

# FLIGHT SUMMARY REPORT

**Flight #:** 90-105  
**Date:** 5 July 1990  
**Sensor Package:** Dual Hycon HR-732  
Wild-Heerbrug RC-10  
**Area(s) Covered:** Maryland, Virginia, and North Carolina seaboard

**Investigator(s):** Patterson, University of Virginia  
**Flight Request:** 89R247

**Aircraft #:** 709  
**Julian Date:** 186

## SENSOR DATA

<b>Accession #:</b>	04047	04048	04049
<b>Sensor ID #:</b>	018	076	019
<b>Sensor Type:</b>	HR-732	RC-10	HR-732
<b>Focal Length:</b>	24" 609.6 mm	12" 304.89 mm	24" 609.6 mm
<b>Film Type:</b>	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131	Panatomic-X Aerographic EK-3400
<b>Filtration:</b>	cc.30B	cc.10B	Wratten-12
<b>Spectral Band:</b>	510-900 nm	510-900 nm	510-700 nm
<b>f Stop:</b>	8	4	8
<b>Shutter Speed:</b>	1/75	1/250	1/75
<b># of Frames:</b>	300	171	300
<b>% Overlap:</b>	60	60	60
<b>Quality:</b>	Excellent	Excellent	Good
<b>Remarks:</b>			

## 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. 90-105**

Accession # 04047

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0057	14:52:47	15:06:35	65000/19800	Clear; light struck (frames 0002 & 0057)
C - D	0058-0118	15:13:39	15:27:52	"	Clear; light struck (frames 0118)
E - F	0119-0179	15:34:28	15:49:06	"	Clear; light struck (frames 0179)
C - G	0180-0235	15:51:07	16:04:16	"	Clear; emulsion abrasion (frame 0188); oblique and soft (frames 0235)
G - H	0236-0249	16:04:31	16:07:11	"	Clear; oblique and soft (frame 0237); light struck (frame 0249)
I - J	0250-0267	16:13:03	16:17:11	"	Clear; light struck (frames 0267)
J - K	0268-0291	16:17:25	16:22:31	"	Clear; light struck (frames 0291)
L - M	0292-0300	16:32:02	16:33:58	"	Clear; light struck (frames 0299-0300)

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 90-105**

Accession # 04048

Sensor # 076

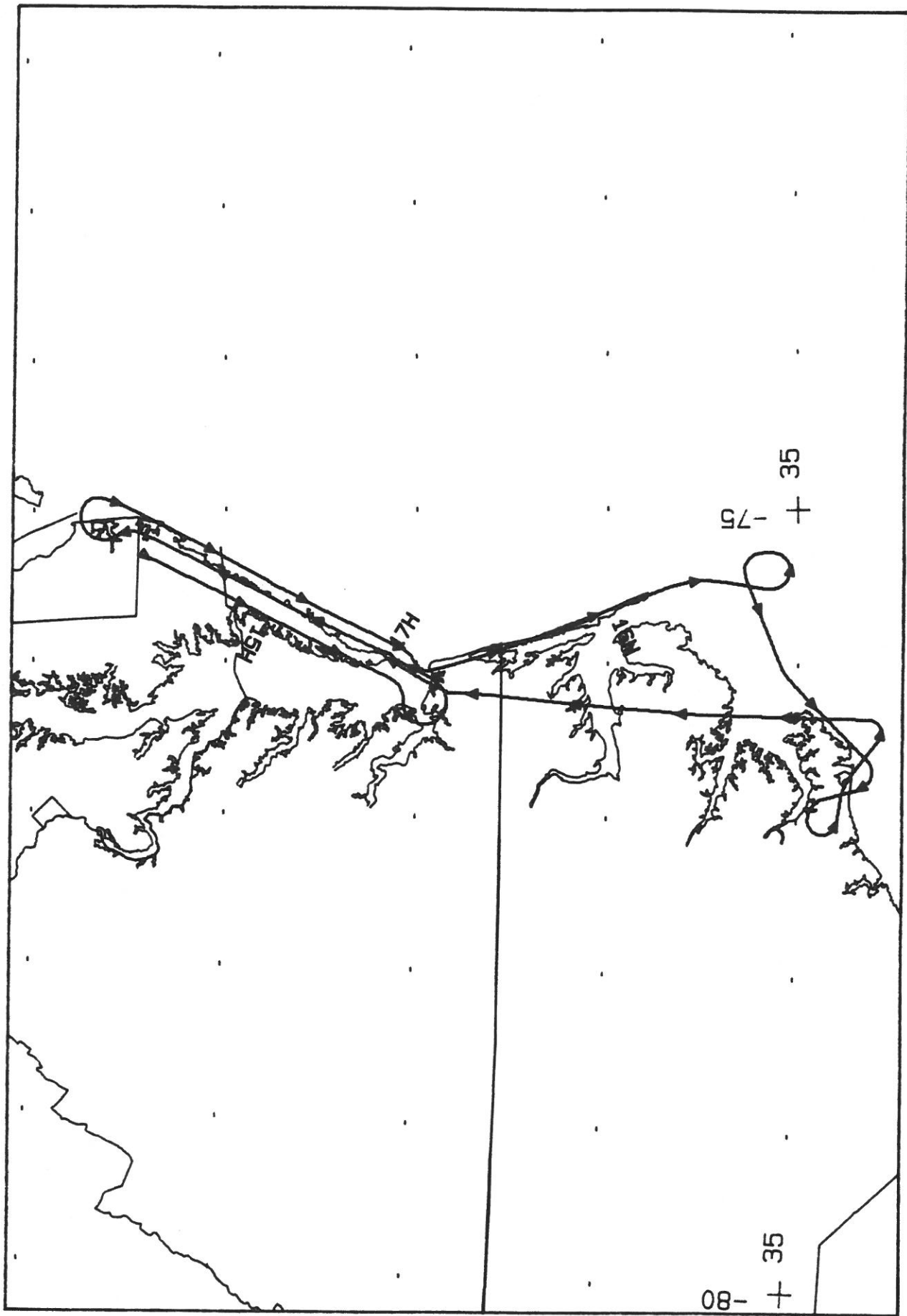
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - -	3642-3645	14:52:47	14:54:12	65000/19800	Clear
-----	3646-3647	-----	-----	-----	No data, exposed frames
- - B	3648-3671	14:55:39	15:06:17	65000/19800	Clear
C - D	3672-3705	15:13:34	15:27:49	"	Clear
E - F	3706-3738	15:34:23	15:48:59	"	Clear
C - G	3739-3769	15:51:00	16:03:40	"	Clear; oblique (frame 3769)
G - H	3770-3781	16:03:50	16:07:21	"	Clear
I - J	3782-3793	16:12:58	16:17:13	"	Clear; oblique (frame 3793)
J - K	3794-3807	16:17:26	16:22:36	"	Clear
L - M	3808-3814	16:31:57	16:33:53	"	Clear

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 90-105**

Accession # 04049

Sensor # 019

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0002-0058	14:52:47	15:06:35	65000/19800	Clear
C - D	0059-0119	15:13:39	15:27:52	"	Clear
E - F	0120-0180	15:34:28	15:49:05	"	Clear
C - G	0181-0236	15:51:07	16:04:16	"	Clear; degraded by film processor (frames 0206-0211); oblique and "soft" (frame 0236)
G - H	0237-0250	16:04:31	16:07:11	"	Clear; oblique and "soft" (frame 0238)
I - J	0251-0268	16:13:03	16:17:11	"	Clear; oblique (frame 0268)
J - K	0269-0292	16:17:25	16:22:31	"	Clear
L - M	0293-0301	16:32:02	16:33:58	"	Clear



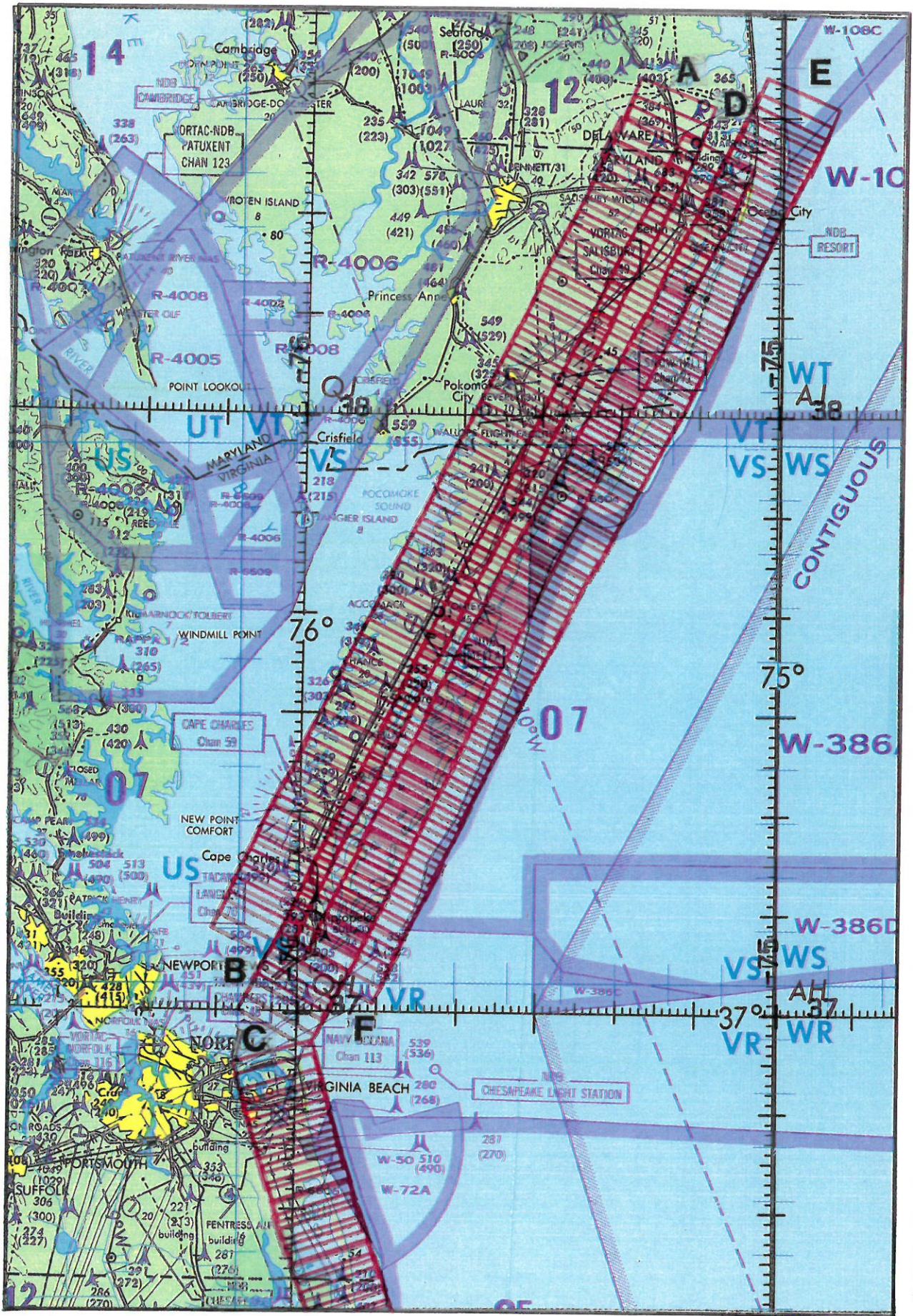
RC-10 / HR-732

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FLIGHT 90-105





ONC 6-21

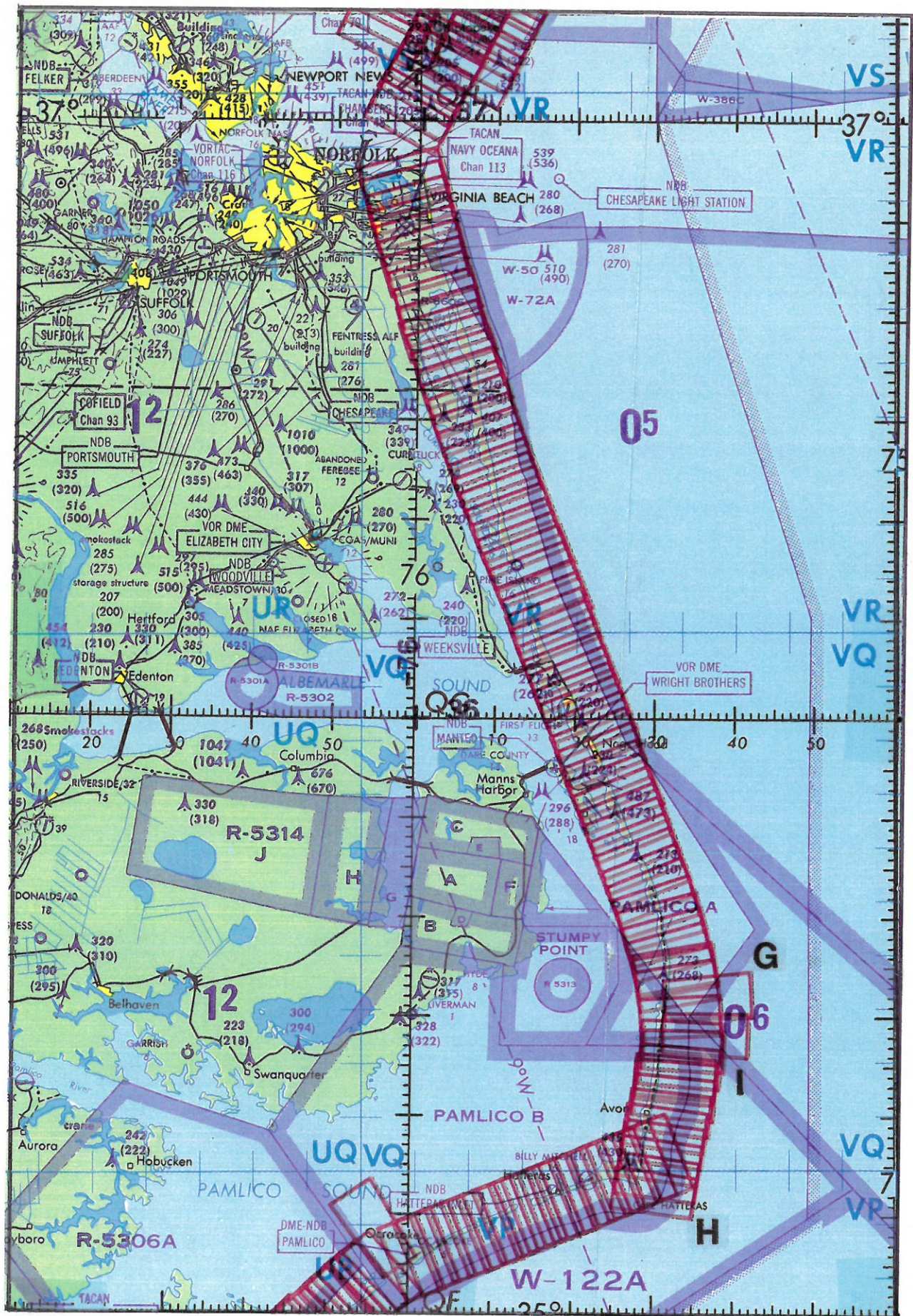
80-131 / 3400

Dual HR-732

5 July 1990

FLIGHT 90-105





ONC 6-21

90-191 / 9400

Dist 1 NF-792

5 July 1990

FLIGHT 90-105



