Approved for Release: 2017/11/08 C05101172

DEPARTMENT OF THE AIR FORCE

OFFICE OF SPECIAL PROJECTS (OSAF)

AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

1 2 JUN 1972

REPLY TO

SP-1 ATTN OF:

SUBJECT: Gambit Mission Summary

DNRO (Dr McLucas)

Attached is the summary for Mission 4335.

LEW ALLEN, JR.

Major General, USAF

Director

1 Atch

Mission 4335 Summary



Control System Only

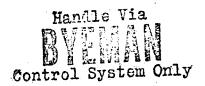
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BYE-15799-72 Atch 1, Cy / Three Pgs Each

SUMMARY

MISSION 4335





GAMBIT

MISSION SUMMARY

Mission No.

4335

Vehicle No.

Satellite Control Section (SCS) 4785

Payload Adapter Section 1085

Titan IIIB-35

Photographic Payload FM-35

Operation No.

6574

Launch

1530Z, 20 May 1972 Vandenberg AFB, CA

Recoveries

None - Failed to achieve orbit

Probable Impact Point

(b)(1)

—(b)(3)

MISSION HISTORY AND PERFORMANCE

I. Pre-Launch

- A. Satellite Control Section (SCS)
- (1) The launch was slipped from 17 to 18 May to resolve an Extended Command System 16-bit telemetry anomalous signature.
- (2) The launch was subsequently slipped to 19 May to permit the removal and replacement of a PCM master unit.
 - B. Photographic Payload Section (PPS)

Optical testing resulted in acceptance resolution of 170 L/mm, 2:1 single pass based on an interferometrically derived modulation curve.

C. Titan Booster

No significant problems were encountered.

D. Bell Telephone Laboratory (BTL) Ground Guidance Station

The final launch slip to 20 May was to permit resolution of a ground guidance computer problem.

II. Flight

Vehicle 4785 failed to achieve orbit. Data analysis indicates that there was a failure in the Augmented Control Subsystem (ACS) pneumatics between the control gas supply and the attitude control thrusters. This near total loss of pneumatic reaction control impulse resulted in an attitude error (both magnitude and direction) during the Agena staging and ascent burn such that the vehicle failed to achieve an orbit. Malfunction analysis concludes that the ACS regulator was the cause of the failure. The only failure mechanism within the regulator that satisfies all the failure criteria is a failed diaphragm.

III. Impact Analysis

A detailed	impact point analysis has been completed using all
available data.	The most probable impact point is
_	The three-sigma perturbed footprint is a 26 nm
corridor from	



(b)(1) (b)(3)