Capt Lefstad/lm

[redacted]

VWZD Official Cy

File
Vela 1107

CLASSIFICATION CHANGED TO [redacted]
By authority of AFR 205-2
APR 1966

OFF IMMEDIATE

X

6595TEST WG VANDENBERG AFB CALIF
AF SPACE SYSTEMS DIVISION LOS ANGELES CALIF

6594TEST WG /SATELLITE/ SUNNYVALE CALIF

LOCKHEED MISSILES & SPACE DIVISION SUNNYVALE CALIF

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

DOUGLAS AIRCRAFT COMPANY VANDENBERG AFB CALIF /COURIER/ ZEN

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

6565TEST WG VANDENBERG AFB CALIF /COURIER/ ZEN

6555TEST WG PATRICK AFB FLORIDA

DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS. DOD DIR 5200.10

SECRET FROM VWZD-19-6-61-5.

LOSA FOR SSZD SEMICLN 6594 TW FOR COL MOORE SEMICLN LMSD/SUNNYVALE FOR TWRCA-3 /H.J. DREIFUSS/ SEMICLN LMSD/VAFB FOR DEPT 65-44 SEMICLN DAC/VAFB FOR MR. BECKMAN. INFO CLN 1 MD FOR COMMAND POST AND DOOS SEMICLN 6565 TW FOR VWZE/

Cy #7 of 8 cys

19 JUN 61

OFFICE SYMBOL	ORIGINATOR			
VWZD	[redacted]	[redacted]		[redacted]
NAME (SIGNATURE)				
DATE	R.R. Lefstad, Captain, USAF		LUCIUS A. PERRY, JR., Colonel, USAF	
			Deputy Commander for Space Systems	

AFBMD Form 17A
1 Nov 59 COORDINATION SHEET Replaces AFBMD Form 17, 1 Jul 58

[illegible]

[illegible] / [illegible] AFB CALIF

[illegible] TEST WG FOR COL WENALL. SUBJECT [illegible] XXV PRELIMINARY LAUNCH SUMMARY /[illegible]. FOLLOWING IS THE 48 HOUR SUMMARY REPORT ON THE LAUNCHING OF DISCOVERER XXV /THOR [illegible]/AGENA B 1157/.

1. COUNTDOWN OPERATIONS

COUNTDOWN OPERATIONS WERE STARTED AT [illegible] PDT ON 16 [illegible]. THE FIRST HOLD WAS INVOKED AT T-15 MINUTES TO COMPLETE WORK THAT HAD BEEN DELAYED EARLIER WHEN IT WAS NECESSARY TO REPLACE A LEAKING AGENA ACID FILL COUPLING. DURING THIS HOLD A FAULTY SOLENOID VALVE IN THE ORBITAL STAGE [illegible] PRESSURIZATION SYSTEM WAS REPLACED ALSO. DURATION OF THE HOLD WAS [illegible] MINUTES. THE SECOND HOLD, WHICH LASTED 5 MINUTES, WAS CALLED AT T-15 MINUTES TO ALLOW COMPLETION OF ALL OF THE TERMINAL COUNTDOWN PREPARATIONS. TERMINAL COUNTDOWN STARTED AT 1321 PDT. THE THIRD AND FINAL HOLD WAS CALLED IN PHASE II OF THE TERMINAL COUNTDOWN TO RESOLVE A PROBLEM IN THE THOR NITROGEN PRESSURIZATION SYSTEM. THE HOLD WAS FOR 2 MINUTES AFTER WHICH THE TERMINAL COUNTDOWN PROCEEDED SATISFACTORILY TO LIFT OFF AT [illegible] PDT.

2. BOOST PHASE

[redacted]

VWZD

[redacted]

[redacted]

[illegible] AFB CALIF

A. THIS WAS THE FIRST DISCOVERER VEHICLE TO BE LAUNCHED FROM PAD [illegible] OF THE COOLED FLAME-BUCKET CONFIGURA- TION. ALL OF THE EVENTS ASSOCIATED WITH LIFTOFF, THE LARGE ROLL PROGRAM /67.5 DEG/, AND CLIMB-OUT APPEAR TO HAVE [illegible] SATISFACTORILY. THE GROUND GUIDANCE SYSTEM TRANSMITTED STEERING COMMANDS BETWEEN T + 89.75 SECONDS AND T + 144.[illegible] SECONDS, AND THE VEHICLE RESPONSE TO THESE COMMANDS APPEARS TO HAVE BEEN PROPER. BOOSTER MAIN ENGINE CUTOFF OCCURRED AT T + 149.10 SECONDS AS COMMANDED BY THE GROUND GUIDANCE SYSTEM, AND IT WAS FOLLOWED BY 7.1 SECONDS OF VERNIER ENGINE SOLO OPERATION. PRELIMINARY CALCULATIONS, BASED ON GUIDANCE SYSTEM DATA, SHOW THAT THE BOOSTER COAST APOGEE ALTITUDE WAS 0.3 N.M. HIGHER THAN THE NOMINAL VALUE AND THE APOGEE VELOCITY WAS 6 FPS LOWER THAN THE NOMINAL VALUE.

B. 20 CPS OSCILLATIONS ARE EVIDENT IN VEHICLE ACCELERO- METER DATA AS HAS BEEN NOTED IN PREVIOUS DISCOVERER FLIGHTS. THE MAXIMUM PEAK-TO-PEAK AMPLITUDE OF THE OSCILLATIONS IN AGENA ACCELEROMETER DATA IS 1.4 G.

3. COAST PHASE

A. THE GROUND GUIDANCE SYSTEM TRANSMITTED AN AGENA [redacted]

[redacted]

[illegible] VELOCITY-TO-BE-GAINED [illegible] TIME-TO-FIRE CORRECTION OF 7.66 SECONDS AND A VELOCITY-TO-BE-GAINED CORRECTION OF 1.[illegible] SECONDS. THESE COMMANDS WERE PROPERLY RECEIVED AND EXECUTED BY THE ORBITAL STAGE VEHICLE.

B. SEPARATION OF THE ORBITAL STAGE FROM THE BOOSTER WAS COMMANDED BY GROUND GUIDANCE AT T + 164.[illegible] SECONDS AND THE SEPARATION WAS SATISFACTORILY ACHIEVED BY T + 167 SECONDS.

4. ORBITAL STAGE BOOST

A. THE AGENA ENGINE FIRED IN A NORMAL MANNER AT T + [illegible] AND OPERATED SATISFACTORILY FOR [illegible].4 SECONDS. ENGINE THRUST AND SPECIFIC IMPULSE APPEAR TO HAVE BEEN AT OR SLIGHTLY ABOVE THE PREDICTED VALUES FOR THESE PARAMETERS. ENGINE SHUTDOWN OCCURRED AT T + [illegible] SECONDS IN RESPONSE TO A COMMAND FROM THE INTEGRATOR. THE EQUIVALENT VELOCITY GAIN DURING THE ORBITAL STAGE BOOST PERIOD WAS SHOWN BY THE INTEGRATOR DATA TO BE 16,[illegible] FPS.

B. THE AGENA ATTITUDE WAS PROPERLY CONTROLLED DURING THE COAST AND ORBITAL STAGE BOOST PHASES AND CONTROL GAS EXPENDITURE DURING THESE PERIODS WAS NORMAL. PRESENTLY AVAILABLE RECORDS SHOW THAT THE [illegible] ELECTRICAL

[redacted]

[redacted]

CONTENT [illegible] VANDENBERG AFB CALIF

POWER SUPPLY VOLTAGE DROPPED SEVERAL VOLTS BELOW TOLERANCE DURING THE ORBITAL BOOST PERIOD. THE LOW VOLTAGE DOES NOT APPEAR TO HAVE EFFECTED SYSTEMS OPERATION. ALL TIMER-CONTROLLED EVENTS THROUGH THE START OF VEHICLE REORIENTATION AFTER ORBIT INJECTION OCCURRED IN THE DESIRED SEQUENCE AND AT PROPER TIMES.

C. THE VEHICLE WAS SATISFACTORILY INJECTED INTO ORBIT WITH NEAR-NOMINAL CONDITIONS OF POSITION AND VELOCITY.

[illegible]. DATA ACQUISITION

THE VANDENBERG STATION RECEIVED THE AGENA TELEMETRY SIGNAL FROM LIFT OFF TO T + [illegible] SECONDS AND GOOD DATA RECORDS HAVE BEEN PRODUCED FOR THE PERIOD. THE ACQUISITION BEACON SIGNAL WAS RECEIVED FROM LIFTOFF TO T + [illegible] SECONDS. THE VAFB VERLORT RADAR ACTIVELY TRACKED THE AGENA BEACON FROM LIFTOFF TO T + [illegible] SECONDS. SATISFACTORY DIGITAL TRACKING DATA [illegible] ACQUIRED BETWEEN LIFTOFF AND T + [illegible] SECONDS.

6. PAD DAMAGE

DAMAGE TO THE PAD 1 FACILITIES AND EQUIPMENT IS CONSIDERED TO BE NORMAL.

SCP 4.

[redacted]

[redacted]

VBZO