

FLIGHT SUMMARY REPORT

Flight #: 90-033
Date: 14 December 1989
Sensor Package: Wild-Heerbrug RC-10
Dual Hycon HR-732
Area(s) Covered: Laredo, Texas

Investigator(s): Handley, U.S. Fish and Wildlife
Flight Request: 90R254

Aircraft #: 709
Julian Date: 348

SENSOR DATA

Accession #:	03984	03985	03986
Sensor ID #:	076	018	019
Sensor Type:	RC-10	HR-732	HR-732
Focal Length:	12" 304.89 mm	24" 609.6 mm	24" 609.6 mm
Film Type:	High Definition Aerochrome IR SO-131	Aerial Color SO-242	Panatomic-X Aerographic EK 3400
Filtration:	cc .10B	None	Wratten 12
Spectral Band:	510-900 nm	400-700 nm	510-700 nm
f Stop:	4	8	8
Shutter Speed:	1/125	1/75	1/75
# of Frames:	110	205	205
% Overlap:	60	60	60
Quality:	Excellent	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. 90-033**

Accession No. 03984

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	4789-4811	16:01:28	16:11:37	65000/19800	Clear; oblique (frame 4792)
C - D	4812-4833	16:14:54	16:24:35	"	Clear
E - F	4834-4853	16:27:39	16:36:31	"	Clear
G - H	4854-4878	16:42:45	16:53:38	"	Clear
I - J	4879-4898	16:57:18	17:06:17	"	Clear

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-033**

Accession No. 03985

Sensor # 018

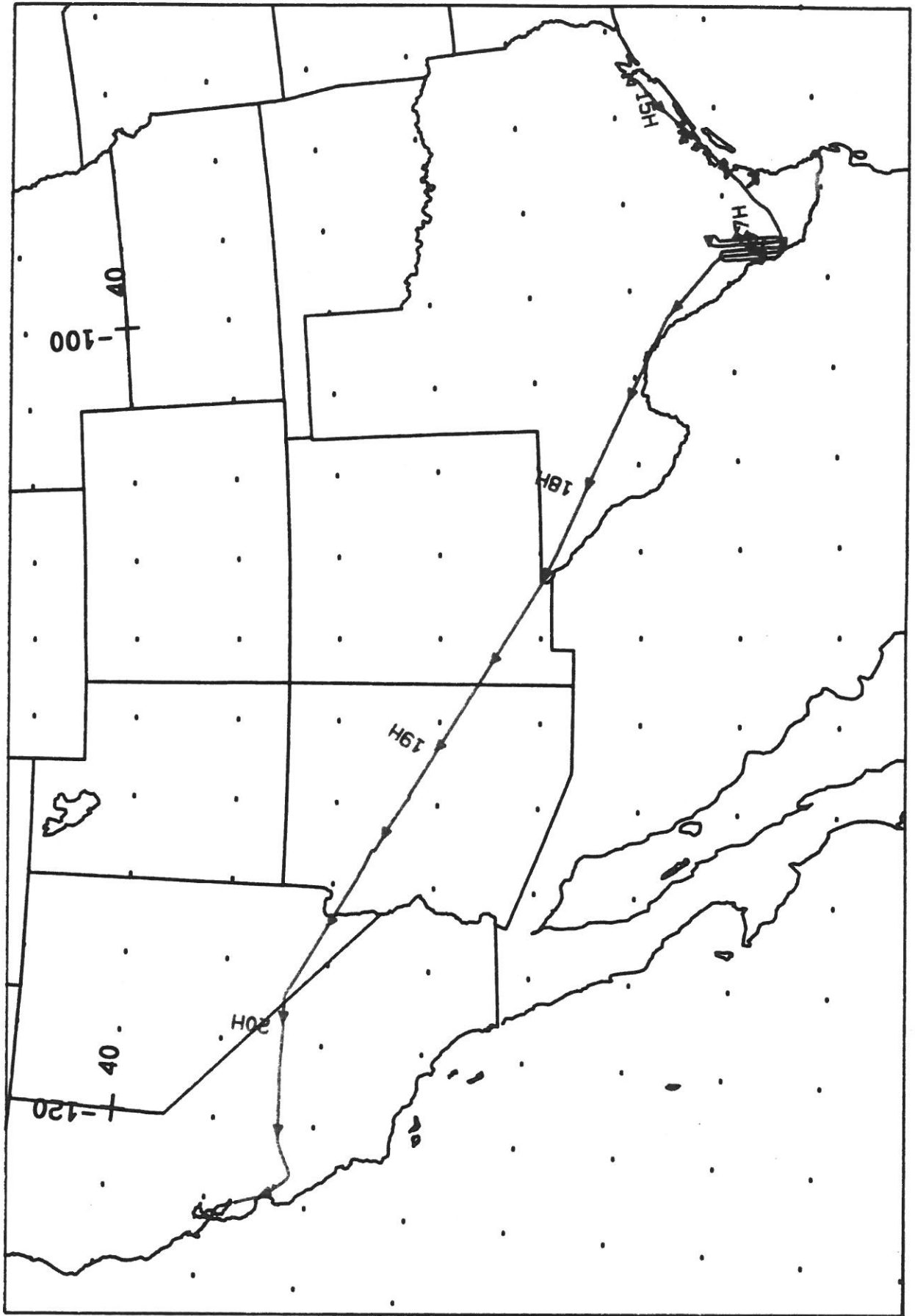
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0042	16:00:06	16:10:02	65000/19800	Clear; oblique (frames 0006-0007)
C - D	0043-0082	16:13:14	16:22:42	"	Clear
E - F	0083-0120	16:26:00	16:34:59	"	Clear
G - H	0121-0166	16:41:05	16:52:00	"	Clear
I - J	0167-0205	16:55:38	17:04:51	"	Clear

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-033**

Accession No. 03986

Sensor # 019

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0042	16:00:13	16:10:09	65000/19800	Clear; oblique (frames 0006-0007)
C - D	0043-0082	16:13:21	16:22:49	"	Clear
E - F	0083-0120	16:26:07	16:35:06	"	Clear
G - H	0121-0166	16:41:12	16:52:07	"	Clear
I - J	0167-0205	16:55:45	17:04:58	"	Clear

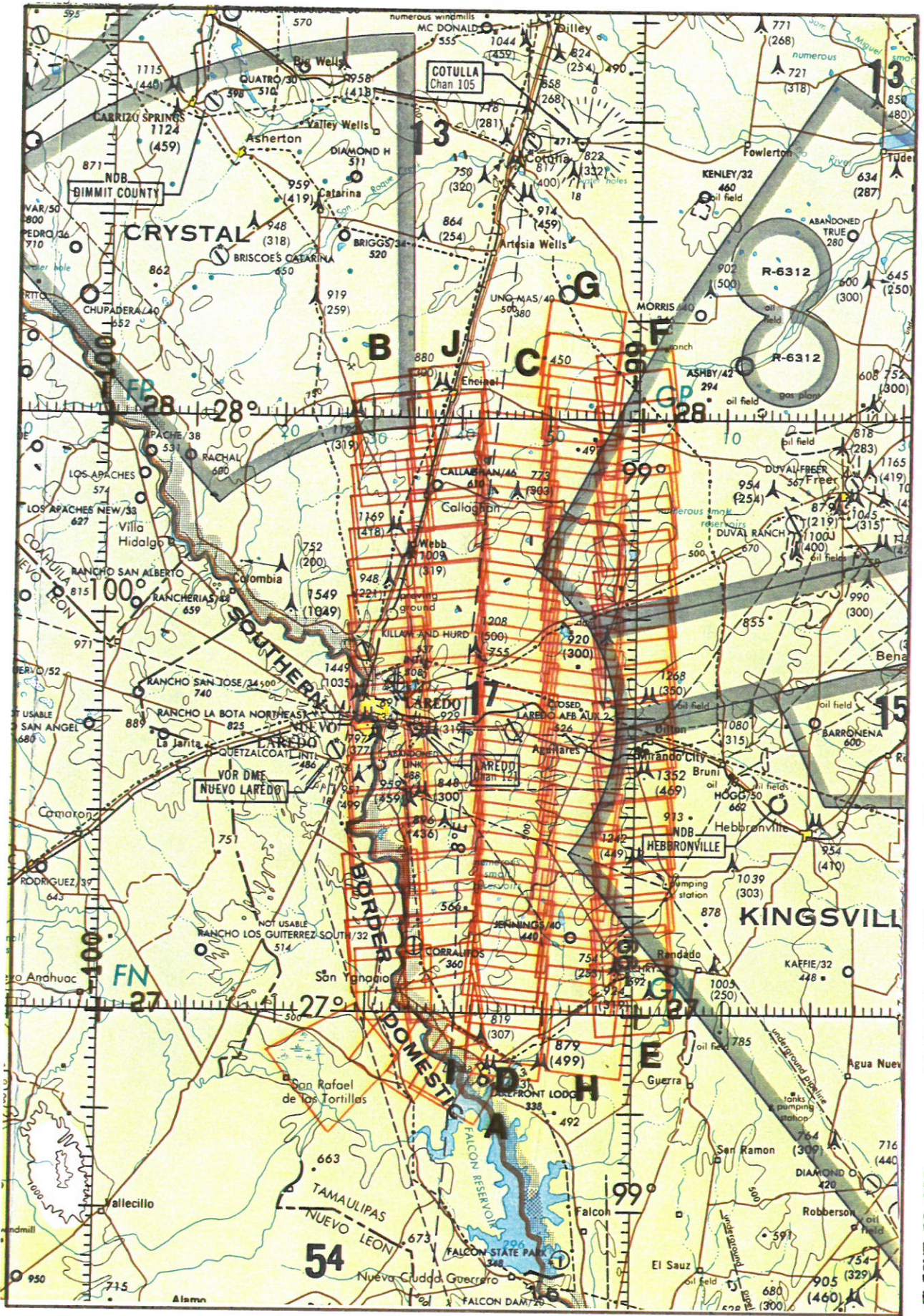


FLIGHT 90-033

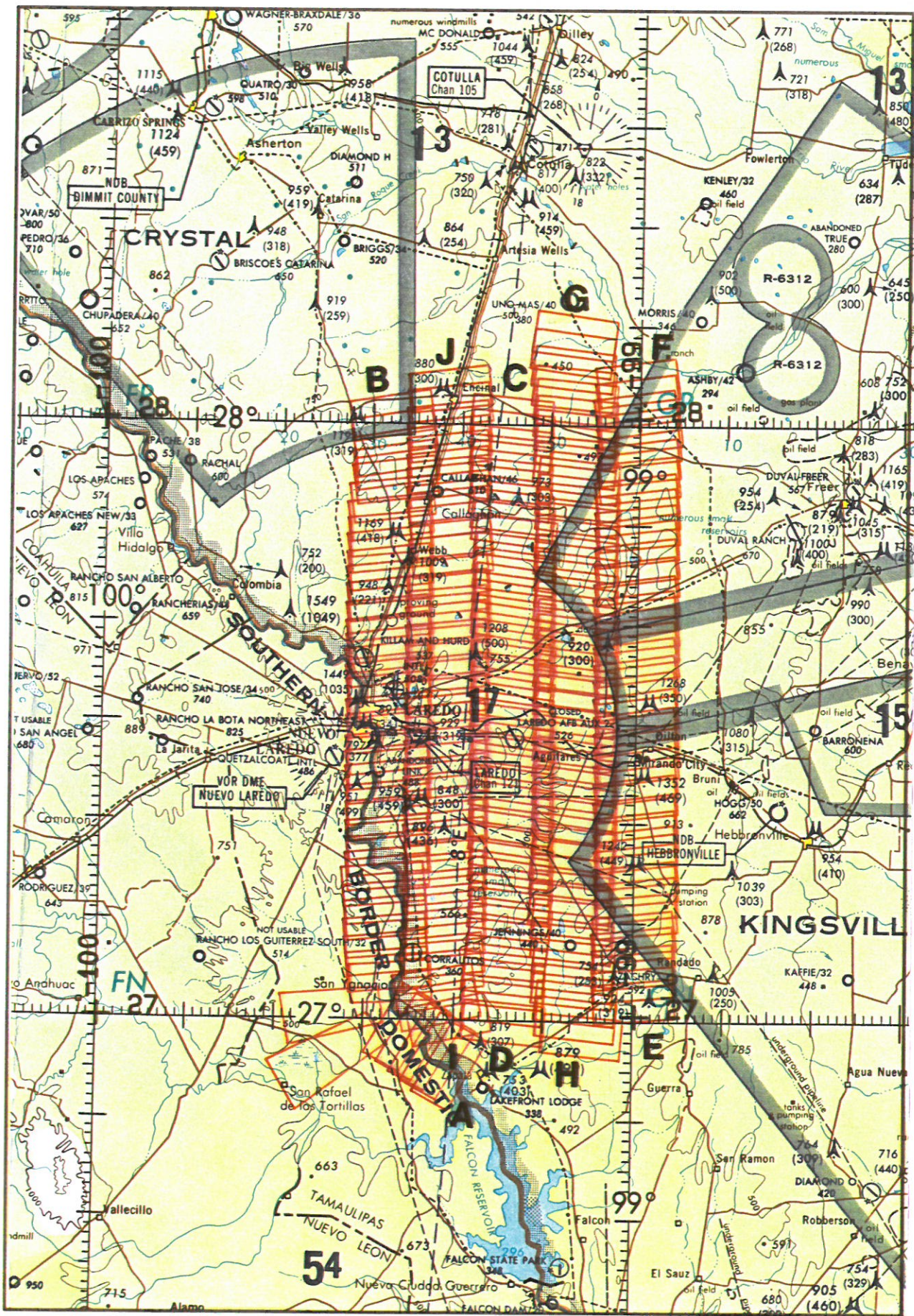
14 December 1988

A/C 709

RC-10 / Dual HR-732



FLIGHT 90-033
 14 December 1989
 A/C 709
 RC-10
 90-131
 Accession # 03984
 ONC H-23



FLIGHT 90-033
 14 December 1969
 A/C 709
 Dual HF-732
 Accession # 03985 & 03986
 ONC H-23