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CORONA J

PERFORMANCE EVALUATION REPORT

MISSION 1021-1 and 1021-2

FTV 1615; J-21

7 January 1966

[redacted]

Approved: [redacted] Mgr.
Advanced Projects

Approved: [redacted] Mgr.

FOREWORD

This report details the performance of the payload system during the operational phase of the Program [redacted] Flight Test Vehicle 1615.

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

This document is the final payload test and performance evaluation report for Missions 1021-1 and 1021-2 which was launched on 18 May 1965.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

INTRODUCTION

This report presents the final performance evaluation of Missions 1021-1 and 1021-2 of the Corona Program. The purpose of this report is to define the performance characteristics of the J-21 payload system, to identify the source of in-flight anomalies and recommend the appropriate corrective action.

The performance evaluation was jointly conducted by representatives of Lockheed Missiles and Space Company (LMSC) and ITEK at the facilities of NPIC and AFSPPL. The off-line evaluation using Corona engineering photography acquired over the United States was performed at the individual contractors plants.

The quantitative data used for this report is obtained from government organizations. The diffuse density data, visual RES values and MTF/AIM resolution are produced by AFSPPL. The vehicle attitude error values, frame correlation times are made at NPIC who also supply the Processing Summary and MTF/AIM resolution reports published by [redacted]

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

SECTION 1

SYSTEM PERFORMANCE

A. MISSION OBJECTIVES

The payload section of Mission 1021, placed into orbit by Flight Test Vehicle # 1615 and SLV-2A booster #438, 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-21 payload system. This Corona "J" system was the first to be designed to acquire search, and mapping photography of selected areas of the earth from orbital altitudes. In order to accomplish these multiple objectives, the system was launched in the morning and flown on orbit in a nose first orientation. The planned mission was two, five day photographic periods with no deactive period.

B. MISSION DESCRIPTION

The payload was launched from Vandenberg Air Force Base (VAFB) at 1802:39 Z (1102:39 PDT) on 18 May 1965. Ascent and injection were normal and the achieved orbit within nominal tolerances. Tracking and command support was effected by the Air Force Satellite Control Facility consisting of tracking and command stations at [redacted] under central control of the Satellite Test Center at Sunnyvale, California. Mission 1021-1 consisted of five days operation and was completed by air recovery on 23 May 1965. Mission 1021-2 also consisted of five days operation, and was completed by air recovery on 28 May 1965.

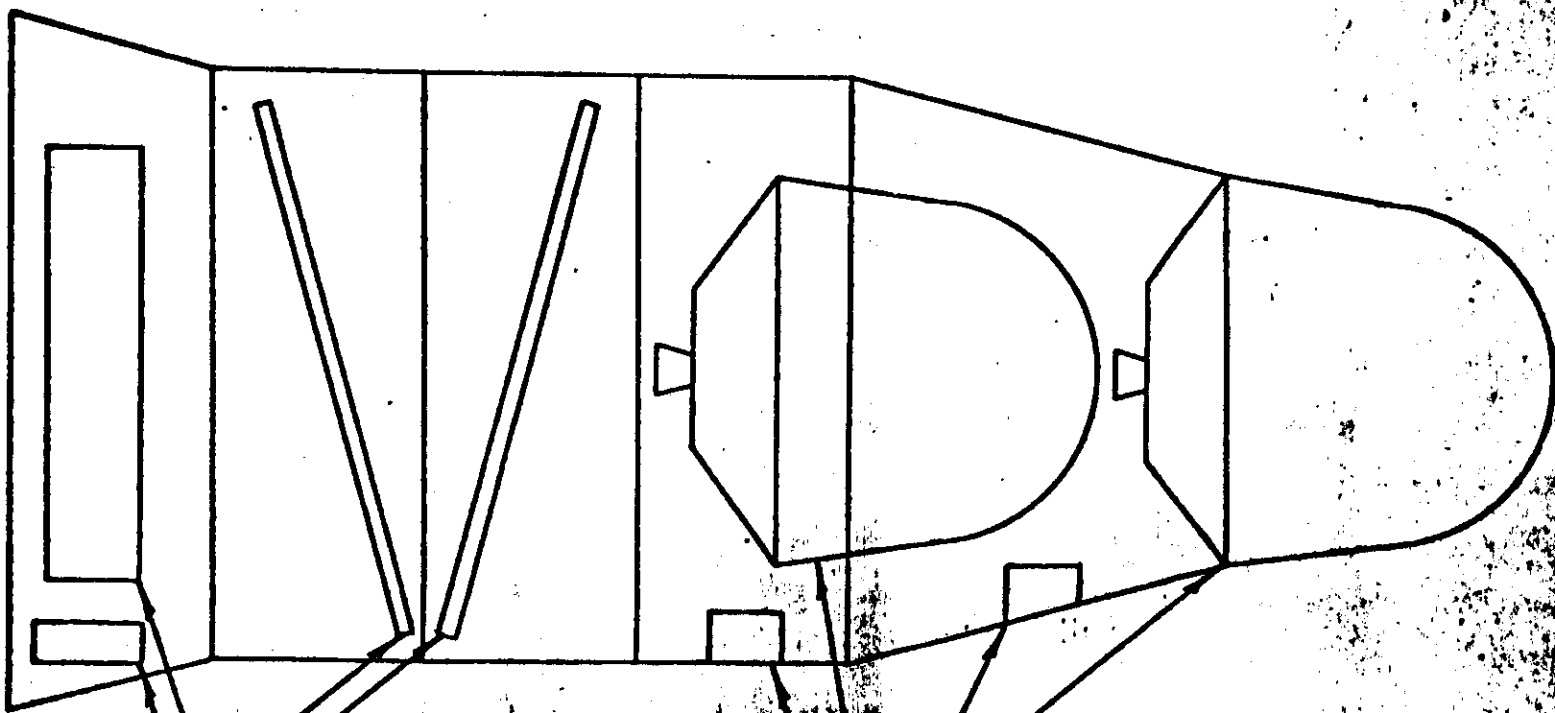
The comparison of the planned and actual orbit parameters is tabulated as follows:

ORBITAL PARAMETERS

Parameter	Predicted	Actuals (Orbit 40)
Period (Min.)	89.87	89.81
Perigee (N. M.)	109.99	109.17
Apogee (N. M.)	182.51	180.06
Inclination (Deg.)	75.00	75.02
Perigee Latitude (Deg. N.)	22.30	24.29
Eccentricity	0.00988	0.00988

SCHEMATIC INBOARD PROFILE - CORONA J SYSTEM

MISSION 1021



Master Camera No: 166

Slave Camera No: 167

Supply Cassette No: SC-32

Clock No: 529

Yaw Programmer No: N/A

"A" Recovery Subsystem No: 674

"A" Stellar-Index Camera No: D63/69/69

"B" Recovery Subsystem No: 670

"B" Stellar-Index Camera No: D25/27/25

Pressure Make-up Unit No: 1001

FIGURE [illegible]

C. PANORAMIC CAMERAS

Both panoramic cameras performed satisfactorily through the first mission. A cut in the supply film caused the master camera to fail on the first operation of the second mission. The slave camera continued to operate satisfactorily through the second mission. The cloud cover and atmospheric haze observed in the photography was nominal.

D. STELLAR-INDEX CAMERAS

The Stellar/Index camera for the first mission performed normally for 380 frames and then experienced a failure of the film transport function on the last 37 frames. The Mission 1021-2 Stellar/Index camera performed normally throughout the second mission.

E. OTHER SUB-SYSTEMS

The telemetry and command system performance was satisfactory throughout the flight with one exception; the cycle counters on both panoramic cameras were intermittent.

The clock and the pressure make-up system operated normally throughout both missions. Both recovery units were successfully air-recovered however, the first unit was recovered by means of the secondary capsule programmer.

F. CONCLUSIONS

Missions 1021-1 and 1021-2 achieved the objectives of acquiring high quality mapping and reconnaissance photography from orbital altitudes. The concept of nose-first orientation and morning launches for mapping objectives has proved feasible.

G. RECOMMENDATIONS

The evaluation and analysis of the data produced by the mission has resulted in the following recommendations.

1. The splicing techniques and procedures used by the film manufacturer should be reviewed to preclude the re-occurrance of splice associated failures.

2. A film chute should be added to the Corona system between the Slave camera main-plate and the intermediate roller assembly. It does not appear possible to eliminate the camera drum light leak hence a protective chute merits consideration.

3. The slur pulse now presented on the Master camera film to denote Stellar-Index camera operation should also be displayed on the Slave camera film. It is recognized that the pulse would not always be present due to the lack of camera synchronization however this modification would permit partial time correlation of the S/I camera when the Master camera time track is inoperative.

4. The binary data lamps should be adjusted to permit automatic readout at all processing levels. Primary processing has been used to a much greater degree during recent missions.

5. Develop a light leak specification for the ablative shells and investigate measures to preclude existing light leaks.

6. Investigate the abrasion pattern on the Stellar and Index film.

SECTION 2

PRE-FLIGHT SYSTEMS TESTS

A. ENVIRONMENTAL TESTING

1. Test Objective

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

2. Test Summary

The J-21 payload system was sent to the TASC chamber on 10 February 1965. Active testing was conducted during the day shift only. The test procedure was prepared to simulate an entire flight, including: The "A" bucket sequence, of 16 active orbits, cut and wrap, a deactive soak period, a "B" bucket sequence of 16 active orbits, and a "B" recovery sequence.

The J-21 payload system was the first system to incorporate the new 5 volt temp. system. Two self-heating tests were conducted to check the efficiency of the new system to reduce self-heating effects. The results of the two self-heating tests indicate no self-heating due to power consumption in the sensors. At initial turn-on of power to the temp sensor system, the gain of the differential amplifier appeared to be slightly non-linear. This non-linear amplification became linear after a brief period in which the differential amplifier stabilized iteslf.

The pressure makeup system (PMU) failed during orbit 4 of the "A" bucket sequence.

The clock showed erratic errors during the "B" bucket sequence. An analysis of the time errors indicated an increasing error towards the end of the "B" Sequence.

An analysis of the analog T/M data indicates a satisfactory performance of the panoramic instruments. Cycle rate errors did not exceed 1.75 percent. There were a few scattered instances of noise on the instrument's take-up and supply idler telemetry monitors but it was not of sufficient intensity or frequent enough to imply detrimental instrument behaviour.

The test was completed on 19 February 1965, after 8 consecutive days of simulated orbital pressures. The J-21 payload system was returned to the A/P facility on 20 February 1965.

3. Panoramic Camera Performance

Satisfactory instrument operation was observed throughout the test on channels 6, 8, 9 and 10, which monitor such functions as payload transport and clamping, 99/101 clutch operation, lens rotation, and center of format. Instrument operation at start and shutdown was normal. Cycle rate errors did not exceed 1.75%, and the majority of the random cycle rate readings indicated errors of approximately 1% or less.

There appeared to be dirty contacts on the Master instrument supply idler monitor. The supply idler channels and the clock channel exhibited a strange pulse when the instrument operate command was given. This unusual pulse was similar to the pulse caused by ground loops during a center of format pulse. However, this pulse was not evident during pre-TASC functional testing, and previous payload systems have not exhibited these same pulses.

Evaluation of the test film showed that both cameras produced minor start-up corona marking which was well within the acceptance criteria. The J-21 system was recommended for flight.

4. Stellar-Index Camera Performance

T/M data indicated satisfactory performance by both the number one and number two S/I units.

At the conclusion of the test the J-21 "A" S/I unit was switched to the J-20 payload system, and the J-20 "A" S/I unit was switched to become the J-21 "A" S/I. The J-20 "A" S/I unit indicates no malfunctions during its test history.

Stellar/Index units D-69 (installed in SRV #1) and D-25 (installed in SRV #2) showed generally good performance. Acceptable levels of corona discharge and edge static were observed in the stellar portion of D-25, while the remaining units were free of corona marking.

5. Clock Performance

The serial readouts of the clock were carefully monitored during the "B" bucket phase of the test. On the basis of a time correlation between clock readouts and the IRIG "C" time at the TASC chamber, it would appear that the clock off-set was increasing with time. This clock off-set was not a linear off-set that could possibly be eradicated by re-nulling the clock.

This clock has a history of problems that dates back to the J-11 payload system, to which it was originally assigned.

6. Instrumentation Performance

The instrumentation performance was satisfactory during the test. The supply idler monitor of the master instrument had noise that implied dirty contacts or a dirty wiper. An instrumentation change was incorporated that switches both fairing temp sensors 1 and 6 to forward barrel temp sensor 1 at first recovery.

This change was incorporated to provide compatibility with the differential amplifier in the 5 volt temp system. Prior to the test a jumper was installed incorrectly, and the resistance from the commutator point to ground was changed. This gave the T/M indication of an improper switching.

7. Pressure Makeup System Performance (PMU)

Power to the payload system was shutdown during orbit #4. This power shutdown was programmed to allow the first of the two self-heating tests to be conducted. Upon conclusion of the first self-heating test, power was applied to the payload system and the PMU system did not operate at the first instrument on command. Prior to the power shutdown the PMU system had performed satisfactorily.

The internal pressure curve, presented in Figure 2-1, indicates instrument startup and tail-off pressures recorded from an alphatron gage. The shaded area indicates a minimum and maximum startup pressures for all operations for each associated orbit. The dotted line curve indicated the maximum pressure attained by one operation per orbit.

The PMU system did not operate again during the remainder of the TASC test.

8. Temperature Summary

The J-21 payload system was the first system to use the new 5 volt temperature system. Two self-heating tests were conducted to determine the amount of self-heating. Little or no self-heating was observed in either of the two tests. The amplifier appears to have a short time interval of instability when power is initially applied. In flight self-heating tests may add data that will allow for a more conclusive deduction concerning self-heating effects. Tests on future payload systems will also add new data.

The temperature data from the TASC test indicated no major anomalies; however, one temperature sensor was reading low throughout the test. T/S 108 read 6 to 8 degrees below the master instrument average temperature. A post TASC clean room check at ambient temperature indicated that T/S 108 was still reading 6 to 8 degrees low.

B. RESOLUTION TEST

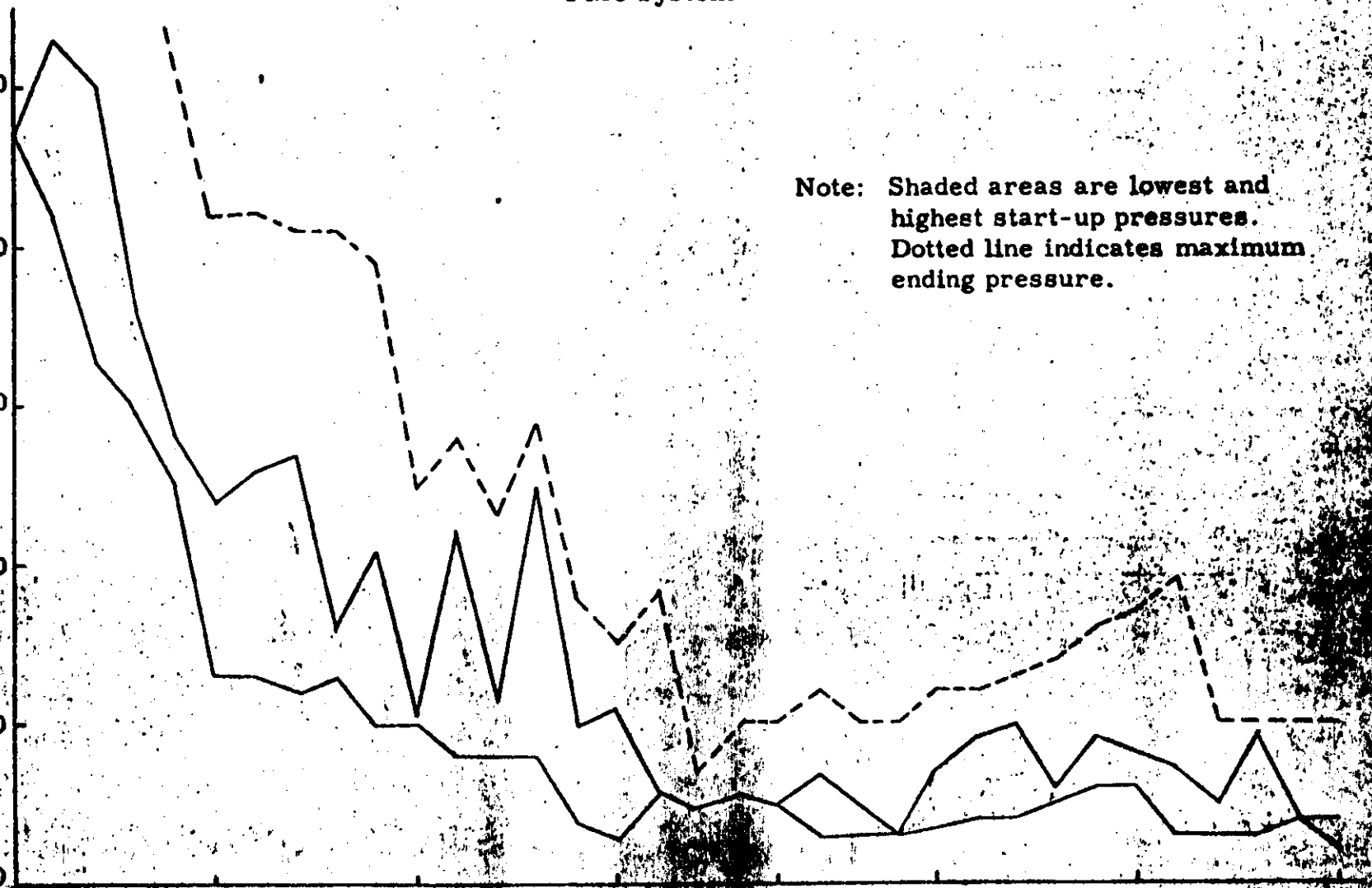
The dynamic resolution test of the J-21 payload system was performed at the A/P facility on 24 March 1965. Each panoramic camera photographed high and low contrast resolution targets. The resulting through focus resolution data is shown in Figure 2-2 for the Master camera and in Figure 2-3 for the Slave camera.

C. LIGHT LEAK TEST

The examination of the film threaded in the J-21 system during the light leak test determined that only trace film fogging was present. The light leak integrity of the system was considered acceptable for flight.

[redacted]

J-21 TASC TEST
PMU System



Note: Shaded areas are lowest and highest start-up pressures. Dotted line indicates maximum ending pressure.

FIGURE

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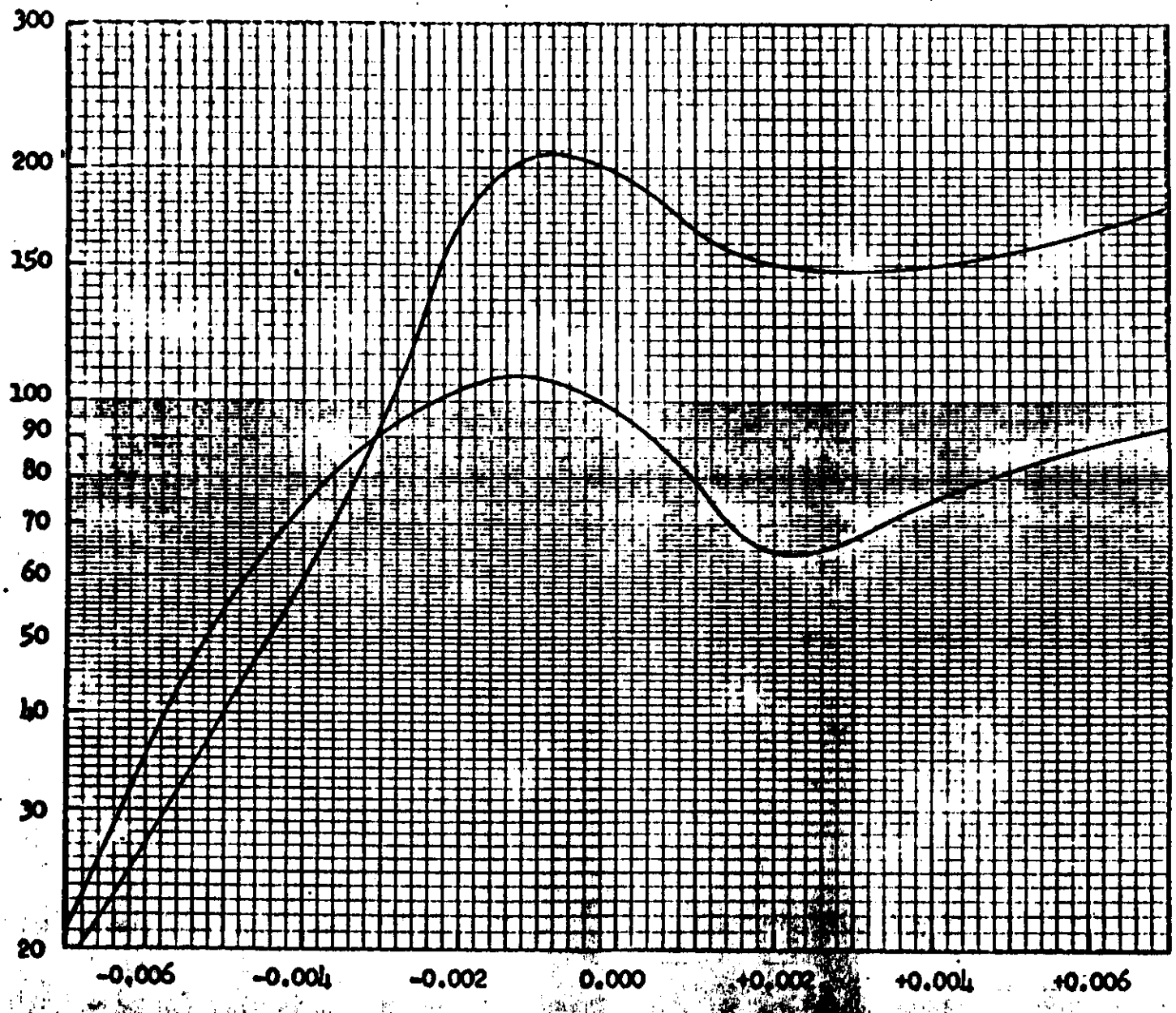
PRE-FLIGHT DYNAMIC RESOLUTION



Camera No: 166

Payload No: J-21

Resolution (l/mm)

High Contrast: 208

Low Contrast: 107

Film Type: 3404

Test Date: 24 March [redacted]

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Figure 2-2

PRE-FLIGHT DYNAMIC RESOLUTION

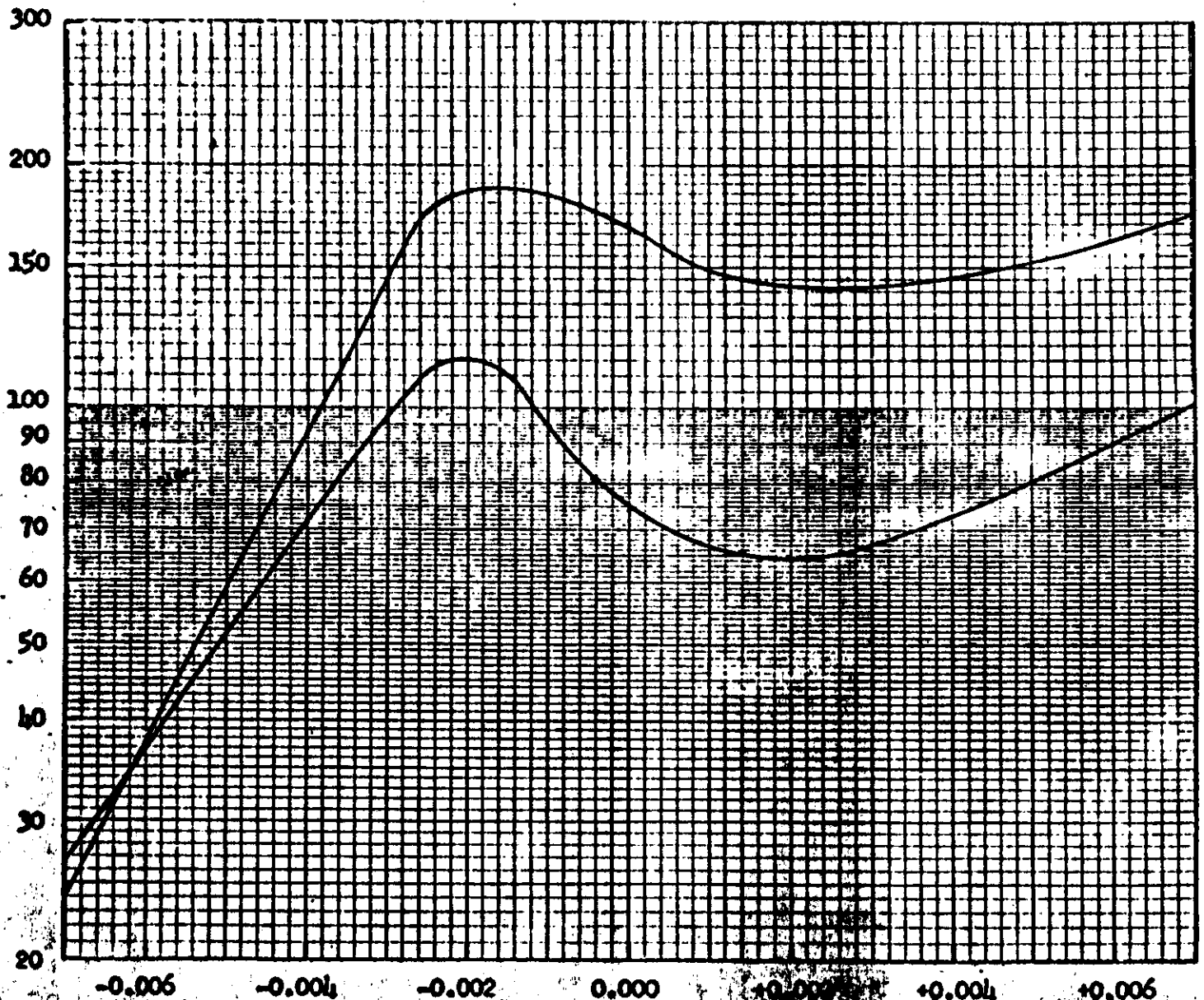


Figure 2-3

Camera No: 167

Payload No: J-21

Resolution (l/mm)

High Contrast: 187

Low Contrast: 116

Film Type: 3404

Test Date: 24 March

D. FLIGHT LOADING CERTIFICATION

J-21 flight readiness film was examined at VAFB 5/12/65. Both instruments 166 and 167 exhibited nearly identical performance. No rail or other scratches appeared in the format area. All fiducials, C/F's, shrinkage, data lamps and timing tracks were clear and sharp. Very slight banding was noted at start of scan, minor mechanical damage was noted and was attributed to handling and processing.

Very light minus density "scratch-like" marks were found randomly in instrument 167 film. A short section of the sensitometric sample removed from this spool was examined (unprocessed) and found to contain similar marks, and are possibly due to film manufacture. Further investigation is under way.

During the confidence run, following flight loading, a tracking problem was discovered on the master supply film path.

Film was attempting to climb the flange of the output roller on the constant tension device on the supply cassette. To improve this situation, Bell pulled the alignment pin, adjusted the position of the constant tension assembly for acceptable tracking, and repinned the assembly.

The "A" S/I was damaged on the pad run. It was removed and replaced by the "A" S/I from J-20.

The last confidence run was completed about 1:00 A.M., 5/14/65. This system meets all established criteria for flight readiness.

SECTION 3

FLIGHT OPERATIONS

A. INSTRUMENTATION AND COMMAND PERFORMANCE

The telemetry instrumentation was satisfactory throughout both missions. A new low-voltage system for thermal monitoring was used for the first time. This system consumes less power and does not require correction for self-heating. Performance of the system was normal throughout the life of the vehicle.

The only problems with instrumentation were the cycle counters on both panoramic cameras. The counter on the master camera was intermittent prior to launch and during flight. The counter on the slave camera became intermittent during flight. The intermittent counters did not present any operational problems but resulted in uncertainty in the number of frames [redacted] any operation. Corrective action has been taken and will be effective [redacted] six more systems. During the "A" mission, instrument 167 was apparently cycling 3 to 4 percent below calibration. A reference level one step higher than nominal was utilized to compensate for this and instrument 167 operated within approximately 2 percent of the cycle rate necessary to match the orbit during the "A" and "B" missions. Instrument 166 cycled slightly faster than instrument 167 but due to cycle counter problems the match of the cycle rate to the orbit could not be precisely determined.

The real time command system operated normally throughout the flight. Commanding was restricted due to the numerous camera operations during tracking station acquisitions but this did not result in any operational problems.

The stored command system performed satisfactorily throughout the flight. However, a discrepancy occurred during the -2 mission which caused a camera operation to be cut short.

. During rev. 117 an extraneous brush 28 (redundant off) was encountered during a programmed operation. This punch caused the instruments to prematurely shut off during operation 117-05-2.

It was determined that a logic error in the computer program which generated the H-timer inputs caused a punching of four extraneous brush 28 punches. The other three punches did not effect the selected operations and the computer program was corrected to insure that this problem will not arise in the future.

B. PANORAMIC CAMERA PERFORMANCE

Engineering operations were programmed for acquisition over [redacted] Tracking Station during Orbits 9, 16, 25, 32, 48, 64 and 79 of Mission 1021-1, and 89, 95, 105, 111, 120, 127, 136 and 143 of Mission 1021-2.

Instrument operation and payload metering was satisfactory throughout both Missions 1021-1 and 1021-2 as indicated on TLM by the center-of-format, lens rotation, and payload supply and take-up monitors. Both panoramic cameras performed satisfactorily during the first mission and during transfer to the second recovery system. The slave camera continued to operate satisfactorily through the second mission.

On the first operation of the second mission (orbit 85), the film for the Master camera pulled out of the format support rails. This resulted in an out of focus condition and incorrect film transport. Telemetry data from orbit 89 and 95 showed the unit to be operating but with very erratic film transport. Data from orbit 102 indicated the unit's film transport had stopped on orbit 98 or 101.

A ground test at A/P was made simulating the flight condition of supply spool loading, take-up spool loading, and camera cycle rate but with a lessor cut in the film. As the lens and scan arm assembly entered the photographic scan across the cut area, the film pulled out of the rails and resulted in the same condition as seen in flight. Therefore, it was concluded that the probable cause of the flight failure was the cut in the film supplied for flight.

System dynamic operations were observed during several [redacted] Tracking Station acquisitions. Table 3-1 presents the cycle rate data of the panoramic cameras and their deviation from the pre-flight calibration. The Master camera averaged 1.5 percent slow prior to the failure and the Slave averaged 3.5 percent slow throughout the flight. The V/h ramp was changed on orbit 13 to compensate for the slower-than-predicted rates.

J-21/1615 MISSION 1021 CYC RATE SUMMARY-ENGR. OPERATIONS

REV/MODE		RAMP		T.U.R.	INST 166 ACT.	INST 166 NOM.	INST 166 DEV.	INST 167 ACT.	INST 167 NOM.	INST 167 DEV.	166/167 DIFF.
9	A	7	6	140	4.000	3.902	-2.51	4.020	3.909	-2.85	0.50
16	A	6	6	1582	2.423	2.387	-1.50	2.482	2.385	-4.08	2.43
25	A	6	6	115	3.720	3.675	-1.21	3.800	3.684	-3.14	2.15
32	A	6	6	1615	2.412	2.372	-1.70	2.485	2.369	-4.92	3.03
48	A	6	6	1640	2.390	2.361	-1.23	2.450	2.357	-3.92	2.51
64	A	6	6	1670	2.375	2.349	-1.09	2.460	2.346	[redacted]	[redacted]
79	A	6	6	1798	2.345	2.316	-1.26	2.400	2.311	-3.8[redacted]	[redacted]
89	B	6	6	247	3.678	3.618	-1.66	3.725	3.627	-2.70	1.20
95	B	6	6	1814	2.340	2.314	-1.14	2.400	2.309	-3.94	2.56
105	B	10	2	280	6.520	6.305	-3.41*	6.330	6.211	-1.91	-2.91
111	B	6	6	1785	2.392	2.318	-3.19*	2.414	2.314	-4.34	0.92
120	B	6	6	300	3.700	3.585	-3.20*	3.690	3.595	-2.65	-0.27
127	B	6	6	1831	2.385	2.312	-3.18*	2.398	2.307	-3.95	0.55
136	B	6	6	340	3.665	3.557	-3.03*	3.675	3.567	-3.03	0.27
143	B	6	6	1861	2.385	2.309	-3.29*	2.384	2.304	-3.46	-0.04

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

* Camera Transport System Inoperative

TABLE 3-1

Film consumption for the flight was as follows:

MISSION 1021-1

	Master	Slave
Cycles	2841	2772
Feet	7943*	7631*

MISSION 1021-2

Cycles	842**	3177
Feet	2227	8403

* Includes pre-flight test footage

** Represents equivalent material recovered, even though photography was not usable.

C. STELLAR-INDEX PERFORMANCE

The Stellar/Index cameras were considered primary components on this mission because of the mapping objectives. The Mission 1021-1 Stellar/Index performed normally for the first 72 orbits and produced 380 frames. During the last nine orbits of the first mission, a failure in the film transport resulted in multiple exposures on the last 37 frames.

The Mission 1021-2 Stellar/Index camera performed satisfactorily throughout its mission and produced 422 frames.

D. CLOCK PERFORMANCE

Satisfactory clock correlation was obtained for both missions. Clock/System time correlation data is contained in Tables 3-2 and 3-3 for Missions 1021-1 and 1021-2, respectively. The system time is fitted to a best fit curve of clock versus system times which is represented by a second order equation in this case. The table includes the amounts that the recorded values of system time deviate from the corrected values.

MISSION 1021-1 CLOCK SUMMARY

CLOCK SUMMARY
PRELIMINARY CLOCK CORRELATION
ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
65372.950	290912.72790	65372.96400	-0.01305	0	1
25699.317	337639.08490	25699.31530	0.00269	9	1
65021.080	376960.85690	65021.08240	-0.00148	16	1
25535.225	423874.99890	25535.21870	0.00728	25	1
64736.122	463075.90190	64736.11690	0.00609	32	1
25365.034	510104.82290	25365.03210	0.00286	41	1
59165.455	7034.33490	59165.45190	0.00401	47	1
25176.237	59445.12590	25176.23650	0.00145	57	1
59132.610	93401.50390	59132.61030	0.00062	63	1
19470.042	140138.94590	19470.04660	-0.00365	72	1
58803.432	179472.34390	58803.43980	-0.00682	79	1

A0=-0.22553972820 06 A1= 0.9999998772280 00
SIGMA=0.00545 NO. POINTS= 11
RATIO OF CLOCK TIME TO SYS TIME= 0.1000000122770 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
65372.950	290912.72790	65372.95540	-0.00445	0	1
25699.317	337639.08490	25699.31220	0.00576	9	1
65021.080	376960.85690	65021.08300	-0.00201	16	1
25535.225	423874.99890	25535.22220	0.00371	25	1
64736.122	463075.90190	64736.12190	0.00103	32	1
25365.034	510104.82290	25365.03770	-0.00273	41	1
59165.455	7034.33490	59165.45710	-0.00111	47	1
25176.237	59445.12590	25176.23950	-0.00155	57	1
59132.610	93401.50390	59132.61100	-0.00009	63	1
19470.042	140138.94590	19470.04300	-0.00003	72	1
58803.432	179472.34390	58803.43150	0.00149	79	1

A0=-0.22553980180 06 A1= 0.1000000190770 01
A2=-0.31058376840710-12
SIGMA=0.00266 NO. POINTS= 11

TABLE 3-2

MISSION 1021-2 CLOCK SUMMARY

PRELIMINARY CLOCK CORRELATION

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
24764.012	231832.93290	24764.01660	-0.00367	89	1
58702.012	265770.93490	58702.01140	0.00151	95	1
24535.957	318004.89090	24535.95640	0.00155	105	1
58430.917	351899.86390	58430.92220	-0.00428	111	1
18908.517	398777.46190	18908.51030	0.00763	120	1
58181.184	438050.14790	58181.18800	-0.00307	127	1
18653.123	484922.08790	18653.11810	0.00584	136	1
57919.722	524188.70490	57919.72680	-0.00386	143	1
18267.027	34065.10290	18267.02690	0.00102	152	1
57643.215	73441.30290	57643.21860	-0.00265	159	1

A0=-0.20706886730 06 A1= 0.999999788591D 00
SIGMA=0.00383 NO. POINTS= 10
RATIO OF CLOCK TIME TO SYS TIME= 0.1000000211410 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
24764.012	231832.93290	24764.01440	-0.00141	89	1
58702.012	265770.93490	58702.01050	0.00249	95	1
24535.957	318004.89090	24535.95690	0.00106	105	1
58430.917	351899.86390	58430.92340	-0.00540	111	1
18908.517	398777.46190	18908.51190	0.00604	120	1
58181.184	438050.14790	58181.18960	-0.00467	127	1
18653.123	484922.08790	18653.11930	0.00466	136	1
57919.722	524188.70490	57919.72730	-0.00431	143	1
18267.027	34065.10290	18267.02610	0.00187	152	1
57643.215	73441.30290	57643.21630	-0.00033	159	1

A0=-0.20706885CD 06 A1= 0.999999807020 00
A2=-0.10956490335570-12
SIGMA=0.00358 NO. POINTS= 10

TABLE 3-3

The corrected system values are computed from the equation -

$y = a_2x^2 + a_1x + a_0$, where y = corrected system time and x = clock time.

E. PRESSURE MAKE-UP SYSTEM PERFORMANCE

Supply pressure history for the PMU system is shown on Figure 3-1, where the supply pressure decay is plotted as a function of the total instrument operate time. The irregular slope of the curve indicates that gas is passing through the PMU system at times other than when the instruments are operating.

F. TEMPERATURE ENVIRONMENT

The temperature data obtained on [redacted] acquisitions are summarized in Tables 3-4 and 3-5. Predicted versus actual flight temperatures are compared in Figures 3-2 to 3-4.

The average instrument temperatures were cooler than predicted [redacted] tolerance, $70 \pm 30^{\circ}F$.

Self-heating corrections to temperature sensors were not required with the new low-voltage instrumentation. The new instrumentation will increase the accuracy of thermal data on future systems.

TOP SECRET [redacted]

J-21 PMU SYSTEM PRESSURE

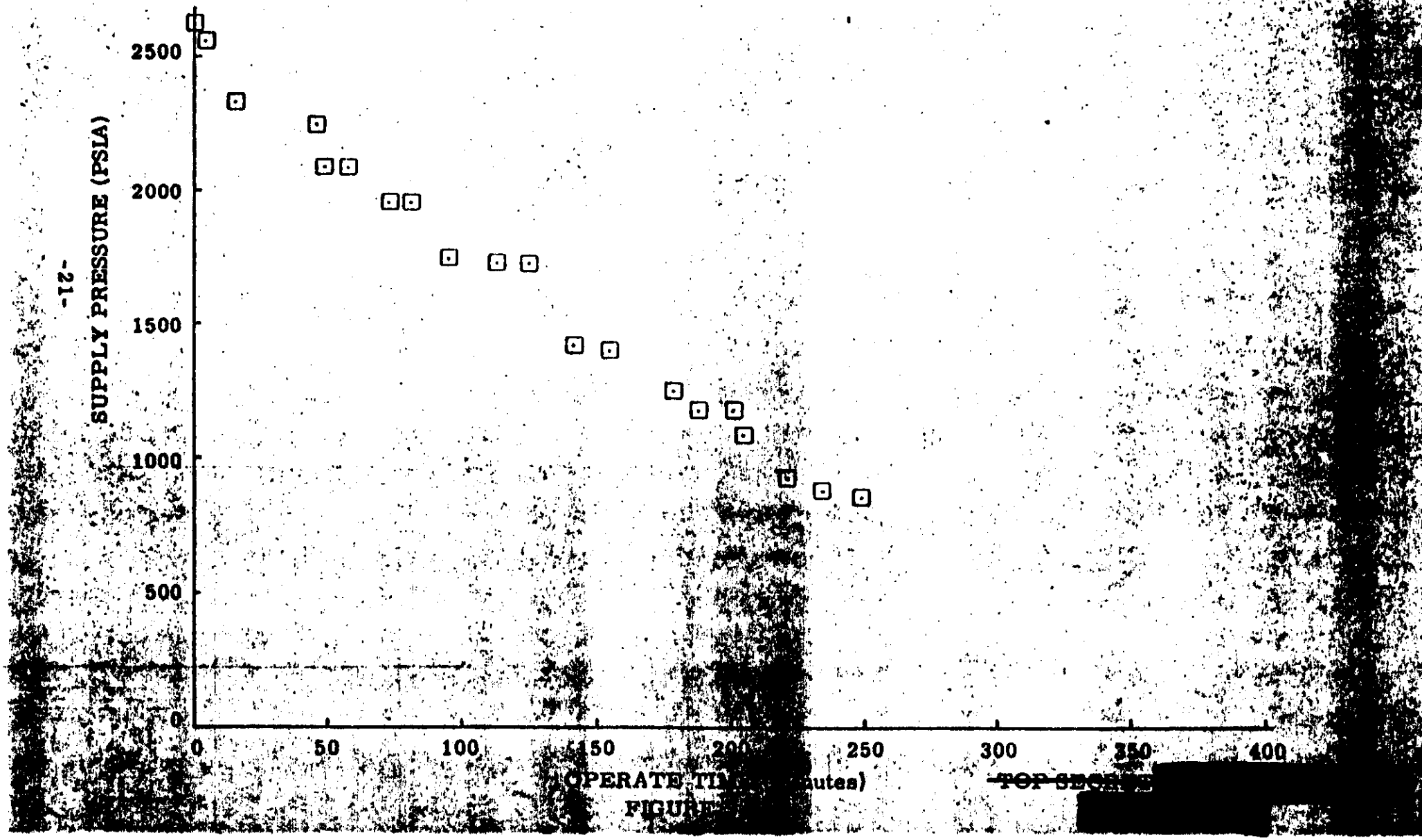


FIGURE [redacted]

TOP SECRET [redacted]

TABLE 3-4

J-21 TEMPERATURE SUMMARY

SENSOR	ORBIT ACQUIRED																		
Master Camera	0	9	16	25	31	41	47	57	63	72	79	89	95	105	111	120	127	136	143
3	64	45	41	41	40	42	41	44	43	46	45	44	43	45	46	46	45	47	46
4	68	51	47	48	46	48	48	52	49	54	51	51	49	52	50	54	52	56	53
5	68	59	54	56	54	57	57	59	58	61	60	60	58	62	60	64	62	68	64
6	56	54	50	52	49	53	53	56	56	59	59	58	57	60	58	62	60	66	63
7	64	60	56	57	55	57	58	60	60	61	61	60	60	62	62	63	63	66	65
8	59	55	48	52	48	53	51	54	52	56	54	55	53	57	55	59	56	61	59
9	66	61	54	58	54	59	56	61	59	63	62	63	60	65	62	67	64	70	67
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	71	59	54	57	50	56	51	61	60	64	63	60	55	61	58	63	63	66	61
12	66	46	40	43	39	43	42	45	43	46	44	45	42	45	54	47	45	48	46
13	63	58	53	55	51	55	53	58	58	61	61	58	53	59	56	61	60	63	61
AVG		55	50	53	49	52	51	55	54	57	56	54	53	57	56	57	57	61	58
Slave Camera																			
3	61	55	51	54	52	55	55	59	57	63	61	62	61	64	64	[illegible]			
4	56	49	44	47	43	49	46	51	49	54	51	54	51	51	53	59	57	61	59
5	58	49	45	47	44	47	46	50	48	52	50	52	49	52	50	54	52	56	55
6	62	51	49	49	47	49	49	51	51	53	53	52	50	53	52	55	54	56	56
7	58	53	50	52	49	51	51	54	54	56	55	54	54	57	55	58	57	61	59
8	61	50	45	49	45	49	47	51	49	54	51	53	49	54	52	56	54	58	55
9	60	46	41	44	40	44	42	46	44	47	46	46	44	48	46	49	47	51	49
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	64	50	46	45	48	48	51	47	48	49	50	48	55	50	57	52	53	54	59
12	62	51	48	52	48	53	51	56	54	60	55	59	56	62	58	64	61	66	64
13	56	52	48	48	48	50	52	49	50	52	53	51	54	53	56	56	55	56	60
AVG		51	47	49	47	50	49	52	50	54	53	53	52	56	54	57	56	59	58
Supply Spool																			
1	61	51	46	47	46	47	46	48	48	51	51	51	50	52	51	53	53	55	54
2	60	50	46	47	45	48	47	49	49	52	51	52	50	54	53	56	55	58	57

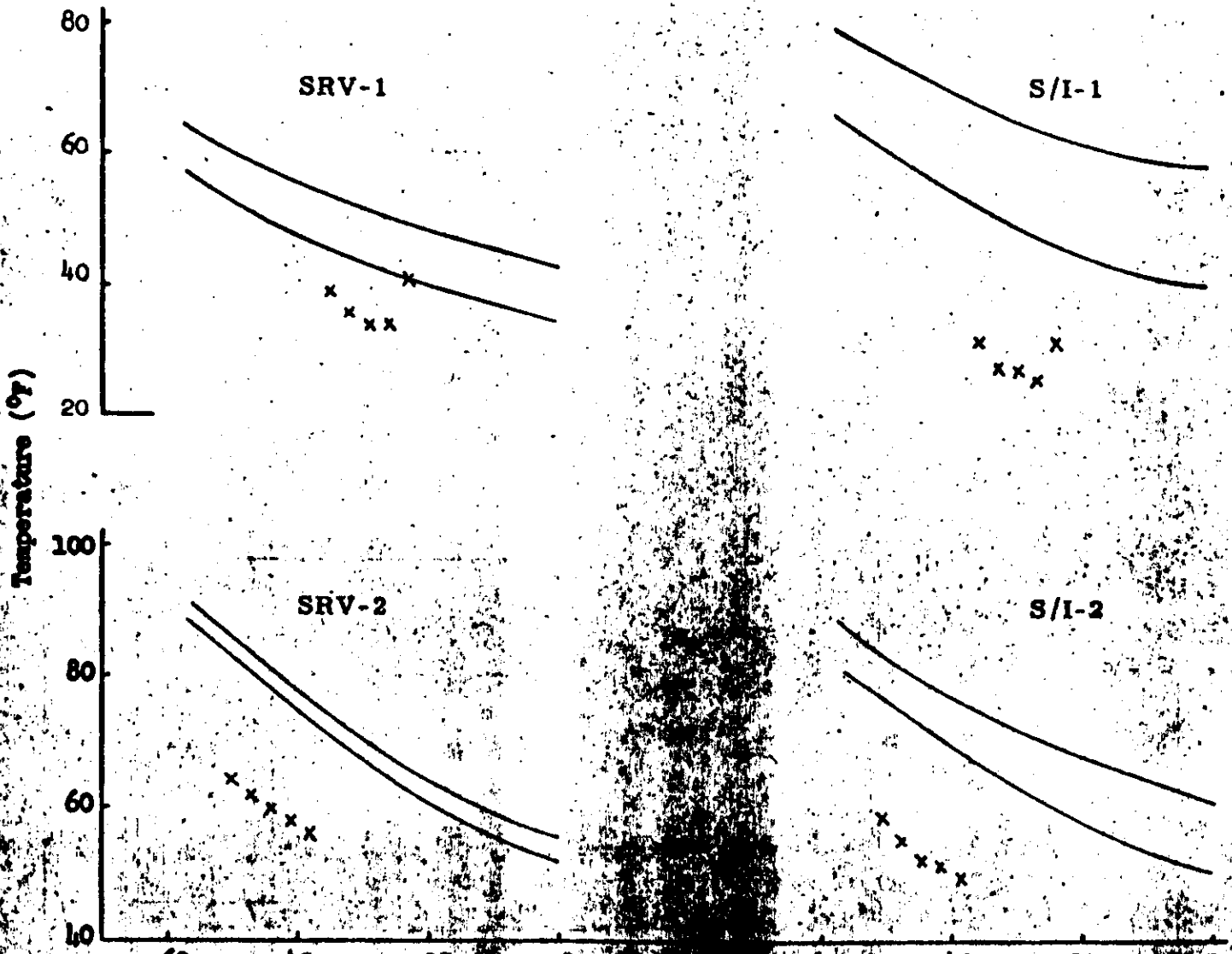
[redacted]

TABLE 3-5

J-21 TEMPERATURE SUMMARY

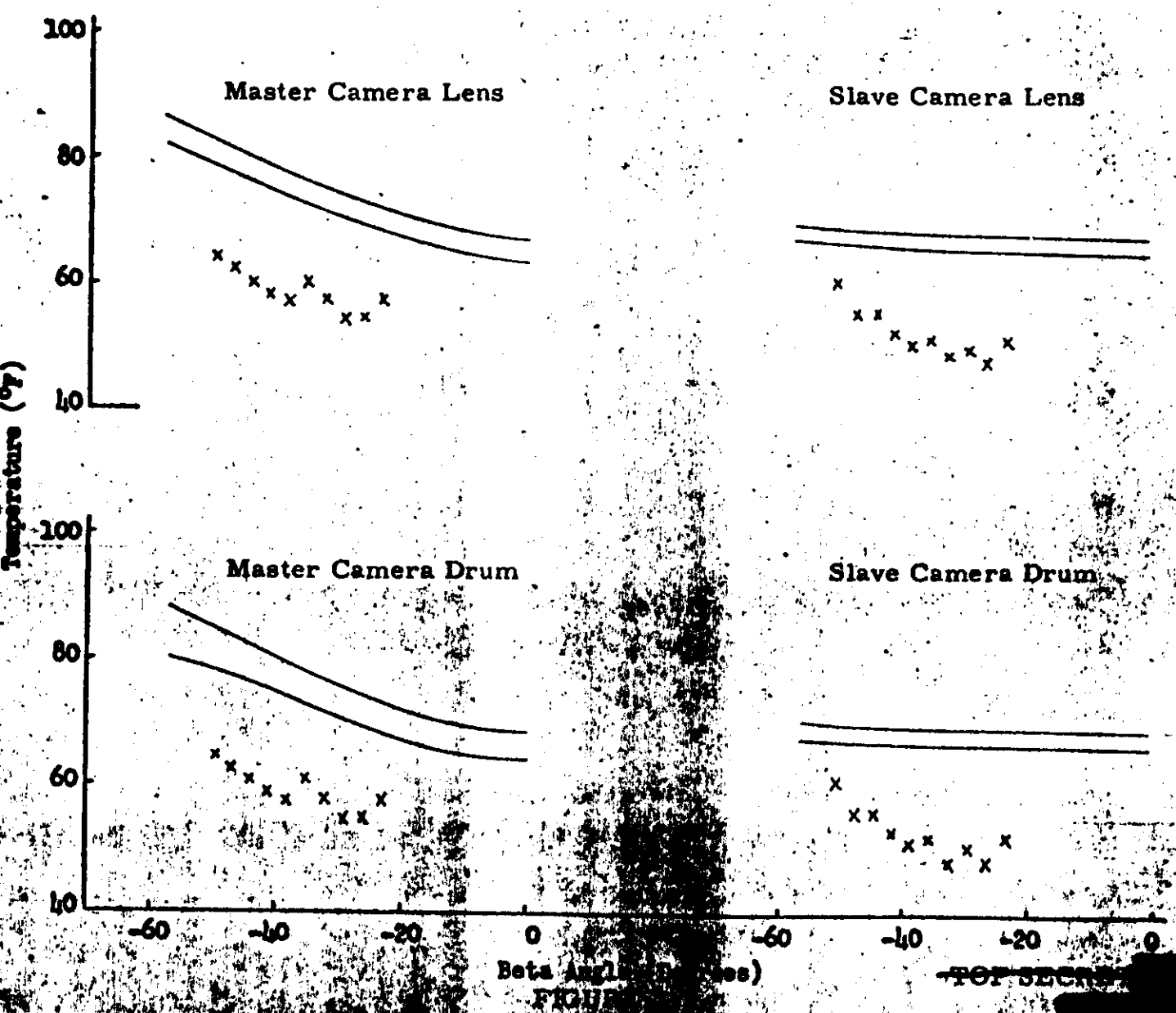
SENSOR	ORBITS ACQUIRED																		
	0	9	16	25	32	41	47	57	63	72	79	89	95	105	111	120	127	136	143
Fairing ("A") Barrel #1 ("B")																			
1		28	73	22	70	22	63	25	73	28	70	01	15	1	13	4	13	4	15
2		-5	5	-8	02	-8	-5	-8	-1	-8	-1	-1	-5	-1	-5	-1	-5	2	-5
3		0	12	-3	12	-3	9	0	15	0	15	13	54	16	49	16	49	18	49
4		39	50	36	50	36	50	38	53	41	56	46	119	49	122	51	128	54	133
5		40	70	37	75	40	80	43	86	48	92	37	88	40	96	43	102	46	111
6		33	109	30	109	33	109	36	124	42	129	--	--	--	--	--	--	--	--
Barrel #2																			
1	139	28	48	28	51	31	56	39	62	39	71	28	79	31	84	31	89	36	94
2	173	19	72	19	75	22	75	25	90	31	99	28	102	28	102	31	108	34	110
3	197	13	58	11	55	13	45	13	58	16	58	13	55	13	50	13	48	13	48
4	160	-6	-9	-9	-13	-13	-16	-13	-13	-9	-13	-13	-16	-13	-20	[illegible]			
5	175	12	17	9	17	9	8	9	20	12	20	04	15	4	15	[illegible]			
Conic Adapter																			
1	162	31	59	31	64	34	67	36	75	42	81	34	89	36	95	36	101	42	107
Clock																			
1	87	51	51	49	51	51	51	54	54	54	57	49	51	49	54	51	54	54	56
2	92	54	54	53	54	54	54	56	56	58	60	51	57	51	56	54	56	56	58
Thrust Cone "A" to "B" SRV																			
1	112	32	27	26	25	26	25	27	27	30	30	51	50	53	51	53	52	55	54
2	77	50	43	42	41	42	42	45	44	48	47	61	60	63	63	66	65	69	68
Stellar/Index "A" to "B"																			
1	139	32	32	25	32	29	29	29	36	32	40	48	51	51	54	51	54	54	54
2	69	30	26	26	22	26	26	26	26	30	30	50	51	51	51	53	53	56	53
Recovery Battery "B" SRV																			
1	73	62	52	49	49	49	49	51	51	53	53	76	81	73	79	85	81	88	84
Master Cassette "A" SRV																			
2	93	57	51	50	48	47	48	48	48	50	49	--	--	--	--	--	--	--	--

J-21 INFLIGHT TEMPERATURES
Predicted Range (lines) vs Actual (x)

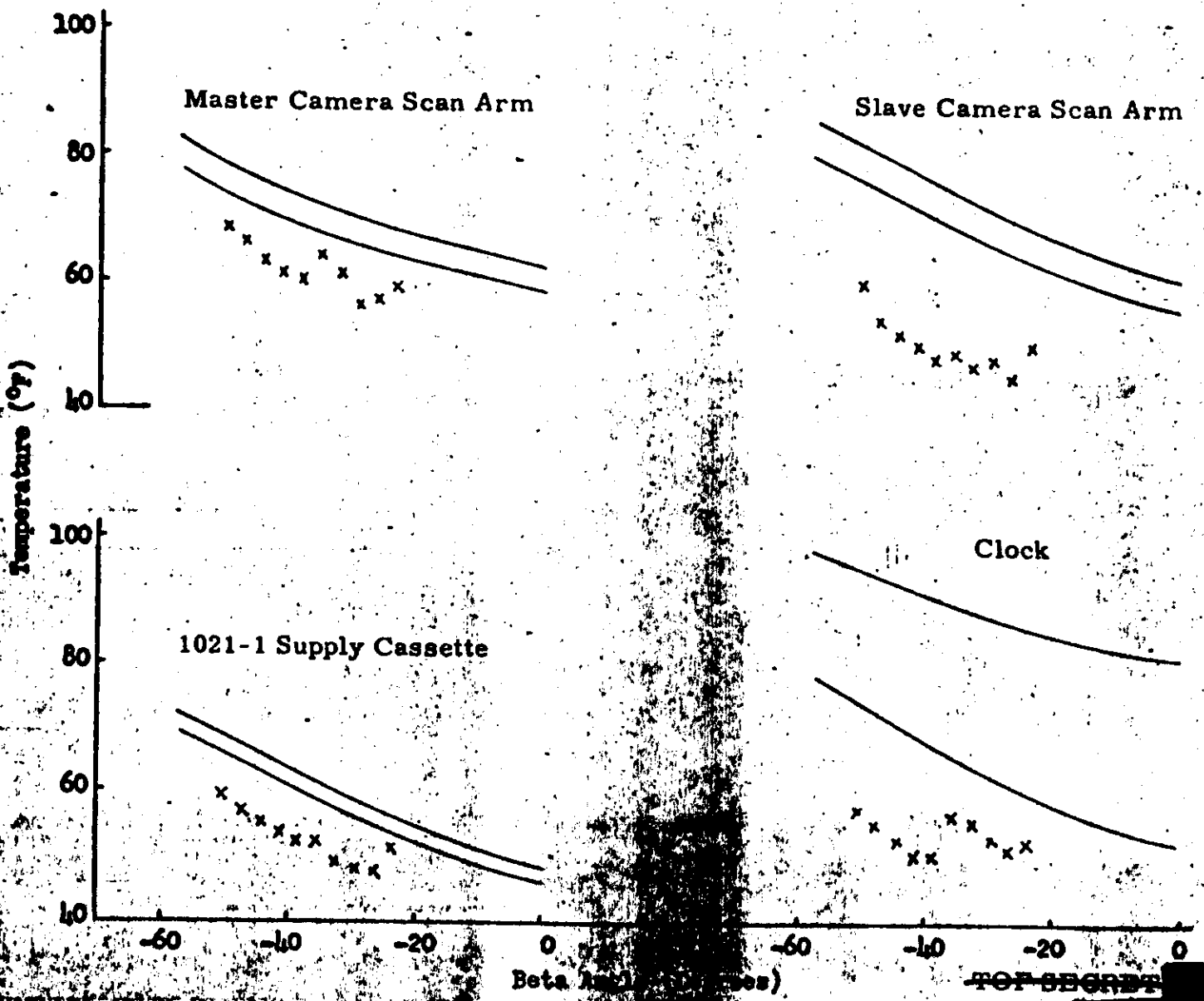


FIGURE

J-21 INFLIGHT TEMPERATURES
Predicted Range (lines) vs Actual (x)



J-21 INFLIGHT TEMPERATURES
Predicted Range (lines) vs Actual (x)



FIG

SECTION 4

MISSION 1021-1 RECOVERY SYSTEM

SRV #674 was received at A/P on 27 October 1964. The receiving weight was 152 pounds. After modifications and incorporation of outstanding E.O.'s, the SRV was delivered to systems test for incorporation into the J-21 system.

The capsule was shipped to VAFB on 29 April 1965.

The SRV was successfully air recovered on orbit 81. All functions were normal and the impact was within tolerance. A new 6.9' deceleration chute was used and the results were satisfactory. Capsule telemetry and beacon data disclosed a discrepancy in the recovery programmer. Post recovery checks of the programmer revealed that the input circuit from the primary side of the recovery battery had burned open. Therefore, the chute system had been controlled by the redundant side of the programmer and battery. Recovery time sequence is shown in Table 4-1.

The condition of the recovered capsule was satisfactory with damage limited to normal paint blistering.

MISSION 1021-1
RE-ENTRY SEQUENCE OF EVENTS

EVENT	SYSTEM TIME	DELTA TIME ACTUAL	DELTA TIME NOMINAL
Transfer	69348.09	--	--
Electrical Disconnect	69349.09	1.00	$0.90^{+0.43}_{-0.40}$
Separation*	69350.09	2.00	2.00 ± 0.25
Spin**	69352.51	3.42	3.40 ± 0.30
Retro	69360.05	7.54	7.55 ± 0.45
Despin	69370.8	10.75	10.75 ± 0.54
T/C Separation	69372.29	1.49	1.50 ± 0.15
"G" Switch Open	69897.80	525.51	[redacted]
Parachute Cover Off	69931.40	33.60	[redacted]
Drogue Chute Deployed	69931.98	0.58	[redacted]
Drogue Chute Release	69942.53	10.55	$10.14^{+0.48}_{-0.40}$
Main Chute Deployed	69943.14	0.61	0.52 ± 0.13
Main Chute Disreefed	69947.66	4.52	$4.46^{+0.49}_{-0.29}$

* From Transfer
** From Electrical Disconnect

TABLE 4-1

SECTION 5

MISSION 1021-2 RECOVERY SYSTEM

SRV #670 was received at A/P on 11 September 1964 at a receiving weight of 149 pounds. After modification and incorporation of outstanding E.O.'s the capsule was delivered to systems test for incorporation into the J-21 system.

The capsule was shipped to VAFB on 29 April 1965.

The SRV was successfully air recovered on orbit 161. All functions were normal and the impact was within tolerance. The new 6.9' deceleration chute was used and the results appeared satisfactory. Table 5-1 lists the recovery event times.

The condition of the recovered capsule was satisfactory with damage limited to normal paint blistering. Post flight inspection and test showed no anomalies.

MISSION 1021-2
RE-ENTRY SEQUENCE OF EVENTS

EVENT	SYSTEM TIME	DELTA TIME ACTUAL	DELTA TIME NOMINAL
Transfer	N/A	--	--
Electrical Disconnect	N/A		0.90 $^{+0.43}_{-0.40}$
Separation*	N/A		2.00 ± 0.25
Spin**	N/A		3.40 ± 0.30
Retro	N/A		7.55 ± 0.45
Despin	N/A		10.75 ± 0.54
T/C Separation	N/A		1.50 ± 0.15
"G" Switch Open	68595.91		
Parachute Cover Off	68630.11	34.20	34.0 ± [illegible]
Drogue Chute Deployed	68630.76	0.65	0.63 ± 0.08
Drogue Chute Release	68641.02	10.26	10.14 $^{+0.48}_{-0.40}$
Main Chute Deployed	68641.58	0.56	0.52 ± 0.13
Main Chute Disreefed	68646.06	4.48	4.46 $^{+0.49}_{-0.29}$

* From Transfer
** From Electrical Disconnect

TABLE 5-1

SECTION 6

MASTER (AFT) PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	166
Main Camera Lens	1852435
Supply Horizon Camera	138B
Supply Horizon Camera Lens	812294
Take-up Horizon Camera	149A
Take-up Horizon Camera Lens	813528
Supply Cassette	SC-32

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:	
Lens	24" f/3.5
Slit Width	0.175"
Filter Type	Wratten 21
Film Type	Eastman Type 3404
Supply (Starboard) Horizon Camera:	
Lens	55mm f/6.8
Aperture Setting	f/6.8
Exposure Time	1/100 second
Filter Type	Wratten 25

Take-Up (Port) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION

The Master camera was the AFT looking system during this mission. The camera produced 2841 frames of photography during Mission 1021-1 and 842 frames during Mission 1021-2.

The photographic quality and information content of the Mission 1021-1 photography was considered to be somewhat lower than observed from recent missions. The cause of lower quality is attributed to attenuation of contrast in the earths haze layer. The cloud cover encountered during the missions was quite low, 35% and 20% respectively, however examination of the index camera photography showed that almost all of the terrain was covered by haze.

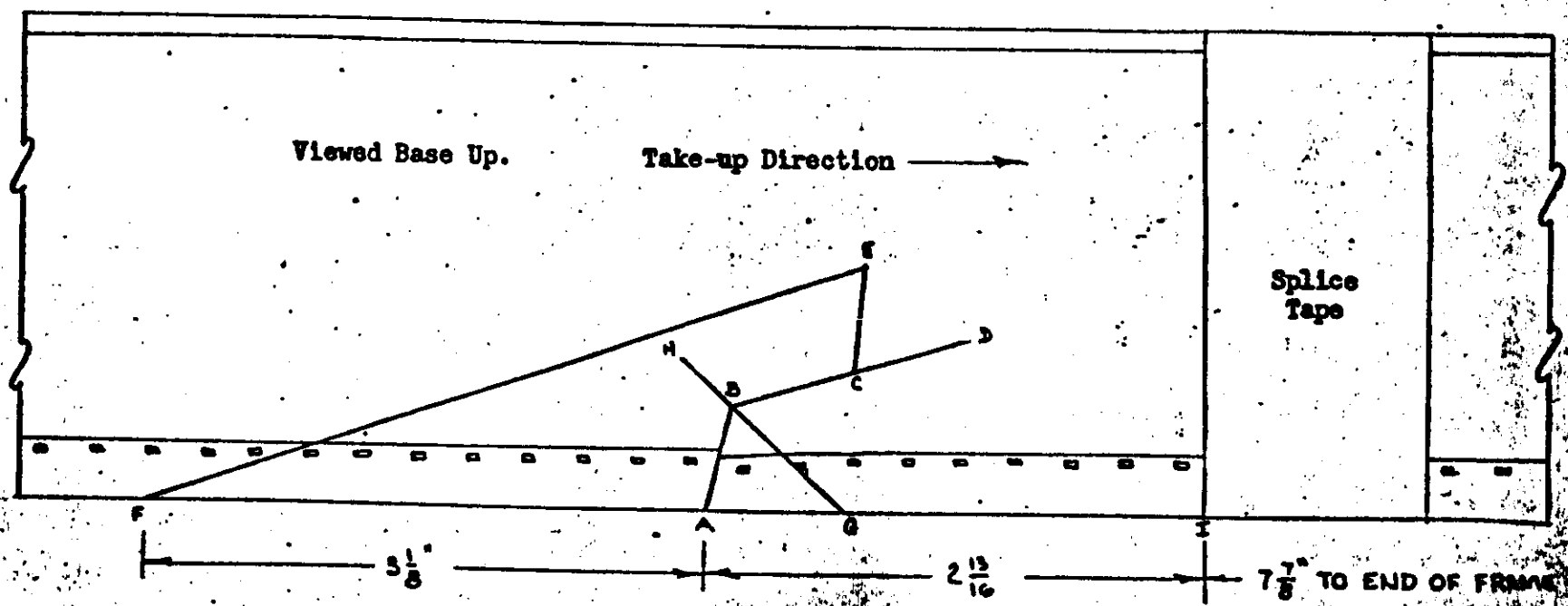
The quality of the Master camera photography from Mission 1021-2 was very poor as the film pulled out of the camera rails in frame 11 of the first programmed operation of the mission, pass D85. The subsequent frames contained approximately 25% to 30% of detectable ground scenes of poor quality while the remaining frame area was badly smeared and unusable.

The film came out of the rails as a result of a manufacturing defect in the film supply. Figure 6-1 shows this defect and the resulting film damage. During the initial inspection of the coated and slit film defective areas are noted by manually folding the film and cutting the edge with scissors. The film was folded along line G-H, as shown in Figure 6-1, and cut from B to A and C simultaneously. The scissors scratched the emulsion from point C to point D. This film cut is used as the indicator to the individual splicing the film that a splice is required at that point. Unfortunately the splice was made on the wrong side of the indicator cut.

Examination of frame 11 showed that the entire frame was properly metered into the camera platen as the rail scratch could be followed from frame 10 through frame 11 but was absent in frame 12. The character of

MISSION 1021-2

MASTER CAMERA; PASS D85, FRAME 11.



SEGMENT	CONDITION	LENGTH
A-B	Film Cut; Smooth edges.	0.620"
B-C	Film Cut; Smooth edges.	0.720"
C-D	Heavy emulsion scratch.	0.675"
C-E	Film Tear; Rough edges.	0.570"
E-F	Heavy film crease; Base to base.	4.312"
G-H	Light film crease; Emulsion to emulsion.	1.275"

ANGLE	DEGREES
GAB	78
ABC	118
ABG	58
GBC	59
DCE	85
AFE	19
BGB	137

FIGURE [redacted]

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the take-up end of frame 11 showed that the film was in the platen at the start of scan as the end was sharp and straight and the first two time track bits were normal. The third and all subsequent time track bits were abnormal in both position and size.

It was not possible to ascertain when the film was torn along line C-E however it is obvious that the film was not creased along line E-F until after the exposure of that area. It is most probable that the E-F crease occurred when the film passed through the film metering roller.

The Master camera continued to function properly up to frame 9 of pass D102 at which time the metering drive pin sheared and film transport ceased. The camera continued to cycle normally throughout the remainder of Mission 1021-2 as evidenced by the presence of Stellar-Index photography which is programmed from the Master camera center-of-format switch.

A film crease was also observed in frames 74 and 75 of pass D41. The crease started 9 3/8" after a manufacturing splice, in frame 78, and extended for 49" along the time track side of the format, approximately 0.025" in from the film edge. The crease was a very narrow line with no indication of emulsion fractures from the crease to the film edge. It is concluded that the film started to mistrack after the splice on an un-flanged roller and that the roller edge produced the crease. The crease stopped 6 1/8" before the end of frame 75.

The Horizon camera photography was satisfactory up to pass D85, frame 11. Following that point the starboard (supply) horizon camera imagery was badly smeared as the film was in motion during exposure. The film moved approximately 0.175" during all subsequent exposures. The port horizon camera was normal throughout all photographic operations.

The binary data block operated normally to pass D85 frame 10. The data lamps were obscured by the camera rails after the failure in frame 11. Several data lamps were intermittently faint throughout the missions although no lamp failures were noted. It is postulated that the low lamp density resulted from Primary processing. The Processing Summary shows a high degree of correlation between the material processed at the Primary level and low intensity lamps.

Minor light leaks fogged the panoramic camera film in the next to last frame of most operations. The position of the fog places the affected film between the last roller in the Master camera and the first roller in the IR assembly hence the leak apparently came from the stove-drum joint in the Master camera. Additional paint was applied to the Mission 1021-1 ablative shell interior following the light leak analysis of Mission 1019. No leaks were observed in the area of the fifth or sixth frame from the end of operates hence the additional paint has cured this problem. It must be recognized that it is not possible to reach some of the exposed surfaces on all recovery systems hence it is possible that some light leaks may be experienced in this area during future missions. Steps are being taken to achieve permanent corrective action for this problem.

SECTION 7

SLAVE (FWD) PANORAMIC CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Main Camera	167
Main Camera Lens	1502435
Supply Horizon Camera	168B
Supply Horizon Camera Lens	814021
Take-up Horizon Camera	172A
Take-up Horizon Camera Lens	813529
Supply Cassette	SC-32

B. CAMERA DATA AND FLIGHT SETTINGS

Main Camera:

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

Supply (Port) Horizon Camera:

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

Take-Up (Starboard) Horizon Camera:

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

C. POST FLIGHT PERFORMANCE EVALUATION

The Slave camera was the FWD looking system during this mission. The camera produced 2772 frames of photography during Mission 1021-1 and 3177 frames during Mission 1021-2. The camera supply spool was fully depleted in frame 21 of pass D158. The diameter of the film on the take-up spool was approximately 1/2 inch larger than the flange diameter.

The photographic quality and information content of the Slave camera photography for both Mission 1021-1 and 1021-2 was comparable to the Master camera photography of Mission 1021-1. The camera operated normally throughout both missions and no anomalies were observed in the binary data block, time track, end of pass mark and horizon cameras. The port horizon camera imagery appeared somewhat soft however further examination showed that the ground detail was sharp. The port camera was looking toward the sun side of the orbit plane therefore it is expected that the softness was due to the solar reflection from the earth haze.

Some minor emulsion scratches were present in the active format of most frames under the camera serial number and near the take-up end of the frame. A heavy emulsion scratch was intermittently from D25 through D30. This scratch was often severe and in many instances was continuously through several frames.

A distinct light leak fog pattern was present in the third from the last frame of most passes. The position of this fog was approximately 80" from the start-of-pass mark which places the affected film between the Slave camera plate and the intermediate roller assembly. It is most probable that the light leak was located at the Slave camera stove and drum interface. This fog pattern has been present in essentially all Corona M and J missions although recent painting modifications have reduced the fog intensity.

It does not appear possible to completely eliminate the residual leak due to its existance at a sensitive, moving interface therefore consideration should be given to the incorporation of a light weight opaque film chute between the Slave camera and the intermediate roller assembly.

SECTION 8

PANORAMIC CAMERA EXPOSURE

The exposure parameters of both the panoramic cameras were the normal combinations of a 0.175 inch wide slit with a Wratten 21 filter and a 0.250 inch wide slit with a Wratten 25 filter. These conditions place the nominal exposure between the intermediate and full level processing curves, as published by [redacted] for their 3404 emulsion.

The illumination conditions during the mission were relatively constant as the flight was conducted near the summer solstice. 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 D25, D57, D105 and D136 in Figures 8-5 through 8-8 for the Slave camera. The curves for the Master camera are virtually identical. The predicted level of processing for the original negative is based on the in-flight performance estimate and is tabulated below with the processing levels reported by [redacted]

Mission	Camera		Primary	Intermediate	Full
1021-1	FWD	Predicted	0	68	32
		Reported	14	39	47
1021-1	AFT	Predicted	0	99	1
		Reported	15	38	47
1021-2	FWD	Predicted	0	29	71
		Reported	13	41	46
1021-2	AFT	Predicted	0	100	0
		Reported	53	25	22

The variation in the predicted and reported processing levels is generally consistent with the data observed since Mission 1017. The use of greater percentages of full processing has been experienced throughout the Corona program, however a general reduction in the use of full processing has existed since

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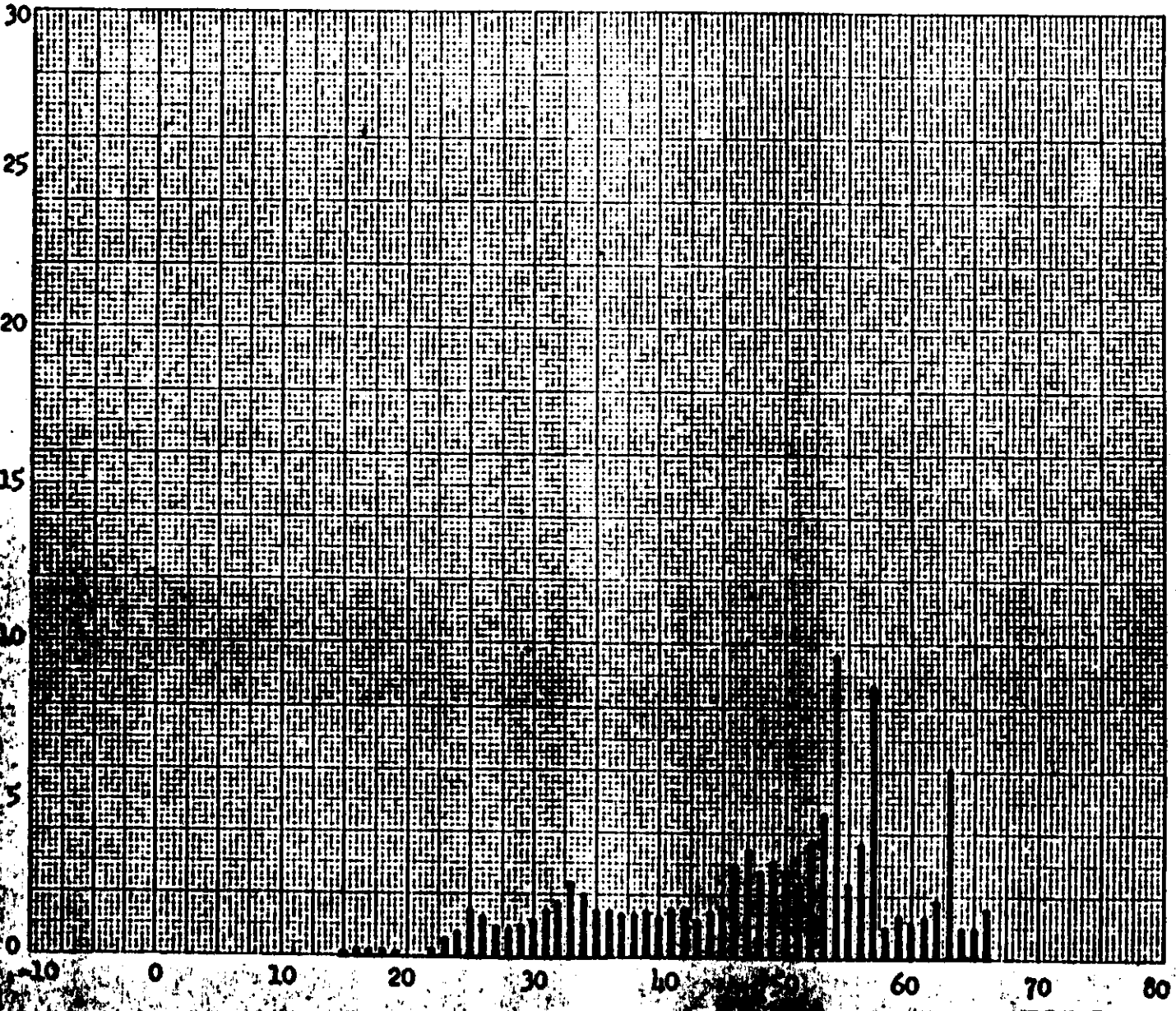
SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1021-1

Payload No: J-21

Camera No: 167

Launch Date: 5/18/65

Launch Time: 1803 Z

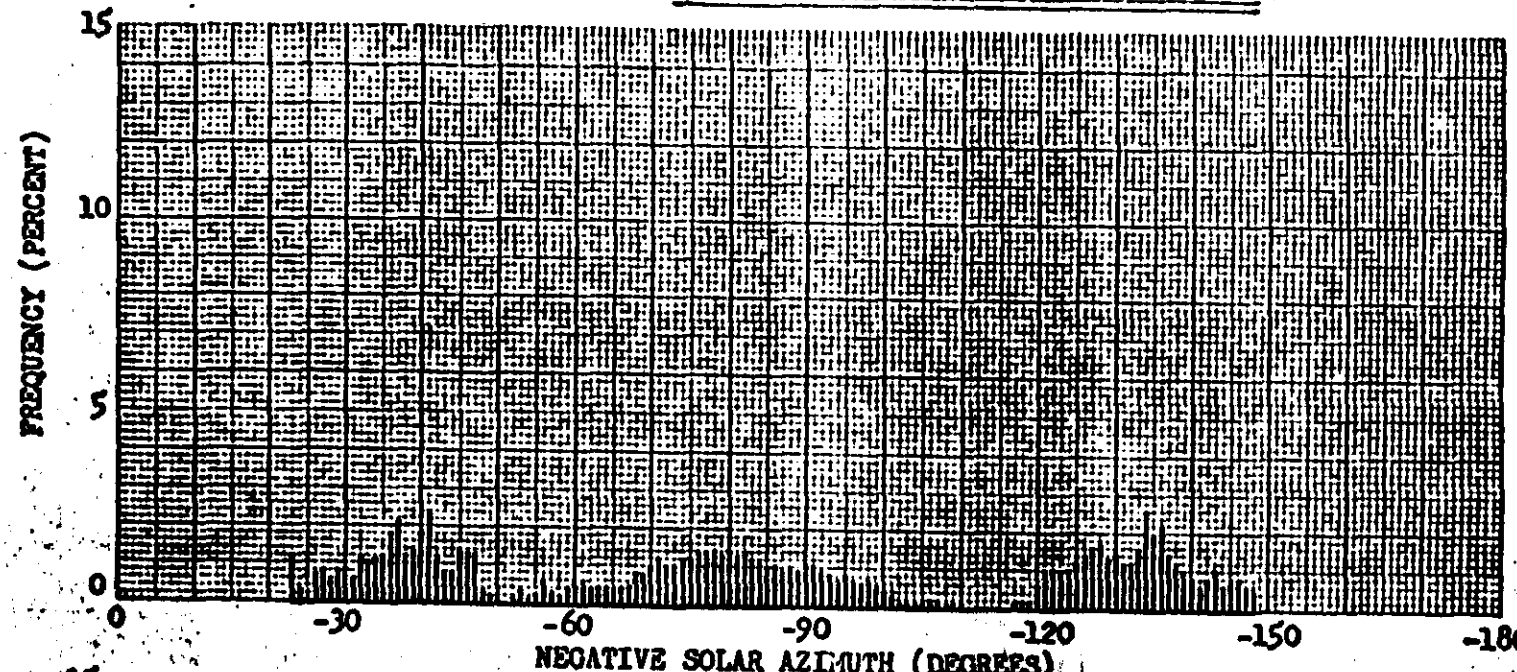
Inclination: 75°

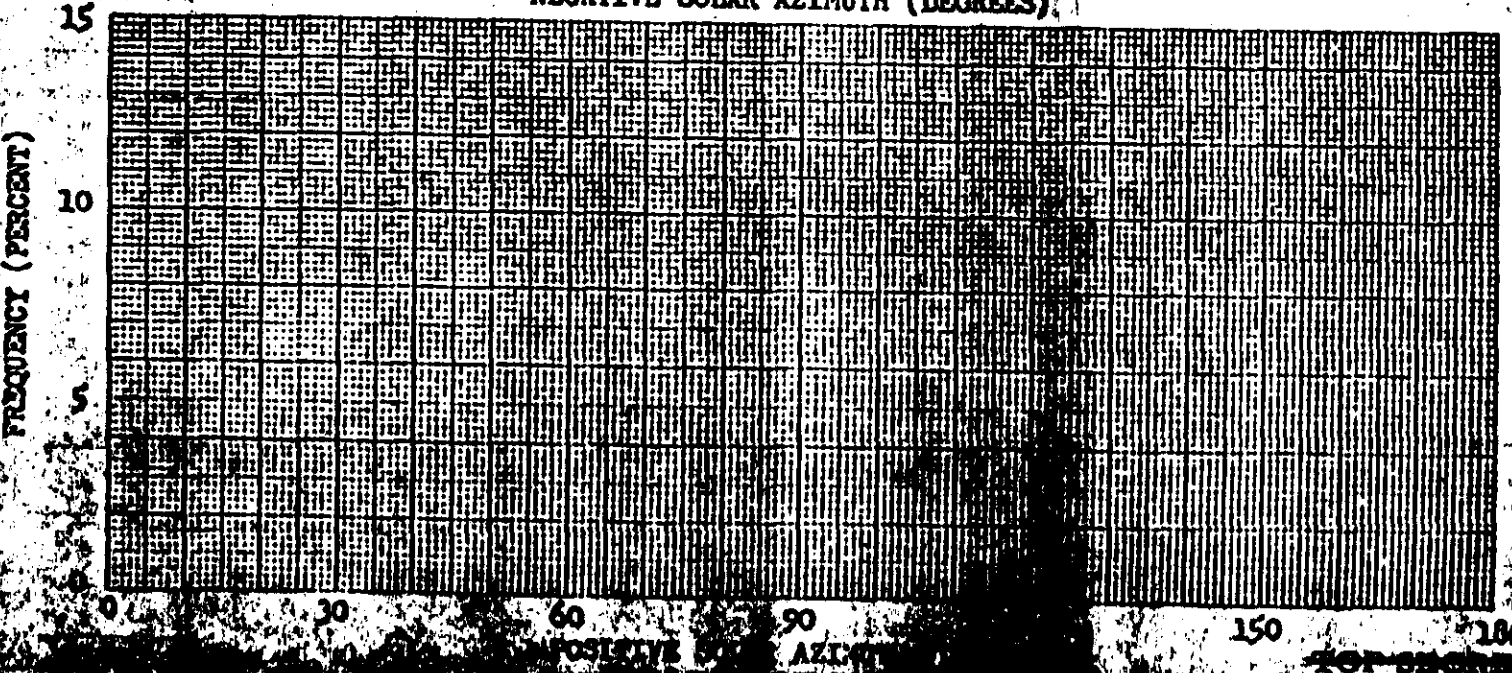
~~TOP SECRET~~ [redacted]

FIGURE 8-1

~~TOP SECRET~~ [redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1021-1

Payload No: J-21

Camera No: 167

Launch Date: 5/18/65

Launch Time: 1803 Z

Inclination: 75°

SIGN NOTATION

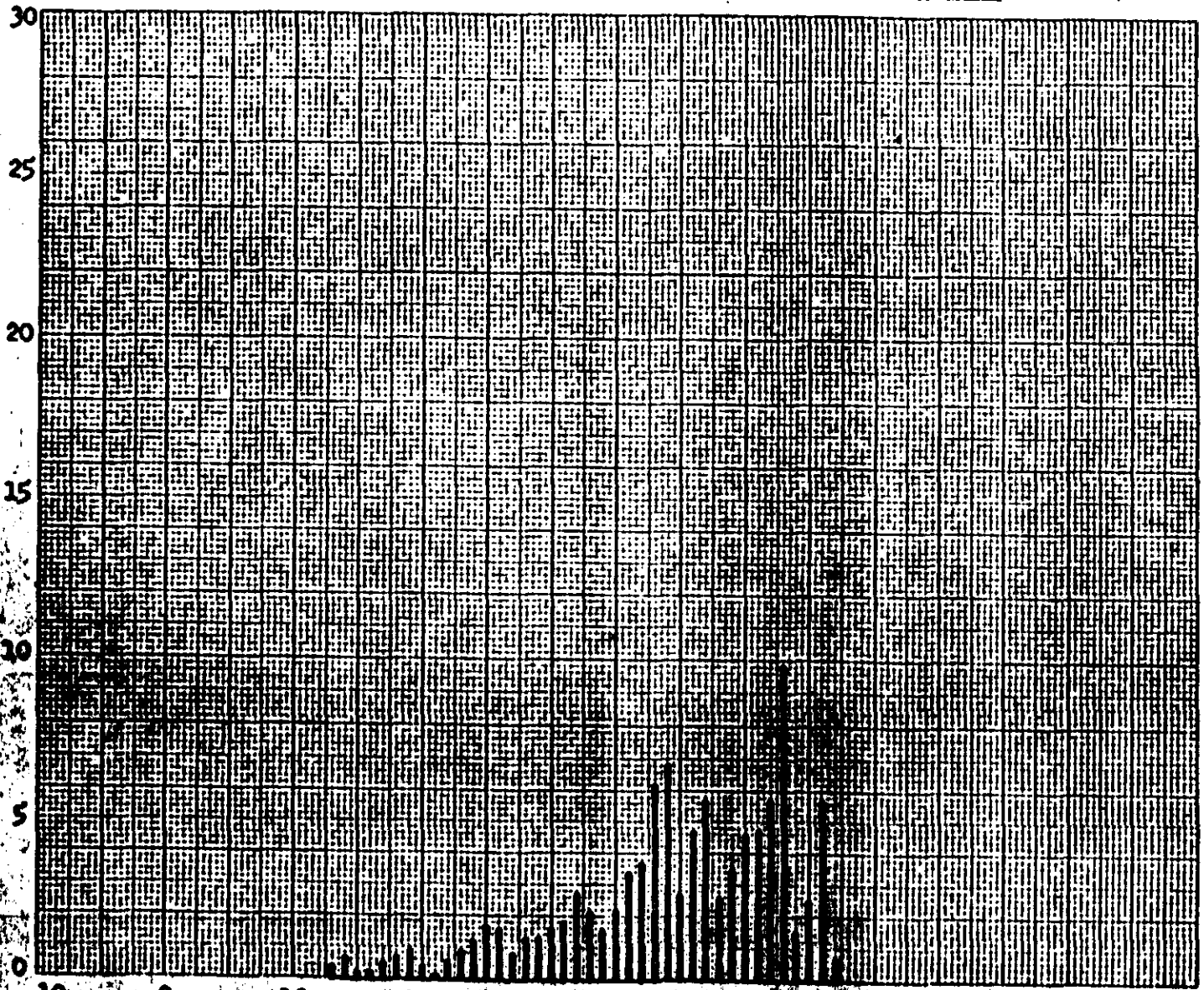
0°

Direction of Flight

[redacted]

TOP SECRET [redacted]

SOLAR ELEVATION FREQUENCY DISTRIBUTION



Mission No: 1021-2

Payload No: J-21

Camera No: 167

Launch Date: 5/18/65

Launch Time: 1803 Z

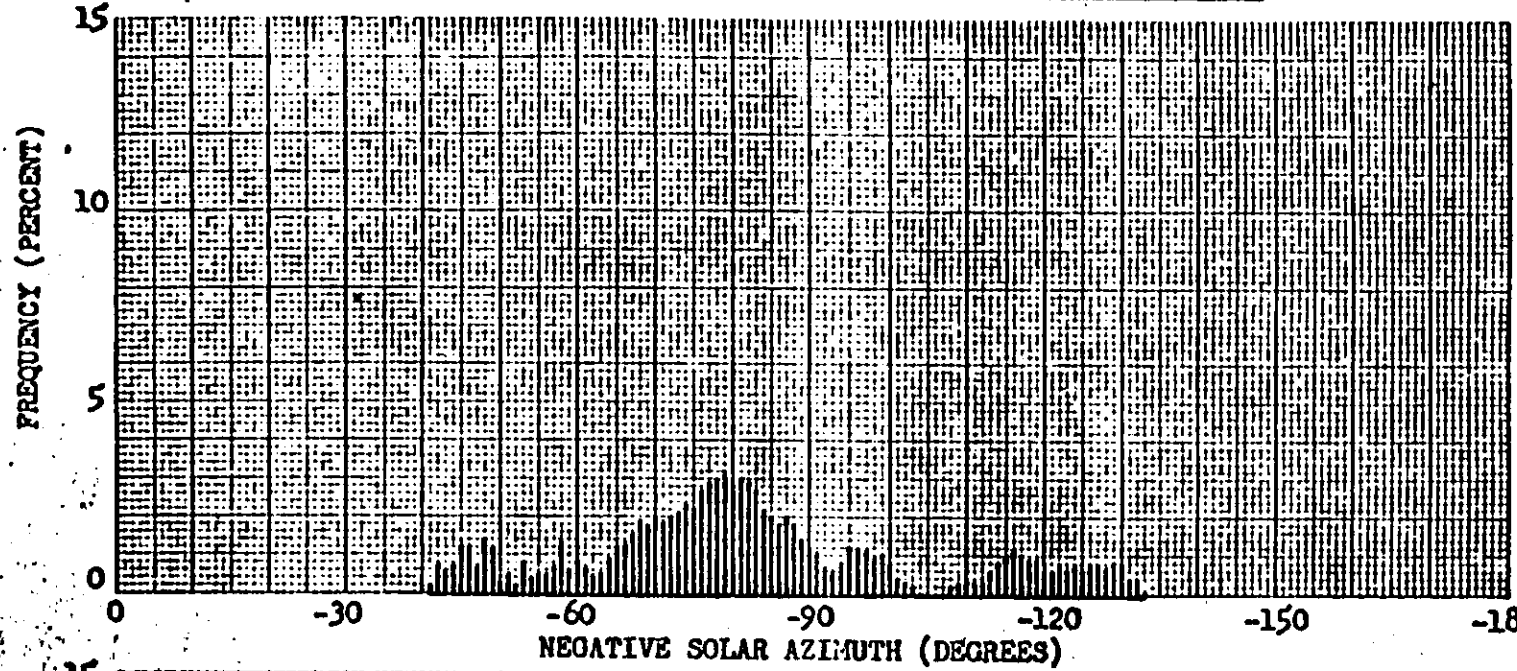
Inclination: 75°

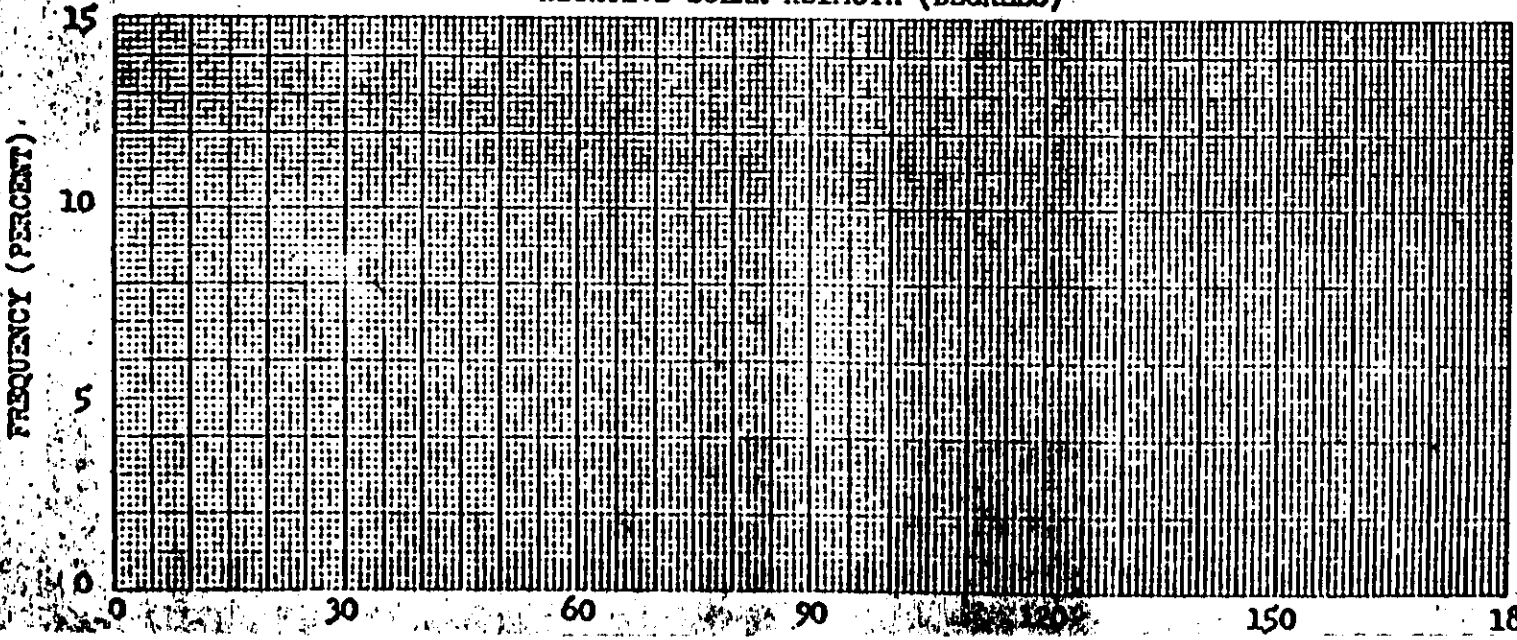
FIGURE 8-3

TOP SECRET [redacted]

~~TOP SECRET~~ [redacted]

SOLAR AZIMUTH FREQUENCY DISTRIBUTION





Mission No: 1021-2

Payload No: J-21

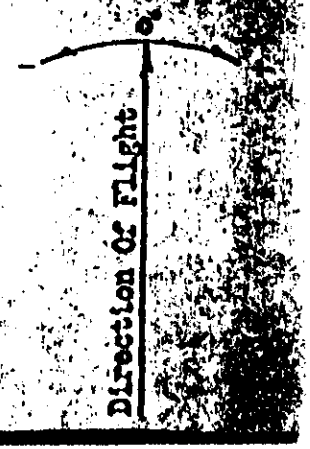
Camera No: 167

Launch Date: 5/18/65

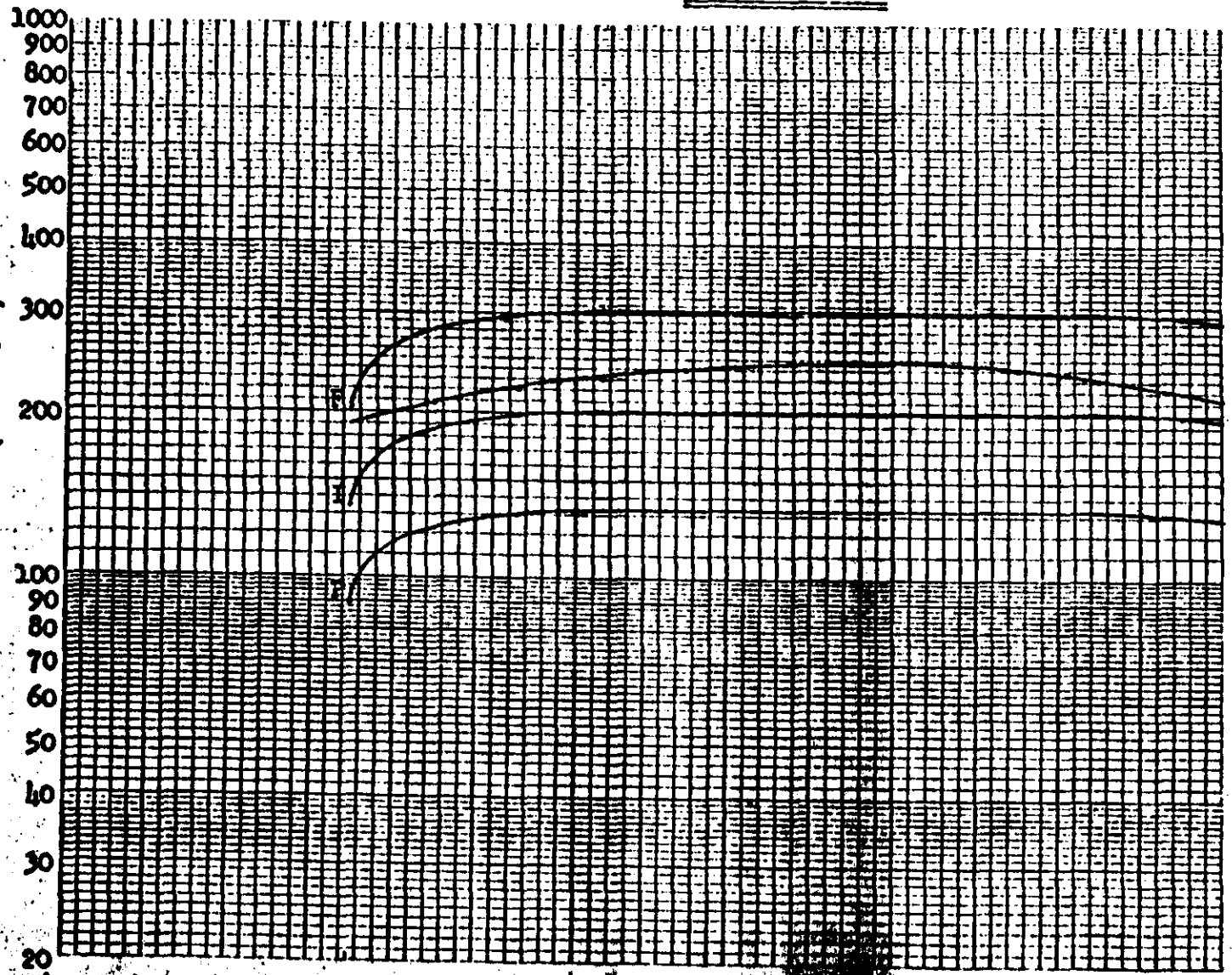
Launch Time: 1803 Z

Inclination: 75°

SION NOTATION



EXPOSURE POINTS



Mission No: 1021-1

Payload No: J-21

Camera No: 167

Pass No: 25

Launch Date: 5/18/65

Launch Time: 1803 Z

Slit Width: .250

Filter Type: Wratten

Film Type: 3404

FIGURE 6-5

EXPOSURE POINTS

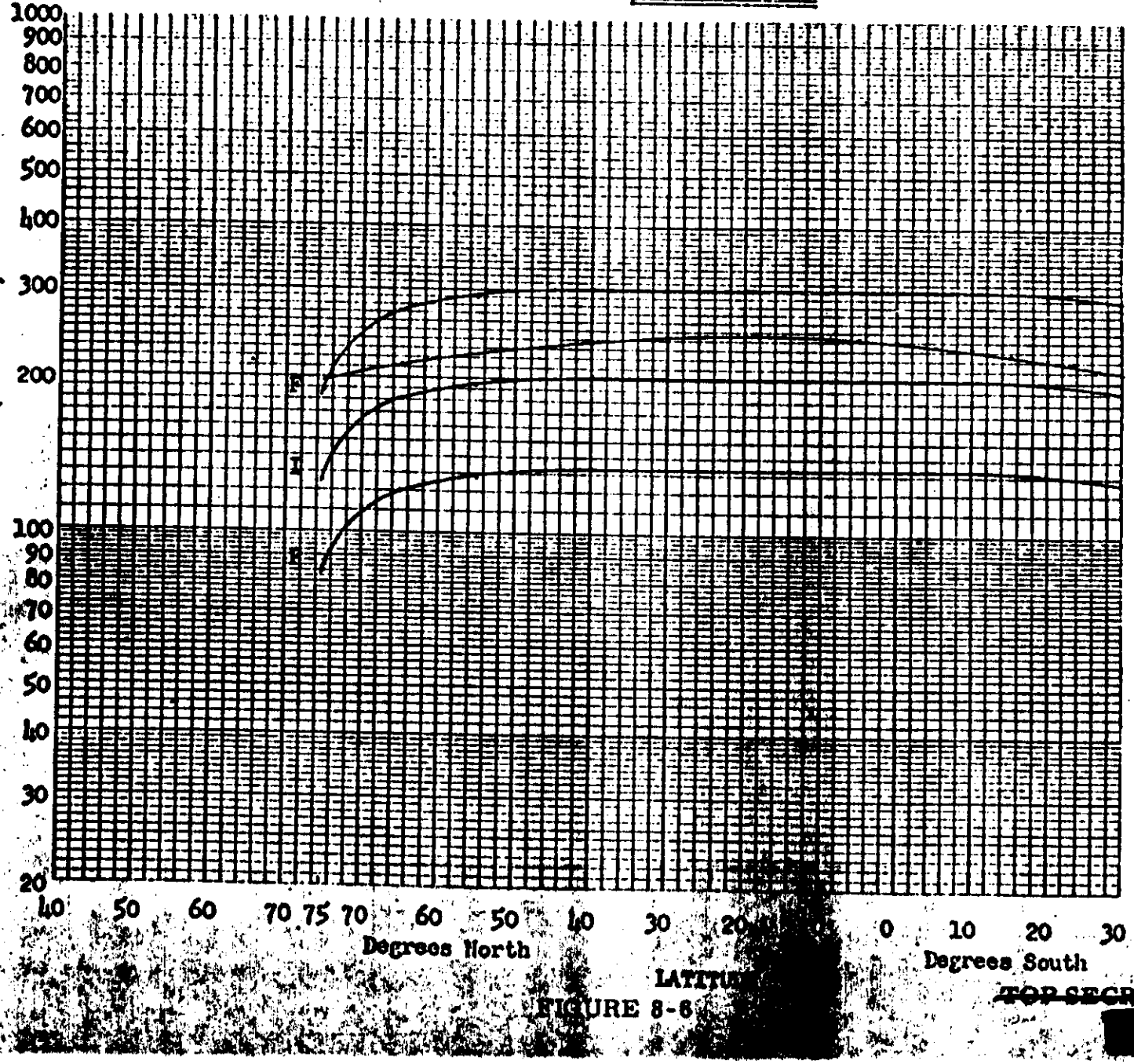


FIGURE 8-6

Mission No: 1021-1

Payload No: J-21

Camera No: 167

Pass No: 57

Launch Date: 5/18/65

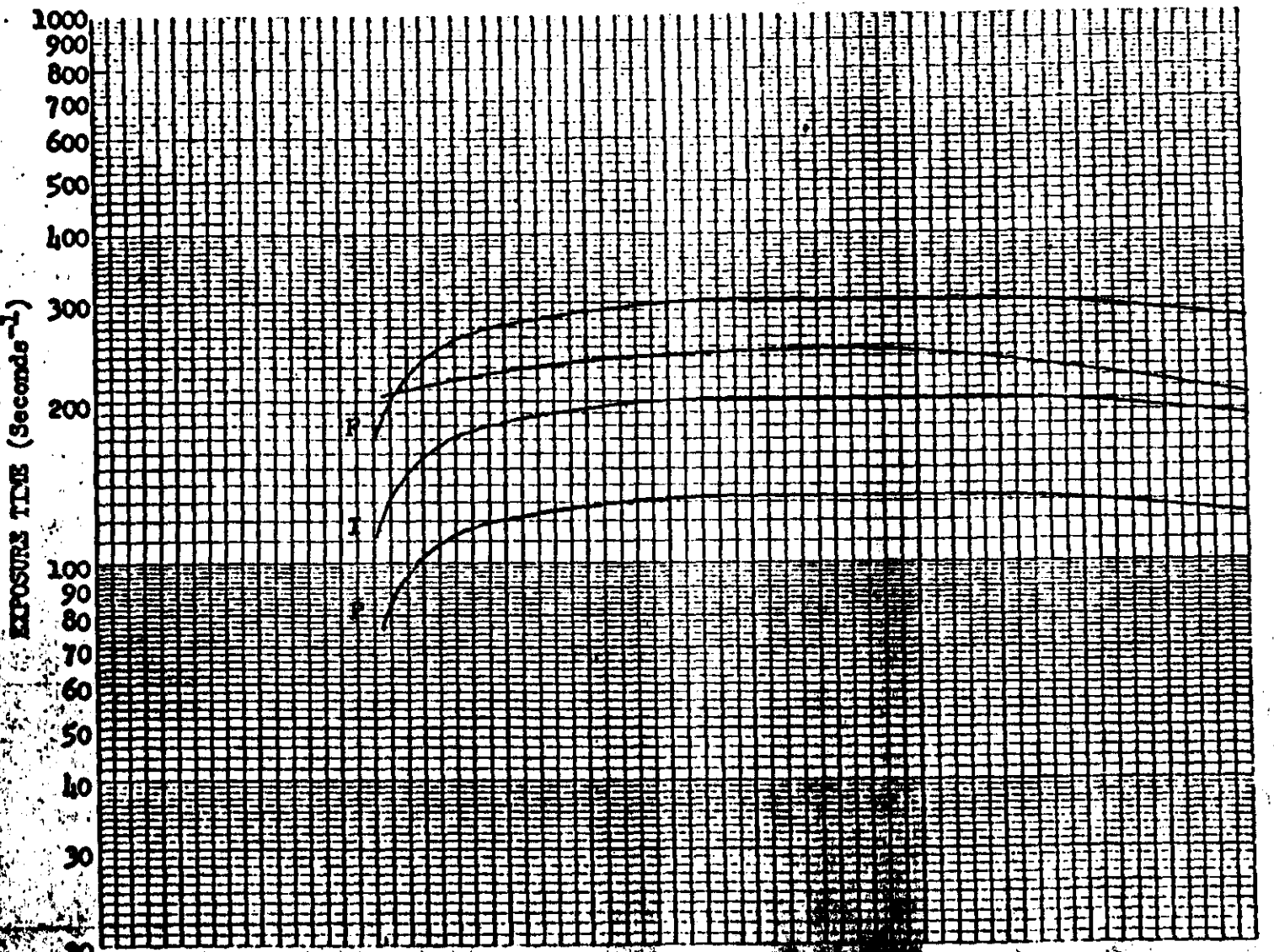
Launch Time: 1803 Z

Slit Width: .250

Filter Type: Wratten 2

Film Type: 3404

EXPOSURE POINTS



Mission No: 1021-2

Payload No: J-21

Camera No: 167

Pass No: 105

Launch Date: 5/18/65

Launch Time: 1803 Z

Slit Width: .250

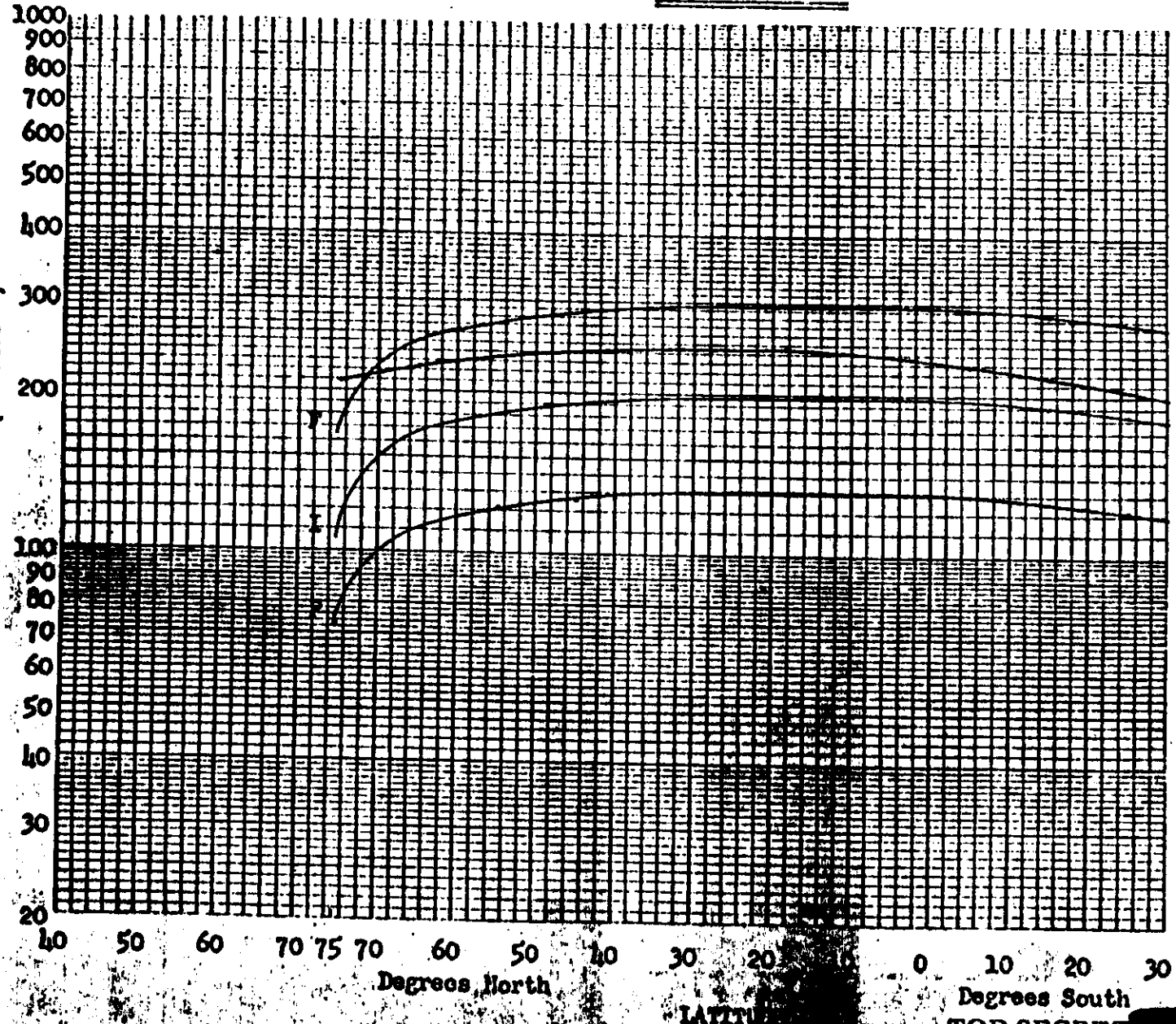
Filter Type: Wratten

Film Type: 3404

[redacted]

FIGURE 8

EXPOSURE POINTS



Mission No: 1021-2

Payload No: J-21

Camera No: 167

Pass No: 136

Launch Date: 5/18/65

Launch Time: 1803 Z

Slit Width: .250

Filter Type: Wratten 2

Film Type: 3404

FIGURE 8-

Mission 1017. There is no apparent reason for this shift. Further analysis and calculations are in process to attempt to ascertain the optimum exposure-processing conditions.

SECTION 9

DIFFUSE DENSITY MEASUREMENTS

Tables 9-1 through 9-4 list mission data supplied by AFSPPL. This data includes the visual Reciprocal Edge Spread (RES) values, the area on the format in which the value was obtained and the general characteristics of the edge as shown on the data key page. The densitometric measurements of the base plus fog, minimum and maximum terrain densities and the maximum cloud densities are also listed with other general data such as solar elevation, altitude and overlap.

The columns are arranged in the following order:

COLUMN NUMBER	HEADING	DATA
1	-	Ascending or Deacending pass
2-4	Pas Nbr	Pass Number
5	-	FWD or AFT camera
6-8	Frm Nbr	Frame Number
9-17	Area 1 RES	RES data in area 1
9-11	WWW	With flight RES value
12-14	AAA	Across flight RES value
15	S	Subject - see key
16	T	Terrain - see key
17	Q	Qualifiers - see key
18-26	Area 2 RES	RES data in area 2
27-35	Area 3 RES	RES data in area 3
36-44	Area 4 RES	RES data in area 4
45-53	Area 5 RES	RES data in area 5
54-56	D min	Terrain minimum density
57-59	D max	Terrain maximum density

COLUMN NUMBER	HEADING	DATA
60-62	D B+F	Base plus fog density
63-65	LIM max	Cloud maximum density
66-68	LAT	Latitude
68	T	0 = North, 1 = South
69-71	Sun Ele	Solar Elevation
73-74	CLD	Percent cloud cover
75-76	OL	Percent overlap
78	-	Processing level; 1 = Pri, 2=Int., 3=Full
80	-	D min in shadow area is "1" present

The data key for the listings of the "subject", "Terrain" and "Qualifiers" is shown below.

I SUBJECT

1. Buildings
2. Roads, runways
3. Tanks, A/C, other man-made
4. Non-cultural

II TERRAIN

1. Flat
2. Hilly
3. Mountains
4. Flat and snow
5. Hilly and snow
6. Mountains and snow

III EDGE QUALIFIERS

1. Clear
2. Snow
3. Hazy
4. Shadow
5. Snow and Haze
6. Snow and Shadow
7. Haze and Shadow
8. Snow, Haze and Shadow

MISSION 1021-1

PAS	FRHAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	D. D. LIM	SUN
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLUDC						
DC01F005						01620051N+4710099	3
DC01F010						01220350N+4709599	3
DC02FC05						1902050140007ON+2500099	2
DC02F015	082075411					1301600111706 9N+2701005	2
DC02F025						087180013208 52N+4605599	1
DC02F035						01521050N+4715099	1
DC06FC05				090090411		0431000142160 7S+5803599	1
DC06F012						0261100142080 9S+5704599	2
AC09FC05						01200039N-3099999	2
DC09FC05			C65070422			1001780110002 8N+6300003	2
DC09F015						0801750131802 6N+6400899	2
DC09F025			C72063431			0751730130002 5N+6500002	2
DC09F038						0541560142060 7N+6700599	2
DC09F048			C72065411			0441700132100 8N+6700303	2
DC09F058						0401450142050 9N+6600299	2
DC09F068			C63067411			0621700141951 1N+6600103	2
DC09F078						0301250132101 2N+6606599	2
DC09F088			C61061432			0701400142181 4N+6509003	2
DC09FC92			C61063432			0631470152111 4N+6508503	2
DC10FC05			082085421			0601520230000 8S+5300005	3
DC10FC15						0601140231346	
DC10F025			C78085421			0551400230001 3S+5300	
DC10F035						0461480240001 3S+5400	
DC10F045			C75072421			0501000230001 4S+5300003	3
DC11FC05						1602050150002 7N+6300099	3
DC11FC16						0700674221451 8001600025N+6400099	2
DC13FC05		078082421				0521620222240 7S+5702004	3
DC13F015						0451520222190 8S+5602099	3
DC13F025			C82090431			0501600222101 0S+5501004	3
DC13FC35						0421480222001 1S+5401899	
DC13F045						0820901120431 560211o113S+5200104	3
DC13FC52						0551400211721 4S+5201599	3
DC16FC05			094085411			0472100221985 7N+4001005	3
DC16F015						0382100222035 6N+4101599	3
DC16F025						0850784110401 8202018254N+4300705	3
DC16F037						02020853N+4410099	3
DC16FC42						02221453N+4410092	3
DC17F005						1051780221957 5N+1609599	3
DC17FC15						0720784110991 5002219074N+1707099	3
DC17F020						1051700221957 3N+1807099	3
DC18FC05						1722060192007 0N+2506099	3
DC18FC15			C82072421			1231480101586 9N+2702005	1
DC18FC22						0641420101486 8N+2801599	1
DC20FC05				075075431		0281620131784 9N+4701006	2
DC20FC15						0721520242144 8N+4802099	3
DC20FC25						0900824310741 8802221346N+4901599	3
DC20FC34						0591100222144 5N+5002099	3
DC21F005		099090411				0601250220005 1N+4500003	3
DC21F015						0621520220005 0N+4600099	3
DC21F025		104094411				0521210232100 1S+6104003	3

~~TOP SECRET~~ [redacted]

TABLE 9-1

MISSION 1021-1

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RE[illegible] D D LIM SUN [illegible]

NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOOLP

PAS NBR	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5 / D / LIM / SUN	
C021F035					05510802220003S+5903599	3
C021F045	078085411				05811201520204S+5807099	2
C021FC60					06010801519513S+5207099	2
L021F070		C67072411			04714001421015S+5105005	2
D021F080					08116302419017S+5001099	3
C021F087			C72067411		07218002320818S+4902005	3
C021F101					07916302118220S+4701099	3
D022F005		078070111			05012002220456N+4101599	3
C022FC15					04420002218054N+4200599	3
L022F025		C67065421			05917601419641N+5200304	2
C022F035					03817401419140N+5301099	2
C022F047			09C072411		03807401622002N+6102099	2
C022FC57					04508002222201S+6002099	3
C022F065		C00070212			04407502221502S+5902599	3
C022F075					06411002221407S+5704599	3
L022F085				072078411	05009401822009S+5608099	2
C023FC05					01521047N+4810059	2
C023FC15					07217801421045N+4909099	2
L023FC25		C61065431			04021801420830N+5904506	2
C023F035					0441540142[illegible]	[illegible]
C023FC45		C78082112			0851620142[illegible]	[illegible]
C023FC55					06215801400[illegible]	[illegible]
023F065		059061411			06615001520[illegible]	[illegible]
023FC75					07412801515322N+6200399	2
L023FC85		C70067111			05113801500020N+6300010	2
C023FC95					03412001221619N+6302099	2
C023F107		C72065212			05812201221017N+6400210	2
C024FC05	067072421				08416601416624N+6201099	2
C024FC15					04915501400023N+6300059	2
C024FC25	063065422				08817801310521N+6300308	2
C024F030					06519601413520N+6400599	2
A025F005					01100039N-3099999	2
C025F005		C78072412			07216001313422N+6200205	2
C025F015					05512501400021N+6200099	2
L025F025		C75075411			05618601317819N+6200505	2
C025FC35					03414501216417N+6200599	2
C025F045			085082411		03915601321016N+6201505	2
L025FC55					04514501321514N+6302099	2
C025FC65			082078411		04512501322012N+6303005	2
C025FC75					03011601423611N+6302099	2
L025FC86			082085411		03612401421009N+6302506	2
C026FC05				070075431	07619501419570N+2407059	2
C026F015					09220001419869N+2502599	2
C026FC30		C85090421			05012502000007S+5600005	3
C026F040					05013002100008S+5500099	3
C026F050		C82078421			05512002000010S+5400005	3
L026FC60					04015502100012S+5300099	[illegible]
026FC70				075082431	04515402120513S+5101005	[illegible]
26FC80					05216001921515S+5005099	[illegible]
L026FC90		C65070421			06916002121017S+4906006	[illegible]

TABLE 9-1

[redacted]

MISSION 1021-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D LIM	SUN
NBR	NBRHWHAAASTQWHWAAASTQHWAAASTQHHWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOOLP									
CO26F100									040145016190185+4803099	3
CO27F005				094085421					074170012000261+6100005	2
CO27FC17									103182013000241+6200099	2
CC30FC05			C72078111						054156022148335+3500103	3
CO30F015									050167021000355+3400099	3
CO30F025		070063212							060145021218365+3206099	3
CO30FC35									016210385+3009899	2
CC30F041									015200395+2908099	2
CO32FC05									013190361+5410099	2
CC32FC11									013195361+5510099	2
DO34FC05									143196013000711+2300099	2
CO34FC15085070433									096196014000701+2400099	1
CC34FC25									070150012146691+2602599	1
CO34F035						075085411			058168012150671+2708099	1
DC34FC45									082182012165661+2909099	1
CO35FC05			C70059212						059160011170621+3301503	1
DC35FC15									049190011168611+3403099	1
CO35FC25			C72063432						031185011160591+3606007	1
CC35FC37									032192014210165+4807599	2
CO35F048									014220185+[redacted]	
CO37F005			070065421						042132013194[redacted]	
CO37F015									059160013000[redacted]	
CC37F025			075059431						035150013000[redacted]	
CO37F039									041120014184135+5006099	2
CO37FC49		067059412							053134014200185+4903507	2
CC37FC59									050135016205175+4807099	2
CO37FC69									048138014186195+4702006	2
CC37FC79						067059432			053145014000205+4500006	2
CC41FC05									043175017210615+3404099	2
CC41F015			094111111						034105020200605+3500505	[redacted]
CC41F025									039111021212585+2701099	3
CC41F035				085094111					037110021203575+3800599	3
CC41F045									060140021221045+5503099	3
CC 1FC55		085104411							058110021222065+5401599	3
CC41FC65									075145020225075+5301099	3
CC41FC75									080130021218095+5210099	3
CC41FC79		085090411							082140021225095+5205099	3
CC42FC05		075094411							043125022000085+5400004	3
CC42F015									050130022000095+5200099	3
CC42FC25		090082411							044124022000115+5100004	3
CC42F035									038143021000135+5000099	3
CC42F045			C72078411						040148020145145+4900205	3
CC42FC55									045153021000165+4800099	3
CC42FC63				078082411					044156021000175+4700005	2
CC42FC73									094170014000265+4000099	2
CC42FC83				C75082411					043178014000285+3900005	2
CC42FC93									032142013000305+3700099	2
CC42F103				072085111					025139014130325+3600205	[redacted]
CC42F115									027115014187345+3400599	2
CC43F005				054094411					077160013000255+5800005	2

~~TOP SECRET~~ [redacted]

TABLE 8-1

MISSION 1021-1

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES	D	D	D	LIM	SUM
NBR	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOULP										
CC43F017										10118001500023N+5900099 2	
CC45F005			C61054412							08017001015256N+3806000 1	
CC45F015										05614201015155N+3904599 1	
CC45F025			C72055412							07015001113653N+4000199 1	
CC45F035			065070421							09619301820052N+4200599 2	
CC45FC45										05216202013050N+4300210 3	
CC45FC54										04408002011549N+4400599 3	
CC46FC05										07419502120233S+3401099 3	
CC46FC15094094112										08013402020835S+3308099 3	
CC46FC25										02221037S+3110099 3	
CC46FC35										02219639S+2910099 3	
CC46FC37		072072411								08216402219039S+2909599 3	
CC46FC47										06611802220041S+2706599 3	
CC46FC53094104111										06413502218643S+2605599 3	
CC48FC05										01922436N+5209099 3	
CC48FC10										01922236N+5306099 3	
CC50FC05			C67061432							08818801220564N+3008005 1	
CC50FC15			C65059431							03816201014863N+3100599 1	
CC51FC05			C72085411							02818001100062N+3200003 1	
CC51FC15										03521001200061N+3400[redacted]	
CC51FC25				075067411						05116501218[redacted]	
CC55FC05										07513501321[redacted]	
CC55FC15				072085111						06815301519[redacted]	
CC55FC25										06514001620[redacted]	
CC55FC35			C85094311							08215002018023N+5700106 3	
CC55FC45										07915002000021N+5700099 3	
CC55FC55			C99104111							07814502000020N+5700006 3	
CC56FC05		099099311								05619001100024N+5600004 3	
CC56FC15										15017001400023N+5700099 3	
CC56FC25			C72078422							09213201000021N+5700004 2	
CC56FC35										09813201000019N+5700099 2	
CC56FC45			C70075422							08612001000017N+5900004 1	
CC56FC49										06011701009717N+5800599 1	
CC57FC05		085075411								06014900900021N+5700005 1	
CC57FC15										05612501012520N+5700199 1	
CC57FC25		082090411								03412000913518N+5700205 1	
CC57FC35										04213001018016N+5701099 1	
CC57FC45		099090411								06915601319515N+5702505 2	
CC57FC55										04717001221113N+5702099 2	
CC57FC65				072075411						05214001820011N+5705599 2	
CC57FC75										06216201919510N+5707099 3	
CC57FC80			C85094411							05715601820409N+5706599 3	
CC58FC05			085090411							04310002021507S+5204002 3	
CC58FC15										03910202117508S+5000599 3	
CC58FC25		070085111								04213002000010S+4900002 3	
CC58FC35										04114202000012S+4800099 3	
CC58FC45		078094411								04313501900013S+4700003 3	
CC58FC55										04014002000015S+4600099 3	
CC58FC65						085094411				06014502100017S+4500002 3	
CC58FC69										07017002000017S+4400099 3	

TOP SECRET [redacted]

TABLE D-1 [redacted]

MISSION 1021-1

```
PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 RESAREA5 RES D  D  Q LIM   SUN
NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOULP

D059F005090078411                                        10617001500016N+5700005 2
D059F015                                                 07014701400015N+5700099 2
D059F025                  072078411                      09214502200013N+5700005 3
D059F035                                                 07814602200011N+5700099 3
D059F045                                                 11211802221210N+5705099 3
D062F005                  099090411                      06617802221359N+3408005 3
D062F015                                                 07418502220458N+3505099 3
D062F025                            078085411            04814802219056N+3600505 3
D062F035                                                 04409302219155N+3705099 3
D062F045                  078085411                      03417402219153N+3901505 3
D062F055                                                 06013402200052N+4000099 3
D062F065                  099090111                      03008802200050N+4100005 3
D062F073                                                 03409802216049N+4201099 3
D062F083                                        07508241106611502222136N+5002505 3
D062F092                                                 06014002220635N+5108099 3
D062F103         085075412                               08113402222409N+5704599 3
D062F111                                                 07509402221508N+5605599 3
D064F005                                                       02221036N+5010099 3
D064F010                                                       01821036N+5010099 2
D065F005                  052059432                      1002000131986[illegible]
D065F017                                                 1101910141906[illegible]
D066F005         063067412                               11116201419070N+2306[illegible]
D066F015                                                 09317801419269N+2406[illegible]
D066F026         075063432                               06820201418264N+2904506 2
D066F036                                                 05720501411863N+3000199 [illegible]
D066F046                  070075431                      05718501420561N+3200107 2
D066F054                            061059431            05620801419060N+3304099 2
D067F005                                                 06819501600061N+3200099 2
D067F015                  094099423                      03418801500060N+3300007 2
D069F005                  104104111                      04218702100029N+5200007 3
D069F015                                                 04618202200028N+5300099 3
D069F025                  099104111                      03920402216226N+5300107 3
D069F035                                                 05810802121625N+4509599 3
D069F046                            085090411            06213702221615S+4505099 3
D069F056                                                 05915502222017S+4403099 3
D069F066                  000065422                      08516802200019S+4300006 3
D069F074                                                 08418202200020S+4300099 3
D070F005                  065070412                      04619502016155N+3600210 3
D070F015                                                 04411102020154N+3701099 3
D070F025                                                       01219652N+3810099 1
D070F035                                                       01016551N+3910099 1
D070F045                            067070412            04312501012041N+4602005 1
D070F058052054431                                        04911201015039N+4801008 1
D071F005                                                 09015001400024N+5400099 1
D071F015                                        07808511106812501400023N+5400005 2
D071F025                                                 06914302021821N+5401099 3
D071F035                  078094111                      08015501822119N+5400508 3
D071F045                                                 07415301821118N+5500199 3
D071F055                  094094111                      07517201822516N+5501507 3
D071F065                                                 07515601922814N+5504099 3
```


TABLE 9-1

~~TOP SECRET~~ [redacted]

MISSION 1021-1

PAS NBR	FRMAREA1 NBR	RESAREA2	RESAREA3	RESAREA4	RESAREA5 RES D D-D LIM SUN WWWAAASTQMINMAXB+FMAXLATELECLDCLP	
C071F075	085078111				07013401822013N+5506099	2
C072FC05		C63052412			09213201499924N+5399900	2
C072FC15					10111501099923N+5399999	3
C072F025				054049412	099120010999 21N+5499999	3
C072FC35					09812001000019N+5400059	2
C072F045					05313001000018N+5400006	3
L072FC56					14018001317516N+5500399	2
C073FC05					10817901419027N+5202099	2
C073FC15		C75070412			11017501318821N+5400107	2
C073F025					09118701400015N+5500099	2
C073F035				070078412	11517001400013N+5500099	2
C073F045					07913501200013N+5500099	1
C073FC55				072085412	04314001200013N+5500007	1
C073F065					C4013801200013N+5500099	1
C073F075			082078411		04614301200013N+5500007	1
C073FC85					05513001200013N+5500399	1
C073FC95			078078411		06416201218313N+5501507	1
C074FC05			104090411		03514001816510S+4800599	3
C074FC15					04708501913511S+4700299	3
C074FC25		C94085111			0401600190001 3S [illegible]	[illegible]
C074F035					0591350190001 [illegible]	[illegible]
C074F045		C94085311			050185020000 16S [illegible]	[illegible]
C074FC55					0761500150001 8S [illegible]	[illegible]
074F065		078085431			03214801518029S+3502003	2
C074F075					02510101320031S+3405099	2
C074FC84				094094431	04212601421632S+3307599	2
C075FC05		C75078412			07515001500014N+5400005	2
C075FC15					08512401915013N+5400199	3
C075F025				065067412	09711702120211N+5408599	3
C075F036					0611040202u809N+5404599	[illegible]
C079FC05		C75072431			03318201900032N+4900006	[illegible]
L079F017		C78085111			04518001900031N+5000006	3
8 F					N+-0	

~~TOP SECRET~~ [redacted]

TABLE 9-1

MISSION 1021-1

PAS NBR	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	D	D	LIM	SUN
	NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLOOLP								
CC01A005								01117852N+4610099	1
CC01A010								01420051N+4610099	2
CC02A005								160180011000?1N+2500099	1
CC02A015070075412								12516001100070N+2600099	1
CC02A025								01016253N+4505099	1
CC02A035						082085431	06017501017551N+4604099		1
CC06AC05								01115206S+6009599	1
CC06A013		085090112						03010001118007S+5904099	1
AC09A005								00900038N-3199999	1
CC09AC05				085078431				06513201017530N+6200504	1
CC09AC15								05713301000029N+6300099	1
CC09AC25				072078431				05012401000026N+6600004	1
CC09AC39								04710901013016N+6700199	1
CC09AC49			078072431					03312001015014N+6700504	1
CC09AC59								02511001016013N+6600599	1
CC09AC69		078072421						03513001019211N+6600504	2
CC09AC79								04215001118009N+6600299	2
CC09AC93				082085421				07813501422207N+6508504	2
CC10AC05		072078411						06313202121707S+5800501	3
CC10A015								05111402014201S+[redacted]	
CC10A025			C99085411					06014302000021S+[redacted]	
CC10A035								04813602000025S+[redacted]	
CC10A045		072075411						05114202000015S+[redacted]	
CC11AC05								14016001500028N+6200099	2
CC11AC15								11118001100026N+6300099	2
CC11A018								09514001100026N+6400099	1
CC13AC05			C82078212					01705401013206S+5808506	1
CC13AC15								03413501018508S+5700799	3
CC13A025			C78070212					05012502021510S+5601013	3
CC13A035								03810502018012S+5500299	3
CC13AC45			085075212					04012202015513S+5300208	3
CC13AC54			C70067212					04013502015514S+5200108	3
CC16AC05			C72058432					07821502020258N+3904007	3
CC16AC15								05020502020357N+4004099	3
CC16AC25			C61072431					04116502020555N+4201599	3
CC16A038								01921054N+4310099	3
CC16A044								02019654N+4310099	3
CC17A005								02018375N+1510099	3
CC17AC15								04017101416574N+1604599	2
CC17A021						054054412	05516501316574N+1609599		2
CC18AC05								17018501120071N+2401099	2
CC18A015		090082411						08615501000070N+2600006	1
CC18A023								01219468N+2702099	1
CC20A005			C90099411					05016301720350N+4601507	3
CC20AC15								06518002020049N+4707099	3
CC20AC25						067072411	08212502020547N+4803599		3
CC20A035								08411802020446N+4904099	3
CC21AC05								06212202021052N+4400099	3
CC21A015			C85085111					06014002000051N+4500007	3
CC21A025								02020801N+6110099	3

~~TOP SECRET~~ [redacted]

TABLE 9-2

MISSION 1021-1

PAS NBR	FRMAREA1 NBR	RESAREA2 WWWAAASTQ	RESAREA3 WWWAAASTQ	RESAREA4 WWWAAASTQ	RESAREA5 WWWAAASTQ	RES D D D LIM SUN MINMAXB+FMAXLATELECLOGLP
LO21AC35						05408002018501S+6807599 3
LO21A040				085072411		04608502022302S+5904012 3
DO21A050						05014302021804S+5809899 3
LO21A060	067072411					06814002022212S+5308599 3
LO21A070						07413202022913S+5207599 3
DO21A080			078090431			05715202020415S+5102515 3
LO21A090						05413002019817S+4902599 3
LO21A100			C67085421			04514501420118S+4801015 2
DO22AC05			C82085411			04011601719057N+4001507 3
LO22AC15						06012002021055N+4101099 3
LO22A027			C90085421			05213001400042N+5200007 2
DO22A037						04215101519441N+5300399 2
DO22AC49						02022002N+6206099 2
LO22AC59				078082411		04811502120901N+6104099 3
DO22A067						04614002121101S+6004099 3
DO22AC78				C72078411		05708702112206S+5706099 3
LO22AC89						02122508S+5510099 3
DO23A005						09814002022047N+4709099 3
LO23AC15						02022246N+4810099 3
DO23A026			C55065432			04821501221[illegible]
DO23A036						0501900122[illegible]
LO23A046			C75063112			0541480122182[illegible]
LO23A056						09015301220[illegible]
LO23A066			C78082211			05514501200025N+6100010 2
DO23A076						05511201220823N+6200599 2
DO23A086			C78085112			04514801215522N+6200207 2
DO23A096						07616001600020N+6300099 2
CO23A106			C70060212			08515001823018N+6401010 2
LO23A111			C54061412			08222402021217N+6403508 3
LO24AC05				063070412		12017002008525N+6200199 3
CO24AC15						13017101900024N+6200099 3
DO24AC25				085082432		05317801400022N+6300012 2
LO24A032						12117001410521N+6300299 2
AO25A005						01100038N-3199999 2
LO25A005		072082411				06517201318623N+6201099 2
LO25A015						05018201317422N+6200599 2
CO25A025			C90C99431			05016001309520N+6200110 2
DO25A035						11018501319718N+6200599 2
LO25A045			094072423			03215201321017N+6201510 2
LO25AC55						04614001321815N+6303599 2
CO25AC65			078072421			05213001620014N+6301010 2
LO25A075						06214402119512N+6305099 3
LO25AC85			C94099421			05614102119810N+6302010 2
CO26A005					072078431	10618001418371N+2200299 2
LO26AO15						05918501418970N+2401599 2
LO26A030			C78082211			05612002116506S+5601007 3
CO26AC40						05609002000007S+5500099 3
LO26A050					067072411	05409502215509S+5400207 3
26A060						05110402200011S+5300099 3
LO26A070	072075411					03811502015612S+5200107 3

[redacted]

MISSION 1021-1

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

NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDCLP

C026A080						038120020190I4S+5100599	3
C026A090					072078411	044140020205I5S+5002007	3
C026A103						05013602021018S+4802099	3
C027A005				078072411		07816001317327N+6000305	2
C027A017						12517001300025N+6200099	2
C030A005			C90085111			04011502017032S+3603085	3
C030A015						04312002015434S+3500299	3
C030A025			C70082111			04912002000035S+3300010	3
C030A035						02120837S+3210099	3
C030A042						02020538S+3009899	3
C032A005						02221037N+5410099	3
C034A005						02120172N+2210099	3
C034A015				078090213		15319401700070N+2300099	2
C034A025						13419601400069N+2500099	2
C034A035	072075421					11017501319268N+2607599	2
C034A045						06519501317067N+2808599	2
C035A005			C70075131			05021501500063N+3200006	2
C035A015						06719801420062N+3304099	2
C035A025			C78078431			05720801418360N+3501511	2
C035A038						015216[illegible]	[illegible]
D035A050						0601250142[illegible]	[illegible]
C037A005			C75065411			0751500141334[illegible]+460[illegible]	[illegible]
C037A015						04912401420545N+4[illegible]	[illegible]
C037A025			C82085121			04415401418543N+49002[illegible]	[illegible]
C037A039						06114302218212S+52045[illegible]	[illegible]
C037A049			C75072232			06010502115914S+5005510	3
C037A059						05112201619615S+4901599	2
C037A069			C65067111			04211001420817S+4804512	2
C037A079						04313001419719S+4700599	2
C037A081			C67075411			06315601415819S+46003[illegible]	[illegible]
C041A005					085090431	06820001621062N+33090[illegible]	[illegible]
C041A015						05417202121661N+3402599	3
C041A025			104094111			03510002120059N+3602010	3
C041A035						05410002119457N+3801099	3
C041A045				078082411		05514502122504S+5603510	3
C041A055						05010002220106S+5503599	3
C041A065		085085411				05011002222007S+5402099	3
C041A075						06112802022109S+5301599	3
C041A082	078082411					05613402121610S+5208099	3
C042A005		063075411				04810002100007S+5400307	3
C042A015						05011302000008S+5300099	3
C042A025		111118111				04212302000010S+5100010	3
C042A035						04212502000012S+5000099	3
C042A045			C85082421			04612002000013S+4900010	3
C042A055						04712002018515S+4800599	3
C042A065			C94C94411			05614001800017S+4700010	3
C042A075						06015601400025S+4100099	3
C042A085			C94085431			05814401300027S+3900009	3
C042A095						04012201200029S+3800099	3
C042A105			C55063431			06317501917031S+3600109	[illegible]

~~TOP SECRET~~ [redacted]

TABLE 9-2

[redacted]

MISSION 1021-1

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

NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELEGLDCC[illegible]

PAS NBR	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES / D→D / D LIM	SUN
C042A115						039150020211315+3500597	3
C043A005					063059421	07919501520425N+5801599	2
C043A019				078072431		08016501317023N+5999999	2
C045A005					090094431	08417001218557N+3702097	1
C045AC15						08016001115256N+3802097	[illegible]
D045A025					094094431	07114401113454N+3901010	1
D045A035						05316101100053N+4100099	1
C045AC45			C90099431			04019301618051N+4200510	2
C045A055						04213002000050N+4300099	3
C046A005			C61060431			06816102020232S+3505099	3
C046AC15						06414702021234S+3406599	3
C046AC25	067063212					08012202021535S+3208599	3
C046A035						09213502020837S+3007899	3
C046AC45		069065432				05309102119839S+2908599	3
C046A055						04809202120141S+2706099	3
C046A057	065059211					05515202220441S+2708092	3
C048AC05						02022237N+5107599	3
C048A011						01722037N+5209099	2
D050A005			C67078431			05521401319565N+2905007	2
D050AC16			082070432			06419501321063N+31[illegible]	[illegible]
D051A005			C72090411			0462110140000[illegible]	[illegible]
D051A015						05821801300067N+320[illegible]	[illegible]
C051A025			C85090431			0[illegible]21101400060N+34[illegible]	[illegible]
C55A005						01321828N+55100[illegible]	[illegible]
C055A015					067072412	09615001321427N+560[illegible]	[illegible]
C055AC25						08814701320325N+5603099	2
C055A035				094082411		06012601319424N+5701510	2
C055A045						06514001400022N+5700099	2
C055A055			C85082411			05913801600021N+5700010	2
D055A063						07414502100019N+5800099	[illegible]
C056A005						01618824N+5601599	2
C056AC15					075078412	10217201400023N+5700099	2
C056AC25			C67063421			14217001400021N+5700099	2
C056AC35						15018001300020N+5700099	2
C056AC45						11413501100018N+5800099	1
C056AC50						08614501000018N+5800099	1
C057AC05				118111111		05012701000021N+5700099	1
C057AC15						08817201400020N+5700099	1
C057AC25					094085411	07816801300018N+5700099	2
C057A035						07416701320017N+5700299	2
C057AC45			078067411			06617101320315N+5702010	2
C057A055						05413601321014N+5703599	2
C057A065				111118111		04215301321012N+5702010	2
C057A075						04409201321411N+5704099	2
C057A083					067078421	05511201321810N+5707599	2
C058AC05			C94104111			04517501721406S+5203507	3
C058AC15						04611502020007S+5100199	3
C058AC25			C78085311			04517502012009S+5000110	3
C058A035						04612602000011S+4900099	3
C058A045			118125111			06713002100012S+4800010	3

~~TOP SECRET~~ [redacted]

TABLE 9-2

[redacted]

MISSION 1021-1

PAS NBR	FRMAREA1 RESAREA2	RESAREA3	RESAREA4	RESAREA5 RES	D D D LIM SUN ...
NBR	NBRWWWAAASTQ	WWWAAASTQ	WWWAAASTQ	WWWAAASTQ	WWWAAASTQMINMAXB+FMAXLATELECLDOLP
C058A055					05514502100014S+4700099 3
C058A065		C75078411			05212002100015S+4600010 3
CC59A005					10518501500017N+5799907 2
CC59A015					06514501400016N+5700099 2
CC59A025		C59069412			06513001400014N+5700010 [illegible]
CC59A035					07012501412012N+5700199 [illegible]
CC59A045		065072412			04610001420011N+5700310 2
CC59A051					05310501521010N+5704099 2
CC62A005		C94C90411			04714001420460N+3304506 2
C062A015					04218601319059N+3404099 2
CC62A025		C78082411			03617201519157N+3502010.2
CC62A035					04614602217656N+3602099 3
C062A045		C78085411			03609802019454N+3804510 3
CC62A055					03812502018253N+3900599 3
C062A065		078090411			03808802200051N+4000010 3
CC62A075					03812502200050N+4100099 3
CC62A085	099104111				08814002022237N+4907099 3
CC62A095					11412602120636N+5109599 3
C062A105					02021410N+5702599 3
C062A114	099104111				07812002021609N+560[illegible]
C064A005					020216[illegible]
C064A011					0202163[illegible]
CC65A005					0161986[illegible]
065A017					07206543112319201116266N+2509[illegible]
CC66A005	090082411				06012001214570N+22070[illegible]
CC66A015					05012101215169N+2305099 [illegible]
CC66A026					09910443307417201215064N+2908099 1
CC66A036					09820001300063N+3000099 1
C066A046		C99090411			05820502018462N+3100510 3
CC66A054					085198020211[illegible]N+3203099 [illegible]
C067A005			082078411		06522202000062N+3100005 [illegible]
CC67A015					07622002000061N+3200099 [illegible]
CC67A020		C90094411			05722402000060N+3200005 3
CC69A005					08208521105817202000030N+5100006 3
CC69A015					04016202116429N+5200199 3
CC69A025	078085411				03811802016627N+5300206 3
CC69A035					05713402022026N+5303099 3
CC69A048	082075411				04715202021814S+4604508 3
CC69A058					06411702122915S+4504599 3
CC69A068		C90082411			05214502017817S+4401008 3
CC69A076					06613801600018S+4300099 2
C070A005067072411					04310002020156N+3601599 3
CC70A015					05813102114055N+3700299 3
C070A025			C82085411		07011502120253N+3803099 3
C070A035					02121252N+3910099 3
CC70A047082082411					08017001500042N+4500007 2
CC70A058					01518040N+4710099 2
CC71A005	065063411				10014501318024N+5303009 2
C71A015					10214201200023N+5300099 2
C071A025			070075411		05013401200021N+5400008 2

~~TOP SECRET~~ [redacted]

TABLE 8-2

MISSION 1021-1

PAS FRMAREA1	RESAREA2	RESAREA3	RESAREA4	RESAREA5	RES D	D	D LIM	SUN
ADR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLATELECLDOLP								
CC71A035							0491440142102ON+5400899	2
CC71A045		C85072411					0481270122021 8N+5400208	2
CC71A055							0441300122121 7N+5401099	2
CC71A065			104094111				0451580122161 5N+5504008	2
CC71A076							0601580132121 4N+5503599	2
CC72AC05		C85090411					1151750170002 4N+5300008	2
CC72A015							1001310120002 3N+5300099	1
CC72AC25			063067411				1001290110002 2N+5400099	1
CC72AC35							1151300120002 0N+5400099	1
CC72A045065065411							0901250120001 9N+5400008	1
CC72AC57							0781350110001 7N+5500099	1
CC73A005	099094421						0741400131922 8N+5203559	2
CC73AC15							1001650131732 7N+5200199	2
CC73A025		C85094411					0721450110002 5N+5300010	1
CC73AC35							1151350110002 4N+5300099	1
CC73AC45			000063422				0941220110002 2N+5300099	1
CC73AC55							0951350110002 1N+5400099	1
CC73AC65					072085411	162	175012000 19N+5400099	1
CC73AC75							1301780130001 8N+5400099	1
CC73AC85							0781740120001 [redacted]	
CC73A095		C72082411					0741650120001 [redacted]	
CC74A005	094094421						0511350202100 [redacted]	
CC74A015							0431030201501 [redacted]	
CC74AC25	085085221						0401030201051 2S+4200 [redacted]	
CC74A035							0401580200001 4S+4600099	3
CC74A045		C90085211					0381600200001 5S+4500013	3
CC74AC55							0591480190001 7S+4400099	1
CC74AC67		082080431					0301460141502 8S+3503006	2
CC74AC77							0251150141923 0S+3403099	1
CC74AC87					075078131	027	809801420531S+3306599	2
CC75AC05		C72072211					0921480131681 4N+5400200	2
CC75A015							0600980140001 3N+5400099	2
CC75A025		078085411					0500940141651 1N+5405099	2
CC75A035							0370840141671 0N+5401097	2
CC79A005		C70061231					0341080141593 3N+4900107	2
CC79A015							0581520140003 2N+5000099	3
CC79A019		C79082111					0661780200003 1N+5000006	3
8 F							N+-0	

TABLE 9-2

[redacted]

MISSION 1021-2

PAS NBR	FRMAREA1 NBR WWWAAASTO	RESAREA2 WWWAAASTO	RESAREA3 WWWAAASTO	RESAREA4 WWWAAASTO	[illegible] MAX FMAXLATELECLOO
D085F005					01817954N+3610099 3
C085F009	085090111				08411801818253N+3709099 3
C085F019					08412401817852N+3801999 3
C085F033					01221234N+4810099 [illegible]
C085F037				078078111	07010601220433N+4900099 [illegible]
D085F047					08022801213032N+4900099 [illegible]
D085F057			063067411		06823601518830N+5005099 [illegible]
C085F067					04008201821610S+4602099 3
C085F077					01822212S+4503599 3
D085F084		C59067421			05212901818617S+4201099 3
C085F094					04015801600020S+4200099 3
C085F104		C63072411			06212901200021S+4000005 3
D086F005			085090431		06613201118641N+4401005 2
C086F014					01118040N+4510099 2
C086F025	075072431				03220201100034N+4700005 2
C086F035					05421401600032N+4800099 2
C086F045			C78078431		03821401819531N+4900505 3
C086F060					03207601820423N+5101099 3
C086F070		C78085421			03817801821422N+5101505 3
C086F080					[illegible]
D086F090		075070411			[illegible]
C086F104					[illegible]
C087F005		104090411			[illegible]
C087F015					[illegible]
C087F025		C94085311			[illegible]
C087F035					04016402018531N+4800199 [illegible]
C087F045		C78090421			04014901400030N+4900007 2
C087F055					05511201500028N+4900099 2
C087F065					11114601400027N+5000099 2
C087F075					10414201400019N+[illegible]
C087F085					09214501500023N+[illegible]
C087F087	094085311				08815401500023N+5100099 [illegible]
C087F097					05411001513521N+5100099 2
D088F005				078094411	07410501000023N+5000099 [illegible]
C088F015					10213001000026N+5000099 1
C088F025063063422					06611701012824N+5100599 1
C088F035					09012201000022N+5100099 [illegible]
C088F045					10211801000021N+5100099 [illegible]
C088F055					11012501000019N+5200099 [illegible]
A089F005					01000040N-2600000 [illegible]
C089F005	072075421				07011201000021N+5900005 [illegible]
C089F015					06311701000020N+5100099 [illegible]
C089F025		090094431			04712601000018N+5100005 [illegible]
C089F035					06812001000016N+5100099 [illegible]
C089F045			070072411		06214101200015N+5100005 [illegible]
C089F055					06614601220213N+5101099 [illegible]
C089F065				075078411	06615601619611N+5101005 [illegible]
C089F075					[illegible]
C089F081		C82085411			06213601616809N+5100100 [illegible]
C090F005		C59052423			08015201200023N+5000099 [illegible]

~~TOP SECRET~~ [redacted]

TABLE 9-3

MISSION 1021-2

PAS	FRMAREA1	RESAREA2	RESAREA3	RESAREA4	[illegible]
NBR	NBRHHHAAASTQHHHAAASTQHHHAAASTQHHHAAASTQ[illegible]				
C090F015					07816701200022[illegible]
C090F025		C78070423			06311001600020N+[illegible]
C090F035					05811401013018N+[illegible]
C090F045					06210401011017N+[illegible]
C090F055		C67063431			06415401200015N[illegible]
C090F065					08813601200013N[illegible]
C093F005					07413101013869N+2205[illegible]
C093F015		085094413			09412601014568N+2306[illegible]
C093F025					06412001015067N+2404[illegible]
C093F035			072067413		06014001015765N+2508[illegible]
C093F045					15219201319464N+2706[illegible]
C093F062		104104111			02808801914322S+3700[illegible]
C093F072					02708501915224S+3600[illegible]
C093FC82085090111					03207201815826S+3505[illegible]
C093FC92					04007701818728S+3404[illegible]
C093F102		104104111			03311001917230S+3[illegible]
C093F112					03616001917632S+3[illegible]
C095FC05	078072431				07214201920834N[illegible]
C095F015					05217202021232N[illegible]
C095F023			090085431		[illegible]
C096F005		052052411			[illegible]
C096F015					[illegible]
C096F021		C57055421			[illegible]
C098FC05		C94085433			[illegible]
C098F015					[illegible]
C098F025		C78082433			07019501316[illegible]
C098FC35					02619401217261N+2902[illegible]
C098F042		078085433			C3218201218160N+3003[illegible]
C101F005	072078411				02513501200017S+4000[illegible]
C101F015					[illegible]
C101F020063067431					05913401300820S+[illegible]
C102F005		C70082411			04116001120035N+4400[illegible]
C102FC15					03013501319234N+4500[illegible]
C102F025		C67078411			04117001218632N+4500[illegible]
C102F035					02812501417231N+4600[illegible]
C102FC45		C67078411			02318001317029N+4701[illegible]
C102FC55					02720201320028N+4702[illegible]
C102F062		C94094411			02009601320027N+4803[illegible]
C102F072					04010001221706N+4900[illegible]
C102FC82					03819001321804N+4807[illegible]
C103FC05		C82085411			01914801218552N+3504[illegible]
C103F015					03608001820051N+3706[illegible]
C103F024	078072411				05011702020458N+3705[illegible]
C103FC35					04017402000456N+3[illegible]
C103F045	075072411				06219602019014N+4003[illegible]
C103F056					06420801900030N+[illegible]
C103F066	072072431				03816801200023N+[illegible]
C103F076					04014201200[illegible]
C103F086	085090111				05614401200[illegible]
C103F096					05612801200[illegible]

~~TOP SECRET~~ [illegible]

TABLE 9-3

[redacted]

MISSION 1021-2

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 [illegible]

ABR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXCATELECEOU[illegible]

D103F106		072075411			06916201214823N+480100...
D103F116					06613001518321N+4900799...
C103F127					01814720N+4901092...
C104FC05					10417001320224N+480...
D104F015		075072412			04010601000023N+...
C104F025					07411201000021N+480009...
C104F035					07611501000020N+4800099...
C104FC45					10012001000018N+4900099...
C104FC55			C94085411		05011601000017N+4900007...
C104F065					05115301000015N+4900099...
D104FC75		099090431			05418201613414N+490020...
C105F005			078082421		08816201000019N+480008...
C105F015					08412301000018N+4800099...
D105F025					09312101000016N+4800099...
C105F035			C75075411		02612801000015N+480000...
C105F045					04514201218813N+480109...
C105F055		070075411			04412001200011N+470000...
C105FC65					05413601100010N+4700099...
C105F075			094085411		[redacted]
D105F085					
C105F095		C90082411			
C105F104					
?106F005			078072423		
C106F015					
C106F025			078078433		04414001210322N+4702...
D106F035					06815501317521N+47015...
C106FC45		C78082433			07116201300019N+4800006...
C106FC55					09716001200018N+4800099...
D106F065		C67072411			04010301000[illegible]
C106F074					[illegible]
C109FC05	078085411				03609001820217S+310...
D109F015					03409901920419S+3700599...
C109F025	085078411				02809102010521S+360050...
D109F035					02909502015423S+3501099...
D109F045			072078411		03110101922325S+3405504...
C109F055					03009601919126S+3309899...
C109F065	082085411				03810402019628S+3209099...
D109FC75					04810002017030S+3101099...
C109FC85					01917032S+301009...
C109F094					06012001517134S+290909...
C111F005		C94082111			03016001218137N+420150...
C111FC14					03917101718636N+4300199...
C114FC05				1041118411	06415201416666N+240859...
C114F015					03415201216664N+260759...
C114FC24		111099433			05620201018263N+270759...
C117FC05				0900853111	02813001421134N+420799...
C117FC15					[illegible]11020218 53N+430...
?117F025		C94085311			03612402221431N+440150...
?117F035					03711302115829N+440059...
C117F043		072085311			06115102200028N+450009...

~~TOP SECRET~~ [redacted]

TABLE 9-3

[redacted]

PAS NBR	FRMAREA1 NBRWWWAAASTO	RESAREA2 WWWAAASTO	RESAREA3 WWWAAASTO	RE...
C117F058				03214002221[redacted]
C117F075		085085421		08114001800019S+[redacted]
D117F082				05213001500021S+3600[redacted]
C119F005	078075431			01815401200033N+[redacted]
D119F015				[illegible]1500120003 2N[redacted]
D119F025			072074431	03614501200030N+[redacted]
C119F035				03014501200028N+[redacted]
C119F045			082075431	02714201200027N+440000[redacted]
C119F056				03814001219225N+450159[redacted]
A120FC05				01400040N-2300000 2
D120FC05		C65059111		04715402100037N+4100005 2
D120FC15				05814201300036N+42000[redacted]
C120F025		078072111		07015501200034N+42000[redacted]
C120F035				09415301200032N+4300099 2
C120F045		C59052412		06211001000031N+4300009 2
C120F055				07410001100029N+440000[redacted]
C120F065		043043422		04310001112827N+4600109
C120FC75				05510501100026N+4400099
C120FC91		C63060422		04516001100010N+4600006
D120F101				[redacted]
C120F116		C70061412		[redacted]
C120F122		C75063422		[redacted]
C121F005		C94085423		[redacted]
121F015				[redacted]
C121F025	082075423			[redacted]
C121F035				04215801420014N+4500[redacted]
D121F045		082094421		03612701618213N+4500[redacted]
C121FC55				04312401615411N+4500299
C121FC65		C63070411		04011101620909N+4506099
D127F005		104094111		0381600220003[redacted]
C127F014				04213402217814N+[redacted]
C128FC05		082075412		13118602017066N+2300[redacted]
C128F015				05914002117064N+2503599
C128F024		C72070422		04315002021463N+2600[redacted]
D129FC05				07012001414075N+1409599
C129F015	094072421			06411001213474N+1502599
C129F026				03311801000072N+1800099
C129F036	063072421			06214801300071N+1800[redacted]
C132FC05			075082412	07512902400044N+3600006
C132FC15				07011802200043N+3700059
C132F024	078090411			05012502213841N+38005[redacted]
C132F035				04413002400014S+37000[redacted]
C132FC45			082078411	04011402000016S+3600059
C132F055				04315102000018S+3500099
C132FC65			090082411	03916001900020S+3500099
C133F005				03508202319026N+420009[redacted]
C133FC15		078094311		03512502219525N+4200[redacted]
C133FC25				0491300241942 3N+[redacted]
133F035		085090111		04113002321421N+[redacted]
C133F048				05216502600020S+[redacted]

~~TOP SECRET~~ [redacted]

TABLE 8-3

MISSION 1021-2 [illegible]

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 [illegible]

NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQ[illegible]MAXB+FMAXL[illegible]

C133F058	C67072431		040155023000225+3100[illegible]
C134F005			0402010222132 9N+4100[illegible]
C134F015	085099433		0302160212102 8N+4100105 [illegible]
C134F025			0511430220002 6N+5200[illegible]
C134F035	085072411		036154022000 24[illegible]
C134F045			094155023153 23N+4201099 [illegible]
C134F055		094090111	0611100222132 1N+4302099 3
C134F062			02319120N+4301099 3
C135F005			01316370N+1910099 2
C135F009		085082411	0551120131606 9N+2009599 2
C135F014			01517668N+2100099 2
D135F026	082090111		0441800210003 5N+3900007 3
C135F036			0401700210003 3N+4000099 3
C135F046	C94090421		0411560150003 2N+4000010 3
D135F056			0811200140003 0N+4100099 2
C135F066		085094431	0281440130002 9N+4100010 2
C135F076			0331400130002 6N+4100099 2
C135FC86	C85094431		0311410130002 5N+4200099 2
A136F005			01300040N+220[illegible]
C136FC05075070421			[illegible]
D136F015			[illegible]
C136F025063067422			[illegible]
[illegible]136F035			[illegible]
D136F045			05906543103[illegible]
C136FC55			0431400130002[illegible]
C136F066			072065431030145013000 10N+4300005 [illegible]
C136F076			0431200130000 8N+4300099 2
C136FC86			072067411041130014000 06N+4200005 3
C136FG96			0321400131550[illegible]
D137F005		067072411	0420740192000[illegible]
C137F015			0530900191435[illegible]
C137F030	C67C67411		0451450201970 6S+3901[illegible]
C137F040			0421180202050 7S+3801[illegible]
C137F050	C67061411		0361060212000 9S+3700[illegible]
C137F060			0331180211601 1S+3700299 [illegible]
C137F070		085094111	0371300210001 3S+3600[illegible]
C137FC80			0401140221581 5S+3500[illegible]
C137FC90			085078411042130021000 16S+3400[illegible]
C137F100			0401400210001 8S+3600[illegible]
C137F110	094085111		0411450230002 0S+3300[illegible]
D137F117			0381400230002 1S+3200[illegible]
C143F005	C90094411		0361300231474 0N+3600[illegible]
C143F013			0311460231783 9N+3700[illegible]
C143F025		094104111	0341480222063 5N+3802[illegible]
C143F030			0361660222083 4N+3804[illegible]
C145FC05			01416475N+1310[illegible]
C145F015094090431			0441240141507[illegible]
[illegible]145F028			0540900120007[illegible]
[illegible]145F038085082411			0541210110007 0N+1900[illegible]
C146F005	104118411		0281220141087 2N+[illegible]

~~TOP SECRET~~ [redacted]

TABLE [illegible]

MISSION 102[illegible]
PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 [illegible]
NBR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQMINMAXB+FMAXLAT[illegible]

D146F014					03614401616571N+3[illegible]
D148F005		057054212			06210001413539N+3609599
D148F015					01719138N+3709899
D148F025					02219514S+3900399
D148F035					07013902221716S+3[illegible]
D148F045		C67066211			04715502200017S+3300009
D148F056		C59057411			06016002200019S+3100007
D149F005		070082431			06111302200035N+3700005
D149F015					03614002216534N+3800199
D149F025		085075422			04211502219532N+3802512
D149F035					07710802120230N+3809059
D149F045			067075422		06514002222029N+3908599
D149F055					08811002200020S+3100099
D149F064		C65065431			04513202100022S+3000006
D150F005			082072431		03218001920528N+3901006
D150F015					02913001200027N+3500099
D150F025	090090411				07914001900025N+3900006
D150F035					04814502000023N+4000099
D150F045		C78082411			05615102000022N+4000006
D150F055					[illegible]
D151F005		072067432			[illegible]
D151F014					[illegible]
D151F025				08208[illegible]	[illegible]
D151F035					[illegible]
D151F045				065070411	[illegible]
D151F055					04809002018060N+2508099
D151F065070065411					06009002021859N+2608099
D151F070					05011102120358N+2708599
D152F005			078075111		03206202000060N+2500005
D152F015					[illegible]
D152F026			065075312		[illegible]
D152F036					04008102016653N+2901099
D152F046		078061111			04608402019851N+3002505
D152F056					07212402019050N+3106099
D152F066			067075111		05210802021448N+3107099
D152F076					04708702021847N+3202599
D152F084		085072111			04811202020046N+3304506
D152F094					06016801600031N+3800099
D152F104		C94070432			06413401200030N+3800007
D152F114					07414401200028N+3800099
D152F124		C61055432			04613801617626N+3900207
D152F134					05215602017325N+3900299
D152F144		C67063411			05116602000023N+3900006
D152F154					06716202000009N+4000099
D152F164		C90075431			05613502015008N+4000205
D152F174					04413201219406N+3907599
D152F184			078094211		03411201218806N+390[illegible]
D153F005		078094431			04817402000020N+3900005
D153F015					07817101600019N+3900099
D153F025		085090413			12317001200017N+3900005

~~TOP SECRET~~ [redacted]

TABLE 9-3

PAS NBR	FRMAREA1 RESAREA2 NORWWWAAASTQ	RESAREA3 WWWAAASTQ	RESAREA4 ... [illegible]
C153F035			05612801200015N+3900[illegible]
C153F045	085078411		05612201200014N+3900006 2
C154FC05			02410401418031N+3700159 2
C154F015		C99118431	02312201400030N+3800006 2
C154F030			07011801300024N+38[illegible]
C154F040		C72085413	07514301300023N+[illegible]
C154F050			08514201300022N+3800099 2
C154F060			12015601418320N+3900299 1
C154F070			12515401300019N+3900099 1
D154F075			07912301000018N+3900099 3
C158FC05	072075412		04711801819418N+3901099 3
C158F016			04610202119617N+3900099 3
8 F			N←0

~~TOP SECRET~~ [redacted]

TABLE 9-3

MISSION 1021-2
PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4

NBR NBRWWWAAAASTQWWWAAAASTQWWWAAAASTQWWWAAAASTQWWWAAAA

C085AC05
C085A015 085078112
C085A034
C085A044
C085A048 055063422
C085A058
C085A068 C54067412
C085A076
C085AC86
C085A088 CC0059422
C085AC98
C085A108 C59065422
C086AC05
C086AC15
C086AC25 C85094411
C086AC35
C086AC45
C086AC61
C086AC71
C086A081 C0007243[illegible]
C086AC91
C086A101 0000754[illegible]
C086A107
C087AC05 C72067412
C087AC15
C087AC25 078082432
C087AC35
C087A045 075075431
C087AC55
C087AC65
C087AC75
C087AC85
C087A095
C087A104
C088A005
C088AC15
C088A028063078311
C088A025
C088A038
C088A048
C088A058
AC89AC05
C089AC05
AC89AC09
C089A015
C089AC25
C089AC35
C089AC43
C089AC53
C089A063

[illegible]

TOP SECRET [illegible]

TABLE 9-4

MISSION 102[illegible]

PAS FRMAREA1 RESAREA2 RESAREA3 RESAREA4 [illegible]

ABR NBRWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWWWAAASTQWMNMAXB+FMAXLAT[illegible]

D089A073		057122015200[illegible]N+5[illegible]
D089A083	072078411	068133014000 10N+510009[illegible]
D090A007	094094431	082168012000 24N+500009[illegible]
D090A015		062160012000 23N+5000[illegible]
D090A025		[illegible]
D090A035		100119010000 19N+500009[illegible]
D090A045		085112010000 18N+5100099
D090A055		085142012182 16N+5101599
D090A060	059063422	056158012176 15N+5101099
D090A069		076164012000 14N+5100099
D093A005		.01213070N+2110099
D093A015		115122011164 69N+2205099
D093A025		101145012142 68N+2307599
D093A035		105126010170 66N+2508099
D093A045		110144011166 65N+2604099
D093A053	094111413	089194014200 64N+2705099
D093A063		0380700200 0021S+380[illegible]
D093A073		063072411033070002100023S+370[illegible]
D093A083		035189020139 25S+360[illegible]
D093A093		07007[illegible]
D093A103		[illegible]
D093A113	094000211	[illegible]
D093A121		[illegible]
D095A005	072075431	0901560192[illegible]
D095A015		062[illegible]0222303[illegible]N+[illegible]
D095A024	085082431	070148018218 32N+470[illegible]
D096A005	085082431	060195014208 66N+2502099
D096A015		054187014180 63N+2804599
D096A020		078082431076176014194 62N+290[illegible]
D098A005		1040944110[illegible]172012000[illegible]N+250[illegible]
D098A015		0601800[illegible]N+260[illegible]
D098A025		075082431060186012170 63N+270[illegible]
D098A035		078198020194 62N+280[illegible]
D098A043		078085431086207020182 61N+290[illegible]
D101A005		085120022000 16S+400009[illegible]
D101A015		082078112065170020000 18S+390009[illegible]
D101A020		085152018000 19S+390[illegible]
8 F		N+-0

~~TOP SECRET~~ [redacted]

TABLE 9-4

The diffuse density measurements made by AFSPPL were computer sorted at A/P to permit analysis of the density ranges encountered at the three processing levels. A study of sorting techniques showed that no absolute method was available to separate the density values as the accuracy of the Processing History published by [redacted] appears rather low and processing transition phases are not accounted for. The sorting technique selected uses the base 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
1021-1	FWD	Predicted	0	68	32
		Reported	14	39	47
		Computed	[redacted]	[redacted]	[redacted]
1021-1	AFT	Predicted	0	[redacted]	
		Reported	15	[redacted]	
		Computed	0	[redacted]	[redacted]
1021-2	FWD	Predicted	0	29	71
		Reported	13	41	46
		Computed	0	57	43
1021-2	AFT	Predicted	0	100	0
		Reported	53	25	22
		Computed	0	50	50

The correlation of the reported and computed percentages at the three processing levels is in general, very good for Mission 1021 and is more consistent than the normal mission values. It is difficult to separate the base plus fog measurements for primary and intermediate processing hence the full processing values have far greater significance. The lack of correlation in the Aft camera data for Mission 1021-2 is not considered unusual as the sample size was very small and the photography severly degraded.

The tabulations of density frequency distribution for Mission 1021-1 are shown in Tables 9-5 to 9-6 and in Tables 9-7 to 9-8 for Mission 1021-2. The graphical presentation of the density distribution are computer plotted in Figures 9-1 through 9-21 for Mission 1021-1 and in Figures 9-22 through 9-39 for Mission 1021-2.

Table 9-9 shows the distribution of the minimum terrain density measurements that are within and outside of the desired control range of 0.40 to 0.90 density. The percentage of values below 0.30 density is approximately 4%. The percentage of nominally exposed and processed frames is in the range of the largest quantity encountered in recent missions.

A continuing study is in process to ascertain the inter-relationship of the conditions of illumination, resulting densities and exposure-processing parameters to determine the optimum conditions to maximize information content.

MISSION • 102[redacted] STRIKEN

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[redacted] MIN	[redacted] MAX	[redacted] LIN	ALTERNATE MIN	ALTERNATE MAX	ALTERNATE LIN
0.01	0	C	0	0	0	0	0	0	0	0	0	0
0.02	0	C	0	0	0	0	0	0	0	0	0	0
0.03	0	C	0	0	0	0	0	0	0	0	0	0
0.04	0	C	0	0	0	0	0	0	0	0	0	0
0.05	0	C	0	0	0	0	0	0	0	0	0	0
0.06	0	C	0	0	0	0	0	0	0	0	0	0
0.07	0	C	0	0	0	0	0	0	0	0	0	0
0.08	0	C	0	0	0	0	0	0	0	0	0	0
0.09	0	C	0	0	0	0	0	0	0	0	0	0
0.10	0	C	0	0	0	0	0	0	0	0	0	0
0.11	0	C	0	0	0	0	0	0	0	0	0	0
0.12	0	C	0	0	0	0	0	0	0	0	0	0
0.13	0	C	0	0	0	0	0	0	0	0	0	0
0.14	0	C	0	0	0	0	0	0	0	0	0	0
0.15	0	C	0	0	0	0	0	0	0	0	0	0
0.16	0	C	0	0	0	0	0	0	0	0	0	0
0.17	0	C	0	0	0	0	0	0	0	0	0	0
0.18	0	C	0	0	0	0	0	0	0	0	0	0
0.19	0	C	0	0	0	0	0	0	0	0	0	0
0.20	0	C	0	0	0	0	0	0	0	0	0	0
0.21	0	C	0	0	0	0	0	0	0	0	0	0
0.22	0	C	0	0	0	0	0	0	0	0	0	0
0.23	0	C	0	0	0	0	0	0	0	0	0	0
0.24	0	C	0	0	0	0	0	0	0	0	0	0
0.25	0	C	0	2	0	0	0	0	0	2	0	0
0.26	0	C	0	1	0	0	0	0	0	1	0	0
0.27	0	C	0	1	0	0	0	0	0	1	0	0
0.28	0	C	0	2	0	0	0	0	0	1	0	0
0.29	0	C	0	0	0	0	0	0	0	0	0	0
0.30	0	C	0	2	0	0	0	0	0	0	0	0
0.31	0	C	0	1	0	0	0	0	0	0	0	0
0.32	0	C	0	3	0	0	0	0	0	0	0	0
0.33	0	C	0	3	0	0	0	0	0	0	0	0
0.34	1	C	0	2	0	0	3	0	0	7	0	0
0.35	0	C	0	2	0	0	1	0	0	3	0	0
0.36	0	C	0	1	0	0	0	0	0	1	0	0
0.37	0	C	0	1	0	0	1	0	0	1	0	0
0.38	0	C	0	3	0	0	2	0	0	5	0	0
0.39	0	C	0	1	0	0	3	0	0	4	0	0
0.40	0	C	0	4	0	0	5	0	0	9	0	0
0.41	0	C	0	1	0	0	1	0	0	2	0	0
0.42	0	C	0	3	0	0	3	0	0	6	0	0
0.43	0	C	0	5	0	0	4	0	0	9	0	0
0.44	0	C	0	2	0	0	7	0	0	9	0	0
0.45	0	C	0	2	0	0	5	0	0	7	0	0
0.46	0	C	0	1	0	0	3	0	0	4	0	0
0.47	0	C	0	1	0	0	2	0	0	4	0	0
0.48	0	C	0	1	0	0	1	0	0	2	0	0
0.49	0	C	0	1	0	0	0	0	0	3	0	0
0.50	0	C	0	1	0	0	9	0	0	10	0	0
SUBTOTAL	1	C	0	47	0	0	52	0	0	100	0	0

~~TOP SECRET~~ [redacted]

TABLE 9-5

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible]	[illegible]	[illegible]	[illegible] MIN	[illegible] MAX	[illegible] LIM
0.51												
0.52												
0.53												
0.54												
0.55												
0.56												
0.57												
0.58												
0.59												
0.60												
0.61												
0.62												
0.63												
0.64												
0.65												
0.66												
0.67												
0.68												
0.69												
0.70												
0.71												
0.72												
0.73												
0.74												
0.75												
0.76												
0.77												
0.78												
0.79												
0.80												
0.81												
0.82												
0.83												
0.84												
0.85												
0.86												
0.87												
0.88												
0.89												
0.90												
0.91												
0.92												
0.93												
0.94												
0.95												
0.96												
0.97												
0.98												
0.99												
1.00												
SUBTOTAL	1	0	0	73	2	1	66	11	0	140	13	1

~~TOP SECRET~~ [redacted]

TABLE 9-5

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM
1.01	0	0	0	2	1	0	0	0	0	2	1	0
1.02	0	0	0	2	0	0	0	0	0	2	1	0
1.03	0	0	0	1	0	0	0	0	0	1	1	0
1.04	0	0	0	0	0	0	0	0	0	1	0	0
1.05	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	0	0	0	0	0	0
1.08	0	0	0	0	0	0	0	0	0	0	0	0
1.09	0	0	0	0	0	0	0	0	0	0	0	0
1.10	0	0	0	0	0	0	0	0	0	0	0	0
1.11	0	0	0	0	0	0	0	0	0	0	0	0
1.12	0	0	0	0	0	0	0	0	0	0	0	0
1.13	0	0	0	0	0	0	0	0	0	0	0	0
1.14	0	0	0	0	0	0	0	0	0	0	0	0
1.15	0	0	0	0	0	0	0	0	0	0	0	0
1.16	0	0	0	0	0	0	0	0	0	0	0	0
1.17	0	0	0	0	0	0	0	0	0	0	0	0
1.18	0	0	0	0	0	0	0	0	0	0	0	0
1.19	0	0	0	0	0	0	0	0	0	0	0	0
1.20	0	0	0	0	0	0	0	0	0	0	0	0
1.21	0	0	0	0	0	0	0	0	0	0	0	0
1.22	0	0	0	0	0	0	0	0	0	0	0	0
1.23	0	0	0	0	0	0	0	0	0	0	0	0
1.24	0	0	0	0	0	0	0	0	0	0	0	0
1.25	0	0	0	0	0	0	0	0	0	0	0	0
1.26	0	0	0	0	0	0	0	0	0	0	0	0
1.27	0	0	0	0	0	0	0	0	0	0	0	0
1.28	0	0	0	0	0	0	0	0	0	0	0	0
1.29	0	0	0	0	0	0	0	0	0	0	0	0
1.30	0	0	0	0	0	0	0	0	0	0	0	0
1.31	0	0	0	0	0	0	0	0	0	0	0	0
1.32	0	0	0	0	0	0	0	0	0	0	0	0
1.33	0	0	0	0	0	0	0	0	0	0	0	0
1.34	0	0	0	0	0	0	0	0	0	0	0	0
1.35	0	0	0	0	0	0	0	0	0	0	0	0
1.36	0	0	0	0	0	0	0	0	0	0	0	0
1.37	0	0	0	0	0	0	0	0	0	0	0	0
1.38	0	0	0	0	0	0	0	0	0	0	0	0
1.39	0	0	0	0	0	0	0	0	0	0	0	0
1.40	0	0	0	0	0	0	0	0	0	0	0	0
1.41	0	0	0	0	0	0	0	0	0	0	0	0
1.42	0	0	0	0	0	0	0	0	0	0	0	0
1.43	0	0	0	0	0	0	0	0	0	0	0	0
1.44	0	0	0	0	0	0	0	0	0	0	0	0
1.45	0	0	0	0	0	0	0	0	0	0	0	0
1.46	0	0	0	0	0	0	0	0	0	0	0	0
1.47	0	0	0	0	0	0	0	0	0	0	0	0
1.48	0	0	0	0	0	0	0	0	0	0	0	0
1.49	0	0	0	0	0	0	0	0	0	0	0	0
1.50	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	2	1	15	63	13	3	60	7	18	125	21

~~TOP SECRET~~ [redacted]

TABLE 9-5

DENSITY VALUE	PRIMARY			INTERMEDIATE			FOR			ALL LEVELS		
	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN
1.51	0	0	0	0	0	1	0	0	0	0	0	1
1.52	0	0	0	0	0	1	0	4	0	0	4	1
1.53	0	0	0	0	1	1	0	2	0	0	3	1
1.54	0	0	0	0	1	0	0	1	0	0	2	0
1.55	0	0	0	0	1	0	0	3	0	0	4	0
1.56	0	0	0	0	3	0	0	5	0	0	8	0
1.57	0	0	0	0	1	0	0	0	0	0	1	0
1.58	0	0	0	0	1	0	0	0	0	0	1	0
1.59	0	0	0	0	1	0	0	0	0	0	1	0
1.60	0	0	0	0	1	0	0	4	0	0	5	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	3	0	0	3	0
1.63	0	0	0	0	0	0	0	2	0	0	2	0
1.64	0	0	0	0	0	0	0	1	0	0	1	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	1	0	0	1	0
1.67	0	0	0	0	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	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	2	2	0	1	0	0	3	1
SUBTOTAL	0	0	0	2	65	48	1	47	30	3	112	78

~~TOP SECRET~~ [redacted]

TABLE 9-5

MISSION [redacted]

DENSITY VALUE	PRIMARY			INTERMEDIATE			[redacted]			ALL LEVELS		
	MIN	MAX	LIM	MIN	MAX	LIM	MIN	MAX	LIM	MIN	MAX	LIM
2.01	0	0	0	0	0	0	0	0	1	0	0	1
2.02	0	0	0	0	1	0	0	0	2	0	1	2
2.03	0	0	0	0	0	0	0	0	2	0	0	2
2.04	0	0	0	0	3	0	0	0	1	0	3	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	1	0	0	0	4	0	1	4
2.08	0	0	0	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	1	0	0	0	2	0	1	2
2.10	0	0	0	0	1	1	0	0	2	0	1	3
2.11	0	0	0	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	1	0	0	1
2.13	0	0	0	0	0	0	0	0	2	0	0	2
2.14	0	0	0	0	0	0	0	0	4	0	0	4
2.15	0	0	0	0	0	0	0	0	2	0	0	2
2.16	0	0	0	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	1	0	0	0	3	0	1	3
2.18	0	0	0	0	0	0	0	0	1	0	0	1
2.19	0	0	0	0	0	0	0	0	3	0	0	3
2.20	0	0	0	0	0	0	0	0	3	0	0	3
2.21	0	0	0	0	0	0	0	0	3	0	0	3
2.22	0	0	0	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	3	0	0	3
2.24	0	0	0	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	3	0	0	3
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	1	0	0	1
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	7	38	0	4	55	0	11	93

~~TOP SECRET~~ [redacted]

TABLE 9-5

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[illegible] MIN	[illegible] MAX	[illegible] LIN	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIN
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	2	2	1	137	137	100	122	122	92	261	261	193

MISSION 1021-1 INSTR - FRWD 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	[illegible] EXP+PROC	[illegible]
PRIMARY	2	0 PC	50 PC	[illegible]	
INTERMEDIATE	137	0 PC	16 PC	61 PC	21 PC
FULL	122	10 PC	0 PC	84 PC	6 PC
ALL LEVELS	261	5 PC	9 PC	72 PC	11 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	0.91-1.69	1.70 AND UP
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	1.70 AND UP

~~TOP SECRET~~ [redacted]

TABLE 9-5

~~TOP SECRET~~ [redacted]

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • PRIMARY

ARITH MEAN • 0.47 • MEDIAN • 0.60 • STD DEV • 0.18 • RANGE • 0.34 TO 0.60 WITH 2 SAMPLES

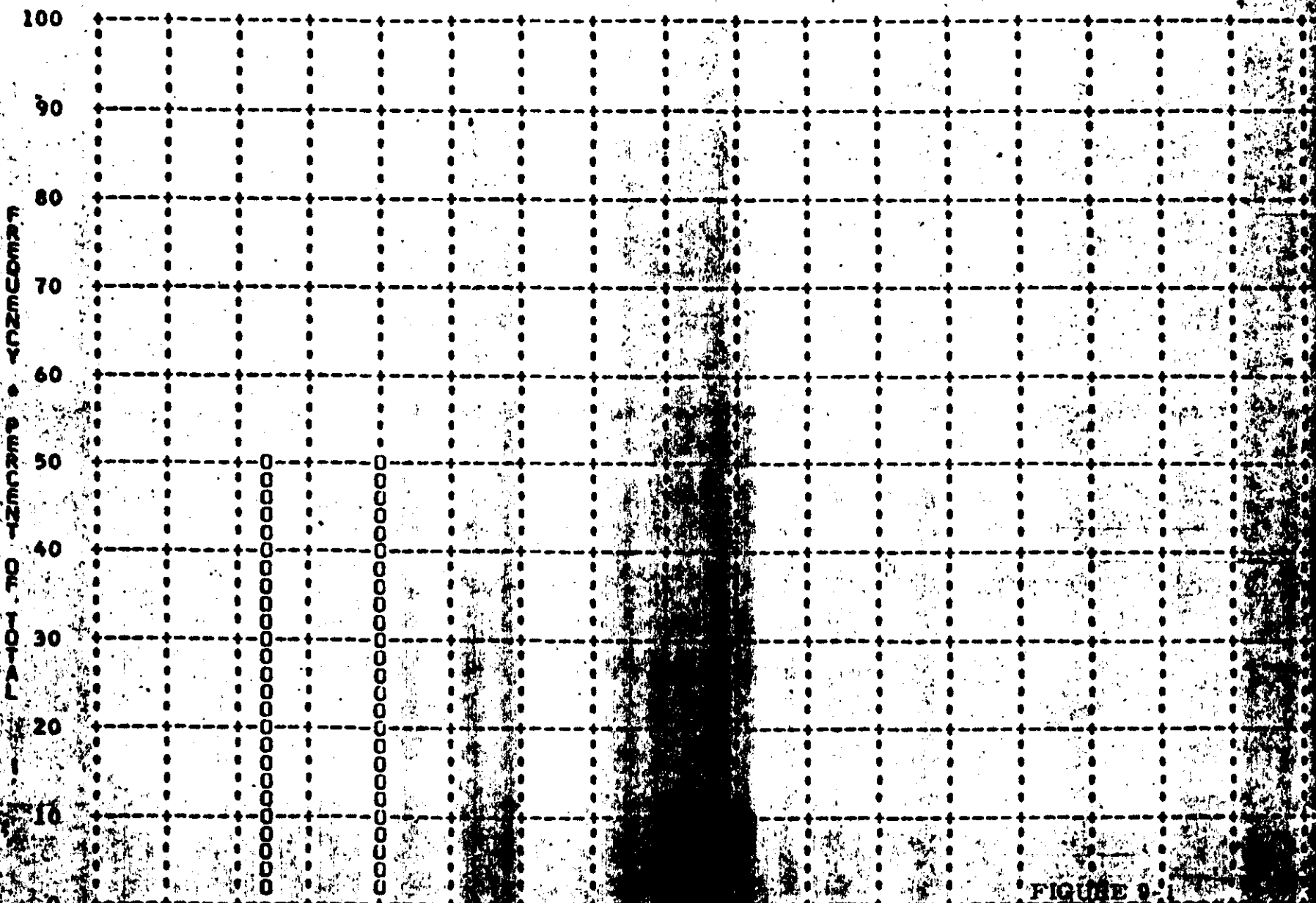


FIGURE 9-1

[redacted]

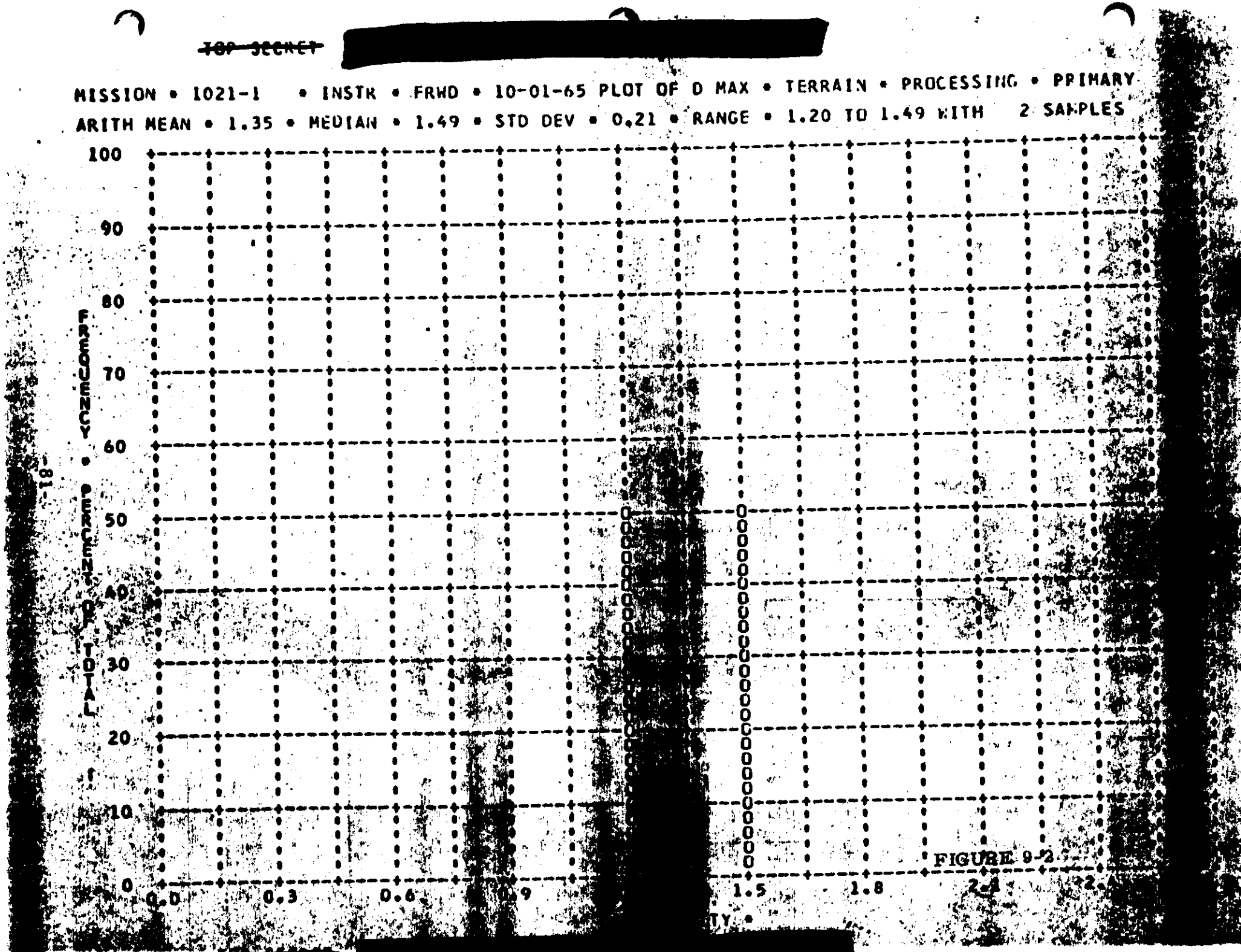

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • PRIMARY
ARITH MEAN • 1.35 • MEDIAN • 1.49 • STD DEV • 0.21 • RANGE • 1.20 TO 1.49 WITH 2 SAMPLES
FREQUENCY • PERCENT OF TOTAL
100
90
80
70
60
50
40
30
20
10
0
0.0
0.3
0.6
0.9
1.5
1.8
2.1
2.4
TY •

FIGURE 9-2

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • PRIMARY

ARITH MEAN • 1.35 • MEDIAN • 1.35 • STD DEV • 0.00 • RANGE • 1.35 TO 1.35 WITH 1 SAMPLES

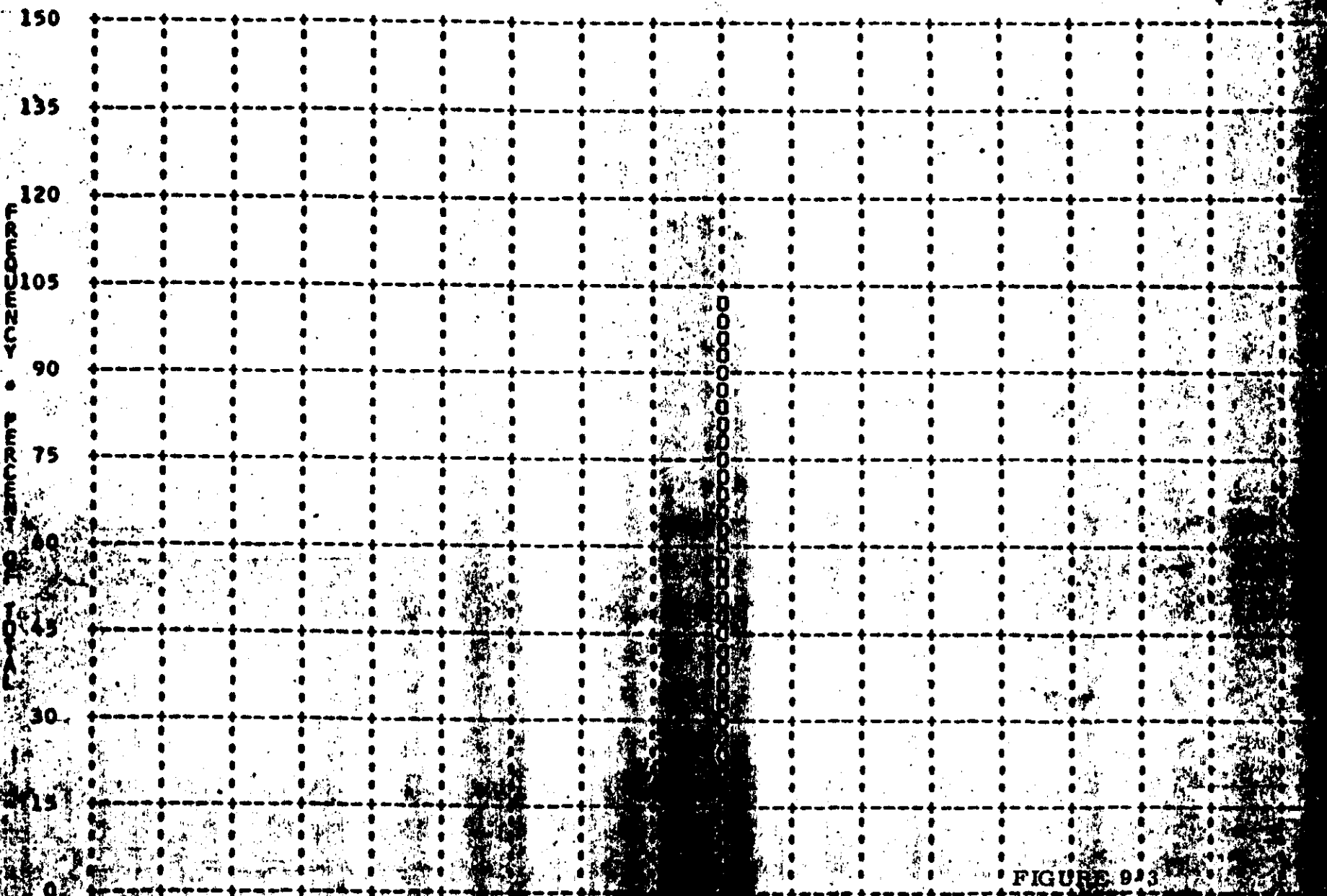


FIGURE 9-3

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMED

ARITH MEAN • 0.67 • MEDIAN • 0.60 • STD DEV • 0.31 • RANGE • 0.25 TO 1.90 WITH 137 SAMPLES

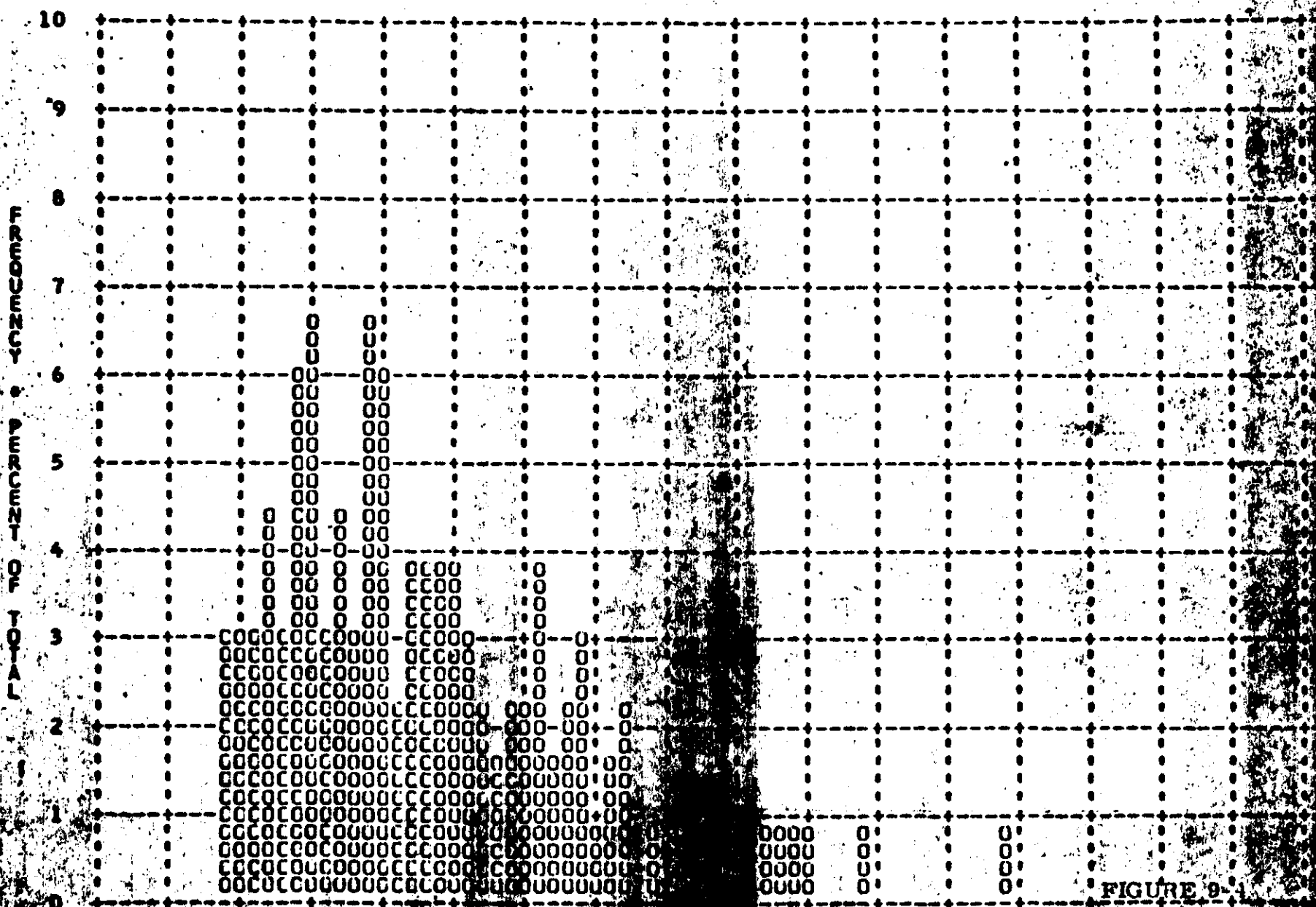


FIGURE 9-1

[redacted]

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMEDI

ARITH MEAN • 1.56 • MEDIAN • 1.56 • STD DEV • 0.28 • RANGE • 0.74 TO 2.18 WITH 137 SAMPLES

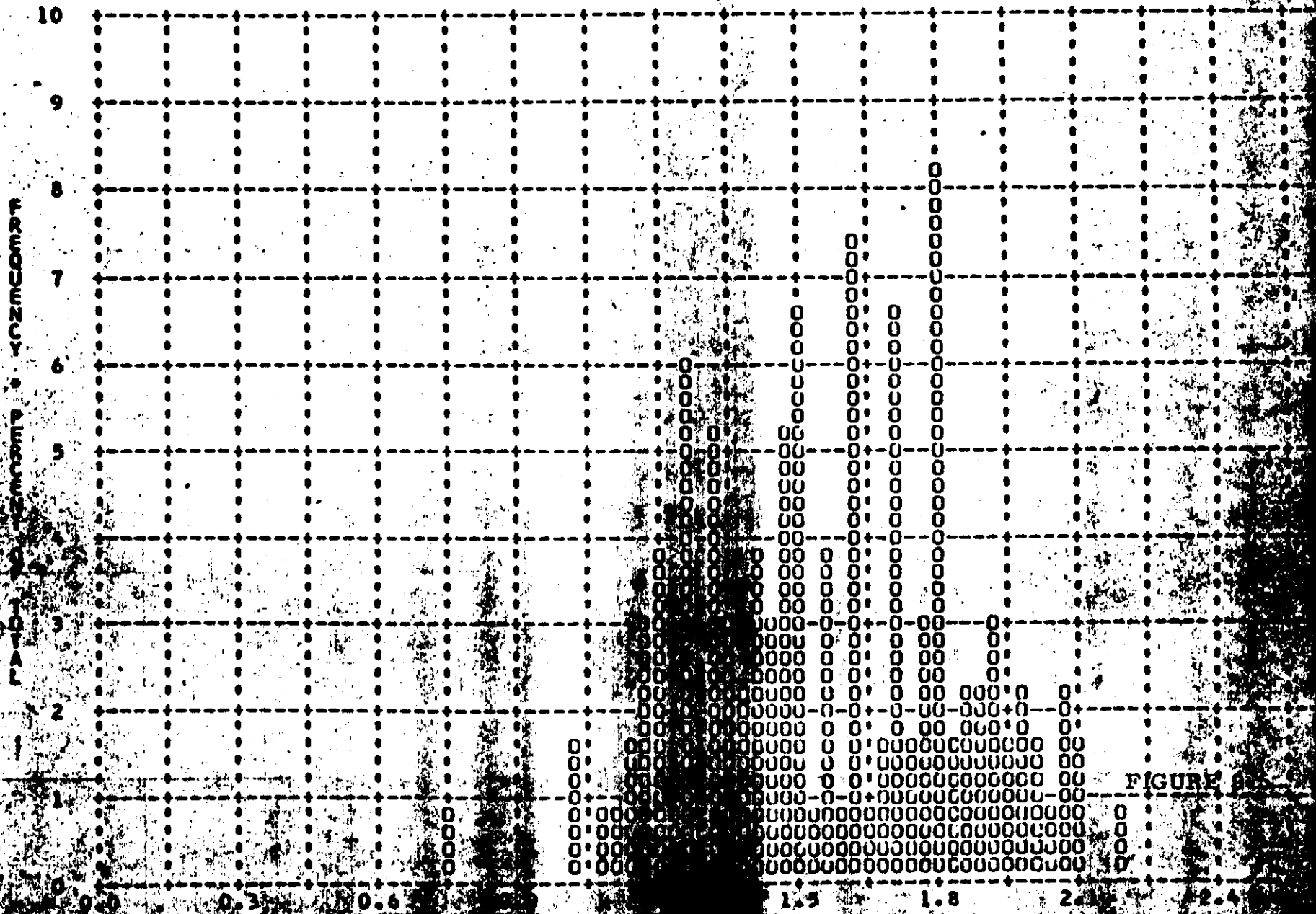


FIGURE 8

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDI

ARITH MEAN • 1.87 • MEDIAN • 1.95 • STD DEV • 0.29 • RANGE • 0.97 TO 2.36 WITH 100 SAMPLES

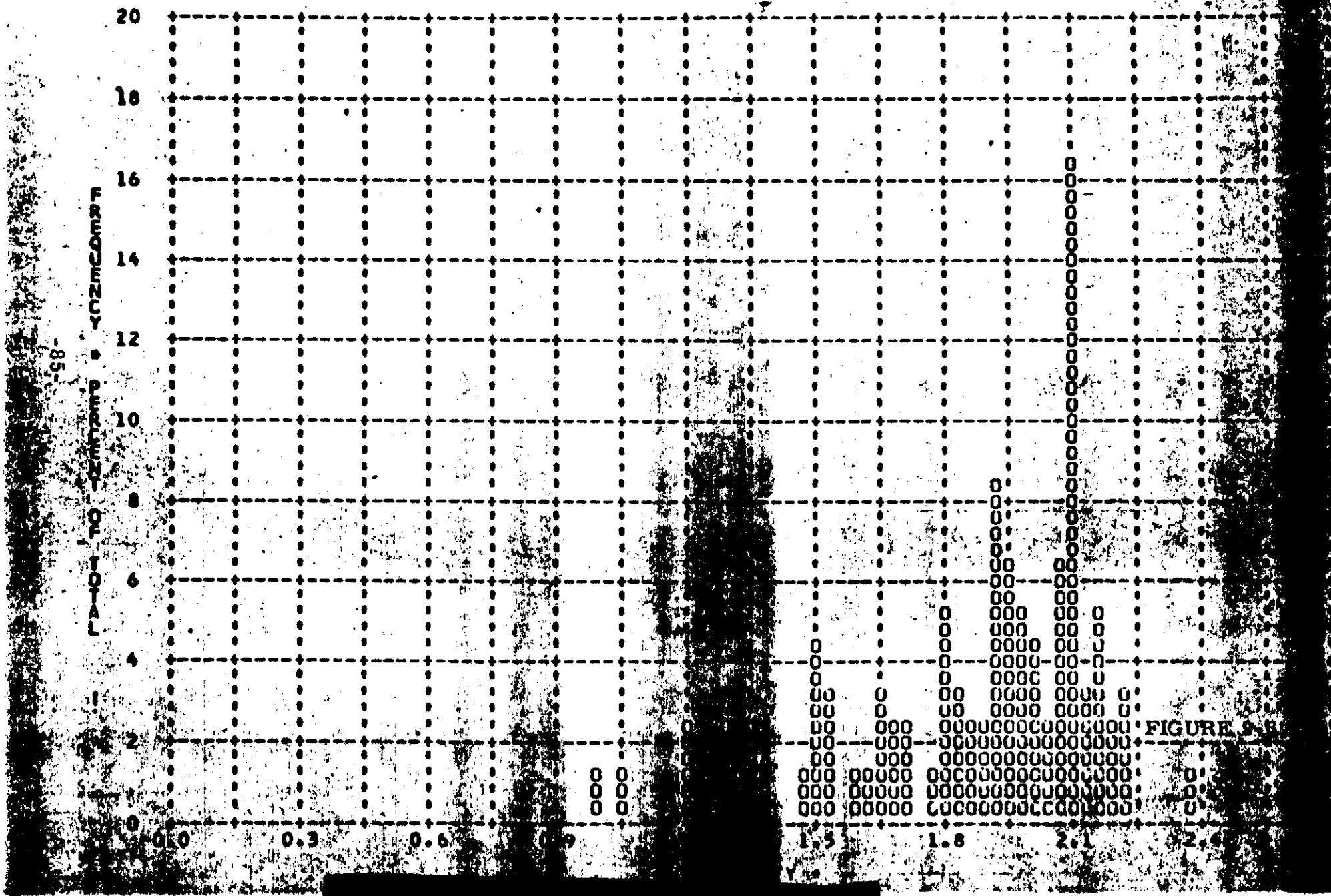


FIGURE 2-81

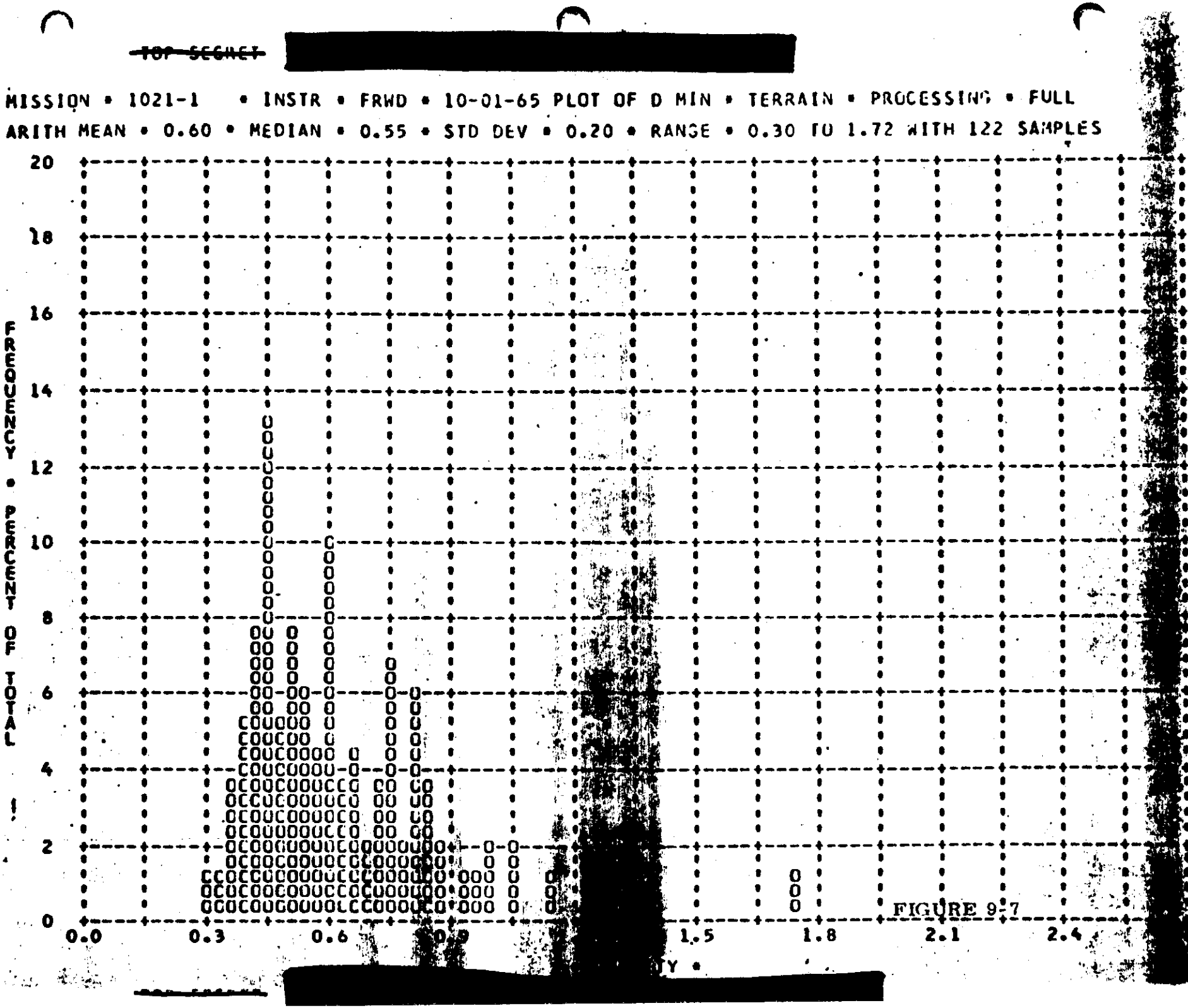

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.60 • MEDIAN • 0.55 • STD DEV • 0.20 • RANGE • 0.30 TO 1.72 WITH 122 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
1.5
1.8
2.1
2.4
Y •

FIGURE 9-7

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

ARITH MEAN • 1.44 • MEDIAN • 1.45 • STD DEV • 0.30 • RANGE • 0.75 TO 2.10 WITH 122 SAMPLES

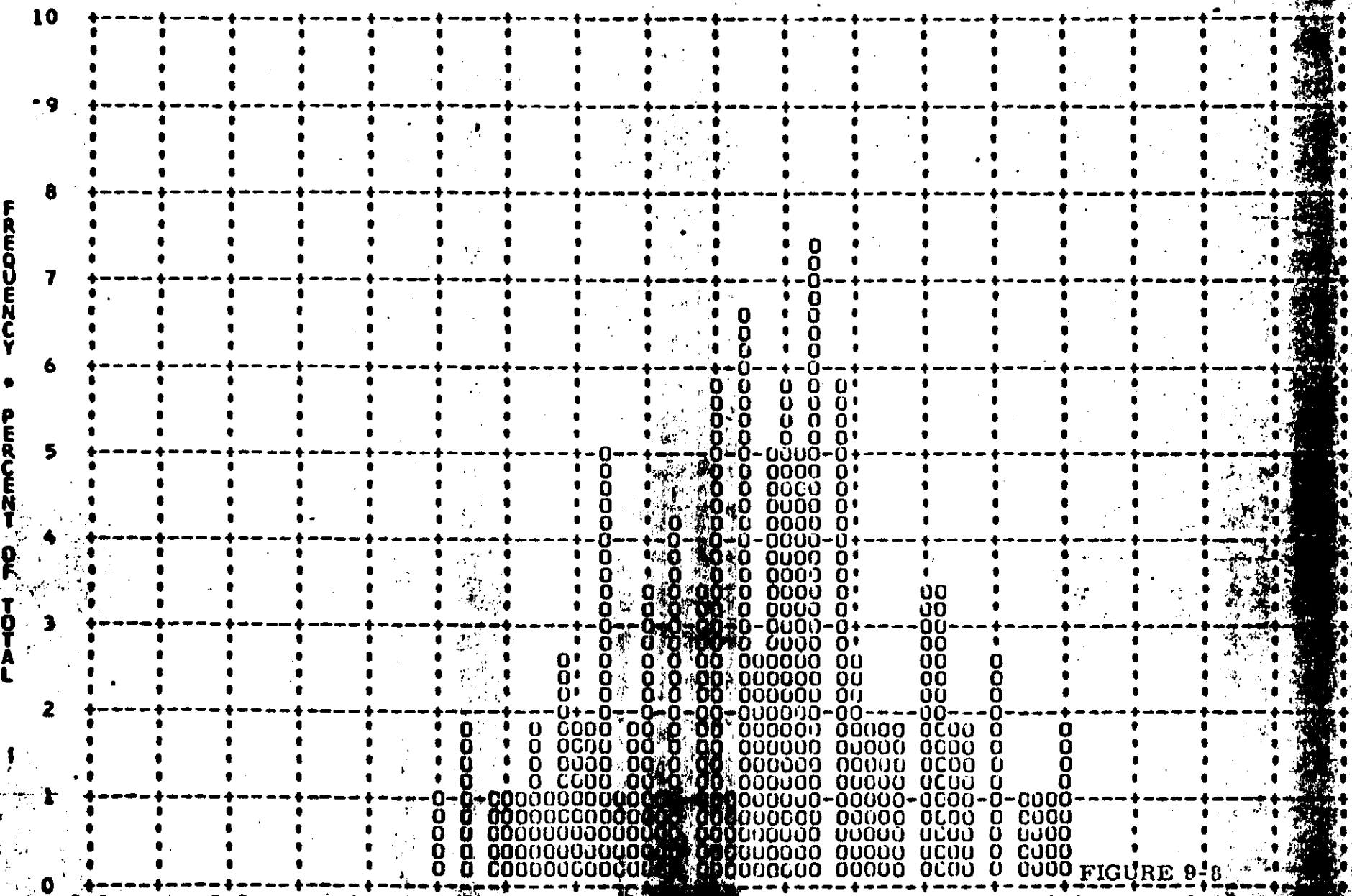


FIGURE 9-8

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 1.99 • MEDIAN • 2.06 • STD DEV • 0.24 • RANGE • 1.15 TO 2.28 WITH 92 SAMPLES

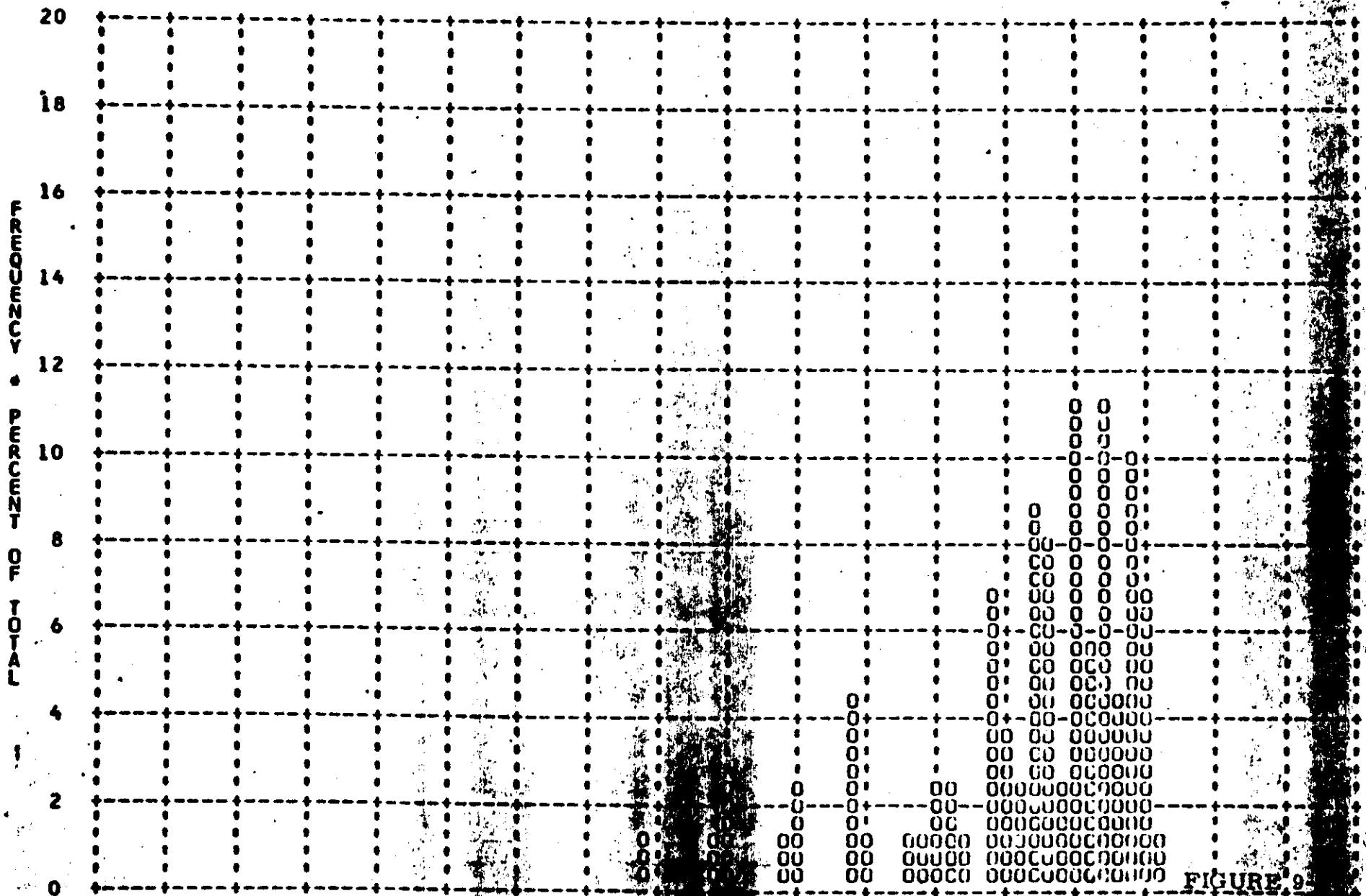


FIGURE 9

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 0.64 • MEDIAN • 0.58 • STD DEV • 0.26 • RANGE • 0.25 TO 1.90 WITH 261 SAMPLES

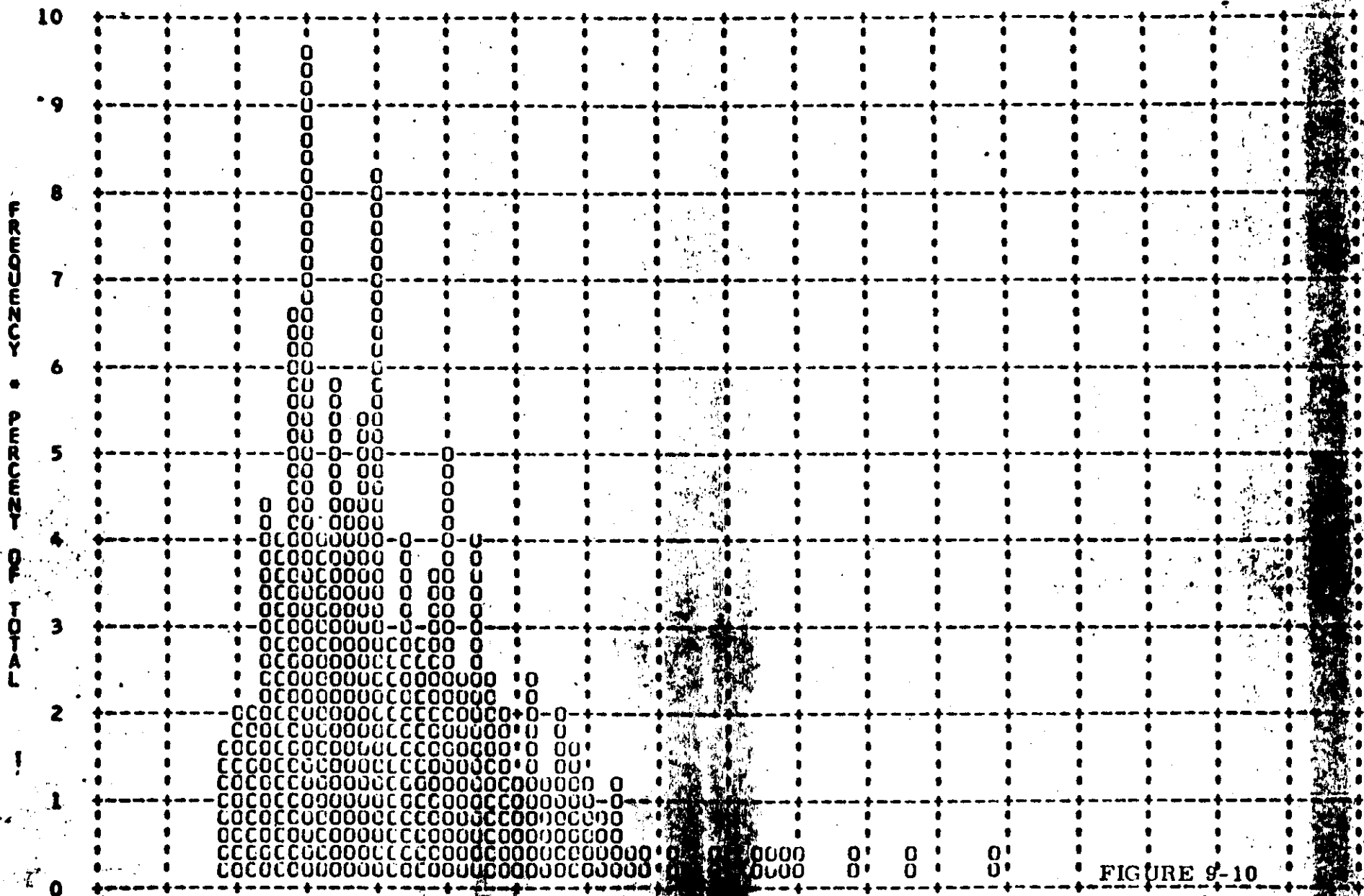


FIGURE 9-10

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVELS

ARITH MEAN • 1.50 • MEDIAN • 1.50 • STD DEV • 0.30 • RANGE • 0.74 TO 2.18 WITH 261 SAMPLES

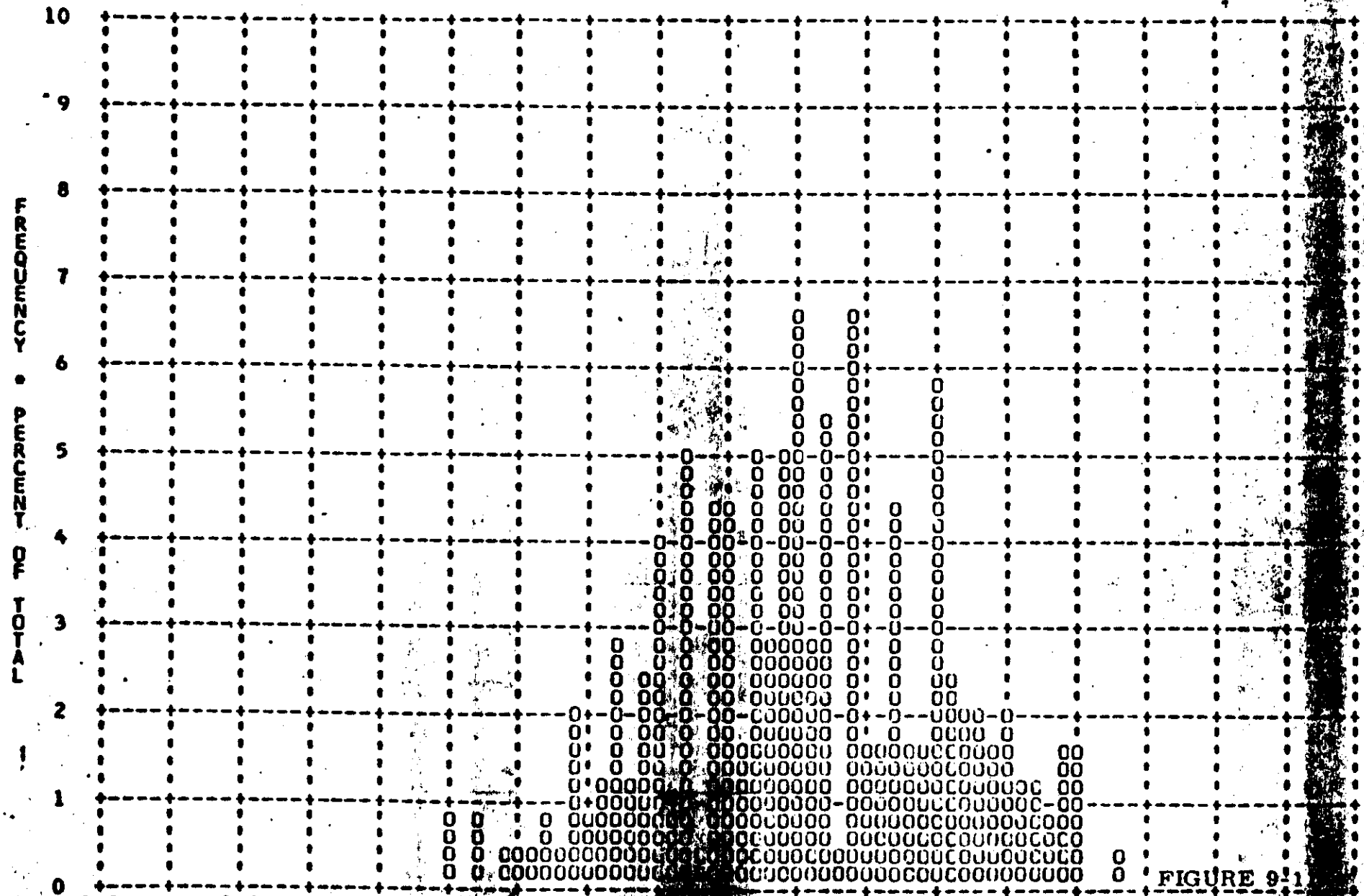


FIGURE 9-1

[redacted]

MISSION • 1021-1 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.92 • MEDIAN • 2.00 • STD DEV • 0.28 • RANGE • 0.97 TO 2.36 WITH 193 SAMPLES

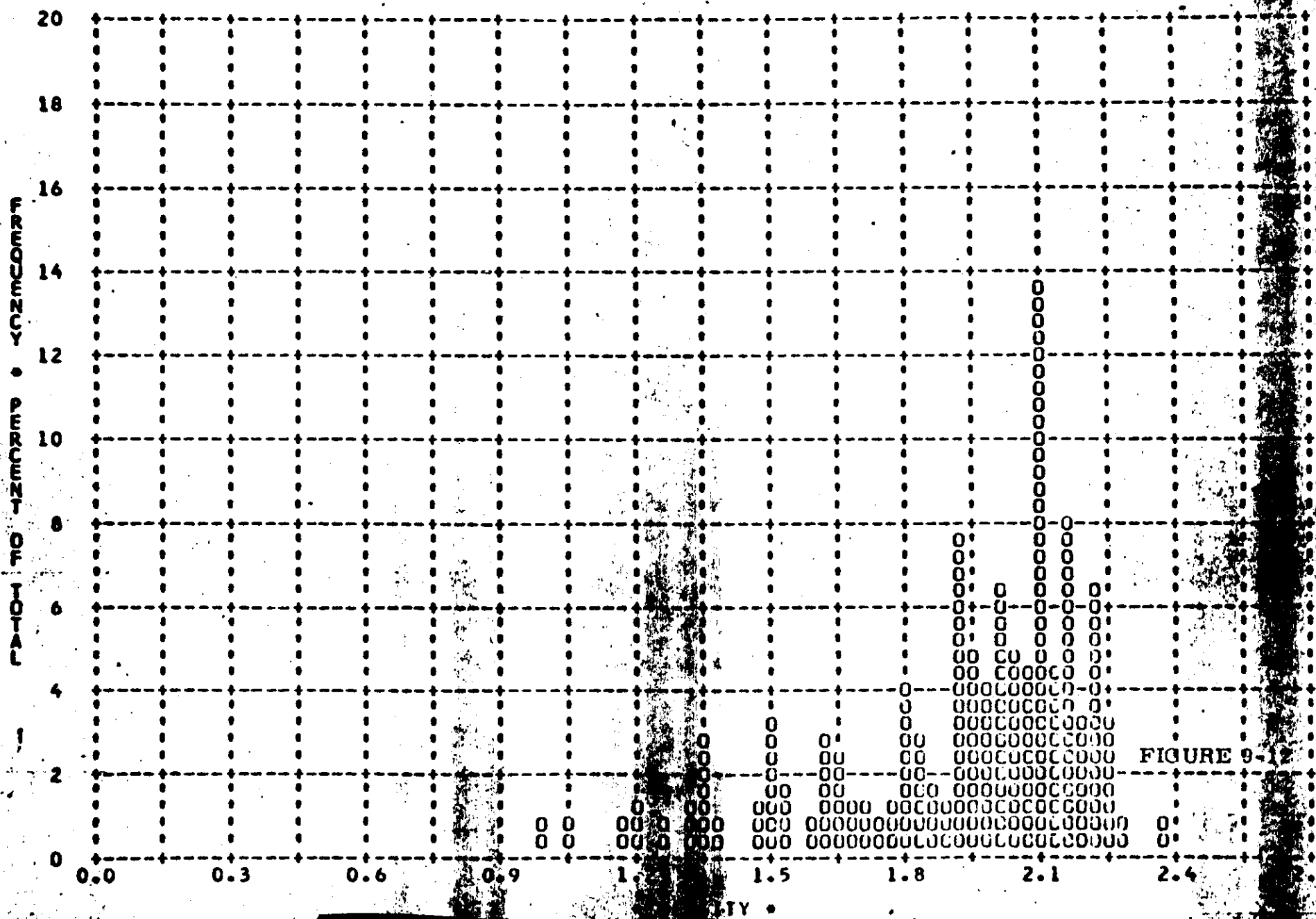


FIGURE 9-12

MISSION • 1021-1 • INSTRUMENT • AFT [redacted] DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FULL MIN	FULL MAX	FULL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM.
0.01	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	1	0	0	0	0	0	1	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	2	0	0	0	0	0	2	0	0
0.26	0	0	0	0	0	0	0	0	0	0	0	0
0.27	0	0	0	0	0	0	0	0	0	0	0	0
0.28	0	0	0	1	0	0	[redacted]					
0.29	0	0	0	0	0	0						
0.30	0	0	0	3	0	0						
0.31	0	0	0	0	0	0						
0.32	0	0	0	1	0	0						
0.33	0	0	0	1	0	0	0	0	0	1	0	0
0.34	0	0	0	2	0	0	0	0	0	2	0	0
0.35	0	0	0	2	0	0	1	0	0	2	0	0
0.36	0	0	0	1	0	0	1	0	0	2	0	0
0.37	0	0	0	1	0	0	0	0	0	1	0	0
0.38	0	0	0	0	0	0	8	0	0	8	0	0
0.39	0	0	0	0	0	0	1	0	0	1	0	0
0.40	0	0	0	4	0	0	6	0	0	10	0	0
0.41	0	0	0	8	0	0	13	0	0	21	0	0
0.42	0	0	0	5	0	0	3	0	0	8	0	0
0.43	0	0	0	1	0	0	3	0	0	4	0	0
0.44	0	0	0	3	0	0	1	0	0	4	0	0
0.45	0	0	0	4	0	0	1	0	0	5	0	0
0.46	0	0	0	3	0	0	6	0	0	9	0	0
0.47	0	0	0	2	0	0	2	0	0	4	0	0
0.48	0	0	0	2	0	0	4	0	0	6	0	0
0.49	0	0	0	0	0	0	3	0	0	3	0	0
0.50	0	0	0	9	0	0	7	0	0	16	0	0
SUBTOTAL	0	0	0	49	0	0	46	0	0	95	0	0

~~TOP SECRET~~ [redacted]

TABLE 9-5

[redacted] MISSION [redacted] 1021-1 [redacted] INSTRUMENT [redacted] DENSITY FREQ DISTR

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	FOLL MIN	FOLL MAX	FOLL LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
0.51	0	0	0	1	0	0	4	0	0	5	0	0
0.52	0	0	0	2	0	0	2	0	0	4	0	0
0.53	0	0	0	3	0	0	1	0	0	4	0	0
0.54	0	0	0	2	1	0	5	0	0	7	1	0
0.55	0	0	0	6	0	0	3	0	0	9	1	0
0.56	0	0	0	0	0	0	5	0	0	5	0	0
0.57	0	0	0	2	0	0	4	0	0	6	0	0
0.58	0	0	0	3	0	0	3	0	0	6	0	0
0.59	0	0	0	2	0	0	1	0	0	3	0	0
0.60	0	0	0	7	0	0	4	0	0	11	0	0
0.61	0	0	0	0	0	0	2	0	0	2	0	0
0.62	0	0	0	0	0	0	2	0	0	2	0	0
0.63	0	0	0	1	0	0	2	0	0	3	0	0
0.64	0	0	0	1	0	0	2	0	0	3	0	0
0.65	0	0	0	6	0	0	2	0	0	8	0	0
0.66	0	0	0	2	0	0	1	0	0	3	0	0
0.67	0	0	0	1	0	0	1	0	0	2	0	0
0.68	0	0	0	1	0	0	2	0	0	3	0	0
0.69	0	0	0	0	0	0	0	0	0	0	0	0
0.70	0	0	0	1	0	0	1	0	0	2	0	0
0.71	0	0	0	1	0	0	0	0	0	1	0	0
0.72	0	0	0	1	0	0	0	0	0	1	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	4	0	0	2	0	0	6	0	0
0.75	0	0	0	1	0	0	1	0	0	2	0	0
0.76	0	0	0	1	0	0	1	0	0	2	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	5	0	0	2	0	0	7	0	0
0.79	0	0	0	1	0	0	0	0	0	1	0	0
0.80	0	0	0	3	0	0	0	0	0	3	0	0
0.81	0	0	0	0	0	0	0	0	0	0	0	0
0.82	0	0	0	0	0	0	1	0	0	1	0	0
0.83	0	0	0	0	0	0	0	0	0	0	0	0
0.84	0	0	0	1	0	0	1	0	0	2	1	0
0.85	0	0	0	1	0	0	2	1	0	2	1	0
0.86	0	0	0	2	0	0	2	1	0	2	1	0
0.87	0	0	0	2	0	0	0	1	0	2	1	0
0.88	0	0	0	2	0	0	1	1	0	3	1	0
0.89	0	0	0	0	0	0	0	0	0	0	0	0
0.90	0	0	0	0	0	0	0	1	0	0	1	0
0.91	0	0	0	0	0	0	0	1	0	0	1	0
0.92	0	0	0	1	0	0	1	1	0	2	1	0
0.93	0	0	0	1	0	0	1	0	0	2	0	0
0.94	0	0	0	1	1	0	0	0	0	1	1	0
0.95	0	0	0	2	1	0	0	1	0	2	1	0
0.96	0	0	0	1	0	0	0	0	0	1	0	0
0.97	0	0	0	1	0	0	0	0	0	1	0	0
0.98	0	0	0	1	2	0	1	1	0	2	3	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	4	2	0	0	5	0	4	7	0
SUBTOTAL	0	0	0	75	8	1	61	14	1	136	22	2

~~TOP SECRET~~ [redacted]

TABLE 9-6

MISSION • 1021-[redacted] • INSTRUMENT • A[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted] MIN	[redacted] MAX	[redacted] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
1.01	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	2	0	0	0	0	0	2	0	0
1.03	0	0	0	2	0	0	0	0	0	2	0	0
1.04	0	0	0	0	0	0	0	1	0	0	1	0
1.05	0	0	0	1	0	0	0	2	0	1	3	0
1.06	0	0	0	1	0	0	0	0	0	1	0	0
1.07	0	0	0	0	0	1	0	0	0	0	0	1
1.08	0	0	0	0	1	0	0	0	0	0	1	0
1.09	0	0	0	0	1	2	0	0	0	0	1	2
1.10	0	0	0	2	0	2	0	1	0	2	1	3
1.11	0	0	0	1	0	2	0	1	0	1	0	2
1.12	0	0	0	1	0	2	0	0	0	1	0	2
1.13	0	0	0	0	1	2	0	0	0	0	1	2
1.14	0	0	0	1	3	2	0	1	0	1	4	2
1.15	0	0	0	3	0	1	0	5	0	3	0	1
1.16	0	0	0	1	0	0	0	0	0	1	0	0
1.17	0	0	0	0	0	0	0	1	0	0	0	0
1.18	0	0	0	0	0	0	0	2	0	0	0	0
1.19	0	0	0	0	0	2	0	0	0	0	0	2
1.20	0	0	0	0	2	1	0	1	0	0	1	1
1.21	0	0	0	1	3	1	0	3	0	1	6	1
1.22	0	0	0	1	3	0	0	1	0	1	4	0
1.23	0	0	0	1	0	2	0	1	0	1	1	2
1.24	0	0	0	1	0	2	0	2	0	1	2	2
1.25	0	0	0	2	3	1	0	5	0	2	8	1
1.26	0	0	0	2	0	1	0	2	0	2	3	1
1.27	0	0	0	0	2	0	0	0	0	0	2	0
1.28	0	0	0	0	0	[redacted]						
1.29	0	0	0	0	1							
1.30	0	0	0	1	7							
1.31	0	0	0	0	1							
1.32	0	0	0	0	1							
1.33	0	0	0	0	1							
1.34	0	0	0	1	1							
1.35	0	0	0	1	6							
1.36	0	0	0	0	1							
1.37	0	0	0	0	0							
1.38	0	0	0	0	2							
1.39	0	0	0	0	1							
1.40	0	0	0	1	5							
1.41	0	0	0	1	0							
1.42	0	0	0	1	1							
1.43	0	0	0	1	0							
1.44	0	0	0	0	3							
1.45	0	0	0	0	6							
1.46	0	0	0	0	1							
1.47	0	0	0	0	1							
1.48	0	0	0	0	3							
1.49	0	0	0	0	0							
1.50	0	0	0	1	3							
SUBTOTAL	0	0	0	20	67							

~~TOP SECRET~~ [redacted]

TABLE 9-6

MISSION [redacted] INSTRUMENT [redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[redacted]	[redacted]	[redacted]	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIN
1.51	0	0	0	0	1	1	0	0	0	0	1	1
1.52	0	0	0	0	2	2	0	0	0	0	2	2
1.53	0	0	0	0	2	2	0	0	0	0	2	2
1.54	0	0	0	0	1	1	0	0	0	0	1	1
1.55	0	0	0	0	1	1	0	0	0	0	1	1
1.56	0	0	0	0	2	2	0	0	0	0	2	2
1.57	0	0	0	0	2	2	0	0	0	0	2	2
1.58	0	0	0	0	2	2	0	0	0	0	2	2
1.59	0	0	0	0	1	1	0	0	0	0	1	1
1.60	0	0	0	0	1	1	0	0	0	0	1	1
1.61	0	0	0	0	1	1	0	0	0	0	1	1
1.62	0	0	0	0	1	1	0	0	0	0	1	1
1.63	0	0	0	0	1	1	0	0	0	0	1	1
1.64	0	0	0	0	1	1	0	0	0	0	1	1
1.65	0	0	0	0	1	1	0	0	0	0	1	1
1.66	0	0	0	0	1	1	0	0	0	0	1	1
1.67	0	0	0	0	1	1	0	0	0	0	1	1
1.68	0	0	0	0	1	1	0	0	0	0	1	1
1.69	0	0	0	0	1	1	0	0	0	0	1	1
1.70	0	0	0	0	1	1	0	0	0	0	1	1
1.71	0	0	0	0	1	1	0	0	0	0	1	1
1.72	0	0	0	0	1	1	0	0	0	0	1	1
1.73	0	0	0	0	1	1	0	0	0	0	1	1
1.74	0	0	0	0	1	1	0	0	0	0	1	1
1.75	0	0	0	0	1	1	0	0	0	0	1	1
1.76	0	0	0	0	1	1	0	0	0	0	1	1
1.77	0	0	0	0	1	1	0	0	0	0	1	1
1.78	0	0	0	0	1	1	0	0	0	0	1	1
1.79	0	0	0	0	1	1	0	0	0	0	1	1
1.80	0	0	0	0	1	1	0	0	0	0	1	1
1.81	0	0	0	0	1	1	0	0	0	0	1	1
1.82	0	0	0	0	1	1	0	0	0	0	1	1
1.83	0	0	0	0	1	1	0	0	0	0	1	1
1.84	0	0	0	0	1	1	0	0	0	0	1	1
1.85	0	0	0	0	1	1	0	0	0	0	1	1
1.86	0	0	0	0	1	1	0	0	0	0	1	1
1.87	0	0	0	0	1	1	0	0	0	0	1	1
1.88	0	0	0	0	1	1	0	0	0	0	1	1
1.89	0	0	0	0	1	1	0	0	0	0	1	1
1.90	0	0	0	0	1	1	0	0	0	0	1	1
1.91	0	0	0	0	1	1	0	0	0	0	1	1
1.92	0	0	0	0	1	1	0	0	0	0	1	1
1.93	0	0	0	0	1	1	0	0	0	0	1	1
1.94	0	0	0	0	1	1	0	0	0	0	1	1
1.95	0	0	0	0	1	1	0	0	0	0	1	1
1.96	0	0	0	0	1	1	0	0	0	0	1	1
1.97	0	0	0	0	1	1	0	0	0	0	1	1
1.98	0	0	0	0	1	1	0	0	0	0	1	1
1.99	0	0	0	0	1	1	0	0	0	0	1	1
2.00	0	0	0	0	1	1	0	0	0	0	1	1
SUBTOTAL	0	0	0	4	66	57	0	17	31	4	83	88

~~TOP SECRET~~ [redacted]

TABLE 9-6

DENSITY VALUE	PRIMARY MIN	MAX	LIM	SECONDARY MIN	MAX	LIM	TERTIARY MIN	MAX	LIM
2.01	0	0	0	0	0	0	0	0	0
2.02	0	0	0	0	0	0	0	0	0
2.03	0	0	0	0	0	0	0	0	0
2.04	0	0	0	0	0	0	0	0	0
2.05	0	0	0	0	0	0	0	0	0
2.06	0	0	0	0	0	0	0	0	0
2.07	0	0	0	0	0	0	0	0	0
2.08	0	0	0	0	0	0	0	0	0
2.09	0	0	0	0	0	0	0	0	0
2.10	0	0	0	0	0	0	0	0	0
2.11	0	0	0	0	0	0	0	0	0
2.12	0	0	0	0	0	0	0	0	0
2.13	0	0	0	0	0	0	0	0	0
2.14	0	0	0	0	0	0	0	0	0
2.15	0	0	0	0	0	0	0	0	0
2.16	0	0	0	0	0	0	0	0	0
2.17	0	0	0	0	0	0	0	0	0
2.18	0	0	0	0	0	0	0	0	0
2.19	0	0	0	0	0	0	0	0	0
2.20	0	0	0	0	0	0	0	0	0
2.21	0	0	0	0	0	0	0	0	0
2.22	0	0	0	0	0	0	0	0	0
2.23	0	0	0	0	0	0	0	0	0
2.24	0	0	0	0	0	0	0	0	0
2.25	0	0	0	0	0	0	0	0	0
2.26	0	0	0	0	0	0	0	0	0
2.27	0	0	0	0	0	0	0	0	0
2.28	0	0	0	0	0	0	0	0	0
2.29	0	0	0	0	0	0	0	0	0
2.30	0	0	0	0	0	0	0	0	0
2.31	0	0	0	0	0	0	0	0	0
2.32	0	0	0	0	0	0	0	0	0
2.33	0	0	0	0	0	0	0	0	0
2.34	0	0	0	0	0	0	0	0	0
2.35	0	0	0	0	0	0	0	0	0
2.36	0	0	0	0	0	0	0	0	0
2.37	0	0	0	0	0	0	0	0	0
2.38	0	0	0	0	0	0	0	0	0
2.39	0	0	0	0	0	0	0	0	0
2.40	0	0	0	0	0	0	0	0	0
2.41	0	0	0	0	0	0	0	0	0
2.42	0	0	0	0	0	0	0	0	0
2.43	0	0	0	0	0	0	0	0	0
2.44	0	0	0	0	0	0	0	0	0
2.45	0	0	0	0	0	0	0	0	0
2.46	0	0	0	0	0	0	0	0	0
2.47	0	0	0	0	0	0	0	0	0
2.48	0	0	0	0	0	0	0	0	0
2.49	0	0	0	0	0	0	0	0	0
2.50	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	7	34	0	7	58	0	14	92

~~TOP SECRET~~ [redacted]

TABLE 9-6

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible] MIN	[illegible] MAX	[illegible] LIM	ALL LEVELS MIN	ALL LEVELS MAX	ALL LEVELS LIM
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	148	148	102	110	110	96	258	258	198

MISSION 1021-1 INSTR - AFT 10-01-65 PROCESSING AND EXPOSURE ANALYS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	[illegible]
PRIMARY	0	0 PC	0 PC	
INTERMEDIATE	148	1 PC	9 PC	
FULL	110	10 PC	0 PC	85 PC
ALL LEVELS	258	5 PC	5 PC	[illegible]

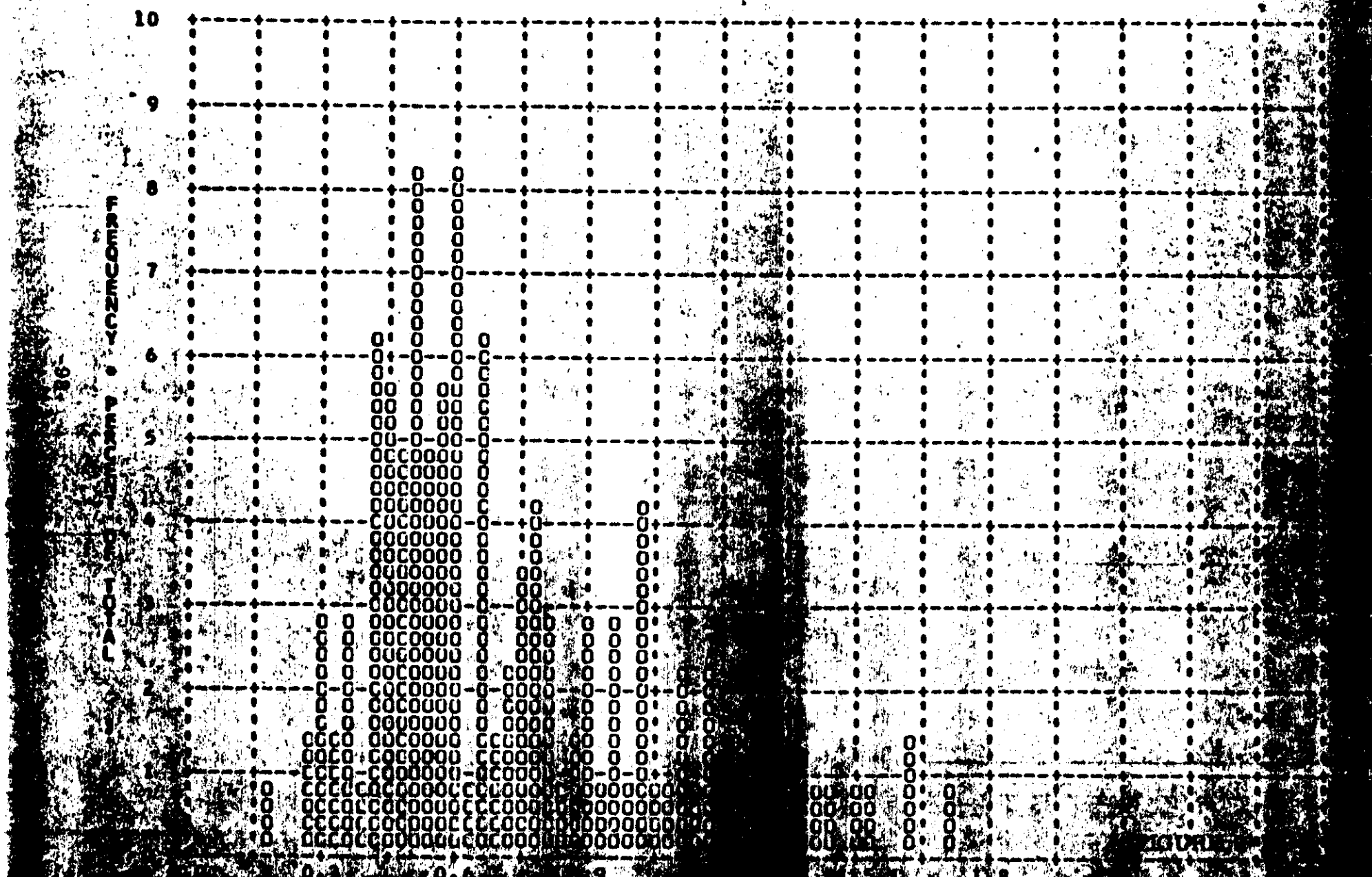
PROCESS LEVEL	BASE + FOG	UNUER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVE EXPOSED
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	----------	0.91 AND U
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.36	1.35 AND U
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-	

~~TOP SECRET~~ [redacted]

TABLE 9-6

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMED

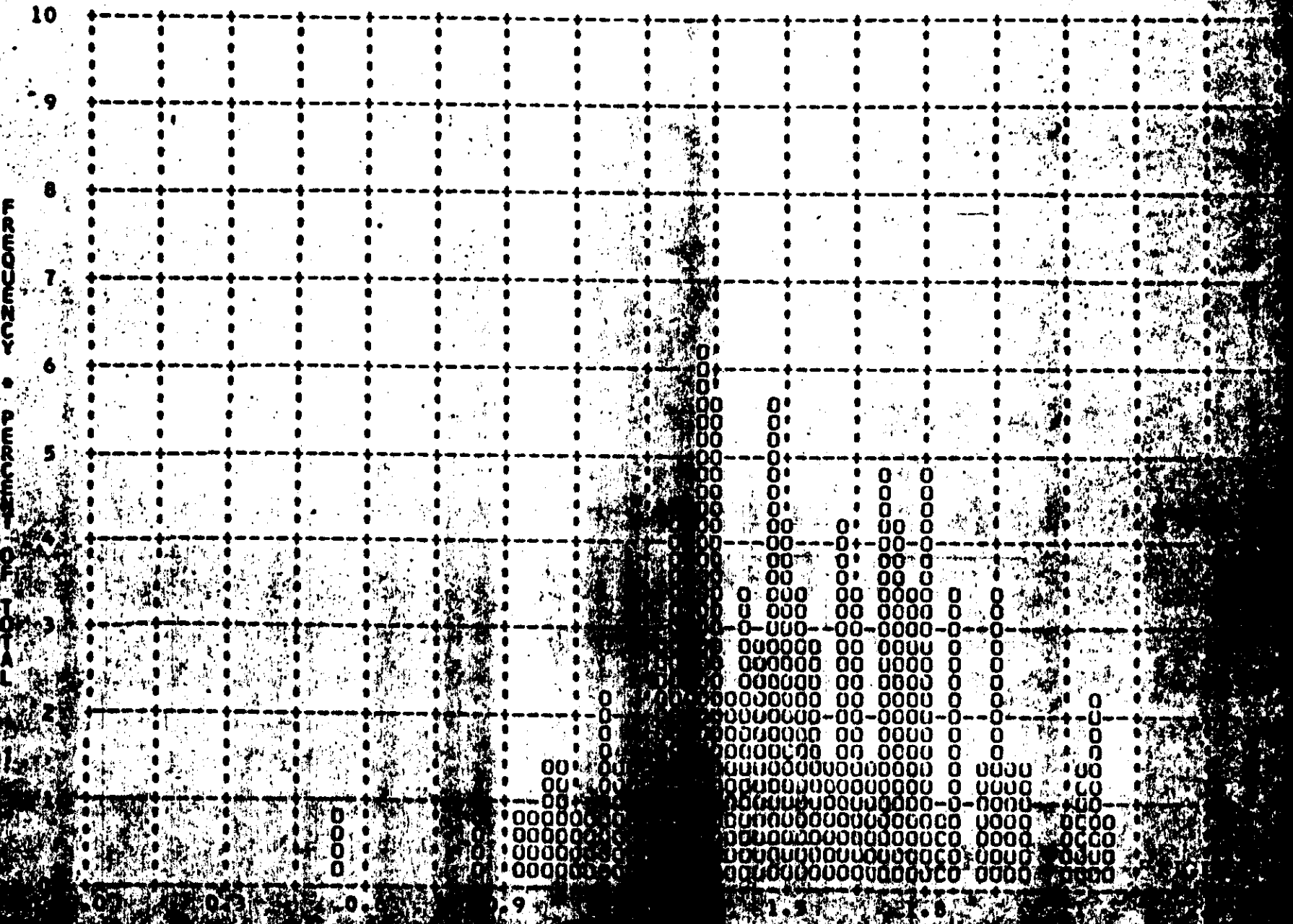
ARITH MEAN • 0.70 • MEDIAN • 0.60 • STD DEV • 0.32 • RANGE • 0.17 TO 1.70 WITH 148 SAMPLES



~~TOP SECRET~~ [redacted]

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMED

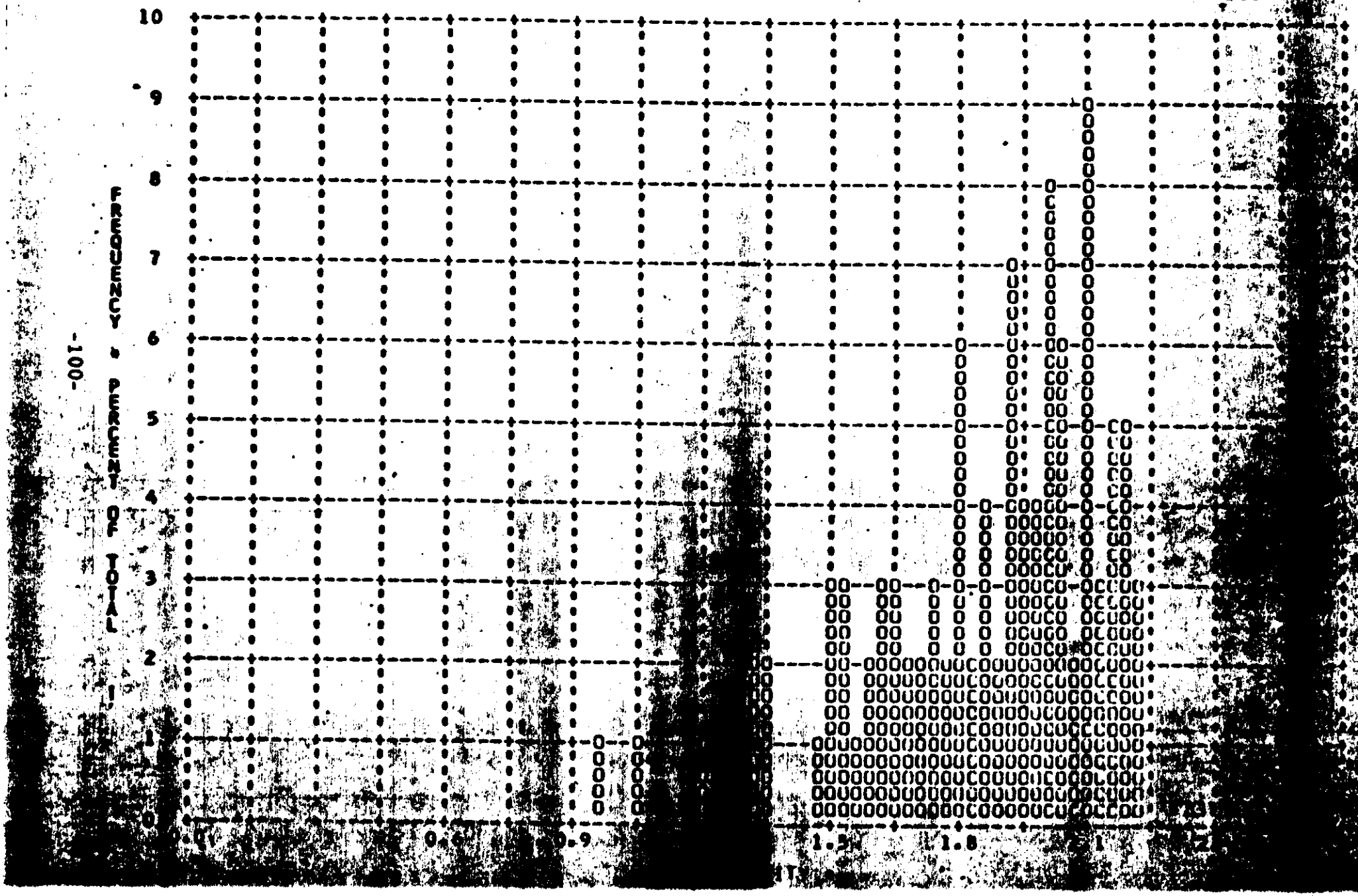
ARITH MEAN • 1.52 • MEDIAN • 1.50 • STD DEV • 0.30 • RANGE • 0.54 TO 2.18 WITH 148 SAMPLES



[redacted]

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMEDIATE

ARITH MEAN • 1.86 • MEDIAN • 1.92 • STD DEV • 0.27 • RANGE • 0.95 TO 2.22 WITH 102 SAMPLES



MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • FULL

ARITH MEAN • 0.57 • MEDIAN • 0.54 • STD DEV • 0.17 • RANGE • 0.35 TO 1.30 WITH 110 SAMPLES

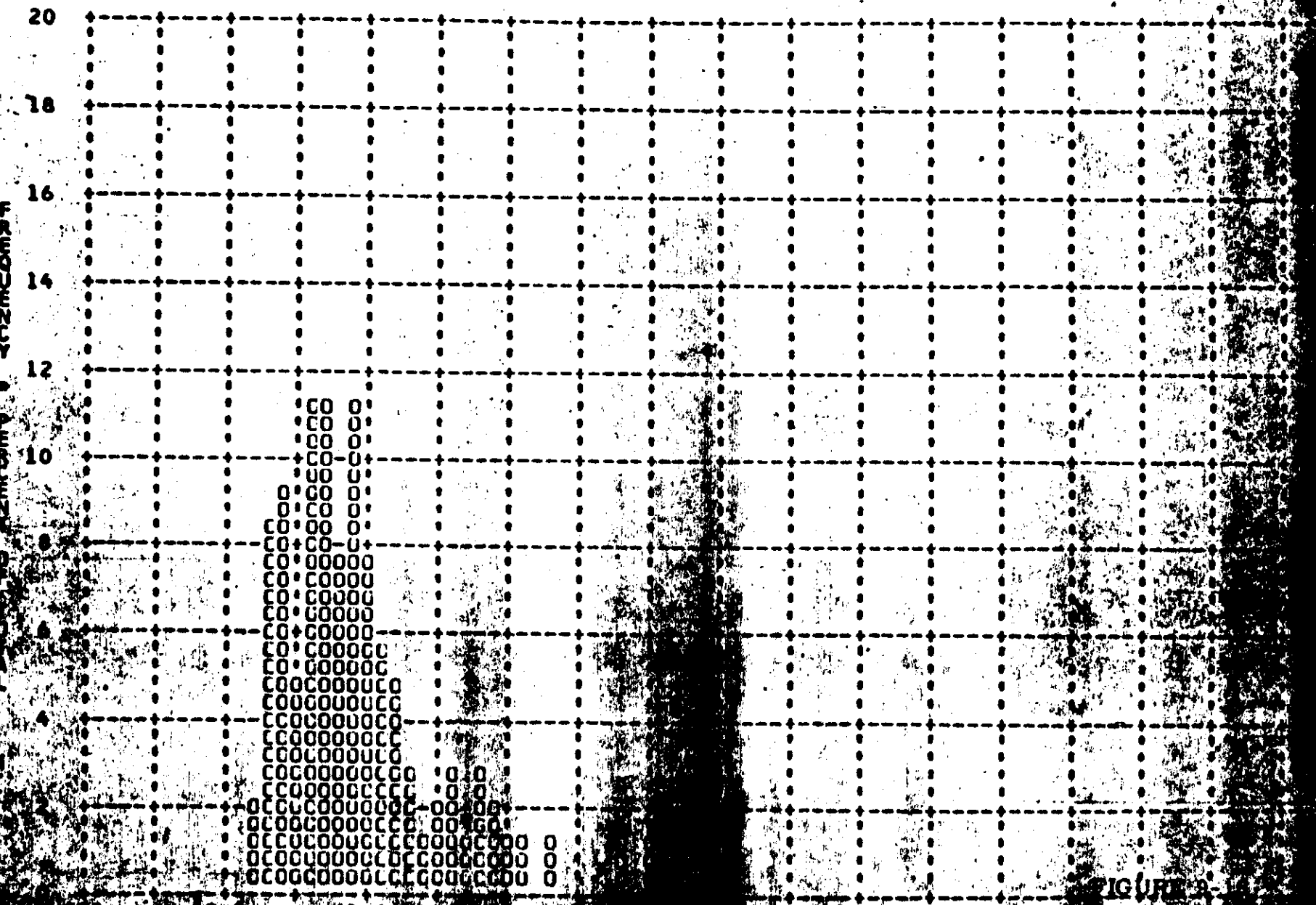


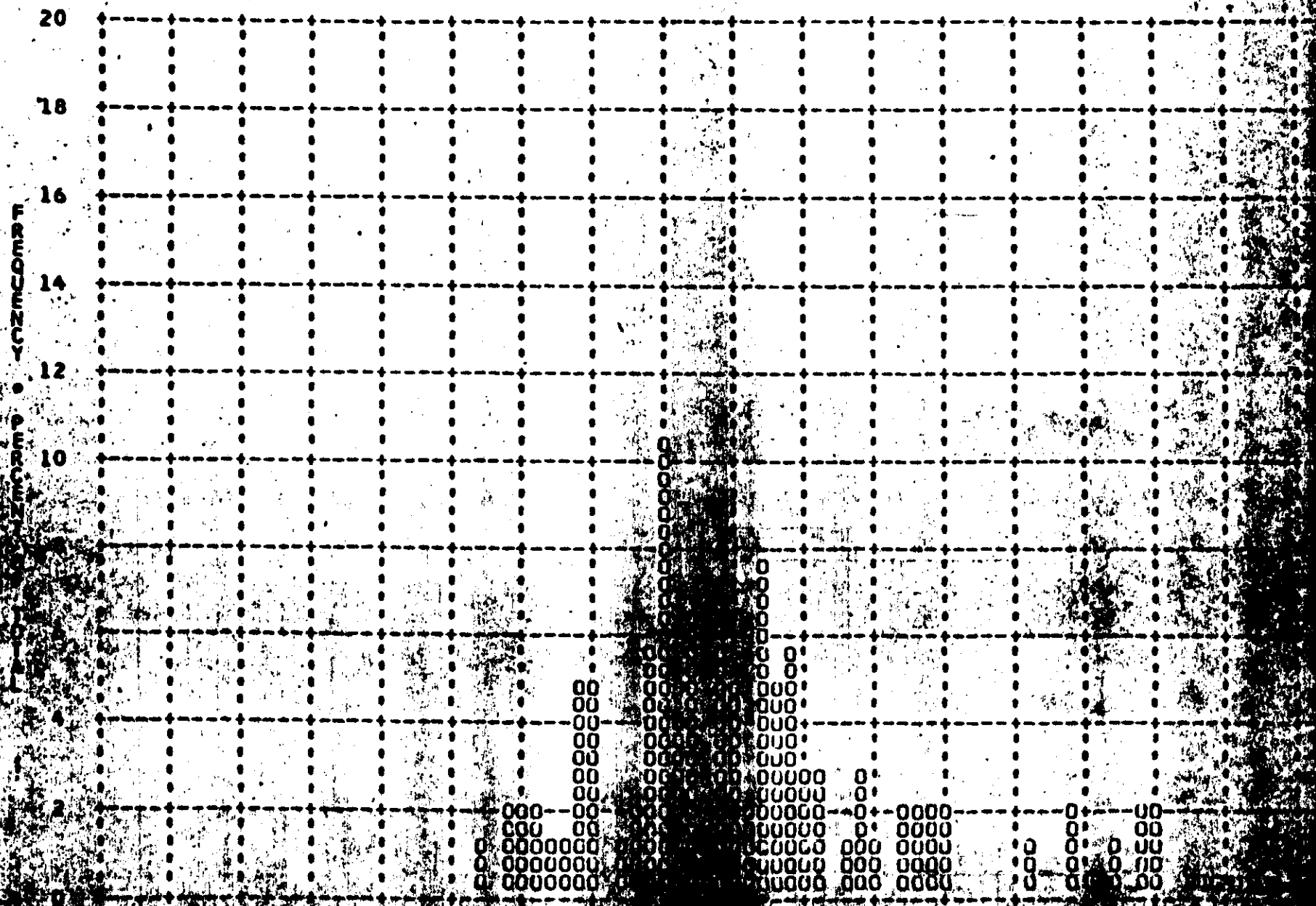
FIGURE 2-16

[redacted]

~~TOP SECRET~~ [redacted]

MISSION • 1021-1 • INSTR • AFT • • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

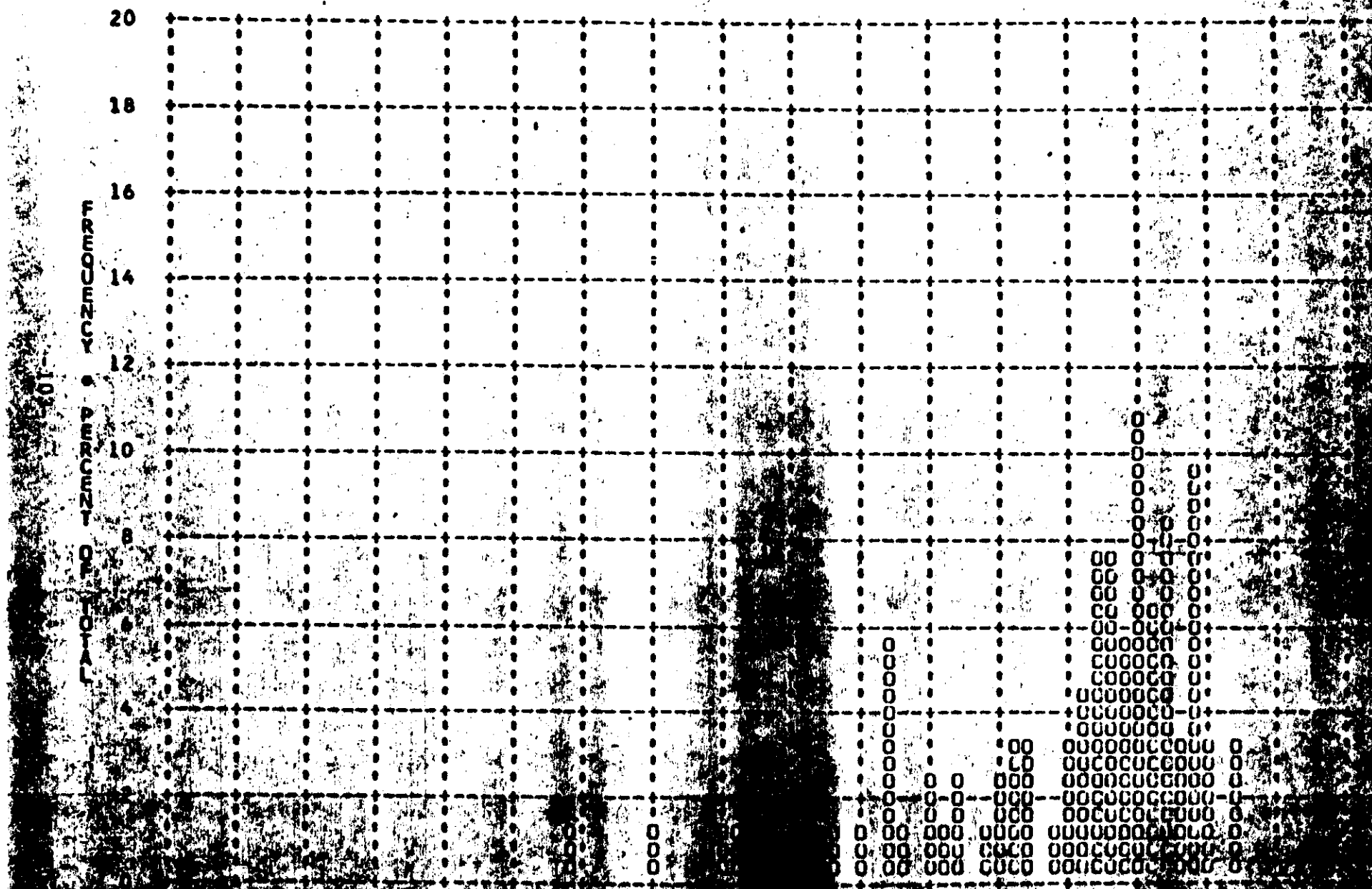
ARITH MEAN • 1.36 • MEDIAN • 1.32 • STD DEV • 0.31 • RANGE • 0.80 TO 2.24 WITH 110 SAMPLES



[redacted]

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

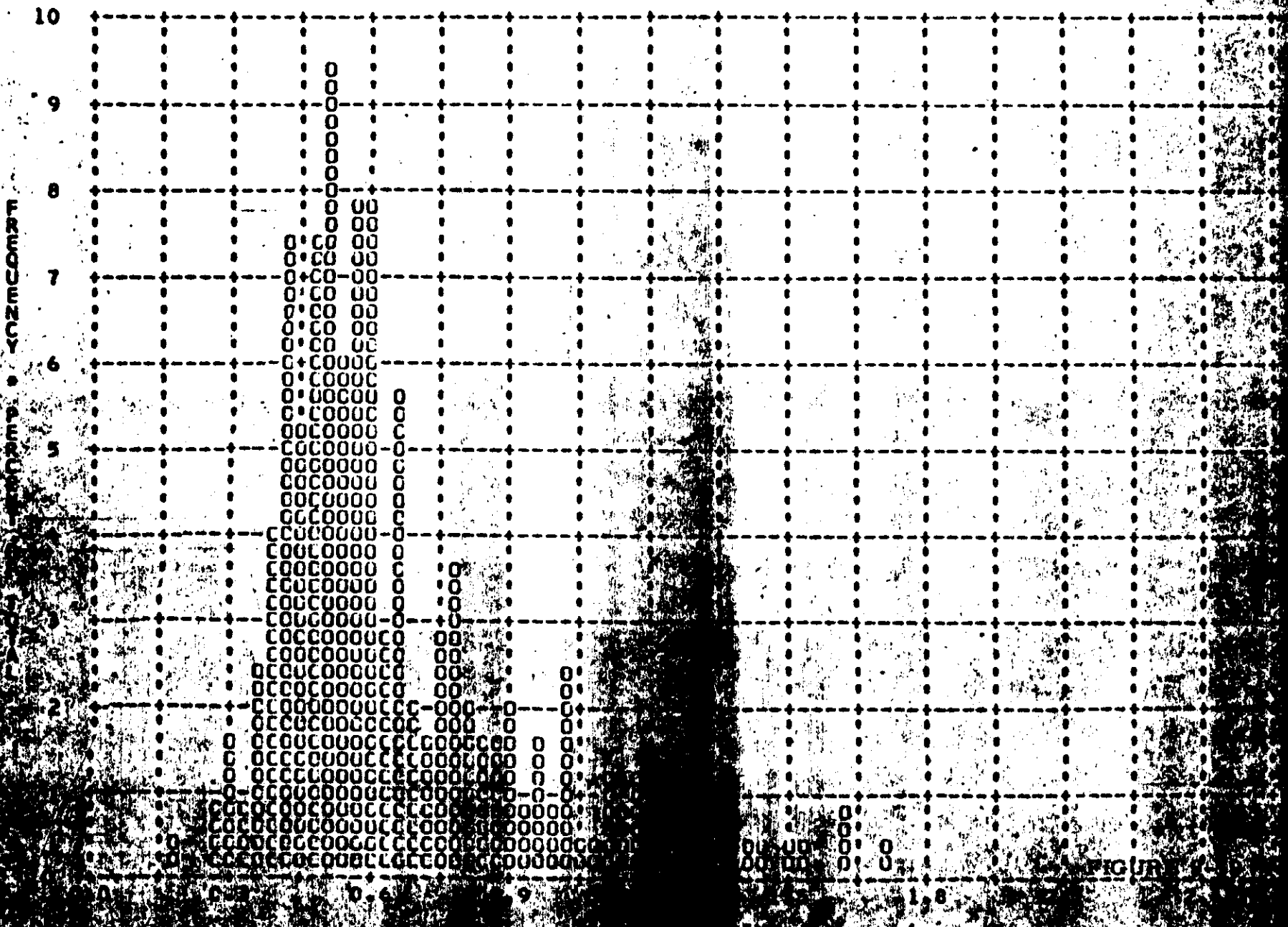
ARITH MEAN • 1.96 • MEDIAN • 2.04 • STD DEV • 0.28 • RANGE • 0.85 TO 2.30 WITH 96 SAMPLES



[redacted]

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVE

ARITH MEAN • 0.65 • MEDIAN • 0.57 • STD DEV • 0.27 • RANGE • 0.17 TO 1.70 WITH 258 SAMPLES



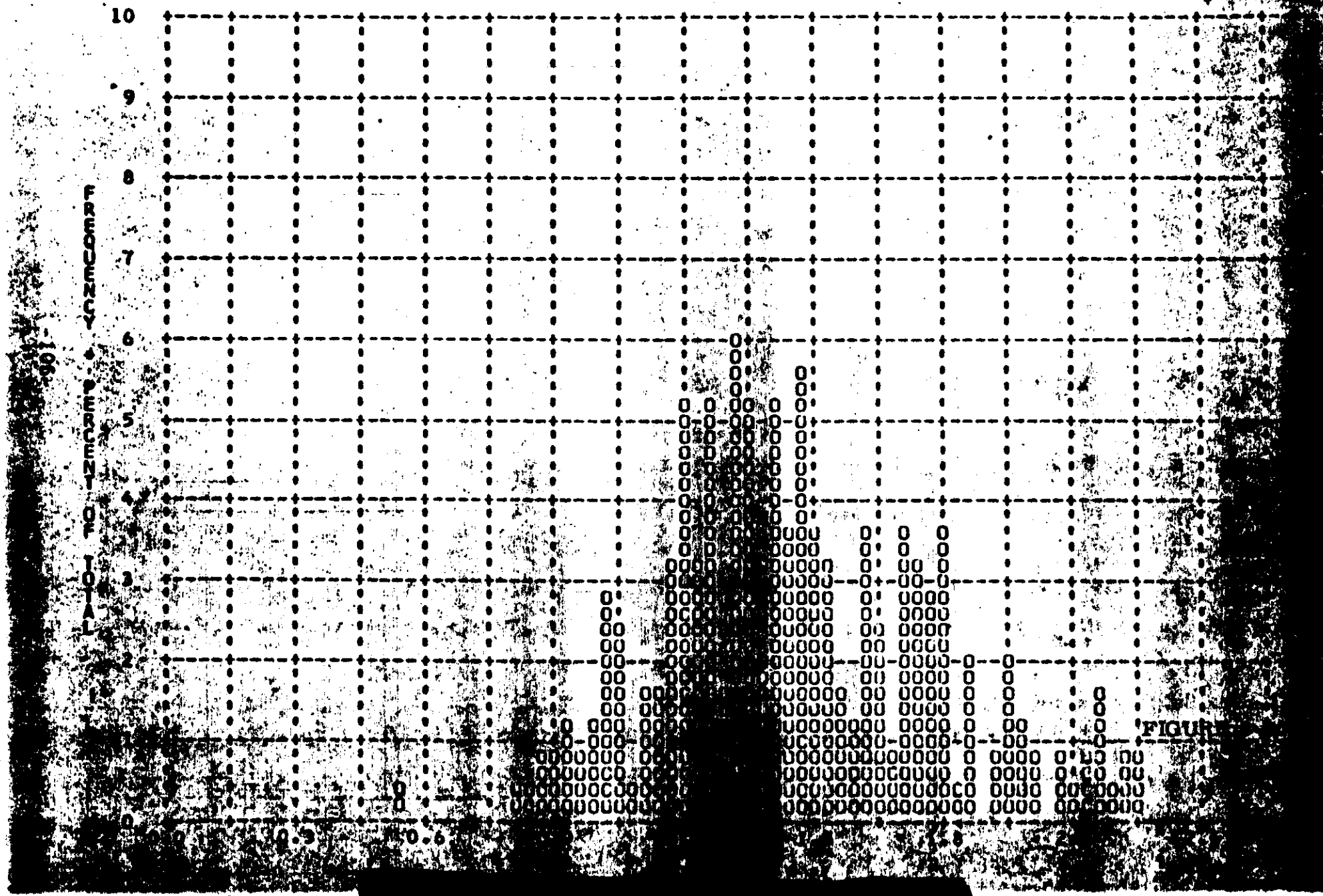
FIGURE

[redacted]

~~TOP SECRET~~ [redacted]

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVEL

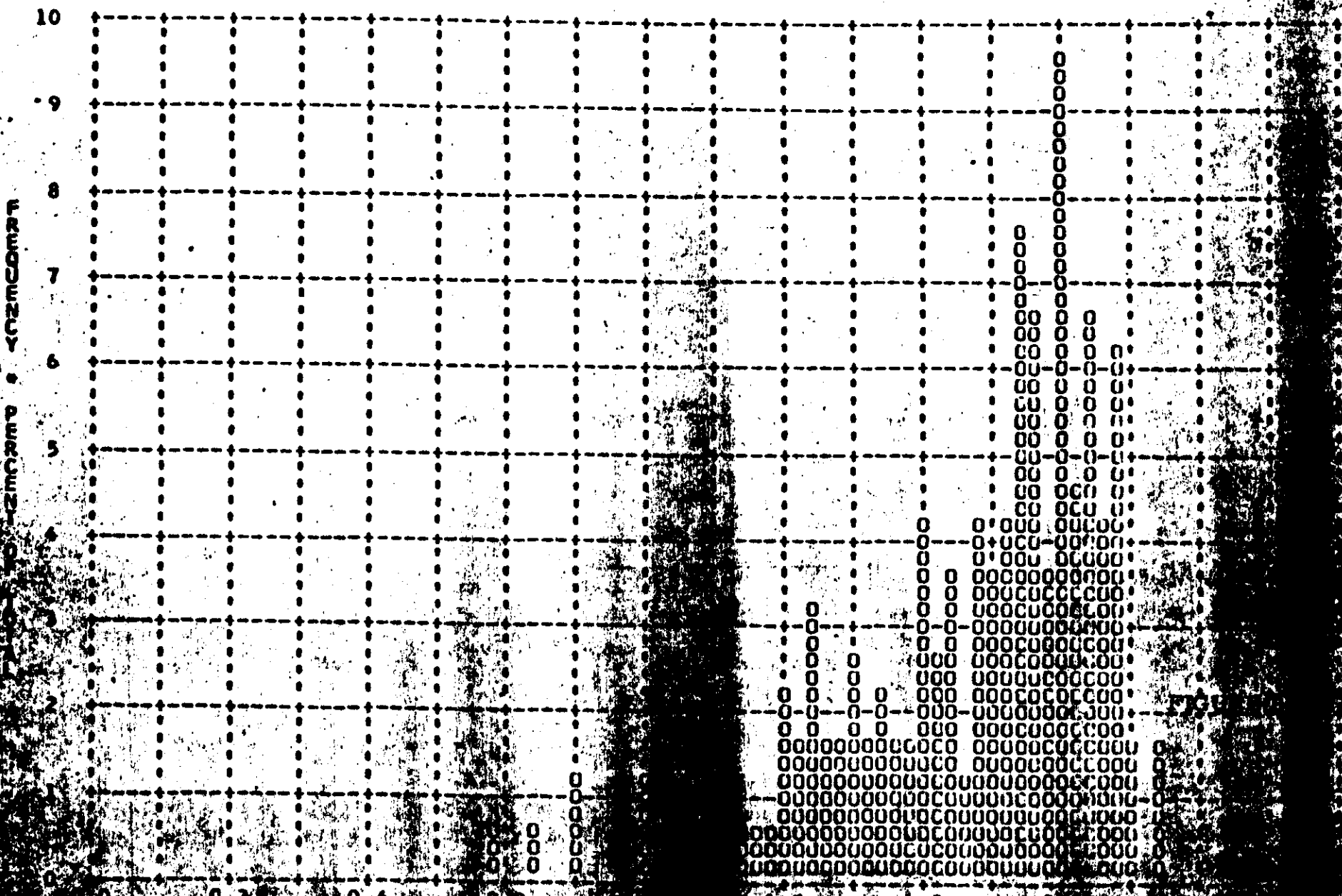
ARITH MEAN • 1.45 • MEDIAN • 1.42 • STD DEV • 0.32 • RANGE • 0.54 TO 2.24 WITH 258 SAMPLES



FIGUR

MISSION • 1021-1 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVELS

ARITH MEAN • 1.90 • MEDIAN • 2.00 • STD DEV • 0.28 • RANGE • 0.85 TO 2.30 WITH 198 SAMPLES



DENSITY VALUE	PRIMARY			INTERMEDIATE			[illegible]			[illegible]		
	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN	MIN	MAX	LIN
0.01	0	0	0	0	0	0	0	0	0	0	0	0
0.02	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	1	0	0	0	0	0	1	0	0
0.19	0	0	0	1	0	0	0	0	0	1	0	0
0.20	0	0	0	1	0	0	0	0	0	1	0	0
0.21	0	0	0	0	0	0	0	0	0	0	0	0
0.22	0	0	0	2	0	0	0	0	0	2	0	0
0.23	0	0	0	2	0	0	0	0	0	2	0	0
0.24	0	0	0	1	0	0	0	0	0	1	0	0
0.25	0	0	0	4	0	0	1	0	0	5	0	0
0.26	0	0	0	2	0	0	1	0	0	3	0	0
0.27	0	0	0	4	0	0	3	0	0	[illegible]		
0.28	0	0	0	1	0	0	[illegible]					
0.29	0	0	0	5	0	0	2	0	0	[illegible]		
0.30	0	0	0	1	0	0	4	0	0	[illegible]		
0.31	0	0	0	4	0	0	2	0	0	[illegible]		
0.32	0	0	0	2	0	0	2	0	0	[illegible]		
0.33	0	0	0	2	0	0	3	0	0	5	0	0
0.34	0	0	0	2	0	0	1	0	0	3	0	0
0.35	0	0	0	2	0	0	10	0	0	12	0	0
0.36	0	0	0	0	0	0	3	0	0	3	0	0
0.37	0	0	0	3	0	0	5	0	0	8	0	0
0.38	0	0	0	3	0	0	1	0	0	4	0	0
0.39	0	0	0	6	0	0	12	0	0	18	0	0
0.40	0	0	0	5	0	0	2	0	0	7	0	0
0.41	0	0	0	2	0	0	7	0	0	9	0	0
0.42	0	0	0	5	0	0	4	0	0	9	0	0
0.43	0	0	0	3	0	0	2	0	0	5	0	0
0.44	0	0	0	2	0	0	2	0	0	4	0	0
0.45	0	0	0	3	0	0	4	0	0	7	0	0
0.46	0	0	0	1	0	0	4	0	0	5	0	0
0.47	0	0	0	0	0	0	4	0	0	4	0	0
0.48	0	0	0	0	0	0	4	0	0	4	0	0
0.49	0	0	0	1	0	0	6	0	0	7	0	0
0.50	0	0	0	69	0	0	86	0	0	155	0	0
SUBTOTAL												

~~TOP SECRET~~ [redacted]

TABLE 9-7

DEN. VALUE													
0.51	0	0	0	1	0	0	0	0	0	0	0	0	0
0.52	0	0	0	1	0	0	0	0	0	0	0	0	0
0.53	0	0	0	0	0	0	0	0	0	0	0	0	0
0.54	0	0	0	7	0	0	0	0	0	0	0	0	0
0.55	0	0	0	4	0	0	0	0	0	0	0	0	0
0.56	0	0	0	7	0	0	0	0	0	0	0	0	0
0.57	0	0	0	0	0	0	0	0	0	0	0	0	0
0.58	0	0	0	3	0	0	0	0	0	0	0	0	0
0.59	0	0	0	1	0	0	0	0	0	0	0	0	0
0.60	0	0	0	3	0	0	0	0	0	0	0	0	0
0.61	0	0	0	0	0	0	0	0	0	0	0	0	0
0.62	0	0	0	6	0	0	0	0	0	0	0	0	0
0.63	0	0	0	2	0	0	0	0	0	0	0	0	0
0.64	0	0	0	6	0	0	0	0	0	0	0	0	0
0.65	0	0	0	0	0	0	0	0	0	0	0	0	0
0.66	0	0	0	3	0	0	0	0	0	0	0	0	0
0.67	0	0	0	0	0	0	0	0	0	0	0	0	0
0.68	0	0	0	5	0	0	0	0	0	0	0	0	0
0.69	0	0	0	1	0	0	0	0	0	0	0	0	0
0.70	0	0	0	7	0	0	0	0	0	0	0	0	0
0.71	0	0	0	1	0	0	0	0	0	0	0	0	0
0.72	0	0	0	0	0	0	0	0	0	0	0	0	0
0.73	0	0	0	0	0	0	0	0	0	0	0	0	0
0.74	0	0	0	5	0	0	0	0	0	0	0	0	0
0.75	0	0	0	1	0	0	0	0	0	0	0	0	0
0.76	0	0	0	1	0	0	0	0	0	0	0	0	0
0.77	0	0	0	0	0	0	0	0	0	0	0	0	0
0.78	0	0	0	2	0	0	0	0	0	0	0	0	0
0.79	0	0	0	0	0	0	0	0	0	0	0	0	0
0.80	0	0	0	1	0	0	0	0	0	0	0	0	0
0.81	0	0	0	3	0	0	0	0	0	0	0	0	0
0.82	0	0	0	2	0	0	0	0	0	0	0	0	0
0.83	0	0	0	1	0	0	0	0	0	0	0	0	0
0.84	0	0	0	1	0	0	0	0	0	0	0	0	0
0.85	0	0	0	0	0	0	0	0	0	0	0	0	0
0.86	0	0	0	1	0	0	0	0	0	0	0	0	0
0.87	0	0	0	0	0	0	0	0	0	0	0	0	0
0.88	0	0	0	3	0	0	0	0	0	0	0	0	0
0.89	0	0	0	0	0	0	0	0	0	0	0	0	0
0.90	0	0	0	1	0	0	0	0	0	0	0	0	0
0.91	0	0	0	0	0	0	0	0	0	0	0	0	0
0.92	0	0	0	1	0	0	0	0	0	0	0	0	0
0.93	0	0	0	1	0	0	0	0	0	0	0	0	0
0.94	0	0	0	2	0	0	0	0	0	0	0	0	0
0.95	0	0	0	2	0	0	0	0	0	0	0	0	0
0.96	0	0	0	0	1	0	0	0	0	0	0	0	0
0.97	0	0	0	1	0	0	0	0	0	0	0	0	0
0.98	0	0	0	1	0	0	0	0	0	0	0	0	0
0.99	0	0	0	0	0	0	0	0	0	0	0	0	0
1.00	0	0	0	3	4	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	89	8	0	41	27	0	130	35	0	0

~~TOP SECRET~~ [redacted]

TABLE 9-7

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMED MIN	INTERMED MAX	INTERMED LIN	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
1.01	0	0	0	0	0	0	0	0	0	0	0	0	0
1.02	0	0	0	0	0	0	0	0	0	0	0	0	0
1.03	0	0	0	0	0	0	0	0	0	0	0	0	0
1.04	0	0	0	0	0	0	0	0	0	0	0	0	0
1.05	0	0	0	0	0	0	0	0	0	0	0	0	0
1.06	0	0	0	0	0	0	0	0	0	0	0	0	0
1.07	0	0	0	0	0	0	0	0	0	0	0	0	0
1.08	0	0	0	0	0	0	0	0	0	0	0	0	0
1.09	0	0	0	0	0	0	0	0	0	0	0	0	0
1.10	0	0	0	0	0	0	0	0	0	0	0	0	0
1.11	0	0	0	0	0	0	0	0	0	0	0	0	0
1.12	0	0	0	0	0	0	0	0	0	0	0	0	0
1.13	0	0	0	0	0	0	0	0	0	0	0	0	0
1.14	0	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	0
1.16	0	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	0
1.18	0	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	0
1.20	0	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	0
1.22	0	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	0
1.24	0	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	0
1.26	0	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	0
1.28	0	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	0
1.30	0	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	0
1.32	0	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	0
1.34	0	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	0
1.36	0	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	0
1.38	0	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	0
1.40	0	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	0
1.42	0	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	0
1.44	0	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	0
1.46	0	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	0
1.48	0	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	0
1.50	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	9	113	17	1	62	6	10	175	23	3

[redacted]

TABLE 9-7

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
1.51	0	0	0	0	0	0	0	5	5	0	0	3
1.52	0	0	0	0	3	0	0	0	0	1	0	3
1.53	0	0	0	0	2	0	0	0	2	1	0	6
1.54	0	0	0	0	4	3	0	0	2	3	1	6
1.55	0	0	0	0	3	0	1	2	0	1	0	6
1.56	0	0	0	0	3	0	2	1	0	0	0	4
1.57	0	0	0	0	2	1	0	0	1	0	0	2
1.58	0	0	0	0	2	0	0	0	0	0	0	2
1.59	0	0	0	0	0	0	0	1	0	0	0	1
1.60	0	0	0	0	6	2	0	0	4	0	1	7
1.61	0	0	0	0	0	0	0	0	1	0	0	1
1.62	0	0	0	0	3	0	0	0	0	1	0	4
1.63	0	0	0	0	0	2	1	0	0	0	0	2
1.64	0	0	0	0	0	0	1	1	2	0	0	4
1.65	0	0	0	0	0	0	1	2	1	2	0	6
1.66	0	0	0	0	0	1	2	0	0	0	0	3
1.67	0	0	0	0	0	1	1	2	0	0	0	4
1.68	0	0	0	0	0	0	1	0	0	0	0	1
1.69	0	0	0	0	0	1	0	3	2	0	0	6
1.70	0	0	0	0	0	0	3	2	1	0	0	6
1.71	0	0	0	0	0	2	0	0	1	0	0	3
1.72	0	0	0	0	0	0	2	0	0	1	0	3
1.73	0	0	0	0	0	0	1	2	0	0	0	3
1.74	0	0	0	0	0	0	0	1	2	0	0	3
1.75	0	0	0	0	0	0	0	2	2	0	0	4
1.76	0	0	0	0	0	0	0	0	2	0	0	2
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	1	0	0	0	0	0	0	0
1.81	0	0	0	0	0	3	0	0	0	0	0	3
1.82	0	0	0	0	3	2	0	0	0	0	0	5
1.83	0	0	0	0	0	0	3	2	0	0	0	5
1.84	0	0	0	0	0	0	0	2	0	0	0	2
1.85	0	0	0	0	0	0	0	1	2	0	0	3
1.86	0	0	0	0	0	0	0	1	1	0	0	2
1.87	0	0	0	0	0	0	0	2	1	0	0	3
1.88	0	0	0	0	0	0	4	0	1	0	0	5
1.89	0	0	0	0	0	1	0	0	1	0	0	2
1.90	0	0	0	0	0	0	1	0	0	0	0	1
1.91	0	0	0	0	0	1	0	1	2	0	0	4
1.92	0	0	0	0	0	1	1	2	0	0	0	4
1.93	0	0	0	0	0	1	0	2	1	0	0	4
1.94	0	0	0	0	0	0	1	2	0	0	0	3
1.95	0	0	0	0	0	1	0	1	2	0	0	4
1.96	0	0	0	0	0	0	1	0	1	0	0	2
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	4	0	0	0	0	4
SUBTOTAL	0	0	0	1	41	53	0	33	55	1	74	108

~~TOP SECRET~~ [redacted]

TABLE 9-7

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible]	[illegible]	[illegible]	[illegible] MIN	[illegible] MAX	[illegible] LIM
2.01	0	0	0	0	0	0	[illegible]					
2.02	0	0	0	0	3	3						
2.03	0	0	0	0	0	0						
2.04	0	0	0	0	0	0						
2.05	0	0	0	0	0	0						
2.06	0	0	0	0	0	0						
2.07	0	0	0	0	0	0						
2.08	0	0	0	0	0	0						
2.09	0	0	0	0	0	0						
2.10	0	0	0	0	0	0						
2.11	0	0	0	0	0	0						
2.12	0	0	0	0	0	0						
2.13	0	0	0	0	0	0						
2.14	0	0	0	0	0	0						
2.15	0	0	0	0	0	0						
2.16	0	0	0	0	0	0						
2.17	0	0	0	0	0	0						
2.18	0	0	0	0	0	0						
2.19	0	0	0	0	0	0						
2.20	0	0	0	0	0	0						
2.21	0	0	0	0	0	0						
2.22	0	0	0	0	0	0						
2.23	0	0	0	0	0	0						
2.24	0	0	0	0	0	0						
2.25	0	0	0	0	0	0						
2.26	0	0	0	0	0	0						
2.27	0	0	0	0	0	0						
2.28	0	0	0	0	1	1						
2.29	0	0	0	0	0	0						
2.30	0	0	0	0	0	0						
2.31	0	0	0	0	0	0						
2.32	0	0	0	0	0	0						
2.33	0	0	0	0	0	0						
2.34	0	0	0	0	0	0						
2.35	0	0	0	0	0	0						
2.36	0	0	0	0	1	1						
2.37	0	0	0	0	0	0						
2.38	0	0	0	0	0	0						
2.39	0	0	0	0	0	0						
2.40	0	0	0	0	0	0						
2.41	0	0	0	0	0	0						
2.42	0	0	0	0	0	0						
2.43	0	0	0	0	0	0						
2.44	0	0	0	0	0	0						
2.45	0	0	0	0	0	0						
2.46	0	0	0	0	0	0						
2.47	0	0	0	0	0	0						
2.48	0	0	0	0	0	0						
2.49	0	0	0	0	0	0						
2.50	0	0	0	0	0	0						
SUBTOTAL	0	0	0	0	6	10	0	6	34	0	12	44

~~TOP SECRET~~ [redacted]

TABLE 9-7

MISSION 1021-2 INSTRUMENT [redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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	168	168	80	128	128	95	296	296	175

MISSION 1021-2 INSTR - FRWD 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	[redacted]
PRIMARY	0	0 PC	0 PC	
INTERMEDIATE	168	2 PC	23 PC	[redacted]
FULL	128	30 PC	0 PC	[redacted]
ALL LEVELS	296	14 PC	13 PC	[redacted]

PROCESS LEVEL	BASE + FOG	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	[redacted]
PRIMARY	0.01-0.09	0.01-0.13	0.14-0.39	0.40-0.90	---------	0.91
INTERMED	0.10-0.17	0.01-0.20	0.21-0.39	0.40-0.90	0.91-1.[redacted]	
FULL	0.18 AND UP	0.01-0.39	---------	0.40-0.90	0.91-1.6[redacted]	

~~TOP SECRET~~ [redacted]

TABLE 9-7

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMEDI

ARITH MEAN • 0.58 • MEDIAN • 0.56 • STD DEV • 0.25 • RANGE • 0.18 TO 1.52 WITH 168 SAMPLES

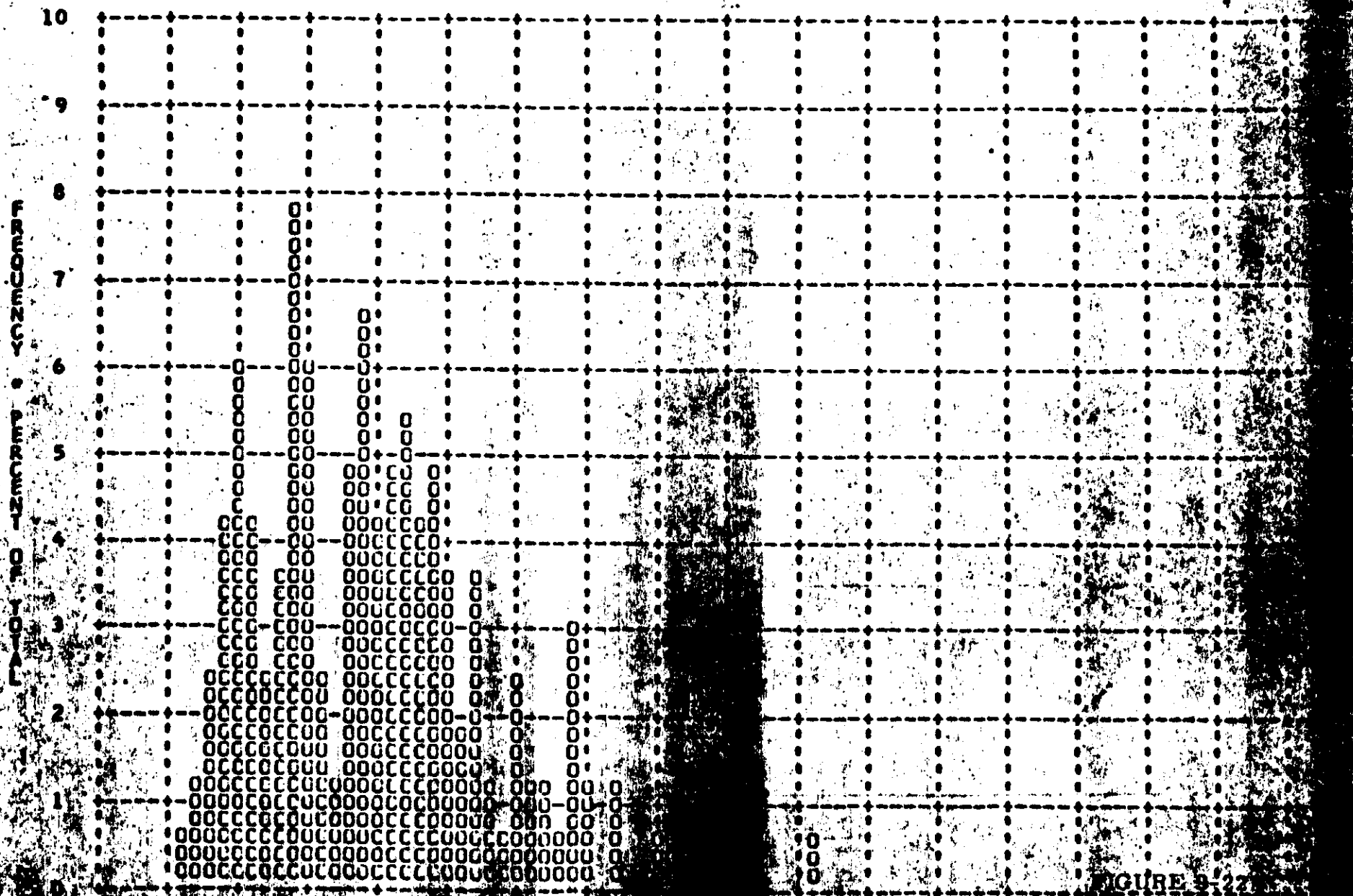
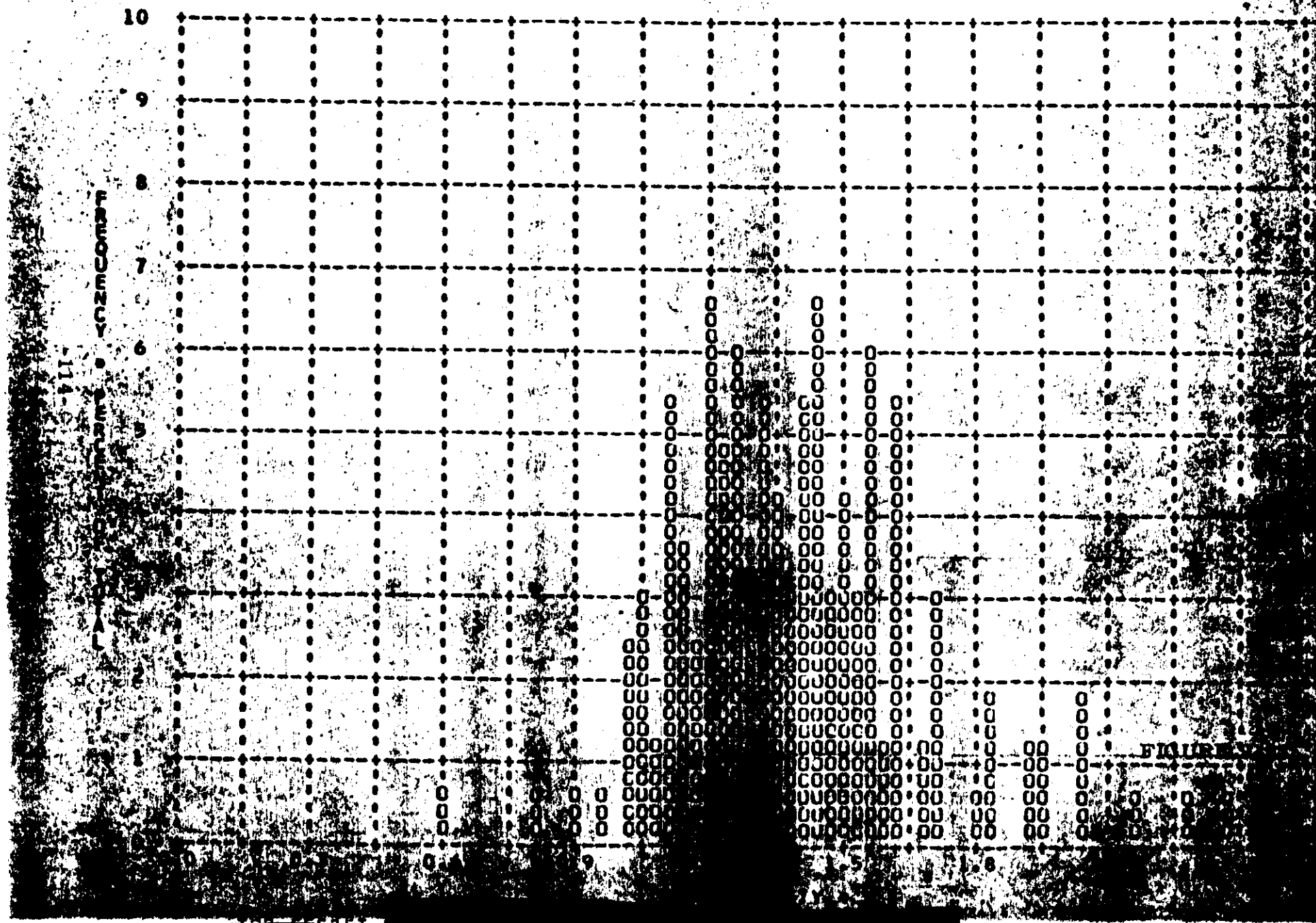


FIGURE 3-22

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMED

ARITH MEAN • 1.38 • MEDIAN • 1.36 • STD DEV • 0.27 • RANGE • 0.60 TO 2.36 WITH 16n SAMPLES

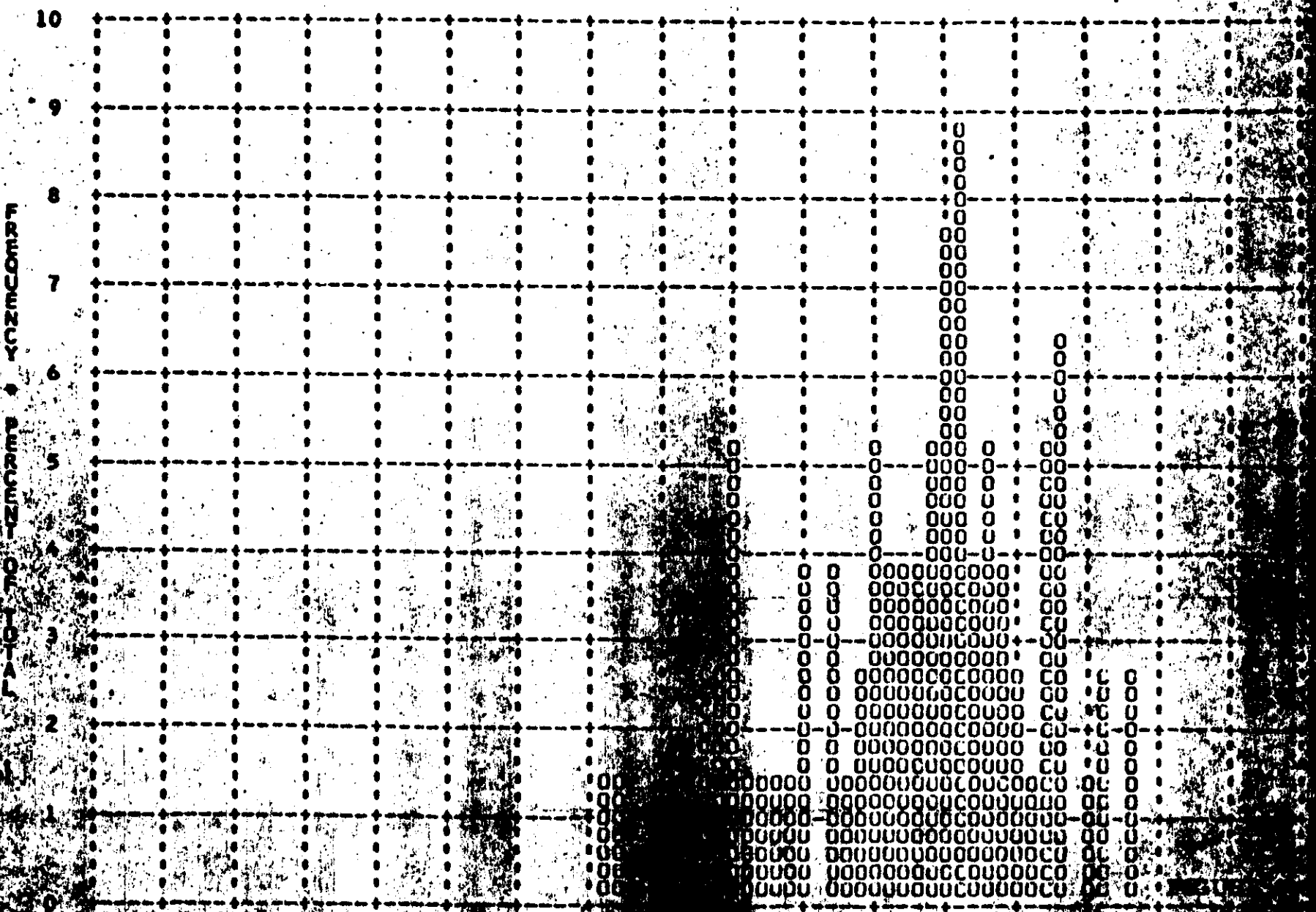


FIGURE

[redacted]

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMED[illegible]E

ARITH MEAN • 1.73 • MEDIAN • 1.80 • STD DEV • 0.25 • RANGE • 1.08 TO 2.18 WITH 80 SAMPLES

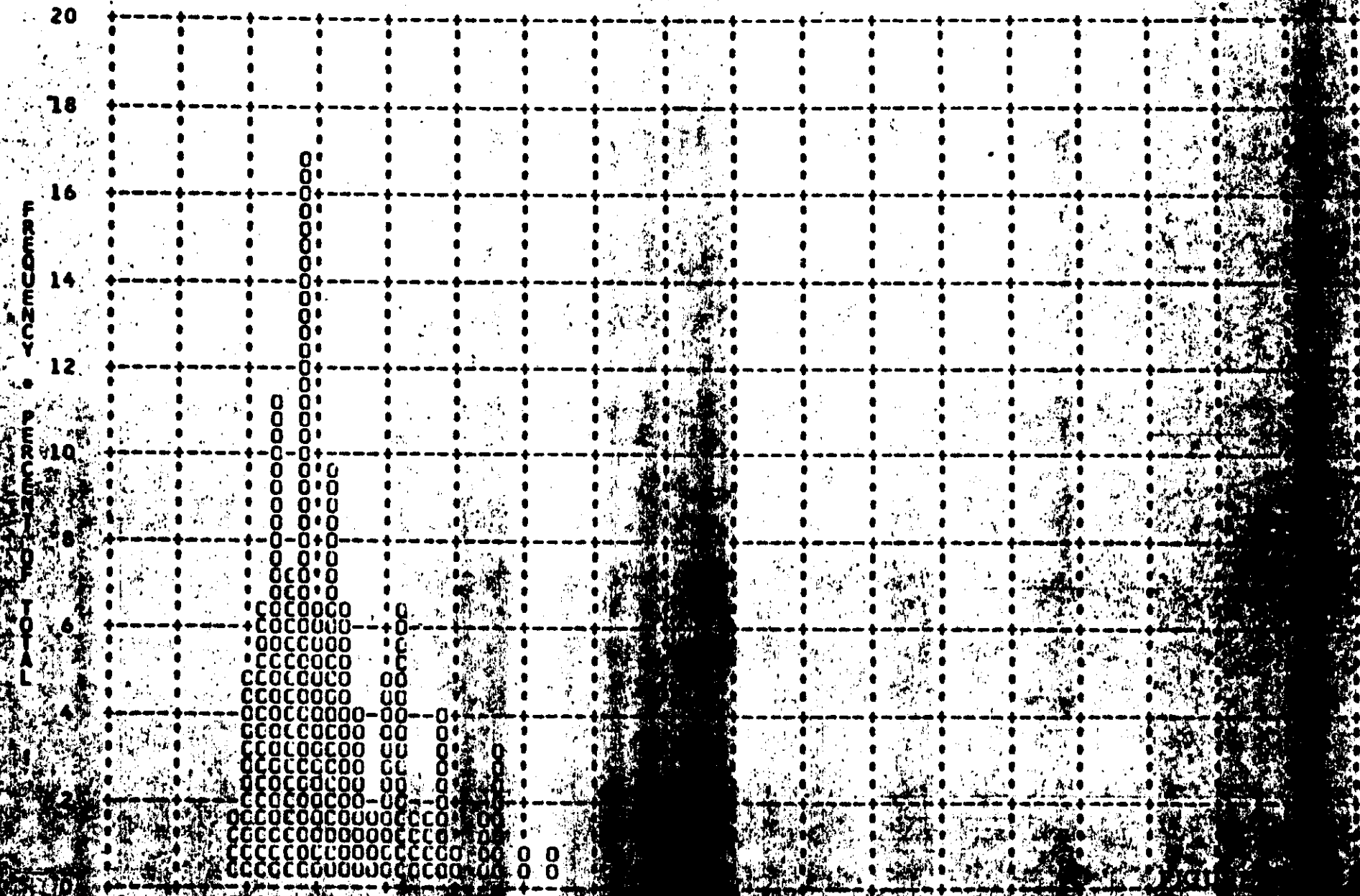


[redacted]

~~TOP SECRET~~ [redacted]

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF 0 MIN • TERRAIN • PROCESSING • FULL

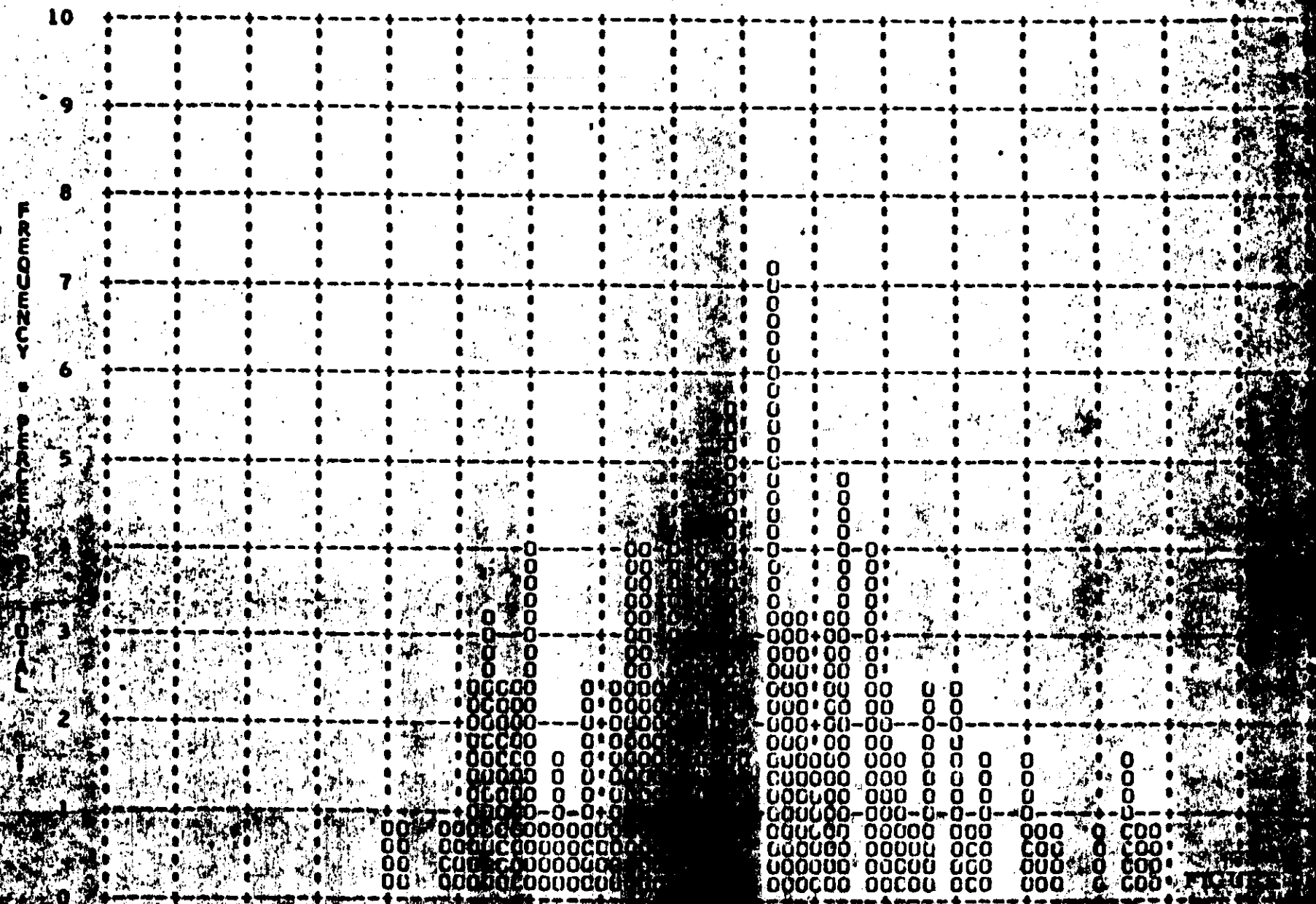
ARITH MEAN • 0.49 • MEDIAN • 0.44 • STD DEV • 0.16 • RANGE • 0.26 TO 1.31 WITH 128 SAMPLES



[redacted]

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL •

ARITH MEAN • 1.32 • MEDIAN • 1.30 • STD DEV • 0.36 • RANGE • 0.60 TO 2.22 WITH 128 SAMPLES

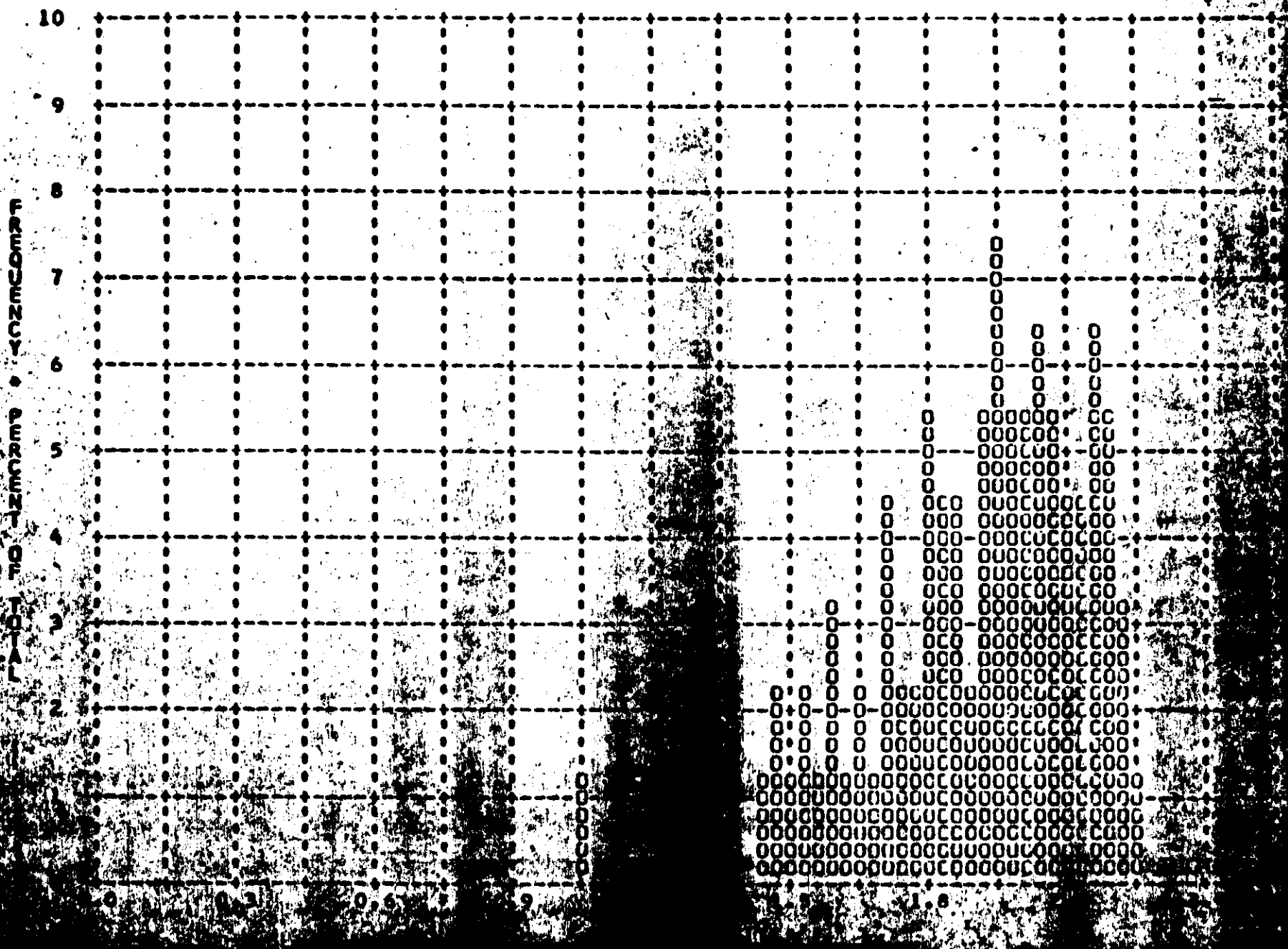


FIGURE

[redacted]

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

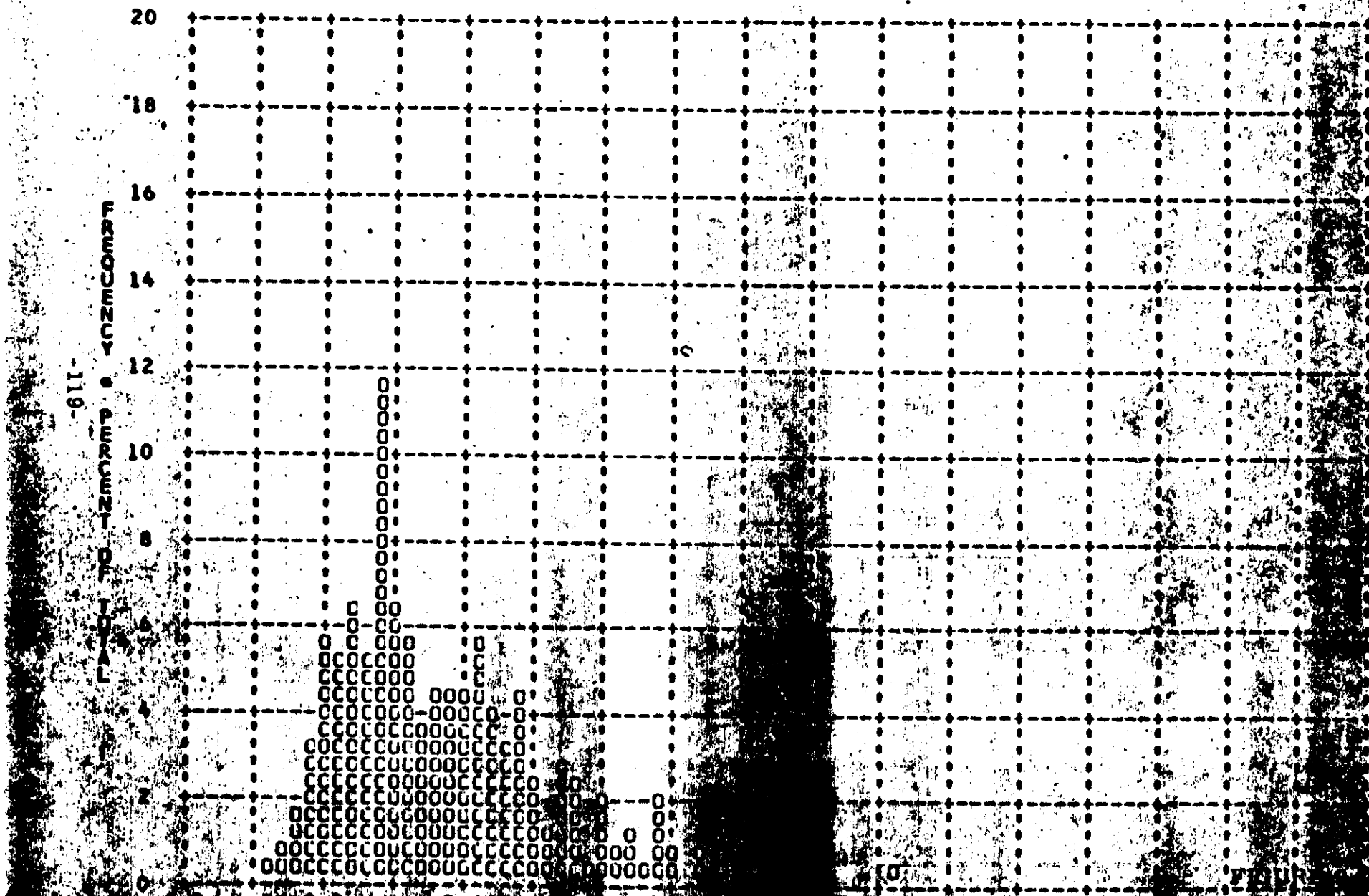
ARITH MEAN • 1.90 • MEDIAN • 1.95 • STD DEV • 0.23 • RANGE • 1.05 TO 2.23 WITH 95 SAMPLES



[redacted]

MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVE

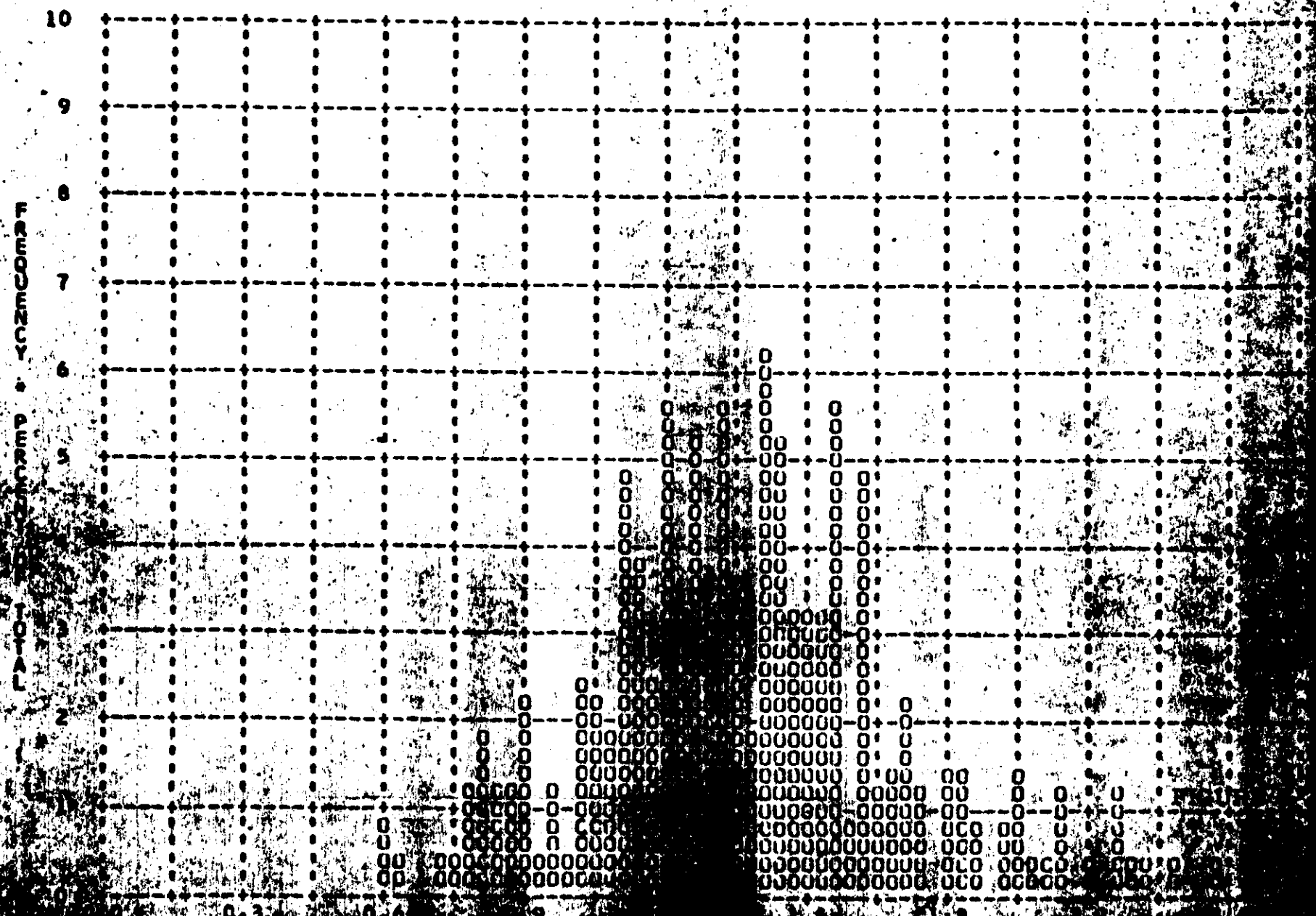
ARITH MEAN • 0.54 • MEDIAN • 0.50 • STD DEV • 0.22 • RANGE • 0.18 TO 1.52 WITH 296 SAMPLES



[redacted]

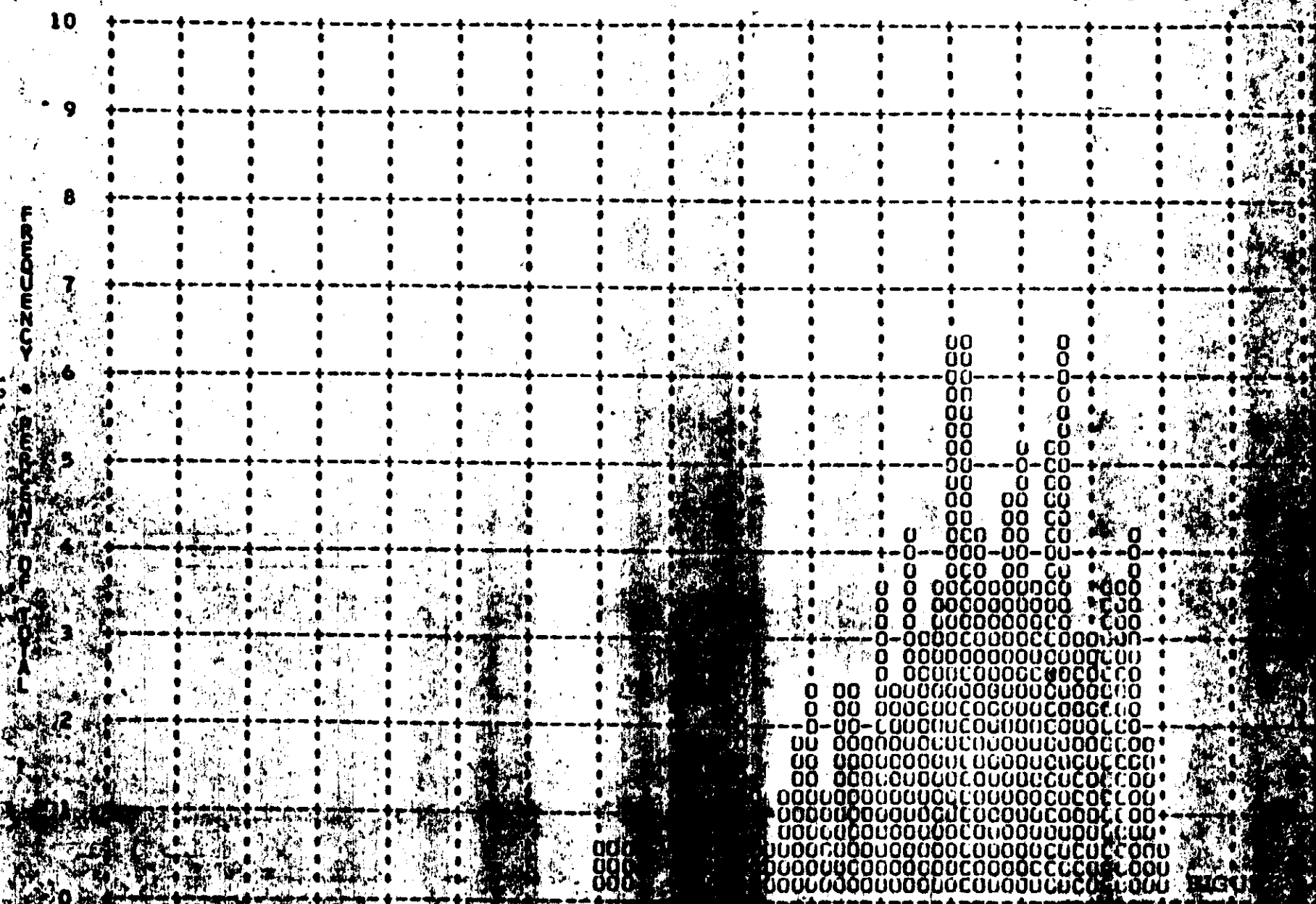
MISSION • 1021-2 • INSTR • FWD • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVE

ARITH MEAN • 1.36 • MEDIAN • 1.34 • STD DEV • 0.31 • RANGE • 0.60 TO 2.36 WITH 296 SAMPLES



MISSION • 1021-2 • INSTR • FRWD • 10-01-65 PLOT OF U MAX • CLOUD • PROCESSING • ALL LEVEL

ARITH MEAN • 1.82 • MEDIAN • 1.85 • STD DEV • 0.25 • RANGE • 1.05 TO 2.23 WITH 175 SAMPLES



[redacted]

MISSION • 1021-2 • INSTRUMENT • AP

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	1	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	1	0	0	1	0	0
0.36	0	0	0	0	0	0	2	0	0	2	0	0
0.37	0	0	0	0	0	0	1	0	0	1	0	0
0.38	0	0	0	0	0	0	1	0	0	1	0	0
0.39	0	0	0	0	0	0	1	0	0	1	0	0
0.40	0	0	0	0	0	0	1	0	0	1	0	0
0.41	0	0	0	0	0	0	1	0	0	1	0	0
0.42	0	0	0	0	0	0	1	0	0	1	0	0
0.43	0	0	0	0	0	0	1	0	0	1	0	0
0.44	0	0	0	1	0	0	1	0	0	1	0	0
0.45	0	0	0	1	0	0	1	0	0	1	0	0
0.46	0	0	0	0	0	0	1	0	0	1	0	0
0.47	0	0	0	0	0	0	1	0	0	1	0	0
0.48	0	0	0	0	0	0	2	0	0	2	0	0
0.49	0	0	0	0	0	0	1	0	0	1	0	0
0.50	0	0	0	0	0	0	3	0	0	3	0	0
SUBTOTAL	0	0	0	1	0	0	14	0	0	15	0	0

~~TOP SECRET~~ [redacted]

TABLE 9-8

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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	1	0	0	0	0	0	0	0	0
0.55	0	0	0	1	0	0	0	0	0	0	0	0
0.56	0	0	0	1	0	0	2	0	0	3	0	0
0.57	0	0	0	1	0	0	1	0	0	2	0	0
0.58	0	0	0	1	0	0	0	0	0	1	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	1	0	0	4	1	0
0.62	0	0	0	0	0	0	2	0	0	3	0	0
0.63	0	0	0	0	0	0	2	0	0	3	0	0
0.64	0	0	0	0	0	0	1	0	0	1	0	0
0.65	0	0	0	0	0	0	1	0	0	1	0	0
0.66	0	0	0	0	0	0	1	0	0	2	0	0
0.67	0	0	0	0	0	0	1	0	0	2	0	0
0.68	0	0	0	0	0	0	2	0	0	3	0	0
0.69	0	0	0	0	0	0	2	0	0	2	0	0
0.70	0	0	0	0	0	0	1	0	0	1	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	3	0	0	4	0	0	1	0	0
0.86	0	0	0	1	0	0	2	0	0	3	0	0
0.87	0	0	0	0	0	0	0	0	0	0	0	0
0.88	0	0	0	1	0	0	1	0	0	1	0	0
0.89	0	0	0	2	0	0	2	0	0	3	0	0
0.90	0	0	0	2	0	0	1	0	0	3	0	0
0.91	0	0	0	0	0	0	1	0	0	0	0	0
0.92	0	0	0	1	0	0	0	0	0	1	0	0
0.93	0	0	0	1	0	0	1	0	0	1	0	0
0.94	0	0	0	1	0	0	1	0	0	2	0	0
0.95	0	0	0	1	0	0	0	0	0	1	0	0
0.96	0	0	0	0	0	0	0	0	0	0	0	0
0.97	0	0	0	1	0	0	0	0	0	1	0	0
0.98	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	1	1	0	0	0	0	1	1	0
SUBTOTAL	0	0	0	28	1	0	25	4	0	53	5	0

~~TOP SECRET~~ [redacted]

TABLE 9-8

MISSION - 1021-2 INSTRUMENT

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.01	C	C	0	2	0	0	0	0	0	2	0	0
1.02	C	C	0	0	0	0	0	0	0	0	0	0
1.03	C	C	0	0	0	0	0	0	0	0	0	0
1.04	C	C	0	0	0	0	0	0	0	0	0	0
1.05	C	C	0	1	0	0	0	0	0	1	0	0
1.06	C	C	0	0	0	0	0	0	0	0	0	0
1.07	C	C	0	0	0	0	0	0	0	0	0	0
1.08	C	C	0	0	0	0	0	0	0	0	0	0
1.09	C	C	0	0	0	0	0	0	0	0	0	0
1.10	C	C	0	1	0	0	0	0	0	1	0	0
1.11	C	C	0	1	0	0	0	0	0	1	0	0
1.12	C	C	0	1	0	0	0	0	0	1	0	0
1.13	C	C	0	1	0	0	0	0	0	1	0	0
1.14	C	C	0	1	0	0	0	0	0	1	0	0
1.15	C	C	0	1	0	2	0	0	0	1	0	2
1.16	C	C	0	1	0	0	0	0	1	0	0	1
1.17	C	C	0	0	0	0	0	0	0	0	0	0
1.18	C	C	0	0	0	0	0	0	0	0	0	0
1.19	C	C	0	0	0	0	0	0	0	0	0	0
1.20	C	C	0	1	0	2	0	0	1	2	0	4
1.21	C	C	0	1	0	2	0	0	1	0	0	2
1.22	C	C	0	0	0	2	0	0	0	0	0	2
1.23	C	C	0	0	0	0	0	0	0	0	0	0
1.24	C	C	0	0	0	0	0	0	0	1	0	1
1.25	C	C	0	0	0	0	0	0	0	0	0	0
1.26	C	C	0	0	1	0	0	0	0	0	1	0
1.27	C	C	0	1	0	0	0	0	0	0	0	0
1.28	C	C	0	1	0	0	0	0	[illegible]			
1.29	C	C	0	0	0	0	0	0				
1.30	C	C	0	0	1	0	0	0				
1.31	C	C	0	0	0	0	0	0				
1.32	C	C	0	1	0	0	0	0				
1.33	C	C	0	0	1	0	0	0	0	0	0	0
1.34	C	C	0	0	1	0	0	0	0	1	0	0
1.35	C	C	0	0	0	0	0	0	0	0	0	0
1.36	C	C	0	0	0	0	0	0	0	0	0	0
1.37	C	C	0	0	1	0	0	0	0	0	0	1
1.38	C	C	0	1	0	0	0	0	0	1	0	1
1.39	C	C	0	1	0	0	0	0	0	1	0	1
1.40	C	C	0	0	1	0	0	0	0	3	0	4
1.41	C	C	0	0	1	0	0	0	0	0	0	0
1.42	C	C	0	0	0	1	0	0	0	1	0	2
1.43	C	C	0	0	0	1	0	0	0	1	0	2
1.44	C	C	0	0	0	1	0	0	0	1	0	2
1.45	C	C	0	0	0	1	0	0	0	2	0	3
1.46	C	C	0	0	0	1	0	0	0	1	0	2
1.47	C	C	0	0	0	0	0	0	0	1	0	1
1.48	C	C	0	0	0	0	0	0	0	1	0	1
1.49	C	C	0	0	0	3	0	1	0	0	0	3
1.50	C	C	0	0	3	1	0	0	0	0	3	1
SUBTOTAL	C	C	0	11	20	3	1	16	1	12	36	4

~~TOP SECRET~~ [redacted]

TABLE 9-8

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIA MIN	INTERMEDIA MAX	INTERMEDIA LIN	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
1.51	0	0	0	0	0	0	0	0	0	0	0	0
1.52	0	0	0	0	0	0	0	0	0	0	0	0
1.53	0	0	0	0	0	0	0	0	0	0	0	0
1.54	0	0	0	0	0	0	0	0	0	0	0	0
1.55	0	0	0	0	0	0	0	0	0	0	0	0
1.56	0	0	0	0	0	0	0	0	0	0	0	0
1.57	0	0	0	0	0	0	0	0	0	0	0	0
1.58	0	0	0	0	0	0	0	0	0	0	0	0
1.59	0	0	0	0	0	0	0	0	0	0	0	0
1.60	0	0	0	0	0	0	0	0	0	0	0	0
1.61	0	0	0	0	0	0	0	0	0	0	0	0
1.62	0	0	0	0	0	0	0	0	0	0	0	0
1.63	0	0	0	0	0	0	0	0	0	0	0	0
1.64	0	0	0	0	0	0	0	0	0	0	0	0
1.65	0	0	0	0	0	0	0	0	0	0	0	0
1.66	0	0	0	0	0	0	0	0	0	0	0	0
1.67	0	0	0	0	0	0	0	0	0	0	0	0
1.68	0	0	0	0	0	0	0	0	0	0	0	0
1.69	0	0	0	0	0	0	0	0	0	0	0	0
1.70	0	0	0	0	0	0	0	0	0	0	0	0
1.71	0	0	0	0	0	0	0	0	0	0	0	0
1.72	0	0	0	0	0	0	0	0	0	0	0	0
1.73	0	0	0	0	0	0	0	0	0	0	0	0
1.74	0	0	0	0	0	0	0	0	0	0	0	0
1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.76	0	0	0	0	0	0	0	0	0	0	0	0
1.77	0	0	0	0	0	0	0	0	0	0	0	0
1.78	0	0	0	0	0	0	0	0	0	0	0	0
1.79	0	0	0	0	0	0	0	0	0	0	0	0
1.80	0	0	0	0	0	0	0	0	0	0	0	0
1.81	0	0	0	0	0	0	0	0	0	0	0	0
1.82	0	0	0	0	0	0	0	0	0	0	0	0
1.83	0	0	0	0	0	0	0	0	0	0	0	0
1.84	0	0	0	0	0	0	0	0	0	0	0	0
1.85	0	0	0	0	0	0	0	0	0	0	0	0
1.86	0	0	0	0	0	0	0	0	0	0	0	0
1.87	0	0	0	0	0	0	0	0	0	0	0	0
1.88	0	0	0	0	0	0	0	0	0	0	0	0
1.89	0	0	0	0	0	0	0	0	0	0	0	0
1.90	0	0	0	0	0	0	0	0	0	0	0	0
1.91	0	0	0	0	0	0	0	0	0	0	0	0
1.92	0	0	0	0	0	0	0	0	0	0	0	0
1.93	0	0	0	0	0	0	0	0	0	0	0	0
1.94	0	0	0	0	0	0	0	0	0	0	0	0
1.95	0	0	0	0	0	0	0	0	0	0	0	0
1.96	0	0	0	0	0	0	0	0	0	0	0	0
1.97	0	0	0	0	0	0	0	0	0	0	0	0
1.98	0	0	0	0	0	0	0	0	0	0	0	0
1.99	0	0	0	0	0	0	0	0	0	0	0	0
2.00	0	0	0	0	0	2	0	0	1	0	0	3
SUBTOTAL	0	0	0	0	19	14	0	14	13	0	33	27

~~TOP SECRET~~ [redacted]

TABLE 9-8

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIN	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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	1	0	6	17	0	6	18

~~TOP SECRET~~ [redacted]

TABLE 9-8

[redacted]

DENSITY VALUE	PRIMARY MIN	PRIMARY MAX	PRIMARY LIM	INTERMEDIATE MIN	INTERMEDIATE MAX	INTERMEDIATE LIM	[illegible]	[illegible]	[illegible]	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	40	40	18	40	40	31	80	80	149

MISSION 1021-2 INSTR - AFT 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED
PRIMARY	0	0 PC	0 PC
INTERMEDIATE	40	0 PC	0 PC
FULL	40	13 PC	0 PC
ALL LEVELS	80	6 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	[redacted]
FULL	0.18 AND UP	0.01-0.39	----------	0.40-0.90	0.91-1.69	[redacted]

~~TOP SECRET~~ [redacted]

TABLE 9-8

MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • INTERMED

ARITH MEAN • 0.86 • MEDIAN • 0.85 • STD DEV • 0.24 • RANGE • 0.44 TO 1.38 WITH 40 SAMPLES

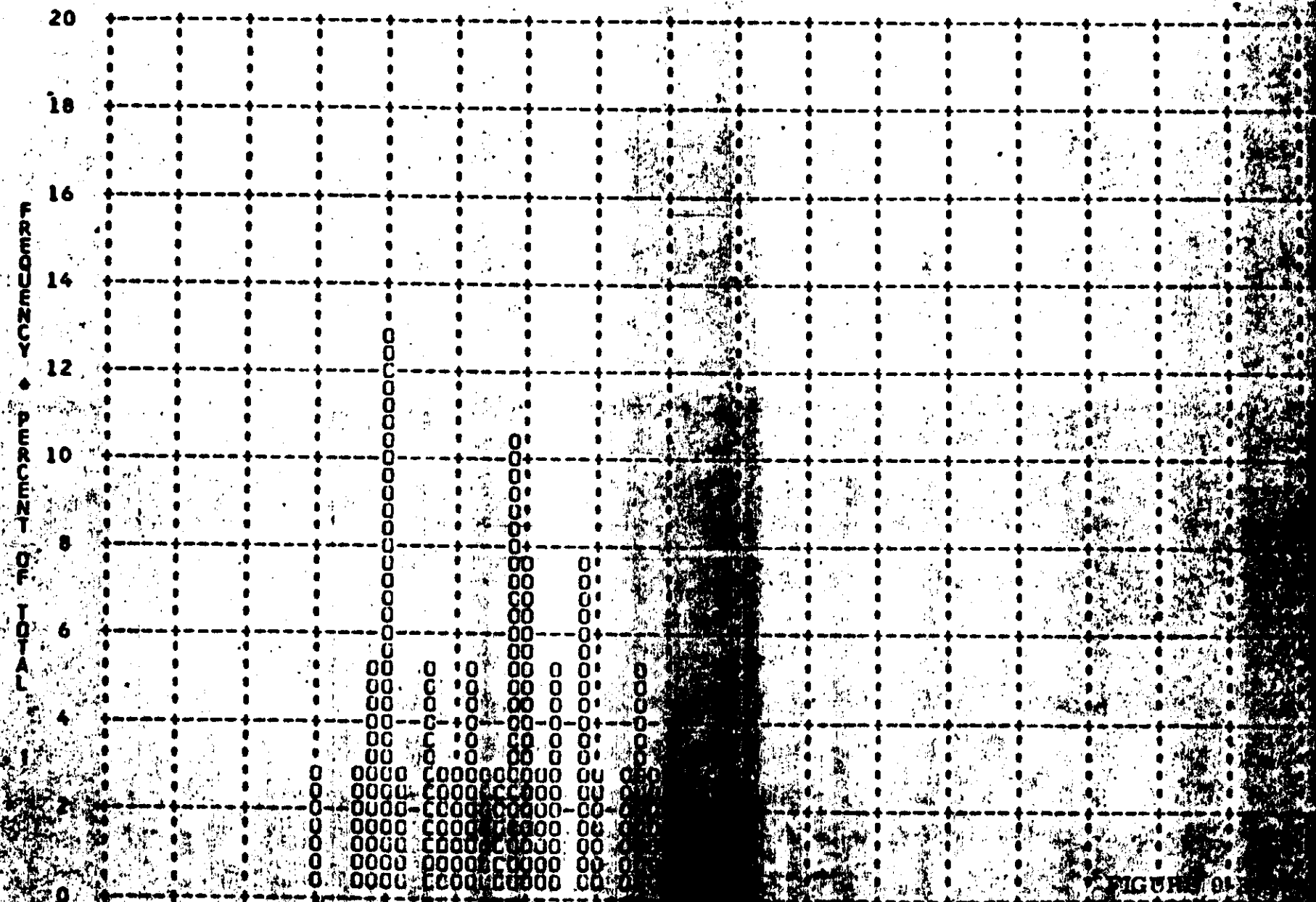
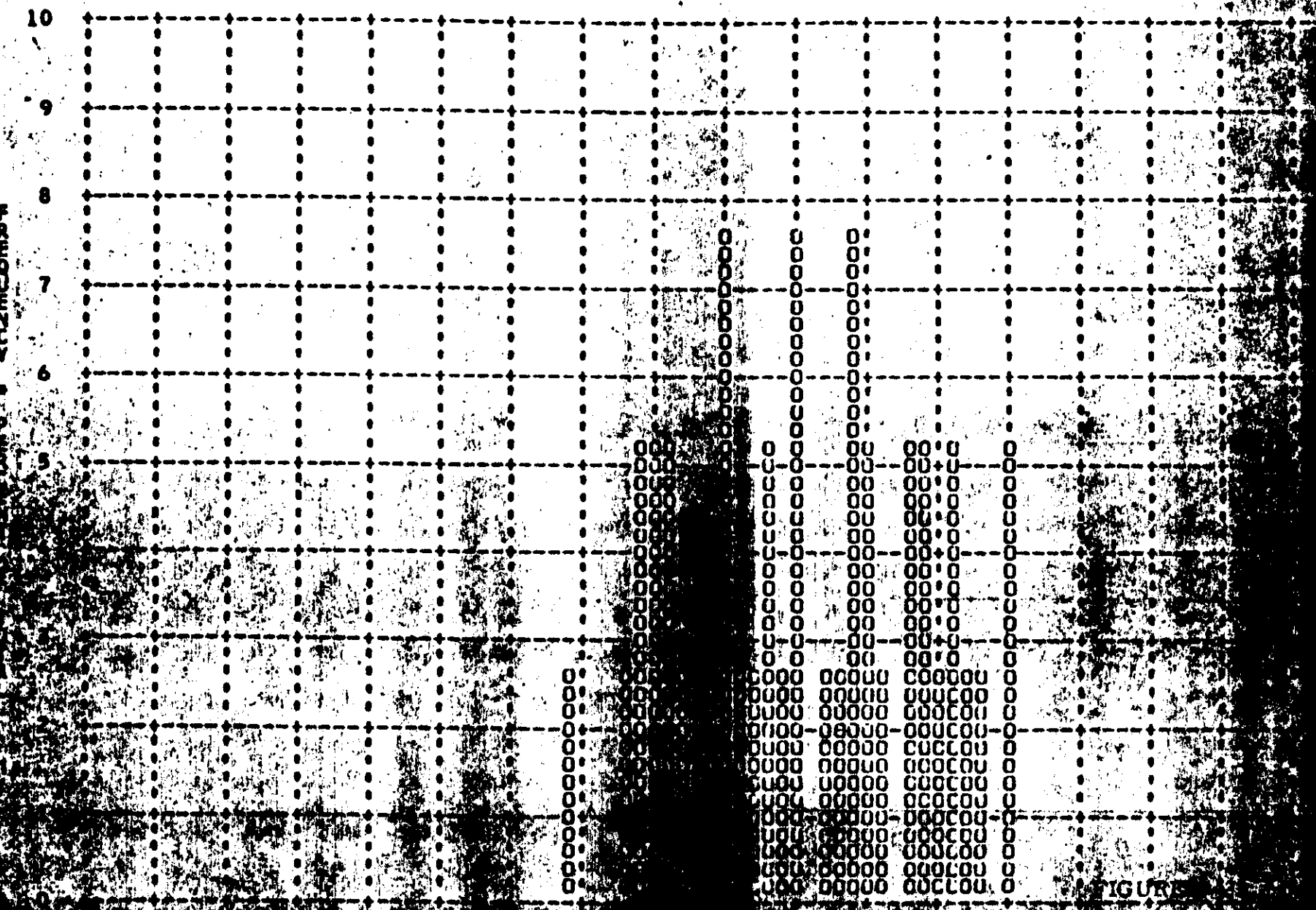


FIGURE 01

[redacted]

MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • INTERMED

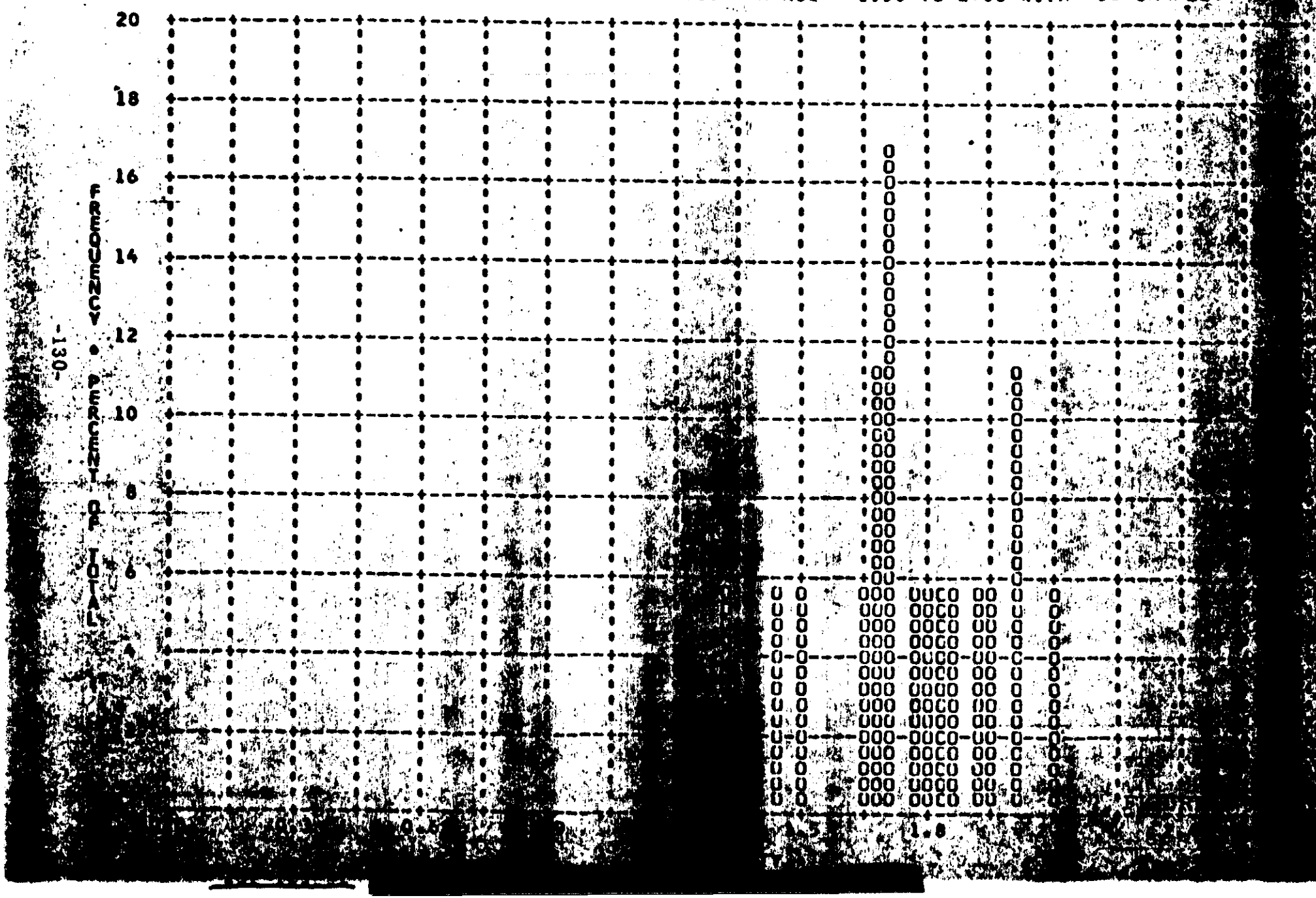
ARITH MEAN • 1.51 • MEDIAN • 1.50 • STD DEV • 0.25 • RANGE • 1.00 TO 1.95 WITH 40 SAMPLES

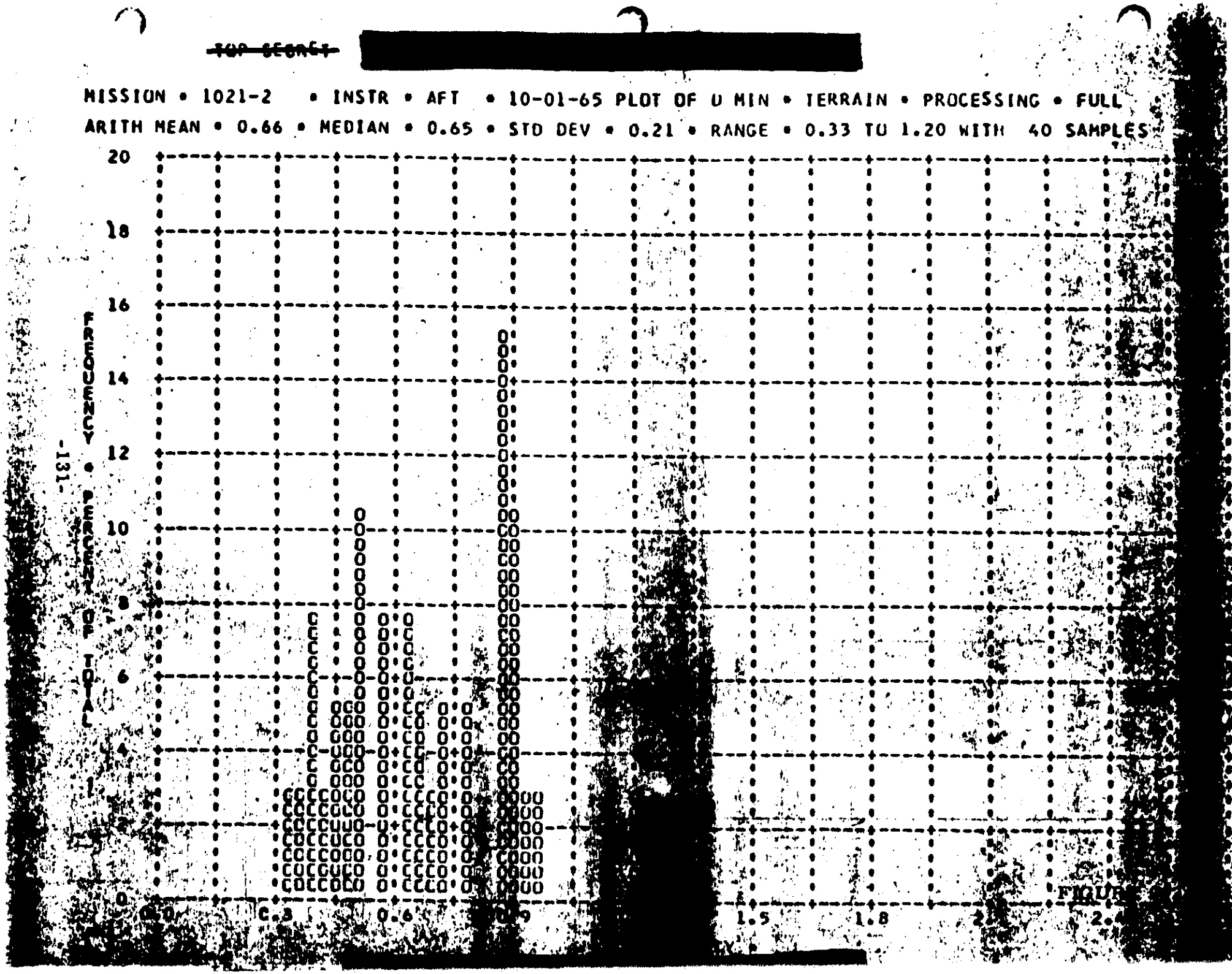


FIGURE

MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • INTERMED

ARITH MEAN • 1.75 • MEDIAN • 1.76 • STD DEV • 0.21 • RANGE • 1.30 TO 2.08 WITH 18 SAMPLES

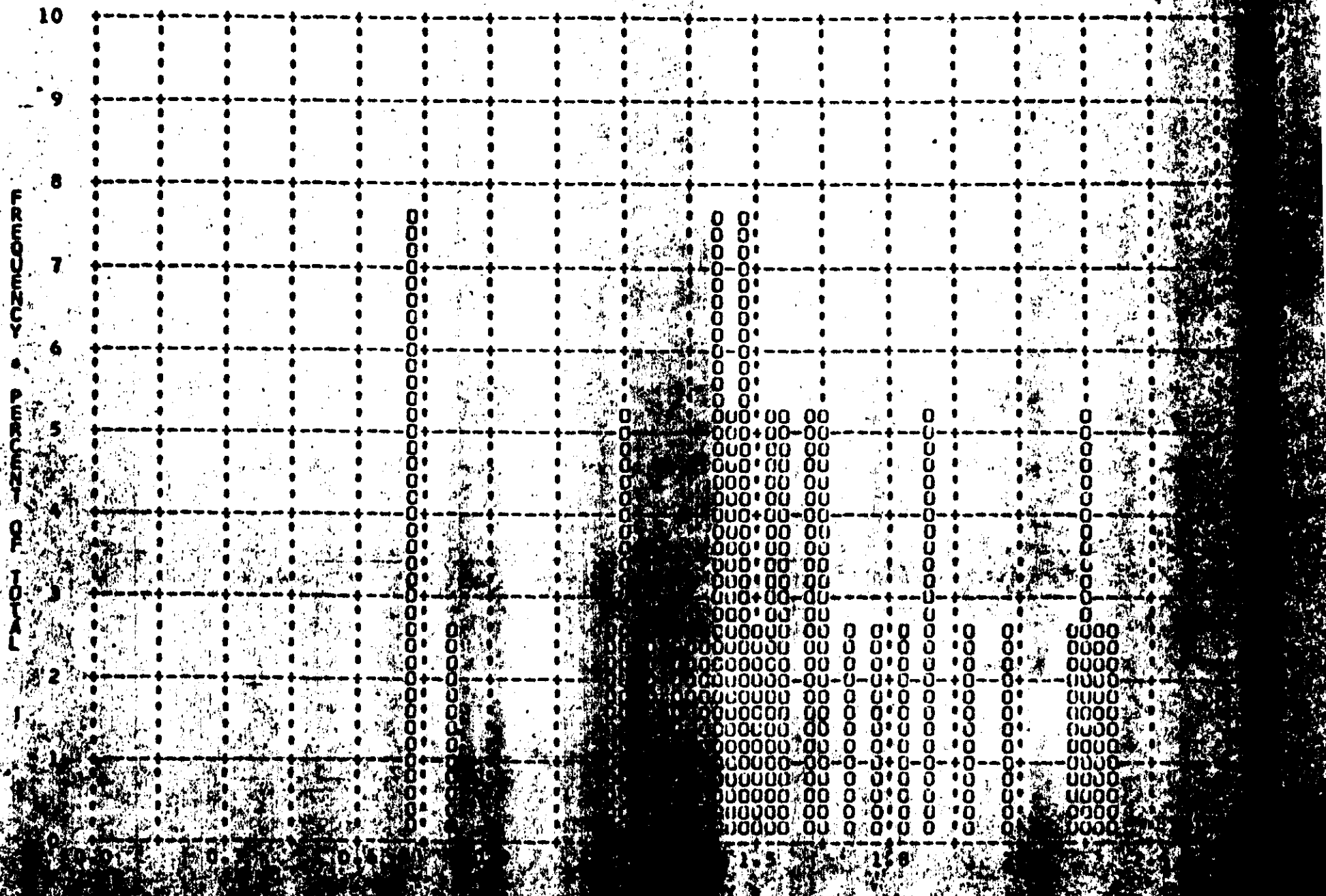



MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF U MIN • TERRAIN • PROCESSING • FULL
ARITH MEAN • 0.66 • MEDIAN • 0.65 • STD DEV • 0.21 • RANGE • 0.33 TO 1.20 WITH 40 SAMPLES
FREQUENCY • PERCENT OF TOTAL
20
18
16
14
12
10
8
6
4
2
0
0.0
0.3
0.6
0.9
1.5
1.8
2.1
2.4

FIGURE

MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • FULL

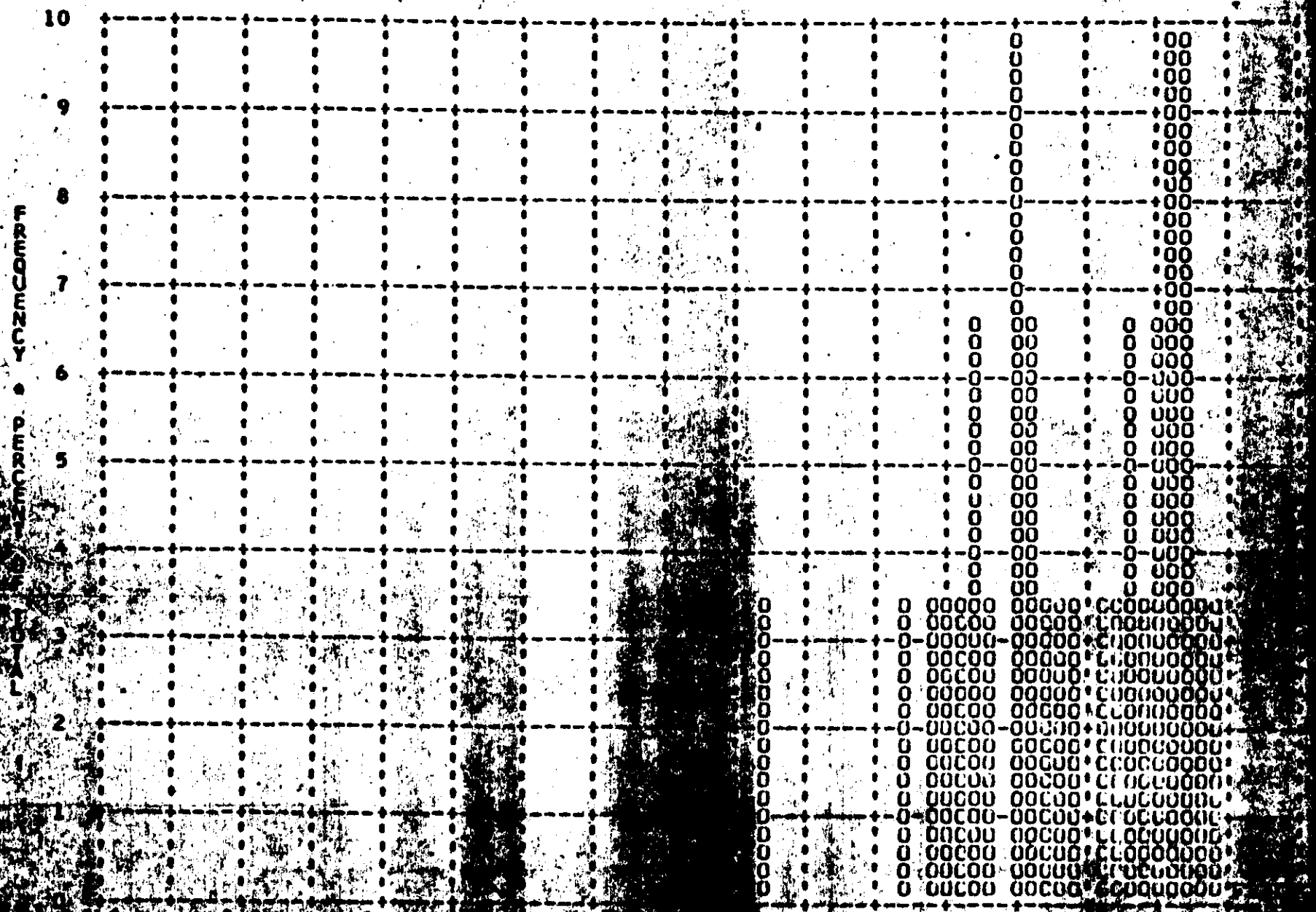
ARITH MEAN • 1.54 • MEDIAN • 1.52 • STD DEV • 0.42 • RANGE • 0.70 TO 2.30 WITH 40 SAMPLES



[redacted]

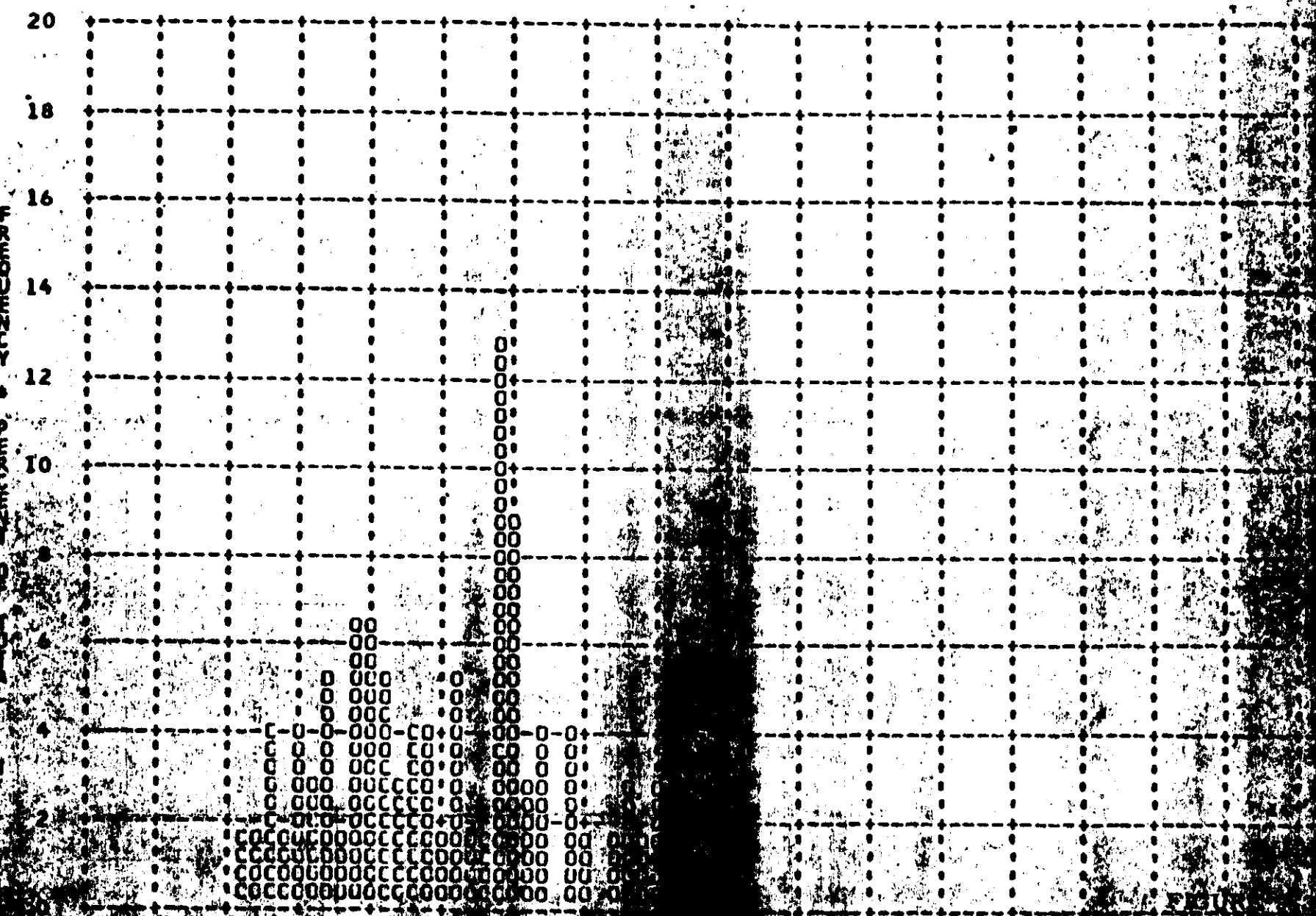
MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • FULL

ARITH MEAN • 2.05 • MEDIAN • 2.05 • STD DEV • 0.23 • RANGE • 1.39 TO 2.36 WITH 31 SAMPLES



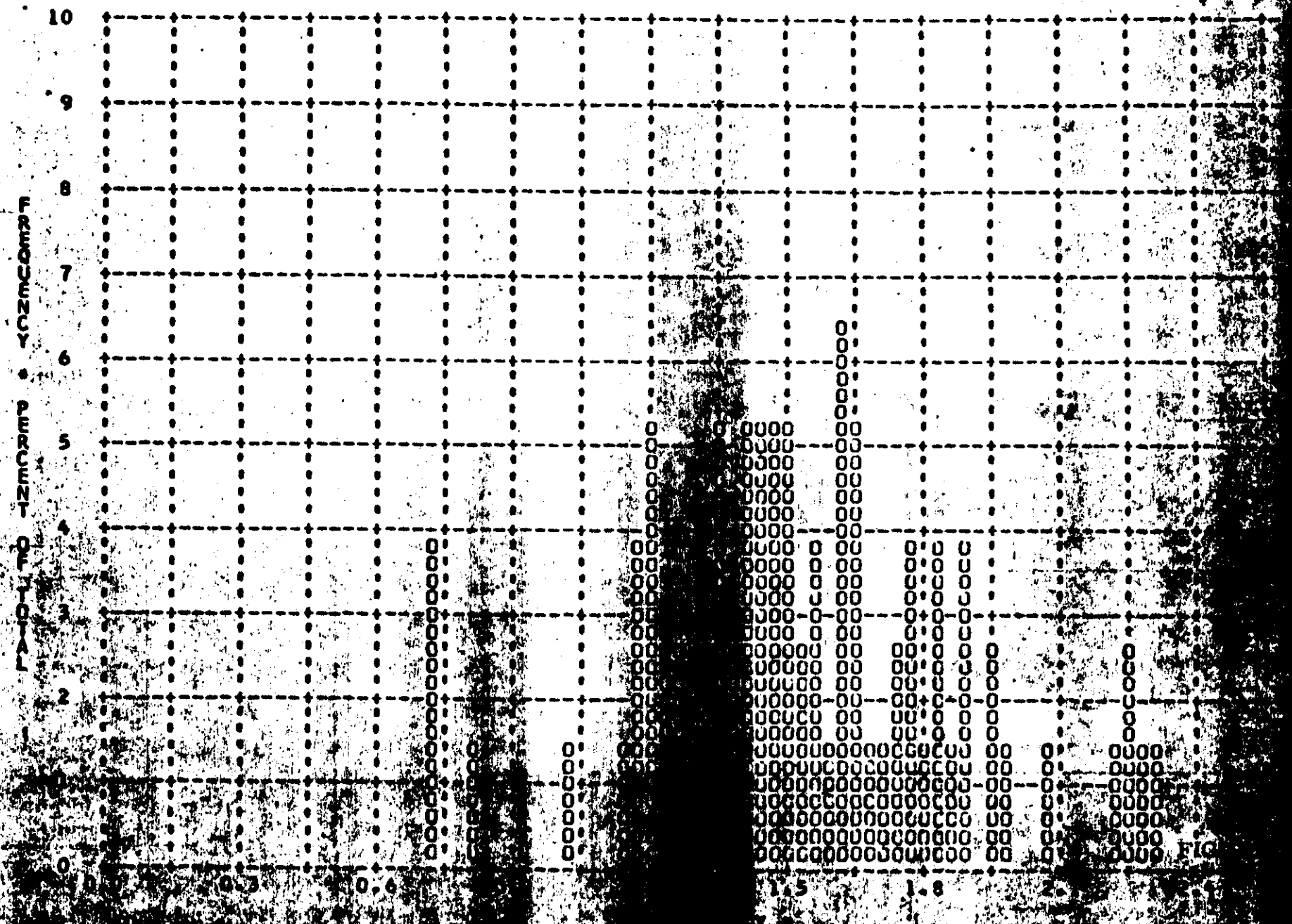
MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MIN • TERRAIN • PROCESSING • ALL LEVEL

ARITH MEAN • 0.76 • MEDIAN • 0.76 • STD DEV • 0.24 • RANGE • 0.33 TO 1.38 WITH 80 SAMPLES



MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • TERRAIN • PROCESSING • ALL LEVEL

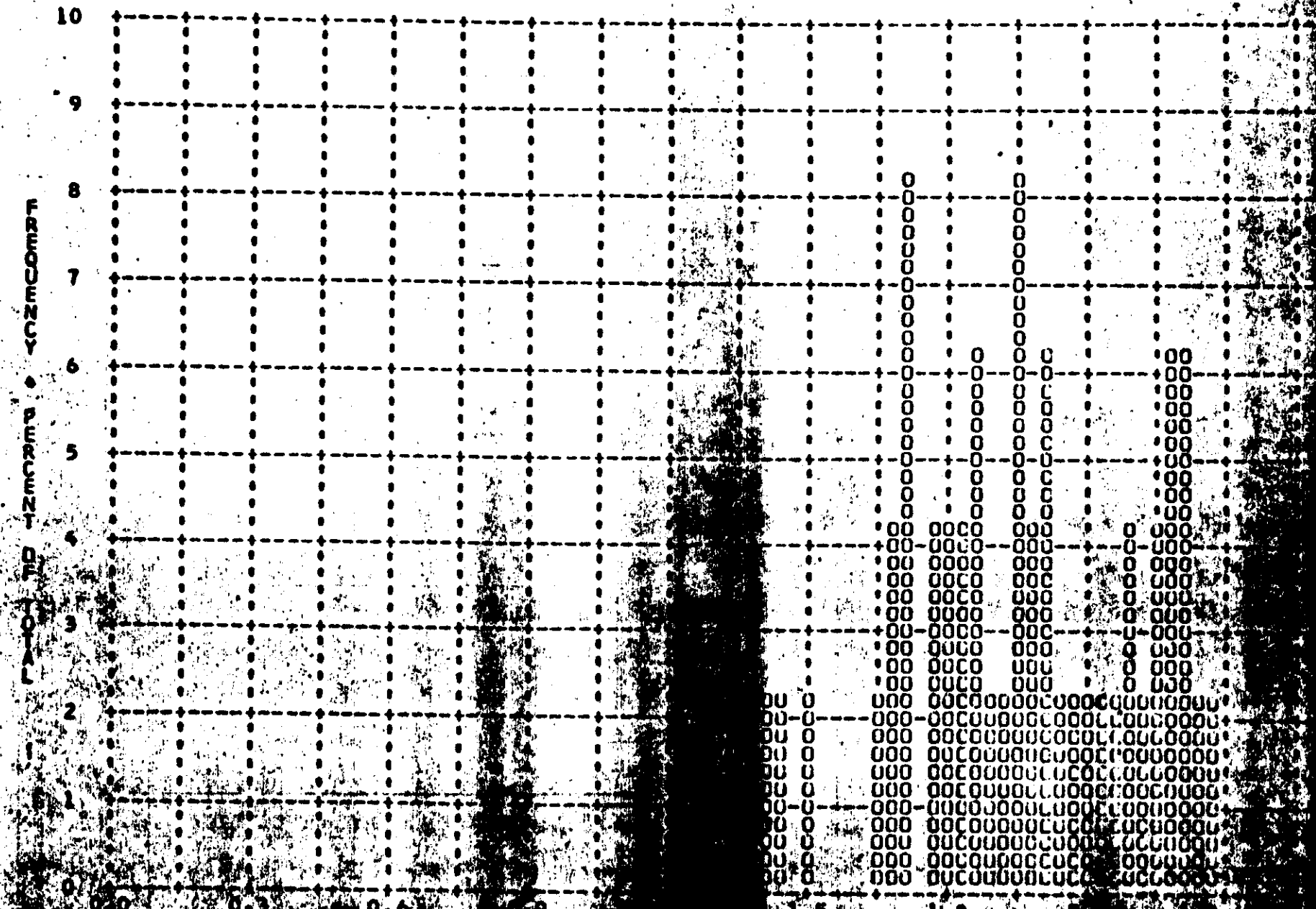
ARITH MEAN • 1.52 • MEDIAN • 1.50 • STD DEV • 0.34 • RANGE • 0.70 TO 2.30 WITH 80 SAMPLES



[redacted]

MISSION • 1021-2 • INSTR • AFT • 10-01-65 PLOT OF D MAX • CLOUD • PROCESSING • ALL LEVEL

ARITH MEAN • 1.94 • MEDIAN • 1.94 • STD DEV • 0.26 • RANGE • 1.30 TO 2.36 WITH 49 SAMPLES



MISSION 1021-1 INSTR - FRWD 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	2	0 PC	50 PC	50 PC	0 PC	0 PC
INTERMEDIATE	137	0 PC	16 PC	63 PC	17 PC	4 PC
FULL	122	10 PC	0 PC	84 PC	6 PC	1 PC
ALL LEVELS	261	5 PC	9 PC	72 PC	11 PC	3 PC

MISSION 1021-1 INSTR - AFT 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	148	1 PC	9 PC	68 PC	18 PC	5 PC
FULL	110	10 PC	0 PC	85 PC	5 PC	0 PC
ALL LEVELS	258	5 PC	5 PC	75 PC	12 PC	3 PC

MISSION 1021-2 INSTR - FRWD 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	168	2 PC	23 PC	65 PC	10 PC	1 PC
FULL	128	30 PC	0 PC	68 PC	2 PC	0 PC
ALL LEVELS	296	14 PC	13 PC	66 PC	6 PC	0 PC

MISSION 1021-2 INSTR - AFT 10-01-65 PROCESSING AND EXPOSURE ANALYSIS

PROCESS LEVEL	SAMPLE SIZE	UNDER EXPOSED	UNDER PROCESSED	CORRECT EXP+PROC	OVER PROCESSED	OVER EXPOSED
PRIMARY	0	0 PC	0 PC	0 PC	0 PC	0 PC
INTERMEDIATE	40	0 PC	0 PC	63 PC	35 PC	2 PC
FULL	40	13 PC	0 PC	80 PC	7 PC	0 PC
ALL LEVELS	80	6 PC	0 PC	71 PC	21 PC	1 PC

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

TABLE 8-9

SECTION 10

PERFORMANCE MEASUREMENTS

The photography acquired by both panoramic cameras during Mission 1021-1 received an MIP rating of 85. A summary is tabulated below of the average visual RES values and MTF/AIM resolution values measured by AFSPPL and the MTV/AIM resolution values made by [redacted] The microdensimeter slit used by both AFSPPL and [redacted] was 80 microns long by one micron wide.

Mission	Camera	Visual RES	AFSPPL All	[redacted] All	[redacted] High
1021-1	FWD	88	77	86	99
1021-1	AFT	90	90	98	109
1021-2	FWD	85	74	88	112
1021-2	AFT	74	62	-	-

The [redacted] data normally contains three readings of the same edge the tabulation shows both the average of all the readings and the average of the highest readings of each edge. The value of the average of all readings is questionable as no valid reason can be ascertained for a measurement being greater than the resolution recorded however many factors can reduce the reading.

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

SECTION 11

OBSERVED DATA

The ground resolution at the Indian Springs and Parumph targets was greater than the displayed bars.

The Edwards AFB medium contrast target, available only in the Slave camera photography, resolved 12.7 feet along track and 9 feet in the cross track direction.

PERFORMANCE VALUES

A. Observed Targets

Objects that could be detected by the Evaluation Team were generally in the same category as Mission 1019.

B. Ground Targets

The photographic operations conducted over the United States and the targets acquired are:

Pass	Target
D-62	No targets observed; all clouds and haze
D-79	Fort Huachuca, Arizona
D-95	Fort Huachuca, Arizona
D-111	Indian Springs and Parumph, Nevada
D-127	Edwards AFB, California
D-143	No targets; California area. MIP target in frame 14.

The engineering photography over Fort Huachuca during pass D-79 produced a 10 foot ground resolution with the Slave camera and a 12.5 foot resolution with the Master. The coverage of this same target during pass D-95 placed the target in the bonus area at the frame end.

SECTION 12

MISSION 1021-1 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 63
Index Reseau	69
Stellar Reseau	69

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

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

C. POST FLIGHT EVALUATION

The Stellar and Index cameras both produced 380 frames of photography during the mission. Both cameras produced nine frames of multiple exposure starting with frame 360. Frames 360, 361, 362 and 364 contained three exposures, frames 371 and 378 were double exposures, frames 374 and 379 had six exposures, and frame 380 had four exposures. All intervening frames were properly exposed. It is most probable that an intermittent failure of the metering solenoid created this problem.

A continuous narrow band of fog was present near the correlation lamp during the first 75% of the Stellar film. The band appeared to be the result of a pressure mark rather than a light leak. The band had a slight waver. Subsequent investigation has not revealed the cause of this problem. A similar pattern was also present in the Index film near the camera serial number.

Newton rings were common throughout the Stellar photography. Foreign matter, probably flakes of emulsion, were adhered to both surfaces of the Index camera original negative and many small obstructions, some in focus and some not, were noted throughout the mission. It may be possible that these anomalies and the pressure markings are related and that more care must be exercised in cleaning the cameras before flight.

The quality of the Stellar camera photography was quite good with approximately 45 stellar images in most formats. The extended baffle produced an anticipated flare and vignetting of approximately 35%. Some star images were detectable within the flared area. The Index photography was considered fair as the overall contrast was lower than usual.

SECTION 13

MISSION 1021-2 STELLAR-INDEX CAMERA

A. COMPONENT ASSIGNMENT

Component	Serial Number
Camera	D 25
Index Reseau	27
Stellar Reseau	25

B. CAMERA DATA AND FLIGHT SETTINGS

Stellar Camera:

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

Index Camera:

Lens	39mm f/4.5
Exposure Time	1/500 second
Filter Type	Wratten 21
Film Type	Eastman Type 3400

C. POST FLIGHT EVALUATION

The Stellar camera produced 421 photographic frames and the Index camera produced 423 frames during the mission. Both cameras depleted their supply spools during pass D152. The electro-mechanical operation of the cameras was normal throughout the mission. The Stellar photography was excellent while the Index photography was fair to good.

The flare in the Stellar formats was the lowest seen to date. Generally no flare was present from the extended baffle and the only flare was from the baffle side curtains. A narrow, fog streak was present throughout the mission approximately 0.1 inches from the correlation lamp film edge. It was not possible to ascertain whether the streak was the result of a pressure mark or static discharge and whether it was camera associated. Some static discharge was observed intermittently during the mission from frame 220 to the mission end. Frame 387 was completely obliterated by a static burst.

The resolution in all corners of the Index photography was noticeably lower than near the center of format. This occurs in all Index cameras to a certain extent however the particular lens used in this camera did display a greater degree of astigmatism at the edge of the field than normally observed. The pre-flight camera resolution was within specifications.

SECTION 14

VEHICLE ATTITUDE

The vehicle attitude errors for Mission 1021-1 were derived from the reduction of the Stellar camera photography. This attitude data is supplied to A/P by NPIC.

The attitude errors for each frame and the attitude control rates are calculated at the A/P computer facility. The computer also plots the frequency distribution of the rates and errors. Figures 14-1 through 14-6 show these distributions for Mission 1021-1 and Figures 14-7 through 14-10 for Mission 1021-2.

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

	Mission 1021-1		Mission 2021-2	
Value	90%	Range	90%	Range
Pitch Error (^{o})	0.55	-0.50 to +1.05	0.59	-0.65 to +1.00
Roll Error (^{o})	0.37	-0.65 to +0.85	0.65	-1.00 to +0.60
Yaw Error (^{o})	0.81	-0.95 to +1.25	-	-
Pitch Rate (^{o}/hr)	34.9	-70 to +65	44.7	-95 to +95
Roll Rate (^{o}/hr)	32.6	-54 to +70	50.6	-95 to +100
Yaw Rate (^{o}/hr)	26.2	-42 to +44		

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.

The attitude error data for Mission 1021-2 was obtained from horizon camera imagery. The Stellar camera functioned properly however the malfunction of the Master camera film transport precluded the time correlation of the stellar photography. If the S/I slew pulse were also recorded on the Slave camera time track the stellar photography would have been usable.

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

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

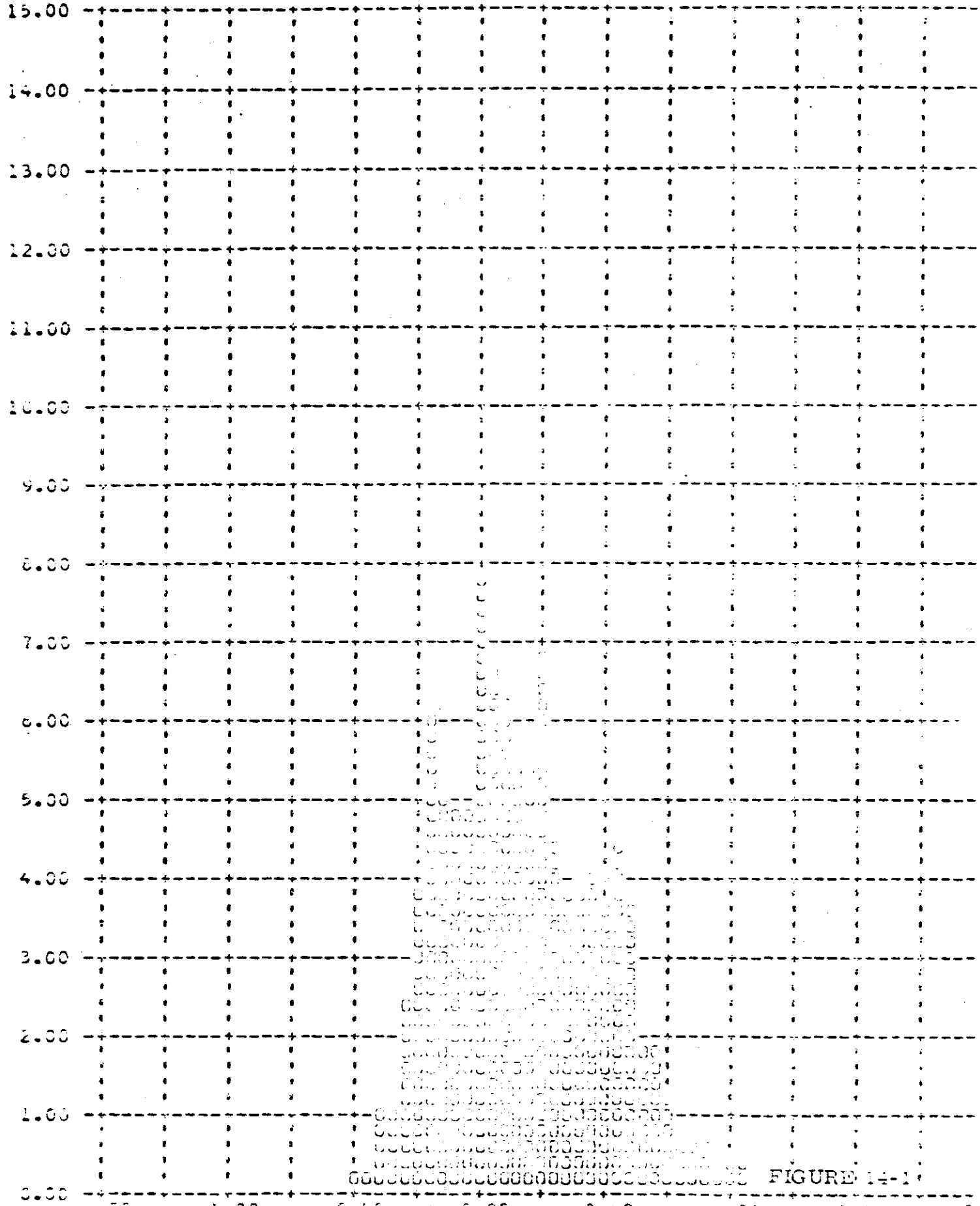


FIGURE 14-1

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH UP CYCLE

Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - [illegible]

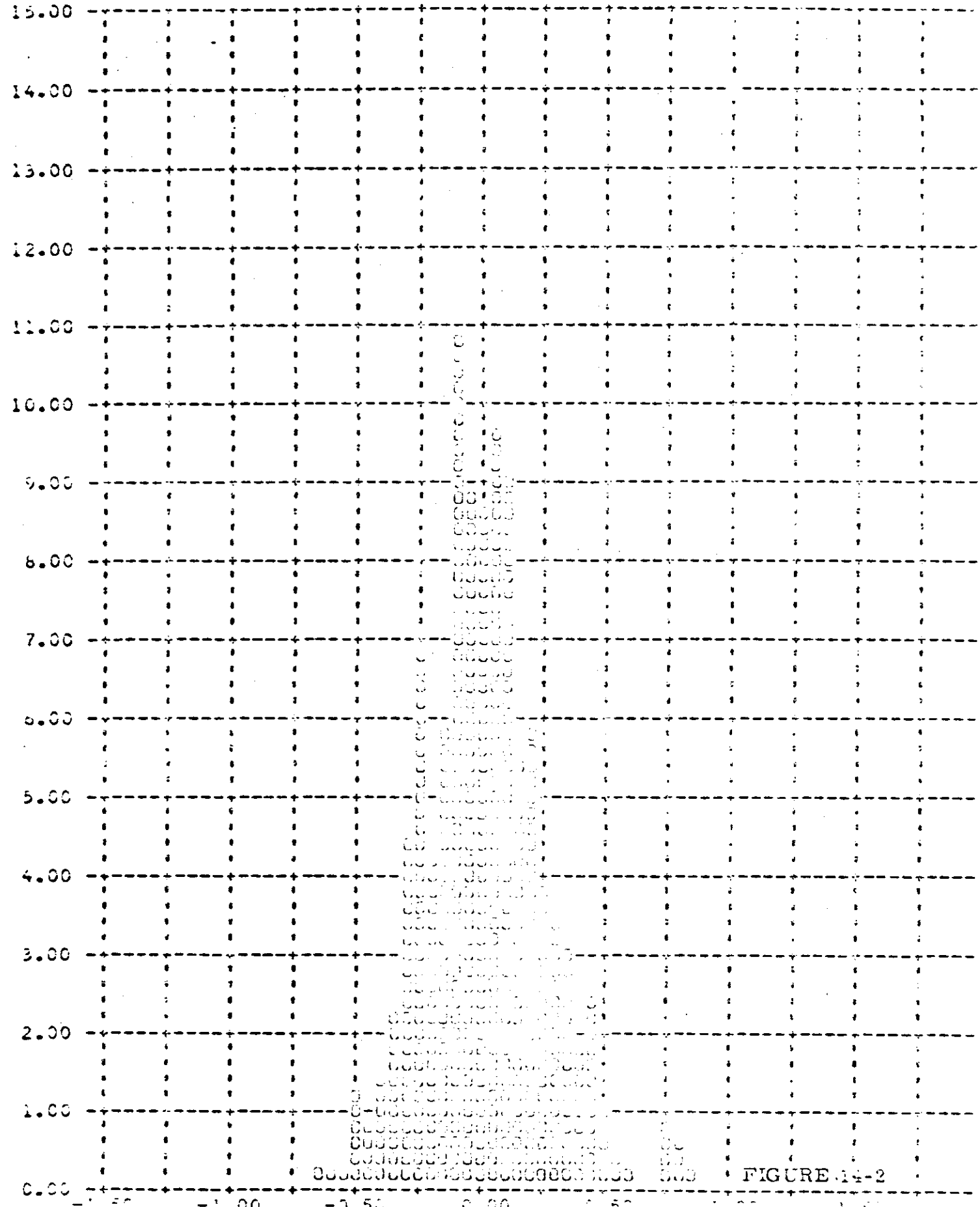


FIGURE 14-2

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 0.

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

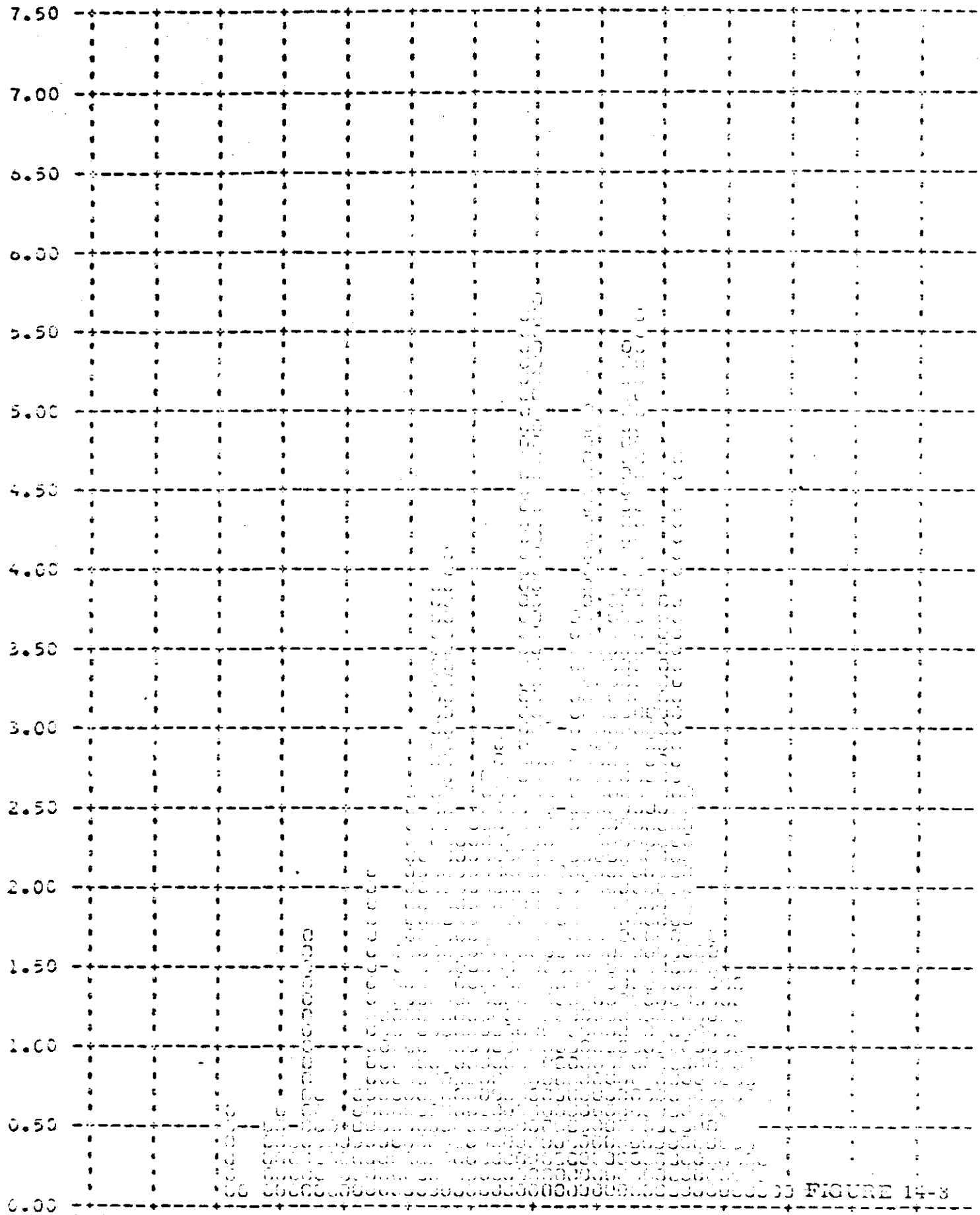


FIGURE 14-8

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED NO PERCENT = ...

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

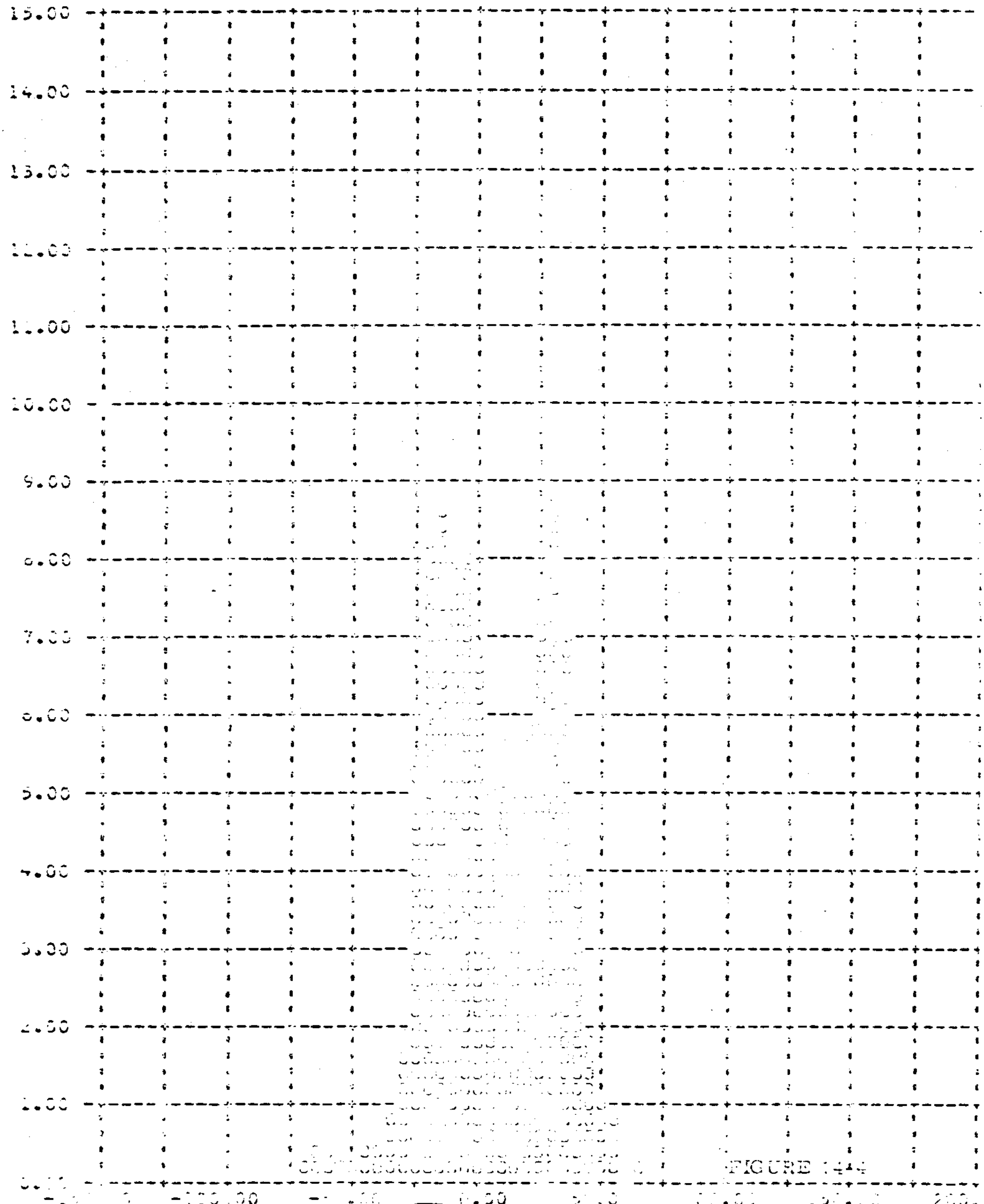


FIGURE 144

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH GP OMITTED

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

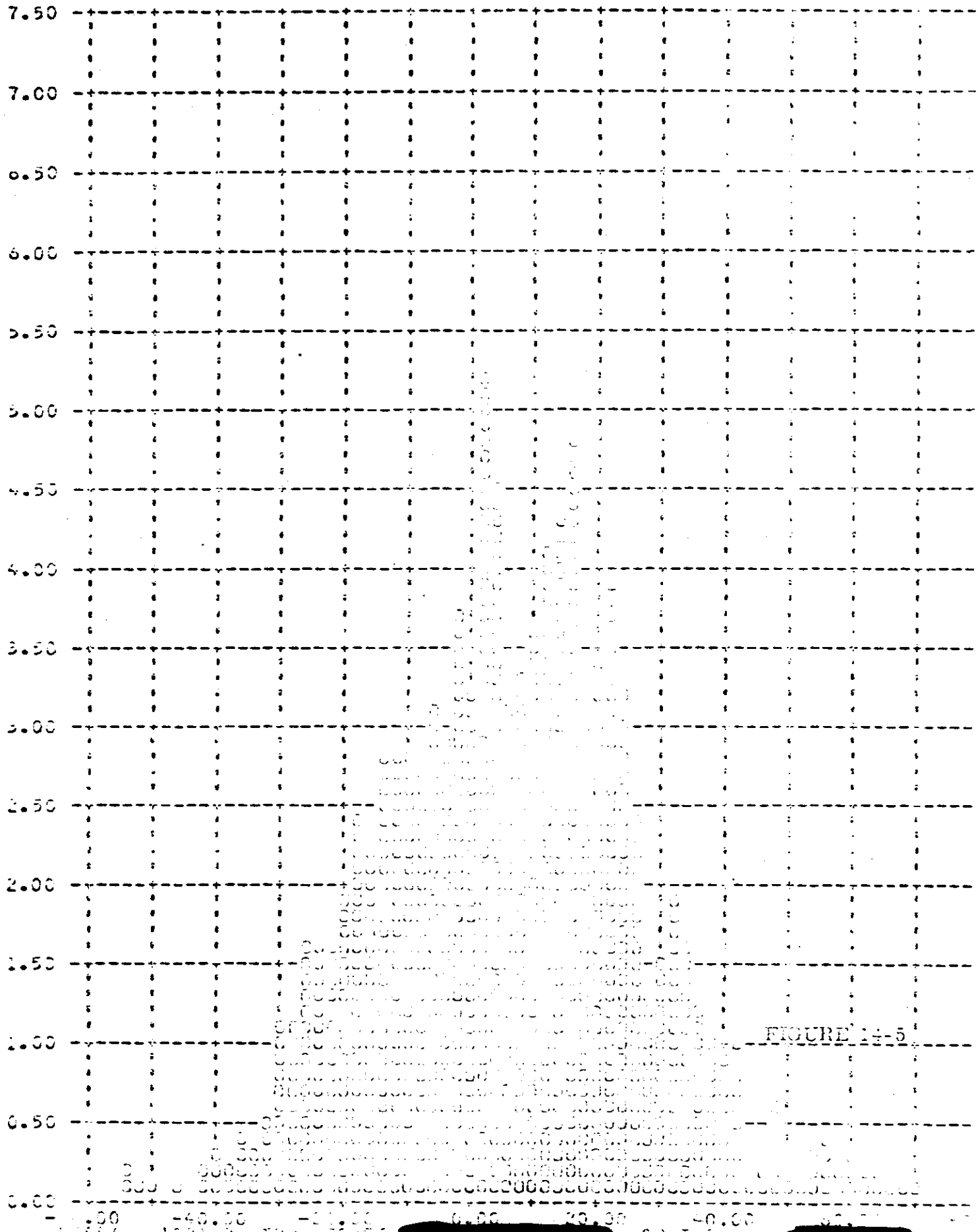


FIGURE 14-5

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH UP OMITTED TO REDUCE [illegible]

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

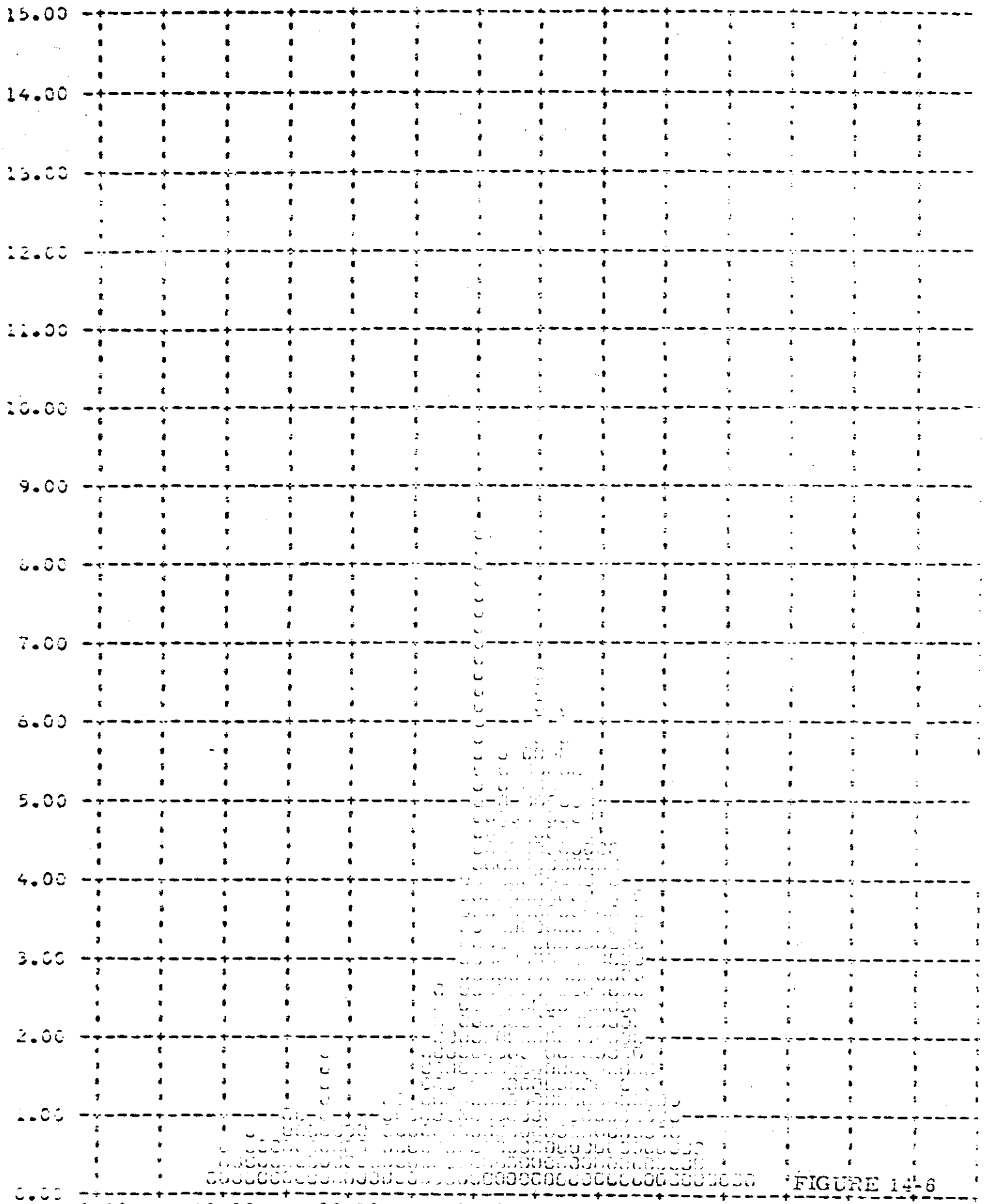


FIGURE 14-6

-2. 8 BUCKET - FWD INSTR FRAMES 1-6 OF EACH UP OMITTED 90 PERCENT = 0.

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

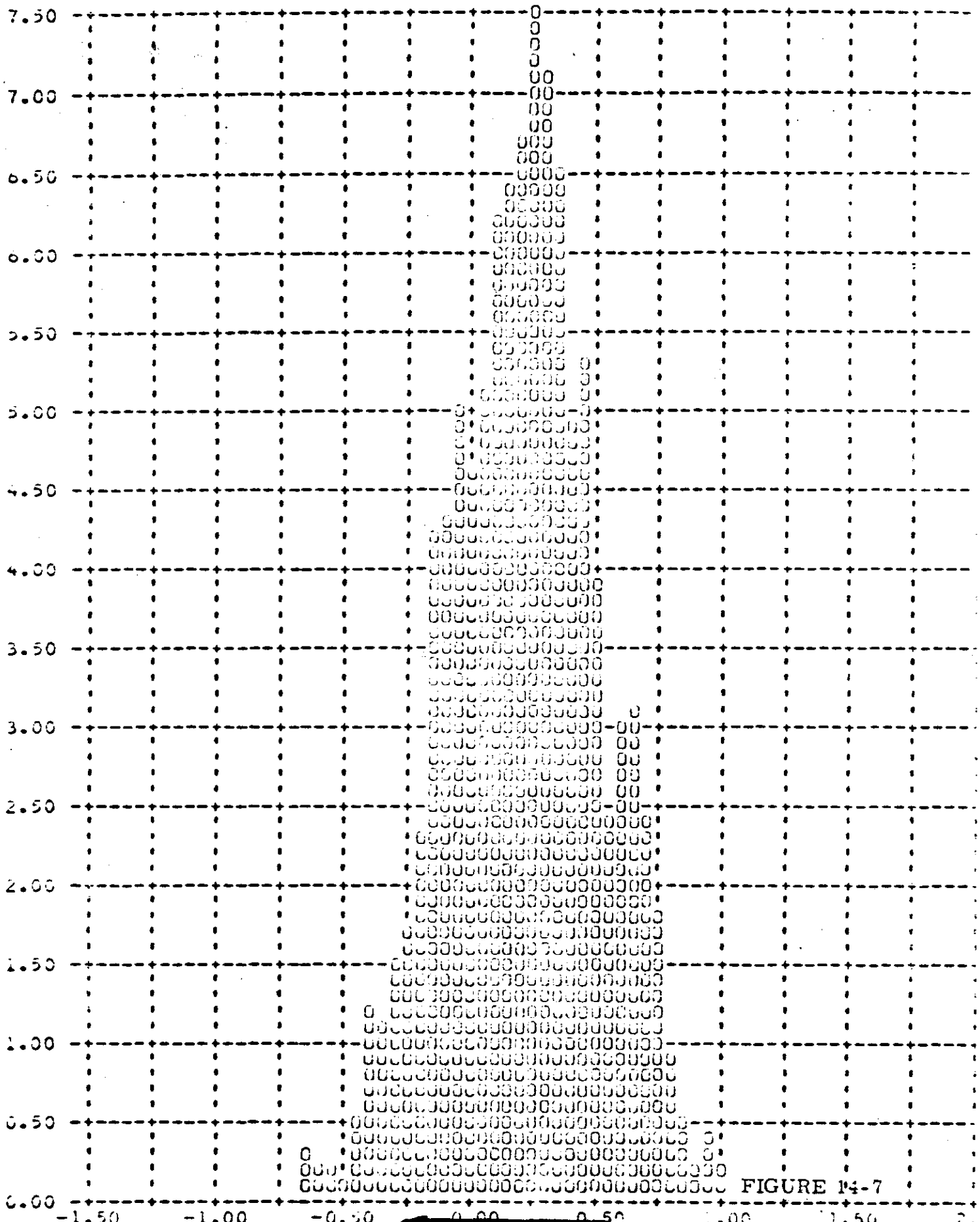


FIGURE P4-7

J-21 B BUCKET - FWD INSTR FRAMES 1-6 OF EACH UP DUMPED [illegible]

Y ROLL ANGLE ERROR - DEGREES (X) VERSUS FREQUENCY - [illegible]

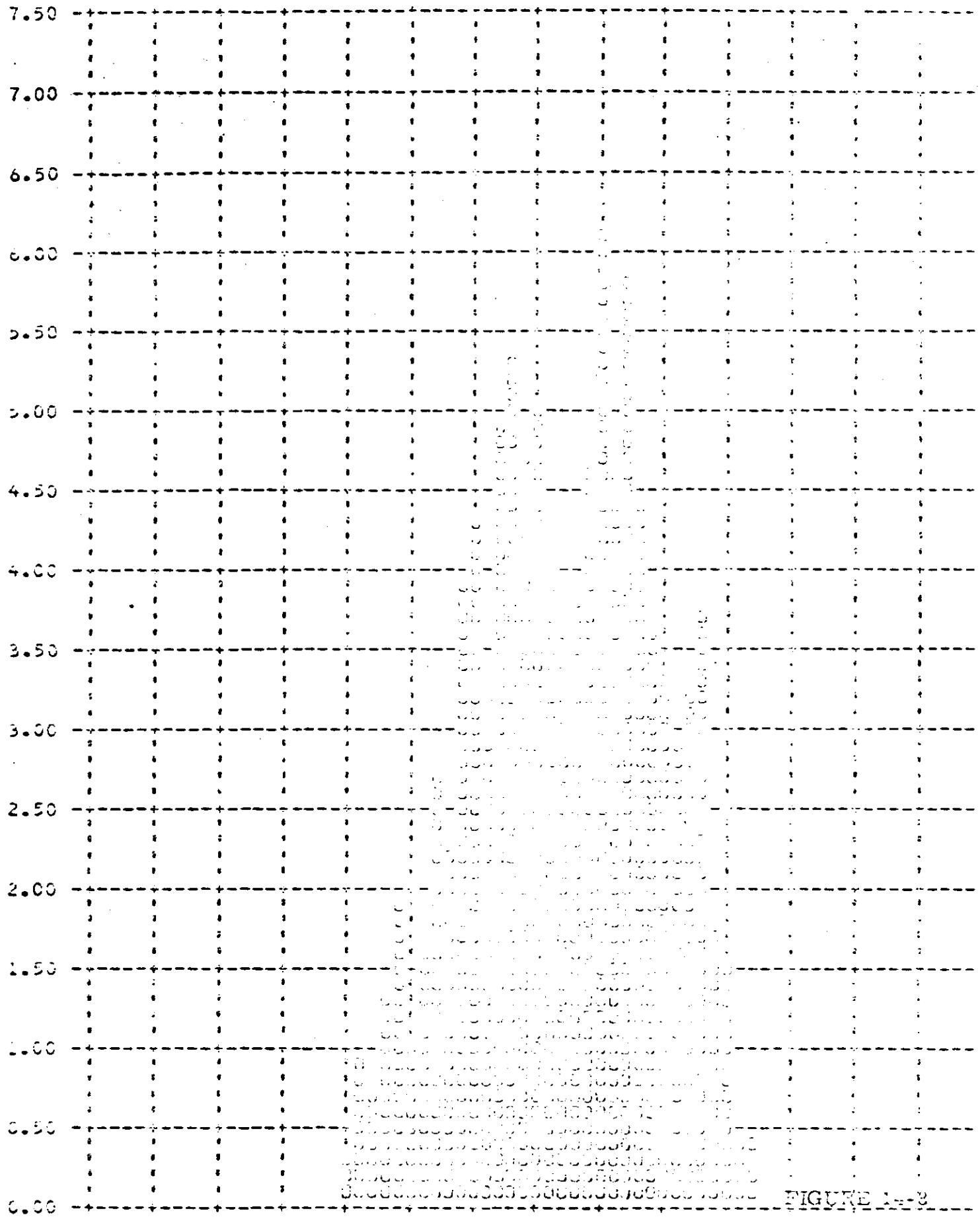


FIGURE 1-8

J-21 B BUCKET - FWD INSTR FRAMES 1-6 OF EACH OP OMITTED [redacted]

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

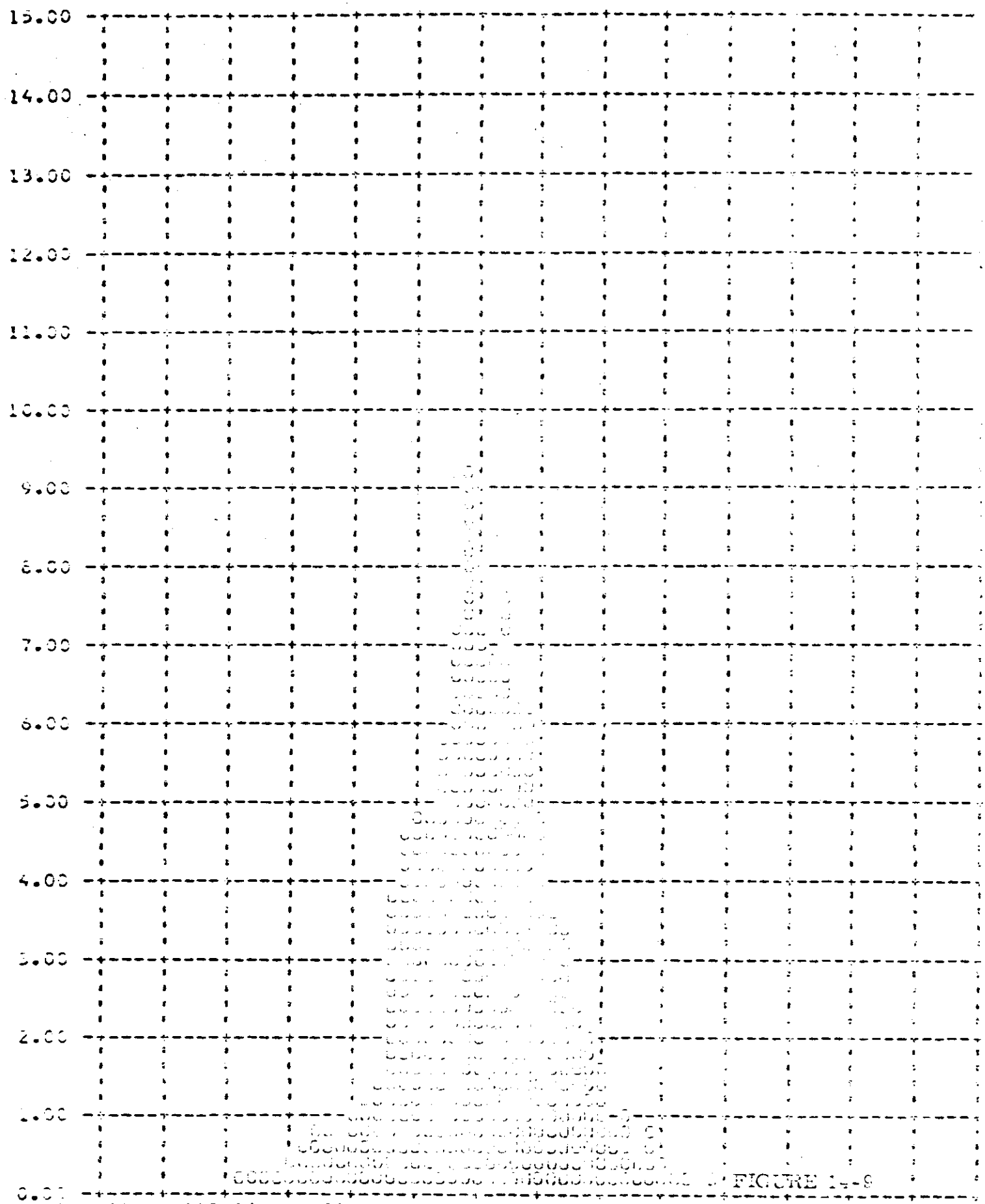


FIGURE 14-9

[redacted]

J-21 B BUCKET - RMD INSTR FRAMES 1-6 OF EACH UP OMITTED 50 PERCENT = 5%.

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

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

FIGURE 14-10

SECTION 15

IMAGE SMEAR ANALYSIS

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

The computer rejects the first six frames of all operations as the large V/h error induced by camera start-up is not representative of the overall system operations. The frequency distribution of the V/h error and resolution limits are computer plotted and are shown in Figures 15-1 through 15-3 for the Fwd camera of Mission 1021-1, Figures 15-4 through 15-6 for the Aft camera. The Fwd camera plots for Mission 1021-2 are shown in Figures 15-7 to 15-8. Data is not available for the Aft camera due to the camera malfunction.

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

The V/h ratio errors were larger than normally encountered. This is the result of the intermittent panoramic camera cycle counters. This data is one of the prime inputs for the in-flight calculation of cycle rates. The V/h ratio error produced the higher along track resolution limit.

The cross track resolution limit was also somewhat higher than normally experienced. This was the result of having a far greater quantity of the mission photography near the equator where the affects of earth rotation are at a maximum.

MISSION 1021
V/h RATIO AND RESOLUTION LIMITS

Value	Units	Camera	Mission 1021-1 90%	Mission 1021-1 Range	Mission 1021-2 90%	Mission 1021-2 Range
V/h Ratio Error	%	FWD	2.7	-5.2 to + 4.2	3.1	-7.0 to + 3.8
		AFT	5.4	-3.6 to + 7.2	-	-
Along Track Resolution Limit	Feet	FWD	8.9	0 to 11.8	9.2	0.4 to 11.0
		AFT	8.6	0 to 10.8	-	-
Cross Track Resolution Limit	Feet	FWD	8.1	1.4 to 9.8	-	-
		AFT	5.5	1.0 to 6.8	-	-

TABLE 15-1

J-21 A DOCKET - FWD INSTR FRAMES 1-6 OF EACH UP SKITTER

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

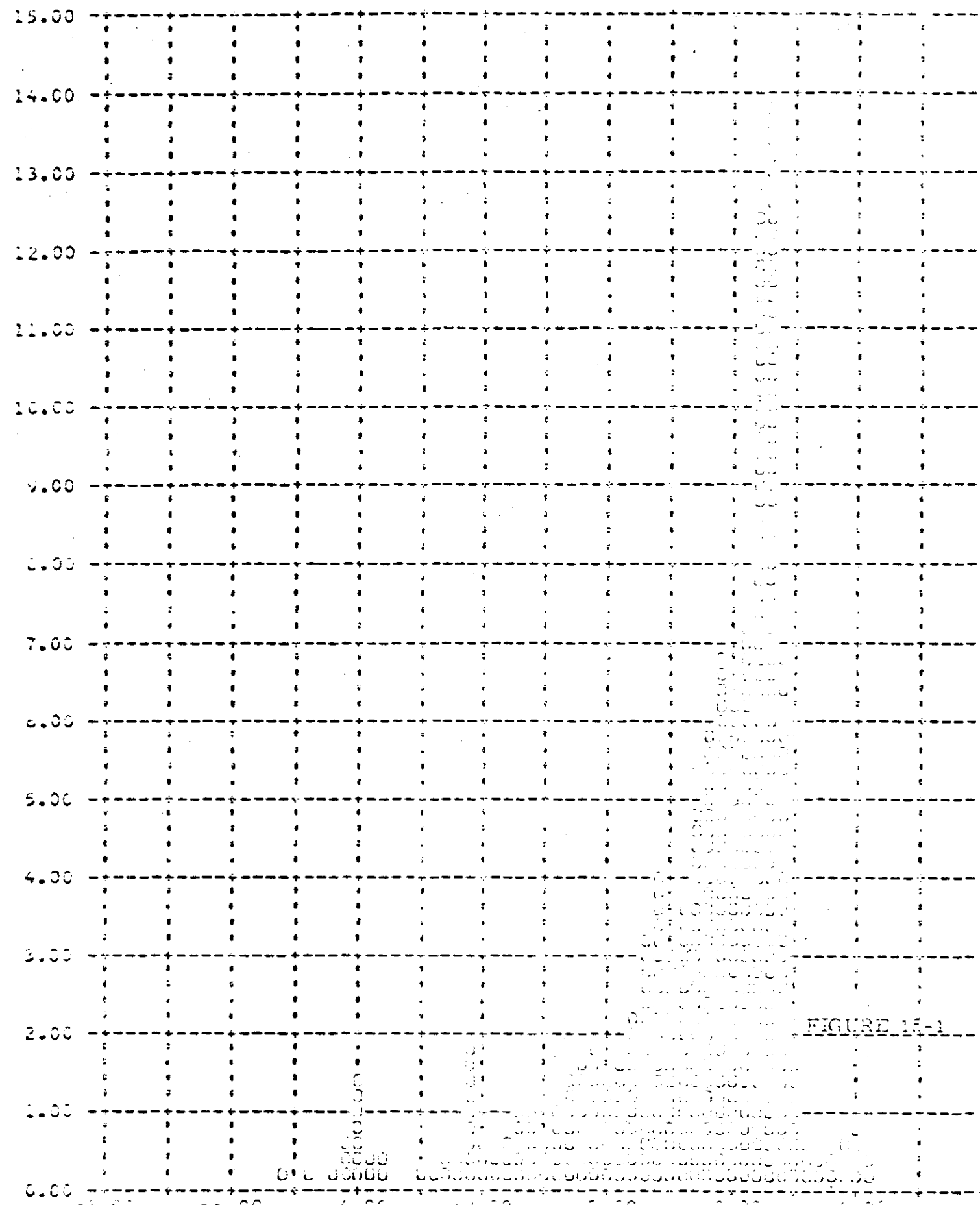


FIGURE 15-1

J-21 A BUCKET - FWD INSTR FRAMES 1-6 OF EACH UP OMITTED

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

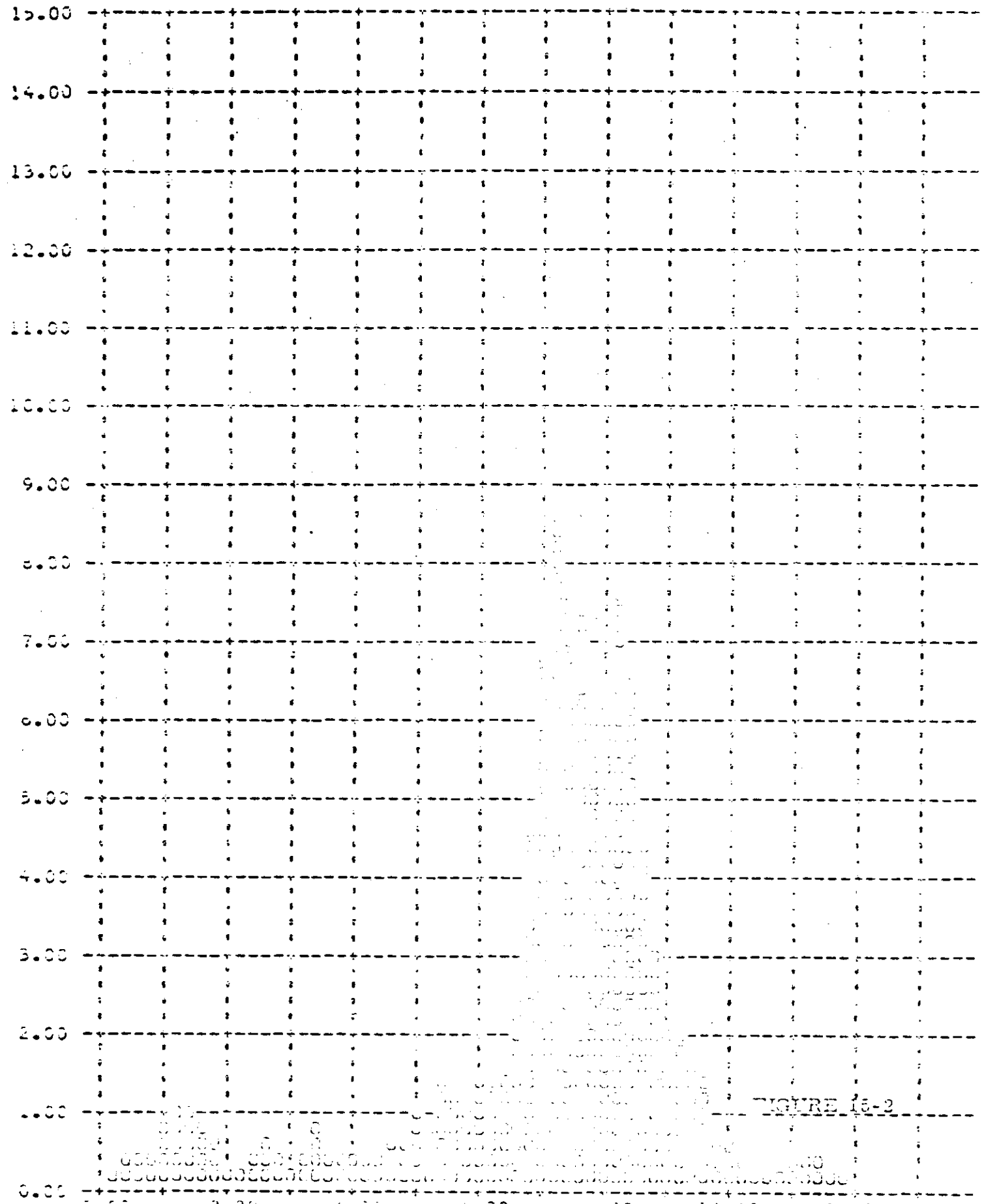


FIGURE 15-2

J-21 A BUCKET - FWD INSTR   FRAMES 1-6 OF EACH OP OMITTED   90 PERCENT

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

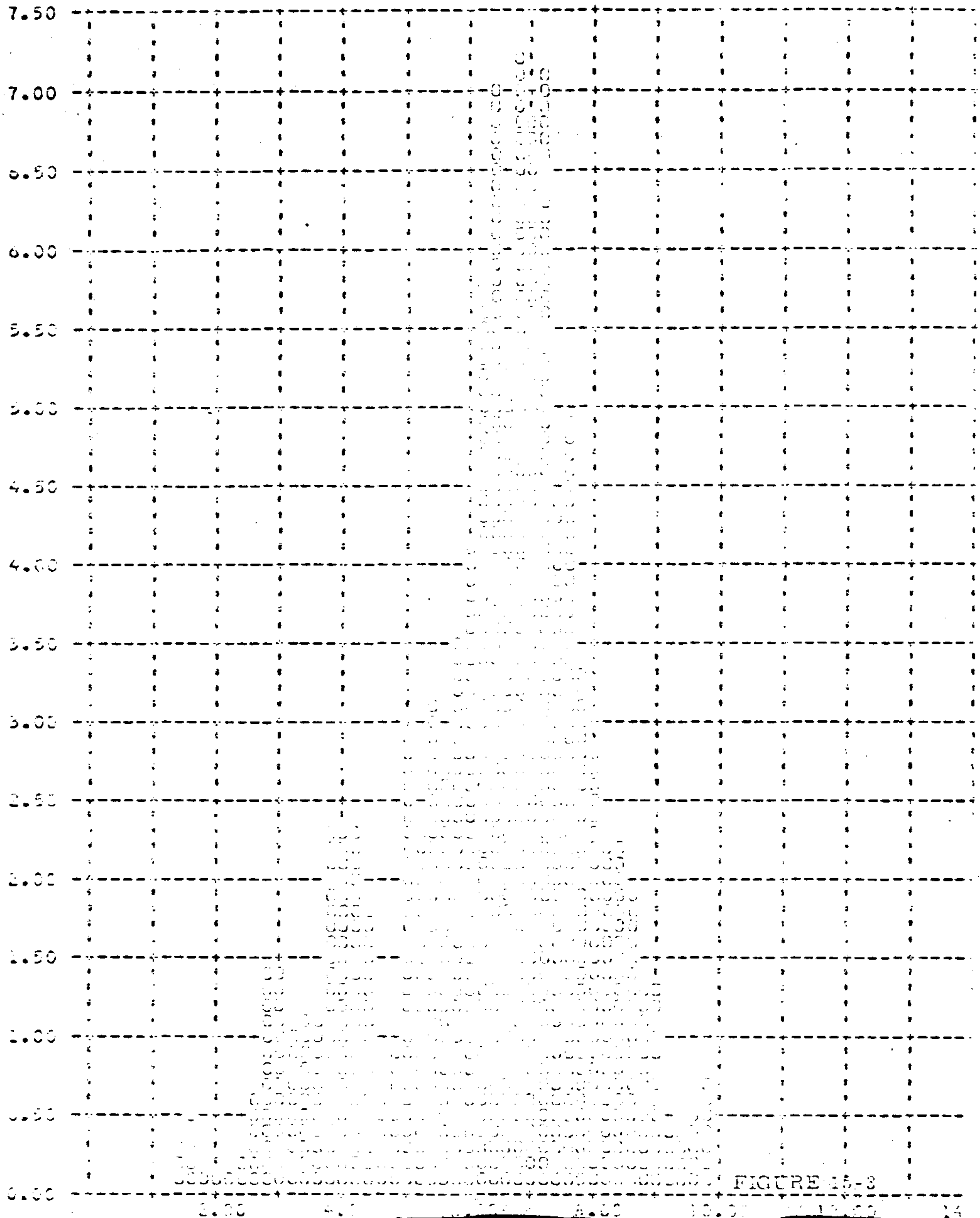


FIGURE 15-3

J-21 A BUCKET - AFT INSTR FRAMES 1-6 OF EACH OF [illegible]

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

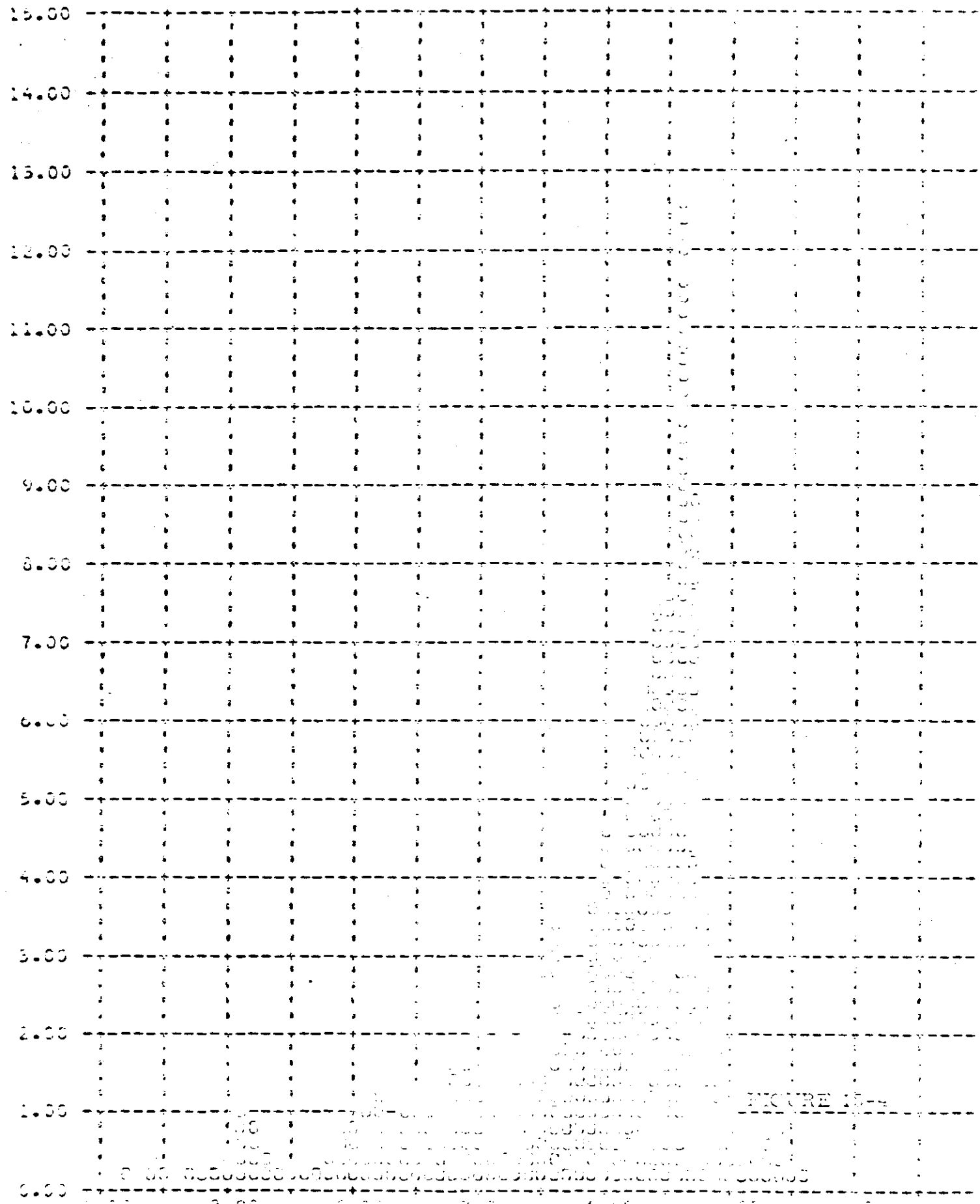


FIGURE 15-5

[illegible]

J-21 A BUCKET - AFT INSTR FRAMES 1-6 OF EACH OP OMITTED 90 PERCENT = 8.

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

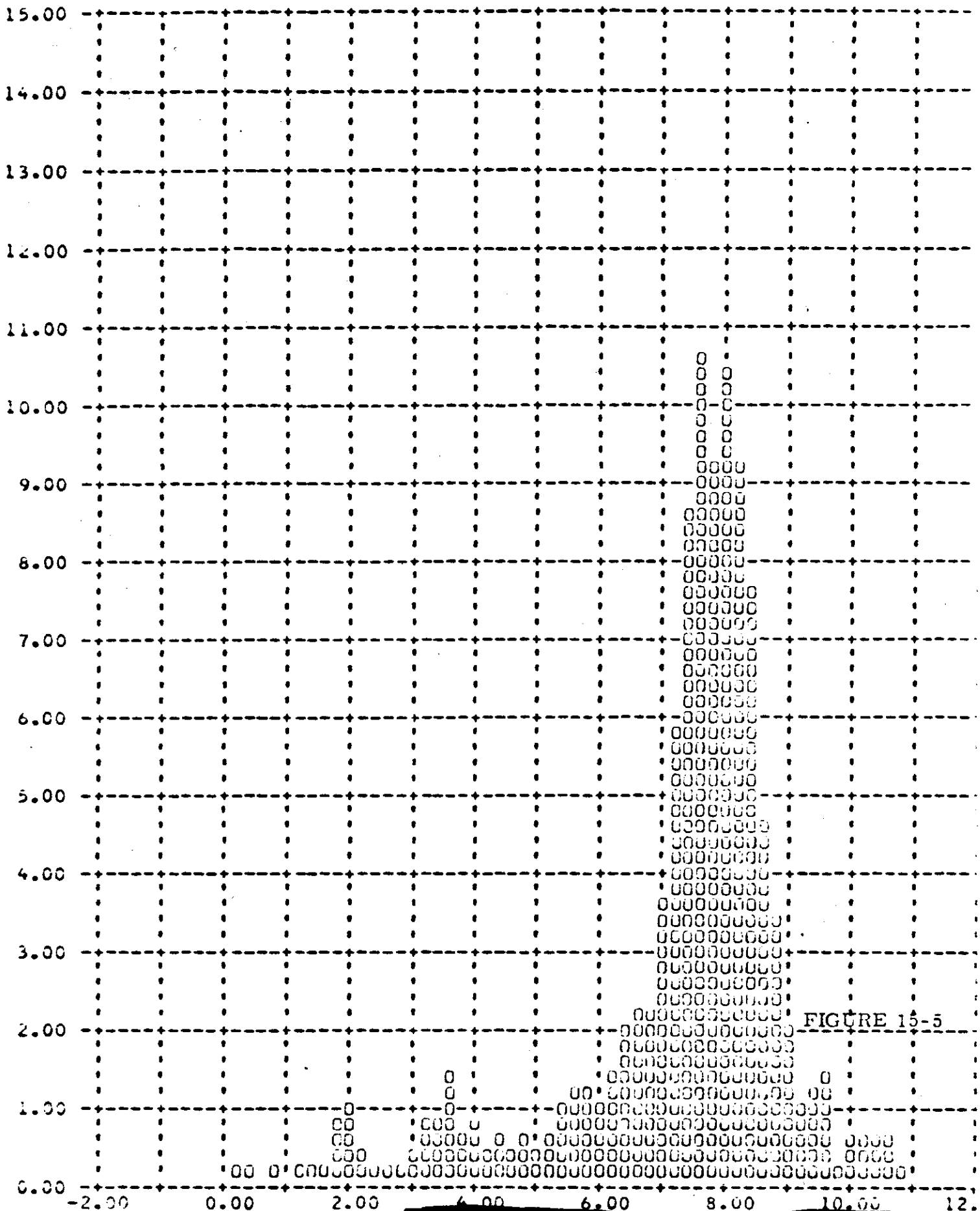


FIGURE 15-5

J-21 A BUCKET - AFT INSTR FRAMES 1-6 OF EACH OF UNITTED [illegible]

Y CROSS TRACK RESOLUTION LIMIT - FEET (X) VERSUS F[illegible]

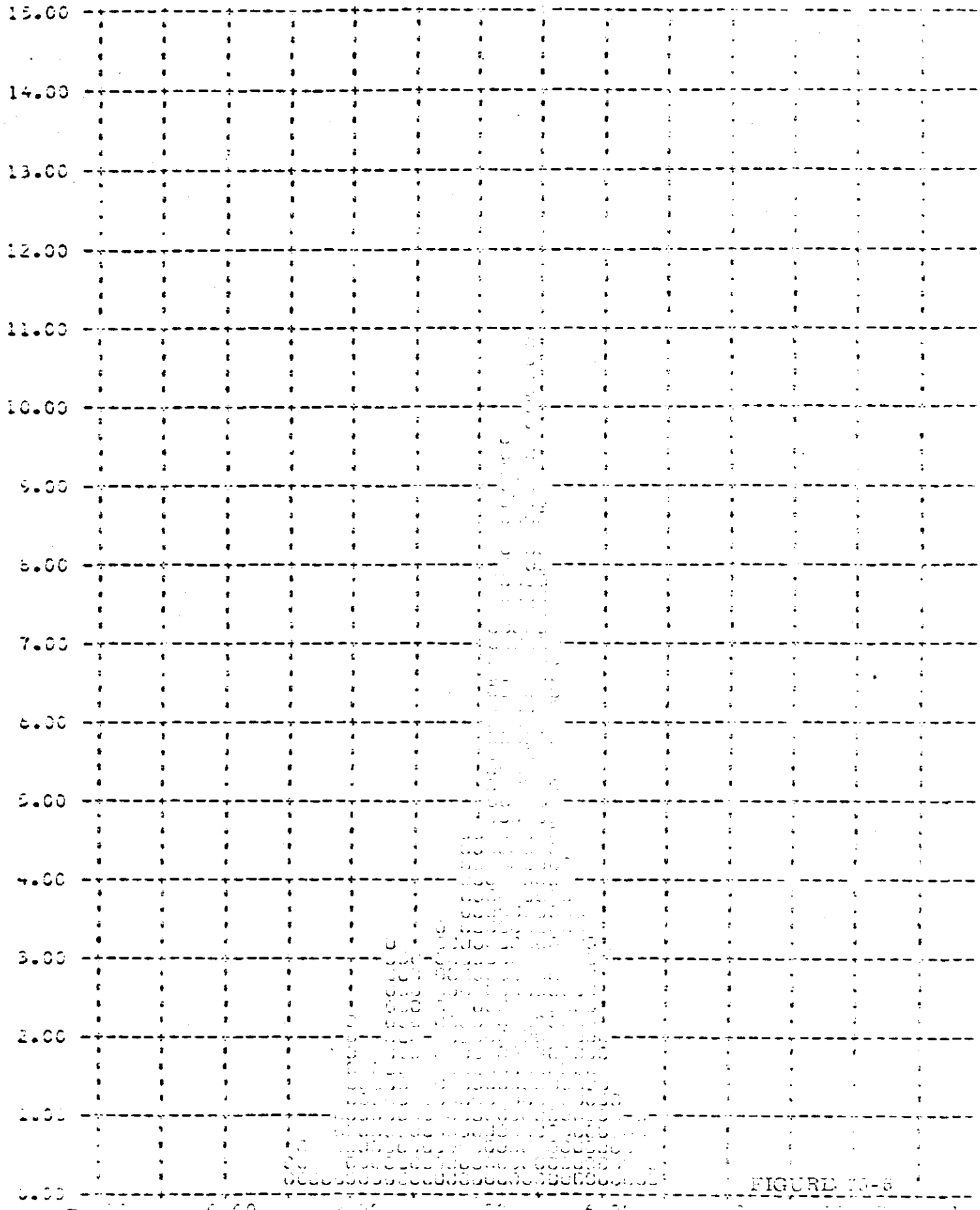


FIGURE [illegible]-8

J-21 B BUCKET - FWD INSTR FRAMES 1-6 OF EACH GP OMITTED

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

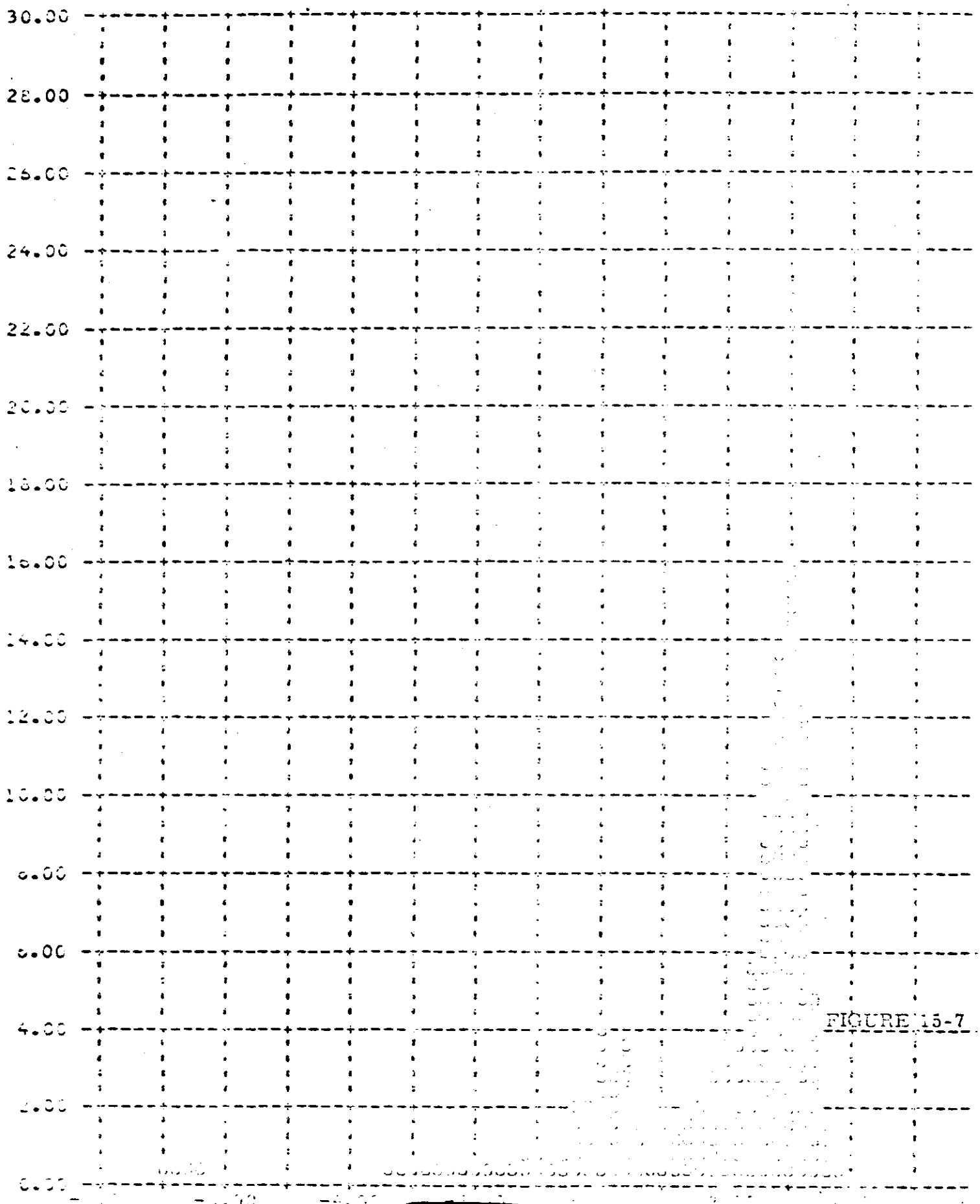


FIGURE 15-7

J-21 B BUCKET - F&O INSTR FRAMES 1-6 OF EACH OF UNITED [illegible]

Y ALONG TRACK RESOLUTION LIMIT - FEET (X) VERSUS FREQUENCY - [illegible]

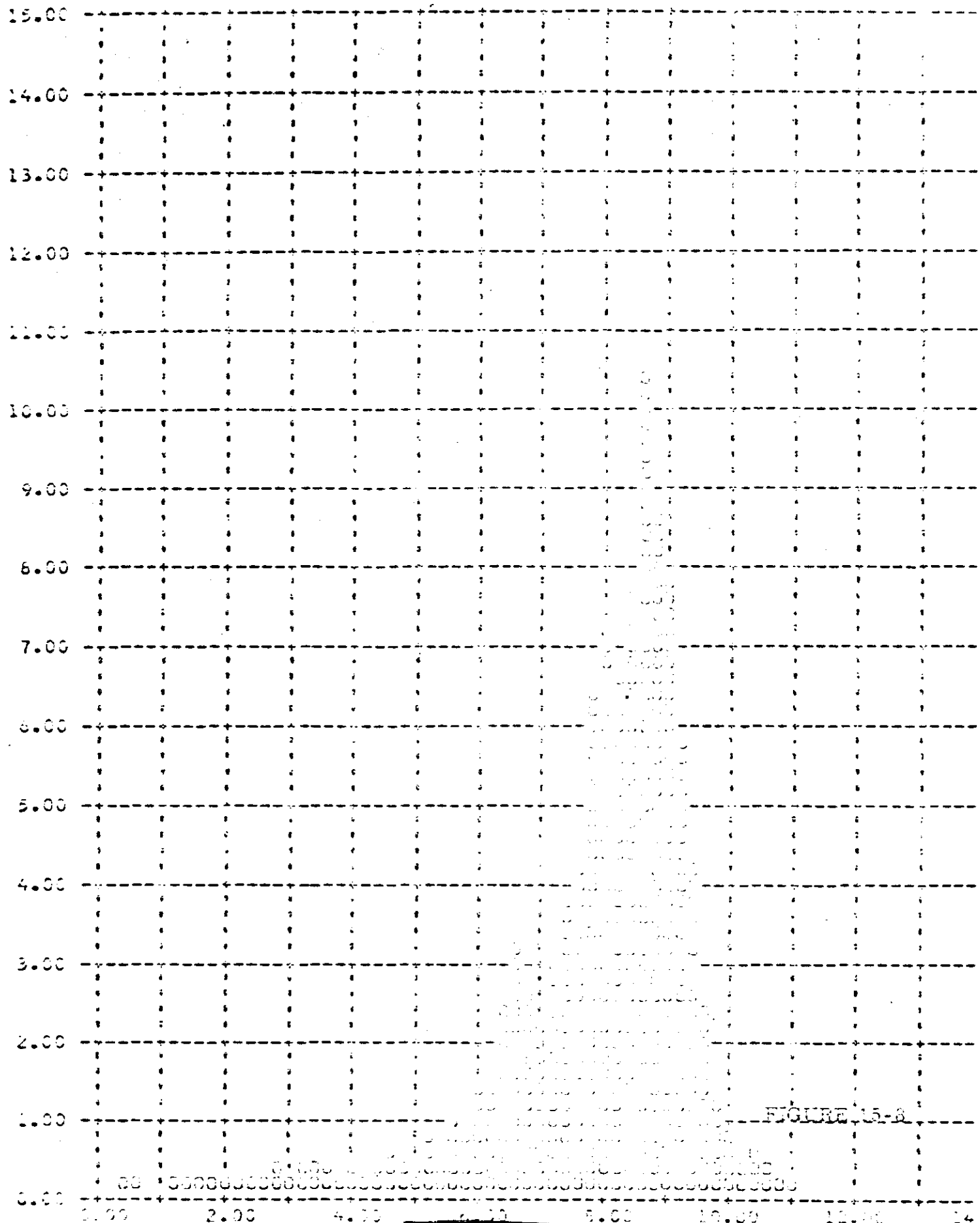


FIGURE 15-8

SECTION 16

RADIATION DOSAGE

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

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

	Mission 1021-1		Mission 1021-2	
Emulsion	B + F	Radiation	B + F	Radiation
Type 3401	0.18	0.5 R	0.15	0.4 R
Royal X Pan	0.17	0.2 R	0.18	0.2 R

The mean total radiation seen by the take-up cassettes during both missions was approximately 0.3 roentgens. This level is somewhat less than received during recent missions and is below the level that will degrade the panoramic photography.

SECTION 17

SYSTEM RELIABILITY

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

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

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

Panoramic Camera Reliability

Sample Size - 108 opportunities to operate.
One failure - S/I Programmer on system J-19.
Assume - 3000 cycles per camera per mission.
Estimated Reliability = 98.5% at 50% confidence level.

Main Camera Door Reliability

Sample Size - 38 vehicles x 2 doors = 76 opportunities to operate
Estimated Reliability = 99.1% at 50% confidence level.

Payload Command & Control Reliability

Sample Size - 5376 hours of operation
1 Failure
Estimated Reliability = 97.0% at 50% confidence level

Payload Clock Reliability

Sample Size - 5376 hours of operation
No failures
Estimated Reliability = 98.8% at 50% confidence level.

Estimated Reliability of Payload Functioning on orbit = 96.9% at 50% confidence level

Recovery System Reliability

41 opportunities to recover
1 failure - improper separation due to water seal-cutter failure.
Estimated Reliability = 96.0% at 50% confidence level.

Stellar-Index Camera Reliability

Sample begins with J-5
Sample Size = 10,680 cycles
Number of failures = 2
Estimated Reliability = 89.9% at 50% confidence level.

Horizon Camera Reliability

Sample includes J5A and up.
Sample Size: 46,500 cycles
Estimated Reliability of Single Camera = 97.8% at 50% confidence level
Estimated Reliability of Four Horizon Cameras at a Parallel Redundant System = 99.9% at 50% confidence level.

SECTION 18

SUMMARY DATA

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

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

MISSION SUMMARY

TOP SECRET [redacted]

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	2136 Z	74.9	99.9	29.0	49 / 112	124	0.250	W-21	125	0.250	W-21	D29/29/29 / D48/48/45
1006	J-09	1176	6/4/64	2259 Z	79.9	84.0	63.2	65 / 128	148	0.200	W-21	149	0.200	W-21	D49/53/42 / D48/47/48
1007	J-07	1609	6/19/64	2318 Z	85.0	99.2	41.5	65 / 128	144	0.250	W-25	145	0.200	W-21	D43/43/43 / D54/56/51
1008	J-10	1177	7/10/64	2314 Z	85.0	99.4	40.8	49 / 112	150	0.200	W-21	151	0.200	W-21	D48/45/48 / D53/28/33
1009	J-12	1605	8/5/64	2316 Z	80.1	99.6	39.5	49 / 128	154	0.200	W-21	155	0.200	W-21	D56/54/56 / D38/38/34
1010	J-11	1178	9/14/64	2254 Z	84.9	97.4	42.5	65 / 144	152	0.175	W-21	153	0.175	W-21	D41/41/41 / D44/46/44
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	D30/30/30 / D37/37/37
1012	J-13	1179	10/17/64	2202 Z	75.0	96.2	32.4	49 / 81	156	0.200	W-21	157	0.200	W-21	D51/51/47 / D46/52/53
1013	J-15	1173	11/2/64	2130 Z	80.0	100.0	25.0	65 / 81	158	0.225	W-21	159	0.225	W-21	D52/49/55 / D47/48/54
1014	J-16	1180	11/19/64	2036 Z	70.0	103.2	65.6	81 / 145	162	0.250	W-25	139	0.175	W-21	D53/59/49 / D50/44/46
1015	J-17	1607	12/10/64	2110 Z	74.9	99.7	21.5	81 / 175	138	0.250	W-25	141	0.175	W-21	D61/61/61 / D58/58/58
1016	J-18	1608	1/15/65	2101 Z	74.9	99.4	30.2	81 / 159	132	0.250	W-25	133	0.175	W-21	D55/55/50 / D59/60/59
1017	J-14	1611	2/25/65	2144 Z	75.0	97.2	28.9	81 / 145	140	0.250	W-25	165	0.175	W-21	D21/21/21 / D60/61/1
1018	J-19	1612	3/25/65	2111 Z	96.0	100.2	40.3	66 / 99	122	0.250	W-25	123	0.175	W-21	D20/20/20 / D22/22/22
1019	J-04	1614	4/29/65	2144 Z	85.0	99.1	27.1	80 / —	118	0.250	W-25	119	0.175	W-21	D39/39/35 / D18/18/19
1020	J-20	1613	6/9/65	2158 Z	75.1	97.1	40.6	97 / 113	136	0.250	W-25	137	0.175	W-21	D67/65/80 / D66/66/65
1021	J-21	1615	5/18/65	1603 Z	75.0	109.2	24.3	81 / 161	166	0.175	W-21	167	0.250	W-25	D63/69/69 / D65/27/25

TABLE 18-4

TOP SECRET [redacted]

PERFORMANCE SUMMARY

~~TOP SECRET~~ [redacted]

MISSION NUMBER	CAMERA	SERIAL NUMBER	M T F VALUE	VISUAL RES	AFSPPL MTF/AIM SLIT (μ)	AFSPPL MTF/AIM AVERAGE	MTF/AIM SLIT (μ)	MTF/AIM AVERAGE	SLIT (μ)	AVERAGE ALL	AVERAGE HIGH	90% ATTITUDE ERROR (°) PITCH	90% ATTITUDE ERROR (°) ROLL	90% ATTITUDE ERROR (°) YAW	90% ATTITUDE RATES (°/HR) PITCH	90% ATTITUDE RATES (°/HR) ROLL	90% ATTITUDE RATES (°/HR) YAW	90% V/H ERROR (%)	90% RESOLUTION LIMIT (FEET) ALONG TRACK	90% RESOLUTION LIMIT (FEET) CROSS TRACK
1019-1	FWD	118	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	31.6	34.9	33.1	3.8	8.0	8.5
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	5.8	8.4
	AFT			89				82		94	105	0.46	0.35	0.78	37.4	31.8	26.7	6.3	4.2	8.9
1020-2	FWD	137	—	—				—		—	—	0.41	0.17		42.6	23.8	42.5	3.5	6.4	9.6
	AFT			—				—		—	—	0.41	0.17		42.6	23.8	42.5	3.4	4.5	8.8
1021-1	FWD	166	85	88	—	—	80	77	80	86	99	0.85	0.37	0.81	34.9	32.6	26.2	2.7	8.8	8.0
	AFT			90				90		98	109	0.85	0.38	0.81	34.8	33.0	26.3	5.4	8.6	8.8
1021-2	FWD	167	85	85				74		88	112	0.89	0.65	—	44.7	50.8	—	3.1	9.2	—
	AFT			74				62		—	—	—	—	—	—	—	—	—	—	—

TABLE 18-2 ~~(POP SECRET)~~ [redacted]

EXPOSURE - PROCESSING SUMMARY

~~TOP SECRET~~ [redacted]

MISSION NUMBER	CAMERA	SOLAR ELEVATION RANGE (°) LOW	SOLAR ELEVATION RANGE (°) HIGH	SOLAR AZIMUTH RANGE (°) LOW	SOLAR AZIMUTH RANGE (°) HIGH	PREDICTED PROCESSING (%) P	PREDICTED PROCESSING (%) I	PREDICTED PROCESSING (%) F	REPORTED PROCESSING (%) P	REPORTED PROCESSING (%) I	REPORTED PROCESSING (%) F	COMPUTED PROCESSING (%) P	COMPUTED PROCESSING (%) I	COMPUTED PROCESSING (%) F	TERRAIN D-MIN RANGE LOW	TERRAIN D-MIN RANGE HIGH	TERRAIN D-MIN MEAN	TERRAIN D-MIN MEDIAN	TERRAIN D-MAX RANGE LOW	TERRAIN D-MAX RANGE HIGH	TERRAIN D-MAX MEAN	TERRAIN D-MAX MEDIAN	CLOUD D-MAX RANGE LOW	CLOUD D-MAX RANGE HIGH	CLOUD D-MAX MEAN	CLOUD D-MAX MEDIAN	UNDER EXPOSED (%)	UNDER PROCESSED (%)	NOMINAL EXP & PRO (%)	OVER PROCESSED (%)	OVER EXPOSED (%)	CLOUD COVER (%)
1019-1	FWD	24	70	24	152	0	21	79	22	32	46	4	56	40	0.26	1.92	0.71	0.61	0.60	2.15	1.45	1.50	0.84	2.26	1.94	2.00	4	7	64	17	7	[redacted]
	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	[redacted]
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	[redacted]
	AFT	29	75	17	156	0	64	36	15	56	29	0	74	26	0.23	1.20	0.55	0.54	0.70	2.20	1.47	1.46	1.22	2.29	2.04	2.10	0	18	76	8	0	[redacted]
1020-2	FWD	47	69	18	35	INSUFFICIENT DATA																										
	AFT	46	68	17	33																											
1021-1	FWD	18	66	-148	-23	0	68	32	14	39	47	1	52	47	0.25	1.90	0.64	0.58	0.74	2.18	1.50	1.50	0.97	2.36	1.92	2.00	5	9	72	11	3	[redacted]
	AFT	14	66	-147	-25	0	99	1	15	38	47	0	57	43	0.17	1.70	0.65	0.57	0.84	2.26	1.45	1.42	0.85	2.30	1.90	2.00	5	5	75	12	3	[redacted]
1021-2	FWD	13	52	-133	-41	0	29	71	13	41	46	0	57	43	0.18	1.52	0.54	0.50	0.80	2.36	1.36	1.34	1.05	2.23	1.82	1.85	14	13	66	6	0	[redacted]
	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	1.82	1.50	1.30	2.36	1.94	1.94	6	0	71	21	1	[redacted]

TABL[redacted]

~~TOP SECRET~~ [redacted]

Distribution

[redacted]

[redacted]