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23 January 1961

PHOTOGRAPHIC EVALUATION REPORT

Mission No: 9013 Photo Date: 7 December 1960 Evaluation No: FE 7-61
Camera No: 19 Filter, Main: W21 Filter, Horizon: W25
Film Type: J 16 Evaluated by: [Redacted]

1. Shutter Operation:
 - a. Left horizon - shutter good (See remarks #1 below)
 - b. Right horizon - good
2. Slit Operation (main): First and last exposure of each pass shows evidence of "ghost" image of format superimposed. Otherwise operation normal.
3. Camera Number (Image Quality): Good
4. Digitote Operation (VT): Erratic. Varied from frame to frame. Ranged from 2.2 to 4.0 seconds. Time correlation worksheet indicated complete stoppage on some frames.
5. Film Metering: .29" to .41" Average about .32"
6. Film Tracking: good
7. Timing Pulse:
 - a. First frame on each pass varied from 75 to 169 pulses. Last frame each pass 68 to 85 pulses. Approximate middle each pass 66 to 76 pulses.
 - b. Sharpness - fairly sharp.
8. Shrinkage Markers: Sharp and distinct. Distance between shrinkage markers, X axis, averaged 28.057 inches.
9. Fiducials:
 - a. Main Camera - center sometimes ragged and indistinct
 - b. Horizon Camera - top fiducial port camera sometimes indistinct.
10. Flare: None apparent
11. Light Leaks: Fogging usually encountered first and second frames of each pass, also last frame each pass. Fogging of first frame appears to be delayed light leak as it takes on distinct shape each time.
Pass No. 40 fogging exps. 25-26 and 27-31
12. Forward Overlap: Approximately 15 - 20% throughout mission.
13. Static Electricity:
 - Pass No. 1E exps. 1-2
 - Pass No. 3, exp. 51
 - Pass No. 7, exp. 176-177
 - Pass No. 8, exps. 137-140, 148
14. Pinholes: Numerous. Some of these pinholes take the shape of pieces of lint.
15. Abrasions and scratches: Very few
16. Tearing:
 - a. Camera - none
 - b. Processing - hole main camera format Pass No. 22, exp. 155. Repaired with tape base side.

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on NOV 20 1951

17. Processing Streaks: Processing stains
Pass No. 24, exp. 46
Pass No. 38, exps. 93-95.
Pass No. 40, exps 24-27
18. Pressure Marks (diagonal)
Not heavy
19. Water Marks:
Pass No. 1, exps. 14, 21, 22 (chem)
Blisters encountered = very few
20. Frilling and Blistering:
Pass No. 5, exps. 43, 100 - blisters
Pass No. 7, exps. 31, 44-45, 72 - blisters
Pass No. 9, exps. 83, 84 2 blisters
Pass No. 34, exps. 34, 45 - blisters
Pass No. 39 exps. 8-10 - frilling
Pass No. 5, exps. 120-132, 146-150 creasing and frilling
21. Density:
Thin 25% (sun angle)
Medium 50%
High 25% (Weather conditions)
22. Contrast:
Low 25%
Medium 75%
23. Apparent Resolution (see remarks #9)
Good - 22%
Fair - 78%
Note: Resolution seems to be uniform throughout the entire format. Previous mission did not show this uniformity on any particular exposure.
24. Apparent Granularity:
Medium
25. Photo Quality: Good
a. Degradation due to:
 1. digitote operation
 2. light leakage from port horizon recording format
26. Suitability for PI: Good - considering scale.

Remarks:

1. Port horizon recording format has a certain amount of light leakage making inner edge of format indistinct. Original neg. shows possible obstructions on edge of format (equally spaced and 1.8" apart). Obstructions may be responsible for film not making tight contact.
2. Small desensitized spots having regular pattern - in evidence most of mission.
3. Numerous other spots affecting emulsion sensitivity encountered throughout mission. These spots take on different shapes and sizes and are scattered at random. Should be investigated further.
4. Main camera format (trailing edge) ragged.
5. Cloud reflectivity on horizon cameras appear too intense.
6. Possible emulsion defect through center format on Pass No. 22, exps. 136-155
Continuous through said exposures.

7. Light streaks (desensitized) on:

Pass No. 1, exps. 8, 21

Pass No. 3, exp. 52

Pass No. 20, exp. 20

Pass No. 40, exp. 11

8. Special Note:

Preflight, Numerous exposures - fogged, erratic pulsing. No ground registration

Damaged exposures - completely fogged

Pass 9E, exposures 001 - 010

Pass 39E, exposures 001 - 010

Pass 24E exposures 001 - 010

Above engineering passes not titled - no image registration.

9. The apparent resolution on Mission 9009 was overrated due to a lack of standards with which to judge it. Any image would have been considered good.

The apparent resolution on Mission 9013 was judged on the basis of what we have learned to expect after viewing Mission 9009. Thus a rating of good for the apparent resolution of Mission 9013 indicates that the quality was as good as the best of Mission 9009. Fair would indicate the quality was not up to the best of Mission 9009, nor was it any worse than the average apparent resolution of that mission.

A tentative comparison of film quality and apparent resolution between Missions 9009 and 9013 indicated that Mission 9013 shows some improvement over Mission 9009.

The apparent resolution on Mission 9013 was uniform throughout the frame, whereas Mission 9009 contained frames where resolution fell off within the frame, possibly due to film not setting correctly in image plane. A lateral change in apparent resolution was noted on Mission 9009 which may have been the result of sweep difficulties. This condition does not exist on Mission 9013.