

~~SECRET~~
(When Filled In)



FILE INFO

REPRODUCTION PROHIBITED

ACTION

[REDACTED]

[REDACTED]

[REDACTED]

~~TOP SECRET~~ 152055Z NOV 68 CITE [REDACTED]

IMMEDIATE [REDACTED]

CORONA/RESIDENT OFFICE

J
Return
OSA

ATTN: PASS TO [REDACTED]

SUBJ: ULTRA THIN BASE FILM (SO 380)

1. ONE OF THE CORONA DESIGN OBJECTIVES WAS UTILIZATION OF ULTRA THIN BASE (UTB) FILM. THIS IS SO 380. AS NECESSARY PREREQUISITI TIES OF MANUFACTURING AND TESTING WERE SUCCESSFULLY COMPLETED, THE DECISION WAS MADE TO ORBIT CR 5 WITH A FULL LOAD, 24000 FEET, OF UTB. IT WAS HOPED THAT USE OF THIS MATERIAL WOULD ULTIMATELY PROVIDE GREATER WORLD WIDE COVERAGE, MORE INFORMATION AND THE OPPORTUNITY TO "STRETCH OUT" THE CORONA PROGRAM FOR A GREATER LIFETIME.

2. BECAUSE OF THE PLANNED FIRST FLIGHT WITH UTB, CR 5, IN ADDITION TO THE NORMAL RECEIVING INSPECTION, TRACKING, VIBRATION, RESOLUTION, HIVOS, ET AL., THIS WAS THE FIRST SYSTEM TO INCLUDE A DR. "A" HIVOS TEST. HIVOS IS AN ACRONYM FOR HIGH VACUUM ORBITAL SIMULATOR.

3. THE DR. "A" IS A TEST FOR DETERMINING FILM FLATNESS AND CONTOUR UNDER DYNAMIC TRANSPORT CONDITIONS. IT IS PERFORMED BY PLACING A SPECIAL TEST PLATE IN FRONT OF THE IMAGE PLANE AND ILLUMINAT

Declassified and Released by the N R C

In Accordance with E. O. 12958

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on NOV 26 1997

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ING THE PLATE WITH TWO SEPARATED POINT LIGHT SOURCES. THE TEST PLATE CONTAINS PARALLEL CLEAR LINES ON AN OPAGUE BACKGROUND WITH THE LINES PARALLEL TO THE DIRECTION OF FILM MOTION. THE TWO LIGHT SOURCES CAUSE TWO DISPLACED IMAGES OF EACH LINE TO BE PROJECTED ON THE IMAGE PLANE. THERE IS A FIXED GEOMETRY FOR THE DISTANCE BETWEEN THE TWO LINES. ONCE THE SEPARATION OF THE LINE FOR THE BEST FOCUS HAS BEEN ESTABLISHED ANY VARIATION IS DIRECTLY RELATED TO AN "OUT-OF-FOCUS" CONDITION AND THE MAGNITUDE IS A DIRECT FUNCTION OF THE LINE SEPARATION. THE LINE SEPARATIONS ARE MEASURED DIRECTLY BY SCANNING THE PROCESSED FILM.

4. HAVING SUCCESSFULLY COMPLETED ALL THE NORMAL PLUS THE ABOVE DESCRIBED DR. "A" TEST, CR-5 WAS SUCCESSFULLY LAUNCHED 3 NOVEMBER 1968. RETURN OF THE FIRST SATELLITE RECOVERY VEHICLE AND PROCESSING AND EVALUATION OF THE FIRST BUCKET MATERIAL INDICATED UTB RESULTS WERE LESS THAN ACCEPTABLE. THE [REDACTED] MESSAGE, [REDACTED] DATED 14 NOVEMBER, OUTLINES THE RESULTS OF EVALUATION CONDUCTED BY THE [REDACTED] TEAM. ALTHOUGH GIVEN MISSION MIP NUMBER OF 100, IT MUST BE EMPHASIZED THAT THIS NUMBER IS BASED UPON ONLY ONE (1) FRAME. AFTER INITIATION OF THE [REDACTED] MESSAGE, A SECOND EQUALLY GOOD FRAME WAS DISCOVERED. EXCLUDING THESE TWO (2) FRAMES, IT WAS

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STATED THAT THE MISSION WOULD HAVE RATED A 80 OR LESS MIP NUMBER.

5. THE [REDACTED] EVALUATION PLUS [REDACTED] RESIDENT OFFICE, [REDACTED] AND [REDACTED] PERSONNEL HAVE REVIEWED CR 5 MATERIAL AND ALL BELIEVE THAT THE DEGRADATION DOES NOT APPEAR TO BE ASSOCIATED WITH HARDWARE PROBLEMS OR UNCOMPENSATED IMAGE SMEAR. IT IS BELIEVED THE FILM (UTB) DID NOT MAINTAIN A STABLE POSITION DURING EXPOSURE.

6. ANALYSIS IS CONTINUING ON THE PROBLEM; HOWEVER, WE FEEL THAT CONSIDERABLE EVIDENCE CAN BE OBTAINED FROM MATERIAL IN THE SECOND RECOVERY VEHICLE NOW STILL ON ORBIT. ONE INSTRUMENT CONTAINS COLOR FILM ON THE TAIL END OF THE SUPPLY. SINCE THIS MATERIAL (SO121) IS MUCH THICKER THAN UTB, A 50 FT. STRIP OF NORMAL BASE FILM WAS SPLICED BETWEEN THE UTB AND COLOR FILM. A REQUIREMENT HAS BEEN PLACED ON [REDACTED] TO EXPOSE THIS STRIP OVER A STATE SIDE, GOOD WEATHER TARGET AREA OF THIS OFFICE'S SELECTION. WE SHOULD BE ABLE TO CONFIRM FROM THIS FILM TO THE SOURCE OF THE PROBLEM (FILM OR CAMERA).

7. NO GUARANTEE CAN BE GIVEN AT THIS TIME THAT CR 6 SCHEDULED FOR LAUNCH ON 11 DECEMBER 1968, WILL NOT OBTAIN THE SAME (CR 5) POOR RESULTS; THEREFORE, THIS OFFICE HAS INFORMED [REDACTED] AND [REDACTED] THAT CR 6 HAS BEEN WITHDRAWN AND J 50 (J 1 PAYLOAD) WILL BE

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AVAILABLE FOR A DECEMBER LAUNCH. CR 6 CAN BE RECONFIGURED TO USE STANDARD BASE FILM AND CAN BE MADE AVAILABLE FOR LAUNCH ON 15 JANUARY 1969, IF DESIRED.

8.

[REDACTED]

9.

[REDACTED]

SINCE ONLY 4 J 1 SYSTEMS REMAIN IN INVENTORY. THESE PAYLOADS CANNOT BE FLOWN WITH J 3 SYSTEM (WEIGHT) UNTIL SOLAR ARRAY PANELS ARE AVAILABLE ON THE AGENA (FIRST SYSTEM AVAILABLE SEPTEMBER 69).

10. YOU WILL BE APPRAISED OF THE RESULTS AND CONCLUSIONS OF THIS CONTINUING EFFORT.

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