

FLIGHT SUMMARY REPORT

Flight #: 90-113
Date: 23 July 1990
Sensor Package: Wild-Heerbrug RC-10
Airborne Visible and Infrared Imaging
Spectrometer (AVIRIS)
Area(s) Covered: Southern California Desert and Nevada

Investigator(s): Green, Jet Propulsion Laboratory
Flight Request: 90L209

Aircraft #: 709
Julian Date: 204

SENSOR DATA

Accession #:	04073	-----
Sensor ID #:	031	099
Sensor Type:	RC-10	AVIRIS
Focal Length:	6" 153.05 mm	-----
Film Type:	High Definition Aerochrome IR SO-131	-----
Filtration:	cc.10B	-----
Spectral Band:	510-900 nm	-----
f Stop:	4	-----
Shutter Speed:	1/100	-----
# of Frames:	45	-----
% Overlap:	60	-----
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.

Airborne Visible and Infrared Imaging Spectrometer

The Airborne Visible and Infrared Imaging Spectrometer (AVIRIS) is the second in the series of imaging spectrometer instruments developed at the Jet Propulsion Laboratory (JPL) for earth remote sensing. This instrument uses scanning optics and a four-line arrays of detectors to image a 614 pixel swath simultaneously in 224 contiguous spectral bands (0.4-2.4 μm).

AVIRIS parameters are as follows:

IFOV:	1 mrad
GIFOV (at 20 km):	20 m
FOV:	30°
GFOV (at 20 km):	11 km
Spectral Coverage:	0.41 - 2.45 μm
Number of Spectral Bands:	224
Digitization:	10 Bits
Data Rate:	17 MBPS

<u>Spectrometer</u>	<u>Wavelength Range</u>	<u>Number of Bands</u>	<u>Sampling Interval</u>
1	0.41 - 0.70 μm	31	9.4 nm
2	0.68 - 1.27 μm	63	9.4 nm
3	1.25 - 1.86 μm	63	9.7 nm
4	1.84 - 2.45 μm	63	9.7 nm

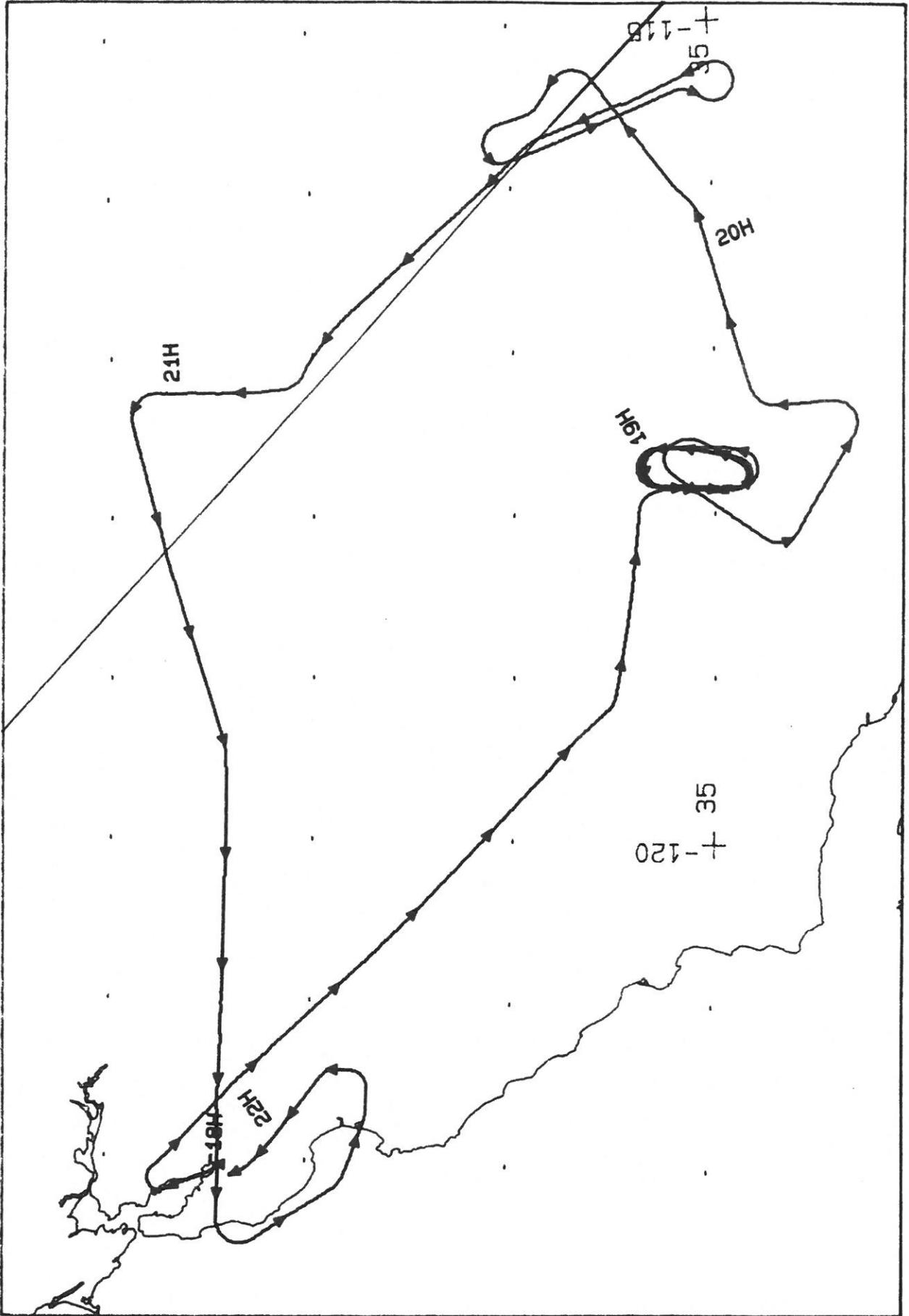
All AVIRIS data is decommutated and archived at JPL and not currently available for public distribution. For further information contact Rob Greene at Jet Propulsion Laboratory, 4800 Oak Grove Drive, Mail Stop 11-116, Pasadena, California 91109-8099.

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-113

Accession # 04073

Sensor # 031

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	2215-2219	19:45:36	19:49:06	65000/19800	10% cumulus (frames 2217-2219)
C - D	2220-2227	19:57:42	20:03:33	"	10% scattered cumulus (frames 2223-2224)
E - F	2228-2233	20:07:31	20:11:38	"	10% scattered cumulus (frames 2231-2233)
G - H	2234-2241	20:20:58	20:26:48	"	10% scattered cumulus (frames 2240-2241)
I - J	2242-2249	20:35:15	20:41:21	"	Minor-10% scattered cumulus (frames 2242-2246)
K - L	2250-2254	20:59:36	21:02:51	"	Clear
M - N	2255-2259	21:37:21	21:40:14	"	20% strato cumulus (frames 2258-2259)



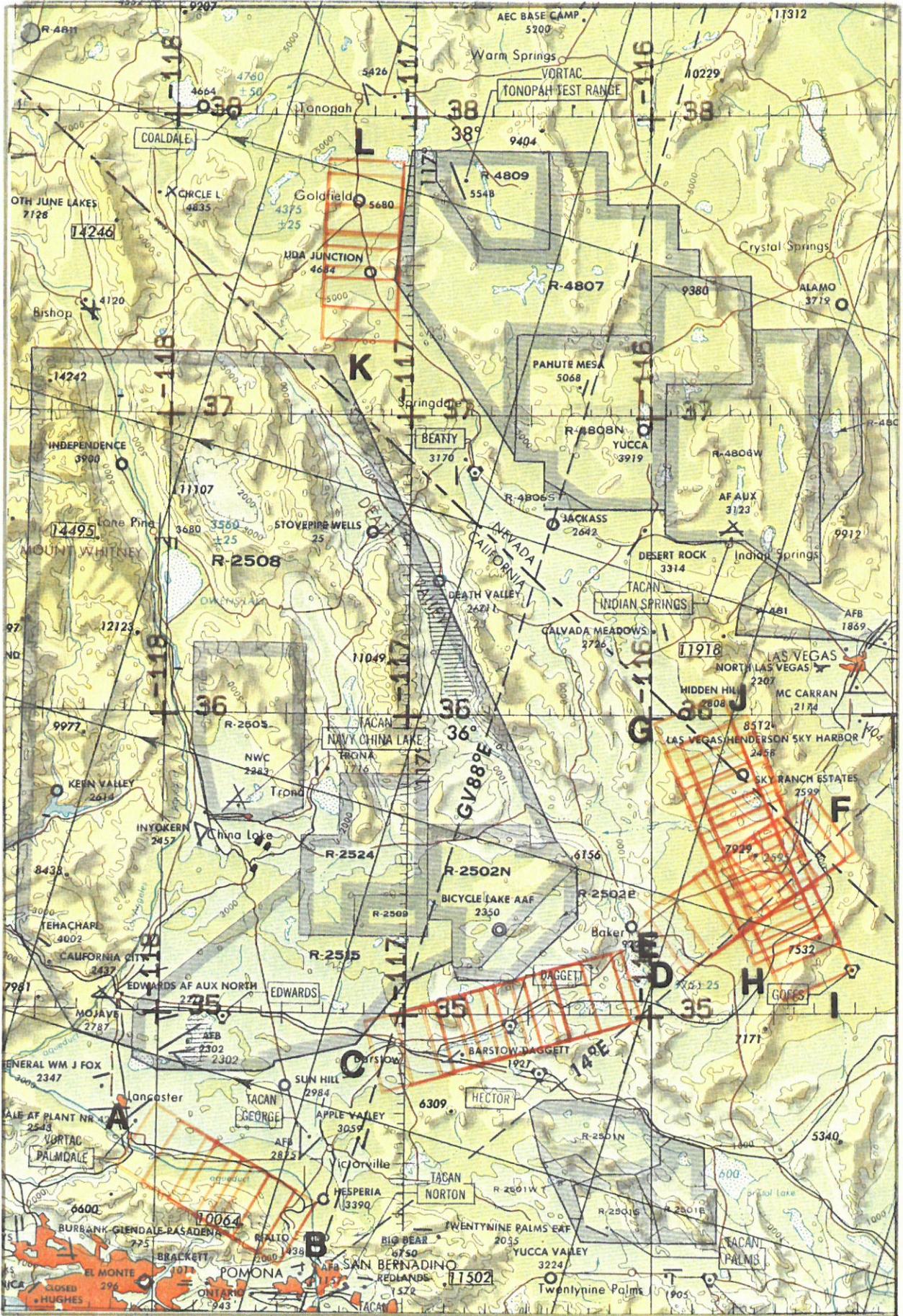
AVIRIS Engineering Flight

AVIRIS / RC-10

A/C 709

23 July 1990

FLIGHT 90-113



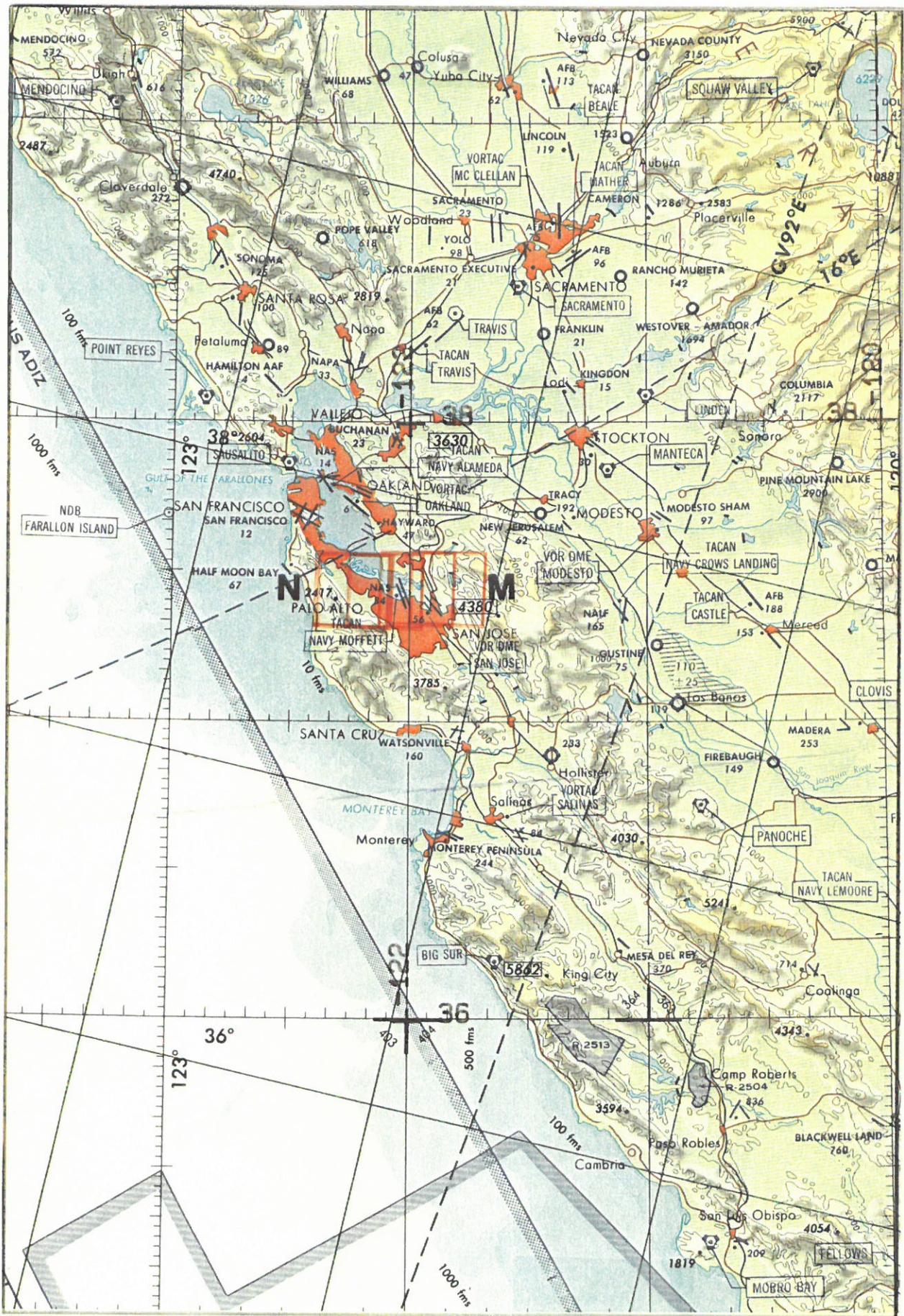
JNC-43

Accession # 04073

AVIRIS

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FLIGHT 90-113



JNC-43

Accession # 04075

AVIRIS

23 July 90

FLIGHT 90-115