FLIGHT SUMMARY REPORT

Flight #: 91-149

Date: 20 August 1991

Sensor Package: Wild-Heerbrug RC-10
Airborne Visible and Infrared Imaging Spectrometer (AVIRIS)

Area(s) Covered: Sierra Nevada/Davis/San Francisco Bay

Investigator(s): Ustin and Paw U, U.C. Davis
Green, JPL

Aircraft #: 706

Flight Request: 91G217B and 91L230

Julian Date: 232

SENSOR DATA

Accession #:	04278	-----
Sensor ID #:	034	099
Sensor Type:	RC-10	AVIRIS
Focal Length:	12" 304.66 mm	-----
Film Type:	High Definition Aerochrome IR SO131	-----
Filtration:	cc.10B	-----
Spectral Band:	510-900 nm	-----
f Stop:	4	-----
Shutter Speed:	1/125	-----
# 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 four spectrometers 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
Ground Resolution:	66 feet (20 meters) at 65,000 feet
Total Scan Angle:	30°
Swath Width:	5.7 nmi (10.6 km) at 65,000 feet
Spectral Coverage:	0.41-2.45 μm
Pixels/Scan Line:	614
Number of Spectral Bands:	224
Digitization:	10-bits
Data Rate:	17 MBPS

Spectrometer	Wavelength Range	Number of Bands	Sampling Interval
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

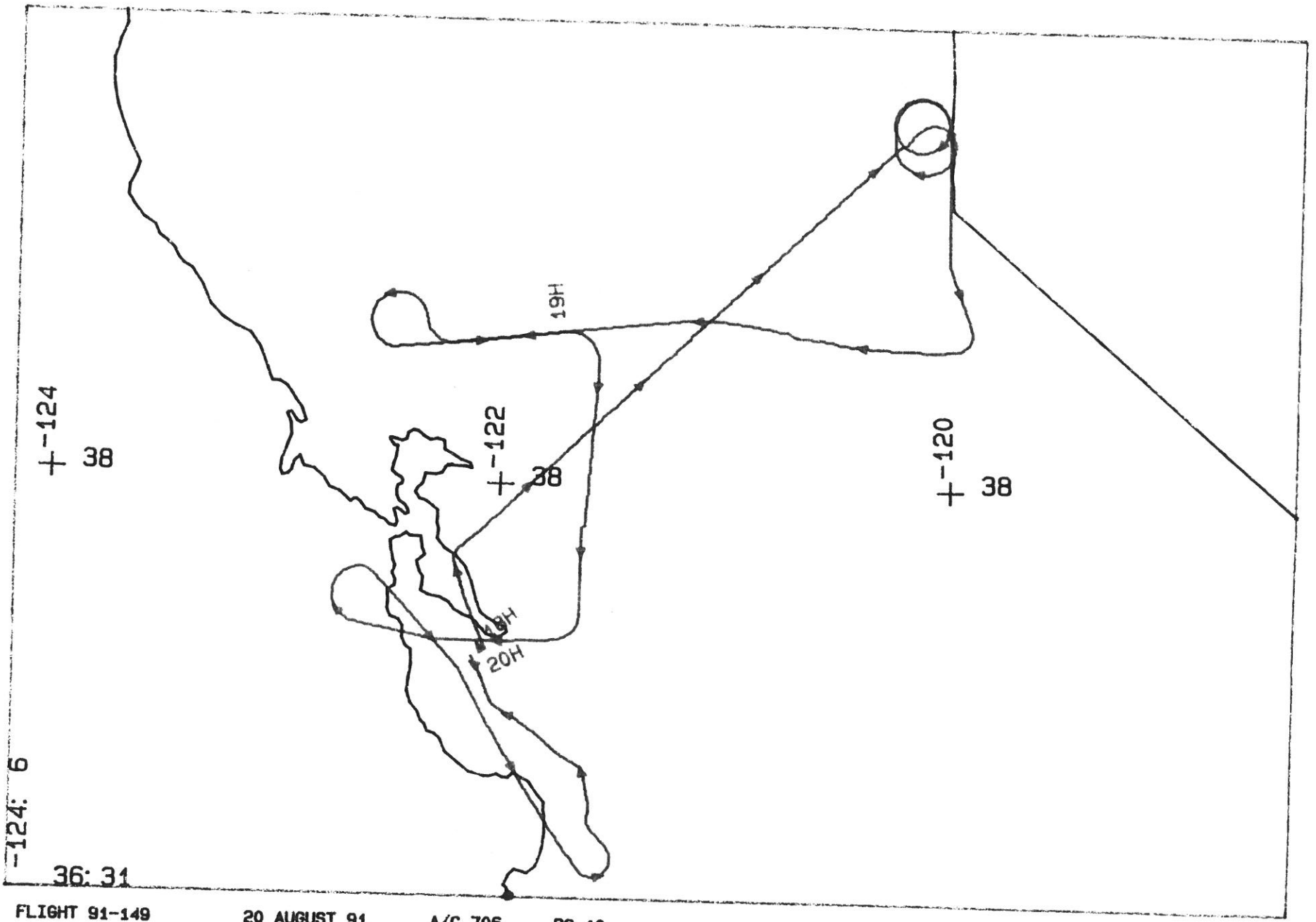
All AVIRIS data is decommutated and archived at JPL and not currently available for public distribution. For further information contact Rob Green at Jet Propulsion Laboratory, 4800 Oak Grove Drive, Mail Stop 183-501, Pasadena, California 91109-8099.

CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-149

Accession # 04278

Sensor # 034

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	3216-3221	18:43:42	18:46:06	65000/19800	10% scattered-cumulus (frame 3221)
C - D	3222-3226	18:50:33	18:52:26	"	Minor cumulus (frame 3222)
E - F	3227-3235	19:00:45	19:04:33	"	Clear
F - E	3236-3245	19:11:05	19:15:22	"	Clear
G - H	3246-3252	19:26:56	19:29:46	"	10% scattered-cumulus (frames 3247-3252)
I - J	3253-3258	19:36:35	19:38:56	"	10-70% strato-cumulus (frames 3253-3257)
K	3259-3260	19:41:02	19:41:05	"	Clear



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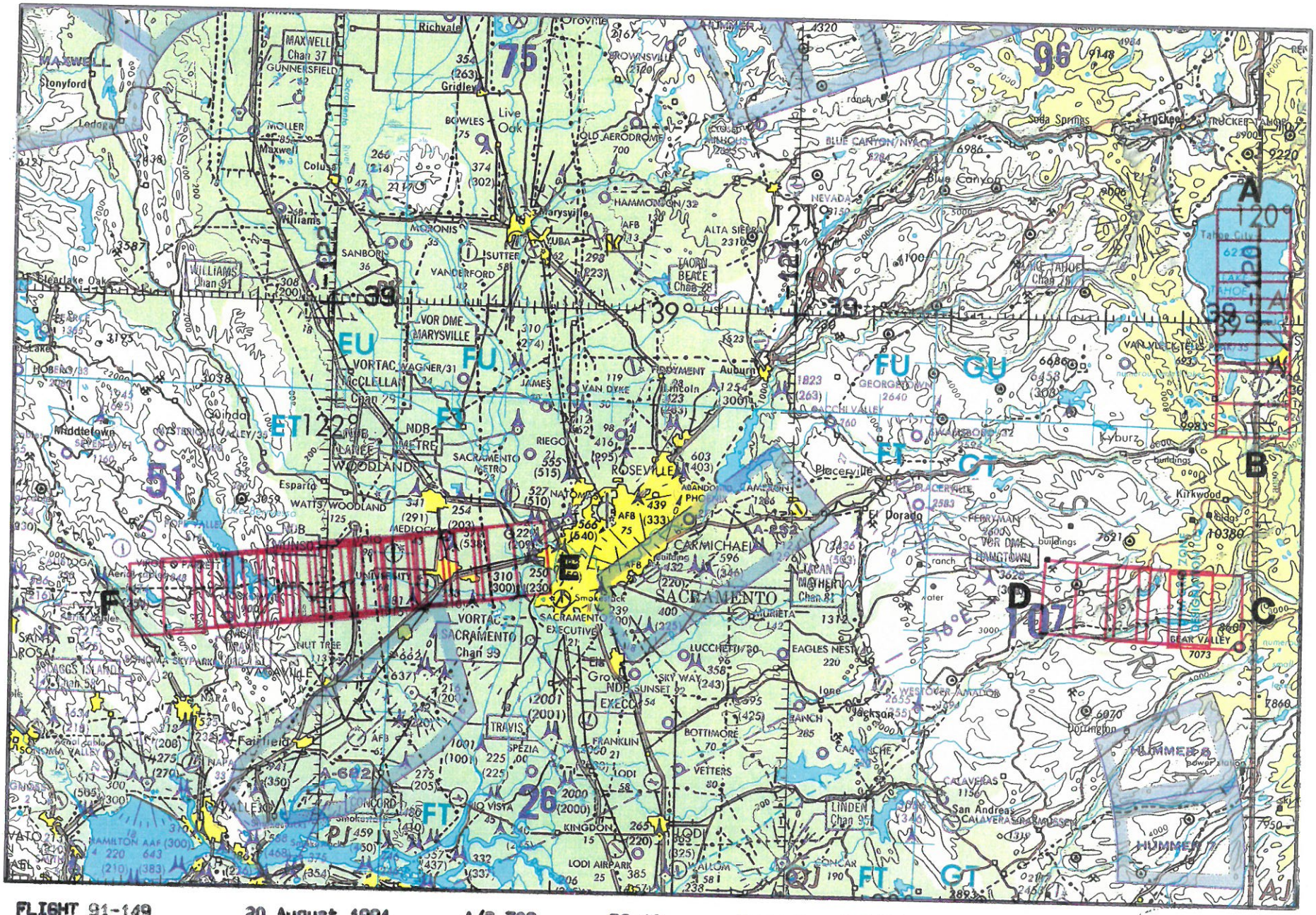
OVERLAY FOR %CMUSA LAMBERT CONFORMAL PROJECTION: SP1 = 36.2 SP2 = 38.9 CM = -121.3 ROTATED BY 0.0

18: 00: 20 TO 20: 03: 05 UT SCALE = 1: 2.07E+06 TIME TICS EVERY 5.00 MINUTES



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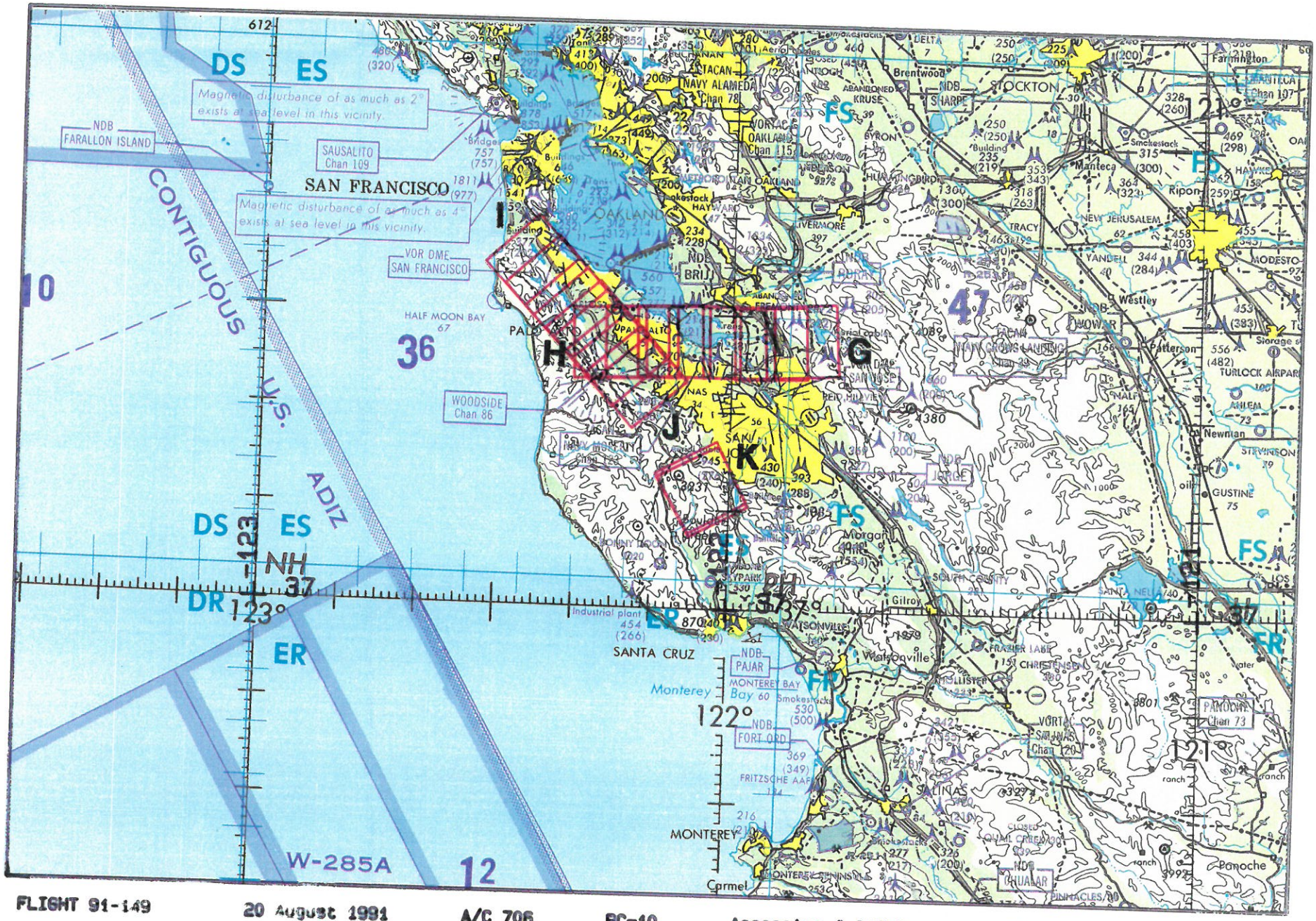

FLIGHT 91-149 20 August 1991 A/C 706 RC-10 Accession # 04278 ONC G-18