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PHOTOGRAPHIC EVALUATION REPORT
FORWARD CAMERA

Mission No: 9031
Film Type: J-23-7600
Camera No: 70

Photo Date: 27 Feb 62
Filter, Main: W 21
Evaluated By: [redacted]

Evaluation No: FE 20-62
Filter, Horizon: W 25

1. Shutter Operation:
   a. Port Horizon - Good
   b. Starboard Horizon - Good

2. Slit Operation (Main) 0.2" - Good

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

4. Camera Number: Not functional on the last frame of every pass, otherwise operational but slightly overexposed.

5. Binary Operation: Good, though varying lamp intensities may hinder automatic readout. See Number 5 in Remarks.

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

7. Film Tracking: Normal

8. Timing Pulses: Pulses occur in the image area and are illegible except on engineering passes that contain no imagery.

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 85 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 2 of Remarks.

12. Forward Overlap: Gaps in overlap occur in all passes at some point north of 60° N latitude. Average overlap below 60° N latitude is 4%.

13. Static Electricity: Occurs on pass 36, frames 03, 33-110; pass 39, intermittent throughout pass; pass 40, frames 01-194.

14. Pinholes: Intermittent throughout 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. Heavy rail scratches occur outside the format on leading and trailing edges. Miscellaneous small scratches and digs having no specific pattern occur on approximately 120 frames scattered throughout the mission.

16. Tearing: None. 1/3 of a frame is missing pass 57, frame 22.

17. Processing Streaks: Plus density streaks appear on pass 19; pass 20, frames 20, 25; pass 24, frame 27; pass 56, frames 73, 74; pass 57, frames 21, 22.

18. Pressure Streaks: Numerous thin white desensitized streaks occur on most frames throughout the mission. Numerous small black shiny spots appear on the emulsion side of the film throughout the mission. Desensitized streaks occur on pass 00E,

frame 01; along the leading edge throughout pass 03; pass 05, frame 08; pass 20, frame 31; pass 25, frames 14, 15. Desensitized spots occur in pass 23, frame 68; pass 24, frame 22; pass 37, frame 26; pass 40, frames 33, 134. Banding perpendicular to the flight-line occurs on pass 03, frame 40; pass 36, frames 4, 5; pass 40, frames 188, 189.

19. Water Marks: Very few

20. Blistering and Frilling: Small blisters are present on thirty-seven frames scattered indiscriminantly throughout the mission. Frilling is not evident.

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

22. Contrast: Medium

23. Apparent Resolution: Fair. Imagery appears slightly out-of-focus near the leading and trailing edges of the film. Resolution does not compare favorably with previous missions.

24. Apparent Gramularity: Fine

25. Photo Quality:
    a. Main Camera: Fair - degradation due mainly to a focus problem.
    b. Horizon Cameras: Very good - best imagery obtained in this system to date.

26. Camera Operation:
    a. Main Camera: Fair - degradation due mainly to a focus problem.
    b. Horizon Cameras: Very good

27. Suitability for PI: Poor 20%, Fair 80%. Degradation due mainly to atmospheric conditions and focus problem.

Remarks:

1. The end-of-pass marker did not function throughout the mission.

2. The four specific types of light leaks are enumerated as follows:
    a. Bar- or Bow-shape - usually occurs on first, third from last and last frame of most passes. Example, pass 08, frames 01, 199.
    b. Circular shape - occurs only on first frame of some passes. Example, pass 05, frame 01.
    c. Diagonal light leaks occur on pass 20, frame 75; pass 25, frame 92.
    d. Undifferentiated fogging occurs on the third, and third from last frames of some passes.

3. The Starboard horizon image lies 1.2" inside the main format on the last frame of the mission.

4. The trailing edge of every frame is ragged, due to an accumulation of emulsion along the rails.

5. Multiple exposure and streaking of binary lights occur on the last frame of every pass.

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

7. Numerous small crimps occur throughout the mission. Creasing appears on pass 21, frames 44, 99; pass 40, frame 87.

8. Skiving occurs intermittently throughout the mission.

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

10. Plus density spots with minus density centers occur on every frame of the mission. These were caused by the spray hypo rinse misting, during processing.

11. Foreign matter consisting of bits of wax and lint are present on several frames in the mission.

12. Titling is smudged on pass 24, frame 12; pass 41, frames 146-149.

13. Titling was erased and retitled on pass 21, frame 01; pass 41, frames 01-04.

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

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

Pass	Frame	D Max	D Min	Base Fog
01	08	2.00	0.49	0.15
02	06	1.92	0.33	0.14
03	12	1.94	0 .90	0.15
05	73	1.91	0 .48	0.15
	84	2.06	0.81	0.14
	94	2.25	----	0.15
07	38	1.95	0.78	0.14
	146	2.22	0.65	0.14
	158	2.15	0.68	0.15
08	6	2.01	0.33	0.16
	76	2.08	0.95	0.14
	157	1.70	0.74	0.16
09	14	1.92	0.72	0.14
	97	2.16	0.62	0.13
18	27	2.03	0.52	0.14
19	33	2.05	0.22	0.13
20	06	2.05	0.53	0.15
21	03	1.34	0.49	0.15
	88	2.09	1.24	0.15
	110	2.01	0.63	0.14
22	26	2.05	0.54	0.14
23	05	1.93	0.54	0.13
	47	1.98	1.09	0.17
	81	2.10	----	0.17
	109	2.06	0.74	0.18
24	07	1.98	0.22	0.12
	79	1.96	0.98	0.14
25	04	2.04	0.94	0.14
	89	2.14	1.15	0.16
34	05	2.06	0.42	0.16
35	05	1.98	1.19	0.18
36	14	1.60	0 .80	0 .17
	45	2.16	0 .74	0 .17
37	14	1.73	0 .75	0 .18
	97	2.11	0 .57	0 .16
	132	1.62	0 .55	0 .17
38	3	1.97	0 .58	0 .18
	35	2.08	0 .62	0 .15
39	04	1.98	0 .65	0 .16
	106	2.12	----	0 .16
40	06	1.74	0 .24	0 .16
	77	2.14	0 .90	0 .17
	147	2.10	0 .52	0 .16
41	2	1.96	0 .30	0 .15
	81	2.02	0 .57	0 .16

Pass	Frame	D Max	D Min	Base Fog
41	95	2.02	0.25	0.16
	133	2.06	0.61	0.14
	159	2.24	----	0.18
47	29	2.09	1.04	0.15
54	55	2.14	----	0.17
	97	1.78	0.66	0.14
55	06	1.02	0.52	0.16
	83	2.20	----	0.16
	87	2.21	0.81	0.16
	96	2.11	----	0.16
56	17	1.97	0.62	0.16
	89	2.01	1.21	0.16
	147	2.04	0.66	0.17
57	04	2.13	0.69	0.17

Average D Max 59 readings 1.99
Average D Min 52 readings 0.67
Average Base Fog 59 readings 0.15

Range D Max 2.25 - 1.02
Range D Min 1.24 - 0.22
Range D Max to D Min 2.25 - 0.22