

FLIGHT SUMMARY REPORT

Flight Number: 93-026
Calendar/Julian Date: 30 November 1992 • 335
Sensor Package: Wild-Heerbrug RC-10
Dual Hycon HR-732
Large Area Collectors (LACs)
Area(s) Covered: Florida

Investigator(s): Meyer, NPS; Handley, USFWS;
Zolensky, NASA-JSC

Aircraft #: 708

SENSOR DATA

Accession #:	04516	04517	04518
Sensor ID #:	026	038	039
Sensor Type:	RC-10	HR-732	HR-732
Focal Length:	12" 304.97 mm	24" 609.6 mm	24" 609.6 mm
Film Type:	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131
Filtration:	cc.10B	cc.10B	cc.10B
Spectral Band:	510-900 nm	510-900 nm	510-900 nm
f Stop:	4	8	8
Shutter Speed:	1/125	1/75	1/75
# of Frames:	189	302	71
% Overlap:	60	60	60
Quality:	Excellent	Excellent	Excellent
Remarks:	18.3 sec. offset between camera and navigation data	Light leak throughout roll. 30.3 sec offset between camera and navigation data	1.1 sec. offset between camera and navigation data

93-026

SENSOR DATA continued

Accession #: ----
Sensor ID #: 100
Sensor Type: LACs
Focal Length: ----
Film Type: ----
Filtration: ----
Spectral Band: ----
f Stop: ----
Shutter Speed: ----
of Frames: ----
% Overlap: ----
Quality: ----
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. The following provides a description of the camera system(s) used for data collection during this flight.

Large Area Collectors

The Large Area Collectors (LACs) are flown on NASA high altitude ER-2s in support of the NASA-Johnson Space Center Cosmic Dust Program. The LACs are used to collect comparatively unaltered cosmic dust from the stratosphere at ER-2 flight altitudes of 65,000 feet or higher. Sufficient quantities of extraterrestrial materials are collected to allow chemical and mineralogical compositions of individual particles to be determined. Study of these materials whose sources may be comets, asteroid collisions, planetary impacts, and meteorite ablation provide valuable information about the origin and history of the solar system.

Additional information regarding the Large Area Collectors may be obtained from Michael E. Zolensky, NASA-Johnson Space Center, SN2, Houston, Texas 77058 (Telephone (713) 483-5128).

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. 93-026

Accession # 04516

Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A	5594	16:10:03	_____	65000/19800	40% scattered cumulus; clearing frame
B - C	5595-5598	16:27:10	16:28:33	"	Clear
C - D	5599-5612	16:32:39	16:38:40	"	Clear
E - F	5613-5622	16:43:14	16:47:25	"	Clear
G - H	5623-5632	16:50:58	16:55:09	"	Clear
I - J	5633-5654	17:01:45	17:11:30	"	Clear
K - L	5655-5679	17:14:15	17:25:25	"	Clear
M - N	5680-5699	17:29:49	17:38:28	"	Clear
O - P	5700-5708	17:43:47	17:47:30	"	10-30% cumulus (frames 5700-5701)
Q - R	5709-5728	17:51:21	18:00:11	"	Clear

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-026**

Accession # 04516

Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
S - T	5729-5745	18:02:36	18:10:02	65000/19800	Clear
U - V	5746-5775	18:45:09	18:58:33	"	Clear
W - X	5776-5778	19:19:09	19:20:04	"	Clear
Y - Z	5779-5781	19:23:28	19:24:23	"	Clear
1	5782	19:37:10	_____	"	Clear

CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-026

Accession # 04517

Sensor # 038

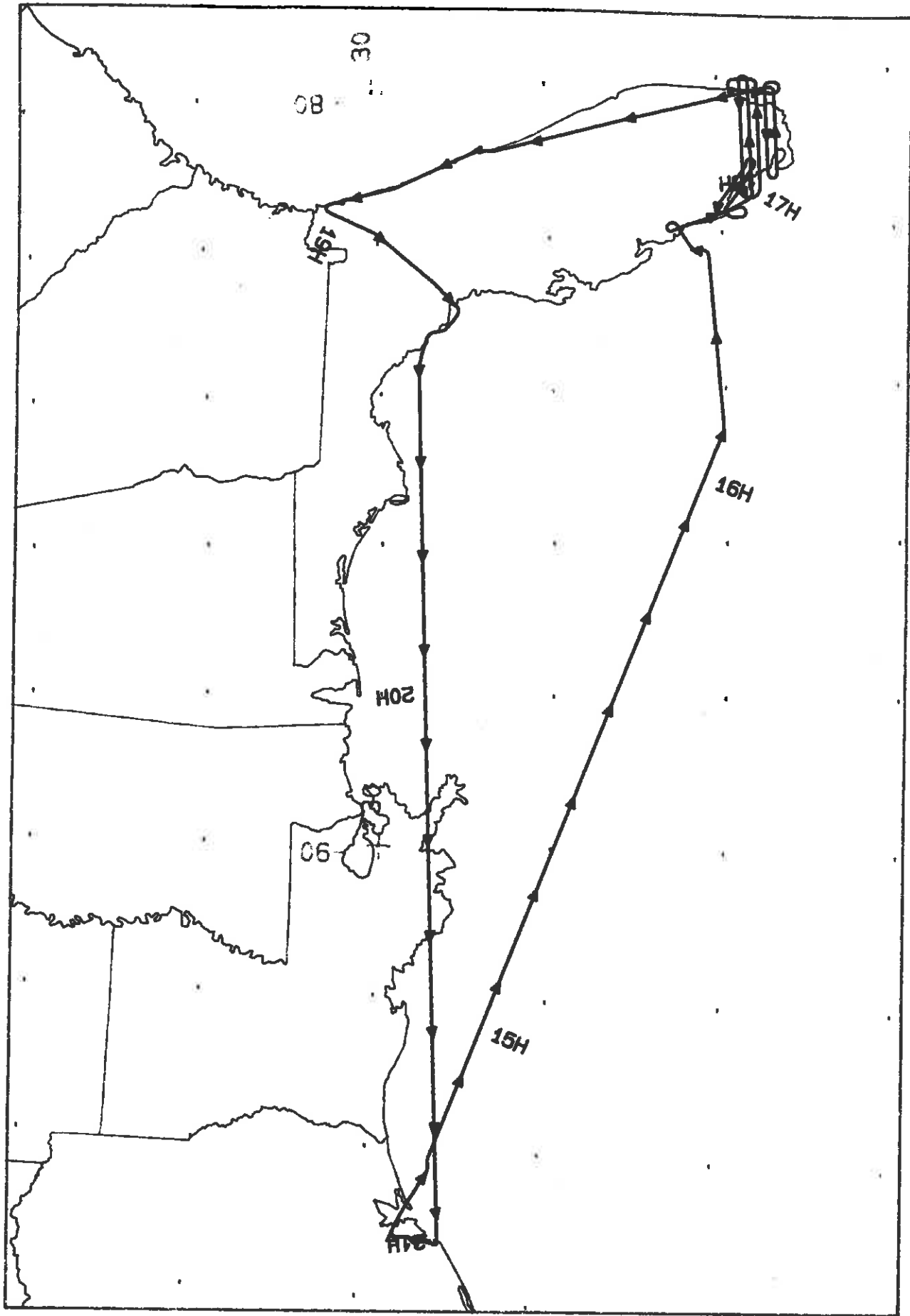
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A	0001-0002	16:08:58	16:09:13	65000/19800	30% scattered cumulus
B - C	0003-0009	16:26:26	16:27:47	"	Clear
C - D	0010-0037	16:31:53	16:37:55	"	Clear
E - F	0038-0057	16:42:29	16:46:44	"	Clear
G - H	0058-0077	16:50:13	16:54:28	"	Clear
I - J	0078-0122	17:00:59	17:10:51	"	Clear
K - L	0123-0173	17:13:29	17:24:42	"	Clear
M - N	0174-0212	17:29:03	17:37:35	"	Clear
O - P	0213-0229	17:43:02	17:46:37	"	Minor-20% cumulus (frames 0213-0216)
Q - R	0230-0268	17:50:35	17:59:07	"	Clear
S - T	0269-0302	18:01:50	18:09:15	"	Clear

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-026**

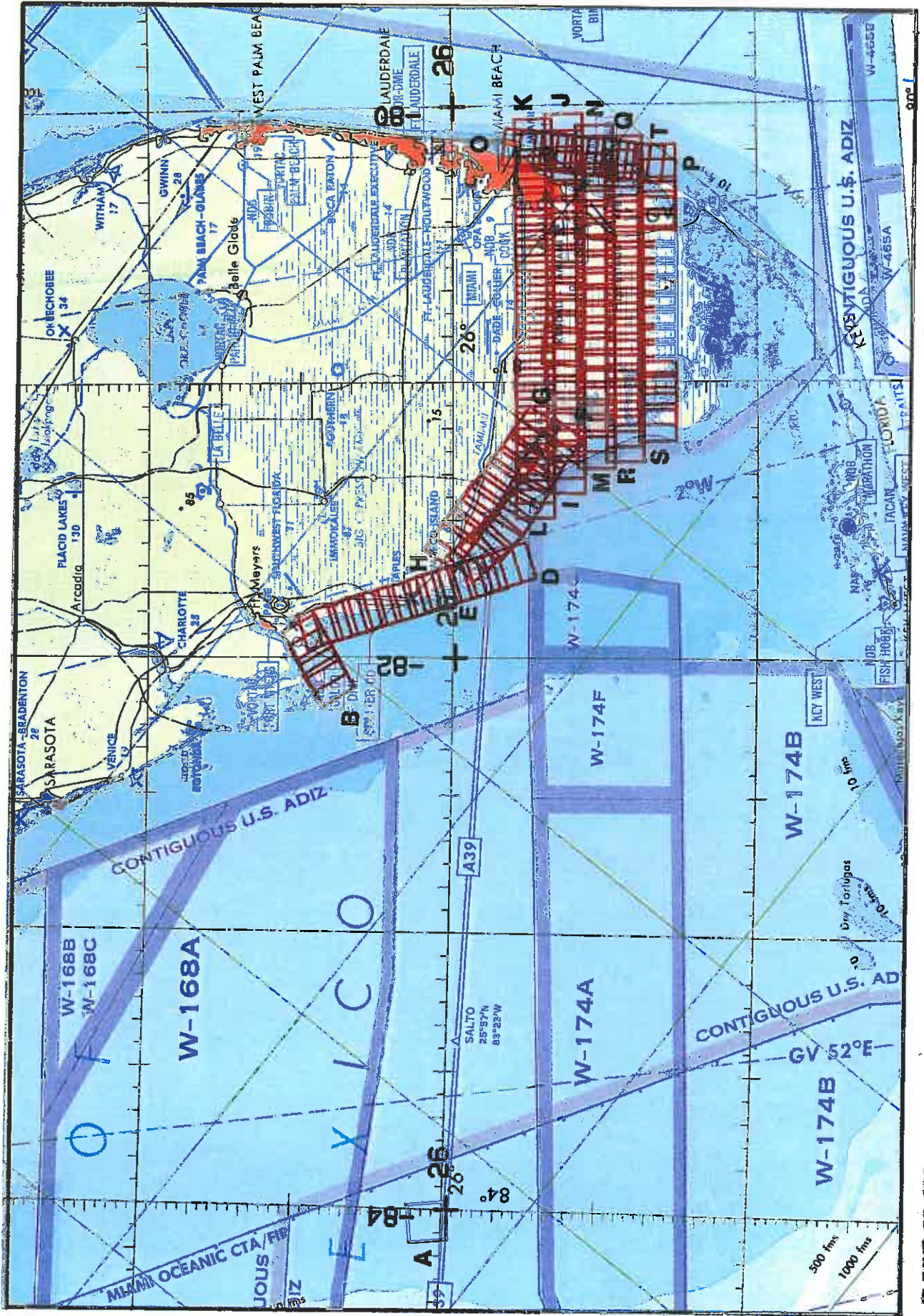
Accession # 04518

Sensor # 039

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
U - V	0001-0060	18:45:20	18:58:33	65000/19800	Clear; light struck (frame 0001)
W - X	0061-0065	19:18:59	19:19:50	"	Clear
Y - Z	0066-0070	19:23:13	19:24:03	"	Clear
1	0071	19:36:46	_____	"	Clear



FLIGHT 93-026 30 NOVEMBER 1992 A/C 708 RC-10 / DUAL PR-32



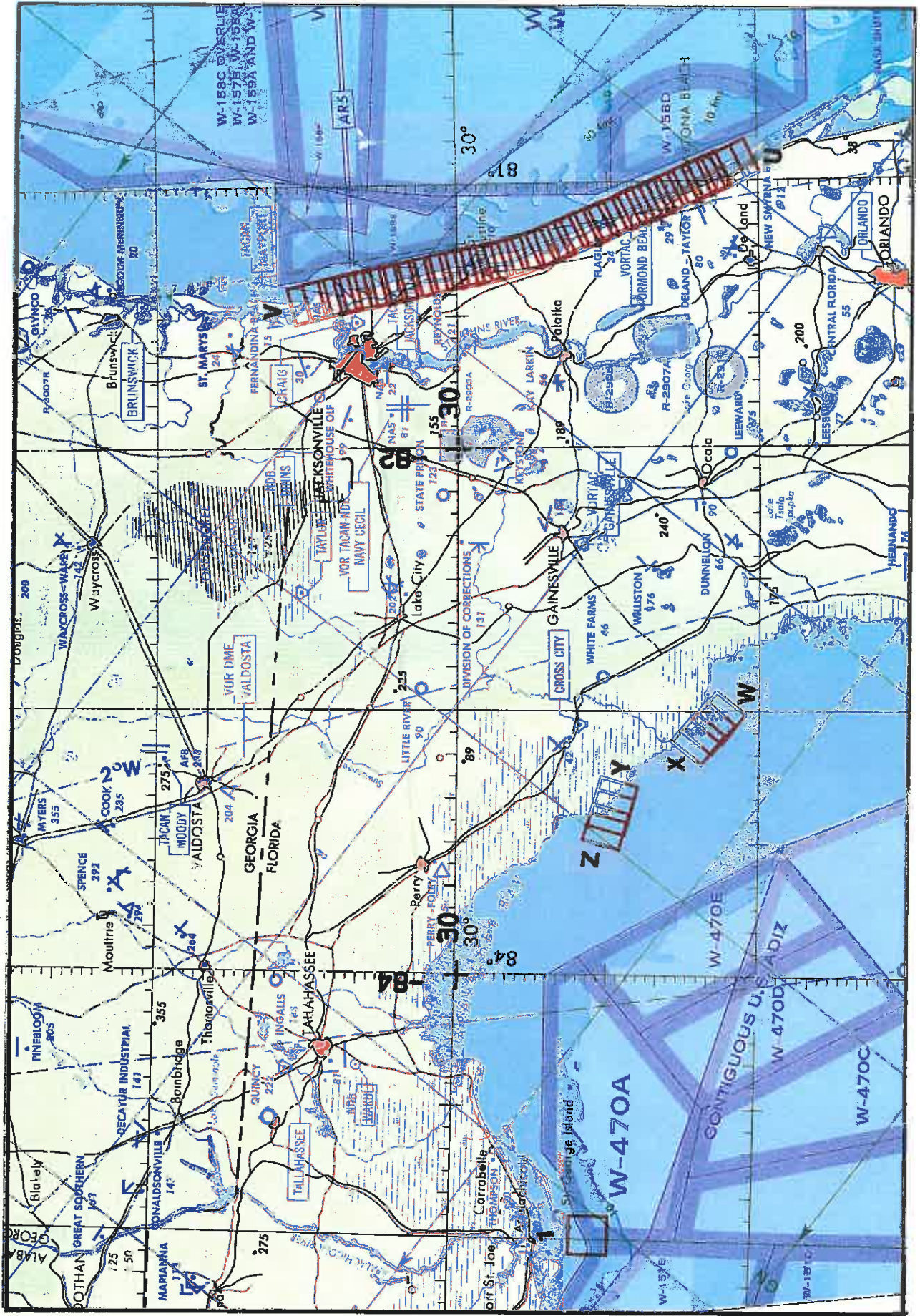
FLIGHT 89-028

30 NOVEMBER 1982

A/C 708

RC-10 / DUAL HR 752

JNC 45



FLIGHT 99-026

30 NOVEMBER 1992

A/C 709

FC-10 / DUAL HR 732

JNC 45