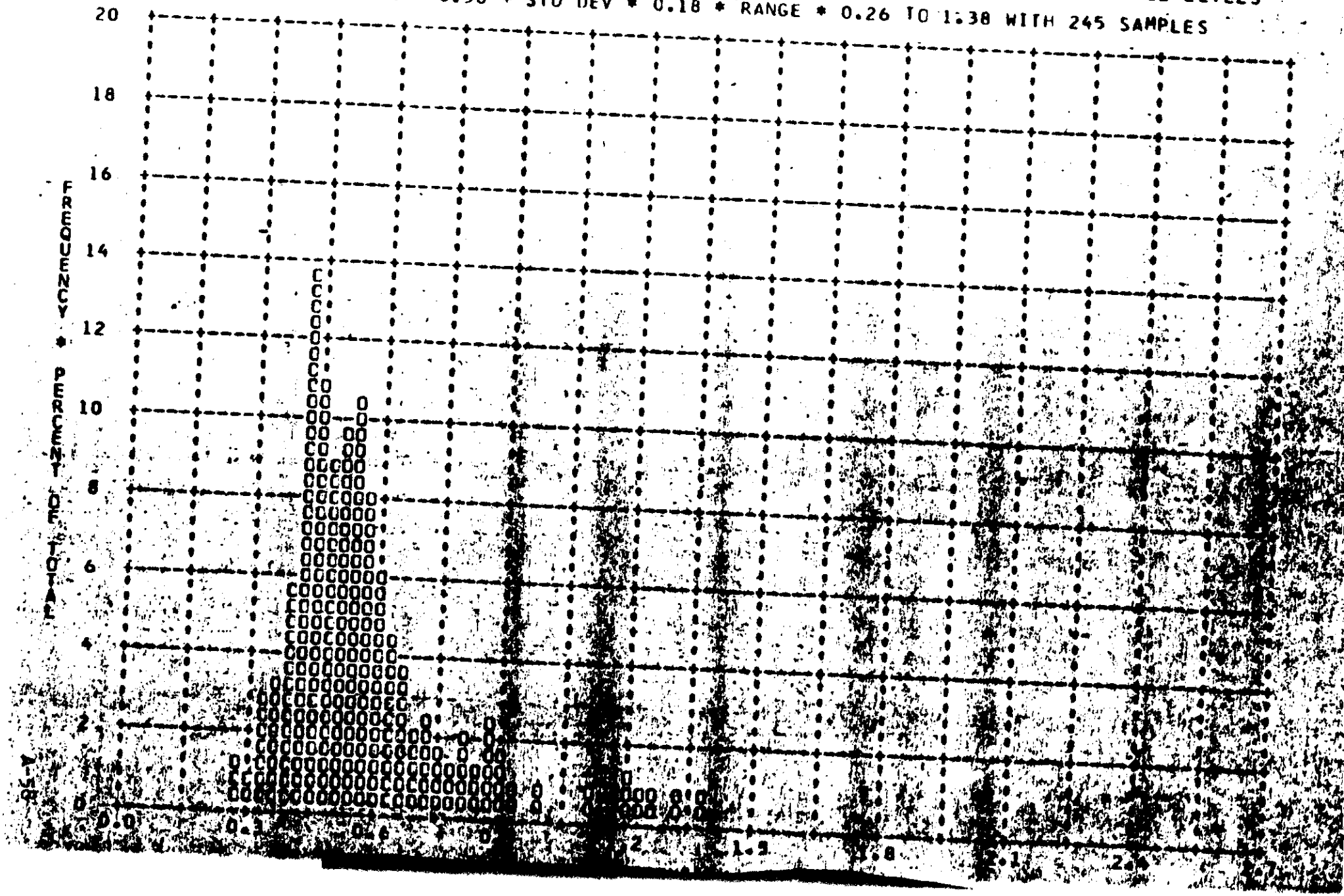
ARITH MEAN * 2.15 * MEDIAN * 2.24 * STD DEV * 0.29 * RANGE * 0.38 TO 2.44 WITH 263 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MIN * TERRAIN * PROCESSING * ALL LEVELS

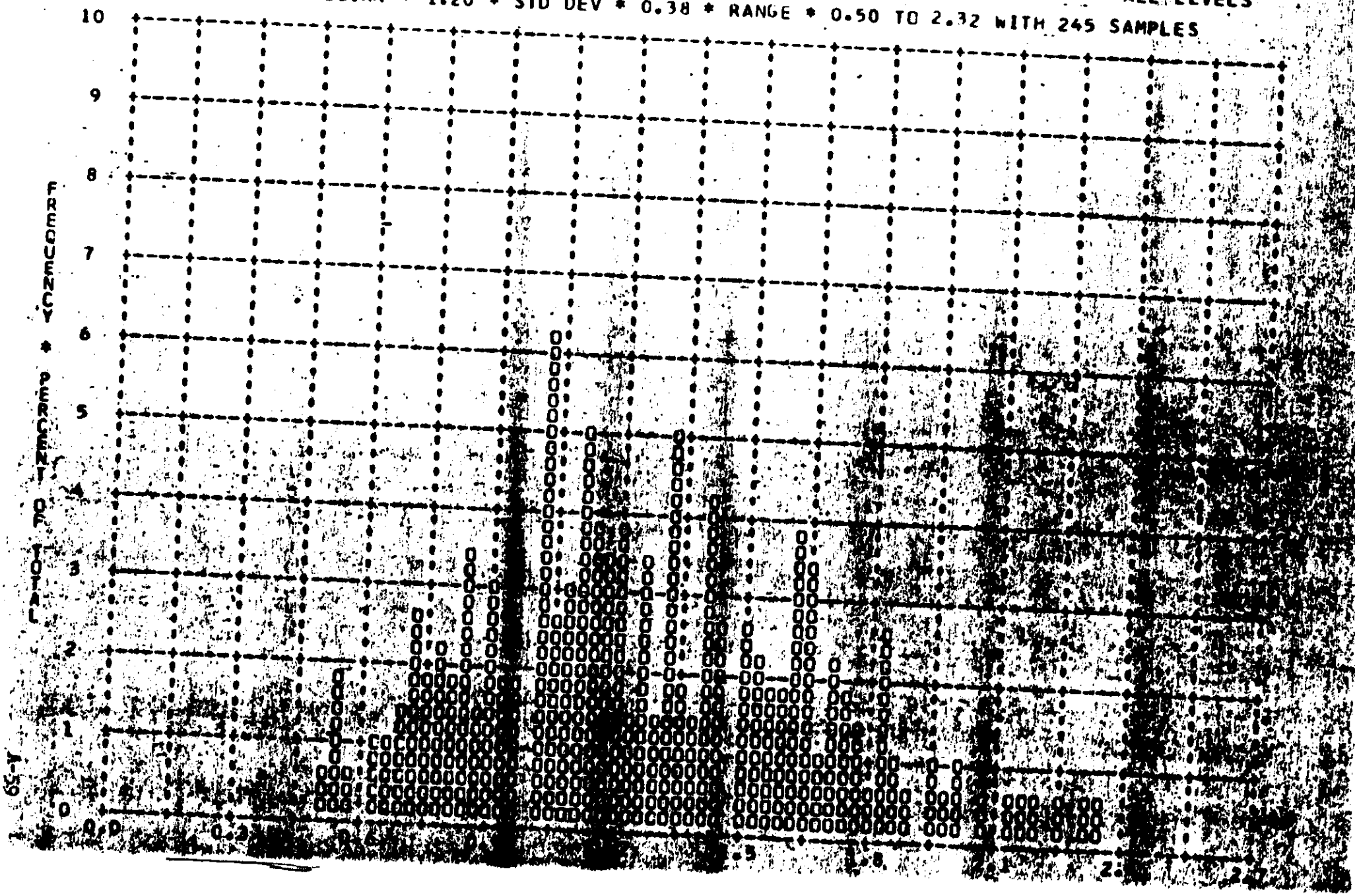
ARITH MEAN * 0.54 * MEDIAN * 0.50 * STD DEV * 0.18 * RANGE * 0.26 TO 1.38 WITH 245 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * TERRAIN * PROCESSING * ALL LEVELS

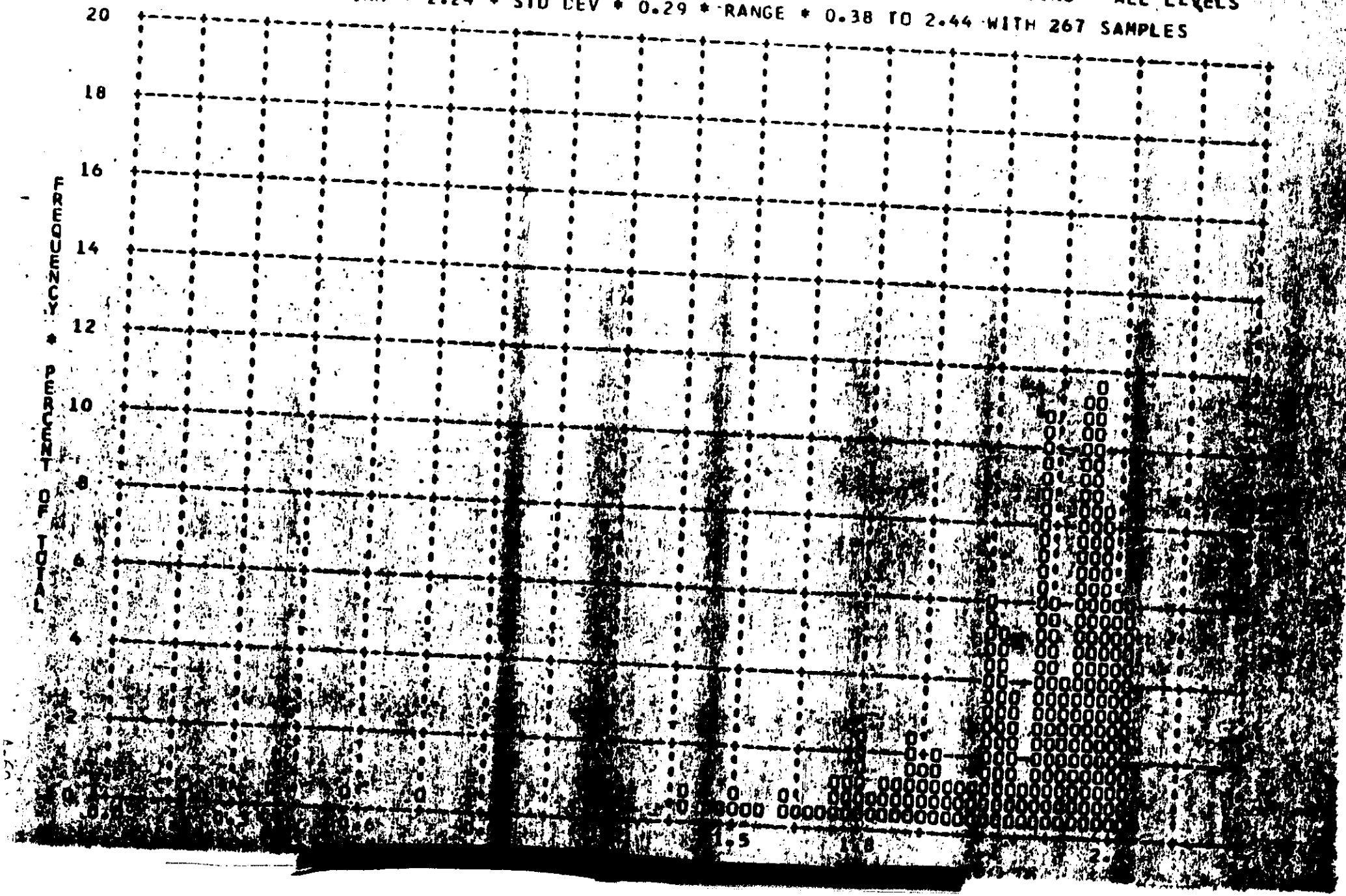
ARITH MEAN * 1.25 * MEDIAN * 1.20 * STD DEV * 0.38 * RANGE * 0.50 TO 2.32 WITH 245 SAMPLES



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

MISSION * 1033-2 * INSTR * AFT * 8/25/66 PLOT OF D MAX * CLOUD * PROCESSING * ALL LEVELS

ARITH MEAN * 2.15 * MEDIAN * 2.24 * STD DEV * 0.29 * RANGE * 0.38 TO 2.44 WITH 267 SAMPLES



Distribution:

Copy No.	To
[redacted]	