FLIGHT SUMMARY REPORT

Flight Number: 97-096

Calendar/Julian Date: 01 May 1997 • 121

Sensor Package: Thematic Mapper Simulator (TMS)

Area(s) Covered: Railroad Valley, Nevada

Investigator(s): Functional Sensor Flight **Aircraft #:** 706

SENSOR DATA

Accession #: -----

Sensor ID #: 074

Sensor Type: TMS

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.

Thematic Mapper Simulator

The Daedalus Thematic Mapper Simulator (TMS) is a multispectral scanner flown aboard the ER-2 aircraft which simulates spatial and spectral characteristics of the seven Landsat-D Thematic Mapper bands. The specific bands are as follows:

Daedalus Channel	TM Band	Wavelength, *mm*
1	A	0.42 - 0.45
2	1	0.45 - 0.52
3	2	0.52 - 0.60
4	B	0.60 - 0.62
5	3	0.63 - 0.69
6	C	0.69 - 0.75
7	4	0.76 - 0.90
8	D	0.91 - 1.05
9	5	1.55 - 1.75
10	7	2.08 - 2.35
11	6	8.5 - 14.0 low gain
12	6	8.5 - 14.0 high gain

Sensor/aircraft parameters are as follows:

IFOV:	1.25 mrad
Ground Resolution:	81 feet (25 meters) at 65,000 feet
Total Scan Angle:	43^{o}
Swath Width:	8.4 nmi (15.6 km) at 65,000 feet
Pixels/Scan Line:	716
Scan Rate:	12.5 scans/second
Ground Speed:	400 kts (206 m/second)

Information on data tape format, logical record format, and scanner calibration data may be obtained from the Aircraft Data Facility, NASA-Ames Research Center, Mail Stop 240-6, Moffett Field, California 94035-1000 (Telephone: 650-604-6252).

DAEDALUS FLIGHT DATA
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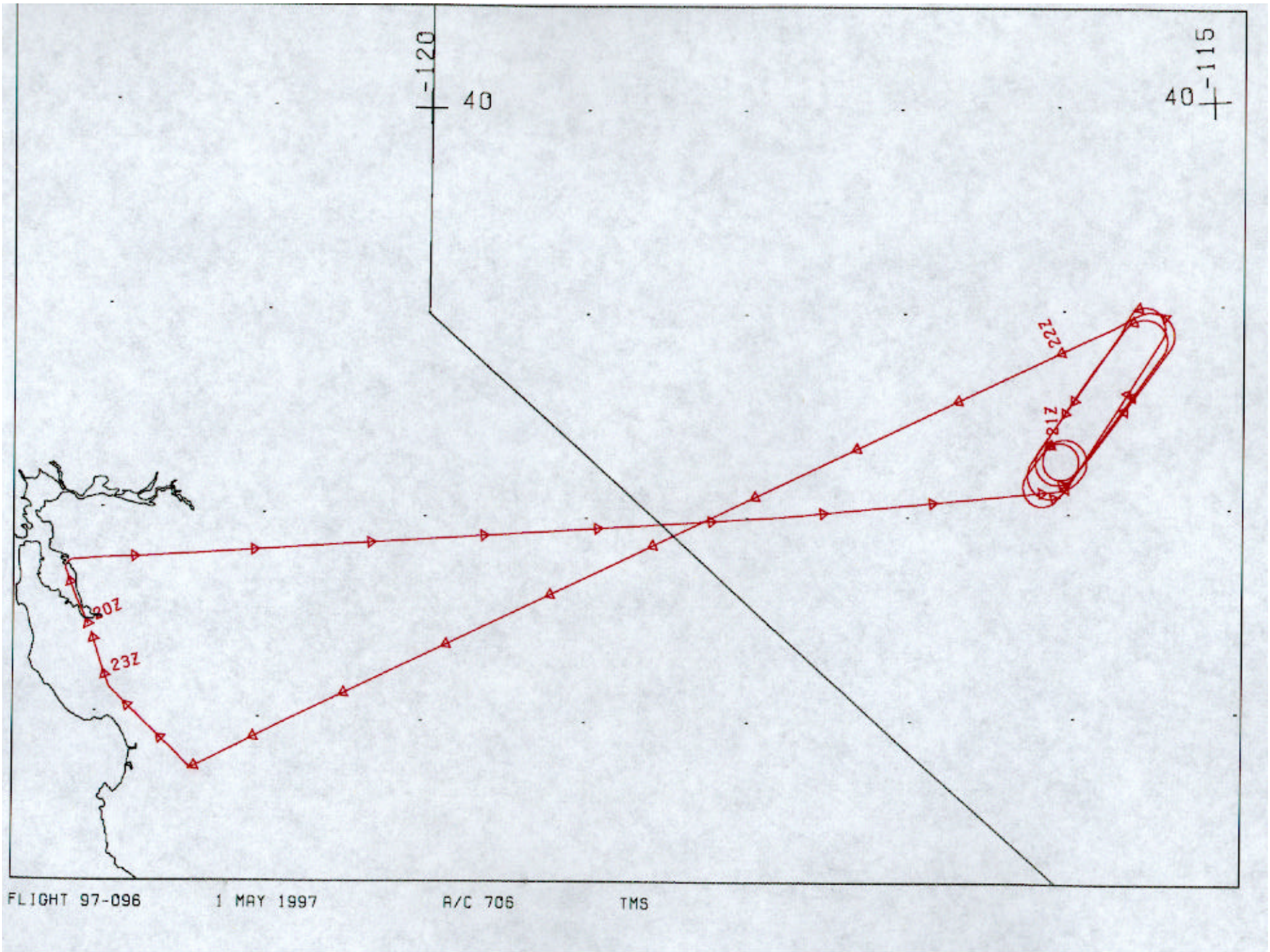
Check Points	Actual time (GMT) begin	Actual time (GMT) end	Actual scanline begin	Actual scanline end	Altitude feet/meter	Scan Speed (rps)	total Good scanlines	total Interpolated scanlines	total Repeated scanlines
A-B	20:30:12	20:51:00	29413	45013	67000/20422	12.5	15601	0	0
B-C	21:05:56	21:12:52	56213	61413	68400/20848	12.5	5201	0	0
D-E	21:17:08	21:22:44	64613	68813	69700/21245	12.5	4201	0	0
F-C	21:26:45	21:32:21	71813	76013	69250/21107	12.5	4201	0	0
G-E	21:38:29	21:42:45	80613	83813	69600/21214	12.5	3201	0	0
F-C	21:47:49	21:53:25	87613	91813	69700/21245	12.5	4201	0	0
D-H	21:57:57	22:30:03	95213	119292	69900/21306	12.5	24080	0	0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40
-115
40
22Z
21Z
20Z
23Z
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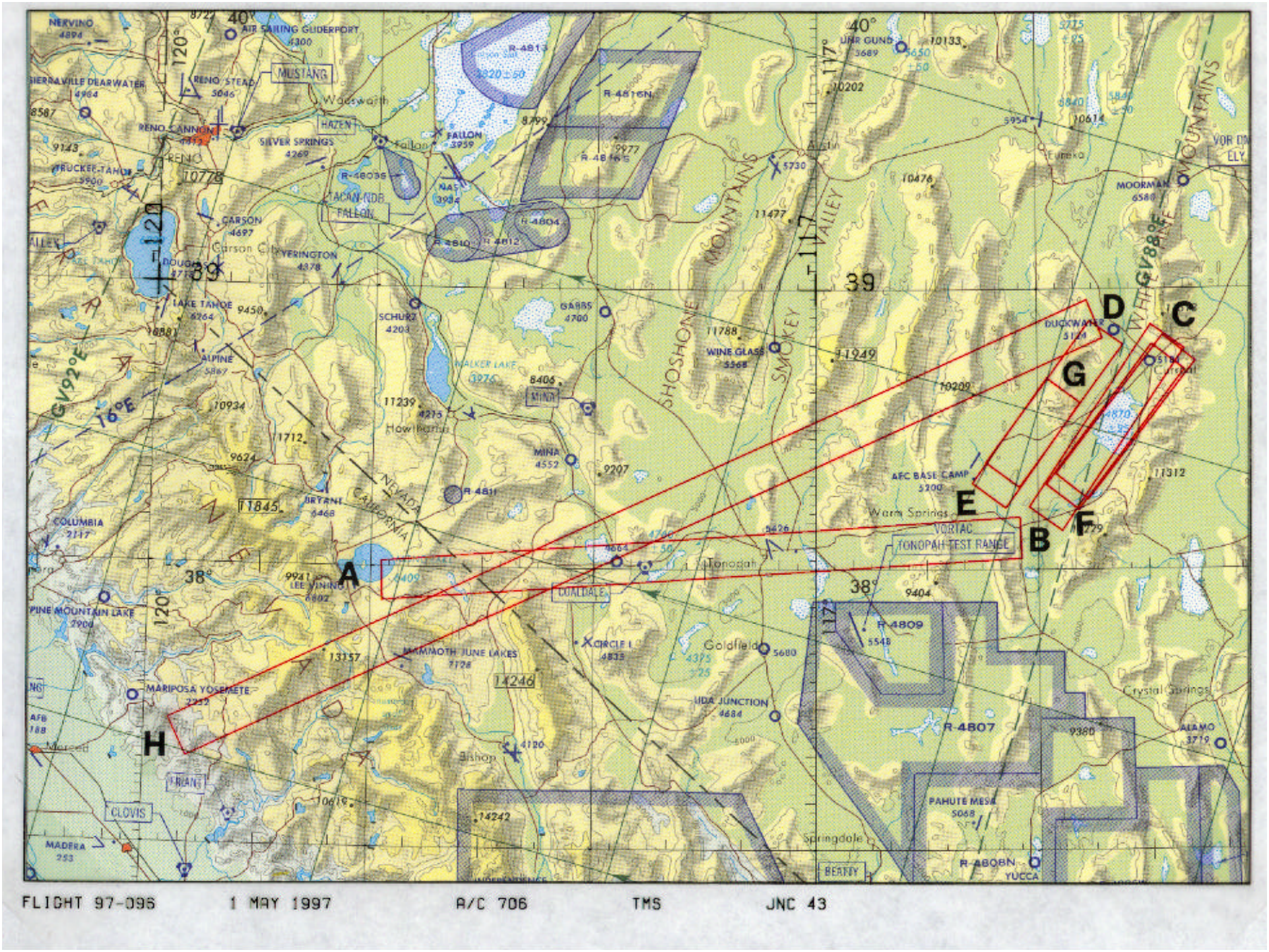

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