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January 1963

TECHNICAL PUBLICATION

PHOTOGRAPHIC EVALUATION REPORT
MISSION 9038

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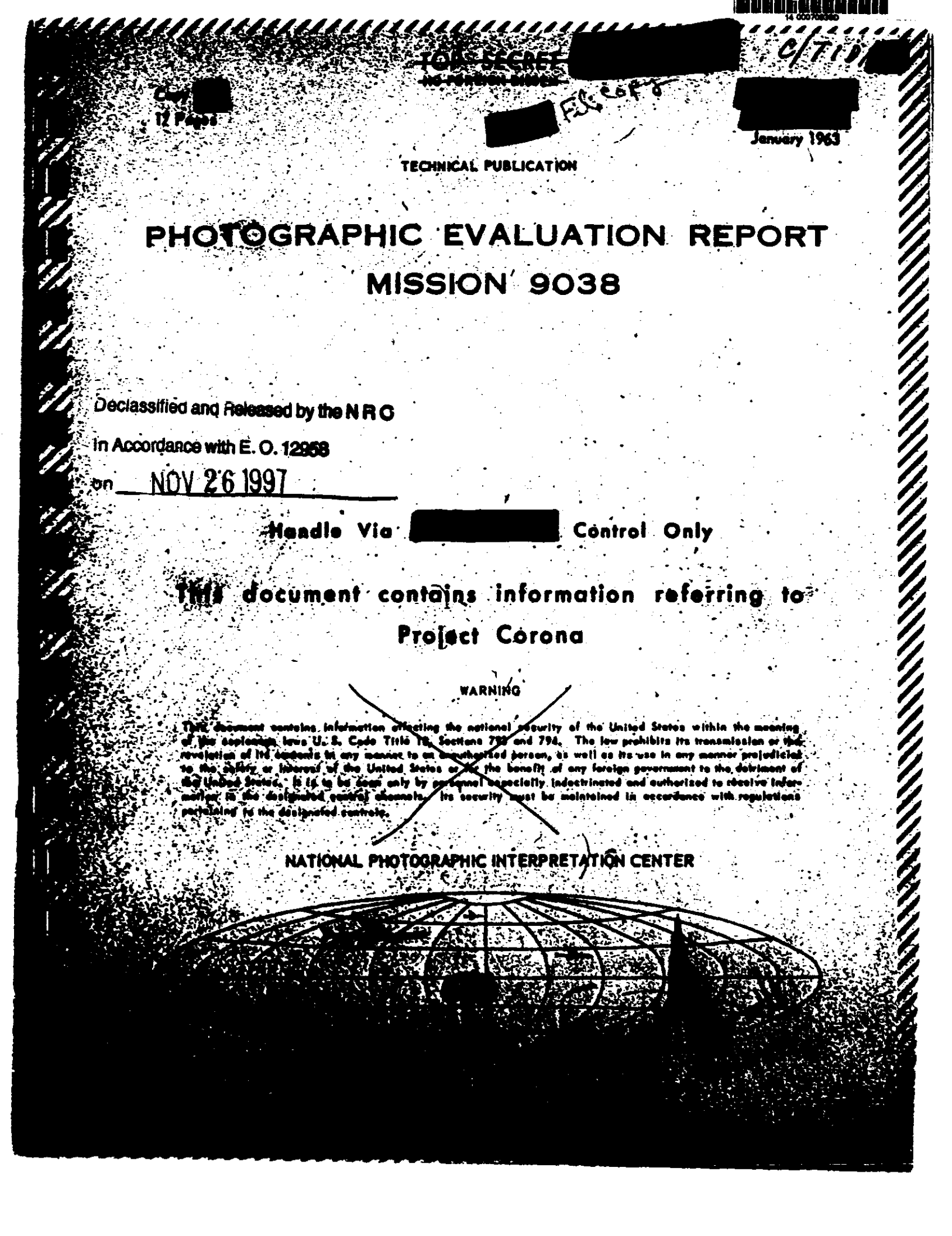

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CORONA

TECHNICAL PUBLICATION

PHOTOGRAPHIC EVALUATION REPORT

MISSION 9038
28-30 JUNE 1962
1-2 JULY 1962 Z

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January 1963

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CORONA

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TABLE OF CONTENTS

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PART I. FORWARD CAMERA

Mission No: 9038
Camera No: 84
Slit Width: 0.200"
Film Type: 7J-23-7600 (SO 132)

Filter, Main: Wratten 21
Aperture, Main: f/3.5
Filters, Horizon: None
Evaluated By: [redacted]

1. Shutter Operation (Horizon Cameras): Operational.
2. Horizon Camera Exposure:
   a. Take-Up (Starboard): Format overexposed to the extent that imagery was lost (f/6.8, 1/25 second).
   b. Supply (Port): Format overexposed to the extent that imagery was lost (f/6.8, 1/25 second).
3. Camera Number: Operational, except where a second or third binary is present at the camera-off position. The center background is slightly flared but the camera number is legible in all frames.
4. Binary Operation: The binary record functions throughout the film but the lower right index and light numbers 16 and 29 consistently "blossom" into the terrain format areas. Double binaries, one with camera number and end-of-pass marker and one with end-of-pass marker only, occur in 29 camera-off positions. Triple binaries, similar to the double binary records but with a third binary almost superimposed over the second binary record and without the camera number or end-of-pass marker, are present in three camera-off positions. The remaining binaries are single binary records, with two end-of-pass markers present in all cases.
5. Film Metering:
   a. Metering on the take-up side (starboard horizon camera) ranges from 0.14" - 0.22", with an average of 0.19".
   b. Metering on the supply side (port horizon camera) ranges from 0.12" - 0.20", with an average of 0.15".
6. Film Tracking: Normal.
7. Timing Pulses: Readable throughout the film but recorded as multiple images, with the true images and their inboard reflections printed inside the terrain format areas. The timing pulses terminate 9.25" to 14.20" from supply edge of the terrain format at the camera-off positions, with an average measurement of 12.40".
8. Fiducials:
   a. Main Camera: The fiducials are slightly ragged in a minority of passes, but are usable, without exception, throughout the film.
   b. Horizon Cameras: The fiducials are well defined, with little or no flare present.
9. Light Leaks: A single diagonal light leak extends edge-to-edge across the horizon camera formats or the ends of the terrain formats in 43 frames. This occurs near the beginning and/or end of the affected passes. Examples: pass D07, frame 2; pass A09, frames 2, 74; pass A14, frames 1, 49; pass A16, frames 2, 60; pass D23, frames 3, 131; pass A30, frames 2, 67; pass A31, frame 2; pass D36, frame 2; pass D38, frames 3, 176. The starboard horizon format is imaged within the terrain area of 11 frames. This appe[redacted] to be associated with film transport and occu[redacted] only in the camera-off positions at end of passes.

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Examples: pass D01, frame 47; pass A02, frame 73; pass A15, frame 50; pass A16, frame 60; pass A35, frame 43. Intermittent fogging of the leading edge is present in 6 passes, affecting only the extreme outboard portion of the edge. Examples: passes A09, D09, and D39. Miscellaneous light leaks occur throughout the photography but are few in number. Examples: pass A02, frames 3, 4, 70, 71; pass D24, frames 29, 42, 52; pass A31, frame 60; pass D53, frame 3.

10. Static Electricity: Possible corona discharge occurs in the beginning of all passes except A01, D01, A02. Examples: pass D07, frame 5; pass A09, frame 4; pass D09, frame 3; pass A15, frame 19; pass A17, frame 3; pass A30, frame 3; pass D38, frames 3, 4; pass A49, frames 3, 4. The initial burst is followed by continuous striations and fog patches which commence from one to 12 frames after the original discharge and increase in frequency and intensity to the pass endings. The trailing edges, as well as the terrain and horizon formats, are affected by these corona-associated patterns. Degredation of the imagery in the terrain formats is severe.

11. Pinholes: Intermittent and few.

12. Abrasions and Scratches: Miscellaneous abrasions and scratches are present throughout the film. Examples: pass A01, frames 1, 2, 21, 26; pass D01, frames 38-45; pass D07, frame 20; pass A09, frame 1; pass A17, frames 11, 14, 30, 32; pass A32, frames 1, 5, 13, 26, 31, 32; pass D52, frames 70, 105, 114; pass D54, frames 80, 86, 96, 97, 98. The scratches are considerably more numerous than the abrasions. Both appear to be due to post-processing handling in the majority of cases.

13. Tearing: None. Transparent splices are located in the metered space between the following frames in the passes indicated: pass D08, frames 20-21; pass D22, frames 31-32; pass A32, frames 12-13; pass D38, frames 133-134; pass A50, frames 1-2; pass D54, frames 149-150. Manufacturer's splices are located in pass A16, frame 59, and pass A49, frame 6.

14. Water Marks: Pass A06, frame 45; pass D38, frames 55-57; pass A47, frame 6.

15. Pressure Streaks: Small base rubs are present intermittently throughout the film.

16. Processing Streaks: None were found except in pass D52, frame 70.

17. Blistering and Crimping: Intermittent throughout the photography. Examples (Blisters): pass D01, frame 36; pass D08, frames 32, 66; pass A15, frames 42, 43; pass A17, frames 13, 23; pass A32, frames 5, 11. Examples (crimps): pass A01, frames 12, 14; pass A09, frame 10; pass A14, frame 48; pass A15, frames 2, 46; pass D24, frames 61, 84, 85; pass D54, frame 97. The crimping appears to have occurred after processing.

18. Contrast: 43% low, 57% medium, 0% high.

19. Apparent Resolution: Good, where not degraded by static discharge or low sun angle. Resolution is comparable in quality to that obtained in Mission 9032.

20. Apparent Granularity: Fine.

21. Photo Quality:

a. Main Camera: An overall rating of "fair" is assigned, due to degradation of the imagery by static and light leaks. Approximately 75% of the photography is affected to some degree, and it is estimated that 30% is severely degraded.

b. Horizon Cameras: Poor. The port and starboard images are grossly overexposed, with a resultant total loss of terrestrial detail within the images.

22. Camera Operation:

a. Main Camera: Fair. The presence of light leaks and static discharges precludes assignment of a higher rating.

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b. Horizon Cameras: Poor. Although no mechanical malfunction is evident, the gross overexposure degrades the imagery to such an extent as to make the assigned rating mandatory.

23. Suitability for PI: Fair, due to degradation by static discharges, light leaks and the presence of intermittent cloud coverage.

Remarks

1. Handling marks are evident in pass A02, frames 24, 25; pass A32, frame 26; pass D54, frames 56, 97.

2. Foreign matter is present intermittently throughout the film, it consisting principally of lacquer, wax residue, and material adhering to the adhesive of the transparent splices. Examples: pass D01, frames 22, 42, 47; pass A09, frames 1, 6, 8; pass D15, frames 1, 6. In addition, oil stains are present in pass A16, frames 11, 12, and pass D24, frames 34, 35. A fingerprint is also clearly evident in the port horizon format of pass D24, frame 3. Lifted emulsion is noted in pass A01, frame 7; pass D01, frames 1, 37, 38, 42, 45, 46; pass A02, frames 1, 22, 73; pass D08, frames 1, 7, 21, 63, 64; pass A15, frames 2, 16, 19, 30, 42; pass A16, frames 4, 18; pass A17, frame 54; pass A29, frames 15-19; pass A34, frames 15, 51, 40, 56; pass A35, frames 10, 14, 15, 23, 24, 25; pass D39, frames 46, 86.

3. Negative density spots and streaks are intermittent throughout the film. Examples: pass D01, frame 15 (spot); pass A02, frame 66 (spot); pass A17, frame 23 (spot); pass A31, frames 6, 33 (streaks); pass A47, frame 63 (spot). Positive density streaking occurs intermittently throughout pass A49.

5. The following descriptions of overlap and film transport for camera number 84 were determined from the fifth and last frames of each pass, where possible. Cloud cover, low sun angle or lack of imagery may have precluded determination of these values in some passes. When not measurable, these omissions are indicated by the letters NM.

Pass	Overlap (Percent)		Film Transport (From Take-Up Side in Inches)	
	Beginning	End	First Frame	Last Frame
A01	42	42	0.0	7.8
D01	20	18	NM	16.0
A02	40	35	NM	8.7
D07	10	5	NM	16.5
D08	14	7	NM	15.6
A09	NM	NM	NM	4.9
D09	10	7	NM	16.2
A14	29	29	14.0	6.5
A15	27	27	4.5	6.1
D15	NM	1	NM	12.1
A16	27	27	NM	8.5
A17	25	20	NM	7.4
D22	8	7	NM	15.6
D23	10	7	13.6	16.4
D24	13	9	14.5	16.5
A29	NM	23	NM	6.2
A30	27	29	NM	6.7
A31	31	29	NM	7.0
A32	30	27	NM	7.3
A33	NM	NM	NM	21.5
A34	37	37	NM	9.8

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Pass	Overlap (Percent)		Film Transport (From Take-Up Side in Inches)	
	Beginning	End	First Frame	Last Frame
A35	36	NM	NM	10.8
D36	6	NM	6.7	16.2
D37	8	7	13.9	17.4
D38	15	9	15.4	17.2
D39	4	9	15.2	12.2
A46	26	NM	3.7	6.7
A47	27	NM	NM	7.6
A48	35	35	NM	10.2
A49	30	34	NM	9.4
A50	36	NM	NM	20.2
D50	5	7	NM	15.7
D52	11	NM	13.9	17.5
D53	4	NM	15.5	13.5
D54	10	4	NM	17.1
D55	9	7	15.2	16.6
A62	32	29	14.6	7.6
A63	31	30	NM	End of Mission

6. Density readings were taken on each pass, using the MacBeth Quantalog Densitometer, Model EP 1000, with an EP 20 attachment and an 0.5 mm aperture. Terrain and Limiting density readings for D Max, D Min, and Gross Fog values are correlated below.

Reading	Pass	Frame	Terrain		Limiting		Gross Fog		
			D Min	D Max	D Min	D Max	Leading	Center	Trailing
1	A01	45	0.63	1.80	0.68	2.06	0.14	0.14	0.14
2	D01	10	0.49	2.02	0.49	2.02	0.12	0.12	0.13
3	A02	26	0.59	1.63	0.59	2.05	0.14	0.14	0.14
4	D07	21	0.51	1.49	0.51	2.07	0.16	0.15	0.15
5		51	0.94	1.74	0.51	2.14	0.14	0.15	0.14
6	D08	45	0.51	1.70	0.50	2.12	0.16	0.16	0.14
7		99	0.64	1.56	0.52	2.10	0.15	0.14	0.14
8	A09	9	0.52	1.65	0.52	2.04	0.16	0.16	0.16
9	D09	55	0.60	1.20	0.57	2.04	0.16	0.15	0.15
10		73	0.40	1.46	0.38	2.11	0.17	0.16	0.16
11	A14	14	0.74	1.68	0.65	2.10	0.15	0.17	0.15
12	A15	15	0.88	1.80	0.58	2.04	0.15	0.16	0.15
13		25	0.66	1.43	0.51	2.01	0.16	0.17	0.16
14	D15	14	0.71	1.56	0.71	2.00	0.16	0.17	0.15
15	A16	8	0.92	1.97	0.92	1.97	0.14	0.14	0.14
16		32	0.67	1.60	0.67	2.20	0.15	0.16	0.14
17	A17	7	0.90	1.55	0.90	2.06	0.19	0.19	0.18
18		74	0.94	1.96	0.94	1.99	0.19	0.20	0.19
19	D22	36	0.79	1.82	0.68	2.04	0.20	0.20	0.19
20	D23	11	0.90	1.47	0.56	2.04	0.19	0.20	0.17
21		92	0.68	1.69	0.68	2.02	0.18	0.19	0.18
22	D24	36	0.62	1.62	0.62	2.14	0.19	0.26	0.26
23		92	0.68	1.48	0.68	2.08	0.19	0.23	0.19
24	A29	18	0.88	1.88	0.68	2.06	0.20	0.20	0.19
25	A30	10	0.96	1.66	0.86	2.07	0.19	0.19	0.18
26		47	0.66	1.57	0.64	2.00	0.19	0.25	0.19
27	A31	26	0.51	2.04	0.51	2.04	0.20	0.20	0.21
28	A32	11	0.98	1.82	0.98	2.11	0.22	0.22	0.22
29		37	0.68	1.88	0.66	2.01	0.20	0.25	0.20
30	A33	32	0.88	1.76	0.88	2.00	0.18	0.25	0.22
31	A34	2	0.63	1.22	0.88	1.86	0.18	0.20	0.18
32		44	0.41	1.12	0.41	2.01	0.20	0.24	0.20

[redacted]

Reading	Pass	Frame	Terrain		Limiting		Gross Fog		
			D Min	D Max	D Min	D Max	Leading	Center	Trailing
33	A35	NR	NR	NR	NR	NR	NR	NR	NR
34	D36	4	0.56	1.30	0.50	2.04	0.20	0.20	0.19
35	D37	NR	NR	NR	NR	NR	NR	NR	NR
36		102	0.70	1.90	0.70	1.96	0.19	0.19	0.18
37	D38	16	0.57	1.60	0.57	1.90	0.20	0.20	0.19
38		134	0.50	1.62	0.50	2.01	0.20	0.20	0.19
39	D39	2	0.66	1.46	0.66	2.10	0.18	0.18	0.18
40		64	0.76	1.69	0.64	2.04	0.19	0.20	0.18
41	A46	09	0.46	1.58	0.46	1.56	0.18	0.18	0.18
42	A47	10	0.59	1.50	0.59	2.04	0.18	0.18	0.18
43	A48	9	0.71	1.61	0.71	1.60	0.18	0.18	0.18
44	A49	10	0.66	1.54	0.56	1.69	0.19	0.20	0.20
45	A50	35	0.56	1.33	0.56	2.02	0.20	0.46	0.39
46	D50	12	0.50	1.39	0.47	1.66	0.19	0.23	0.19
47	D52	9	0.66	1.30	0.51	2.05	0.19	0.20	0.19
48		79	0.93	1.66	0.75	1.89	0.20	0.29	0.20
49	D53	5	0.59	1.57	0.59	1.75	0.23	0.36	0.26
50		NR	NR	NR	NR	NR	NR	NR	NR
51	D54	7	0.57	2.01	0.51	2.01	0.18	0.18	0.17
52		102	0.74	1.32	0.61	2.01	0.18	0.20	0.18
53	D55	54	0.49	1.32	0.37	1.91	0.17	0.19	0.17
54		109	0.61	1.44	0.61	2.02	0.18	0.18	0.17
55	A62	23	0.96	1.52	0.66	1.52	0.18	0.20	0.18
56	A63	35	0.73	[redacted]	0.73	1.66	0.18	0.24	0.18

NOTE: "NR" denotes Not Readable.

Terrain

D Max Range 2.04-1.12
D Min Range 0.98-0.41
Gross Fog Range at Leading Edge 0.23-0.12
Average D Max 1.60
Average D Min 0.65
Average Gross Fog at Leading Edge 0.1[redacted]

Limiting

D Max Range 2.20-1.56
D Min Range 0.98-0.41
Average D Max 2.00
Average D Min 0.63

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PART II. AFT CAMERA

Mission No: 9038
Camera No: 85
Slit Width: 0.200"
Film Type: 3J-23-7400 (SO-132)

Filter, Main: Wratten 21
Aperture, Main: f/5.6
Filter, Horizon: Wratten 25
Evaluated By: [redacted]

1. Shutter Operation (Horizon): Operational.
2. Horizon Camera Exposure:
   a. Take-Up (Port): Imagery in approximately 36 passes show overexposure, the remaining imagery generally is considered to have good exposure. (f/8.0, 1/50 second)
   b. Supply (Starboard): Imagery is overexposed throughout most of the film and in addition, is out of focus. (f/8.0, 1/50 second).
3. Camera Number: Operational and well defined throughout the film. Slight background flare observed in approximately 12 passes.
4. Binary Operation: Operational throughout mission. In most cases, double binaries are present at the camera-off positions. However, a few single and triple binary recordings are found. Where multiple binary recordings are present the first binary recorded is complete with camera number, index lights and end-of-pass marker, but others lack a camera number and index lights. Where a single binary is recorded, an additional end-of-pass marker is present on this frame in association with partial film transport.
5. Film Metering:
   a. Metering on the take-up side (port horizon camera) ranges from 0.28" to 0.32", with an average of 0.30".
   b. Metering on the supply side (starboard horizon camera) ranges from 0.19" to 0.22", with an average of 0.21".
6. Film Tracking: Normal.
7. Timing Pulses: Functional throughout most of the film except on the last frame before the camera-off position, where there is a gap in the timing pulses of up to 11.0" from the supply edge of the terrain format. The pulses are located outside the format area and appear somewhat underexposed. From the take-up side to the center of the format, single timing pulses are imaged. However, from the format center to the supply edge of the terrain format, the pulse images gradually become multiple.
8. Fiducials:
   a. Main Camera: Well defined and clean.
   b. Horizon Camera: Well defined with no flare.
9. Light Leaks: A diagonal line is found intermittently in frame two or three, at the beginning of some passes and usually in the second or third frame from the camera-off position in each pass. An equipment image is present, sometimes occurring as a bar-shaped image, in approximately 17 passes. The majority are present in the second or third-from-last frame of these passes but occasionally occur in the second or third frame from the beginning of a pass. Examples: pass D01, frames 3, 20, 21, 30, 45, 46; pass A02, frames 71, 72; pass A09, frames 7, 8; pass D09, frames 70, 71, 72, 73. A fog pattern is present in some passes in the first and second frames from the beginning or in the last and next-to-last frames from the end of a pass. Examples: pass A01, frames 1, 53; pass D07, frames 1, 3; pass A14, frames 1, 2; pass D22, frames 1, 2, 62.
10. Static Electricity: A possible corona-type

[redacted]

discharge is present in frame three of each pass and may fog a portion of frame four or extend into frame five. The continuous corona-type fogging usually start in frame 7 or 8 and ends at the camera-off position, fogging approximately one-third of the last frame. In a split pass, the corona-type static usually begins on the third frame from the camera-on position. Generally it is found that the longer passes produce more intensive fogging. Examples may be found in passes D08, D23 and D38.

11. Pinholes: Few are present in this film.

12. Abrasions and Scratches: Few scratches are present in the film. Examples, however, are found in pass A01, frames 12, 13, 16, 20, 27, 32; pass D07, frames 9, 11, 13, 15, 17, 41; pass A32, frames 11, 14, 38, 35. Very few abrasions are present. Examples: pass 77, 78; pass A17, frame 42; pass D55, frames 94, 95.

13. Tearing: No tears are present, however, transparent splices are found in the following passes and between the indicated frames: pass D08, frames 77-78; pass D23, frames 13-14; pass A32, frames 29-30, pass D38, frames 54-55; pass A49, frames 8-9; pass D54, frames 125-126.

14. Water Marks: Few are present. Examples: pass D09, frame 74; pass A33, frames 17-23; pass D37, frames 51, 53; pass D38, frames 12-47, 54, 55.

15. Pressure Streaks: Base rubs are present intermittently throughout the film in all passes. A continuous streak on the base was present from pass D08 through pass A17.

16. Processing Streaks: Processing streaks are present only in pass D09, frames 1-74 and pass D22, frames 1-49.

17. Blistering and Crimping: Few blisters were found on the film. Examples: pass D01, frame 18; pass A02, frames 20, 38, 73; pass D15, frames 16, 17. No edge crimping is present.

18. Contrast: 50% low, 50% medium, 0% high.

19. Apparent Resolution: Acuity and resolution are considered as good as that obtained in Mission 9032. However, the aft camera imagery is considered better than that obtained by the forward camera.

20. Apparent Granularity: Fine.

21. Photo Quality:

a. Main Camera: Fair. Degradation is due to presence of light leaks, possible corona static and low contrast.

b. Horizon Camera: Poor to fair. Degradation is due to overexposure and out-of-focus.

22. Camera Operation:

a. Main Camera: Fair. Degradation is due to possible corona static and the termination of the timing pulses before reaching the supply edge of the terrain format in the last frame of all passes.

b. Horizon Cameras: The take-up (port horizon camera) is rated good. The supply (starboard horizon camera) is rated poor due to out-of-focus and overexposure.

23. Suitability for PI: Fair. Degrading factors are possible corona static patterns, and 43% cloud cover.

Remarks

1. Handling marks are present in pass A02, frames 61-63; pass A16, frames 39-41, pass 54, frames 83, 101.

2. Foreign matter is present intermittently throughout the film. Examples: pass A01, frames 25, 47, 49, 54; pass D08, frames 81, 88, 107, 110, 111; pass A14, frames 24, 42, 48, 49. In addition, lacquer within the format

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area is present in pass A32 and pass A47. Spots of opaquing material are present. Example: in pass A16, frames 1, 2; pass A31, frame 12; pass A32, frame 35.

3. Lifted emulsion is found intermittently in this film. Examples: pass D01, frames 5, 42-44; pass A02, frames 71, 73; pass D08, frames 78, 79; pass A34, frames 7, 13, 22, 27, 28, 30.

4. Uniform fogging due to possible radiation does not seem to be present on this film. Instances where a slight fogging, which may be caused by light leaks, is present in pass A01, frames 1, 53; pass D07, frames 1, 3, 121.

5. A positive density streaking from high density images into low density areas is present in pass D38. Other positive density streaks are present in pass D09 (intermittent); pass D55, frames 1, 2, 18. Negative density streaks are also present. Examples: pass D01, frames 1-47; pass A17 frames 4, 5; pass D23, frame 91.

6. The following description of overlap and film transport for camera number 85 were determined from the fifth and last frames of each pass, where possible. Cloud cover, low sun angle, or lack imagery may have precluded determination of these values in some passes.

Pass	Overlap (Percent)		Film Transport (From Take-Up Side in Inches)	
	Beginning	End	First Frame	Last Frame
A01	37	42	None	12.0
D01	16	15	10.1	16.1
A02	39	30	15.0	11.1
D07	6	6	NM	18.5
D08	5	5	16.6	17.8
A09	Clouds	Clouds	15.3	6.7
D09	6	6	NM	17.7
A14	29	29	15.5	8.5
A15	25	Clouds	5.8	6.1
D15	0	1	5.5	17.1
A16	27	27	15.0	9.5
A17	25	20	9.4	9.7
D22	1	6	NM	NM
D23	Clouds	7	15.3	18.1
D24	9	4	16.0	19.0
A29	18	16	4.8	8.4
A30	25	26	6.4	6.8
A31	30	30	NM	9.0
A32	29	29	14.9	9.3
A33	Clouds	Clouds	NM	11.0
A34	35	30	NM	11.5
A35	27	Clouds	9.5	12.8
D36	1	5	10.5	20.5
D37	6	6	15.7	19.1
D38	13	6	17.1	19.1
D39	5	6	17.0	19.8
D46	28	28	5.6	8.7
A47	27	27	6.1	9.7
A48	36	36	16.0	12.5
A49	32	28	9.7	11.4
A50	Clouds	Clouds	9.3	11.8
D50	5	8	8.7	19.5
D52	4	Clouds	15.5	19.0
D53	4	36	17.0	18.5
D54	8	5	16.0	18.2
D55	7	10	16.7	18.4
A68	27	27	16.8	9.5
A68	30	26	NM	End of Mission

NOTE: "NM" denotes Not Measurable.

Handle Via [redacted] Control System Only

[redacted]

7. Density readings were taken on each pass, using the MacBeth Quantalog Densitometer, Model EP 1000, with an EP 20 attachment and an 0.5 mm aperture. Terrain and Limiting density readings for D Max, D Min, and Gross Fog values are correlated below.

Reading	Pass	Frame	Terrain		Limiting		Gross Fog		
			D Min	D Max	D Min	D Max	Leading	Center	Trailing
1	A01	38	0.66	1.76	0.66	1.78	0.21	0.21	0.21
2	D01	15	0.54	2.02	0.54	2.07	0.21	0.21	0.21
3	A02	35	0.60	1.66	0.60	2.04	0.21	0.21	0.21
4	D07	31	0.66	1.66	0.68	2.06	0.22	0.22	0.22
5		86	1.06	1.70	0.58	2.04	0.22	0.22	0.22
6	D08	53	0.79	1.54	0.72	2.01	0.23	0.23	0.23
7		107	0.68	1.52	0.68	2.12	0.21	0.22	0.22
8	A09	NR	NR	NR	NR	NR	NR	NR	NR
9	D09	61	0.69	1.24	0.69	2.00	0.19	0.22	0.21
10		NR	NR	NR	NR	NR	NR	NR	NR
11	A14	20	0.90	1.62	0.89	2.06	0.20	0.27	0.21
12	A15	18	NR	1.76	1.26	2.06	0.21	0.22	0.21
13		31	0.76	1.54	0.76	2.07	0.20	NR	0.21
14	D15	14	0.71	0.56	0.71	2.00	0.16	0.17	0.15
15	A16	8	0.92	1.97	0.92	1.97	0.14	0.14	0.14
16		36	0.84	1.92	0.84	2.12	0.20	NR	0.23
17	A17	14	1.12	2.00	1.12	2.06	0.20	NR	0.23
18		78	1.09	1.96	1.09	2.00	0.22	0.25	0.22
19	D22	41	1.24	1.72	0.69	2.26	0.20	NR	0.23
20	D23	17	0.78	1.60	0.78	2.16	0.20	NR	0.21
21		97	0.66	1.64	0.65	2.19	0.20	NR	0.22
22	D24	41	0.61	1.60	0.61	2.14	0.20	NR	0.21
23		103	0.76	1.60	0.76	2.22	0.23	NR	0.24
24	A29	4	0.94	1.60	0.80	2.21	0.24	0.24	0.24
25	A30	15	0.84	2.10	0.84	2.21	0.22	0.24	0.23
26		53	0.74	1.62	0.64	2.10	0.23	NR	0.24
27	A31	31	0.64	2.14	0.64	2.14	0.24	NR	0.24
28	A32	26	0.96	1.44	0.96	2.04	0.20	NR	0.20
29		43	0.80	1.52	0.60	2.20	0.26	NR	0.26
30	A33	3	0.85	1.52	0.65	2.04	0.25	0.25	0.25
32	A34	5	0.66	1.62	0.66	2.16	0.24	0.26	0.26
32		50	0.64	1.52	0.64	2.12	0.23	NR	0.22
33	A35	NR	NR	NR	NR	NR	NR	NR	NR
34	D36	9	0.60	1.44	0.60	2.08	0.22	NR	0.24
35	D37	NR	NR	NR	NR	NR	NR	NR	NR
36		107	0.75	1.60	0.75	2.04	0.22	NR	0.24
37	D38	23	0.80	1.68	0.60	2.10	0.24	NR	0.24
38		139	0.55	2.02	0.55	2.10	0.22	NR	0.24
39	D39	7	0.84	1.57	0.84	2.15	0.22	0.22	0.22
40		69	0.90	1.72	0.90	2.18	0.23	NR	0.25
41	A46	12	0.62	1.92	0.62	1.92	0.22	0.22	0.23
42	A47	15	0.72	1.60	0.72	1.60	0.22	0.22	0.22
43	A48	45	0.78	1.72	0.78	2.10	0.20	NR	0.25
44	A49	18	0.60	1.60	0.60	2.08	0.21	NR	0.22
45	A50	21	0.78	1.46	0.78	2.12	0.25	NR	0.26
46	D50	17	0.72	1.60	0.72	2.22	0.25	NR	0.25
47	D52	42	0.74	1.74	0.60	2.32	0.26	NR	0.26
48		78	0.84	2.12	0.68	2.26	0.24	NR	0.24
49	D53	11	0.72	1.60	0.72	2.18	0.24	NR	0.25
50		NR	NR	NR	NR	NR	NR	NR	NR
51	D54	11	0.75	2.10	0.75	2.18	0.25	NR	0.25
52		107	0.80	1.66	0.78	2.18	0.22	NR	0.24
53	D55	70	0.42	1.90	0.42	2.09	0.19	NR	0.20
54		NR	NR	NR	NR	NR	NR	NR	NR

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[redacted]

Reading	Pass	Frame	Terrain		Limiting		Gross Fog		
			D Min	D Max	D Min	D Max	Leading	Center	Trailing
55	A62	25	0.64	1.62	0.74	2.18	0.17	0.20	0.18
56	A63	36	0.67	1.48	0.78	2.00	0.18	NR	0.20

NOTE: "NR" denotes Not Readable

Terrain

D Max Range 2.14-1.24
D Min Range 1.24-0.42
Gross Fog Range at Leading Edge 0.26-0.17
Average D Max 1.62
Average D Min 0.81
Average Gross Fog at Leading Edge 0.22

Limiting

D Max Range 2.32-1.60
D Min Range 1.26-0.42
Average D Max 2.09
Average D Min 0.76

PART III. FRAMING CAMERA

Mission No: 9038
Camera No: 60
Camera Setting: f/6.3, 1/250 second
Filter: Wratten 21
Film Type: 7J-30-135 (SO 130)
Evaluated By: [redacted]

The framing camera in this mission was not operational. Approximately 35 feet of film was received but no terrain imagery was present. Light leaks of varying densities are present in the last 16" of film and these extended across the entire width of the film. Limiting edges of the light leak pattern, both forward and aft, are fairly sharp and straight. Irregularly shaped static discharges are present in the light leak area; these static marks vary from 1/2" to 3/4" in width. Other "spot" static discharges are also present in this area. In addition there are five consecutive images of a piece of tape. All of the remainder of the film was black.

Handle Via [redacted]
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[redacted]

PART IV. VEHICLE ATTITUDE DATA

Pass	Pitch Variation		Pitch Range	Roll Variation		Roll Range	No of Frames
A01	12°56'	12°50'	0°06'	-01°35'	-01°36'	0°01'	36
	13 08	13 02	0 06	-01 43	-01 41	0 02	19
D01	13 29	13 12	0 17	-01 49	-01 50	0 01	22
	13 32	13 27	0 05	-01 51	-01 53	0 02	25
A02	12 16	13 21	0 03	-02 05	-02 03	0 02	73
D07	14 04	14 06	0 02	-01 29	-02 36	0 07	123
D08	13 44	14 19	0 35	-00 57	-01 32	0 35	112
A09	13 56	13 21	0 34	-01 29	-01 33	0 04	10
D09	13 47	14 00	0 13	-01 03	-01 11	0 08	74
A14	13 31	14 46	1 15	-01 34	-00 59	0 35	49
A15	13 56	13 54	0 04	-02 46	-01 56	0 10	17
	13 45	13 23	0 22	-01 45	-01 44	0 01	33
D15	13 24	13 25	0 01	-02 44	-02 19	0 25	17
A16	12 49	12 48	0 01	-01 20	-01 00	0 20	16
	13 14	13 21	0 07	-01 49	-02 10	0 21	42
A17	13 51	12 59	0 52	-01 46	-01 26	0 20	22
	13 06	13 39	0 33	-02 41	-02 01	0 40	32
	13 38	13 23	0 15	-02 28	-01 24	1 04	27
D22	13 46	13 55	0 11	-01 11	-01 41	0 30	64
D23	13 43	14 12	0 29	-01 12	-01 16	0 04	64
	13 56	13 56	0 00	-01 23	-01 16	0 07	47
D24	14 06	14 25	0 17	-01 22	-01 23	0 01	113
A29	14 32	14 32	0 00	-01 24	-01 04	0 20	26
A30	13 40	14 34	0 54	-01 44	-00 44	1 00	67
A31	12 27	13 00	0 33	-01 35	-01 30	0 05	33
	13 22	12 56	0 24	-02 45	-01 43	1 02	28
A32	13 57	13 10	0 47	-01 42	-00 29	1 13	52
A33	13 25	13 41	0 16	-01 00	-00 44	0 16	35
A34	14 32	13 52	0 40	-01 07	-00 56	0 11	63
A35	15 26	14 24	1 02	-01 44	-01 19	0 25	43
D36	15 13	14 51	0 22	-01 47	-01 43	0 04	42
D37	13 56	14 05	0 09	-01 10	-02 52	1 42	114
D38	14 11	13 49	0 22	-01 50	-01 24	0 26	53
	13 57	14 10	0 13	-01 11	-02 22	1 11	123
D39	13 47	13 54	0 07	-01 45	-01 21	0 24	128
A46	13 54	14 23	0 29	-01 34	-00 58	0 36	40
A47	12 40	14 16	1 36	-00 52	-01 26	0 34	29
	14 06	13 07	1 01	-02 37	-01 31	1 06	49
A48	14 16	13 36	0 38	-00 56	-01 32	0 36	60
A49	14 48	14 45	0 03	-01 22	-00 55	0 27	46
A50	13 47	13 58	0 11	-00 53	-00 57	0 04	63
D50	13 34	13 35	0 01	-01 29	-01 05	0 24	20
	13 25	13 54	0 29	-01 30	-02 09	0 39	27
D52	14 11	13 30	0 41	-01 34	-03 03	1 29	114
D53	14 56	14 27	0 29	-01 20	-01 34	0 14	72
D54	13 53	13 49	0 04	-01 10	-01 03	0 07	167
D55	14 08	13 38	0 30	-01 10	-01 24	0 14	117
A62	14 56	14 12	0 44	-01 55	-00 30	1 25	67
A63	14 40	14 47	0 07	-00 43	-01 06	0 23	20
	15 18	14 40	0 38	-01 52	-01 51	0 01	27

Handle Via [redacted]
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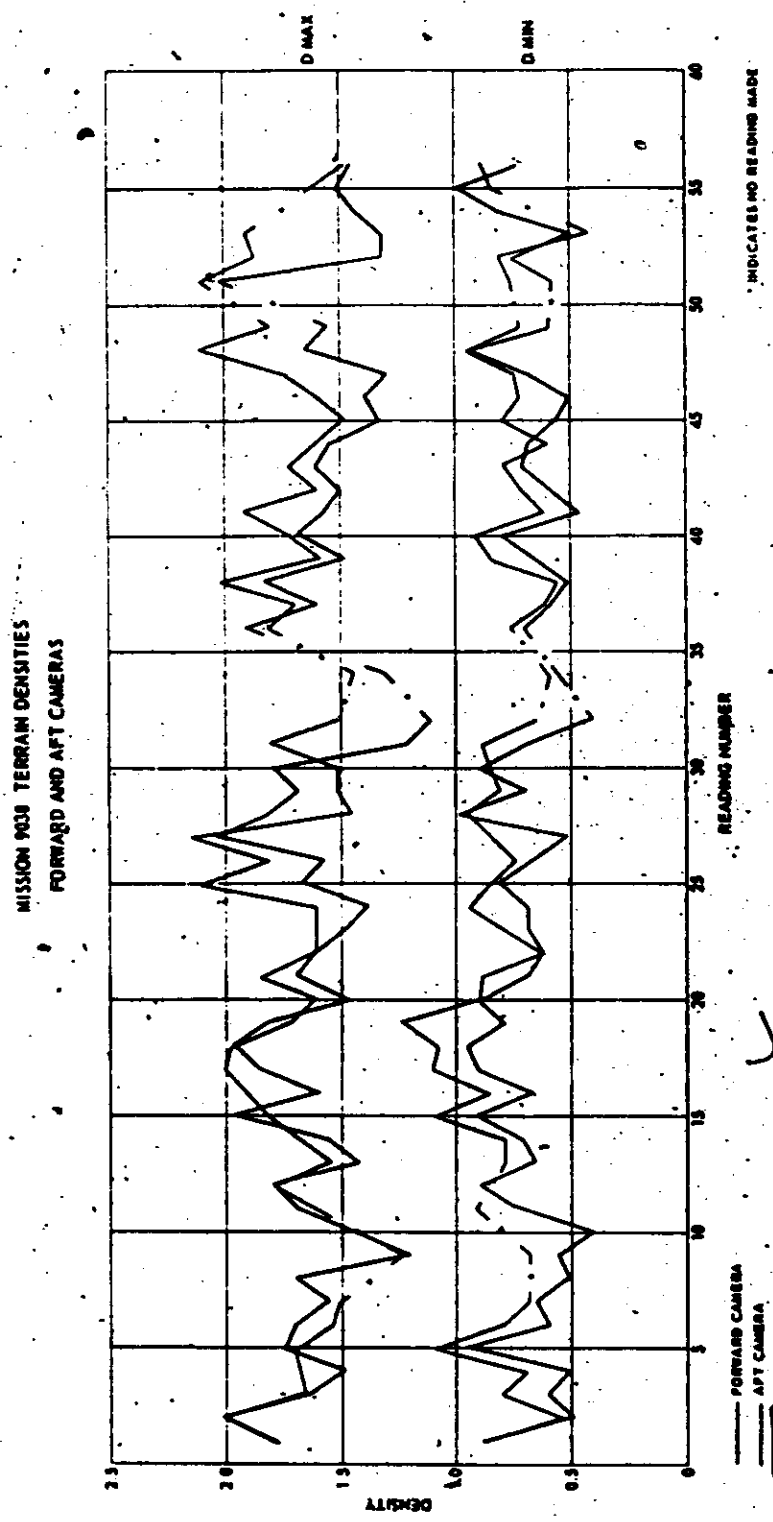
[redacted]

PART V. DENSITY CHARTS



Handle Via
[redacted]
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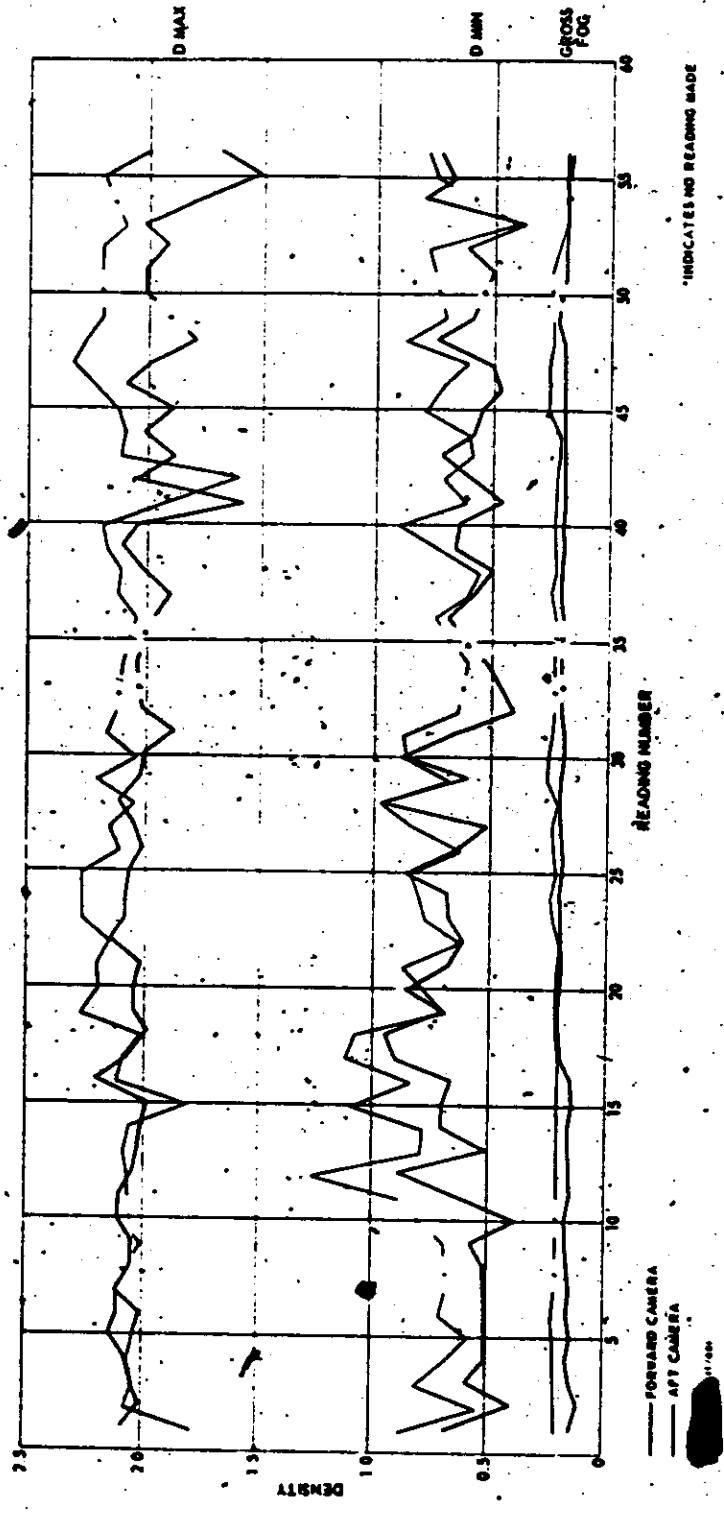

Handle Via
[redacted]
Control System Only