

# FLIGHT SUMMARY REPORT

**Flight #:** 91-099  
**Date:** 15 June 1991  
**Sensor Package:** IRIS II Panoramic Camera  
Wild-Heerbrug RC-10  
Large Area Collectors (LAC)  
**Area(s) Covered:** Virginia and Maryland

**Investigator(s):** Acciavatti, USDA Forest Service  
**Flight Request:** 90R258

**Aircraft #:** 709  
**Julian Date:** 166

## SENSOR DATA

<b>Accession #:</b>	04230	04231	-----
<b>Sensor ID #:</b>	070	076	100
<b>Sensor Type:</b>	IRIS II	RC-10	LAC
<b>Focal Length:</b>	24" 609.6 mm	12" 304.89 mm	-----
<b>Film Type:</b>	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131	-----
<b>Filtration:</b>	cc.20C	cc.20B	-----
<b>Spectral Band:</b>	510-900 nm	510-900 nm	-----
<b>f Stop:</b>	3.5	4	-----
<b>Shutter Speed:</b>	1/250	1/125	-----
<b># of Frames:</b>	573	183	-----
<b>% Overlap:</b>	60	60	-----
<b>Quality:</b>	Excellent	Excellent	-----
<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. 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. 91-099**

Accession # 04230

Sensor # 070

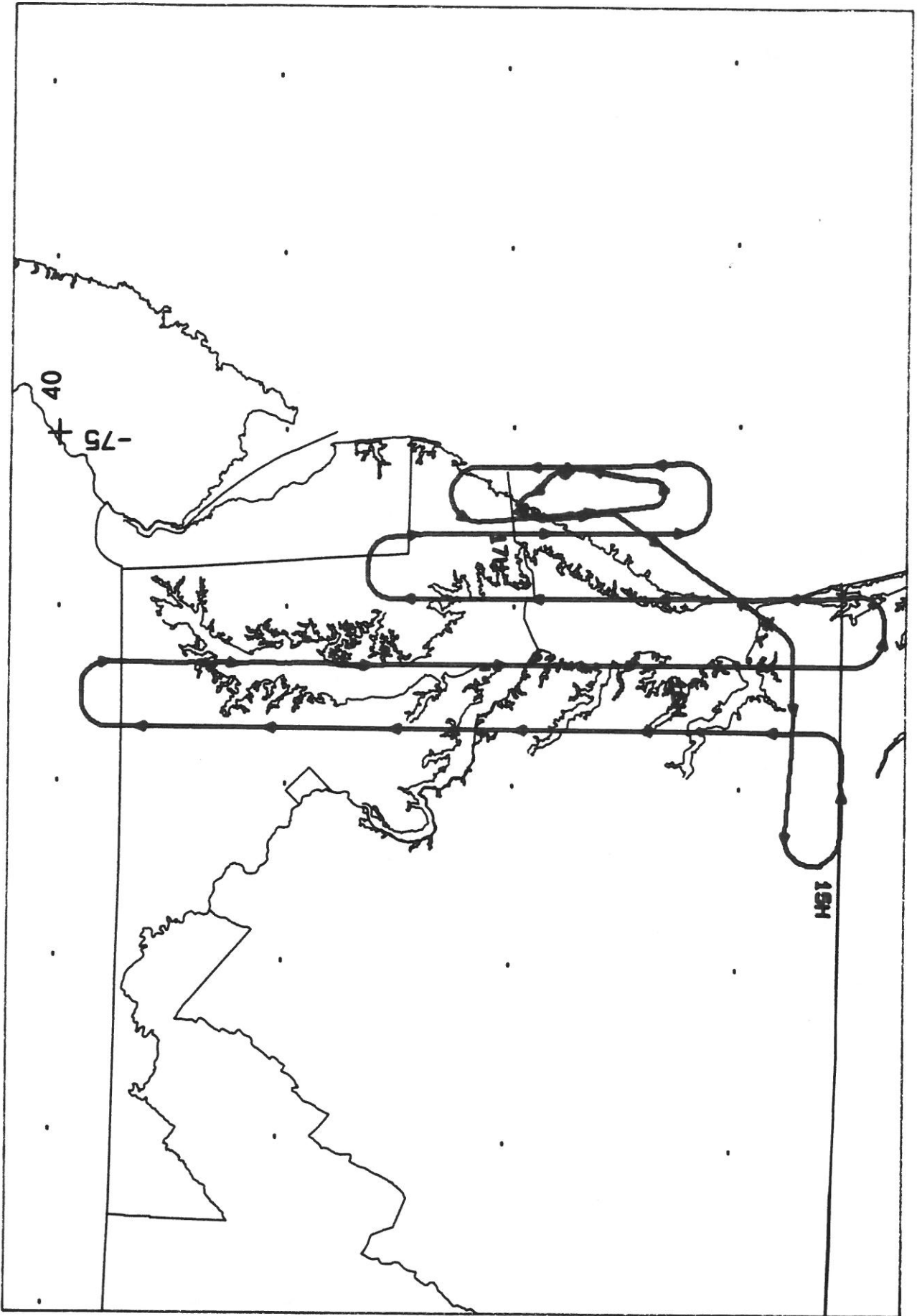
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0176	15:07:36	15:32:45	65000/19800	10% cumulus (frames 0023-0027); 10-40% cirro-cumulus (frames 0036-0078, 0081-0116, 0121-0167)
C - D	0177-0368	15:37:21	16:04:50	"	Film splice (frame 0178); 10% cirro-cumulus (frames 0177-0179); 10-50% cirro-cumulus (frames 0182-0194, 0221-0253); 10% cumulus (frames 0198-0201, 260-262, 0277-0293, 0301-0303, 0323-0328, 0427-0428) 10-30% cirro-cumulus (frames 0342-0368)
E - F	0369-0493	16:09:27	16:27:18	"	10-20% cirro-cumulus (frames 0369-0395); 10% cumulus (frames 0427-0428)
G - H	0494-0554	16:33:12	16:41:50	"	10-20% cumulus (frames 0494-0505); 10% cumulus (frames 0518-0519, 0522-0534)
I - J	0555-0573	16:50:54	16:53:29	"	Clear

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 91-099**

Accession # 04231

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	5398-5451	15:09:30	15:34:52	65000/19800	Very minor cirro-cumulus (frames 5401-5403, 5405-5407); 10-50% cirro-cumulus (frames 5411-5432); 10-30% cirrus (frames 5434-5448)
C - D	5452-5512	15:39:14	16:07:13	"	10% cirrus (frames 5453-5454); 10-40% cirrus (frames 5456-5458); 10-50% cirrus and cirro-cumulus (frames 5470-5477); 10-30% cumulus (frames 5484-5493); 10-40% cumulus and cirrus (frames 5497-5512)
E - F	5513-5552	16:11:22	16:29:18	"	10-30% cumulus (frames 5513-5523); 10% cirro-cumulus (frame 5552)
G - H	5553-5572	16:35:11	16:43:41	"	10-30% cumulus (frames 5553-5558); 10% cumulus (frames 5561-5566); processing residue (frames 5568-5572)
I - J	5573-5581	16:52:47	16:56:07	"	10% cumulus (frame 5581)

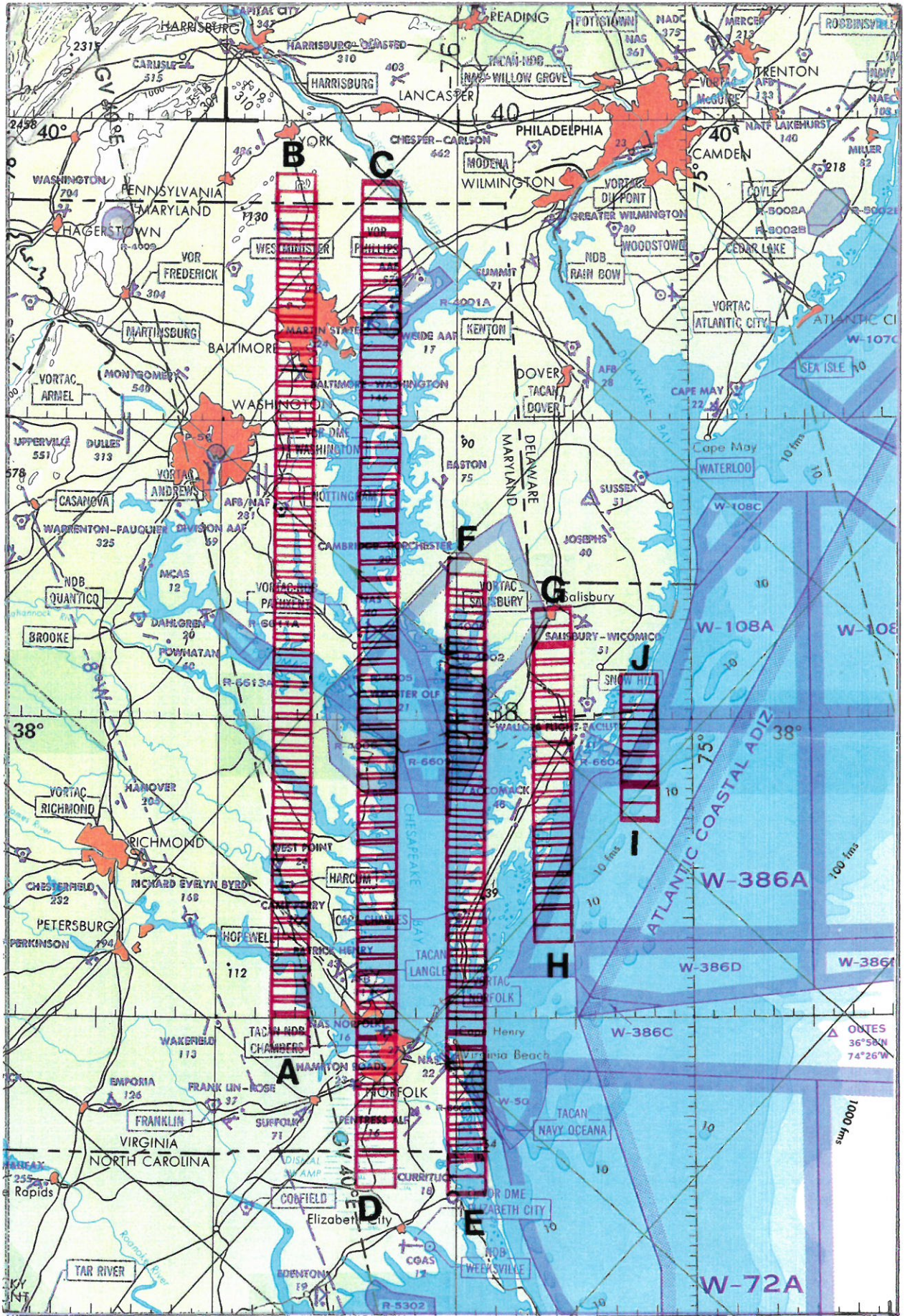


FLIGHT 91-099 15 June 1991 A/C 709 IRIS / RC-10 / LAC









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Accession # 04231

RC-10

A/C 709

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