

FLIGHT SUMMARY REPORT

Flight #: 90-142
Date: 05 September 1990
Sensor Package: Wild-Heerbrug RC-10
Dual Hycon HR-732
Area(s) Covered: Coastal North Carolina, South Carolina
Georgia

Investigator(s): Patterson, University of Virginia

Aircraft #: 706

Flight Request: 89R247

Julian Date: 248

SENSOR DATA

Accession #:	04108	04109	04110
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	High Definition Aerochrome IR SO-131	Panatomic-X Aerial EK-3400
Filtration:	cc.10B	cc.20B	None
Spectral Band:	510-900 nm	510-900 nm	400-700 nm
f Stop:	4	8	8
Shutter Speed:	1/150	1/75	1/75
# of Frames:	76	145	145
% Overlap:	45-60	60	60
Quality:	Excellent	Excellent	Poor
Remarks:	Intermittent intervelometer malfunction	Clock inoperative	Film over- processed

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 descriptions of the camera systems flown onboard the ER-2s.

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).

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

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-142**

Accession # 04108

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	7067-7074	15:11:44	15:15:25	65000/19800	Clear
B - C	7075-7080	15:20:34	15:23:08	"	Clear
D - E	7081-7085	15:31:14	15:33:37	"	Clear; oblique (frame 7085)
E - F	7086-7118	15:34:05	15:49:27	"	10% very minor cumulus (frames 7114-7118)
G - H	7119-7130	15:59:21	16:04:31	"	20-40% cumulus (frames 7119-7130)
I - J	7131-7142	16:17:13	16:22:22	"	40-80% cumulus (frames 7131-7142)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-142**

Accession # 04109

Sensor # 018

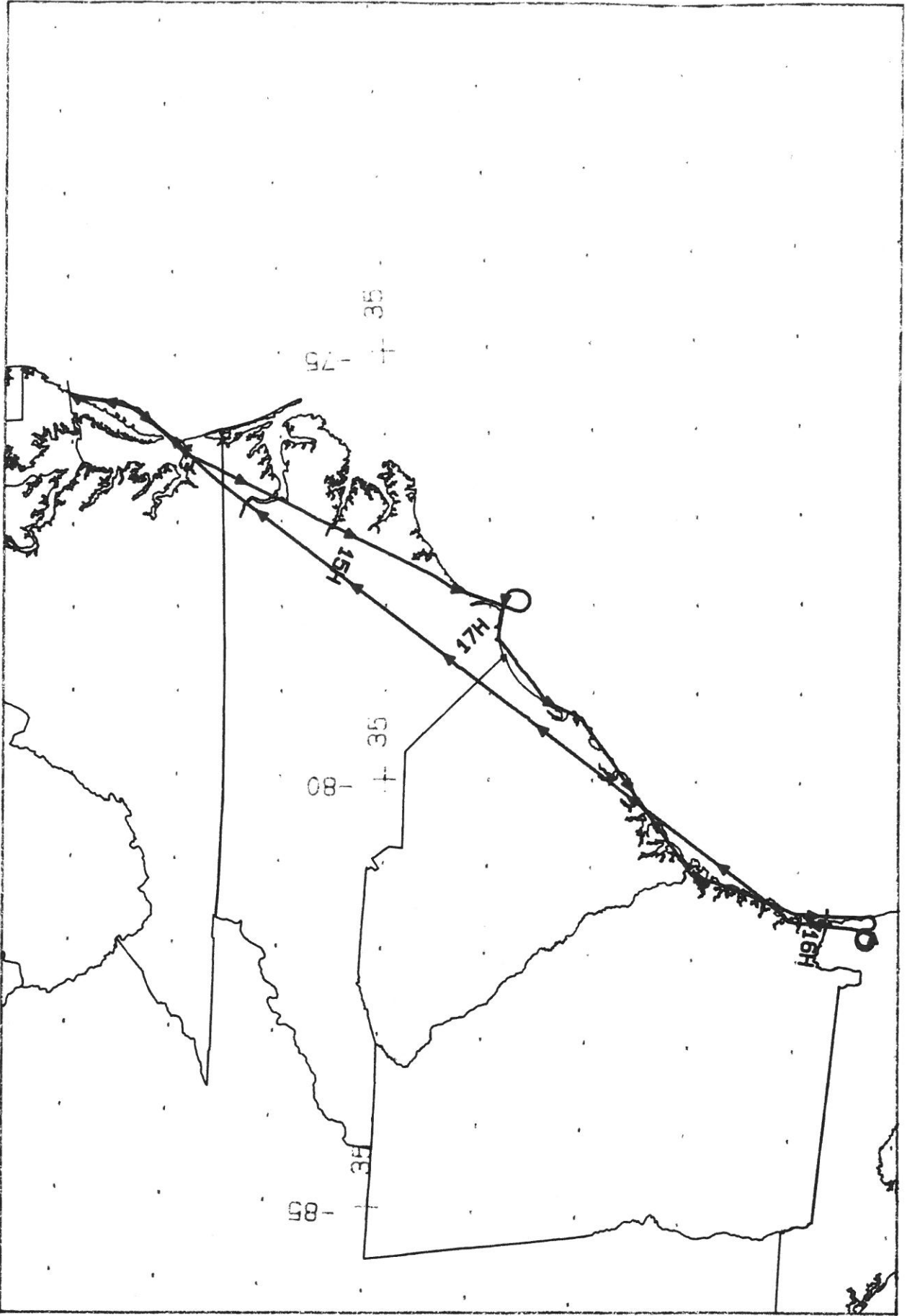
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0015	15:11:44	15:15:14	65000/19800	Minor cumulus (frames 0001-0002)
B - C	0016-0026	15:20:34	15:23:04	"	Clear
D - E	0027-0037	15:31:14	15:33:10	"	Clear; oblique (frame 0037)
E - F	0038-0101	15:34:05	15:49:29	"	Minor cumulus (frames 0088-0089); minor-10% cumulus (frames 0091-0101); "soft" (frame 0038)
G - H	0102-0123	15:59:21	16:04:26	"	10-50% scattered cumulus
I - J	0124-0145	16:17:13	16:22:18	"	30-90% cumulus
Clock inoperative, times taken from Accession #04108					

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-142**

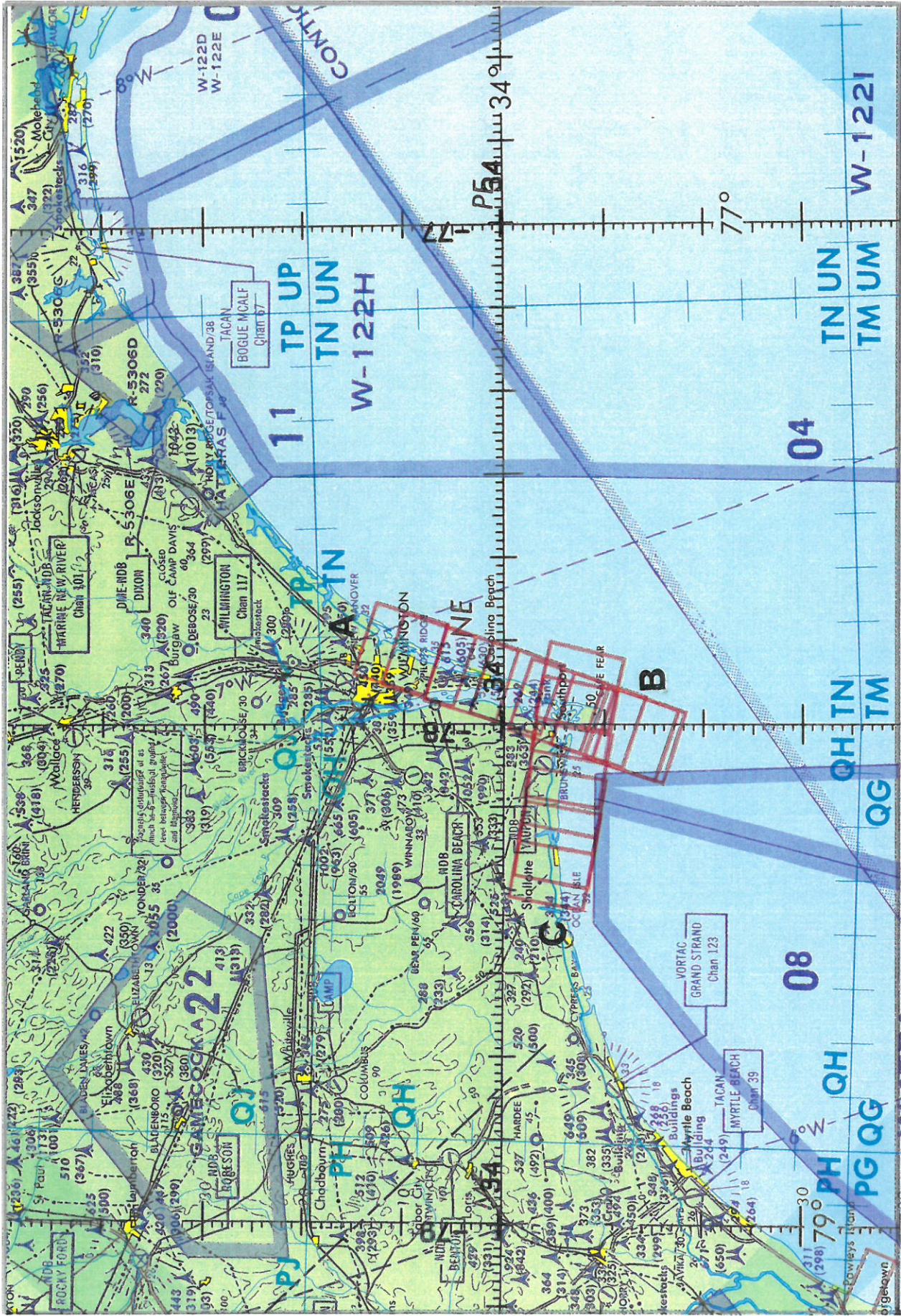
Accession # 04110

Sensor # 019

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0015	15:11:01	15:14:27	65000/19800	Minor cumulus (frames 0001-0002)
B - C	0016-0026	15:19:52	15:22:20	"	Clear
D - E	0027-0037	15:30:32	15:32:44	"	Clear; oblique (frame 0037)
E - F	0038-0101	15:33:13	15:48:41	"	Minor cumulus (frames 0088-0089); minor-10% cumulus (frames 0091-0101); "soft" (frame 0038)
G - H	0102-0123	15:58:39	16:03:47	"	10-50% scattered cumulus
I - J	0124-0145	16:16:31	16:21:38	"	30-90% scattered cumulus



FLIGHT 90-142 5 September 1990 A/C 706 Dial HR-732 / RC-10 Coastal Coverage



FLIGHT 90-142

5 September 1990

Dual NR-752 / RC-10

Accession # 04108

CNC 6-21



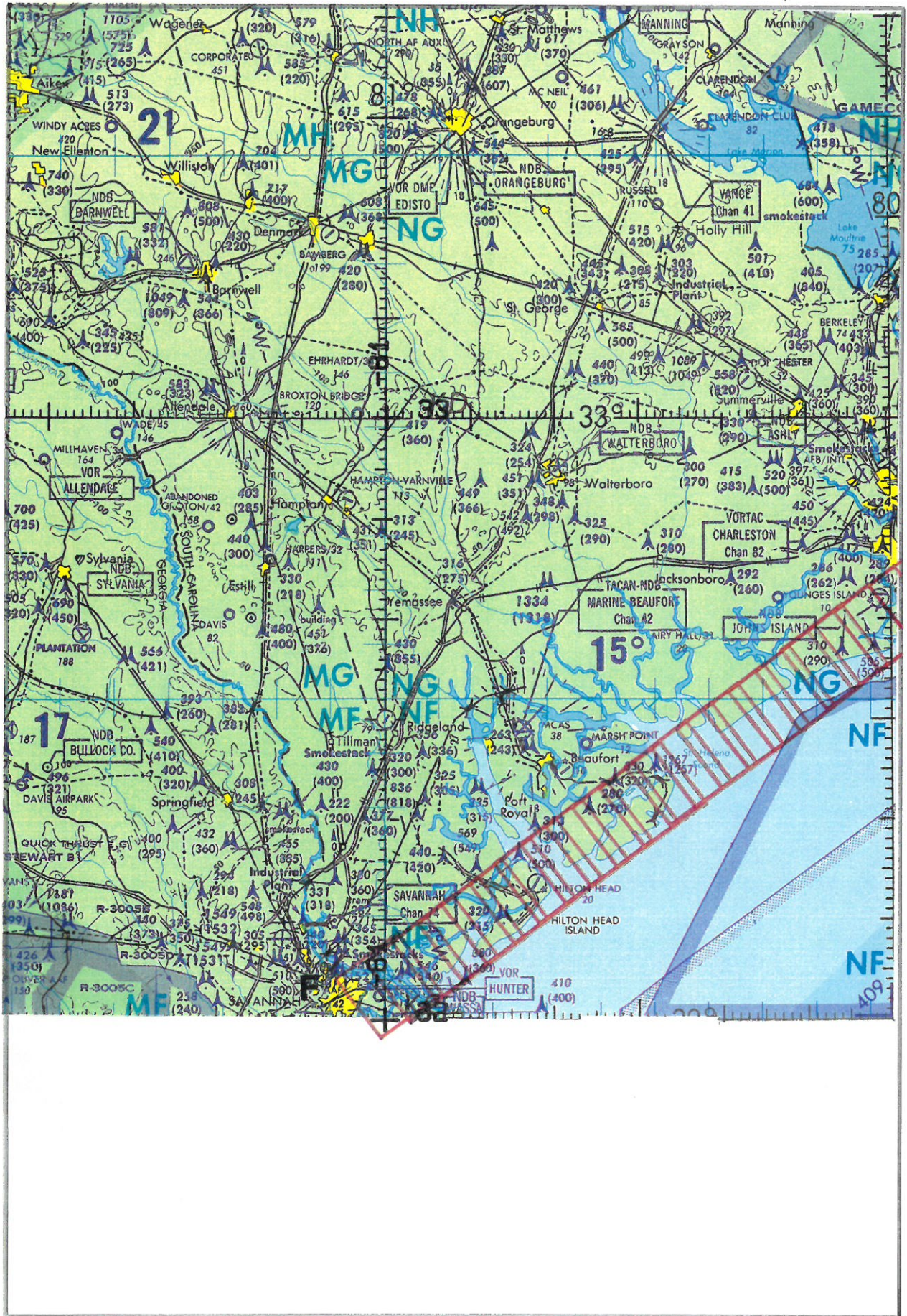
GNC 6-21

Accession # 04108

Dual HF-792 / RC-10

5 September 1990

FLIGHT 90-142



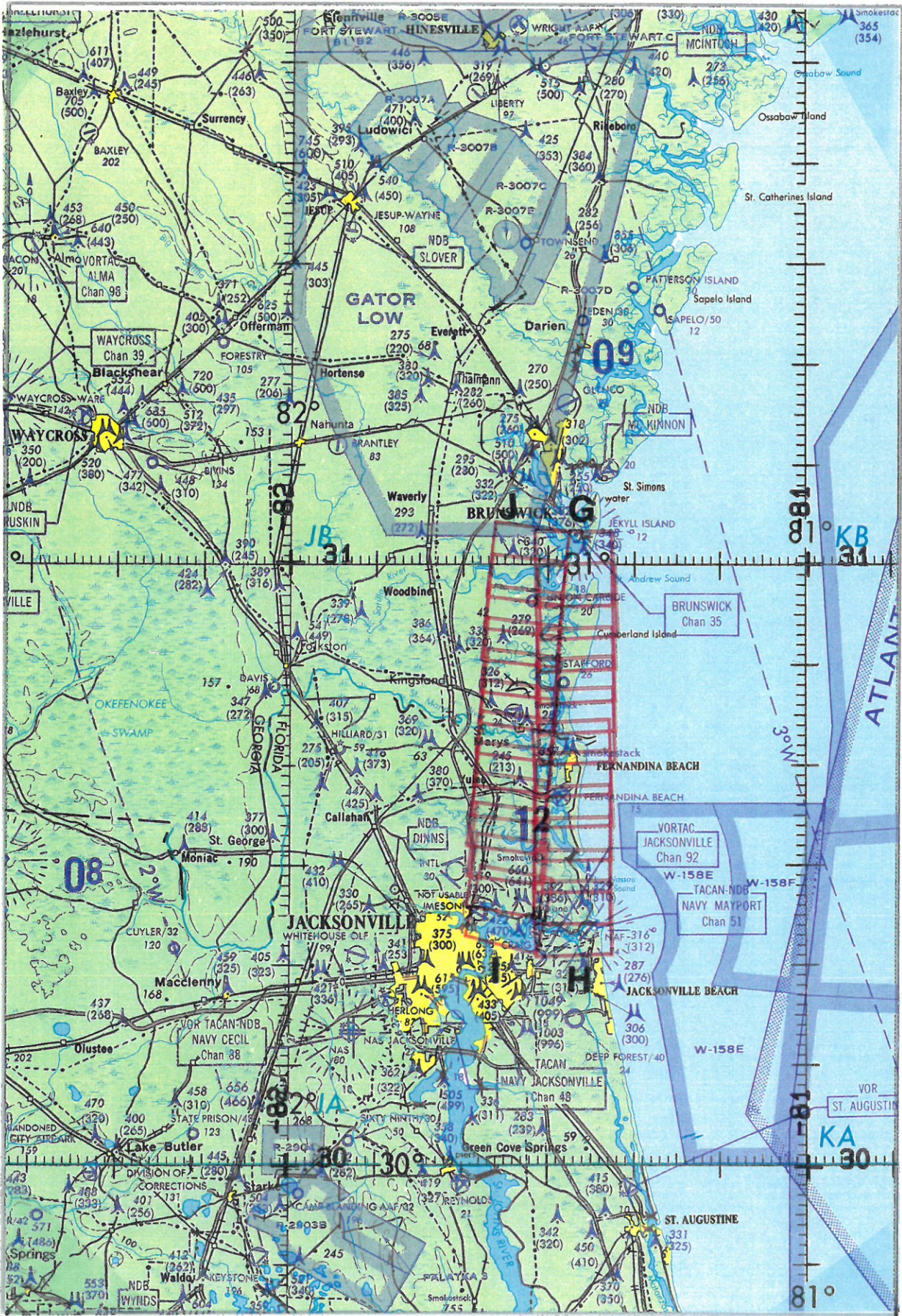
ONC 6-21

Accession # 04108

Dual HR-792 / RC-10

5 September 1990

FLIGHT 90-142



ONC 6-21

Accession # 04106

Dual HF-752 / RC-10

5 September 1990

FLIGHT 90-142