

# FLIGHT SUMMARY REPORT

**Flight #:** 90-121  
**Date:** 12 August 1990  
**Sensor Package:** Wild-Heerbrug Dual RC-10  
 Wild-Heerbrug RC-10  
 Hycon HR-732  
**Area(s) Covered:** Alberta Canada Transect

**Investigator(s):** Weber, USDA  
**Flight Request:** 90R258

**Aircraft #:** 706  
**Julian Date:** 224

## SENSOR DATA

Accession #:	-----	-----	-----	-----
<b>Sensor ID #:</b>	033	035	076	018
<b>Sensor Type:</b>	RC-10	RC-10	RC-10	HR-732
<b>Focal Length:</b>	6" 153.17 mm	6" 153.46 mm	12" 304.89 mm	24" 609.6 mm
<b>Film Type:</b>	Agfa Pan 50	Panatomic-X Aerographic II EK-2412	Agfa Pan 50	High Definition Aerochrome IR SO-131
<b>Filtration:</b>	Wratten-12	Wratten-12	Wratten-12	cc.10B
<b>Spectral Band:</b>	510-750 nm	510-700 nm	510-750 nm	510-900 nm
<b>f Stop:</b>	5.6	5.6	5.6	8
<b>Shutter Speed:</b>	1/150	1/150	1/300	1/75
<b># of Frames:</b>	153	150	300	558
<b>% Overlap:</b>	60	60	60	60
<b>Quality:</b>	Excellent	Excellent	Excellent	Excellent
<b>Remarks:</b>		Clock set for PDT -- add 7 hours for correct GMT		

## 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.

## 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

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 90-121**

Accession # \_\_\_\_\_

Sensor # 033

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	3505-3579	18:01:16	19:09:07	65000/19800	10-30% cumulus and cirrus (frames 3505-3522); 10% cumulus (frames 3546-3555, 3558-3579)
C - D	3580-3586	19:14:19	19:19:10	"	10-20% cumulus (frames 3580-3586)
E - F	3587-3592	19:22:33	19:26:57	"	10% cumulus (frames 3589-3592)
G - H	3593-3650	19:30:04	20:22:07	"	10-40% cumulus (frames 3593-3628) 10-70% cumulus and cirrus (frames 3644-3650)
I - J	3651-3657	20:29:37	20:35:09	"	10-40% cumulus (frames 3651-3657)

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 90-121**

Accession # \_\_\_\_\_

Sensor # 035

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0840-0913	18:01:57	19:09:50	65000/19800	10-30% cumulus and cirrus (frames 0840-0856); 10% cumulus (frames 0881-0888, 0892-0913)
C - D	0914-0920	19:15:03	19:19:53	"	10-20% cumulus (frames 0914-0920)
E - F	0921-0926	19:23:17	19:27:38	"	10% minor cumulus (frames 0923-0926)
G - H	0927-0983	19:30:45	20:22:51	"	10-40% cumulus (frames 0927-0961); 10-70% cirrus and cumulus (frames 0978-0983)
I - J	0984-0989	20:30:20	20:35:00	"	10-40% cumulus (frames 0984-0989)

**CAMERA FLIGHT LINE DATA**  
**FLIGHT NO. 90-121**

Accession # \_\_\_\_\_

Sensor # 076

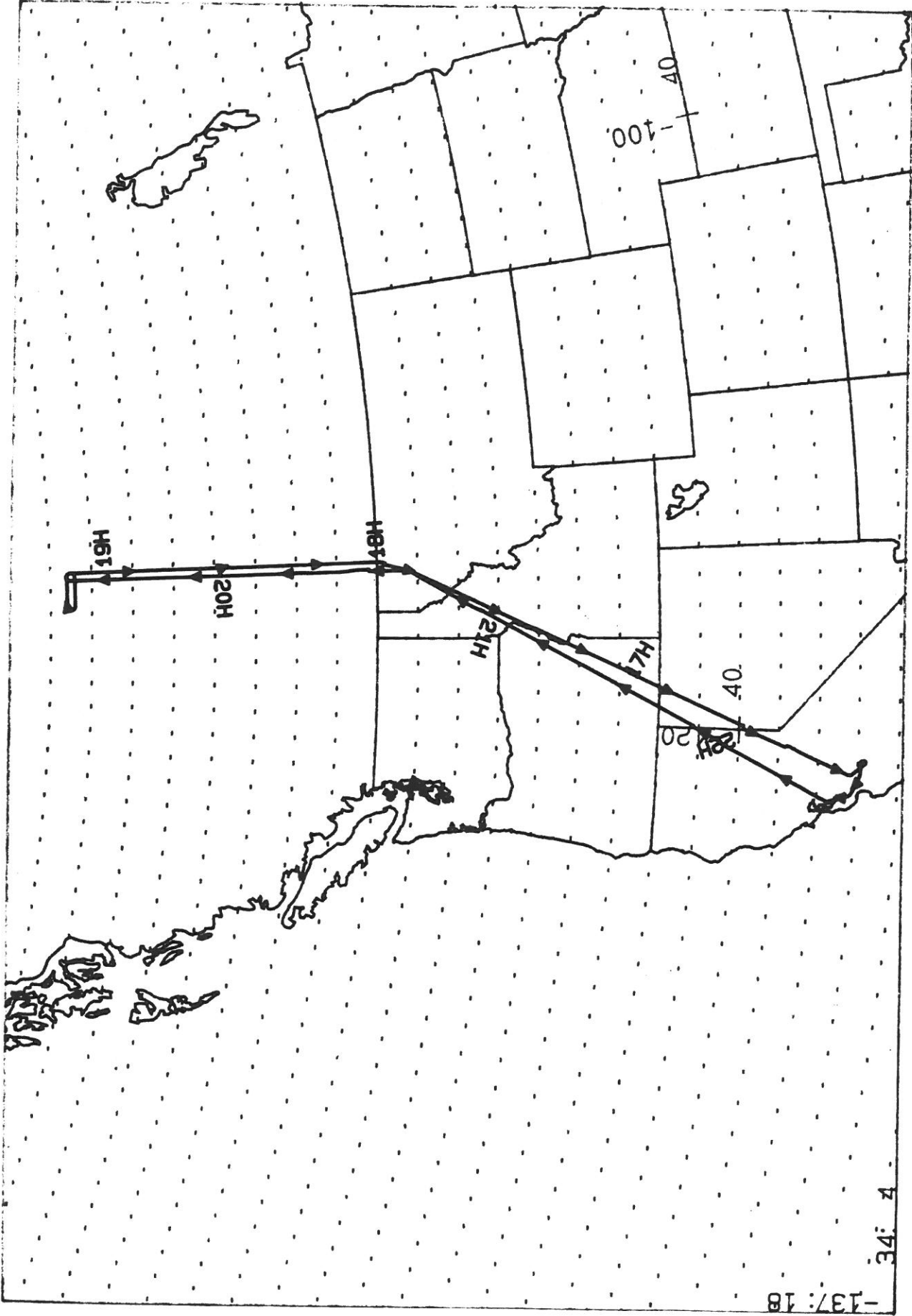
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	6366-6513	18:01:04	19:08:48	65000/19800	Previous pre-flight exposed on first 4 frames; 10% cumulus (frames 6366-6369); 10-20% cirrus and cumulus (frames 6373-6380); 10-30% cirrus and cumulus (frames 6382-6399); 10% cumulus (frames 6451-6453, 6457-6464); 10-20% cumulus (frames 6473-6489, 6492-6513)
C - D	6514-6525	19:14:07	19:18:49	"	10-20% cumulus (frames 6514-6525)
E - F	6526-6536	19:22:22	19:26:36	"	10% cumulus (frames 6532-6536)
G - H	6537-6651	19:29:50	20:22:06	"	10-60% cumulus (frames 6537-6605); film splice (frame 6610)
I - J	6652-6665	20:29:26	20:35:04	"	10-90% cirrus and cumulus (frames 6640-6651); 10-40% cumulus (frames 6652-6665)

**CAMERA FLIGHT LINE DATA  
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Accession # \_\_\_\_\_

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0279	18:00:32	19:08:15	65000/19800	10% cumulus (frames 0001-0005); 10-40% cirrus and cumulus (frames 0013-0062); 10% cumulus (frames 0160-0165, 0169-0170, 0174-0187); 10-20% cumulus (frames 0202-0219, 0223-0232, 0240-0246, 0248-0253, 0256-0259, 0262-0267, 0271-0279)
C - D	0280-0300	19:13:33	19:18:25	"	10-20% cumulus (frames 0280-0299)
E - F	0301-0320	19:21:47	19:26:25	"	10% cumulus (frames 0311-0320)
G - H	0321-0533	19:29:40	20:21:24	"	10-40% cumulus (frames 0321-0371, 0374-0425, 0429-0446); 10-90% cirrus and cumulus (frames 0514-0533)
I - J	0534-0558	20:28:51	20:34:42	"	10-60% cumulus (frames 0534-0558)

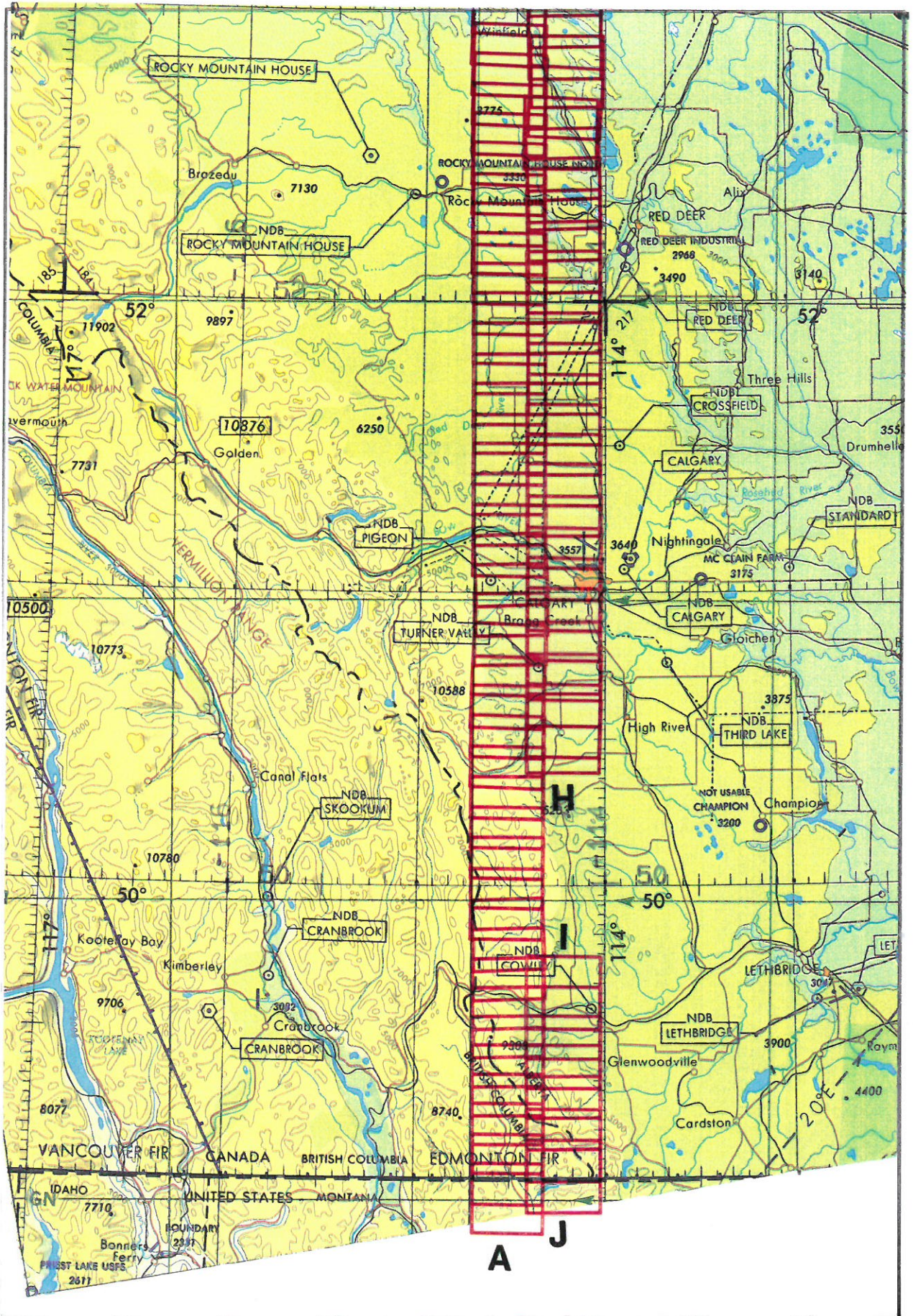


FLIGHT 90-121

OVERLAY FOR XCHRLD LAMBERT CONFORMAL PROJECTION: SP1 = 33.5 SP2 = 53.3 CM = -118.2 ROTATED BY 0.0

16:01:05 TO 22:55:45 UT SCALE = 1:1.47E+07 TIME TICS EVERY 20.00 MINUTES





FLIGHT 90-121 12 August 1990 HR-732 (S0131) / Dual 6" RC-10 (Pan 50 & 2412) / 12" RC-10 (Pan 50) JNC 18

8



