

FLIGHT SUMMARY REPORT

Flight #: 91-158
Date: 4 September 1991
Sensor Package: Dual Wild-Heerbrug RC-10
Area(s) Covered: Greater Monterey County Region,
California

Investigator(s): Lyford, U.S. Bureau of Reclamation
Flight Request: 91R105

Aircraft #: 709
Julian Date: 247

SENSOR DATA

Accession #:	04293	04294
Sensor ID #:	026	076
Sensor Type:	RC-10	RC-10
Focal Length:	12" 304.97 mm	12" 304.89 mm
Film Type:	High Definition Aerochrome IR SO131	Aerial Color SO-242
Filtration:	cc.10B	None
Spectral Band:	510-900 nm	400-700 nm
f Stop:	4	4
Shutter Speed:	1/200	1/200
# of Frames:	371	364
% Overlap:	60	60
Quality:	Excellent	Excellent
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 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:

<u>Daedalus Channel</u>	<u>TM Band</u>	<u>Wavelength, μm</u>
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°
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)

NOTE: Information on data tape format, logical record format, and scanner calibration data may be obtained from the NASA-Ames Aircraft Data Facility at (415) 604-6252 or FTS 464-6252.

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-158**

Accession # 04293

Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	8122-8130	18:31:57	18:35:48	65000/19800	Clear
C - D	8131-8145	18:39:51	18:46:14	"	Clear
E - F	8146-8157	18:52:08	18:57:21	"	Clear
G - H	8158-8174	19:00:58	19:08:35	"	Clear
I - J	8175-8201	19:16:48	19:28:42	"	Clear
K - L	8202-8234	19:32:10	19:47:03	"	10% minor coastal fog (frame 8202)
M - N	8235-8265	19:52:36	20:06:42	"	Clear
O - P	8266-8301	20:10:05	20:26:30	"	10-30% coastal fog (frames 8266-8267)
Q - R	8302-8340	20:31:50	20:49:14	"	10-80% coastal fog (frames 8336-8340)
S - T	8341-8366	20:54:26	21:05:43	"	10-100% coastal fog (frames 8341-8347)

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Sensor # 026

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
U - V	8367-8387	21:08:56	21:17:54	65000/19800	10-80% coastal fog (frames 8372-8379); 10-60% coastal fog (frames 8383-8387)
W - X	8388-8396	21:23:52	21:27:13	"	30-90% coastal fog (frames 8388-8396)
Y - Z	8397-8400	21:30:07	21:31:07	"	10-20% coastal fog (frames 8397-8398)
1 - 2	8401-8424	21:35:25	21:45:45	"	10% coastal fog (frames 8408-8412); 10-90% coastal fog (frames 8421-8424)
3 - 4	8425-8451	21:51:31	22:03:15	"	10-70% coastal fog (frames 8489-8492)
5 - 6	8452-8492	22:11:15	22:29:30	"	10-70% coastal fog (frames 8425-8430)

**CAMERA FLIGHT LINE DATA
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Accession # 04294

Sensor # 076

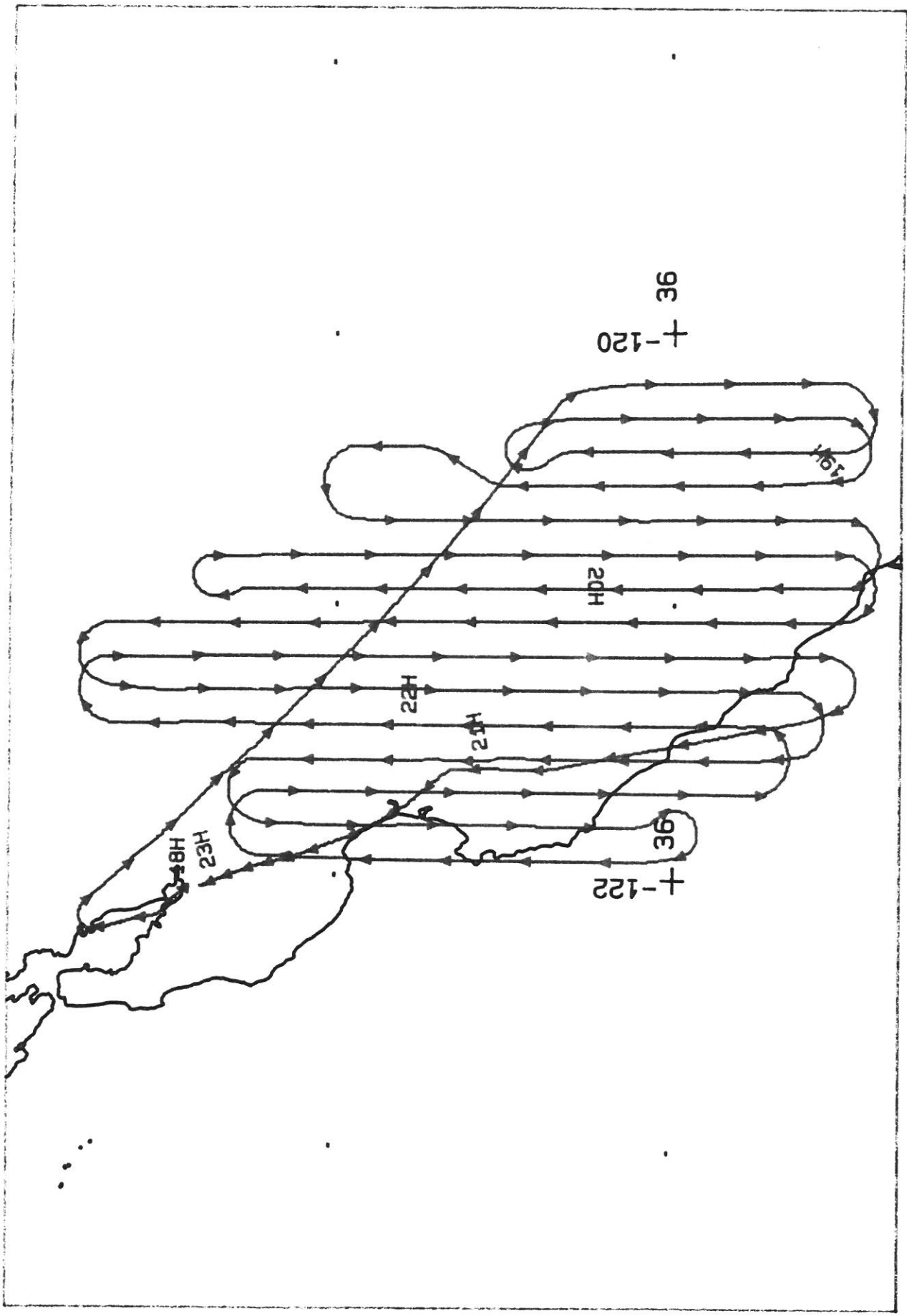
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	9144-9152	18:31:59	18:35:48	65000/19800	Clear
C - D	9153-9167	18:39:59	18:46:15	"	Clear
E - F	9168-9179	18:52:06	18:57:20	"	Clear
G - H	9180-9196	19:01:00	19:08:32	"	Clear
I - J	9197-9223	19:16:50	19:28:44	"	Clear
K - L	9224-9257	19:32:12	19:47:09	"	10% minor coastal fog (frame 9224)
M - N	9258-9288	19:52:38	20:06:41	"	Clear
O - P	9289-9324	20:10:07	20:26:35	"	10-30% coastal fog (frames 9289-9290)
Q - R	9325-9362	20:31:57	20:49:22	"	10-80% coastal fog (frames 9358-9362)
S - T	9363-9387	20:54:32	21:05:49	"	10-100% coastal fog (frames 9363-9368)

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Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
U - V	9388-9407	21:09:03	21:18:00	65000/19800	10-80% coastal fog (frames 9392-9400); 10-60% coastal fog (frames 9403-9407)
W - X	9408-9415	21:23:55	21:27:16	"	50-90% coastal fog (frames 9408-9415)
Y - Z	9416-9418	21:30:12	21:31:09	"	20% coastal fog (frame 9416)
1 - 2	9419-9441	21:35:33	21:45:53	"	10-20% coastal fog (frames 9425-9429); 10-90% coastal fog (frames 9438-9441)
3 - 4	9442-9467	21:51:38	22:03:24	"	10-80% coastal fog (frames 9442-9446)
5 - 6	9468-9507	22:11:22	22:29:44	"	10-90% coastal fog (frames 9504-9507)

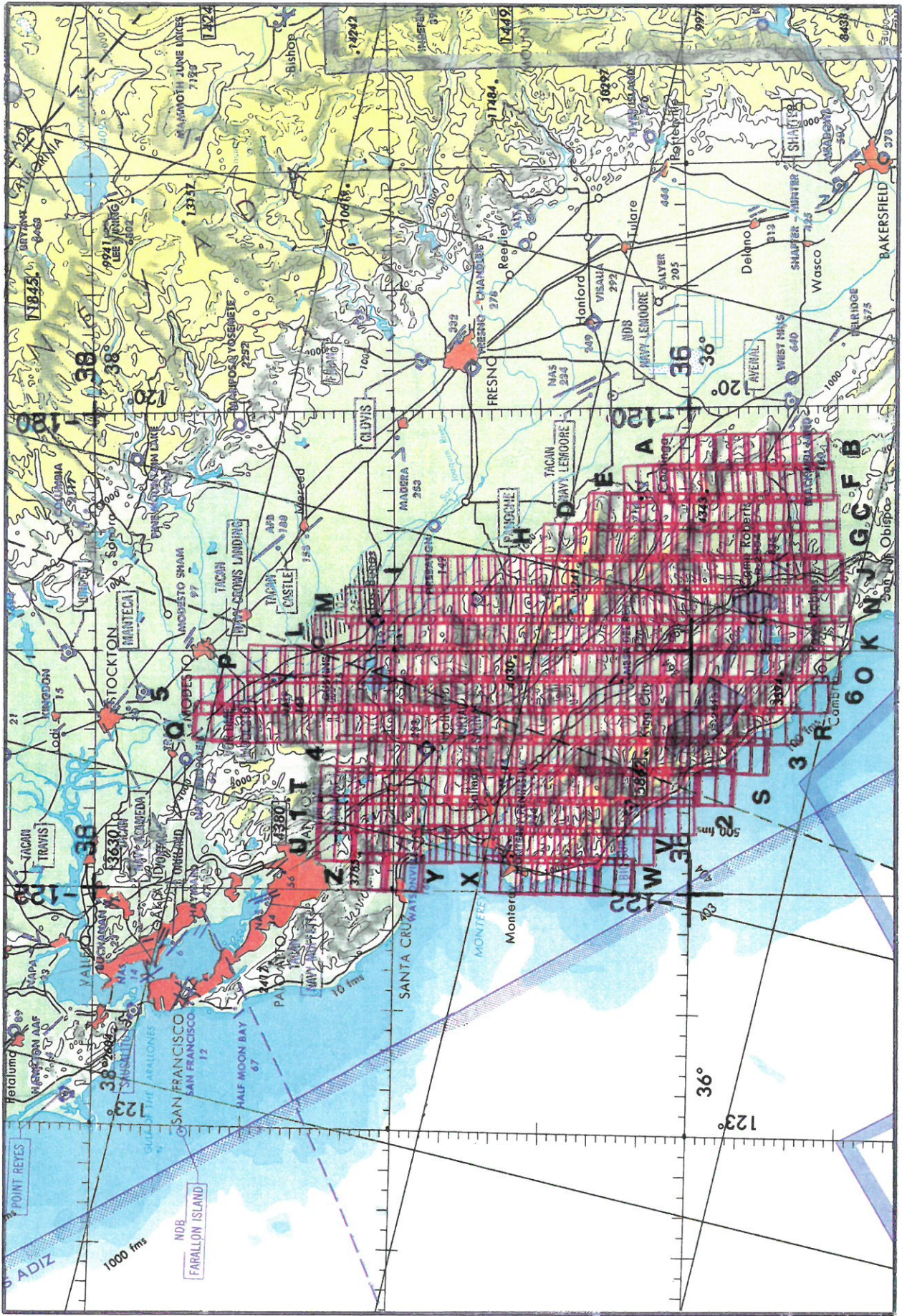


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A/C 709

Due1 RC-10 / TMS



FLIGHT 91-159

4 September 1991

A/C 709

Dual RC-10 / TMS

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JNC 43

