

CLASSIFIED MESSAGE

TOP SECRET

SECRET

NPIC REGISTRY

(When Filled In)

FILE INFO

REPRODUCTION PROHIBITED

OCT 15 6 51 PM '71

<del>ACTION</del>	PI	1	FILE	6	IEG/DND	11	16
		2	ODIR	7	TAS	12	17
		3	ISG/ARSD	8		13	18
		4	ISG/CSB	9		14	19
		5	RRD/DAS	10		15	20

OUT:73242

T O P S E C R E T 152142Z OCT 71 CITE [ ] 1844

25X1  
25X1

CORONA  
REFS: A. [ ]

IN-85611

25X1  
25X1

B.  
C.

SUBJECT: MSN 1115 PHOTOGRAPHIC EVALUATION INTERIM REPORT

1. NUMERICAL SUMMARY:

MSN DATES: 1115-1, 10-17 SEPT 71; REC. 18 SEPT 71/0216Z  
1115-2, 17-29 SEPT 71; REC. 29 SEPT 71/2049Z

LAUNCH DATE/TIME: 10 SEPT 71/2134Z

VEHICLE NO; 1662

CAM SYST: CR-15

PAN CAMS: AFT LOOKING 330; FILM 16,300 FT 3414

FWD LOOKING 331; FILM 16,300 FT 3414

DISIC UNIT: 14

STELLAR LENS: PORT F/2.8; 1.5 SEC NO FILTER

STBD F/2.8; 1.5 SEC NO FILTER

FILM TYPE: 3401

TERRAIN LENS: F/6.3 SHUTTER 1/500 SEC (FIXED W-12 FILTER)

FILM TYPE: 3400

REC REVS: MSN 1115-1, REV 115

MSN 1115-2, REV 309

LAUNCH WINDOW: 2130Z TO 2210Z, 10 SEPT 71

2. CAM SETTINGS:

FWD LOOKING: W-25 GLASS 0.037 IN (PRIM)

W-25 GLASS 0.040 IN (ALT)

SLIT WIDTH: POS 1 0.144

POS 2 0.177

POS 3 0.242

POS 4 0.341

FAIL SAFE 0.250

AFT LOOKING: W-23 GLASS 0.037 IN (PRIM)

W-23 GLASS 0.040 IN (ALT)

SLIT WIDTH: POS 1 0.116

POS 2 0.144

POS 3 0.203

POS 4 0.287

FAIL SAFE 0.203

3. PERFORMANCE SUMMARY: PARTICULAR ATTENTION WAS DIRECTED BY THE

PET TO THE IMPLIED DECLINE IN SYSTEM PERFORMANCE REPRESENTED BY THE

-2 MIP RATING OF 110 COMPARED WITH THE -1 MIP RATING OF 120. THE

QUESTION IS COMPLICATED BY THE FACT THAT THE -2 MISSION HAD A NOTABLE

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LACK OF THE HIGHER CONTRAST, AIRFIELD/URBAN AREA SCENES THAT FACILITATE MIP EVALUATION. FROM A CAREFUL COMPARISON OF ORIGINAL NEGATIVE MATERIAL FOR BOTH MIP SCENES AS WELL AS OTHER AIRFIELD COVERAGE FROM BOTH MISSION SEGMENTS, THE PET IS NOT ABLE TO DETECT ANY CHANGE IN SYSTEM PERFORMANCE. MISSION IMAGE QUALITY REMAINED CONSISTENT THROUGHOUT AND FREQUENTLY PERMITTED VIEWING AT MAGNIFICATION OF 100X.

PRELAUNCH TEST PROBLEMS THAT CAUSED A LARGER THAN NORMAL FILM CONSUMPTION CONTRIBUTED TO THE LACK OF ENGINEERING PASSES WHICH MOST OFTEN PROVIDE COVERAGE MEETING THE SIX REQUIREMENTS FOR MIP SELECTION. SINCE -2 SYSTEM OPERATION WAS NORMAL, ENGINEERING OPERATIONS WERE OMITTED TO INCREASE THE AMOUNT OF OPERATIONAL COVERAGE.

THE FACT THAT THE -2 MISSION MATERIAL WAS PROCESSED BY [ ] RATHER THAN THE PRIMARY [ ] FACILITY WAS CONSIDERED AS A POSSIBLE SOURCE OF CHANGE, BUT NO EVIDENCE TENDING TO SUPPORT SUCH A CONCLUSION WAS FOUND.

25X1  
25X1

A FACTOR THAT MAY CONTRIBUTE TO MIP EVALUATION IS THE DIFFERENCE IN PRINT FILM PROCESSING METHODS AVAILABLE AT THE TWO FACILITIES. THE SO-192 FILM POSITIVES USED IN MIP EVALUATION APPEAR RELATIVELY SHARPER ON THE VISCOUS PROCESSED -1 SEGMENT THAN ON THE SPRAY PROCESSED -2 PORTION. THE COMPARATIVE PRINT SAMPLES NEEDED TO QUANTITATIVELY EVALUATE DIFFERENCES ARE NOT IMMEDIATELY AVAILABLE FOR PET USE.

THE PET CONCLUDES THAT THE SYSTEM PERFORMANCE WAS COMPARABLE FOR THE TWO MISSION SEGMENTS. IT IS RECOMMENDED THAT [ ] ACQUIRE MIP PRINT SAMPLES FROM MISSION 1115 PRODUCED BY BOTH PROCESSES IN ORDER TO EVALUATE POSSIBLE EFFECTS OF PROCESSING TO THE MIP RESULTS OF THIS MISSION.

25X1

4. PAN CAMERA ANOMALIES:

A. CHARACTERISTIC ANOMALIES HAVING A MINOR EFFECT ON PERFORMANCE:

(1) RANDOM INTERMITTENT PLUS DENSITY SPOTS ARE PRESENT ON FORMATS OF BOTH CAMERAS ON PASSES FOLLOWING THE RECOVERY ON REV D115.

(2) CHARACTERISTIC FOG PATTERNS APPEAR ON THE 8TH AND 9TH FORWARD FRAMES FROM END OF PASS AND 6TH AND 7TH AFT FRAMES FROM END OF PASS. THESE SHADOWGRAPHS RESULT FROM FOREBODY LIGHT LEAKAGE.

B. PROBLEM: RAIL HOLES ON THE AFT CAMERA FILM ARE FAINTLY IMAGED AT THE START OF SCAN THROUGHOUT BOTH MISSIONS.

CAUSE: THE GEOMETRY OF THE RAIL LAMP MODULE AND RAIL SURFACE IS SUCH THAT REFLECTIONS ARE READILY GENERATED INTO THE ACTIVE FORMAT. THIS CAMERA WAS ESPECIALLY SUSCEPTIBLE TO THIS PROBLEM DURING GROUND TESTING. THE RAIL LAMP INTENSITY WAS TURNED DOWN

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TO DIMINISH THIS EFFECT WHICH RESULTED IN A LATE LAMP START-UP.

ACTION: NONE RECOMMENDED.

C. PROBLEM: A DIAGONAL TEAR WAS DETECTED DURING THE PRESPLICE OPERATION OF THE AFT RECORD ON FRAME 190, PASS D104.

CAUSE: THE PET TEAM INVESTIGATION OF THE DIAGONAL TEAR IN THE AFT RECORD OF PASS 104 AT THE TAKE-UP END OF FRAME 190 RESULTED IN THE FOLLOWING CONCLUSIONS:

(1) THE TEAR COULD NOT HAVE OCCURRED DURING FLIGHT OPERATION.

(2) THE OFF-SPOOLING OPERATION IS THE PROBABLE CAUSE OF THE TEAR.

ANALYSIS OF THE TEAR SPECIMEN, OF WHICH ONLY ONE SIDE WAS AVAILABLE, SHOWS PROPER EXPOSURE AND IMAGERY AND EXTENSIVE TENSION OR STRESS LINES IN THE IMMEDIATE AREA OF THE TEAR.

THE SYSTEM CUT AND WRAP FUNCTION CINCHES APPROXIMATELY 100 INCHES OF FILM THAT IS DOUBLE LAYERED AROUND THE TAKE-UP HUB BY PASSING THROUGH A SET OF HUB ROLLERS. SHOULD THE PROCESSING FACILITY NOT BE AWARE OF THIS FUNCTION, A STRAIN IN THE TAG END

OF THE MATERIAL CAN RESULT AS THE SPOOL ABRUPTLY REVERSES DIRECTION TO RELEASE THE FINAL SECTION OF FILM. AGGRAVATED BY A CONSIDERABLE DRYING PROCESS, WHICH OCCURS IN FLIGHT, THE FILM IS MORE SUSCEPTIBLE TO BREAKING.

ACTION: NONE ASSIGNED.

D. PROBLEM: A FOG PATTERN IS PRESENT FROM THE LATTER PART OF FR 160 INTO THE BEGINNING OF FR 161 PASS D135 ON THE FORWARD LOOKING CAMERA.

CAUSE: THIS IS A ONE-TIME ONLY PROBABLE LIGHT LEAK CAUSED DURING HANDLING AND PROCESSING.

ACTION: NONE ASSIGNED.

E. PROBLEM: A FOGGED AREA EXTENDING 1.25 INCHES INTO THE FRAME FROM THE TIME WORD EDGE ON FRAMES 112, 113 AND PART OF 114 OF THE AFT CAMERA OF PASS D135. THIS FOGGING DID NOT DEGRADE THE IMAGERY.

CAUSE: NO APPARENT CAUSE HAS BEEN DETERMINED FOR THE UNUSUAL FOGGING. A POSSIBLE CAUSE COULD BE THAT A DARKROOM INSPECTION LAMP SHONE ACROSS A SPOOL FLANGE WOULD SHADOW HALF THE FRAME AND FOG

THE OTHER HALF.

ACTION: NONE ASSIGNED.

5. THE STELLAR AND INDEX CAMERAS PERFORMED SATISFACTORILY THROUGHOUT BOTH MISSIONS. BOTH CAMERAS WERE EXCEPTIONALLY CLEAN AND FREE OF ANOMALIES.

T O P S E C R E T