FLIGHT SUMMARY REPORT

Flight #: 91-095

Date: 29 May 1991

Sensor Package: Thematic Mapper Simulator (TMS)

Area(s) Covered: Santa Monica Mountains
Los Padres National Forest

Investigator(s): Functional Sensor Flight

Flight Request: 91X003

Aircraft #: 706

Julian Date: 150

SENSOR DATA

Accession #: -----

Sensor ID #: 101

Sensor Type: TMS

Focal Length: -----

Film Type: -----

Filtration: -----

Spectral Band: -----

f Stop: -----

Shutter Speed: -----

# of Frames: -----

% Overlap: -----

Quality: Excellent

Remarks:

Airborne Science and Applications Program

The Airborne Science and Applications Program (ASAP) is supported by three ER-2 high altitude Earth Resources Survey aircraft. These aircraft are operated by the High Altitude Missions Branch at NASA-Ames Research Center, Moffett Field, California. The ER-2s are used as readily deployable high altitude sensor platforms to collect remote sensing and *in situ* data on earth resources, celestial phenomena, atmospheric dynamics, and oceanic processes. Additionally, these aircraft are used for electronic sensor research and development and satellite investigative support.

The ER-2s are flown from various deployment sites in support of scientific research sponsored by NASA and other federal, state, university, and industry investigators. Data are collected from deployment sites in Kansas, Texas, Virginia, Florida, and Alaska. Cooperative international scientific projects have deployed the aircraft to sites in Great Britain, Australia, Chile, and Norway.

Photographic and digital imaging sensors are flown aboard the ER-2s in support of research objectives defined by the sponsoring investigators. High resolution mapping cameras and digital multispectral imaging sensors are utilized in a variety of configurations in the ER-2s' four pressurized experiment compartments. The following provides a description of the digital multispectral sensor used for data collection during this flight.

Thematic Mapper Simulator

The Daedalus Thematic Mapper Simulator (TMS) is a multispectral scanner flown aboard the ER-2 aircraft which simulates spatial and spectral characteristics of the seven Landsat-D Thematic Mapper bands. The specific bands are as follows:

Daedalus Channel	TM Band	Wavelength, μm
1	A	0.42 - 0.45
2	1	0.45 - 0.52
3	2	0.52 - 0.60
4	B	0.60 - 0.62
5	3	0.63 - 0.69
6	C	0.69 - 0.75
7	4	0.76 - 0.90
8	D	0.91 - 1.05
9	5	1.55 - 1.75
10	7	2.08 - 2.35
11	6	8.5 - 14.0 low gain
12	6	8.5 - 14.0 high gain

Sensor/aircraft parameters are as follows:

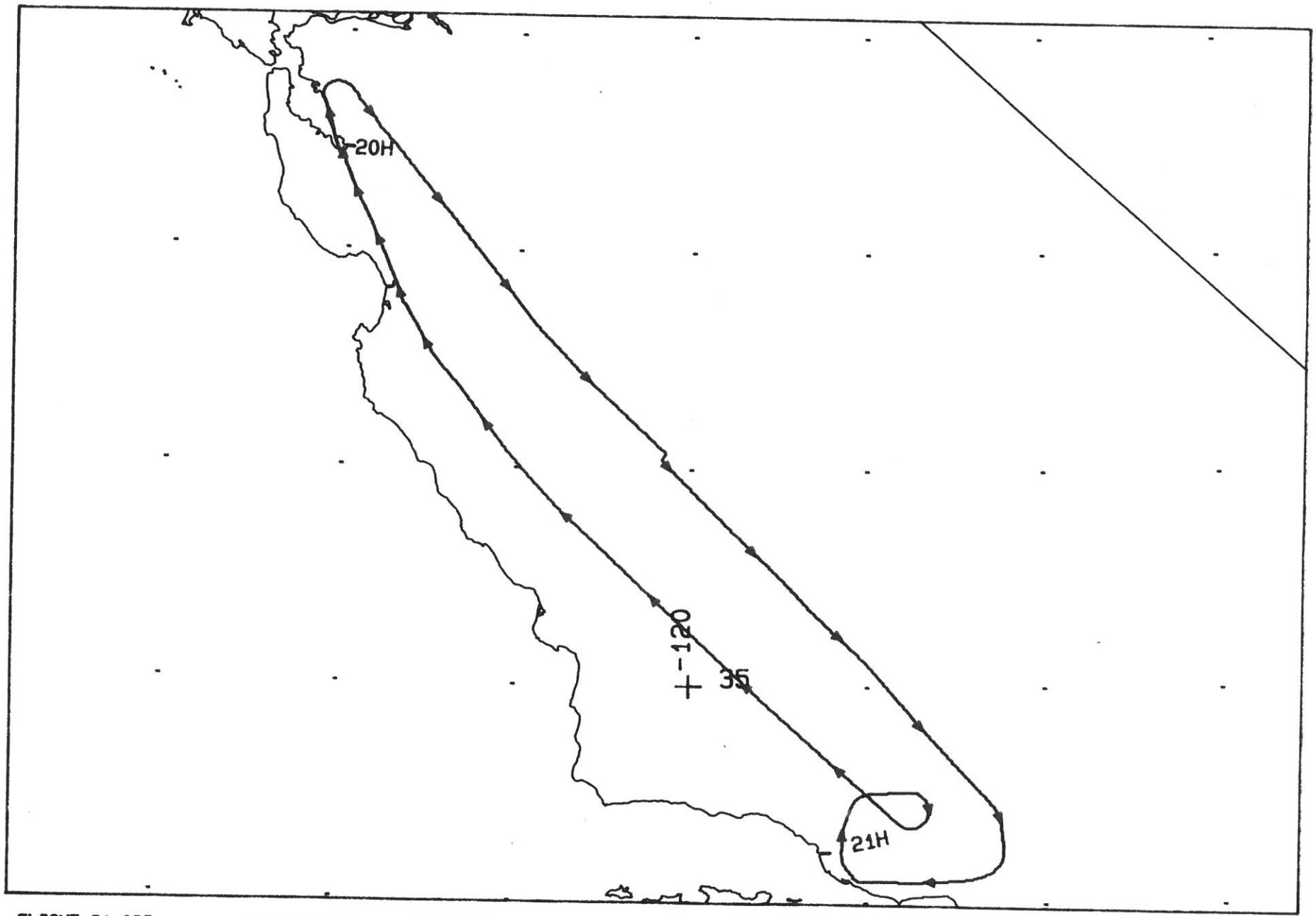
IFOV:	1.25 mrad
Ground Resolution:	81 feet (25 meters) at 65,000 feet
Total Scan Angle:	43°
Swath Width:	8.4 nmi (15.6 km) at 65,000 feet
Pixels/Scan Line:	716
Scan Rate:	12.5 scans/second
Ground Speed:	400 kts (206 m/second)

NOTE: Information on data tape format, logical record format, and scanner calibration data may be obtained from the NASA-Ames Aircraft Data Facility at (415) 604-6252 or FTS 464-6252.

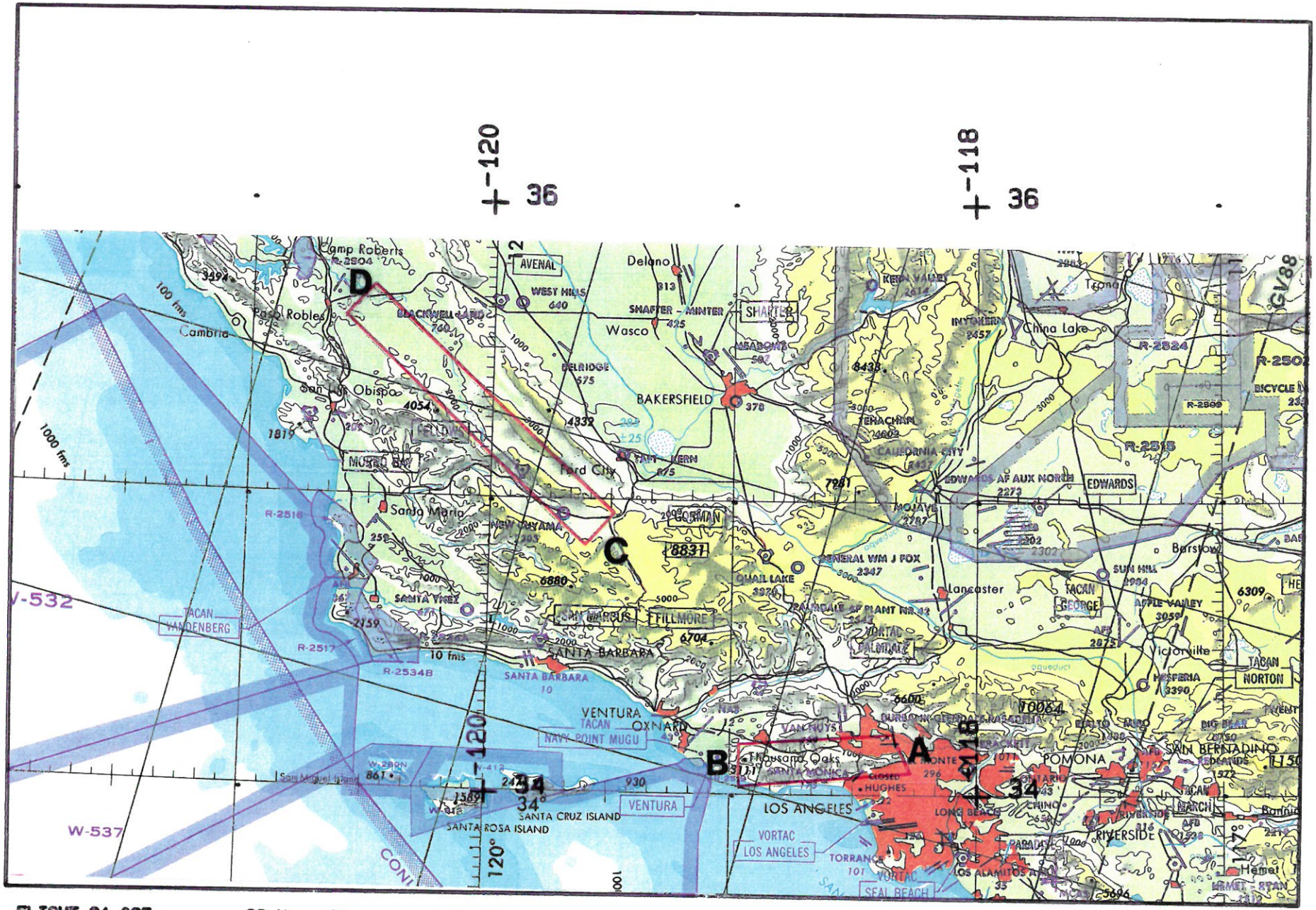
SCANNER FLIGHT LINE DATA
FLIGHT NO. 91-095

DAEDALUS FLIGHT DATA
FLIGHT NUMBER: 91-095

Check Points	Actual Time (GMT) Begin	End	Actual Scanline Begin	End	Altitude feet/meter	Scan Speed (rps)	Total Good Scanlines	Total Interpolated Scanlines	Total Repeated Scanlines
A-B	20:53:20	20:58:10	47352	50319	65000/19812	12.50	2955	0	13
C-D	21:14:45	21:24:35	62578	69962	65000/19812	12.50	7375	0	10



FLIGHT 91-095 29 May 1991 A/C 706 TMS / RC-10 Functional Check Flight



FLIGHT 91-095 29 May 1991 A/C 706 Thematic Mapper Simulator (TMS) JNC 43