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TW0003
NBR002

O P 150300Z

FM 6595 AEROSPACE TEST WG VANDENBERG AFB CALIF
TO SSD LOSA CALIF

6594 AEROSPACE TEST WG SUNNYVALE CALIF

ROCKNEED MISSILES AND SPACE COMPANY SUNNYVALE CALIF

ROCKNEED MISSILES AND SPACE COMPANY VANDENBERG AFB CALIF/ZEN/
DOUGLAS AIRCRAFT COMPANY VANDENBERG AFB CALIF/ZEN/

INFO ISTRATAEROSPACE DIV VANDENBERG AFB CALIF/ZEN/
6555 AEROSPACE TEST WG PATRICK AFB FLORIDA

AFLC WRIGHT PATTERSON AFB OHIO

SBAMA NORTON AFB CALIF

DET 1 AFLC VANDENBERG AFB CALIF/ZEN/
CSD #1 WCHR VAFB CALIF/ZEN/

BT

CLASSIFICATION CHANGED TO

By Authority of

AFR 205-2

5 APR 1966

~~SECRET~~ FROM VWZD-12-12-238-S PRESTO FLASH

SECTION ONE OF TWO

SSD FOR SSZD SENCLN 6594PW FOR COL MOORE SENCLN LNMC/SUNNYVALE
FOR TWCA-3/H.J. DREIFUSS/SENCLN LNMC/VAFB FOR DEPT 65-44 SENCLN

DAC/VAFB FOR MR HECKMAN. INFO CLN ISTRATAEROSPACE DIV FOR COMMAND
POST AND WDOPO SENCLN AFLCSG/VAFB FOR MR YOUNG SENCLN 6594TV

FOR COL WIGNALL SENCLN SBAMA/NORTON AFB FOR SEVP SENCLN
AFLC/WRIGHT PATTERSON AFB FOR MCGO. SUBJECT CLN FLASH REPORT

ON THE LAUNCHING OF DISCOVERER 36.

1. DISCOVERER 36 CONSISTING OF THOR BOOSTER NO. 325 AND
GENA B ORBITAL STAGE NO. 1119 WAS LAUNCHED FROM VAFB COMPLEX



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1240.21 PST ON 12 DEC 1961.
THE PRIMARY LAUNCH OBJECTIVE, TO PLACE THE DISCOVERER SATELLITE WITH PAYLOAD IN A NEAR-POLAR ORBIT, WAS ACCOMPLISHED. READINGS FROM VTS RADAR PLOTTING BOARD GAVE AN INJECTION ALTITUDE OF 158 STATUTE MILES, AN INJECTION VELOCITY SLIGHTLY ABOVE NOMINAL AND AN INJECTION FLIGHT PATH ANGLE OF ABOUT PLUS 0.5 DEG. TRACKING STATIONS AT KODIAK AND HAWAII HAVE CONFIRMED ORBITAL STATUS THROUGH RECEPTION OF TELEMETRY AND RADAR BEACON SIGNALS ON THE FIRST ORBITAL PASS.

2. PRELIMINARY EVALUATION INDICATES THAT LAUNCH TEST OBJECTIVES WERE ACHIEVED AS FOLLOWS CLN /REF. DETAILED TEST OBJECTIVES, LMSD 446404CMM SECTION 2/.

A. DISCOVERER BOOSTER - OBJECTIVE ACHIEVED

AT BOOSTER CUTOFF VEHICLE POSITION WAS WITHIN A SPHERE OF 5, . RADIUS, FLIGHT PATH ANGLE WAS WITHIN PLUS 4 DEG, AND VELOCITY WAS WITHIN 500 FPS OF THE NOMINAL VALUE. BOOSTER STEERING AND EVENT COMMANDS WERE GENERATED AND TRANSMITTED SATISFACTORILY BY THE GROUND GUIDANCE SYSTEM AN DVEHICLE RESPONSE TO THE COMMANDS APPEARS TO HAVE BEEN PROPER. MECO OCCURRED AT T PLUS 149.2 SEC AS A RESULT OF COMMAND FROM GROUND



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GUIDANCE SYSTEM.

VERNIER ENGINE SOLO OPERATION LASTED 9.1 SEC WITH MECO OCCURRING AT T PLUS 156.3 SEC. SEPARATION WAS INITIATED BY A GROUND GUIDANCE COMMAND AT T PLUS 164.7 SEC. GROUND GUIDANCE SYSTEM DATA INDICATE THE BOOSTER COAST APOGEE ALTITUDE WAS 123.5 NM /NOMINAL CLN 123.4 NM/ AND THE BOOSTER COAST APOGEE VELOCITY WAS 9500

FPS /NOMINAL CLN

9513 FPS/.

B. AGENA AIRFRAME AND ADAPTER -OBJECTIVE ACHIEVED
NO EVIDENCE OF STRUCTURAL PROBLEMS IN THE AGENA AIRFRAME OR ADAPTER HAS BEEN NOTED. THE RETRO-ROCKETS SATISFACTORILY PROVIDED THE THRUST NECESSARY FOR COMPLETE SEPARATION BY T PLUS 167.1 SEC.

C. AGENA PROPULSION SYSTEM-OBJECTIVE ACHIEVED
AGENA ENGINE IGNITION OCCURRED IN A NORMAL MANNER AT T PLUS 204.0 SEC AND THE ENGINE OPERATED SATISFACTORILY FOR 237.1 SEC. ENGINE SHUTDOWN OCCURRED AT T PLUS 441.1 SEC ON INTEGRATOR COMMAND. THE INTEGRATOR DATA SHOW A SENSIBLE VELOCITY GAIN OF 16,208 FPS DURING ORBITAL STAGE BOOST. THE IMPULSE PROVIDED BY THE AGENA ENGINE WAS SUFFICIENT TO GIVE THE VEHICLE ORBITAL VELOCITY AT THE FLIGHT INJECTION ALTITUDE.

D. AGENA ELECTRICAL POWER SYSTEM-OBJECTIVE ACHIEVED



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EVIDENCE OF AGENA ELECTRICAL POWER SYSTEM PROBLEMS
HAS BEEN NOTED.

1. AGENA GUIDANCE AND FLIGHT CONTROL SYSTEM-OBJECTIVE
ACHIEVED.

THE AGENA GUIDANCE SYSTEM RESPONDED PROPERLY TO A
5.86 SEC TIME-TO-FIRE CORRECTION AND A 2.90 SEC VELOCITY-
TO-BE-GAINED CORRECTION COMMANDED BY THE GROUND GUIDANCE SYSTEM.
VEHICLE ATTITUDE APPEARS TO HAVE BEEN CONTROLLED SATISFACTORILY DURING
THE COAST PHASE AND THE ORBITAL BOOST PHASE, AND CONTROL GAS EXPEND-
ITURE WAS NORMAL DURING BOTH OF THOSE PERIODS. ENGINE SHUTDOWN WAS
COMMANDED SATISFACTORILY BY THE INTEGRATOR, AND THE D-TIMER PROPERLY
CONTROLLED THE TIME AND SEQUENCE OF ALL PROGRAMMED EVENTS THAT
WERE SCHEDULED TO OCCUR PRIOR TO LOSS OF TELEMETRED DATA AT VTS.
1. AGENA SPACE COMMUNICATIONS SYSTEM-OBJECTIVE ACHIEVED
OPERATION OF THE ACQUISITION BEACON AND THE RADAR BEACON WAS
SATISFACTORY. VTS TRACKED THE ACQUISITION BEACON FROM LIFTOFF TO
T PLUS 504 SEC AND THE RADAR BEACON FROM LIFTOFF TO T PLUS 484 SEC.
AT T PLUS 516 SECCM THE TIME OF THE TELEMETRY DATA FADE FOR BTS CMM
TELEMETRY CHANNELS WERE OPERATING. AT THIS TIME THE ORBITAL TIMER
WAS SET AT 5465 SECCM IN THE RESET-ON POSITION CMM IN THE INCREASE
SC LINE EIGHTEEN LAST TWO GROUP CCM ALL REPEAT CMM ALL

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MODE CMM AND ALTERNATE RE-ENTRY DISARM STATE. NO GROUND
COMMANDS WERE SENT DURING THE ASCENT PHASE.

1. AEROSPACE GROUND EQUIPMENT-OBJECTIVE ACHIEVED.
BOOSTER AND ORBITAL STAGE CHECKOUT WAS SATISFACTORILY
ACCOMPLISHED DURING THE PRE-LAUNCH COUNTDOWN BY THE AEROSPACE
GROUND EQUIPMENT. HOWEVER SEVERAL PROBLEMS OCCURRED.
DURING TASK 4 /DESTRUCT CHECKS/ THE SECONDARY RANGE SAFETY
TRANSMITTER MALFUNCTIONED. DESTRUCT CHECKS AND LAUNCH WERE COMPLETED
WITH THE PRIMARY TRANSMITTER.
DURING TASK 14 /ORBITAL STATE PROPELLANT TANKING/ A SLIGHT LEAK DEVELOPED
IN THE AGENA MAST ACID TRANSFER LINE, ALLOWING ACID TO DRIP ONTO THE
PAD. THE LEAKAGE RATE WAS INSUFFICIENT TO PLACE LOADING OUT OF SPECI-
FICATION AND TUS THE LOADING WAS CONTINUED. ATER COMPLETION OF TANKING
THE ACID LINE WAS DRAINED TO PREVENT FURTHER LEAKAGE.
A BLOCKHOUSE CONSOLE INDICATION OF LOW AGENA CONTROL GAS PRESSURE
WAS DETERMINED TO BE ERRONEOUS DURING A HOLD REQUIRED FOR RANGE
CLEARANCE STARTING AT 1200 PST. PAD AND TELEMETRY MEASUREMENTS OF THIS
PRESSURE INDICATED THE CONTROL GAS SPHERES TO BE PROPERLY PRESSURIZED
1. DISCOVERER SYSTEM FACILITIES-OBJECTIVE ACHIEVED
THE AGENA TELEMETRY SIGNAL WAS RECEIVED AND RECORDED BY

BT
13/0330Z DEC VAFB

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