FLIGHT SUMMARY REPORT

Flight #: 90-130

Date: 14 August 1990

Sensor Package: Wild-Heerbrug RC-10
Airborne Visible and Infrared Imaging Spectrometer (AVIRIS)

Area(s) Covered: Canada/Oregon

Investigator(s): Rowan, USGS
Staenz, Canada Centre of Remote Sensing

Aircraft #: 708

Flight Request: 90L211 and 90R259

Julian Date: 226

SENSOR DATA

Accession #:	-----	04096	-----
Sensor ID #:	031	031	099
Sensor Type:	RC-10	RC-10	AVIRIS
Focal Length:	6" 153.05 mm	6" 153.05 mm	-----
Film Type:	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131	-----
Filtration:	cc.10B	cc.10B	-----
Spectral Band:	510-900 nm	510-900 nm	-----
f Stop:	4	4	-----
Shutter Speed:	1/100	1/100	-----
# of Frames:	23	37	-----
% Overlap:	60	60	-----
Quality:	Excellent	Excellent	-----
Remarks:	Canadian coverage		

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 sensor used for data collection during this flight.

Airborne Visible and Infrared Imaging Spectrometer

The Airborne Visible and Infrared Imaging Spectrometer (AVIRIS) is the second in the series of imaging spectrometer instruments developed at the Jet Propulsion Laboratory (JPL) for earth remote sensing. This instrument uses scanning optics and four spectrometers to image a 614 pixel swath simultaneously in 224 contiguous spectral bands (0.4-2.4 μm).

AVIRIS parameters are as follows:

IFOV:	1 mrad
Ground Resolution:	66 feet (20 meters) at 65,000 feet
Total Scan Angle:	30°
Swath Width:	5.7 nmi (10.6 km) at 65,000 feet
Spectral Coverage:	0.41-2.45 μm
Pixels/Scan Line:	614
Number of Spectral Bands:	224
Digitization:	10-bits
Data Rate:	17 MBPS

Spectrometer	Wavelength Range	Number of Bands	Sampling Interval
1	0.41 - 0.70 μm	31	9.4 nm
2	0.68 - 1.27 μm	63	9.4 nm
3	1.25 - 1.86 μm	63	9.7 nm
4	1.84 - 2.45 μm	63	9.7 nm

All AVIRIS data is decommutated and archived at JPL and not currently available for public distribution. For further information contact Rob Greene at Jet Propulsion Laboratory, 4800 Oak Grove Drive, Mail Stop 11-116, Pasadena, California 91109-8099.

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-130

Accession # 04096

Sensor # 031

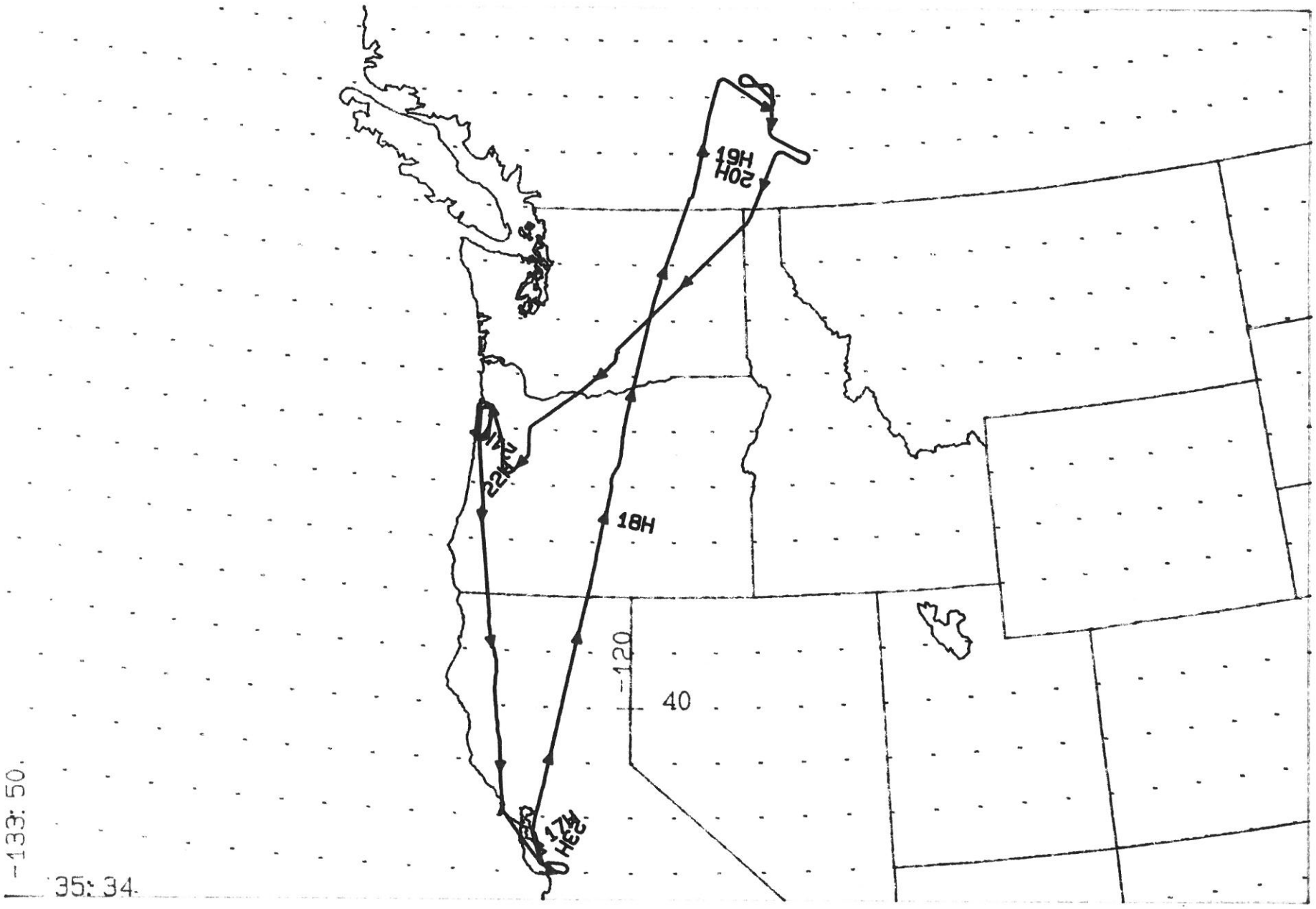
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
K - L	2667-2670	20:56:46	20:59:21	65000/19800	Minor smoke; 10% cumulus (frames 2669-2670)
M - N	2671-2674	21:06:35	21:08:52	"	10-20% strato cumulus (frames 2673-2674)
O - P	2675-2678	21:18:32	21:20:43	"	10-40% strato cumulus
O - P	2679-2682	21:32:49	21:35:16	"	10-40% strato cumulus (frames 2679-2681)
O - Q	2683-2703	21:44:44	22:02:20	"	10-40% strato cumulus (frames 2683-2684); 10-20% cumulus (frames 2694-2703); minor smoke obstruction (frames 2701-2702)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-130

Accession # _____

Sensor # 031

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	2644-2649	19:15:51	19:19:34	65000/19800	20-40% scattered cumulus
C - D	2650-2653	19:24:15	19:26:32	"	10% scattered cumulus
E - F	2654-2657	19:32:12	19:34:38	"	10-30% scattered cumulus
G - H	2658-2662	19:44:04	19:46:58	"	10-20% scattered cumulus (frames 2658-2659)
I - J	2663-2666	19:52:14	19:54:23	"	Clear



FLIGHT 90-130

OVERLAY FOR %CWUSA LAMBERT CONFORMAL PROJECTION: SP1 = 34.6 SP2 = 49.0 CM = -119.6 ROTATED BY 0.0

17: 00: 35 TO 23: 20: 30 UT SCALE = 1: 1.08E+07 TIME TICS EVERY 20.00 MINUTES

FLIGHT 90-130 14 August 1990 AVIRIS / RC-10 Accession # 04096 (Canadian coverage not accessioned) JNC 10

FLIGHT 90-130 14 August 1990 AVIRIS / RC-10 Accession # 04096 (Canadian coverage not accessioned) JNC 43