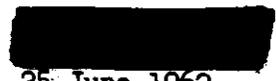




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ORA



25 June 1962

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PHOTOGRAPHIC EVALUATION REPORT
AFT CAMERA

Mission No: 9032
Film Type: J-23-7600
Camera No: 73 AFT

Photo Date: 18 April 62
Filter, Main: W 21
Evaluated By:

Evaluation No.: FE 30-62
Filter, Horizon: W 25

1. Shutter Operation:
 - a. Port Horizon - Good
 - b. Starboard Horizon - Good
2. Slit Width - (Main Camera) 0.2" - Good
3. Exposure:
 - a. Port Horizon = 1/50 sec, overexposed
 - b. Starboard Horizon = 1/50 sec, overexposed
4. Camera Number: Operational, slightly overexposed
5. Binary Operation: Operational throughout mission. Slightly overexposed
6. Film Metering:

Port Horizon Camera - 0.11"
Starboard Horizon Camera - 0.20"
7. Film Tracking: Normal throughout mission
8. Timing Pulses: Pulses are more legible than those of forward camera. Flare from timing pulses has spread slightly into trailing edge of terrain format.
9. Fiducials:
 - a. Main Camera - center, and one 3" from center partially filled (ragged); others clean.
 - b. Horizon Cameras - operational although slightly overexposed.
10. Flare: None noted.
11. Light Leaks: A light leak is present on the leading edge of the frames and extends into the main format on frame 1 of each pass. Additional light leaks are the "bar pattern", usually two or three frames from the end of pass or camera-off position on split passes; a single diagonal pattern either on the last or next-to-last frame and in the first frame of each pass; additional fogging is found intermittently near the beginning and end of passes. Examples: Pass D00E, frames 1, 4, 5; pass D03, frames 1, 51, 52; pass D05, frames 1, 12, 13, 71. A shadow pattern can be noted intermittently in the Port Horizon Camera, Example: D00E, frame 6.
12. Static Electricity - few examples in the AFT camera frames: Pass D20, frame 51; pass D33, frame 25. Static is frequently observed where the film clamp was engaged near the horizon cameras.
13. Pinholes: None noted.
14. Abrasions and Scratches: Camera induced scratches (quite deep) throughout most of mission below fiducial located four inches from frame border and/or below camera number. Examples: Pass D05, pass D07, pass A17, pass A30. Other scratches are found intermittently throughout the mission. Examples: Pass A02, frames 1, 26, 61-63, 90; pass A17; frame 17; pass A19, frames 11, 76.



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15. Tearing: No film tearing found
16. Water Marks: Few observed. Examples: Pass D03, frame 31; Pass D09, frame 11; Pass D24, frames 59-61, 67.
17. Pressure Streaks: Present throughout mission on base side of film.
18. Processing Streaks: None evident.
19. Blistering and Frilling: No frilling evident. Few blisters are present. Examples: Pass A04, frames 19, 37; Pass A17, frame 15; Pass D20, frame 5; Pass D21, frame 138.
20. Contrast: Low 15%, Medium 75%, High 10%
21. Apparent Resolution:
 - a. Main Camera - Imagery obtained is not quite as sharp as that obtained by the forward camera, however, it is better than that obtained from any previous mission. No out-of-focus areas were noted.
 - b. Horizon Cameras:
 - Port Horizon Camera - out-of-focus
 - Starboard Horizon Camera - good
22. Apparent Granularity - Fine
23. Photo Quality:
 - a. Main Camera - good. Degradation due to a negative density streak that is present the entire width of frame, 0.25 inch into the terrain format near the leading edge of the film. Other plus-density and negative-density streaks are present intermittently throughout the mission.
 - b. Horizon Cameras - fair; Port Horizon Camera, out-of-focus. Reflections present in some frames. Example: Pass D00E, frames 2, 4, 6. Mostly overexposed.
24. Camera Operation:
 - a. Main Camera - good
 - b. Horizon Camera - good
25. Suitability for P.I.: Although the imagery is not quite as sharp as that from the forward camera it is the best obtained from any mission to date, as this item is classified as good.

Remarks:

1. The end-of-pass marker functioned correctly although slightly heavy (overexposed). No "blossoming" is present.
2. The light leak pattern as described in Mission 9029, Item 9C, appears from Pass A20 to the end of the mission resulting in fogging frame 3, and after Pass D33 frames 4 and intermittently frame 5. Other light leak patterns are fully described under Item 11 of this report.
3. Multiple binary recordings are found usually associated with the camera-off at the end of a pass and during split passes. Occasionally, a blurred binary is found on a frame not associated with the end of a pass.
4. Numerous small crimps are present, the majority of which should be attributed to film handling after arrival of the film from the processor.
5. Lifted emulsion is present intermittently on the film. Examples: Pass D00E, frames 1, 2, 5; Pass D05, frames 10, 98, 105; Pass A17, frames 1, 15, 28, 31; Pass D33, frames 2, 3, 10, 24, 25.
6. Foreign matter on the film is present intermittently throughout the film and ranges from gum transfer from splices to particles embedded in the emulsion. Examples: Pass D03, frames 10, 21, 52, 53; Pass D09, frames 61, 67, 68, 75, 92; Pass D21, frames 2, 58, 110, 113, 116, 118, 148, 158.

7. Few densensitized spots are present on the film. Examples: Pass DOOE, frames 1, 3; Pass D05, frame 96; Pass D24, frame 107.
8. The following is a description of overlap and slippage for camera 73 as determined from the first and last frames of each pass whenever possible. Cloud cover, low sun angle and no imagery may have precluded determination in these areas for some passes.

Pass	Overlap		Slippage (From take-up side)	
	Beginning	End	First Frame	Last Frame
DOOE	---	----	None	6.62"
D01	---	---	4"	5.37"
A02	12%	21%	3.50"	10"
A03	8%	23%	----	10.37"
D03	8%	---	----	16"
A04	----	---	14.12"	10.50"
D04	4%	---	None	15.25"
D05	None	12%	12.75"	18"
D06	None	8%	15.50"	18.12"
D07	None	3% (Frame 39)	16.12"	16.12"
D08	None	8%	14"	14"
A09E	----	----	13.75"	3"
D09	None	5%	0.37"	15.25"
A13	None	7%	13.50"	6.37"
A17	None	1%	4.50"	5.75"
A18	None	2% (Frame 49)	3.75"	8"
A19	None	4%	Not Measurable	8.25"
A20	----	---	Not Measurable	7.75"
D20	None	None	Not Measurable	12.75"
D21	None	None	Not Measurable	15.25"
D24	None	----	13.37"	Not Measurable
A25E	----	----	Not Measurable	2"
A29	----	----	Not Measurable	7"
A30	None	----	5"	6.50"
A31	None	12%	4.50"	7.50"
D31	None	None	5.50"	13.25"
A32	----	----	Not Measurable	8"
A33	None	15%	Not Measurable	12"
D33	None	12%	9.25"	Not Measurable

9. Density readings were made on every pass using the Eastman Kodak Reflection-Transmission Color Densitometer, Model RT. Absolute values read for D Max, D Min, Gross Fog and Sun Angle are as follows:

Pass	Frame	D Max	D Min	Gross Fog	Sun Angle
A02	09	1.96	0.76	0.20	18° 31'
	84	2.17	----	0.20	24° 29'
A03	23	2.10	0.91	0.20	20° 00'
	80	2.06	0.97	0.20	24° 16'
D03	23	2.10	1.00	0.18	26° 18'
	43	2.16	0.50	0.19	25° 26'
A04	29	2.21	0.92	0.19	25° 17'
D04	21	2.11	0.74	0.18	24° 42'
	25	2.14	0.66	0.18	24° 31'
D05	18	2.18	----	0.20	26° 50'
	52	2.06	0.80	0.17	25° 35'
D06	110	1.60	0.60	0.18	21° 28'
	37	1.94	0.86	0.18	25° 55'
D07	81	1.76	0.49	0.16	21° 28'
	03	2.17	0.99	0.19	27° 21'
D08	79	2.15	----	0.20	23° 33'
	43	2.00	0.78	0.17	27° 21'
	95	1.85	0.60	0.19	25° 30'

<u>Pass</u>	<u>Frame</u>	<u>D Max</u>	<u>D Min</u>	<u>Gross Fog</u>	<u>Sun Angle</u>
D09	18	2.12	----	0.20	27° 06'
	77	2.02	0.74	0.19	24° 36'
A13	26	2.16	----	0.18	20° 24'
A17	15	2.00	0.94	0.17	18° 38'
A18	15	1.90	1.04	0.16	18° 27'
	64	2.20	----	0.18	23° 49'
A19	11	2.04	----	0.16	17° 43'
	80	2.20	----	0.16	25° 02'
A20	18	2.22	1.15	0.15	25° 03'
D20	24	1.97	0.86	0.15	27° 06'
D21	14	2.21	1.09	0.16	28° 42'
	47	2.09	0.55	0.15	27° 39'
	117	2.01	0.57	0.17	22° 31'
D24	52	1.91	0.99	0.19	28° 22'
	73	1.56	0.71	0.21	27° 34'
	103	2.00	0.76	0.20	26° 06'
A29	10	2.02	----	0.20	18° 16'
A30	11	1.97	0.81	0.18	16° 22'
A31	33	2.05	----	0.21	19° 39'
D31	12	2.05	1.00	0.21	26° 45'
A32	17	2.12	----	0.20	17° 06'
A33	02	2.06	0.97	0.21	16° 18'
	42	2.16	----	0.22	21° 17'
D33	25	2.07	----	----	30° 17'

Average D Max 2.04
Average D Min 0.82
Average Gross Fog 0.18

Range D Max 2.22 - 1.56
Range D Min 1.15 - 0.50
Range D Max to D Min 2.22 - 0.50
Range Gross Fog 0.22 - 0.15