

FLIGHT SUMMARY REPORT

Flight Number: 93-014
Calendar/Julian Date: 06 November 1992 • 311
Sensor Package: Wild-Heerbrug RC-10
Aerosol Particulate Sampler (APS)
Area(s) Covered: Gulf Coast

Investigator(s): Zolensky, NASA-JSC; Handley, USFWS **Aircraft #:** 708

SENSOR DATA

Accession #:	04500	----
Sensor ID #:	026	024
Sensor Type:	RC-10	APS
Focal Length:	12" 304.97 mm	----
Film Type:	High Definition Aerochrome IR SO-131	----
Filtration:	cc.20B	----
Spectral Band:	510-900 nm	----
f Stop:	4	----
Shutter Speed:	1/150	----
# of Frames:	145	----
% Overlap:	60	----
Quality:	Excellent	----
Remarks:	15.2 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 digital multispectral sensors and camera system(s) used for data collection during this flight.

Aerosol Particulate Sampler

The Aerosol Particulate Sampler (APS) has been developed and is operated by Dr. Guy Ferry of the NASA-Ames Research Experiments Branch. The sampler is a non-imaging sensor designed to gather high altitude dust particles for laboratory research.

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. 93-014**

Accession # 04500

Sensor # 026

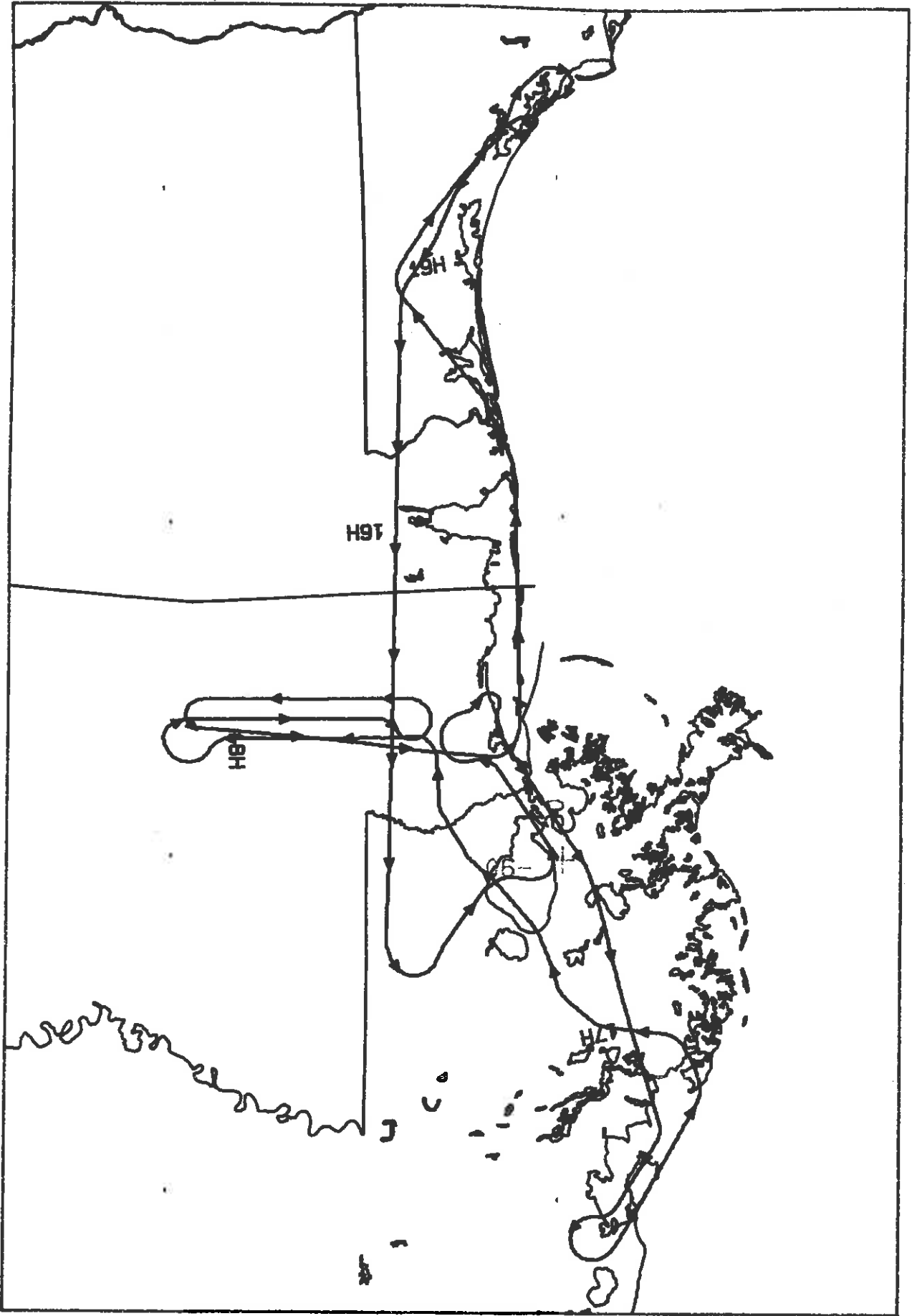
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	3387-3394	16:32:27	16:35:48	65000/19800	Clear
C - D	3395-3410	16:45:12	16:52:21	"	Clear
E - F	3411-3418	17:06:29	17:09:48	"	Clear
G - H	3419-3426	17:16:37	17:19:56	"	Clear; contrail (frames 3422-3424)
I - J	3427-3439	17:46:42	17:52:22	"	20% cumulus (frame 3439)
K - L	3440-3458	17:58:30	18:07:01	"	20-60% cumulus (frames 3440-3443); 10% cirrus (frames 3448-3449)
M - N	3459-3475	18:13:26	18:21:00	"	10-30% cirro-cumulus (frames 3473-3475)
N - O	3476-3480	18:21:29	18:23:22	"	Oblique frames in turn; 50-100% cumulus
O - B	3481-3507	18:23:51	18:36:12	"	Minor-70% cumulus (frames 3481-3486); thin cirrus (frames 3488-3489)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 93-014**

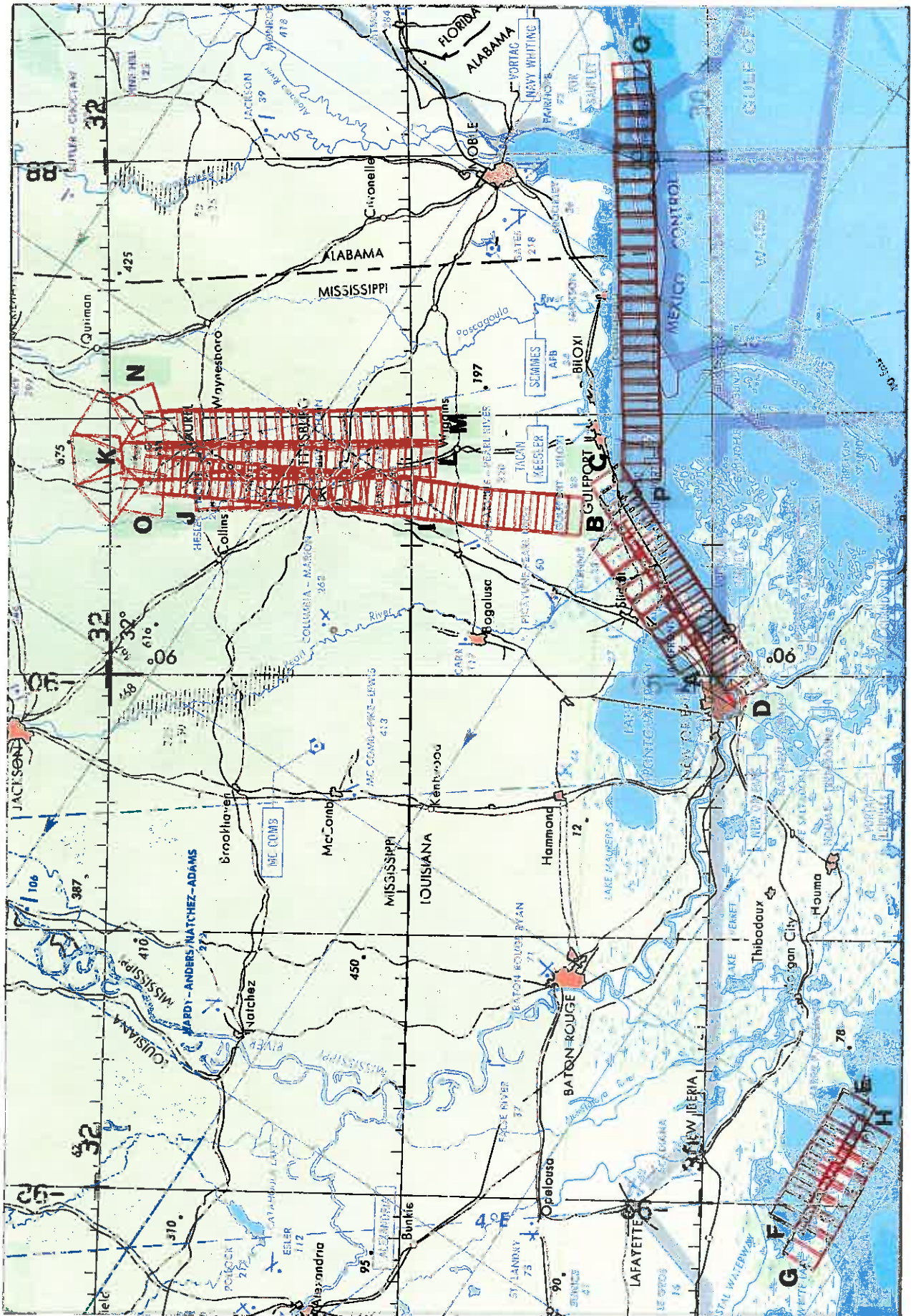
Accession # 04500

Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
P - Q	3508-3531	18:39:30	18:50:25	65000/19800	Minor-10% cirro-cumulus (frames 3520-3531)
APS -- Sensor # 024		15:57:00	18:55:00	65000/19800	



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FLIGHT 15-014

6 NOVEMBER 1992

A/C 705

HC-19

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