

2122Z 16 AUGUST 59

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**PRIORITY**

DIRECTOR

[REDACTED]

DPD (1,2,3,4,5,6,7,8)

S/C (9)

RLU

TOR: 2314Z 16 AUGUST 59

This document contains information referring to Project CORONA

PRIORITY

[REDACTED]

CORONA [REDACTED]

*Controllers note*

NO NIGHT ACTION

FROM LT COL MURPHY TO [REDACTED]

AS CONCURRED IN BY [REDACTED]

REF [REDACTED] AND MISSION 9002

THE CAMERA SYSTEM AND THE RECOVERY SYSTEM FAILED TO OPERATE PROPERLY ON THIS MISSION. THESE MALFUNCTIONS, THE REASONS, AND CORRECTIVE ACTION TO BE TAKEN ARE PRESENTED BELOW.

CAMERA SYSTEM

1. AN ENGINEERING TEST OF CAMERA OPERATION WAS PROGRAMMED ON PASS ONE. THIS TEST, WHICH CONSISTS OF 30 SECONDS OF FULL CAMERA OPERATION, WAS ACCOMPLISHED SUCCESSFULLY WITH CORRECT TURN ON AND OFF AND CORRECT SCAN RATE. ON THE FIRST OPERATION PASS (PASS NUMBER TWO) THE CAMERA TURNED ON NORMALLY AT THE PROGRAMMED TIME AND OPERATED NORMALLY FOR APPROX 80 SECOND OF THE 148 SECONDS PROGRAMMED FOR THIS PASS. INDICATIONS ARE THAT CAMERA STOPPAGE OCCURED AS A RESULT OF FILM BREAKAGE. THIS CONCLUSION IS PASSED ON THE FOLLOWING

Declassified and Released by the NRO

In Accordance with E. O. 12958

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on NOV 26 1997

REPRODUCTION BY OTHER THAN THE ISSUING OFFICE IS PROHIBITED

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REASONS.

A. TELEMETRY PATTERN INDICATE NO FALTERING OR SLOWING DOWN AT CAMERA BUT RATHER A SUDDEN STOPPAGE.

B. COMPARISON OF THIS PATTERN WITH GROUND TEST TELEMETRY OF BROKEN FILM PATTERNS SHOW A MARKED SIMILARITY.

C. IF FILM BREAKS, CAMERA OPERATION WILL STOP, HOWEVER, EXIT FILM SUPPLY ROLLER WILL CONTINUE TO OPERATE UNTIL NO FILM PASSES ACROSS ROLLER. THE TELEMETRY PATTERN INDICATES CAMERA SWEEP STOPPED, HOWEVER THE EXIT ROLLER CONTINUED TO OPERATE A LENGTH OF TIME NECESSARY FOR A BROKEN FILM END TO TRAVEL FROM THE PLATTEN EXIT TO THE EXIT ROLLER.

2. THE REASON FOR FILM BREAKAGE CAN NOT BE DETERMINED. THE MALFUNCTION COULD BE CAUSED BY A SMALL NICK IN THE FILM OR BY FAILURE TO TRACK PROPERLY, HOWEVER, LAST REASON IS CONSIDERED REMOTE. TEMPERATURE IS NOT CONSIDERED A REASON FOR FILM FAILURE SINCE ON PASS 2 TEMPERATURE WAS 75 DEGREES F.

3. THE FILM BREAKAGE IS CONSIDERED A RANDOM FAILURE AND NO DIRECT ACTION IS BEING TAKEN. HOWEVER, FILM TYPE 1188 AT 1/2000 IS BEING USED ON MISSION 9003 BECAUSE E K HAS INDICATED IT HAS BETTER MECHANICAL PROPERTIES THAN 1221 AND ALSO BECAUSE A GREATER SPREAD IN LAUNCH LIMITS CAN BE OBTAINED.

RECOVERY SYSTEM

1. TELEMETRY CONCERNING THE REENTRY BODY STOPS AT SEPARATION OF THIS SECTION FROM THE SECOND STAGE, THEREFORE, ACTION AFTER

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SEPARATION IS TO A CERTAIN EXTENT EXTRAPALATION OF DATA RECEIVED PRIOR TO SEPARATION. SEPARATION DID OCCUR AT THE PROGRAMMED TIME ON PASS 17. INDICATION ARE THAT THE RETRO ROCKETS FIRED, SPIN AND DESPIN OCCURED AND THRUST CONE ON ROCKETS EJECTED. HOWEVER, BECAUSE OF LOWER TEMPERATURE ENCOUNTERED IN THE NOSE SECTION (20 DEGREES F VERSUS PREDICTED OF 40 DEGREES F) IT IS ASSUMED THE MERCURY BATTERIES IN THE RECOVERY PACKAGE FAILED TO PROVIDE SUFFICIENT VOLTAGE TO INITIATE THE RECOVERY SEQUENCE. FAILURE OF BATTERIES WOULD PREVENT FIRING OF THE SQUIBS WHICH CAUSE PARACHUTE AND CHAFF DEPLOYMENT AND RELEASE OF THE ABLATIVE SHELL. IN OTHER WORDS THE REENTRY BODY WITH ABLATIVE SHELL ATTACHED WOULD BECOME A FREE FALLING BODY AND PLUNGED IN TO THE WATER

2. THE PROBABILITY OF THIS HAPPENING IS BORN OUT BY THE TEMPERAT: PROBLEM AND BY FACT NO BLOSSEMING (CHUTE AND CHAFF DEPLOYMENT) WAS OBSERVED BY GROUND RADAR DESPITE FACT VEHICLE WAS IN CONSTANT SURVEILLANCE THRU SEPARATION.

3. TEMPERATURE CONTROL IN AREA OF MERCURY BATTERIES IS OBTAINED THRU SUN ABSORBTION ON OUTER SURFACE OF REENTRY SHIELD. ON LAUNCH THIS AREA WAS PAINTED WHITE TO RETAIN THE SIMILARITY TO THE BIO-MED PACKAGE WHERE WHITE PAINT IS REQUIRED FOR PRE-LAUNCH TEMPERATURE CONTROL. THE WHITE PAINT IS NORMALLY REMOVED DURING ASCENT HEATING. HOWEVER, TELEMETRY INDICATES LOWER TEMPERATURE THAN PREDICTED DURING ASCENT WITH ONLY PARTIAL REMOVAL OF THE PAINT. ON MISSION 9003 THE WHITE PAINT WILL BE REMOVED PRIOR TO LAUNCH.

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RE PARA 2 REF: LATEST CALCUATIONS INDICATE THE REENTRY CAPSULE DID DESCENT INTO THE AREA WHERE THE RECOVERY FORCES WERE DEPLOYED.  
RE PARA 3 REF: ALTHOUGH SEVERAL SIGNALS WERE HEARD BY THE RECOVERY FORCES NONE WERE POSITIVELY IDENTIFIED AS COMING FROM THE RECOVERY CAPSULE.

RE PARA 4 REF: BASED ON THE ASSUMPTION THAT RECOVERY SEQUENCE NEVER OCCURED THIS MISSION CAN NOT BE CONSIDERED A TRUE TEST OF ADEQUACY OF THE RECOVERY FORCE. A MORE DETAILED TECHNICAL AND QUANTITATIVE ANALYSIS WILL FOLLOW.

END OF MESSAGE

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