

# FLIGHT SUMMARY REPORT

**Flight Number:** 95-089  
**Calendar/Julian Date:** 09 May 1995 • 129  
**Sensor Package:** Airborne Visible and Infrared Imaging Spectrometer (AVIRIS)  
**Area(s) Covered:** Ivanpah Playa, CA

**Investigator(s):** Green, JPL

**Aircraft #:** 708

## SENSOR DATA

**Accession #:** -----  
**Sensor ID #:** 099  
**Sensor Type:** AVIRIS  
**Focal Length:** -----  
**Film Type:** -----  
**Filtration:** -----  
**Spectral Band:** -----  
**f Stop:** -----  
**Shutter Speed:** -----  
**# of Frames:** -----  
**% Overlap:** -----  
**Quality:** -----  
**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 a description of the digital multispectral sensor(s) and camera(s) 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  $\mu\text{m}$ ).

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 $\mu\text{m}$
Pixels/Scan Line:	614
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 $\mu\text{m}$	31	9.4 nm
2	0.68 - 1.27 $\mu\text{m}$	63	9.4 nm
3	1.25 - 1.86 $\mu\text{m}$	63	9.7 nm
4	1.84 - 2.45 $\mu\text{m}$	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 Green at Jet Propulsion Laboratory, 4800 Oak Grove Drive, Mail Stop 183-501, Pasadena, California 91109-8099.

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. 95-089**

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

Sensor # AVIRIS

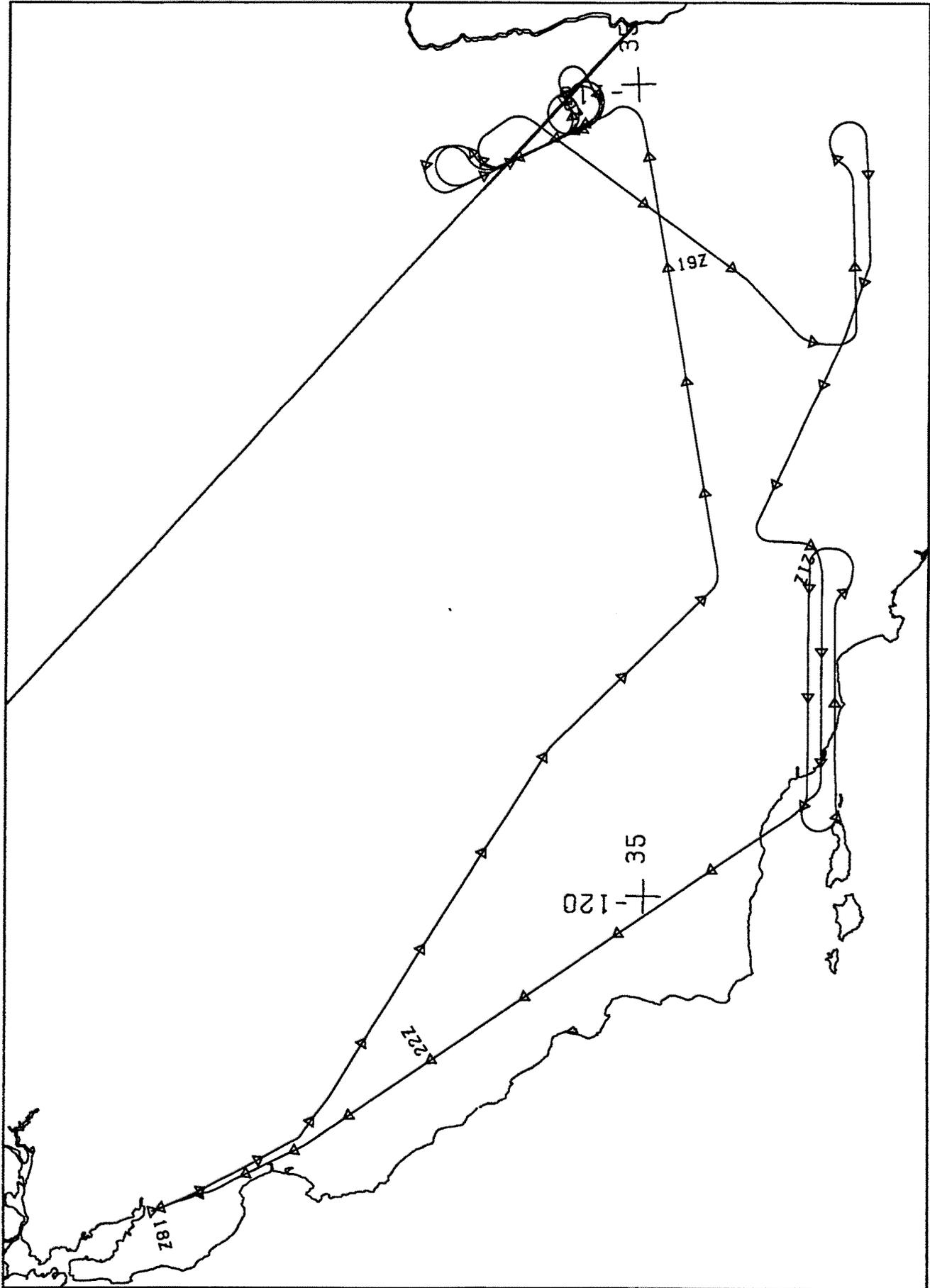
Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
				START	END		
---	---	1	---	---	---	---	---
---	---	2	---	19:09:30	19:13:30	65000/19800	Ivanpah Playa
---	---	3	---	19:20:00	19:24:00	"	Ivanpah Playa
---	---	4	---	19:30:00	19:31:00	"	Aborted run
---	---	5	---	19:37:15	19:40:45	"	Ivanpah Playa
---	---	6	---	19:48:30	19:52:30	"	Ivanpah Playa
---	---	7	---	20:00:30	20:04:00	"	Ivanpah Playa
---	---	8	---	20:29:00	20:33:45	"	Joshua Tree
---	---	9	---	20:39:15	20:44:00	"	Joshua Tree
---	---	10	---	21:02:00	21:11:00	"	Santa Monica

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 95-089**

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

Sensor # AVIRIS

Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
				START	END		
---	---	11	---	21:16:30	21:24:15	65000/19800	Santa Monica
---	---	12	---	21:30:00	21:39:30	"	Santa Monica
---	---	13	---	21:53:00	21:55:00	"	Dewar Check



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