

~~SECRET~~
HANDLE VIA ~~CONTROL SYSTEM~~
CONTROL SYSTEM

Z:ZCKQA207BAA424
PP RUXQAA
OE RUXQBAA 527 1450105
ZY XXXXX XY
P 240018Z
BT
XXXXX
QIARD 502
QIARD PASS WHIG

Whig 5512

~~SECRET~~ 240018Z MAY 72 CITE CHARGE 2858.

WHIG
GAMBIT/CORONA
DELIVER 0800L WEDNESDAY
FOR DR. MCLUCAS, INFO D. BRADBURN, FROM L. ALLEN
SUBJECT: GAMBIT MISSION 4335
1. GAMBIT MISSION 4335 WAS LAUNCHED AT 1730Z, 20 MAY
1972. THE TITAN III-B PERFORMED AS EXPECTED AND THE
ASCENT EVENTS OCCURRED WITHIN THE SPECIFICATION
TOLERANCES. THE AGENA SEPARATED NOMINALLY FROM
THE STAGE II OF THE TITAN, THE ECS CLOCK WAS STARTED,
AND THE HORIZON SENSOR COVERS WERE BLOWN. DURING
THE SHORT COAST AFTER SEPARATION, THE AGENA ASCENT
GUIDANCE SYSTEM ATTEMPTED TO ESTABLISH PROPER VEHICLE/
EARTH ORIENTATION BUT WAS NOT SUCCESSFUL. THE
AGENA MAIN ENGINE FIRED AS PROGRAMMED, BUT WITH AN
ERRONEOUS VEHICLE ORIENTATION. AS A RESULT, THE
VEHICLE WAS NOT INJECTED INTO ORBIT.

~~SECRET~~
HANDLE VIA ~~CONTROL SYSTEM~~
CONTROL SYSTEM

PAGE 2 CHARGE 2858. ~~SECRET~~

2. PRELIMINARY ANALYSIS INDICATES THAT THE AUGMENTED CONTROL
SYSTEM (ACS), WHICH CONTROLS THE AGENA VEHICLE ATTITUDE DURING
ASCENT, FAILED TO PROVIDE ATTITUDE CONTROL GAS TO ITS THRUST
VALVES. (NO GAS USED FROM AGENA SUPPLY.) INITIAL FAILURE ANALYSIS
HAS IDENTIFIED TWO COMPONENTS WHOSE FAILURE WOULD PRECLUDE
ATTITUDE CONTROL GAS FROM REACHING THE THRUST
VALVES. THEY ARE THE ACS NITROGEN REGULATOR AND THE
ACS LATCHING SOLENOID VALVE (LSV). DURING INITIAL HIGH
PRESSURE PYRO CELL TESTING THESE COMPONENTS ARE KNOWN
TO HAVE FUNCTIONED PROPERLY. ALL SUBSEQUENT TESTING
TELEMETRY AND FLIGHT TELEMETRY DATA FOR THESE TWO
COMPONENTS IS NORMAL. HOWEVER, A PRELIMINARY REVIEW
OF AUXILIARY FACTORY DATA

~~SECRET~~

HANDLE VIA [REDACTED]
CONTROL SYSTEM

TESTING INDICATES THAT PRESSURE IN THE SUPPLY TANKS DID NOT DROP WHEN THE THRUSTERS WERE PULSED EVEN THOUGH THE TELEMETRY SHOWS PROPER OPERATION OF THE ACS REGULATOR, LSV, AND THRUSTERS. THUS THE FAILURE WHICH OCCURED BETWEEN HIGH PRESSURE CELL TESTING & ACS SYSTEM TESTING REMAINED UNDETECTED DURING SUBSEQUENT FACTORY AND PAD SYSTEM TESTING. DETAIL FAILURE ANALYSIS AND DATA EVALUATION IS STILL IN PROGRESS.
3. PRELIMINARY ANALYSIS INDICATES THAT THE MOST PROBABLE IMPACT POINT OF THE PHOTOGRAPHIC SATELLITE

PAGE 3 CHARGE 2858. ~~SECRET~~

VEHICLE WAS IN A BROAD PACIFIC OCEAN AREA ALONG THE LAUNCH AZIMUTH OF 208 DEGREES.
4. THE CORONA AGENA WHICH UTILIZES A SIMILAR REGULATOR BUT WITHOUT THE LSV IS INSTRUMENTED IN A DIFFERENT MANNER AND GAS PRESSURE ON BOTH SIDES OF THE REGULATOR IS MEASURED DIRECTLY. ALL RECORDS AND TESTS ON THIS AGENA SHOW THAT ITS REGULATOR IS OPERATING PROPERLY. IN ADDITION DURING NORMAL AND SPECIAL TESTS CONDUCTED AT VAFB SINCE THE GAMBIT FAILURE WE HAVE DETERMINED THAT THE REGULATOR IS IN THE PROPER MODE FOR LAUNCH AND THERE IS PHYSICAL EVIDENCE THAT THE ENTIRE PNEUMATIC SYSTEM IS FUNCTIONING PROPERLY. ALTHOUGH I AM CONFIDENT THAT THIS SYSTEM IS READY FOR LAUNCH, I HAVE HELD THE LAUNCH FOR 48 HOURS TO PERMIT THE CONTRACTOR ADDITIONAL TIME FOR FAILURE ANALYSIS, RECORD CHECKS, AND DATA REVIEW PRIOR TO INITIATION OF THE COUNTDOWN. I WILL CONDUCT A DETAILED REVIEW WITH HIM ON 24 MAY.

~~SECRET~~

■

~~SECRET~~

HANDLE VIA [REDACTED]
CONTROL SYSTEM