FLIGHT SUMMARY REPORT

Flight #:	90-089
Date:	8 June 1990
Sensor Package:	Dual Hycon HR-732
Area(s) Covered:	Sierra Nevada

Investigator(s): Weber, USFS

Flight Request: 90R258

Aircraft #: 709

Julian Date: 159

SENSOR DATA

Accession #:	04031	04032
Sensor ID #:	018	019
Sensor Type:	HR-732	HR-732
Focal Length:	24" 609.6 mm	24" 609.6
Film Type:	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131
Filtration:	cc.20B	cc.20B
Spectral Band:	510-900 nm	510-900 nm
f Stop:	8	8
Shutter Speed:	1/75	1/75
# of Frames:	371	165
% Overlap:	60	60
Quality:	Excellent	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.

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. 90-089

Accession # 04031

Sensor # 018

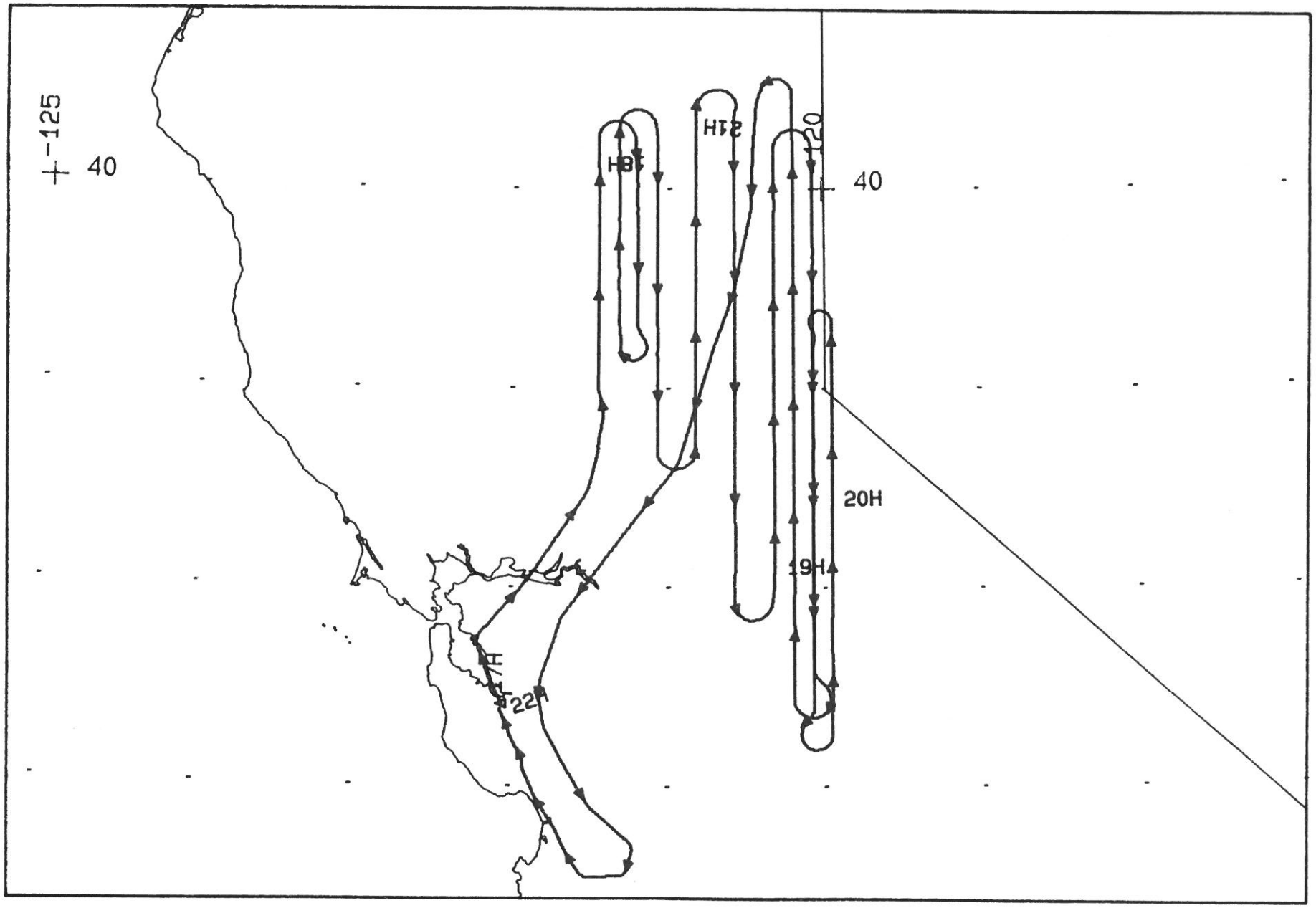
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0012	17:26:32	17:29:14	65000/19800	Clear
C - D	0013-0043	17:35:33	17:42:54	"	Clear
E - F	0044-0069	17:48:33	17:54:38	"	Clear
G - H	0070-0116	17:59:13	18:10:23	"	Clear
I - J	0117-0173	18:16:35	18:30:08	"	Clear
K - L	0174-0244	18:34:25	18:51:19	"	10% minor cumulus (frames 0217-0219)
M - N	0245-0324	18:59:08	19:18:10	"	Clear
O - P	0325-0371	19:22:32	19:33:36	"	10% minor cumulus (frames 0352-0353)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-089

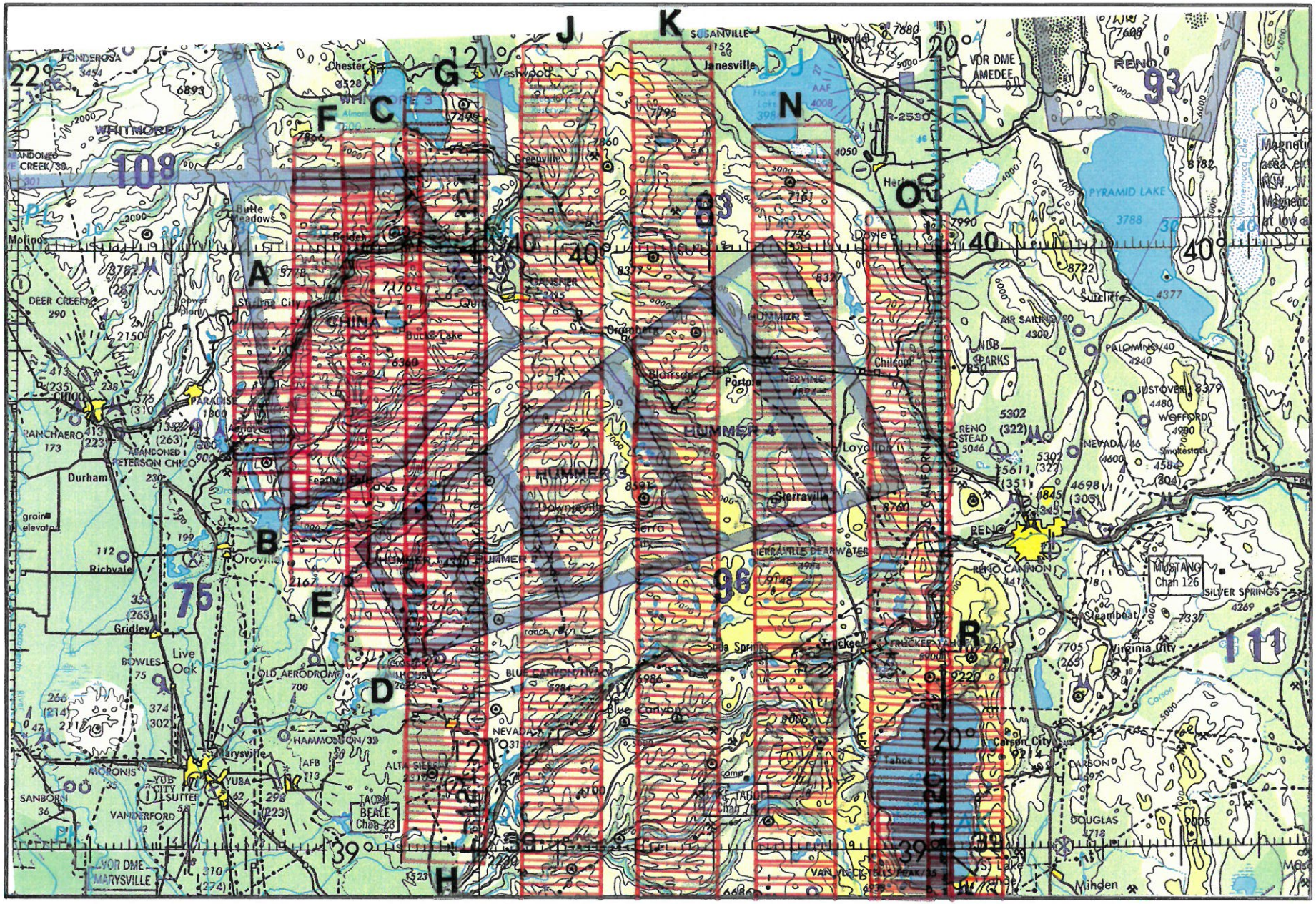
Accession # 04032

Sensor # 019

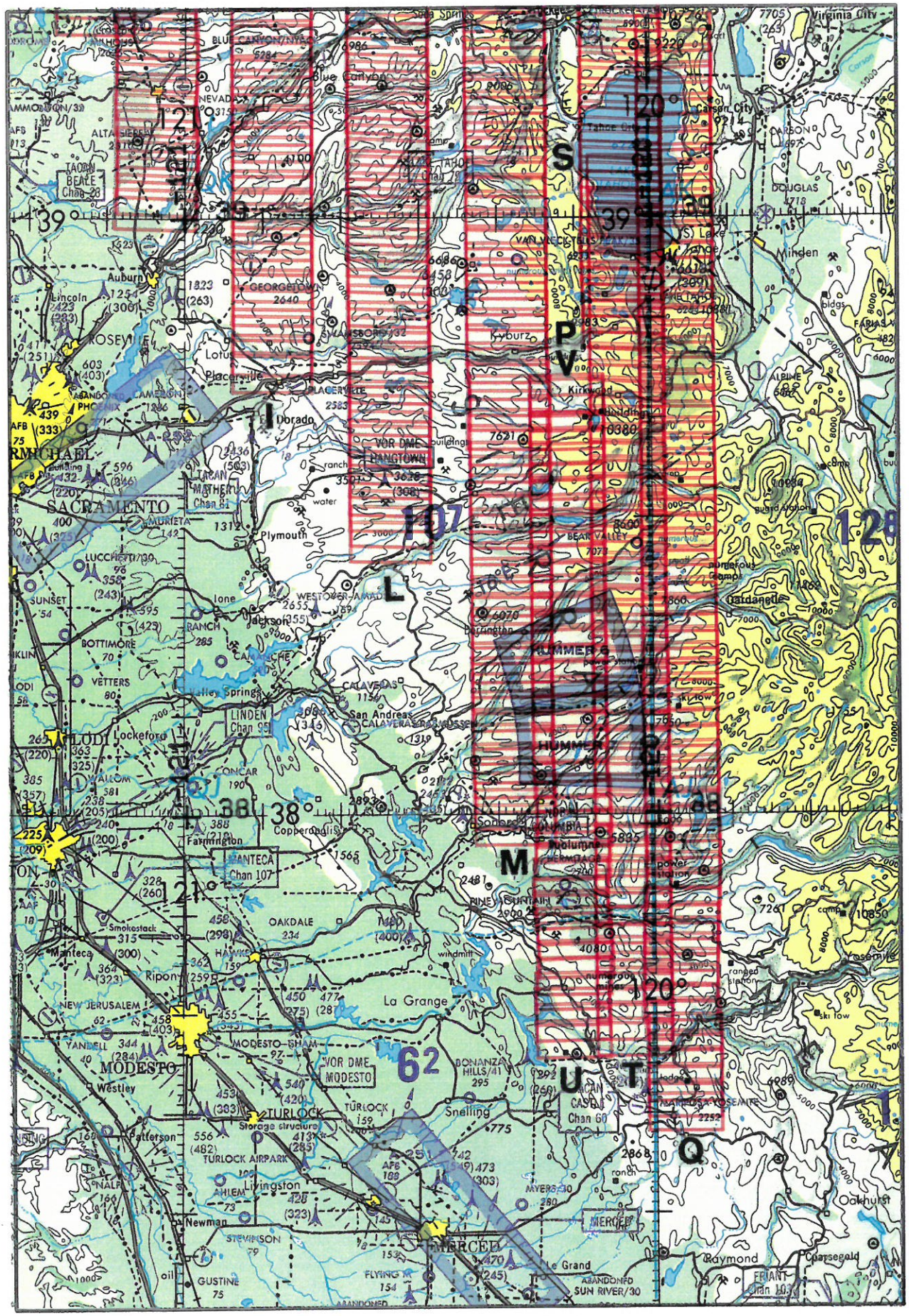
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
Q - R	0001-0069	19:51:34	20:07:56	65000/19800	10% cumulus (frames 0023-0026, 0036-0037, 0051-0053)
S - T	0070-0124	20:12:23	20:25:22	"	20-30% cumulus (frames 0068-0069); 10% cumulus (frames 0080-0083, 0090-0091); 10-20% cumulus (frames 0095-0099)
U - V	0125-0165	20:31:23	20:40:50	"	10-20% cumulus (frames 0159-0163); 10% cumulus (frame 0165); stepwedge over-printed (frames 0164-0165)



FLIGHT 90-089 8 June 1990 A/C 709 Dual HR-732 Color Infrared Photographic Coverage



FLIGHT 90-089 8 June 1990 Dual HR-732 90-131 Accession # 04031 and 04032 ONC 6-18



FLIGHT 90-089 8 June 1990 Dual HR-732 S0-131 Accession # 04031 and 04032 ONC G-18