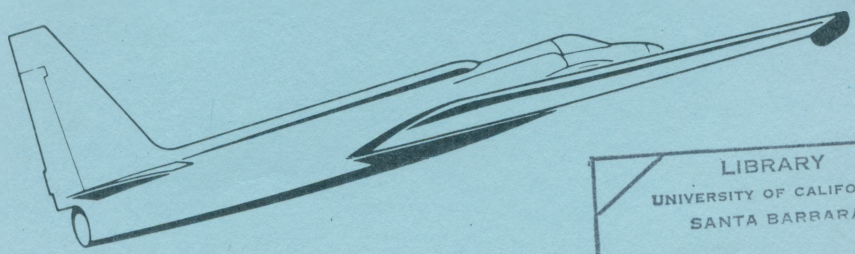
Airborne Instrumentation Research Project

Flight Summary Report

Flight No. 78-102

Date 24 July 1978

FSR- 1163



National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, California 94035

Airborne Missions and Applications Division

FLIGHT SUMMARY REPORT

Flight No: 78-102

Date: 24 July 1978

FSR No: 1163

Julian Date: 205

Sensor Package: Itek Optical Bar
Aerosol Particulate Sampler (APS)

Aircraft No: 4

Purpose of Flight: #0724 Support
Requestor: Weber
#0047 Support
Requestor: Ferry

Area(s) Covered: North-central Sierras, California

SENSOR DATA

Accession No:	02645	---
Sensor ID No:	029	024
Sensor Type:	Itek Optical Bar	APS
Focal Length:	24" 609.6mm	---
Film Type:	High Definition Aerochrome Infrared, SO-131	---
Filtration:	CC .40C	---
Spectral Band:	510-900nm	---
f Stop:	3.5	---
Shutter Speed:	1/350	---
No. of Frames:	809	---
% Overlap:	60	---
Quality:	Excellent	---
Remarks:	---	Non-imaging sensor

FLIGHT SUMMARY

78-102

This flight was flown in support of Flight Requests #0724 (Weber, USFS) and #0047 (Ferry, NASA/ARC) under the FY 1978 Airborne Instrumentation Research Program (AIRP) plan. The flight provides Optical Bar coverage over the north-central Sierras in California (see Track Map). Aerosol Particulate Sampler (APS) data was collected for the full time above 60,000 feet. No track map for the APS collection is provided due to the extensive area of coverage.

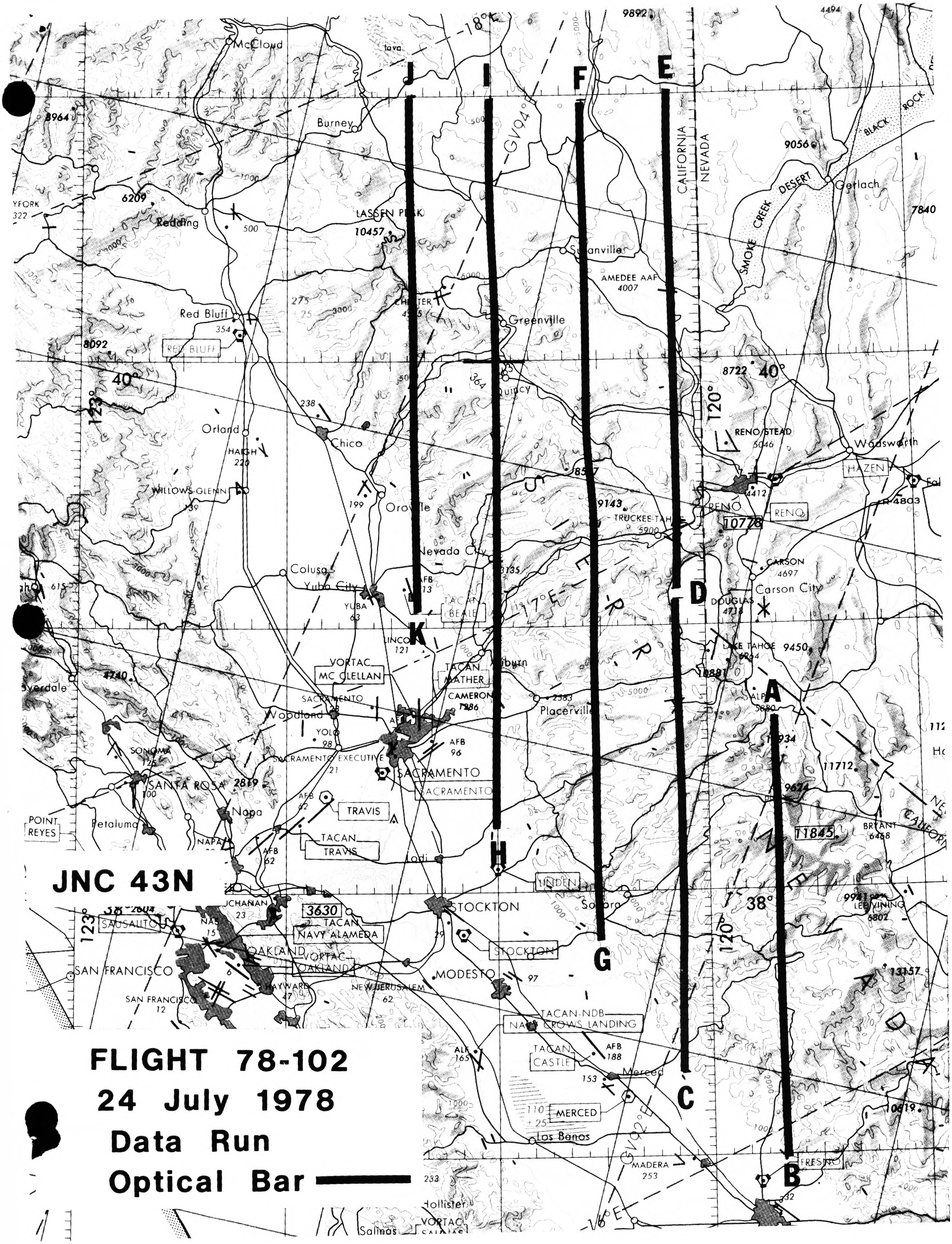
Light to scattered cumulus cloud cover was experienced in the north-eastern portion of the area. Additionally, due to an inflight diversion, there is a minor gap in the second flight line (C to E) over Lake Tahoe (point D). All frames are affected by a minor light reflection off of the hatch windows which degrades the overall uniformity of the data. Additionally, some minor processing residue was noted throughout the roll. Overall, 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. 78-102

	Check Points	Frame Numbers	Time (GMT—hr, min, sec) START	Time (GMT—hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
Optical Bar	A-B	0001-0100	18:28:25	18:42:42	65,000/19800	Very minor cumulus frs. 0001-0002, 0005-0020, 0023-0024, 0038, 0043-0051, 0054-0064, 0067-0069
	C-D	0101-0209	18:50:19	19:05:50	"	Minor cumulus, frs. 0189-0196; blurred, fr. 0209
	D-E	0210-0323	19:12:04	19:28:18	"	Minor cumulus, frs. 0217-0222, 0230-0231, 0233-0247, 0272-0276, 0291-0295
	F-G	0324-0520	19:33:36	20:01:39	"	Minor cumulus, frs. 0324-0338, 0341-0344, 0347-0356, 0370-0383, 0389-0426, 0434-0438, 0462-0465
	H-I	0521-0689	20:10:37	20:34:34	"	Minor cumulus, frs. 0641-0689
	J-K	0690-0809	20:39:35	20:56:30	"	10% cumulus, frs. 0690-0741
APS	---	---	18:21:00	21:01:00	65,000/19800	APS #1 exposed for 2 hours 40 minutes at altitude


JNC 43N
FLIGHT 78-102
24 July 1978
Data Run
Optical Bar
J
I
F
E
D
K
A
H
G
C
B
McCloud
Burney
Redding
LASSEN PEAK
10457
Red Bluff
RED BLUFF
Chester
Greenville
Quincy
Susanville
AMEDEE AAF
4007
CALIFORNIA
NEVADA
SMOKE CREEK DESERT
BLACK ROCK
Gerlach
9056
7840
8964
6209
8092
40°
123°
120°
Orland
Chico
Oroville
WILLOWS-GLENN
Colusa
Yuba City
YUBA
Nevada City
TACAN
BEALE
RENO/STEAD
5046
Wadsworth
HAZEN
RENO
10728
TRUCKEE TAHOE
CARSON
4697
Carson City
DOUGLAS
4718
LAKE TAHOE
6264
9450
9143
VORTAC
MC CLELLAN
TACAN
MATHER
CAMERON
Auburn
Placerville
SACRAMENTO
Woodland
YOLO
SACRAMENTO EXECUTIVE
SONOMA
SANTA ROSA
Napa
Petaluma
POINT REYES
TRAVIS
TACAN
TRAVIS
Lodi
LINDEN
STOCKTON
Sonora
38°
3630
TACAN
NAVY ALAMEDA
SAUSALITO
OAKLAND
VORTAC
OAKLAND
SAN FRANCISCO
HAYWARD
NEW JERUSALEM
MODESTO
STOCKTON
TACAN-NDB
NAVY CROWS LANDING
TACAN
CASTLE
Merced
MERCED
Los Banos
MADERA
FRESNO
Hollister
VORTAC
SALINAS
Salinas
11845
11712
BRYANT
6468
LEE VINING
13157
10619