FLIGHT SUMMARY REPORT

Flight #: 90-136

Date: 26 August 1990

Sensor Package: Wild-Heerbrug RC-10
Dual Hycon HR-732

Area(s) Covered: Indiana

Investigator(s): Weber, USDA

Aircraft #: 706

Flight Request: 90R258

Julian Date: 238

SENSOR DATA

Accession #:	04099	04100	04101
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	Aerial Color SO-242
Filtration:	cc.30B	cc.40B	None
Spectral Band:	510-900 nm	510-900 nm	400-700 nm
f Stop:	4	8	8
Shutter Speed:	1/200	1/75	1/75
# of Frames:	79	150	150
% Overlap:	60	60	60
Quality:	Excellent	Excellent	Excellent

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 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. 90-136

Accession # 04099

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	6878-6887	16:28:04	16:32:41	65000/19800	10-20% cumulus (frames 6878-6887)
C - D	6888-6892	16:35:43	16:37:38	"	10% cumulus (frames 6888-6892)
E - F	6893-6913	16:42:08	16:51:38	"	10-30% cumulus (frames 6899-6909); 10% cumulus (frames 6911-6912)
G - H	6914-6934	16:54:57	17:04:37	"	10-30% cumulus (frames 6915-6927)
I - J	6935-6939	17:09:08	17:11:11	"	10% cumulus (frames 6938-6939)
K - L	6940-6942	17:16:47	17:17:53	"	10-40% cumulus (frames 6940-6942)
M - N	6943-6946	17:21:26	17:23:00	"	10% cumulus (frame 6946)
O - P	6947-6950	17:26:34	17:28:09	"	10% cumulus (frames 6947-6948)
Q - R	6951-6955	17:31:17	17:33:21	"	10% cumulus (frame 6951)
S - T	6956	17:57:36	17:57:36	"	40% cumulus; clearing frame @ N38° 36'/W 082° 56'

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-136

Accession # 04100

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	0001-0020	16:27:33	16:32:11	65000/19800	Minor-40% scattered cumulus
C - D	0021-0028	16:35:12	16:36:55	"	Minor-20% scattered cumulus (frames 0022-0028)
E - F	0029-0068	16:41:36	16:51:09	"	Minor-30% scattered cumulus (frames 0033-0061); minor-10% scattered cumulus (frames 0064-0065)
G - H	0069-0108	16:54:25	17:03:58	"	Minor scattered cumulus; minor-10% scattered cumulus (frames 0072-0076); minor-50% scattered cumulus (frames 0079-0097)
I - J	0109-0118	17:08:36	17:10:48	"	10% scattered cumulus (frames 0115-0118)
K - L	0119-0124	17:16:15	17:17:29	"	10-60% scattered cumulus
M - N	0125-0133	17:20:54	17:22:51	"	10% scattered cumulus (frames 0132-0133)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-136

Accession # 04100

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
O - P	0134-0141	17:26:03	17:27:45	65000/19800	Minor-10% scattered cumulus (frames 0134-0137)
Q - R	0142-0150	17:30:46	17:32:43	"	Minor-10% scattered cumulus (frames 0142-0144); minor cumulus (frames 0149-0150); stepwedge overprinted (frame 0150)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-136

Accession # 04101

Sensor # 019

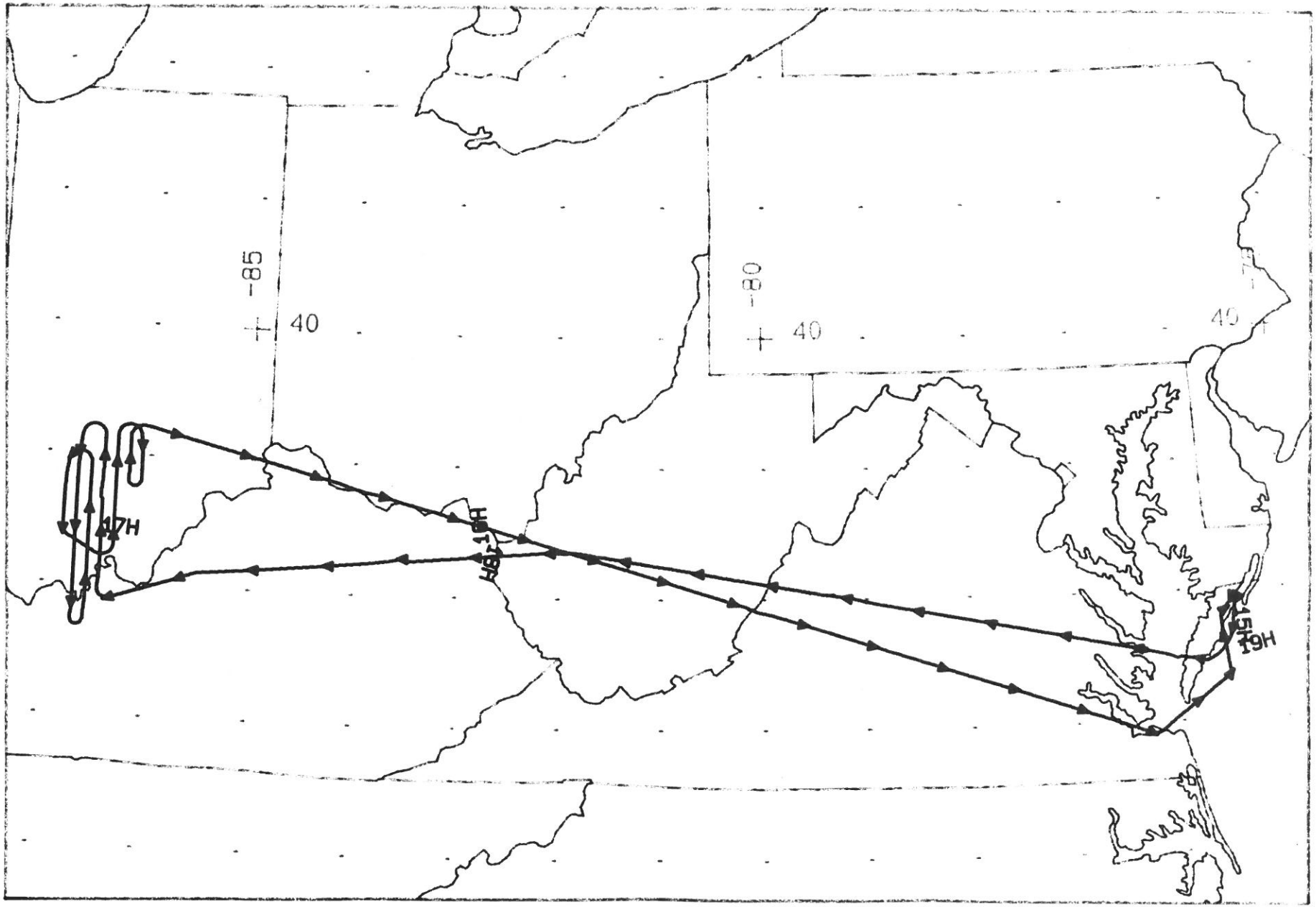
Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	0001-0020	16:27:30	16:32:08	65000/19800	Minor-40% scattered cumulus
C - D	0021-0028	16:35:09	16:36:51	"	Minor-20% scattered cumulus (frames 0022-0028)
E - F	0029-0068	16:41:33	16:51:05	"	Minor-30% scattered cumulus (frames 0033-0061); minor-10% scattered cumulus (frames 0064-0065)
G - H	0069-0108	16:54:22	17:03:58	"	Minor scattered cumulus; minor-10% scattered cumulus (frames 0072-0076); minor-50% scattered cumulus (frames 0079-0097)
I - J	0109-0118	17:08:33	17:10:48	"	10% scattered cumulus (frames 0115-0118)
K - L	0119-0124	17:16:12	17:17:29	"	10-60% scattered cumulus
M - N	0125-0133	17:20:51	17:22:51	"	10% scattered cumulus (frames 0132-0133)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-136

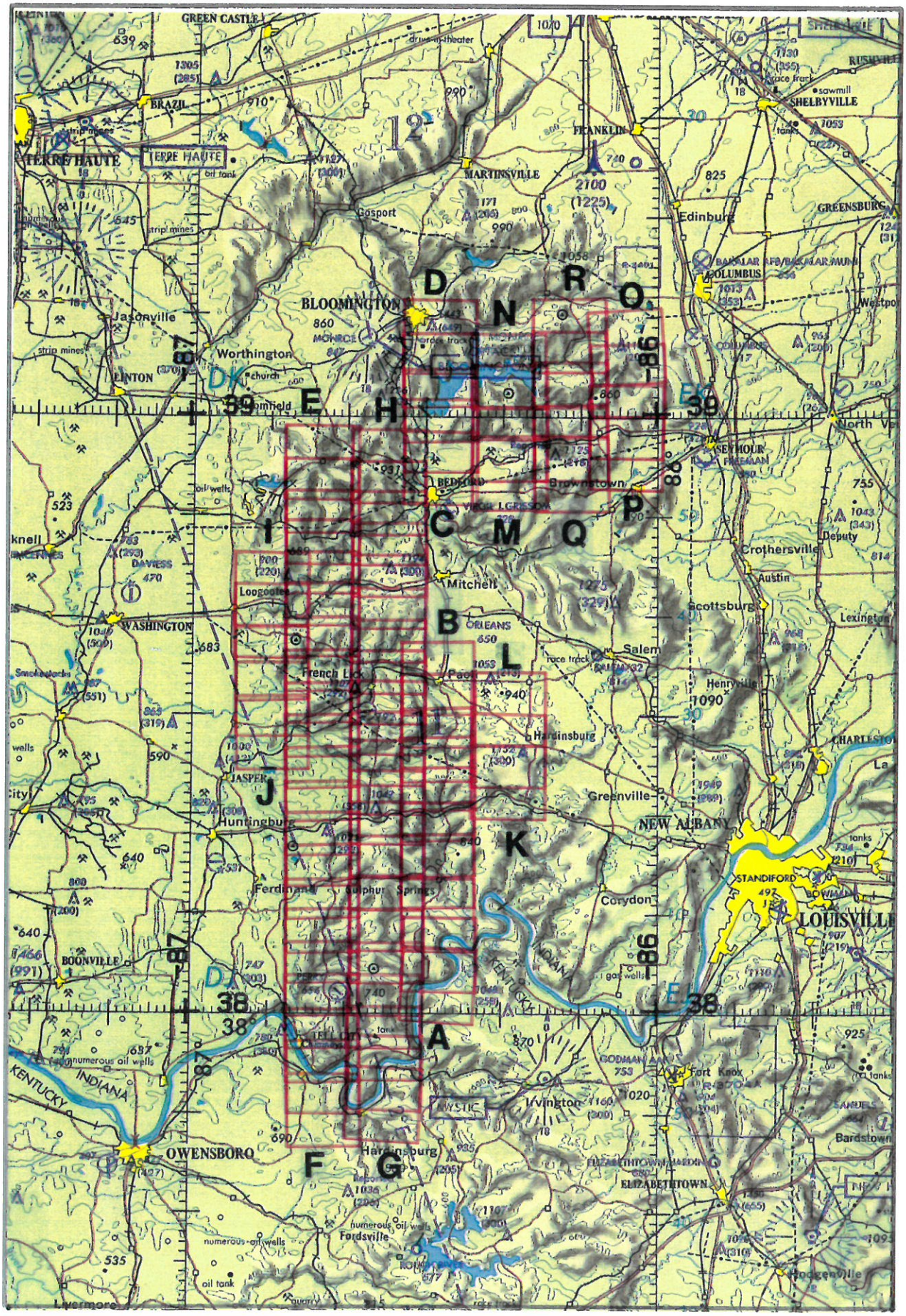
Accession # 04101

Sensor # 019

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
O - P	0134-0141	17:25:59	17:27:42	65000/19800	Minor-10% scattered cumulus (frames 0134-0137)
Q - R	0142-0150	17:30:42	17:32:40	"	Minor-10% scattered cumulus (frames 0142-0144); minor cumulus (frames 0149-0150); stepwedge overprinted (frame 0150)



FLIGHT 90-136 26 August 1990 A/C 706 Dual HR-732 / RC-10



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