[redacted]

~~TOP SECRET~~

WORKING COPY

35-3

DEPARTMENT OF THE AIR FORCE

[redacted]

AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045

20 April 1971

REPLY TO ATTN OF: [redacted]

SUBJECT: CORONA Mission Summary

TO. DNRO (Dr. McLucas)

Attached is the summary for Mission 1114.

[redacted]

Brig Gen, USAF
Director

Atch
Summary Mission 1114

~~WORKING PAPERS~~

~~Handle Via~~

[redacted]

~~Control System Only~~

~~TOP SECRET~~

[redacted]

TOP SECRET/C

SUMMARY

MISSION 1114

EXCLUDED FROM AUTOMATIC REGRADING; DOD DIR 5200.10 DOES NOT APPLY.

[redacted] PAPERS

Handle Via [redacted] Control System Only

TOP SECRET/C

MISSION BRIEF

I. Mission 1114 was successfully launched on the first attempt from Vandenberg AFB at 2106Z on 24 March 1971.

II. 1114-1 and 1114-2 were both successfully air recovered on 31 March and 9 April 1971, respectively.

III. Transit Beacon TR-5 and [redacted] were carried as additional payloads. Performance was satisfactory.

IV. This was the second flight to utilize high density IRFNA as the oxidizer for the Agena. Performance was as predicted.

V. Mission duration was reduced from 19 days to 16 days due to flight vehicle anomalies.

[redacted]

TOP SECRET/C

CORONA

MISSION SUMMARY

Mission Number:	1114
FV/Booster/Payload:	1660/69-034/CR-14
IRON:	5300
Launch Date:	2106Z, 24 March 1971
Launch Facility:	SLC-3, West Pad, Vandenberg AFB, California
Recovery:	1114-1, Rev 115, 2318Z, 31 March 1971, Aerial Recovery 1114-2, Rev 260, 2128Z, 9 April 1971, Aerial Recovery, Lifeboat
Film Take:	1114-1, 15,821 feet 1114-2, 14,809 feet

WORKING PAPERS

[redacted]

Control System Only

TOP SECRET/C

MISSION HISTORY AND PERFORMANCE

I. PREFLIGHT

A. Mission Scheduling

[redacted] dated 23 February 1971 scheduled mission 1114 for 24 March 1971.

B. Payload/CR-14

Payload CR-14 arrived at Vandenberg AFB on 17 March 1971. Payload mating and confidence checks were accomplished satisfactorily. The pan camera load consisted of type 3414 and type 3404 film.

C. Booster/THORAD/69-034

Booster 69-034 arrived at Vandenberg AFB on 29 June 1970 and was placed in storage. The booster was transferred to the launch pad and erected on 2 March 1971. Prelaunch testing was normal and completed as scheduled.

D. FV 1650 completed manufacturing and systems test on 8 April 1970 and was shipped to Vandenberg AFB on 10 November 1970. Prelaunch testing was normal and completed as scheduled. [redacted] unit [redacted] was removed and replaced by a mass simulator due to a sub-satellite malfunction which imposed an unacceptable schedule delay.

II. COUNTDOWN AND LAUNCH

A. The countdown was initiated at 1326Z on 24 March 1971 and proceeded normally to liftoff at 2106Z, 24 March 1971.

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	88.55 Min
Perigee	84.5 NM	87.6 NM
Apogee	145.9 NM	142.2 NM
Inclination	81.5 Deg	81.52 Deg

B. Mission Performance

1. The flight vehicle exhibited extremely high control gas usage rates immediately after reaching orbit. These rates decreased after the first two days but continued to be higher than normal for the remainder of the mission. Perigee altitude was increased to approximately 100 NM on Rev 47 to reduce control gas usage and extend mission life. This problem is under investigation.

2. The Link II telemetry became unusable after approximately four days. Preliminary failure analysis attributes the problem to a slow loss of pressurization in the type 16 (Cubic) transmitter which permits corona arcing and reduction of power output. Initial laboratory tests have confirmed this failure mode; however, investigation of the problem has not been completed.

3. The orbital programmer failed on Rev 246, and efforts to restore operation were unsuccessful. This failure is under investigation.

4. Five DMU rockets were fired for period control and to increase perigee altitude during the mission. All firings were successful and orbit adjustments were within predicted limits.

C. Post Mission Events

1. The command system was exercised to support failure analysis of on-orbit anomalies.

2. The Transit Beacon was exercised during post mission testing. Performance was satisfactory.

3. Remaining control gas was transferred from the back-up recovery system (Lifeboat) to the primary recovery system.

[redacted]

4. A Lifeboat exercise was successfully performed in the same configuration as recovery of 1114-2.

5. Control gas was exhausted on Rev 297 and the flight vehicle and payload reentered on 13 April 1971.

IV. RECOVERY

A. 1114-1 and 1114-2 were both successfully air recovered at 2318Z, 31 March 1971 and 2128Z, 9 April 1971, respectively. The second recovery utilized the Lifeboat recovery mode due to failure of the orbital programmer.

B. Recovery Location

	Rev	Predicted	Actual
Recovery #1	115	24-00 N 162-14 W	24-11 N 162-00 W
Recovery #2	260	17-56 N 153-58 W	17-58 N 153-46 W