

FLIGHT SUMMARY REPORT

Flight #: 91-148
Date: 16 August 1991
Sensor Package: Hycon HR-732
Wild-Heerbrug RC-10
Area(s) Covered: Sierra Nevada

Investigator(s): Weber, USDA

Aircraft #: 706

Flight Request: 91R104

Julian Date: 228

SENSOR DATA

Accession #:	04271	04273
Sensor ID #:	018	026
Sensor Type:	HR-732	RC-10
Focal Length:	24" 609.6 mm	12" 304.97 mm
Film Type:	High Definition Aerochrome IR SO131	High Definition Aerochrome IR SO131
Filtration:	cc.10B	cc.10B
Spectral Band:	510-900 nm	510-900 nm
f Stop:	8	4
Shutter Speed:	1/75	1/125
# of Frames:	256	112
% Overlap:	60	60
Quality:	Excellent	Excellent
Remarks:		Film transported without exposure

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 descriptions of the camera systems flown onboard the ER-2s.

Camera Systems

Various camera systems and films are used for photographic data collection. Film types include high definition color infrared, natural color, and black and white emulsions. Available photographic systems are as follows:

- Wild-Heerbrug RC-10 metric mapping camera
 - 9 x 9 inch film format
 - 6 inch focal length lens provides area coverage of 16 x 16 nautical miles from 65,000 feet
 - 12 inch focal length lens provides area coverage of 8 x 8 nautical miles from 65,000 feet
- Hycon HR-732 large scale mapping camera
 - 9 x 18 inch film format
 - 24 inch focal length lens provides area coverage of 4 x 8 nautical miles from 65,000 feet
- IRIS II Panoramic camera
 - 4.5 x 34.7 inch film format
 - 24 inch focal length lens
 - 90 degree field of view provides area coverage of 2 x 21.4 nautical miles from 65,000 feet

The U.S. Geological Survey's EROS Data Center at Sioux Falls, South Dakota serves as the archive and product distribution facility for NASA-Ames aircraft acquired photographic and digital imagery. For information regarding photography and digital data (including areas of coverage, products, and product costs) contact EROS Data Center, Customer Services, Sioux Falls, South Dakota 57198 (Telephone: (605) 594-6151).

Additional information regarding ER-2 acquired photographic and digital data is available through the Aircraft Data Facility at Ames Research Center. For specific information regarding flight documentation, sensor parameters, and areas of coverage contact the Aircraft Data Facility, NASA-Ames Research Center, Mail Stop 240-6, Moffett Field, California 94035-1000 (Telephone: (415) 604-6252).

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-148**

Accession # 04271

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - C	0001-0095	17:39:23	18:00:51	65000/19800	Very minor cirro-cumulus (frames 0032-0033); minor-20% cirro-cumulus (frames 0045-0068); film transport malfunction (frames 0068-0069); 10-50% scattered cumulus (frames 0079-0089)
D - E	0096-0185	18:06:04	18:26:11	"	Minor-20% scattered cumulus (frames 0097-0110); very minor cirro-cumulus (frames 0114-0115); very minor-10% cirro-cumulus (frames 0119-0129); 10% scattered cumulus (frames 0133-0134); very minor-10% cirro-cumulus (frames 0137-0142); film transport malfunction (0158-0159)
F - G	0186-0244	18:32:33	18:45:43	"	Minor cumulus (frames 0216-0217); 10-20% scattered cumulus (frames 0220-0223); very minor-10% scattered cumulus (frames 0225-0230); 10-20% scattered cumulus (frames 0233-0237); 10-40% scattered cumulus (frames 0239-0244)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-148**

Accession # 04271

Sensor # 018

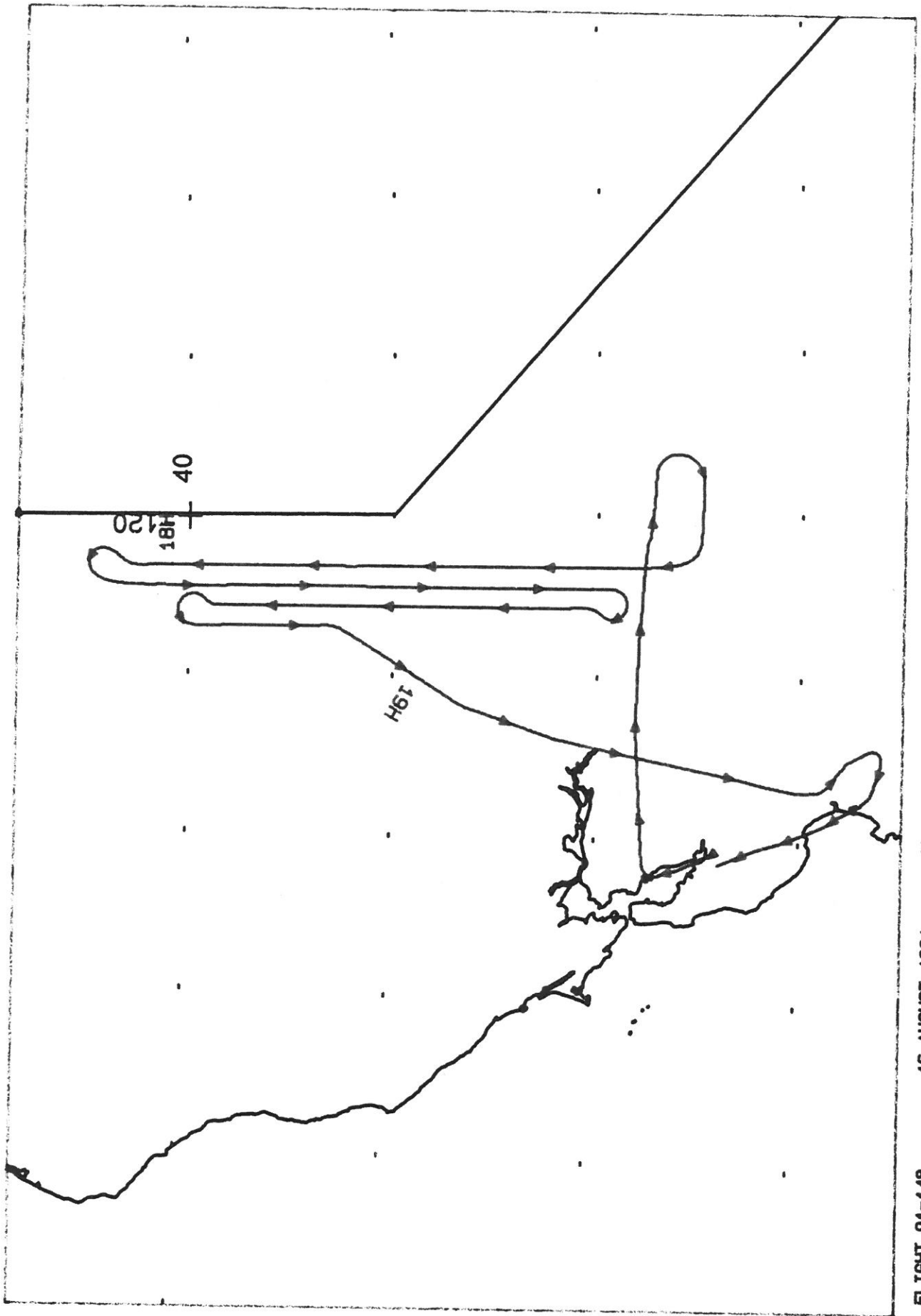
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
H - I	0245-0246	18:50:04	18:53:48	65000/19800	10-20% scattered cumulus
J - K	0247-0256	18:51:46	18:53:48	"	10-20% scattered cumulus

CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-148

Accession # 04273

Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A	8927	17:41:02	-----	65000/19800	Clear
B - C	8928-8956	17:48:42	18:02:05	"	10% cumulus (frames 8934-8944); 10-30% cumulus (frames 8949-8954)
D - E	8957-9000	18:07:11	18:27:44	"	10% cumulus (frames 8958-8965, 8969-8972, 8975-8980)
F - G	9001-9034	18:34:08	18:47:02	"	10-20% cumulus (frames 9017-9034); film transport without exposure; no data (frames 9022, 9024, 9027, 9029, 9030, 9032)
H - K	9035-9049	18:51:38	18:55:22	"	10-20% cumulus (frames 9035-9049); film transport without exposure; no data (frames 9038, 9040, 9043, 9045, 9048)



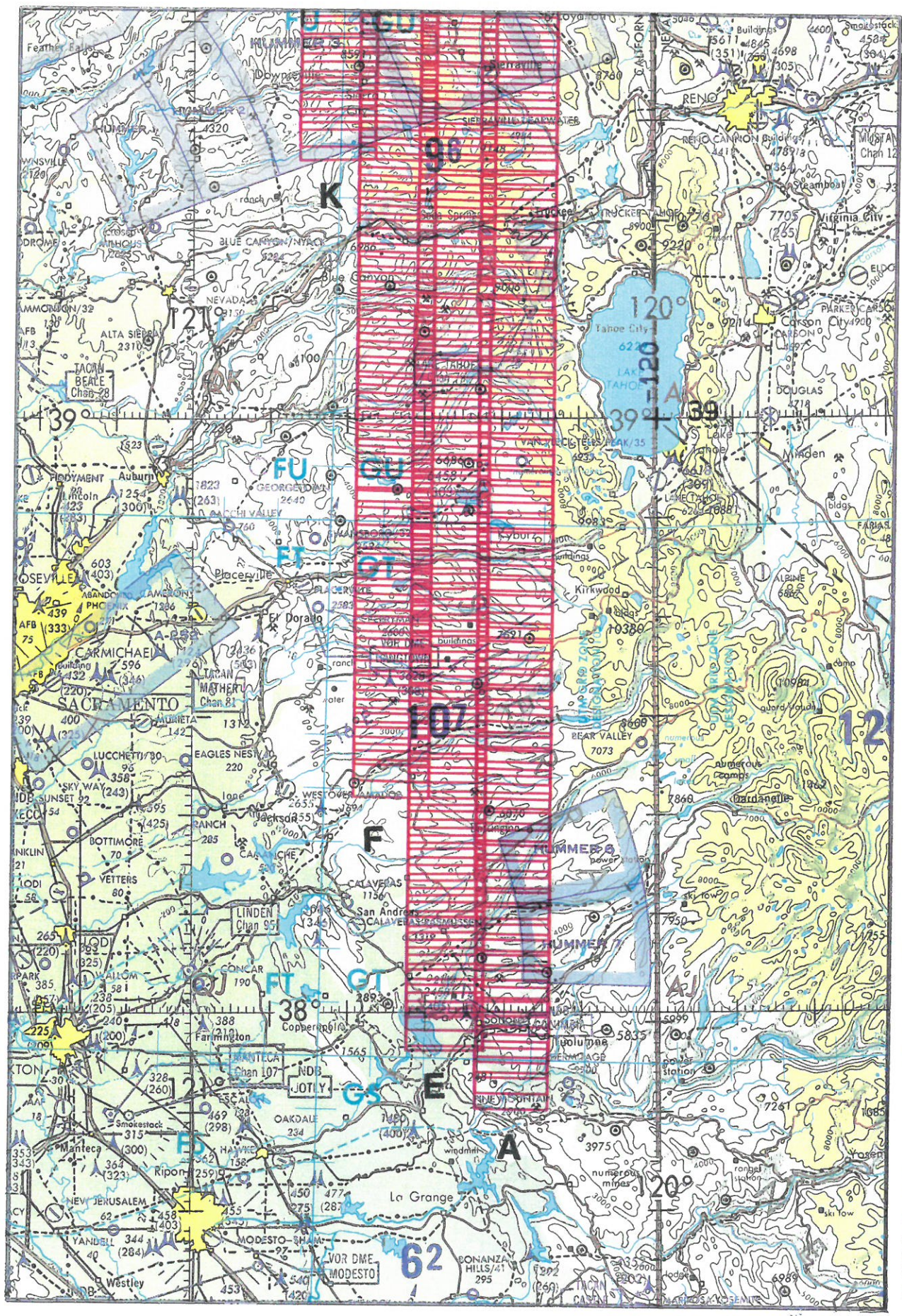
FLIGHT 91-148

16 AUGUST 1991

DUAL HR-732

RC-10

A/C 706



Accession # 04271

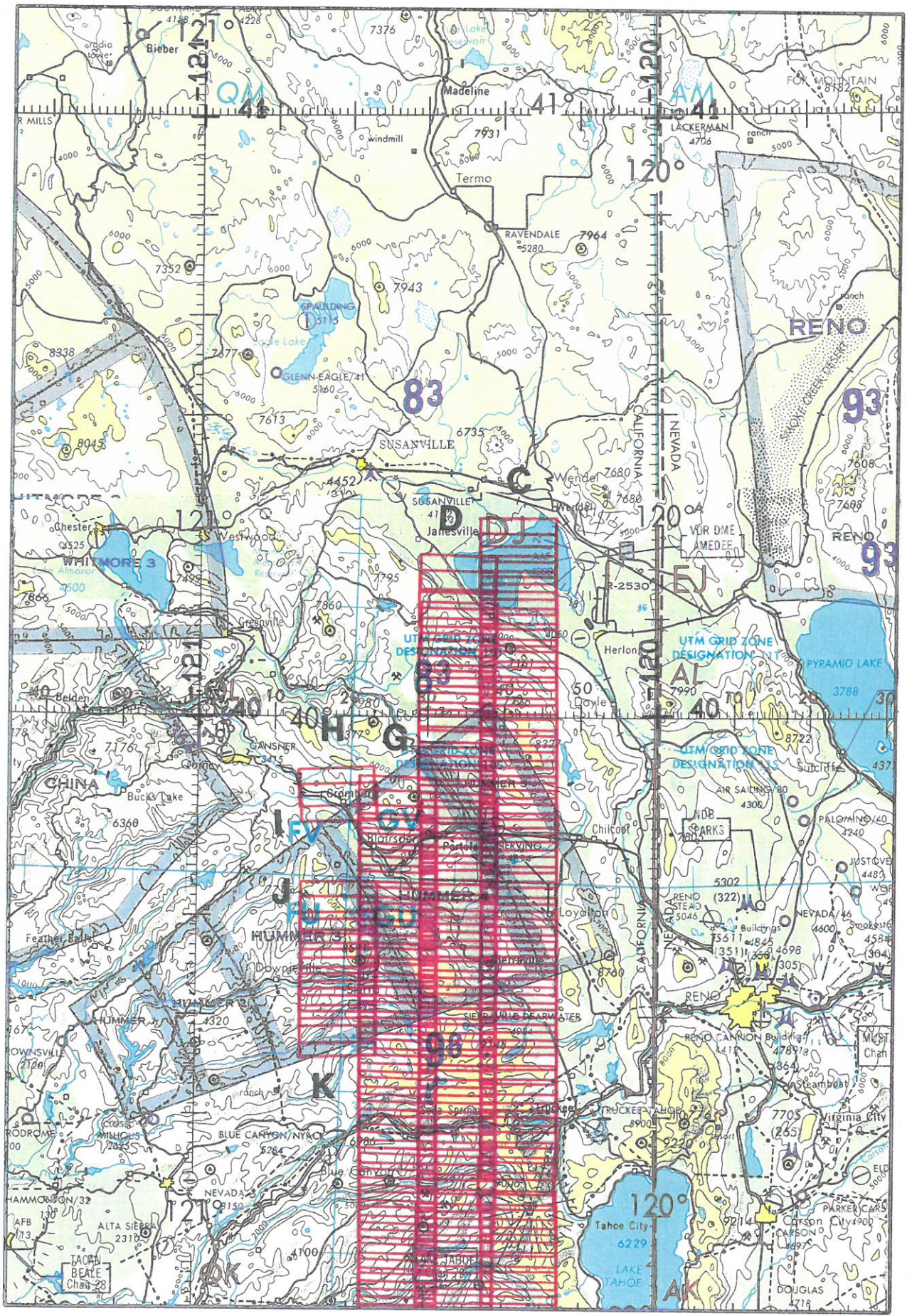
Dual NR 792 / RC-10

A/C 706

16 August 1991

FLIGHT 91-148

UNC 0-18



FLIGHT 91-148 16 August 1991 A/C 706 Dual IR 732 / RC-10 Accession # 04271 CNC 6-18