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ARE AS GOOD AS ANY OBSERVED IN RECENT MISSIONS. THERE WAS, HOWEVER, AN OVERALL REDUCTION IN QUALITY DUE TO ATMOSPHERIC CONDITIONS. THE GENERAL EFFECT OF ATMOSPHERICS ON 1031 IS CONSIDERED TO BE AS SEVERE AS WITH 1030. THIS CONDITION IS DISCUSSED FURTHER IN PARA 5, COMMENTS.

B. ONLY ONE RESOLUTION TARGET WAS IMAGED. THIS HIGH CONTRAST TARGET, COVERED UNDER POOR WEATHER CONDITIONS BY THE FWD CAMERA, INDICATED ALONG TRACK (IMC) RESOLUTION VALUE FEET AND CROSS TRACK (SCAN) RESOLUTION VALUES IN GENERAL, THE IMAGE QUALITY OF THE FWD-LOOKING PAN CAMERA WAS CONSIDERED, BY BOTH THE PI'S AND THE PET TEAM, TO BE BETTER THAN THE AFT-LOOKING CAMERA. THE FWD-LOOKING CAMERA IMAGE QUALITY ON 1031 WAS CONSIDERED BETTER THAN FWD CAMERAS FROM OTHER RECENT MISSIONS.

25X1

25X1

4. ANOMALIES

ANOMALIES INCLUDING THOSE REPORTED IN THE 31 MESSAGES (REF A AND B) WERE REVIEWED.

A. NO AFT-LOOKING CAMERA FILM RETURNED ON MISSION 1031-2.

CAUSE: UNKNOWN. THERE IS NO INDICATION OF ANY ANOMALIES ON MISSION FILM THAT CAN BE ATTRIBUTED TO THIS FAILURE, NOR DOES AN EXAMINATION OF THE DATA AVAILABLE TO THE PET SHED ANY FURTHER LIGHT ON THE CAUSE OF THE FAILURE.

ACTION: CONTINUE INVESTIGATION (MONITOR:

25X1

B. SCRATCHING ON AFT-LOOKING CAMERA FILM.

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CAUSE: PROBABLE INTERFERENCE OF THE FILM CHUTE IN
1031-1 RECOVERY SYSTEM.

ACTION: FUTURE FILM CHUTES HAVE BEEN DESIGNED WITH
ADDITIONAL CLEARANCE AND IMPROVED ASSEMBLY TECHNIQUES. NO
FURTHER ACTION REQUIRED.

C. ABNORMAL IMAGE QUALITY FALL-OFF AT FORMAT EDGE ON
1031-2 INDEX.

CAUSE: APPARENT ERROR IN POSITIONING OF FOCAL
PLANE FOR MAXIMUM AWAR.

ACTION: EXAMINE FOCUS SETTING CRITERION (MONITOR:

25X1

D. VEILING OF STARBOARD HORIZON CAMERA IMAGERY.

CAUSE: UNKNOWN.

ACTION: AWAITING CORRELARY DATA FROM GEMINI MISSIONS
AND EXAMINATION OF MISSION 1032 MATERIAL WHICH WILL BE A
NOSE FORWARD FLIGHT

25X1

E. STELLAR CAMERA SHUTTER MALFUNCTION; INTERMITTENT
DELAY IN SHUTTER CLOSING.

CAUSE: EXCESSIVE INTERNAL FRICTION IN SHUTTER.

ACTION: INVESTIGATION UNDER WAY USING STRONGER
SHUTTER CLOSING SPRING

25X1

F. SERIOUSLY FOGGED FILM ON LAST 13 INCHES OF BOTH
STELLAR/INDEX CAMERAS.

CAUSE: PROBABLY CAUSED BY CRACKING OF FIBERGLASS

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RECOVERY CAPSULE COVER.

ACTION: EXAMINE DRAWINGS AND MANUFACTURING
TECHNIQUES TO DETERMINE CAUSE OF FAILURE

25X1

G. SEVERE FLARE OVER STELLAR IMAGERY ON MISSION 1031-2.

CAUSE: UNKNOWN.

ACTION: UNDER INVESTIGATION

25X1

H. CHARACTERISTIC ANOMALIES

THERE ARE CERTAIN CHARACTERISTIC ANOMALIES THAT ARE
CONSIDERED INHERENT TO THE OPERATION OF THE CORONA SYSTEM.
WHILE THESE ITEMS WARRANT ATTENTION TO PREVENT FURTHER
DEGRADATION, IT IS NOT FELT THAT SPECIFIC ACTION ITEMS
SHOULD BE ASSIGNED. A SUMMARY OF THESE ITEMS AND THE DEGREE
OF DEGRADATION IS PRESENTED BELOW.

(1) SCRATCHES IN THE FORMAT OF THE AFT-LOOKING
CAMERA WERE GREATER THAN NORMAL (SEE B ABOVE). SCRATCHES
IN THE FORMAT OF THE FORWARD-LOOKING CAMERA WERE NORMAL.

(2) RAIL SCRATCHES FROM BOTH PAN CAMERAS WERE NORMAL.

(3) RAGGED FORMAT EDGES FROM SCRAPED EMULSION
WERE LESS THAN NORMAL.

(4) STATIC DISCHARGE ALONG THE EDGES OF BOTH PAN CAMERA
FILMS WAS LESS THAN NORMAL.

(5) LIGHT LEAKS AFFECTING BOTH PAN CAMERA FILMS
WERE LESS THAN NORMAL. THE LIGHT LEAKS NORMALLY PRESENT
FROM THE -1 ABLATIVE SHELL WERE NOT PRESENT ON THIS MISSION

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DUE TO THE INCORPORATION OF THE FILM CHUTE.

(6) MULTI-DIRECTIONAL, PLUS DENSITY STREAKS APPEARED IN THE FIRST SEVERAL FRAMES OF STELLAR CAMERA FILM. THIS CONDITION IS NORMAL.

5. COMMENTS

A. FOR THE FIRST TIME A WRITTEN 23A FILTER WAS USED IN THE FWD-LOOKING CAMERA. THIS WAS USED WITH A NARROWER (0.225 INCH) SLIT. IT IS FELT THAT THE RESULTING IMAGE QUALITY WAS SLIGHTLY BETTER THAN NORMALLY ACQUIRED WITH THE FORWARD-LOOKING CAMERA.

B. AN ANALYSIS OF THE INDEX CAMERA MATERIAL WAS MADE FOR SNOW AND ATMOSPHERICS. IN THIS ANALYSIS THE NUMBER OF CLEAR TERRAIN FRAMES WERE NOTED. THE DATA BELOW CLEARLY ILLUSTRATES THE LOW PERCENTAGE OF CLEAR TERRAIN INDEX FRAMES OBSERVED.

(1) MSN 1031-1 (TOTAL INDEX FRAMES 419)
TOTAL CLEAR TERRAIN FRAMES - 33 OR 8 PER CENT
TOTAL CLEAR AND SNOW FRAMES - 63 OR 16 PER CENT

(2) MSN 1031-2 (TOTAL INDEX FRAMES 426)
TOTAL CLEAR TERRAIN FRAMES - 24 OR 6 PER CENT
TOTAL CLEAR AND SNOW FRAMES - 91 OR 21 PER CENT

C. THE MINIMUM DENSITY VALUES RECORDED WERE GOOD. SOME MAXIMUM DENSITY VALUES WERE HIGH, WITH MOST OF THESE OCCURRING IN SNOW COVERED AREAS. CALCULATED LUMINANCE VALUES

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WERE HIGHER THAN NORMAL WITH SNOW COVER AND ATMOSPHERICS
AFFECTING THESE VALUES.

D. THERE WAS A LOW GAMMA TEST RUN ON MISSION 1030-1. THE
PET TEAM CONCURS WITH THE PRELIMINARY ANALYSIS CONDUCTED AT
[REDACTED] 4081 NOT SENT TO [REDACTED] AND AGREES
THAT FURTHER TESTING IS WARRANTED. THE CAMERA PROGRAMS OF
FUTURE MISSIONS SHOULD INCLUDE THE NECESSARY ENGINEERING
OPERATIONS FOR THE ACQUISITIONS OF SUITABLE TEST MATERIALS.
A TEST PLAN WILL BE PREPARED BY THE PET TEAM.

T O P S E C R E T

_END OF MESSAGE

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