

## FLIGHT SUMMARY REPORT

**Flight Number:** 97-006-02  
**Calendar/Julian Date:** 16-17 June 1997 • 167-168  
**Sensor Package:** Wild-Heerbrugg RC-30  
**Area(s) Covered:** Mojave

**Investigator(s):** Stine, USGS

**Aircraft #:** 798  
Department of Energy  
B200 Kingair

### SENSOR DATA

<b>Accession #:</b>	05194	05195
<b>Sensor ID #:</b>	017	017
<b>Sensor Type:</b>	RC-30	RC-30
<b>Focal Length:</b>	6" 152.75 mm	6" 152.75 mm
<b>Film Type:</b>	Aerochrome MS 2448	Aerochrome MS 2448
<b>Filtration:</b>	HF3 + 2.2 AV	HF3 + 2.2 AV
<b>Spectral Band:</b>	420-700 nm	420-700 nm
<b>f Stop:</b>	Variable	Variable
<b>Shutter Speed:</b>	Variable	Variable
<b># of Frames:</b>	429	168
<b>% Overlap:</b>	60	60
<b>Quality:</b>	Excellent	Excellent
<b>Remarks:</b>		

## **Airborne Science and Applications Program**

The Airborne Science Branch at NASA's Dryden Flight Research Center, Edwards, California, operates two ER-2 high altitude aircraft in support of NASA earth science research. 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(s) and camera(s) used for data collection during this flight.

## **Department of Energy Remote Sensing Laboratory**

The NASA Airborne Science and Applications Program at Ames Research Center contracted with the Department of Energy Remote Sensing Laboratory (RSL) in Las Vegas, Nevada to fly the RSL Multispectral Scanner (MSS) and the NASA Thermal Infrared Multispectral Scanner (TIMS) over the desert southwest. The scanners were flown on the DOE Cessna Citation.

The Cessna Citation is a low and medium altitude, moderate speed aircraft. It can operate from 4,000 to 35,000 feet above sea level at speeds between 135 and 225 knots. There are two instrument ports in the aircraft. The RSL 1268 Multispectral Scanner was mounted over the aft port and the NASA Thermal Infrared Multispectral Scanner was mounted over the forward port.

## **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-Heerbrugg RC-10/RC-30 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).

Information on data tape format, logical record format, and scanner calibration data may be obtained from the Aircraft Data Facility, NASA-Ames Research Center, Mail Stop 240-6, Moffett Field, California 94035-1000 (Telephone: 650-604-6252).

CAMERA FLIGHT LINE DATA  
FLIGHT NO. 97-006-02

Accession # 05194  
Sensor # 017

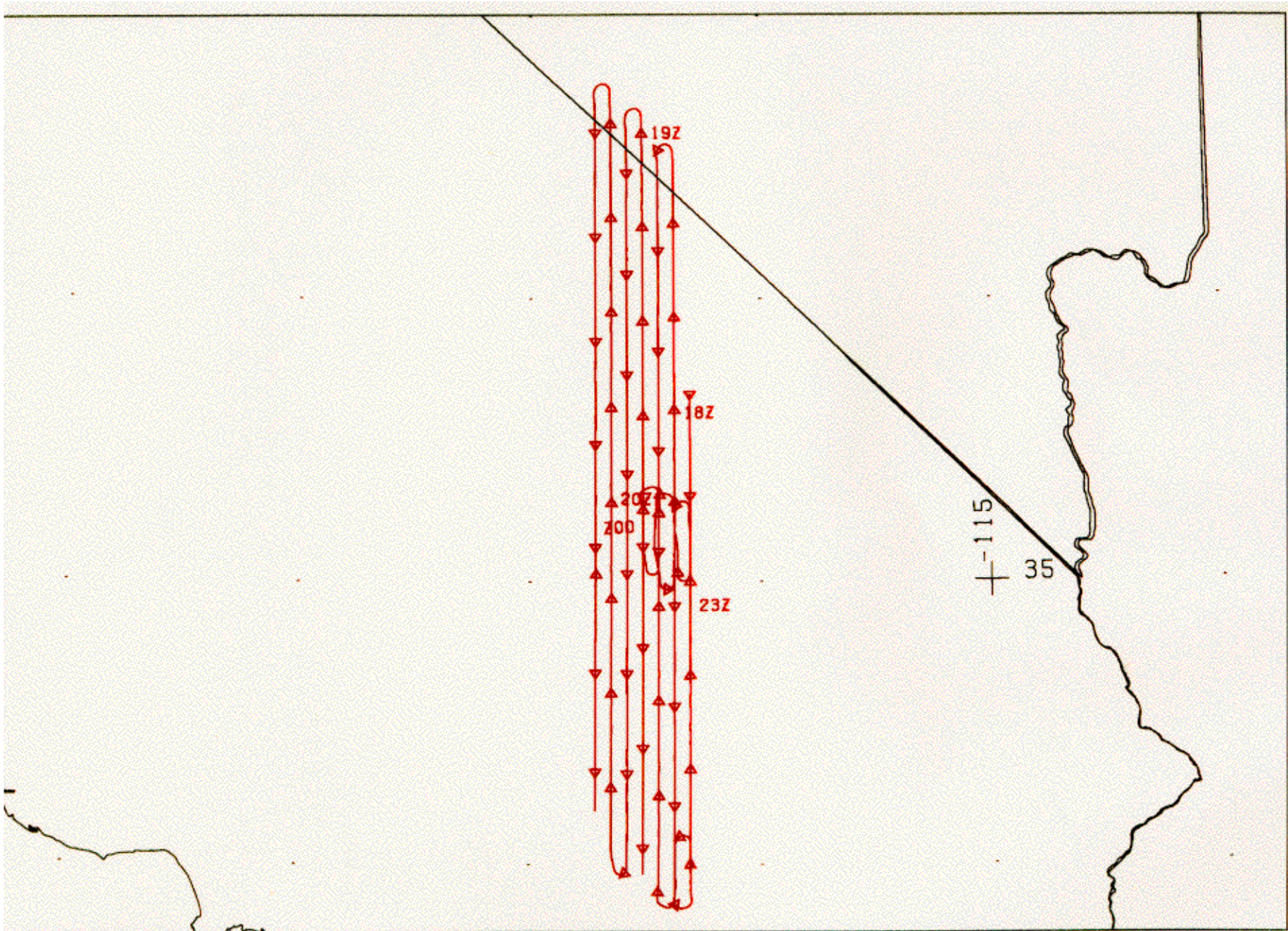
Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec)		Altitude, MGL feet/meters	Cloud Cover/Remarks
				START	END		
700	1	1	0001-0043	17:21:00	17:39:08	21874/6667	Clear
700	2	1	0044-0045	17:43:21	17:43:44	21900/6675	Clear
700	2	2	0046-0092	17:52:42	18:12:31	21909/6678	Clear
700	3	1	0093-0133	18:16:49	18:35:44	21871/6666	Clear
700	4	1	0134-0179	18:39:17	18:59:16	21876/6668	10% cumulus (frames 0163-0164)
700	5	1	0180-0265	19:03:38	19:39:37	21892/6673	10% cumulus (frames 0191-0192); 10-20% cumulus (frames 0196-0199); 10% cumulus (frames 0251-0252)
700	6	1	0266-0345	19:44:16	20:19:50	21916/6680	10% cumulus (frames 0294-0295); 10-20% cumulus (frames 0300-0305 and 0324-0326); 10% cumulus (frames 0328-0329 and 0340-0341)
700	7	1	0346-0400	20:24:13	20:46:57	21907/6677	10% cumulus (frame 0351); oblique (frame 0400)
700	7	2	0401-0429	22:17:26	22:28:51	21907/6677	10% cumulus (frame 0429); oblique (frames 0401-0402) (Calico Mtns., CA)

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Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec)		Altitude, MGL feet/meters	Cloud Cover/Remarks
				START	END		
700	1	2	0001-0043	22:46:33	23:03:06	21881/6669	Clear
700	2	3	0044-0083	23:08:25	23:24:44	21900/6675	Clear
700	1	3	0084-0086	23:29:28	23:30:14	21900/6675	Clear
700	3	2	0087-0128	23:37:51	23:55:47	21900/6675	Clear
700	4	2	0129-0168	0:00:27	0:17:28	21900/6675	Clear

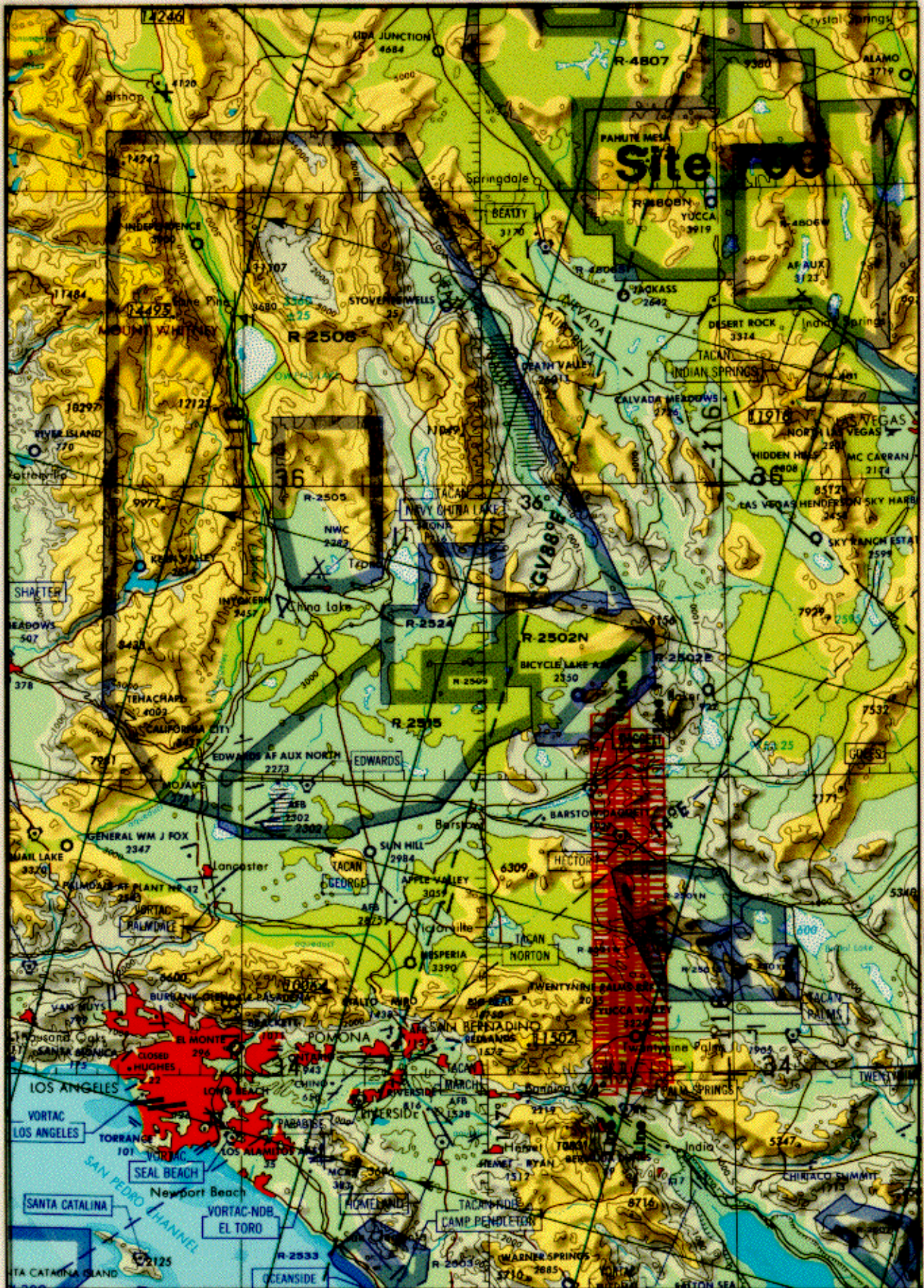


FLIGHT 97-006-02

16 JUNE 1997

A/C 799

RC-30



JNC 43

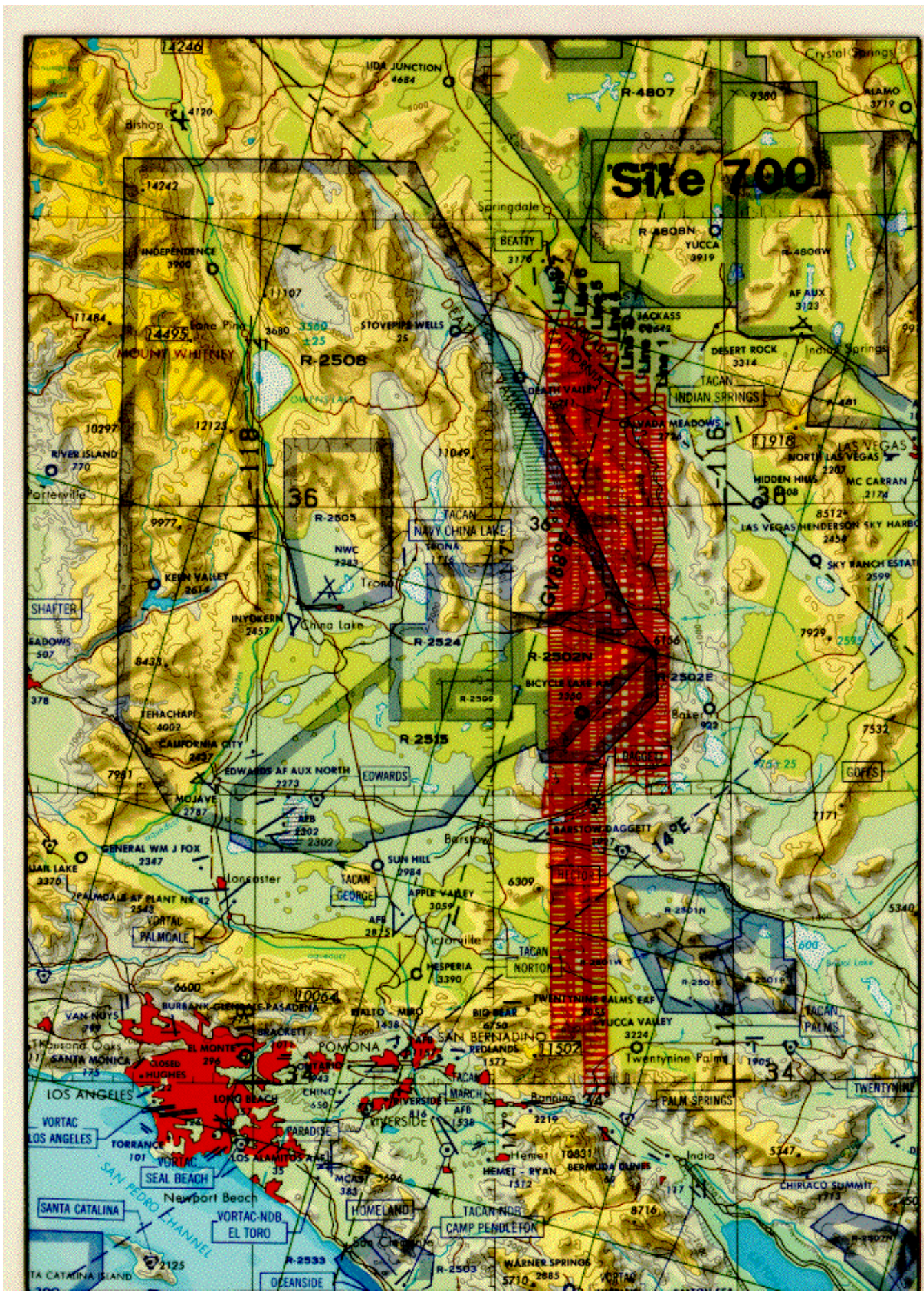
ROLL#05195

RC-30

R/C 798

16-17 JUNE 1997

FLIGHT 97-006-02



Site 700

JNC 43  
ROLL #05194  
RC-30  
R/C 798  
16 JUNE 1997  
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