FLIGHT SUMMARY REPORT

Flight Number: 98-005-01

Calendar/Julian Date: 09 June 1998 • 160

Sensor Package: Wild Heerbrugg RC-30

Area(s) Covered: Needles, CA

Investigator(s): SO-060 Film Speed Test

Aircraft #: 799
Department of Energy
Cessna Citation

SENSOR DATA

Accession #: 05314

Sensor ID #: 017

Sensor Type: RC-30

Focal Length: 6”
152.75 mm

Film Type: Aerochrome IR
SO-060

Filtration: Wratten 12 + 2.2 AV

Spectral Band: 510-900 nm

f Stop: 4

Film Speed: Variable

# of Frames: 81

% Overlap: 60

Quality: Good

Remarks:

Airborne Science Program

The Airborne Science Program at NASA's Dryden Flight Research Center, Edwards, California, operates two ER-2 high altitude aircraft in support of NASA earth science research. 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.

Department of Energy Remote Sensing Laboratory

The NASA Airborne Science Program at Dryden Flight Research Center and Ames Research Center contracted with the Department of Energy Remote Sensing Laboratory (RSL) in Las Vegas, Nevada to acquire remote sensing data with the DOE Cessna Citation.

The Cessna Citation aircraft is a low and medium altitude, moderate speed aircraft. It can operate from 4,000 to 35,000 feet above sea level at speeds between 135 and 225 knots. There are two instrument ports in the aircraft for the operation of dual multispectral scanners or mapping cameras or a combination of a camera and scanner.

Camera Systems

Various camera systems and films are used for photographic data collection. Film types include high definition color infrared, natural color, and black and white emulsions. Available photographic systems are as follows:

- Wild-Heerbrugg RC-10/RC-30 metric mapping camera
  - 9 x 9 inch film format
  - 6 inch focal length lens provides area coverage of 16 x 16 nautical miles from 65,000 feet
  - 12 inch focal length lens provides area coverage of 8 x 8 nautical miles from 65,000 feet

- Hycon HR-732 large scale mapping camera
  - 9 x 18 inch film format
  - 24 inch focal length lens provides area coverage of 4 x 8 nautical miles from 65,000 feet

- IRIS II Panoramic camera
  - 4.5 x 34.7 inch film format
  - 24 inch focal length lens
  - 90 degree field of view provides area coverage of 2 x 21.4 nautical miles from 65,000 feet

The U.S. Geological Survey's EROS Data Center at Sioux Falls, South Dakota serves as the archive and product distribution facility for NASA-Ames aircraft acquired photographic and digital imagery. For information regarding photography and digital data (including areas of coverage, products, and product costs) contact EROS Data Center, Customer Services, Sioux Falls, South Dakota 57198 (Telephone: 605-594-6151).

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).

Data Availability

The U.S. Geological Survey's EROS Data Center at Sioux Falls, South Dakota serves as the archive and product distribution facility for Airborne Science Program aircraft acquired photographic and digital imagery. The photographic archive consists of photography acquired by the program from 1971 to April 1996. For information regarding photography and digital data (including areas of coverage, products, and product costs) contact EROS Data Center, Customer Services, Sioux Falls, South Dakota 57198 (Telephone: 605-594-6151).

As of April 1996 the EROS Data Center no longer receives an archive copy of newly acquired Airborne Science Program photography. Original photography is archived with the Airborne Sensor Facility at Ames Research Center. A user copy of the photography is provided to the principal investigators for each flight. Principal investigators are cited on the first page of their respective flight summary reports. For information regarding photography acquired from April 1996 to the present contact the Airborne Sensor Facility as follows:

Flight Documentation and Data Archive Searches

The following is the web site for flight documentation as published by the Airborne Sensor Facility at NASA Ames Research Center:

http://asapdata.arc.nasa.gov/er-2fsr.html

Additional information regarding flight documentation to include data archive searches, data availability, sensor parameters, and areas of coverage may be obtained from the following:

Airborne Sensor Facility
MS 240-6
NASA Ames Research Center
Moffett Field, CA 94035-1000
Telephone: (650)604-6252 (FAX 4987)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 98-005-01

Accession # 05314

Sensor # 017

Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	0001-0005	18:33:03	18:34:30	17500/5334	Clear; film speed 50
B - A	0006-0010	18:39:50	18:41:23	17500/5334	Clear; film speed 64
A - B	0011-0015	18:45:14	18:46:40	17500/5334	Clear; film speed 80
B - A	0016-0021	18:50:51	18:52:47	17500/5334	Clear; film speed 100
A - B	0022-0027	18:57:23	18:59:08	17500/5334	Clear; film speed 125
B - A	0028-0033	19:03:47	19:05:43	17500/5334	Cloud shadows; film speed 160
A - B	0034-0039	19:09:40	19:11:26	17500/5334	Clear; film speed 200
B - A	0040-0045	19:21:22	19:23:16	17500/5334	Clear; film speed 50
A - B	0046-0051	19:27:28	19:29:13	17500/5334	Clear; film speed 64
B - A	0052-0057	19:33:46	19:35:39	17500/5334	Cloud shadows; film speed 80; emulsion damage (frame 0052)
A - B	0058-0063	19:39:28	19:41:13	17500/5334	Cloud shadows; film speed 100

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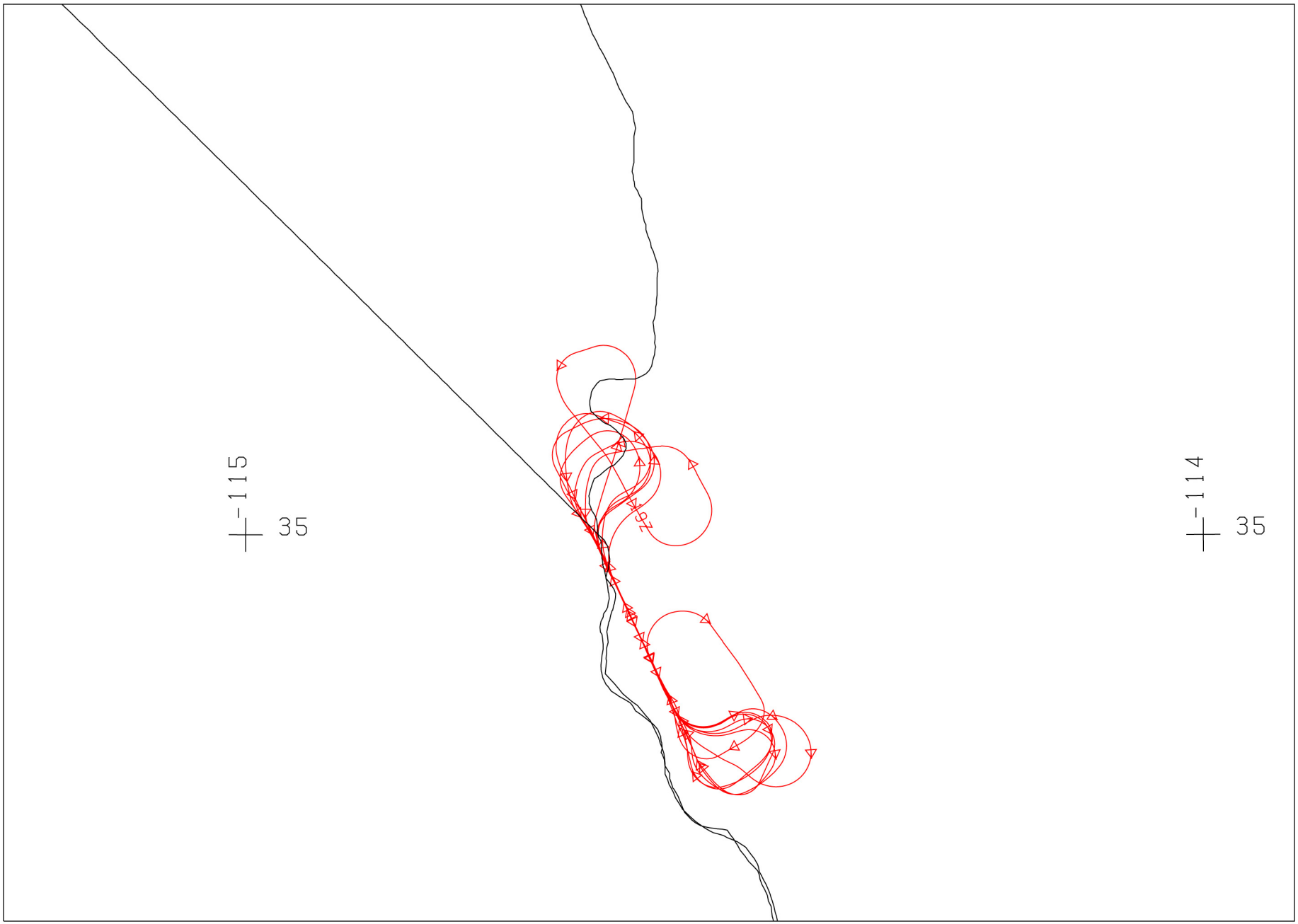
Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
B - A	0064-0069	19:45:11	19:47:04	17500/5334	Cloud shadows; film speed 125
A - B	0070-0073	19:50:31	19:51:12	17500/5334	Clear; film speed 160
B - A	0074-0081	19:55:20	19:57:26	17500/5334	Cloud shadows; film speed 200
	NOTE: FILM USED FOR FRAMES 0040-0081 STORED IN ALASKA				



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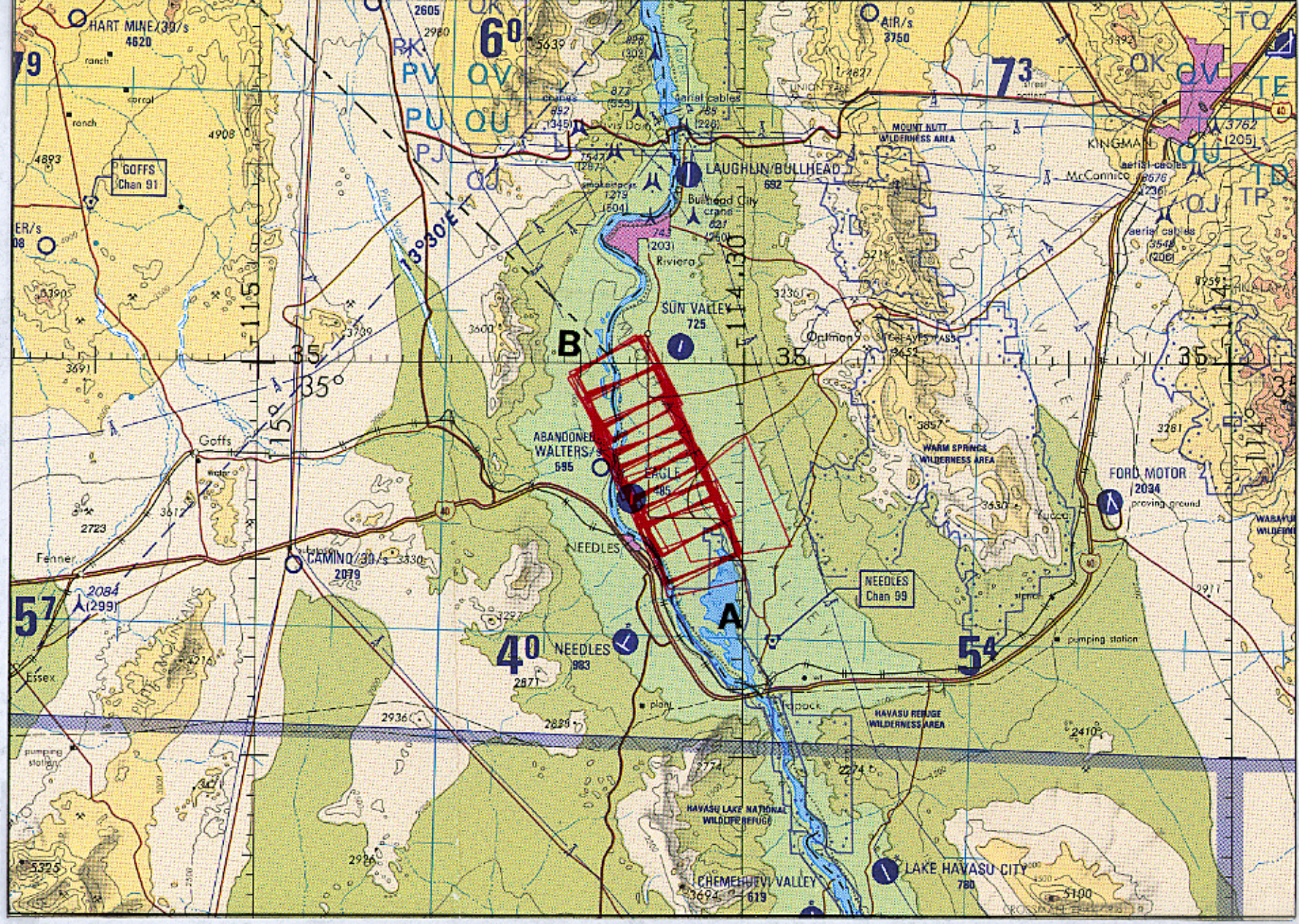

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