

FLIGHT SUMMARY REPORT

Flight #: 90-091
Date: 12 June 1990
Sensor Package: Dual Hycon HR-732
Wild-Heerbrug RC-10
Area(s) Covered: Southern California and Sierra Nevada

Investigator(s): Weber, USFS

Aircraft #: 709

Flight Request: 90R258

Julian Date: 163

SENSOR DATA

Accession #:	04035	04036	04037
Sensor ID #:	018	019	076
Sensor Type:	HR-732	HR-732	RC-10
Focal Length:	24" 609.6 mm	24" 609.6 mm	12" 304.89 mm
Film Type:	High Definition Aerochrome IR SO-131	Aerial Color SO-242	Panatomic-X Aerographic EK-2412
Filtration:	cc.20B	-----	Wratten-12
Spectral Band:	510-900 nm	400-700 nm	510-700 nm
f Stop:	8	8	4
Shutter Speed:	1/75	1/75	1/200
# of Frames:	253	65	34
% Overlap:	60	60	60
Quality:			
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.

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

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-091**

Accession # 04035

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0011	17:23:49	17:26:16	65000/19800	Clear
C - D	0012-0015	18:08:39	18:09:22	"	Clear
E - F	0016-0022	18:11:58	18:13:25	"	Clear
G - H	0023-0027	18:21:13	18:22:11	"	Clear
I - J	0028-0074	19:02:08	19:13:13	"	Clear
K - L	0075-0084	19:17:45	19:19:55	"	Clear
M - N	0085-0100	19:28:39	19:32:15	"	Clear
O - P	0101-0109	19:40:52	19:42:47	"	Clear
Q - R	0110-0170	19:53:28	20:07:55	"	10% minor cumulus (frames 0128-0129); 10-30% cumulus (frames 0132-0137); 10- 60% cumulus (frames 0147-0154); 10% minor cumulus (frames 0166-0167, 0169- 170)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-091**

Accession # 04035

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
S - T	0171-0215	20:11:27	20:22:04	65000/19800	10% cumulus (frames 0171-0174, 0177-0179)
U - V	0216-0220	20:38:05	20:39:03	"	10-50% cumulus (frames 0182-0195)
W - X	0221-0227	20:48:19	20:49:45	"	Clear
Y - Z	0228-0239	21:03:56	21:06:34	"	Clear
1 - 2	0273-0286	21:21:19	21:24:27	"	Clear

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-091**

Accession # 04036

Sensor # 019

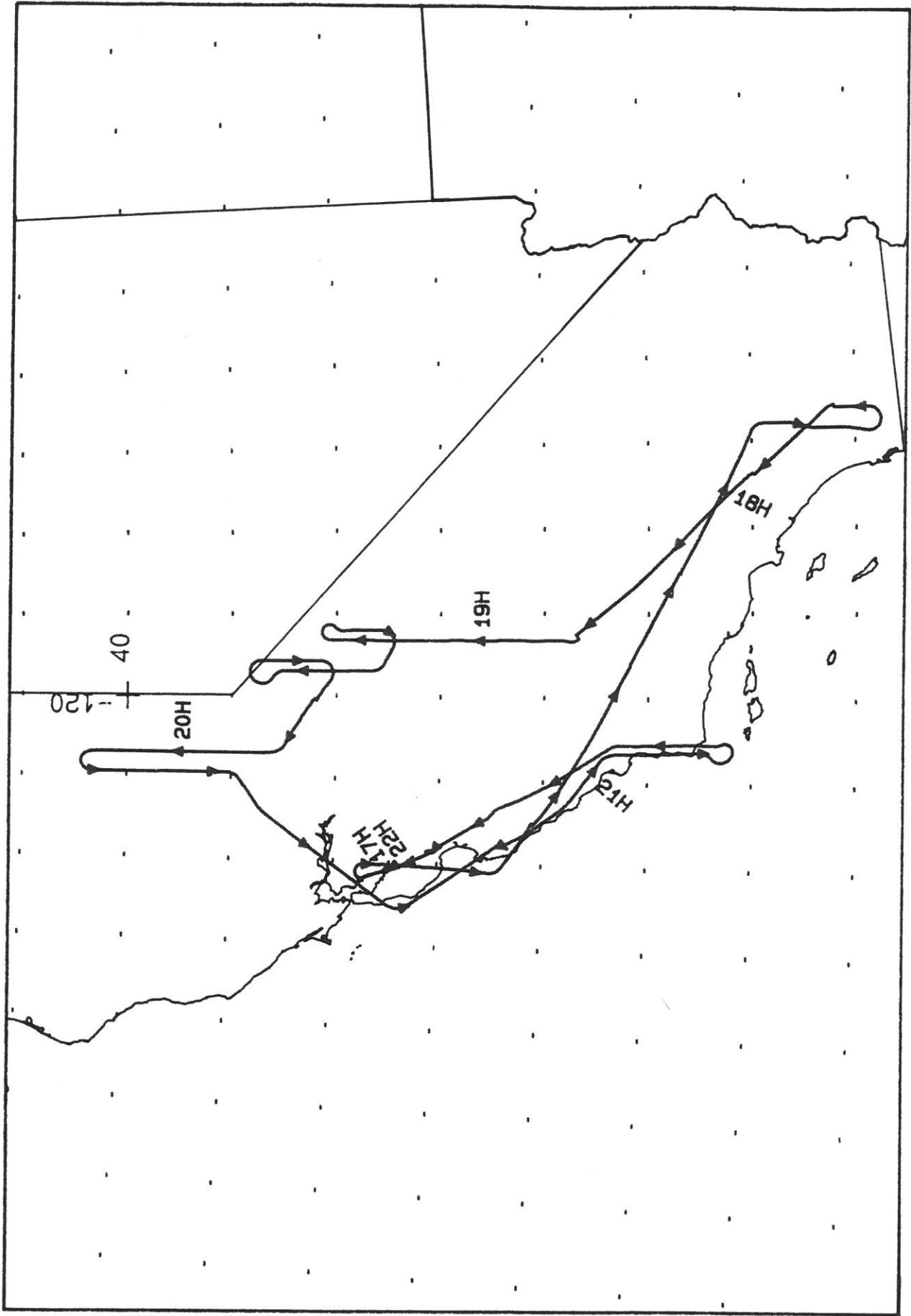
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0011	17:23:49	17:26:16	65000/19800	Light struck (frames 0001-0002, 0011); processing residue (frame 0004)
C - D	0012-0015	18:08:39	18:09:22	"	Light struck (frames 0013, 0015)
E - F	0016-0022	18:11:58	18:13:25	"	Light struck (frames 0017, 0022)
G - H	0023-0027	18:21:13	18:22:11	"	Light struck (frames 0024, 0027)
U - V	0028-0032	20:38:05	20:39:03	"	Light struck (frames 0029, 0032)
W - X	0033-0039	20:48:18	20:49:45	"	Light struck (frames 0034, 0039)
Y - Z	0040-0051	21:03:56	21:06:34	"	Light struck (frame 0041)
1 - 2	0085-0098	21:21:19	21:24:27	"	Light struck (frame 0098)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-091

Accession # 04037

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	3540-3545	17:24:08	17:26:32	65000/19800	Clear
C - D	3546-3548	18:09:00	18:09:33	"	Clear
E - F	3549-3553	18:12:24	18:13:53	"	Clear
G - H	3554-3557	18:21:35	18:22:35	"	Clear
U - V	3558-3561	20:38:28	20:39:27	"	Clear
Y - Z	3562-3568	21:04:19	21:06:40	"	Clear
1 - 2	3591-3595	21:22:57	21:24:47	"	Clear



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A/C 709

Due1 HR-732 / RC-10



ONC 6-18

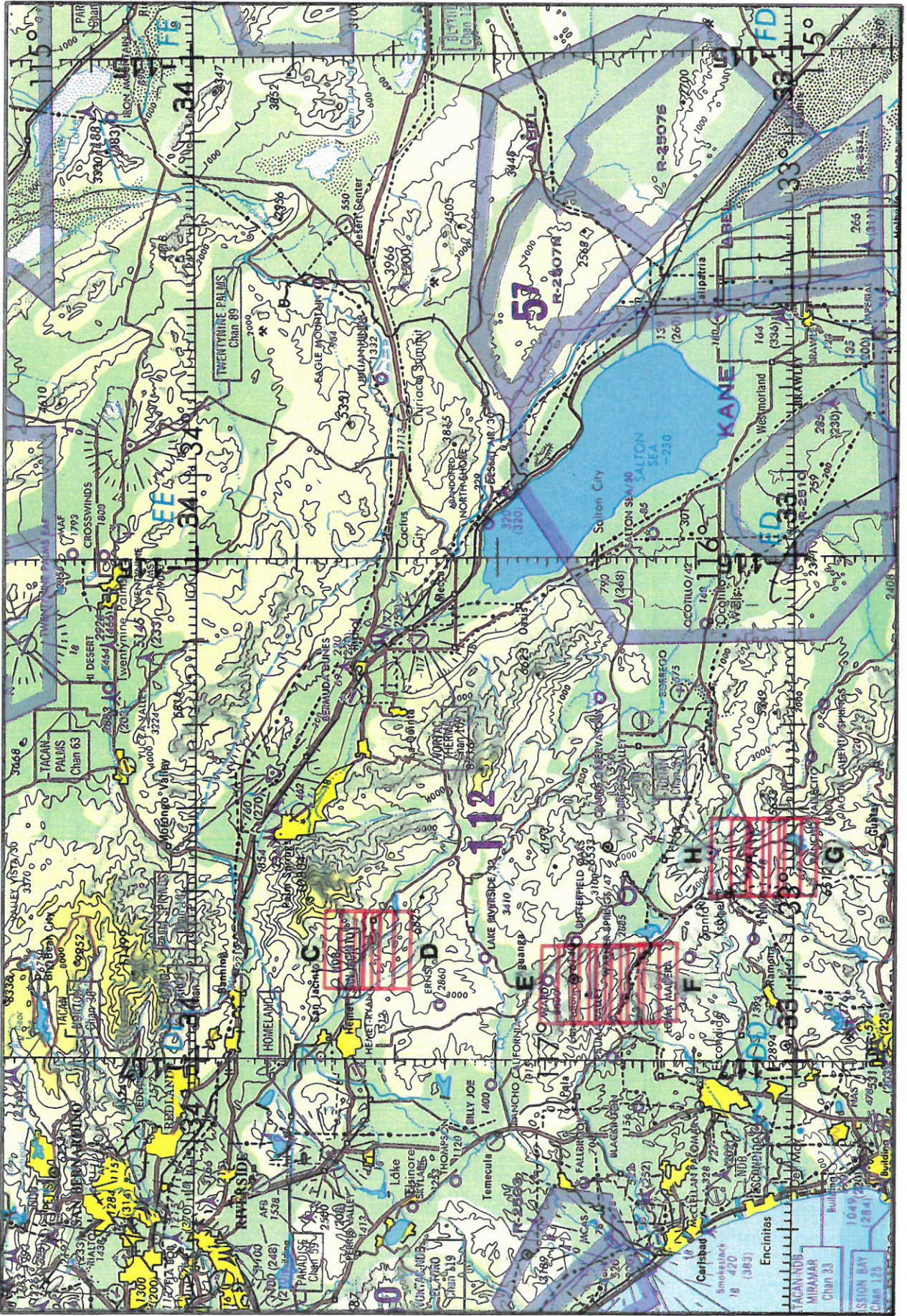
Accession # 04035

90-131

HR-732

12 June 1990

FLIGHT 90-091



FLIGHT 90-091

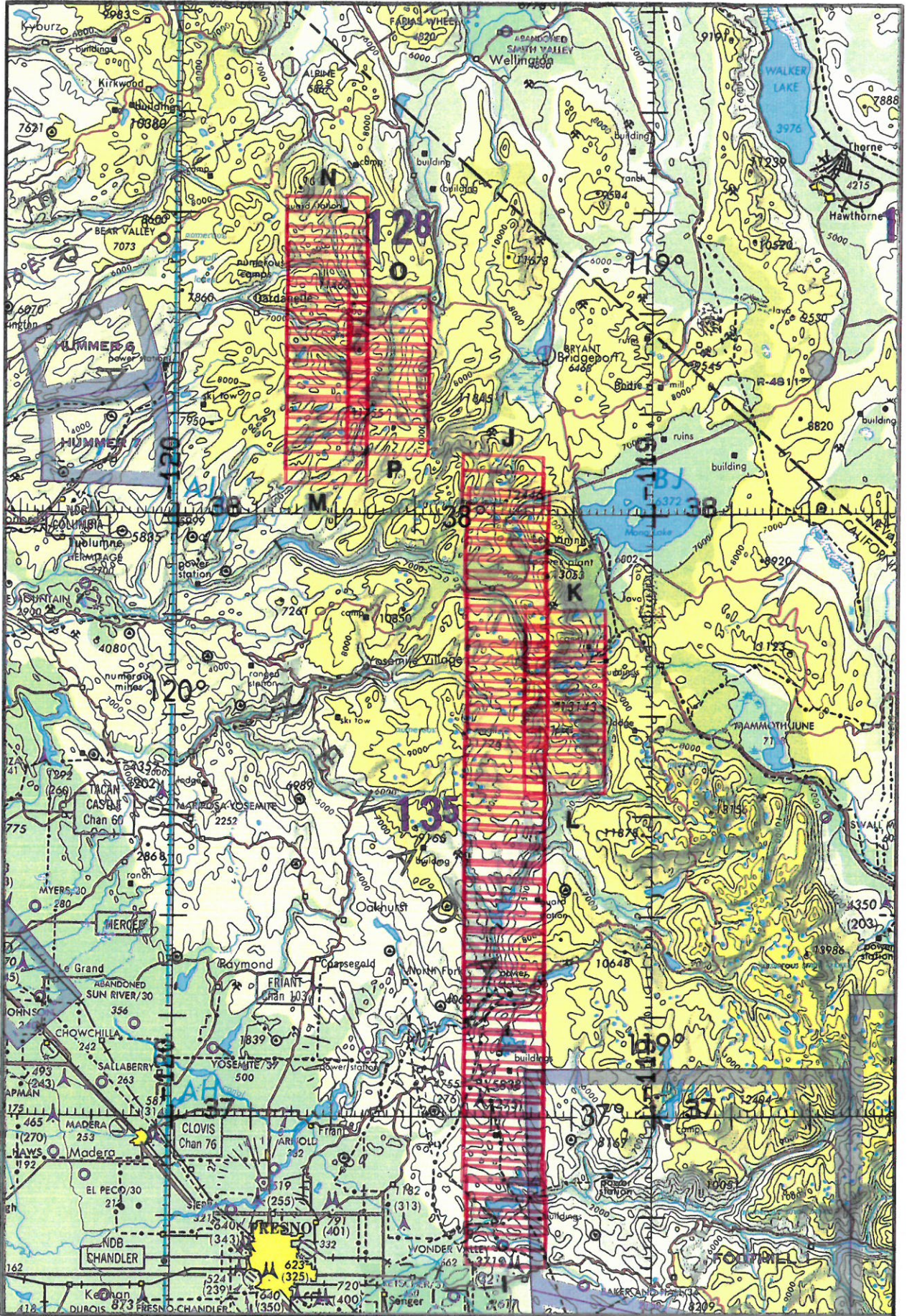
12 June 1990

NR-732

80-191

Accession # 04055

ONC 6-16



ONC 6-16

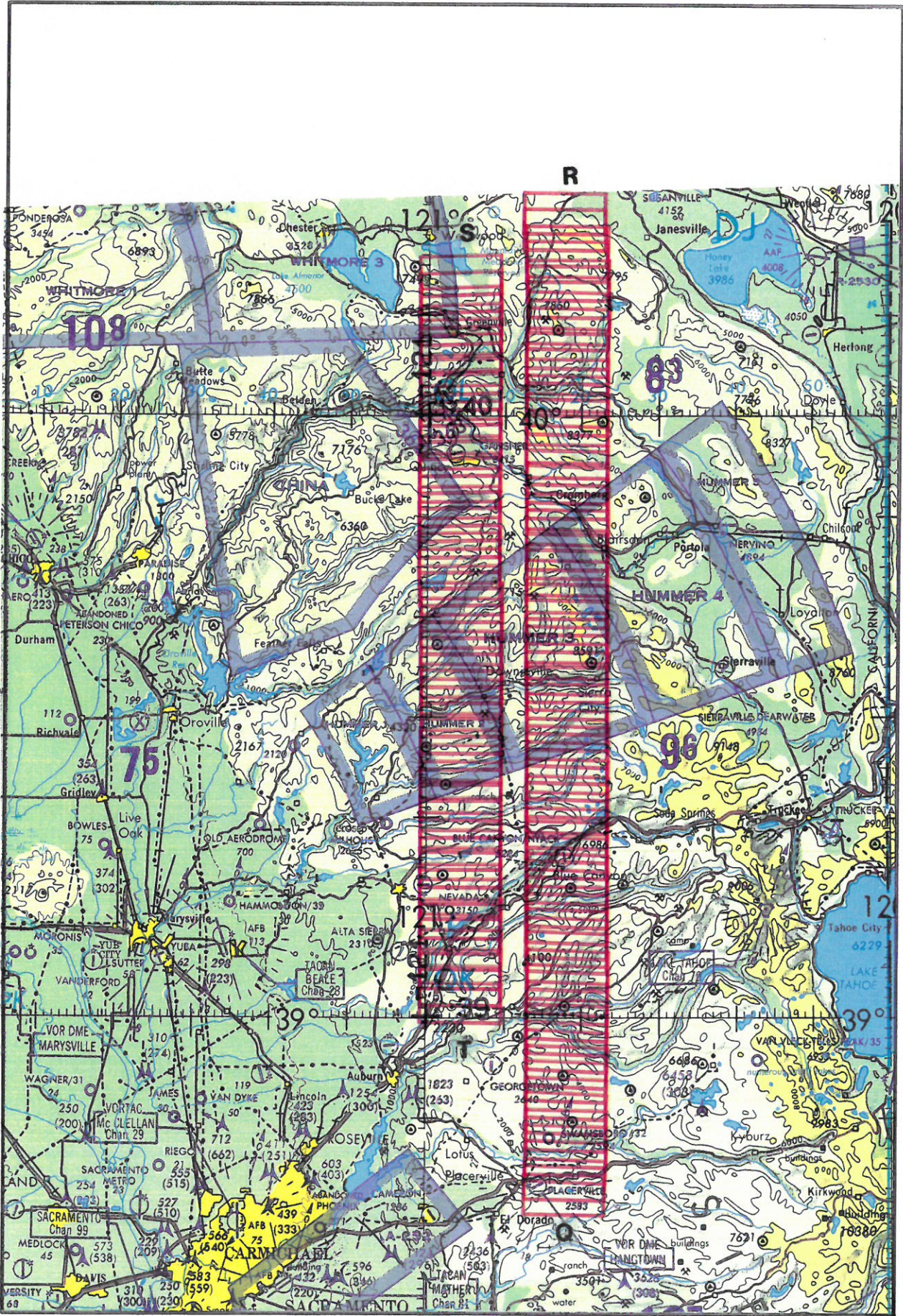
Accession # 04035

80-131

HF-792

12 June 1990

FLIGHT 90-091



CNC 6-18

Accession # 04035

SO-131

HR-752

12 June 1990

FLIGHT 90-091

