

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 a four-line arrays of detectors to image a 614 pixel swath simultaneously in 224 contiguous spectral bands (0.4-2.4 μm).

AVIRIS PARAMETERS

IFOV:	1 mrad
GIFOV (at 20 km):	20 m
FOV:	30 Deg
GFOV (at 20 km):	11 km
Spectral Coverage:	0.41 - 2.45 μm
Number of Spectral Bands:	224
Digitization:	10 Bits
Data Rate:	17 MBPS

<u>Spectrometer</u>	<u>Wavelength Range</u>	<u>Number of Bands</u>	<u>Sampling Interval</u>
1	0.41 - 0.70 <i>um</i>	31	9.4 nm
2	0.68 - 1.27 <i>um</i>	63	9.4 nm
3	1.25 - 1.86 <i>um</i>	63	9.7 nm
4	1.84 - 2.45 <i>um</i>	63	9.7 nm

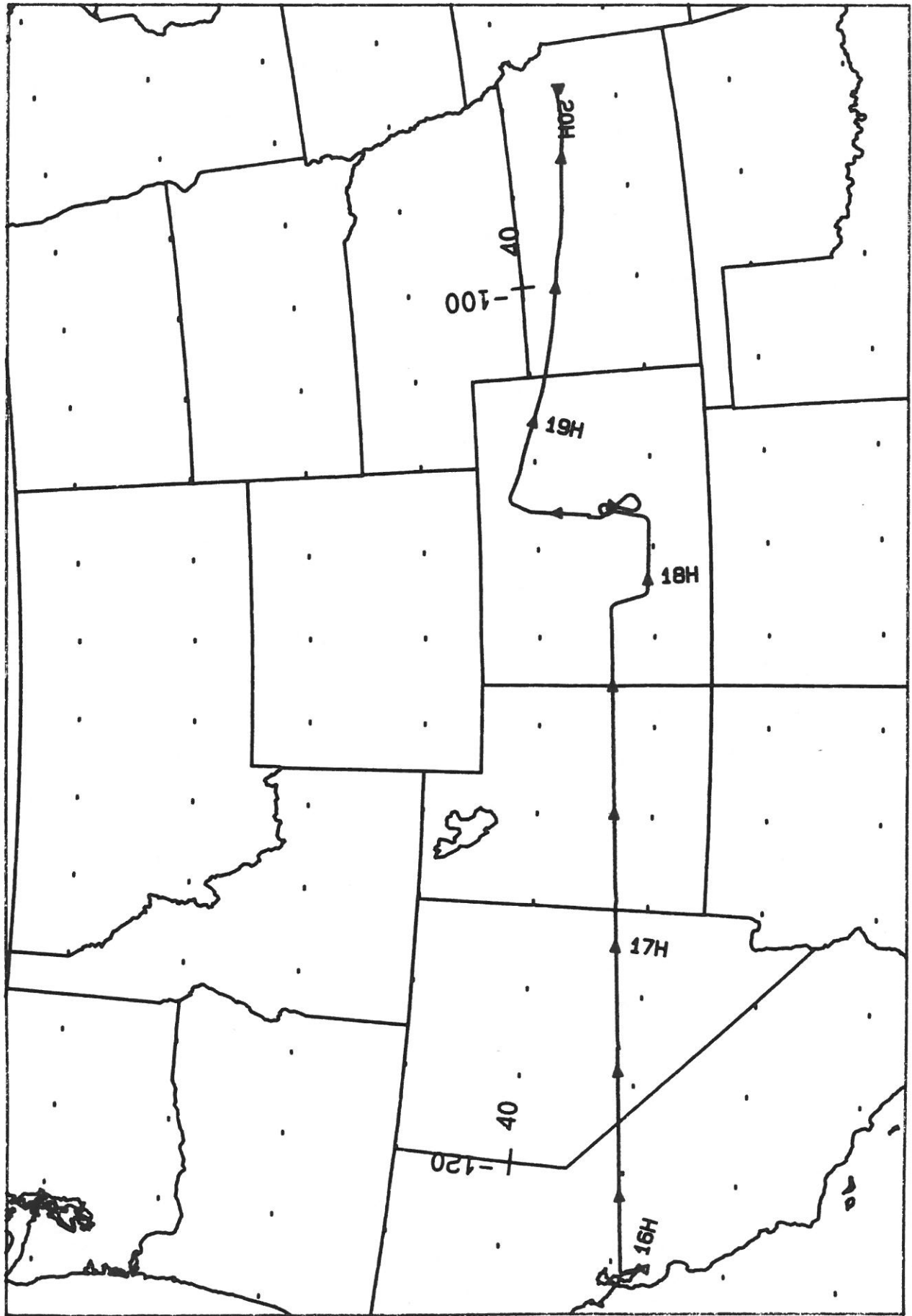
All AVIRIS data is decommutated and archived at JPL and not currently available for public distribution. For further information contact Rob Greene at Jet Propulsion Laboratory, 4800 Oak Grove Drive, Mail Stop 11-116, Pasadena, California 91109-8099.

CAMERA FLIGHT LINE DATA
 FLIGHT NO. 90-010

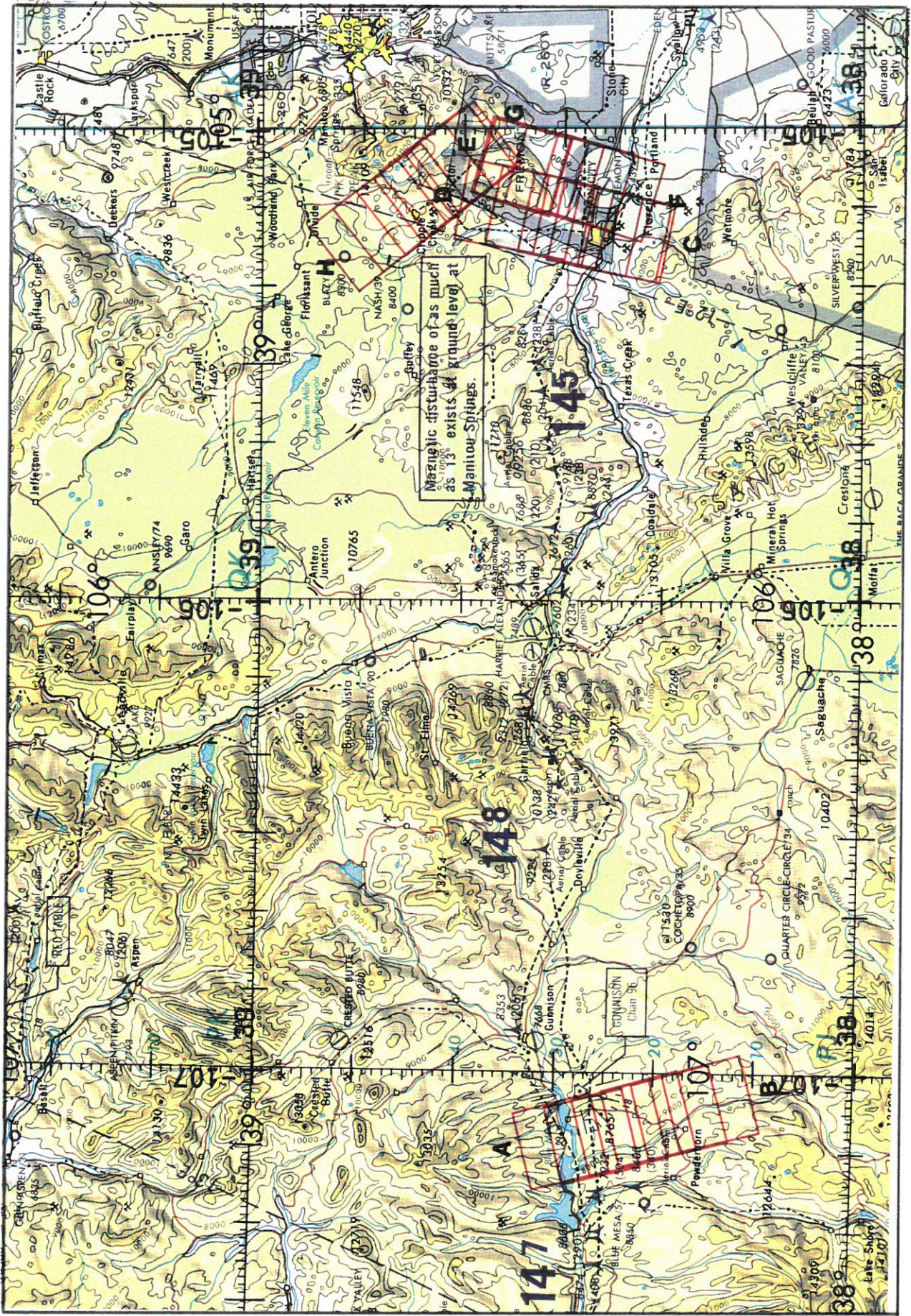
Accession No. 03961

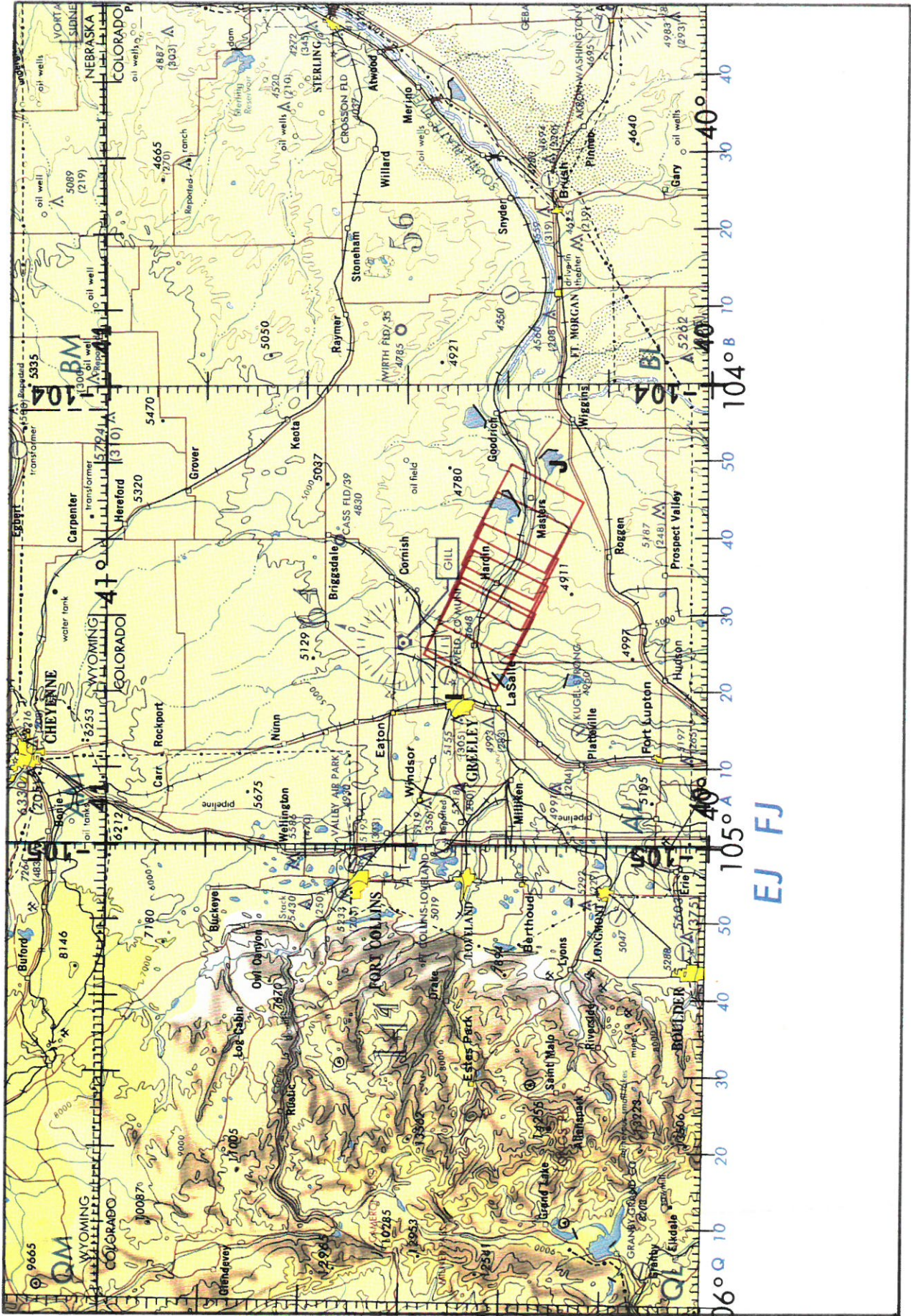
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	2686-2691	17:55:48	17:58:06	65000/19800	Clear
C - D	2692-2697	18:13:25	18:15:20	"	Clear
E - F	2698-2702	18:22:20	18:23:47	"	Clear
G - H	2703-2708	18:31:32	18:33:26	"	Clear
I - J	2709-2714	18:51:07	18:53:01	"	Clear

Sensor #
026



FLIGHT 90-010 10 October 1989 A/C 708 AVIRIS / RC-10





EJ FJ