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DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF [redacted]
AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

REPLY TO ATTN OF: [redacted]

22 May 1972

SUBJECT: CORONA Mission Summary

TO: DNRO (Dr. McLucas)

Attached is the summary for Mission 1116.

[redacted]
Maj Gen, USAF
Director

Atch
Summary Mission 1116

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S U M M A R Y

MISSION 1116

WORKING PAPERS
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MISSION BRIEF

I. Mission 1116 was successfully launched from Vandenberg AFB at 2144Z on 19 April 1972.

II. 1116-1 and 1116-2 were both successfully air recovered on 1 May (30 April PDT) and 8 May 1972, respectively.

III. [redacted] were carried as additional payloads. Performance was satisfactory.

CORONA

MISSION SUMMARY

Mission Number:	1116
FV/Booster/Payload:	1661/70-292/CR-16
IRON:	5640
Launch Date:	2144Z, 19 April 1972
Launch Facility:	SLC-3, West Pad, Vandenberg AFB, California
Recovery:	1116-1, Rev 180, 0001Z, 1 May 1972, Aerial Recovery
	1116-2, Rev 309, 2223Z, 8 May 1972, Aerial Recovery
Film Take:	1116-1, 15,439 feet
	1116-2, 16,500 feet

MISSION HISTORY AND PERFORMANCE

I. PREFLIGHT

A. Mission Scheduling

[redacted] message [redacted] dated 6 March 1972 scheduled Mission 1116 for 12 April 1972. [redacted] subsequently rescheduled the launch for 14 April 1970. This date slipped to 19 April 1972 to permit correction of payload problems.

B. Payload/CR-16

Payload CR-16 arrived at Vandenberg AFB on 5 April 1972 and was returned to the advanced payload facility on 11 April 1972 to readjust mechanical clearances in the light seals. The payload was returned to Vandenberg AFB on 14 April 1972. Payload mating and confidence checks were accomplished satisfactorily. The pan camera load consisted of type 3414 film.

C. Booster/THORAD/AF 70-292

Booster 70-292 arrived at Vandenberg AFB on 28 May 1970 and was placed in storage. The booster was transferred to the launch pad and erected 19 October 1971. Prelaunch testing for a December 1971 launch was normal and the vehicle was placed in an R-14 launch hold status. Solid rocket motors were removed in January 1972 and placed in storage due to vertical "hang time" limitations and were installed before final testing. Prelaunch testing for the April 1972 launch was reaccomplished normally and completed as scheduled.

D. FV 1661 completed manufacturing and systems test in May 1970 and was shipped to Vandenberg AFB on 26 March 1971. During prelaunch testing the SGLE Receiver/Demodulator was replaced due to an open capacitor in the envelope detector module. One 1-K battery failed a dielectric leakage test due to excessive electrolyte and resultant cell outgassing. The excess electrolyte was removed and battery reinstalled.

II. COUNTDOWN AND LAUNCH

A. The countdown was initiated at 1336Z on 19 April 1972 and proceeded normally to liftoff at 2144Z, 19 April 1972. Two holds were imposed during the count for 27 minutes to permit railroad traffic to clear the caution areas.

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B. The performance of the THORAD booster and Agena vehicle was satisfactory. All systems functioned properly.

III. ORBIT

A. Injection Parameters

	Predicted	Actual
Period	88.67 Min	88.85 Min
Perigee	84.50 NM	83.8 NM
Apogee	146.2 NM	152.3 NM
Inclination	81.50 Deg	81.48 Deg

B. Mission Performance

1. On Rev 105 Link I telemetry failed to turn on and remained off for the remainder of the mission. The mission continued without interruption using Link II telemetry although diagnostic information was partially degraded. The failure of Link I is attributed to either a malfunctioning relay or shorted control circuitry in the flight logic and programmer (FLAP) box which provided a continuous off command to the Link I telemetry. All attempts to restore operation to Link I telemetry were unsuccessful.

2. Eight DMU rockets were fired for period control and to adjust perigee position during the mission. All firings were successful and orbit adjustments were within predicted limits.

C. Post Mission Events

1. The command system was exercised in several unsuccessful attempts to restore Link I operation and to induce failure in the orbital programmer, either of which, if successful, would have provided additional research payload operation.

2. Control gas was successfully transferred between primary and back-up recovery (Lifeboat) systems.

3. Two DMU's were successfully fired to extend orbit life.

4. The flight vehicle became electrically inactive on Rev 326 and reentered on Rev 371, 12 May 1972.

IV. RECOVERY

A. 1116-1 and 1116-2 were both successfully air recovered at 0001Z, 1 May 1972 and 2223Z, 8 May 1972, respectively.

B. Recovery Location

	Rev	Predicted	Actual
Recovery #1	180	24-45 N 172-39 W	24-37 N 172-30 W
Recovery #2	309	27-00 N 166-51 W	27-06 N 166-49 W