

FLIGHT SUMMARY REPORT

Flight Number: 94-109
Calendar/Julian Date: 29 July 1994 • 210
Sensor Package: Wild-Heerbrug RC-10
Area(s) Covered: San Francisco Bay Area

Investigator(s): Functional Sensor Flight

Aircraft #: 706

SENSOR DATA

Accession #: 04781
Sensor ID #: 034
Sensor Type: RC-10
Focal Length: 12"
304.66 mm
Film Type: Aerochrome IR
SO-060
Filtration: Wratten 12
Spectral Band: 510-900 nm
f Stop: 11
Shutter Speed: 1/200
of Frames: 167
% Overlap: 60
Quality: Good
Remarks: Camera clock offset
5.2 seconds from
navigation data

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(s) and camera(s) used for data collection during this flight.

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).

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). Additional information regarding ER-2 acquired photographic and digital data is also available through the Aircraft Data Facility.

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 94-109**

Accession # 04781

Sensor # 034

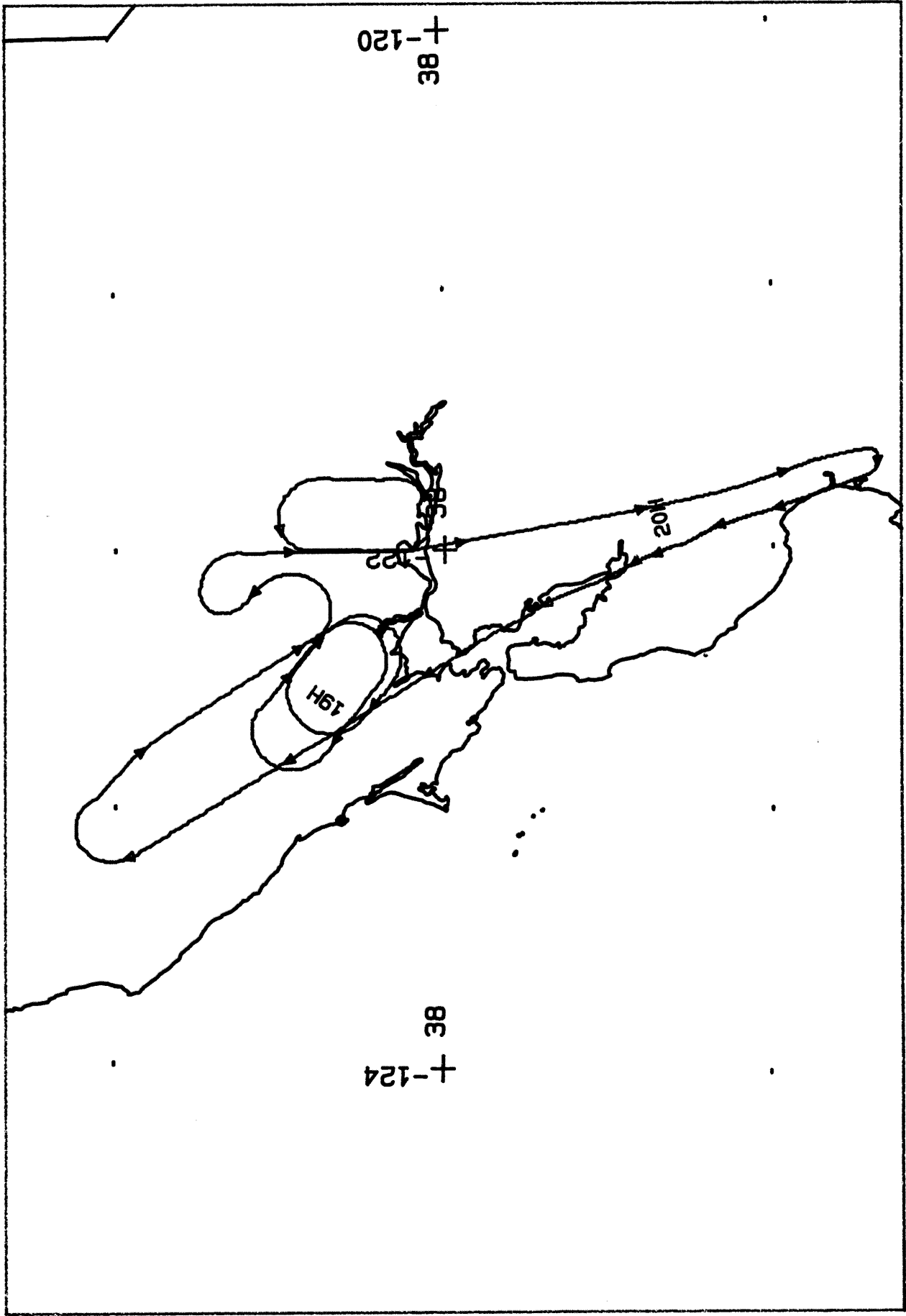
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	4430-4463	18:18:33	18:35:06	65000/19800	Minor-30% cumulus (frames 4436-4446); minor-10% cumulus (frames 4452-4453)
B - C	4464-4470	18:35:35	18:38:36	"	Clear; oblique frames
C - D	4471-4486	18:39:06	18:46:34	"	Minor-30% strato-cumulus (frames 4475-4484); 40-70% strato-cumulus (frames 4485-4486)
D - E	4487-4492	18:47:04	18:49:34	"	10-40% strato-cumulus; oblique frames
E - F	4493-4495	18:50:03	18:50:33	"	20% stratus (frame 4493)
F - G	4496-4502	18:51:33	18:54:31	"	10% stratus (frames 4501-4502); oblique frames
G - D	4503-4504	18:55:02	18:55:31	"	30-40% strato-cumulus
D - E	4505-4511	18:56:01	18:58:59	"	20-80% strato-cumulus; oblique frames
E - F	4512-4515	18:59:29	19:00:58	"	Minor stratus (frame 4512)

**CAMERA FLIGHT LINE DATA
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Accession # 04781

Sensor # 034

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
F - G	4516-4522	19:01:28	19:04:26	"	Clear; oblique frames
G - D	4523-4528	19:04:56	19:07:25	"	10-30% strato-cumulus (frames 4524-4525); 60-90% strato-cumulus (frames 4526-4528)
D - H	4529-4542	19:07:54	19:14:19	"	10-90% strato-cumulus; oblique frames
H - I	4543-4551	19:14:49	19:18:46	"	10-40% cumulus (frames 4543-4546)
I - J	4552-4557	19:19:16	19:21:43	"	10% strato-cumulus (frames 4552-4553); 50% strato-cumulus (frames 4556-4557); oblique frames
J - K	4558-4562	19:22:13	19:24:11	"	40-50% strato-cumulus
K - L	4563-4568	19:24:41	19:27:08	"	20-60% strato-cumulus; oblique frames
L - M	4569-4596	19:27:38	19:40:55	"	10-30% strato-cumulus (frames 4570-4573); 20-50% strato-cumulus (frames 4594-4596)

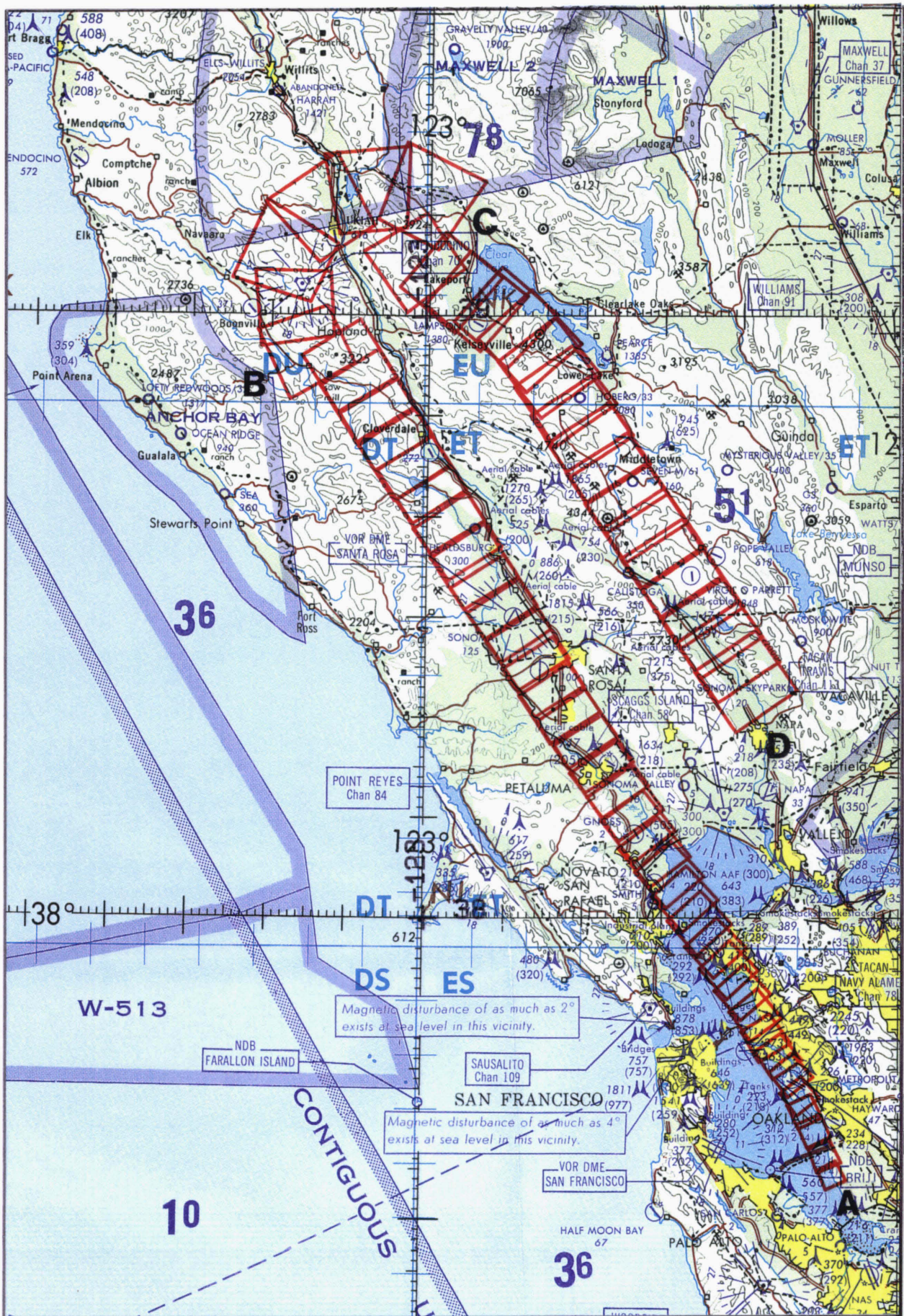


RC-10

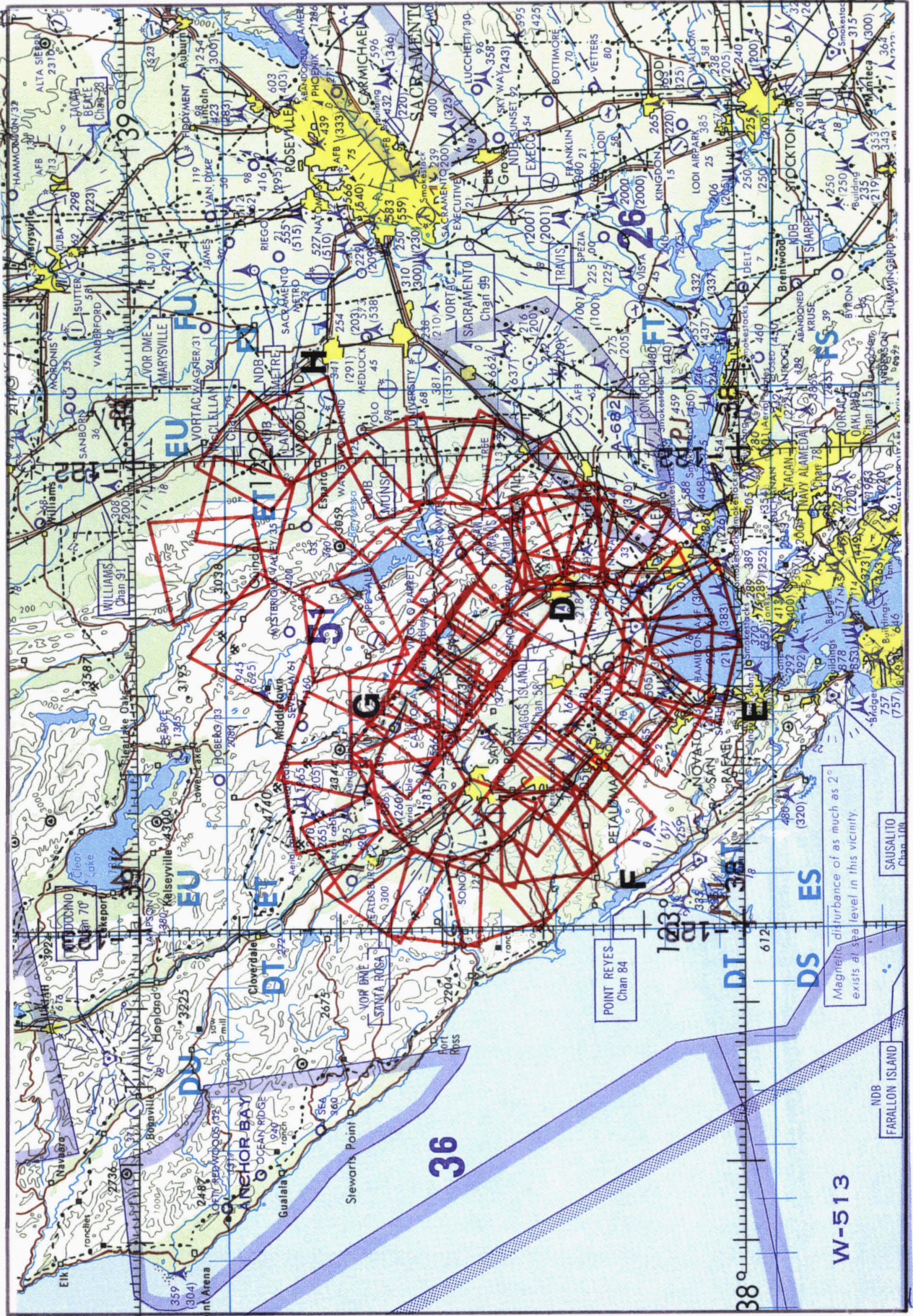
A/C 708

29 JULY 1984

FLIGHT 94-108



FLIGHT 94-109
 29 JULY 1994
 A/C 706
 RC-10
 ONC G-18



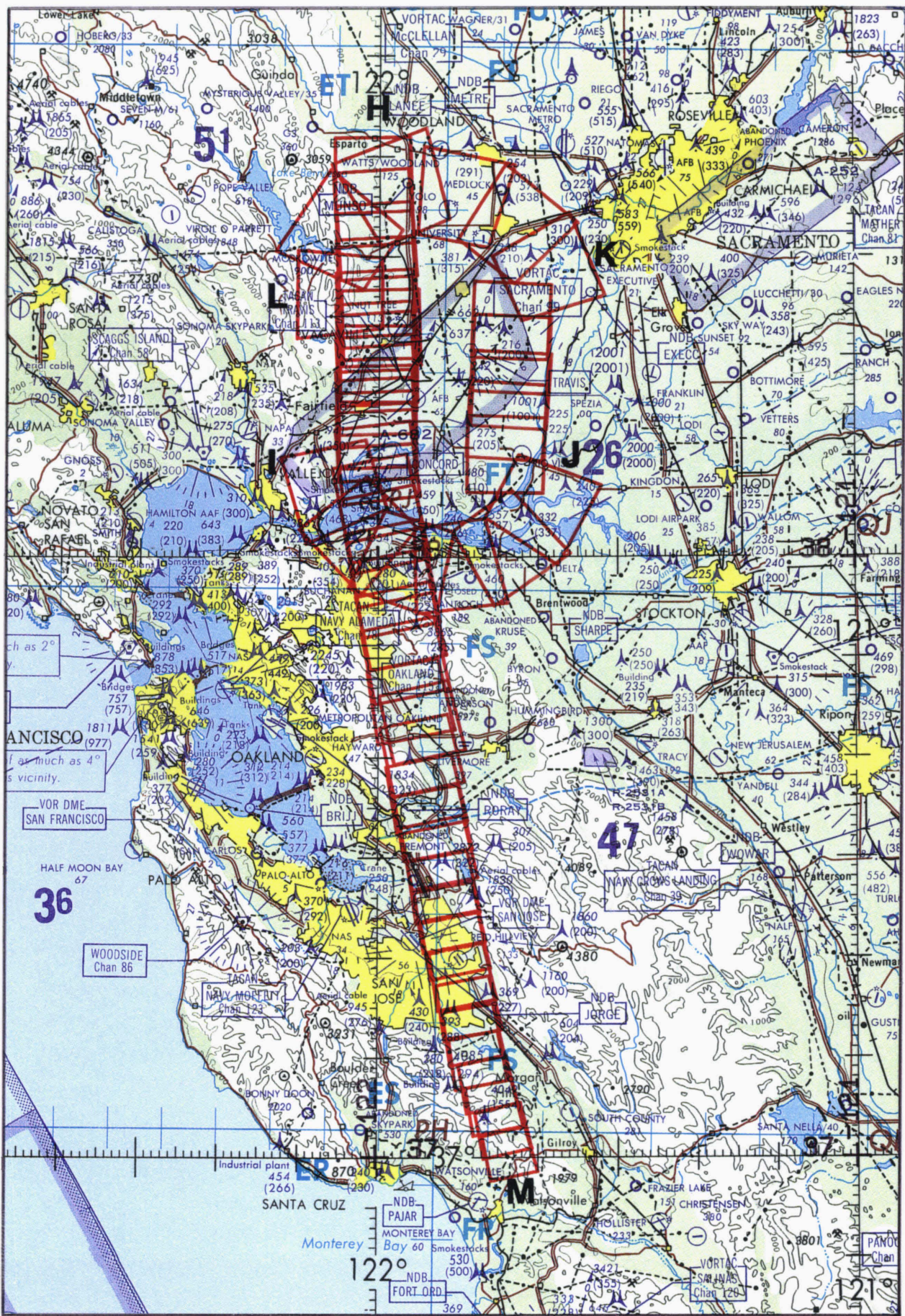
ONC 6-18

RC-10

A/C 706

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FLIGHT 94-109



ONC 6-18

RC-10

A/C 706

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