

FLIGHT SUMMARY REPORT

Flight Number: 93-012
Calendar/Julian Date: 29 October 1992 • 303
Sensor Package: Wild-Heerbrug RC-10
Dual Hycon HR-732
Area(s) Covered: Florida

Investigator(s): Handley, USFWS; Myer, USPS

Aircraft #: 708

SENSOR DATA

Accession #:	04496	04497	04498
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.20B	cc.30B	cc.30B
Spectral Band:	510-900 nm	510-900 nm	510-900 nm
f Stop:	4	8	8
Shutter Speed:	1/200	1/75	1/75
# of Frames:	170	298	9
% Overlap:	60	60	60
Quality:	Excellent	Excellent	Fair
Remarks:	15.6 sec. offset between camera and navigation data	11 hrs. 59 min. 53 sec. offset between camera and navigation data	8.1 sec. offset between camera and 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 camera system(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).

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. 93-012

Accession # 04496
Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	3026-3029	16:31:47	16:33:14	65000/19800	Clear
C - D	3030-3035	16:42:05	16:44:29	"	Clear
E - F	3036-3040	16:51:16	16:53:13	"	Clear
F - G	3041-3048	17:04:14	17:07:35	"	Clear
F - H	3049-3071	17:15:06	17:25:36	"	10% cumulus (frames 3058-3062)
I - J	3072-3081	17:38:47	17:43:03	"	10-20% cumulus (frames 3072-3081)
K - L	3082-3101	18:01:42	18:10:41	"	10-40% cumulus (frames 3090-3096)
M - N	3102-3106	18:20:06	18:21:59	"	Clear
O - P	3107-3137	18:26:57	18:40:43	"	Clear; oblique (frame 3134)
Q - R	3138-3147	18:48:48	18:53:03	"	Clear
P - T	3148-3190	19:05:24	19:25:10	"	Clear; oblique with 10% cumulus (frame 3179)
U - V	3191-3195	19:32:20	19:34:13	"	20-40% cumulus (frames 3191-3195)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-012**

Accession # 04497
Sensor # 038

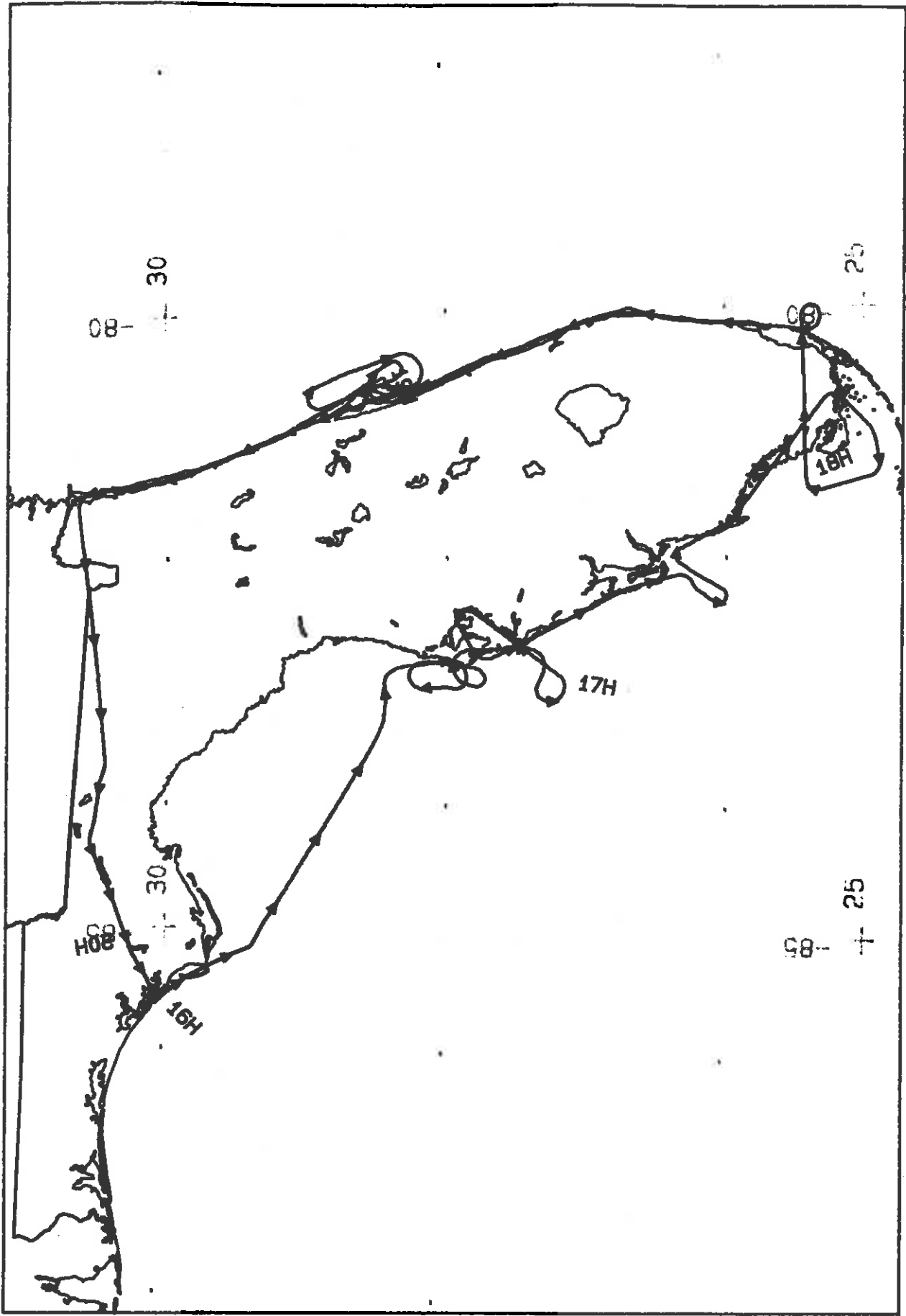
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0008	04:31:29	04:33:05	65000/19800	Clear
C - D	0009-0019	04:41:49	04:44:06	"	Clear
E - F	0020-0029	04:51:01	04:53:03	"	Clear; soft focus (frame 0024)
F - G	0030-0044	05:03:57	05:07:07	"	Clear
F - H	0045-0091	05:14:49	05:25:12	"	10% cumulus (frames 0065-0074); oblique (frame 0077)
I - J	0092-0112	05:38:29	05:42:59	"	10-20% cumulus (frames 0092-0112)
K - L	0113-0154	06:01:24	06:10:36	"	10% scattered cumulus (frames 0113-0124); 10-40% cumulus (frames 0130-0142)
M - N	0155-0164	06:19:46	06:21:47	"	Clear
O - P	0165-0228	06:26:38	06:40:33	"	Clear; soft focus (frames 0176 and 0222)
Q - R	0229-0248	06:48:28	06:52:45	"	Clear
P - S	0249-0298	07:05:07	07:16:07	"	Clear; stepwedge (frames 0297-0298)

NOTE: ADD 12 HOURS TO OBTAIN CORRECT GMT

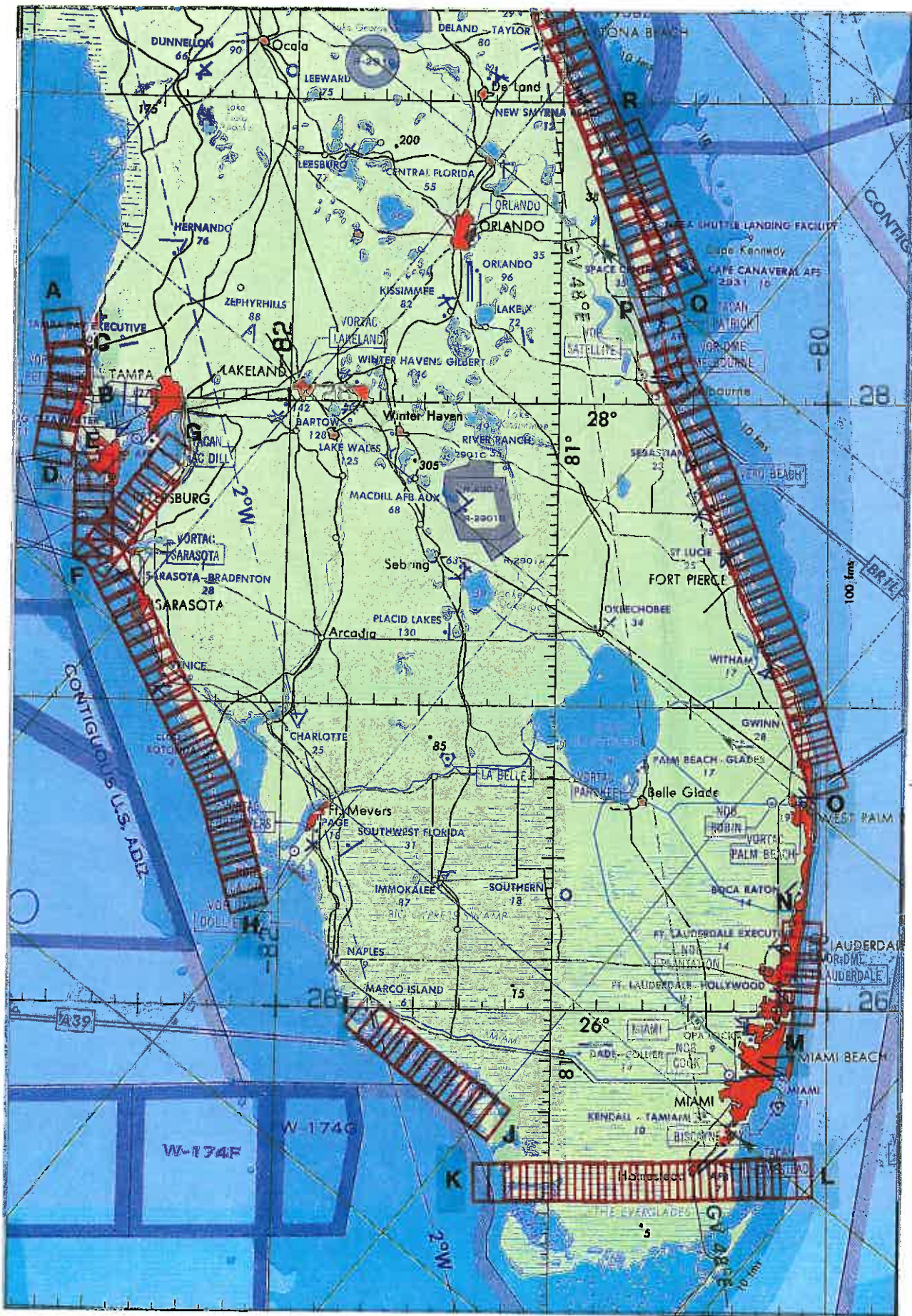
**CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-012**

Accession # 04498
Sensor # 039

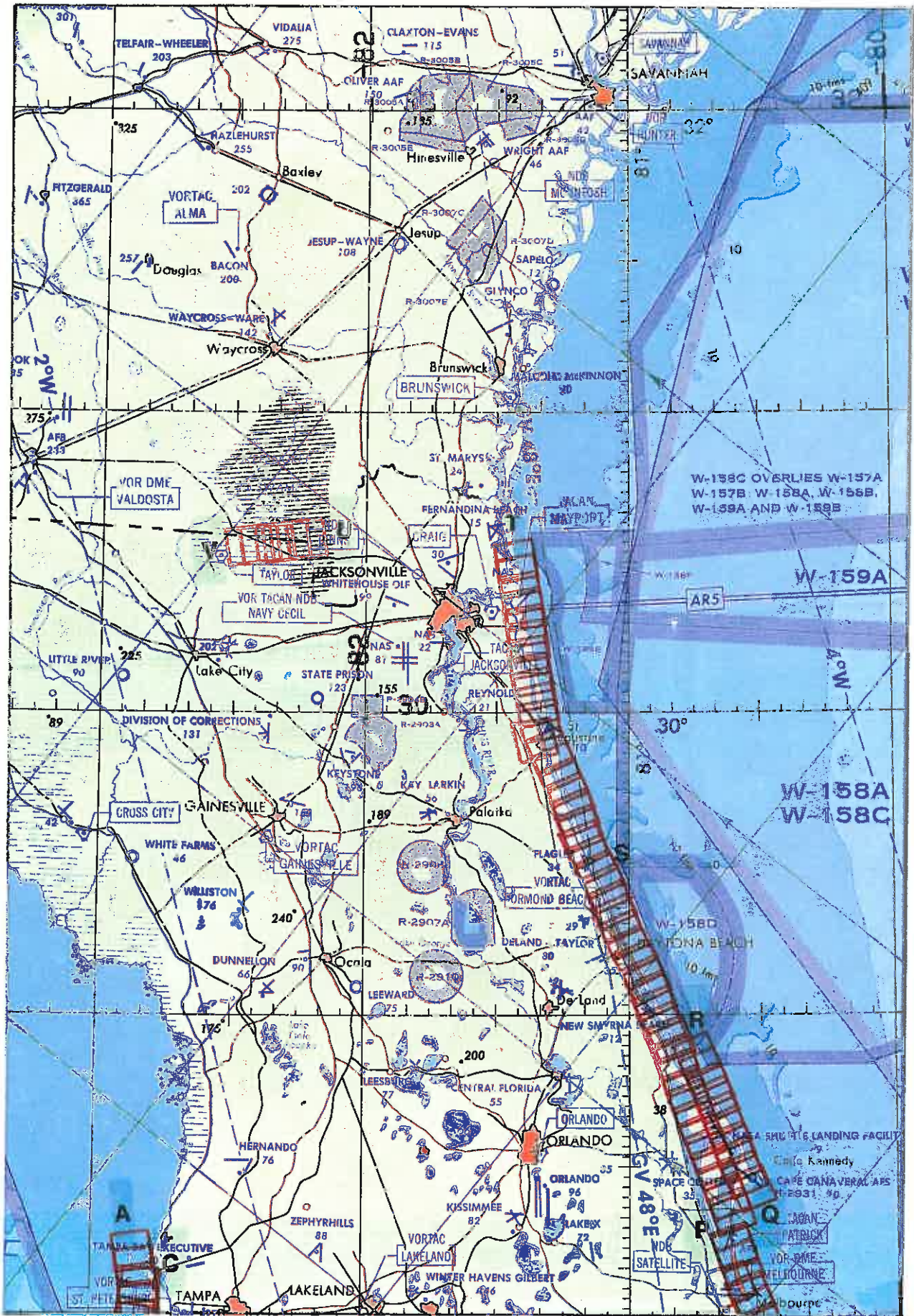
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
U - V	0001-0009	19:32:12	19:33:58	65000/19800	20-40% cumulus (frames 0001-0009); stepwedge (frame 0009)



FLIGHT 93-012 29 OCTOBER 1992 A/C 708 DUAL RR-732 / RC-10



FLIGHT 93-012
 29 OCTOBER 1992
 A/C 708
 DUAL HR-752 / RC-10
 JMC 45



W-158C OVERLIES W-157A
W-157B, W-158A, W-158B,
W-159A AND W-159B

W-159A

W-158A
W-158C

W-158D

JUN 45
DUAL HR-73C / RS-10
A/C 706
24 OCTOBER 1992
FLIGHT 93-012