

EXD 5-1-1

File
Vol. 1108

CLASSIFICATION CHANGED TO

By Authority of AFR 205-2
James M. Leford APR 1966

QPS BARRIATE

66021ST WG VANDENBERG AFB CALIF

AF SPACE SYSTEMS DIVISION LOS ANGELES CALIF

66021ST WG /SATELLITE/ SURVIVAL & CALIF

LOCKHEED MISSILE & SPACE DIVISION SURVIVAL & CALIF

LOCKHEED MISSILE & SPACE DIVISION VANDENBERG AFB
CALIF /COURIER/ ZEN

DOUGLAS AIRCRAFT COMPANY VANDENBERG AFB CALIF
/COURIER/ ZEN

INFO: 1 MISSILE DIV VANDENBERG AFB CALIF /COURIER/ ZEN

66021ST WG VANDENBERG AFB CALIF /COURIER/ ZEN

66021ST WG PATRIOT AFB FLORIDA

DOWNLOADED AT 3 YEAR INTERVAL
DECLASSIFIED AFTER 13 YEARS.
500 DFR 1300.10

SECRET FROM VWZD-10-4-66-2

LOSA FOR REZD SEMCLN 656 TW FOR COL MOORE SEMCLN LMD/

SURVIVAL FOR TWCA-3/RJ. BRIEFING/ SEMCLN LMD/VAFB

FOR DEPT 65-44 SEMCLN DAC/VAFB FOR MR. HECKMAN. INFO CLN

1 MD FOR COMMAND POST AND DEOPS SEMCLN 656 TW FOR VWZD/

Cy #1 78 up

10
JEN 61

OFFICE SYMBOL VWZD	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
NAME (SIGNATURE)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
DATE 8-8-1966, Capt. USAF	8-27-64	6	LOUIS A. HENRY, JR., Capt. USAF Deputy Chief of Staff for Space Systems	

[REDACTED]

[REDACTED]

SUBJECT WG YANKEEWING AIR CALIF

RE: RECON/RECON/RECON TEST WG FOR COL WSMALL. SUBJECT

CLM DISCOVERER XXIV PRELIMINARY LAUNCH SUMMARY. FOLLOW-

ING IS THE 48 HOUR SUMMARY REPORT ON THE LAUNCHES OF

DISCOVERER XXIV / THIS IS/AGENDA B 1102/.

1. PRE-LAUNCH OPERATIONS

COUNTDOWN OPERATIONS WERE STARTED AT 0530 PDT ON 6 JUNE 1961 AND PROCEEDED SMOOTHLY, WITHOUT HOLDS, TO THE TERMINAL COUNT. TERMINAL COUNTDOWN WAS STARTED AT 1501 PDT. THE FIRST AND ONLY HOLD WAS CALLED DURING PHASE 5 OF THE TERMINAL COUNTDOWN TO ALLOW THE THERM LOX TANK PRESSURE TO VEER DOWN TO THE PROPER LEVEL. THE HOLD WAS ISSUED TO PERMIT THE MANUAL RETRACTION OF A LAUNCHER PISTON WHICH DID NOT FULLY RETRACT AUTOMATICALLY. DURATION OF THE HOLD WAS 15 MINUTES, AND THE COUNT WAS RECYCLED TO T - 2 MINUTES WHEN IT WAS RESUMED. THE COUNT, THEREAFTER, PROCEEDED SATISFACTORILY TO LIFTOFF WHICH OCCURRED AT 1617.34 PDT. THIS WAS THE FIRST ATTEMPT TO LAUNCH THE DISCOVERER XXIV VEHICLE.

2. BOOST PHASE

A. DURATION OF THE BOOST PHASE WAS 3.3 SECONDS LESS THAN PREDICTED. HOWEVER, THE POSITION AND VELOCITY OF THE

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[REDACTED]

[REDACTED]

Cy 8 7/61

[REDACTED]

[REDACTED]

ROCKET W/ YARDING AND CALIF
VEHICLE AT BOOSTER MAIN ENGINE CUTOFF WERE CLOSE TO THE
PREDICTED MISC VALUES. BOOSTER STEERING AND EVENT-TIME
CORRECTIONS WERE TRANSMITTED BY THE STL GUIDANCE SYSTEM,
STARTING AT T = 99.6 SECONDS, AND THE PERFORMANCE OF THE
GUIDANCE SYSTEM AND THE RESPONSE OF THE VEHICLE APPEAR
TO HAVE BEEN SATISFACTORY. MECO OCCURRED AT T = 147.44
SECONDS IN RESPONSE TO A GUIDANCE SYSTEM COMMAND, AND
THE VEHICLE ENGINES WERE CUT-OFF BY THE ONBOARD TIMER
AFTER 9.2 SECONDS OF SOLO OPERATION. PRELIMINARY
CALCULATIONS SHOW THAT THE BOOSTER COAST APOGEE ALTITUDE
WAS 0.1 M.M. LOW AND THE COAST APOGEE VELOCITY WAS 25
FPS LOW WHEN COMPARED WITH PREFLIGHT PREDICTED VALUES.

B. OSCILLATIONS IN THE 20 CPE FREQUENCY RANGE ARE
EVIDENT IN THE TDS PROPPELLANT PUMP INLET PRESSURE AND
CHAMBER PRESSURE DATA AND IN BOTH THE TDS AND AGENA
ACCELEROMETER DATA. THE OSCILLATIONS START AT LIFTOFF
AND CONTINUE THROUGHOUT THE BOOST PHASE. THE AMPLITUDE
OF THE OSCILLATIONS INCREASES SIGNIFICANTLY AT T = 120
SECONDS AND REMAINS AT THE HIGHER LEVEL THROUGH MECO.
THE AMPLITUDES OF THE OSCILLATIONS WERE SIMILAR TO OR
SLIGHTLY LOWER THAN THOSE NOTED IN PREVIOUS DISCOVERED
FLIGHTS.

VW20

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EOD DR 1304.10

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[REDACTED]

Cytl 9/8/40

6547 TEST WS VANDENBERG AFB CALIF

C. THE AGEMA TELEMETRY SIGNAL LEVEL DECREASED BETWEEN T + 124 SECONDS AND T + 126 SECONDS AND FACED OUT COMPLETELY AT T + 144 SECONDS. THE TELEMETRED DATA PRIOR TO THIS TIME SHOW THAT SEVERE ELECTRICAL CURRENT AND VOLTAGE TRANSIENTS WERE EXPERIENCED BETWEEN T + 77 SECONDS AND T + 87 SECONDS, AND BETWEEN T + 126 SECONDS AND T + 134 SECONDS. THE EVIDENCE OF ESPECIALLY SEVERE TRANSIENTS IN THE 2 KC ELECTRICAL SYSTEM IN ADDITION TO THE BROUENCE IN WHICH THE ORBGARD TRANSMITTERS CEASED OPERATION, INDICATES A MALFUNCTION IN EITHER THE 2 KC POWER SUPPLY OR ITS LOAD. THE EXACT CAUSE OF THE MALFUNCTION HAS NOT YET BEEN DETERMINED. PRIOR TO THE LOSS OF AGEMA TELEMETRY, ABNORMALLY HIGH TEMPERATURES WERE INDICATED ON THE STANDARD SIDE OF THE AGEMA APT EQUIPMENT RACK AND IN THE AGEMA TURRET FAIRING TUBESLS. THESE ABNORMAL TEMPERATURES AND THEIR POSSIBLE RELATION TO THE OBSERVED POWER TRANSIENTS ARE BEING INVESTGATED.

3. COAST PHASE:

A. AN AGEMA TIME-TO-FIRE CORRECTION OF 5.34 SECONDS DURATION AND A VELOCITY-TO-BE-GAINED CORRECTION OF 2.04 SECONDS DURATION WERE TRANSMITTED BY THE STL GUIDANCE

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DO NOT REMOVE.

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SYSTEM BETWEEN T + 155.02 SECONDS AND T + 161.63 SECONDS.

B. SEPARATION OF THE ORBITAL STAGE FROM THE BOOSTER STAGE WAS COMMANDED BY TTL GUIDANCE AT T + 162.07 SECONDS AND THOR TELEMETRY DATA INDICATE THAT SEPARATION DID OCCUR.

4. ORBITAL STAGE BOOST PHASE

A. VERY LITTLE INFORMATION IS AVAILABLE REGARDING AGENA PERFORMANCE AFTER SEPARATION BECAUSE OF THE PRIOR LOSS OF AGENA TELEMETRY. THE ACQUISITION BEACON OPERATED AND WAS TRACKED UNTIL ABOUT T + 197 SECONDS. THE RADAR BEACON SIGNAL WAS TRACKED UNTIL T + 190 SECONDS AND WAS REACQUIRED AT ABOUT T + 232 SECONDS AND TRACKED THEREAFTER UNTIL T + 488 SECONDS. WHEN THE RADAR BEACON SIGNAL WAS REACQUIRED AT T + 282 SECONDS A CYCLIC VARIATION WAS NOTED IN THE SIGNAL LEVEL INDICATING THAT THE VEHICLE WAS TUMBLING.

B. THE TRAJECTORY OF THE VEHICLE AFTER THE BOOST PHASE WAS ESSENTIALLY BALLISTIC. WHEN THE RADAR TRACKING DATA ARE EXTRAPOLATED TO SEA LEVEL, THE INDICATED IMPACT POINT IS APPROXIMATELY 700 N.M. DOWNRANGE. THE PRESENTLY AVAILABLE DATA ARE INSUFFICIENT FOR A CONCLUSION THAT AGENA ENGINE OPERATION WAS INITIATED OR THAT IT WAS

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DOO DTR 5200.10.

VWZD

[Redacted signature and stamp]

EXCEPT FOR THE DAMAGE APPLICABLE

NOT COVERED.

A. PAD DAMAGE

DAMAGE TO THE EQUIPMENT ON PAD 4 WAS VERY LIGHT.

SEE NO. 4.

ORIGINAL 31

3149

FORWARDED AT 3 YEAR INTERVALS,
DUST CLEANED AFTER 12 YEARS,
DAS DIR 150.10

[Redacted]

[Redacted]

[Redacted]

TV20

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