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7 May 1962
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PHOTOGRAPHIC EVALUATION REPORT
AFT CAMERA

Mission No: 9031 Photo Date: 27 Feb 62 Evaluation No. PE 21-62
Film Type: J-23-7600 Filter, Main: W 21 Filter, Horizon: W 25
Camera No: 71 Evaluated By: [redacted]

1. Shutter Operation:
   a. Port Horizon - Camera functioned intermittently after pass 05, frame 12.
   b. Starboard Horizon - Good

2. Slit Operation (Main) 0.2" - Good

3. Exposure:
   a. Port Horizon - 1/100 sec
   b. Starboard Horizon - 1/50 sec

4. Camera Number: Good

5. Binary Operation: Good, though varying lamp intensities may hinder automatic readout. Lamps appeared to bloom more on the aft camera than on the fwd camera. See Number 3 in Remarks.

6. Film Metering: 0.1". First and last frames of every pass show indications of some type of film creep or slippage.

7. Film Tracking: Normal

8. Timing Pulses: Pulses appear too close to the edge of the format causing difficulty in readout.

9. Fiducials:
   a. Main Camera - fiducials are ragged and filled with flakes of emulsion.
   b. Horizon Cameras - sharp with very little flare.

10. Flare: None noted

11. Light Leaks: A total of 81 frames are degraded by light leaks which occur at the beginning and end of every pass. Descriptions of specific light leaks are enumerated under Number 1 of Remarks.

12. Forward Overlap: Gaps in overlap occur in some passes north of 70° N latitude. Example, passes 21, 37. The majority of the passes contained some overlap throughout. Average overlap appeared to be approximately 10%.

13. Static Electricity: Pass 18, frame 03; pass 24, frame 105; pass 25, frame 03.

14. Pinholes: Intermittent throughout the mission.

15. Abrasions and Scratches: Innumerable fine processing abrasions occur throughout the mission. Small camera-induced scratches and digs appear in the image area near the leading and trailing edges of every frame. Miscellaneous small digs and scratches having no specific pattern occur on approximately 82 frames throughout the mission

16. Tearing: None

17. Processing Streaks: Very few. Some bleeding from dense imagery occurs intermittently in high contrast areas, beginning on pass 34 to end of mission.

18. Pressure Streaks: Numerous thin white desensitized streaks are present on most frames trhoughout the mission. Numerous small black shiny spots occur on the emulsion side of the film. Small comet-shaped minus density spots occur on pass 02, frame 14; pass 05, frames 08, 22; pass 08, frame 183; pass 21, frame 07; pass 23, frames 7, 23, 88, 107; pass 24, frames 02, 33, 67, 77; pass 36, frame 25; pass 54, frame 62; pass 66, frames 1, 9. Banding perpendicular to the flight line is present on pass 05, frame 11; pass 07, frames 111-113; pass 20, frames 41-50; pass 25, frames 16-28; pass 36, frames 03, 06, 10, 14, 15, 16, 93-97; pass 37, frames 01-37. A large camera-induced fog patch occurs intermittently 3" in from the east edge of the main format. When present, it recurs in 6" intervals throughout several frames.

19. Water Marks: Very few. Example, pass 39, frame 08.

20. Blistering and Frilling: Small blisters are present on 104 frames scattered throughout the mission. No frilling is present.

21. Density: Heavy 15%, Medium 85%
    a. Heavy density due to atmospheric conditions and snow.

22. Contrast: Medium

23. Apparent Resolution: Fair to poor. Entire main format area appears out-of-focus with imagery becoming more degraded toward the trailing edge of the format. The aft camera did not approach the quality of the fwd camera or of previous missions.

24. Apparent Granularity: Fine

25. Photo Quality:
    a. Main camera - fair to poor - degradation due mainly to a focus problem.
    b. Horizon cameras - very good

26. Camera Operation:
    a. Main camera - fair- degradation due mainly to a focus problem.
    b. Horizon cameras:
        1. Port - camera functioned intermittently after pass 05. When functional, imagery was very good.
        2. Starboard - very good

27. Suitability for PI: Poor 50%, fair 50%. Degradation due mainly to atmospheric conditions and a focus problem.

Remarks:

1. Four specific patterns of light leaks occur in the camera. They are enumerated below:
    a. Bar- or Bow-shaped light leak usually occurs on the first, third from last or last frame of every pass.
    b. A circular light leak or reflection occurs on the first frame of some passes. Example, pass 34, frame 01.
    c. A branched pattern occurs on pass 20, frame 80; pass 36, frame 03; pass 38, frame 03; pass 40, frame 03.
    d. A diagonal light streak occurs on pass 20, frame 78.
    e. Miscellaneous fogging occurs intermittently on the first, third, third from last and last frame of many passes.

2. The trailing edge of every frame appears ragged due to an accumulation of emulsion along the rails.

3. Multiple exposure of the binary lights occur on the last frame of most passes.

4. A slight density change occurs within the horizon formats, extending from the horizon image to the edge of the format. This may occasionally interfere with automatic readout.

5. Numerous small crimps occur throughout the mission. Creasing appears on pass 23, frames 58, 59, 67; pass 40, frame 132; pass 56, frames 94-99.

6. Skiving occurs intermittently throughout the mission.

7. Small bits of emulsion have been pulled from several frames in the mission.

8. Plus density spots with minus density centers occur on most frames. These were caused by the spray hypo rinse misting during processing.

9. Foreign bits of wax and lint may be found embedded in the emulsion on several frames throughout the mission.

10. Titling is smudged on pass 21, frames C1, 02, 06, 10, 11; pass 36, frames 05-14.

11. On pass A 40E, frame 03 not titled, frame four titled frame 03.

12. Titling erased and retitled on pass 36, frame 31.

13. Fingerprints occur on pass 22, frames 09, 10, 11, 14, 23, 24; pass 23, frames 10, 27; pass 37, frame 13; pass 47, frame 36.

14. A few cinch marks are present scattered throughout the mission.

15. The film was processed in the Speltron and given full development.

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

Pass	Frame	D Max	D Min	Base Fog
01	7	2.23	1.15	0.18
02	8	1.68	0.63	0.14
03	18	1.97	0.90	0.15
05	12	1.70	0.89	0.17
	65	2.20	1.17	0.17
	83	2.04	0.75	0.15
	104	2.24	----	0.17
07	38	1.94	1.00	0.16
	151	2.16	1.20	0.16
	158	2.17	0.92	0.17
08	06	1.92	0.30	0.14
	188	2.10	0.96	0.16
09	21	2.01	0.71	0.16
	107	2.26	0.83	0.16
18	34	1.99	0.64	0.18
19	33	2.29	0.40	0.16
20	06	2.23	1.05	0.16
21	09	1.62	0.56	0.15
	99	2.17	----	0.15
	122	2.02	0.72	0.16
22	26	2.14	0.68	0.17
23	109	2.00	1.00	0.16
24	7	1.98	0.25	0.16
	79	1.96	0.75	0.15
25	03	2.01	0.46	0.17
	92	2.15	----	0.16
34	05	2.19	0.39	0.15
35	04	2.16	0.79	0.17
36	14	1.46	0.52	0.16
	45	2.23	0.82	0.17
37	20	1.51	0.71	0.15
	54	2.01	0.75	0.17
	128	1.96	1.05	0.17

Pass	Frame	D Min	D Max	Base Fog
38	06	2.01	0.64	0.16
39	04	2.03	0.59	0.17
	35	2.10	1.05	0.15
	112	2.25	1.25	0.17
40	06	2.08	0.25	0.17
	76	2.04	0.62	0.18
	156	2.02	0.65	0.14
41	02	2.03	0.29	0.16
	81	2.08	0.50	0.16
	167	2.19	----	0.15
47	33	2.23	0.96	0.14
54	63	2.13	----	0.15
	101	2.19	0.98	0.14
55	07	1.98	0.49	0.15
	100	2.14	0.95	0.15
56	17	1.90	0.70	0.15
	89	1.97	1.10	0.14

Average D Max 50 readings 2.02
Average D Min 45 readings 0.75
Average Base Fog 50 readings 0.16

Range D Max 2.29 - 1.46
Range D Min 1.25 - 0.25
Range D Max to D Min 2.29 - 0.25