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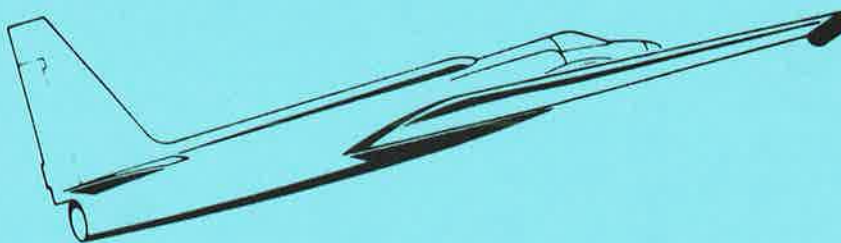
# Airborne Instrumentation Research Project

## Flight Summary Report

Flight No. 81-051

Date 7 April 1981

FSR- 1491



# NASA

National Aeronautics and  
Space Administration

**Ames Research Center**  
Moffett Field, California 94035

**Airborne Missions and Applications Division**

# FLIGHT SUMMARY REPORT

**Flight No:** 81-051

**Date:** 7 April 1981

**FSR No:** 1491

**Julian Date:** 097

**Sensor Package:** RC-10  
Aerosol Particulate Sampler (APS)

**Aircraft No:** 4

**Purpose of Flight:** #0666 Support  
Requestor: Lumb  
#0047 Support  
Requestor: Ferry

**Area(s) Covered:** Central California

## SENSOR DATA

**Accession No:** 02970

**Sensor ID No:** 033

024

**Sensor Type:** RC-10

APS

**Focal Length:** 6"  
153.17mm

**Film Type:** Aerochrome Infrared,  
SO 193

**Filtration:** Wratten 12 + 2.2AV

**Spectral Band:** 510-900nm

**f Stop:** 5.6

**Shutter Speed:** 1/250

**No. of Frames:** 107

**% Overlap:** 60

**Quality:** Excellent

**Remarks:** ---

non-imaging sensor

## FLIGHT SUMMARY

81-051

This flight was flown in support of Flight Requests #0666 (Lumb, NASA/ARC) and #0047 (Ferry, NASA/ARC) under the FY 1981 Airborne Instrumentation Research Program (AIRP) plan. RC-10 photographic coverage was obtained over the Sacramento Valley and central San Joaquin valley in California (see Track Map). Aerosol Particulate Sampler (APS) data was acquired, but is not shown on the track map due to the limited data collection.

Thin cirrus was encountered over the Sacramento Valley and moderate cirrus and cumulus over portions of the San Joaquin. The pilot flew the San Joaquin area in a disjointed manner in order to avoid the majority of cloud cover moving through the area. The times annotated on the film are 10 hours late due to mis-set clock. Correct times are listed in the flight line data. No camera or processing problems were noted and the quality of the data is rated excellent.

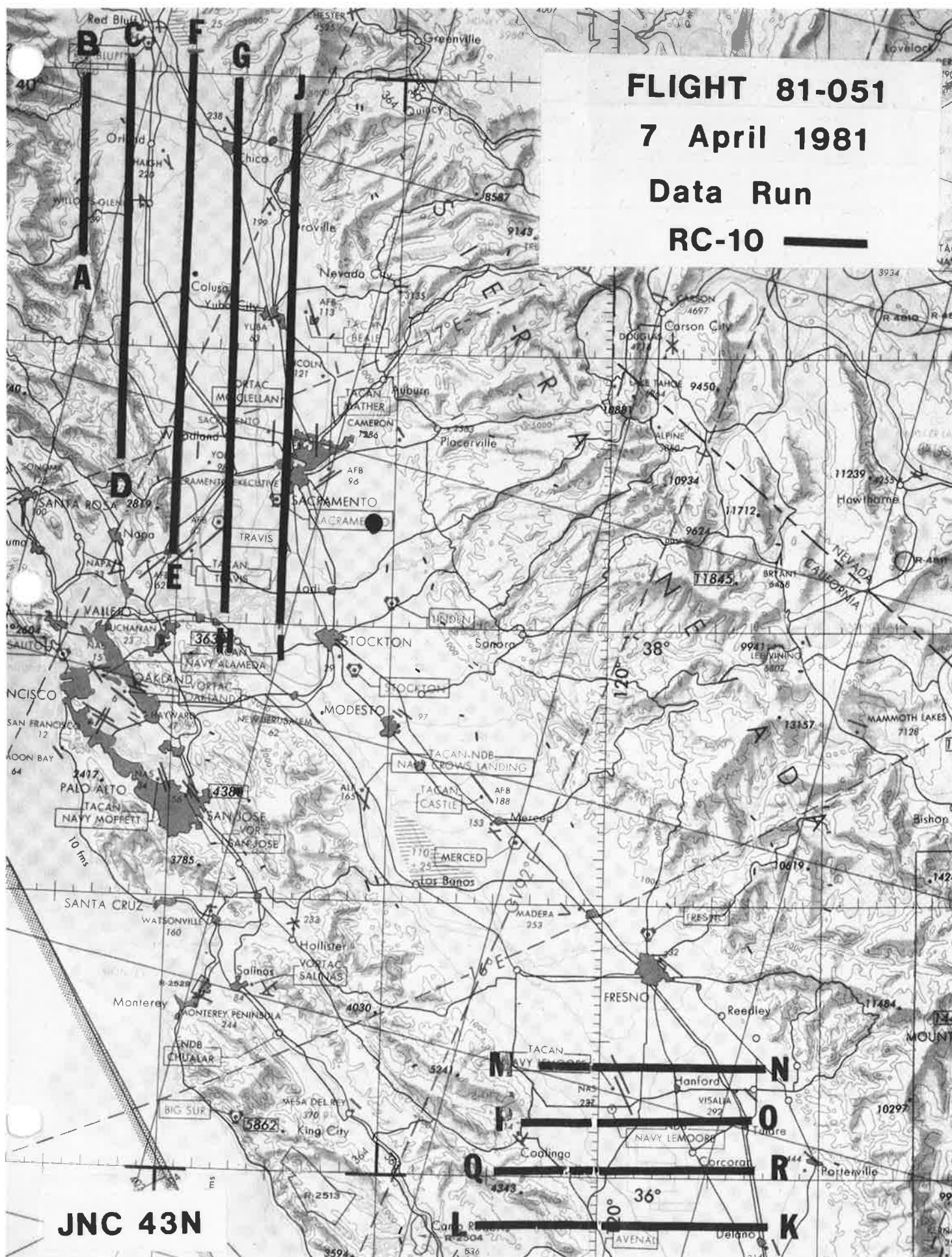
The APS has been developed and is operated by Dr. Guy Ferry of the NASA-Ames Research Center Atmospheric Experiments Branch. The sampler is a non-imaging sensor designed to gather high altitude dust particles for laboratory research.

# FLIGHT LINE DATA

FLIGHT NO. 81-051

	Check Points	Frame Numbers	Time (GMT-- hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
			START	END		
RC-10	---	6849	19:14:08		65,000/19800	Clear, single pulsed fr. over upper end of Sonoma Valley.
	A-B	6850-6857	19:21:15	19:27:14	"	Clear
	C-D	6858-6870	19:30:34	19:41:13	"	Clear
	E-F	6871-6885	19:47:09	20:00:11	"	Thin cirrus, frs. 6878-6881
	G-H	6886-6902	20:03:08	20:18:15	"	Clear
	I-J	6903-6919	20:22:12	20:36:25	"	Clear
	K-L	6920-6927	21:29:31	21:34:41	"	20% cumulus, frs. 6926-6927
	M-N	6928-6933	21:42:60	21:46:48	"	Clear
	O-P	6934-6940	21:50:53	21:56:32	"	Clear
	Q-R	6941-6947	22:00:05	22:05:27	"	Clear 20-30% cirrus, frs. 6941-6945
	R-Q	6948-6955	22:13:20	22:18:29	"	Minor thin cirrus and cumulus
APS	---	---	20:37:00	21:37:00	65,000/19800	APS #2 exposed for one hour at altitude; IOAT -32°C
	---	---	22:23:00	---	"	APS #1 exposed for short duration at altitude prior to descent; IOAT -33°C

RC-10 —



**JNC 43N**