FLIGHT SUMMARY REPORT

Flight #: 91-061

Date: 28 February 1991

Sensor Package: Wild-Heerbrug RC-10
Hycon HR-732

Area(s) Covered: Eastern Puget Sound Region, Washington

Investigator(s): Weber, USDA

Flight Request: 90R258

Aircraft #: 706

Julian Date: 059

SENSOR DATA

Accession #:	04191	04192
Sensor ID #:	076	019
Sensor Type:	RC-10	HR-732
Focal Length:	12" 304.89 mm	24" 609.6 mm
Film Type:	Panatomic-X Aerographic II 2412	Panatomic-X 3400
Filtration:	Wratten 12	Wratten 12
Spectral Band:	510-700 nm	510-700 nm
f Stop:	4	8
Shutter Speed:	1/125	1/75
# of Frames:	184	273
% 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 descriptions of the camera systems flown onboard the ER-2s.

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-Heerbrug RC-10 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).

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. 91-061

Accession # 04191

Sensor # 076

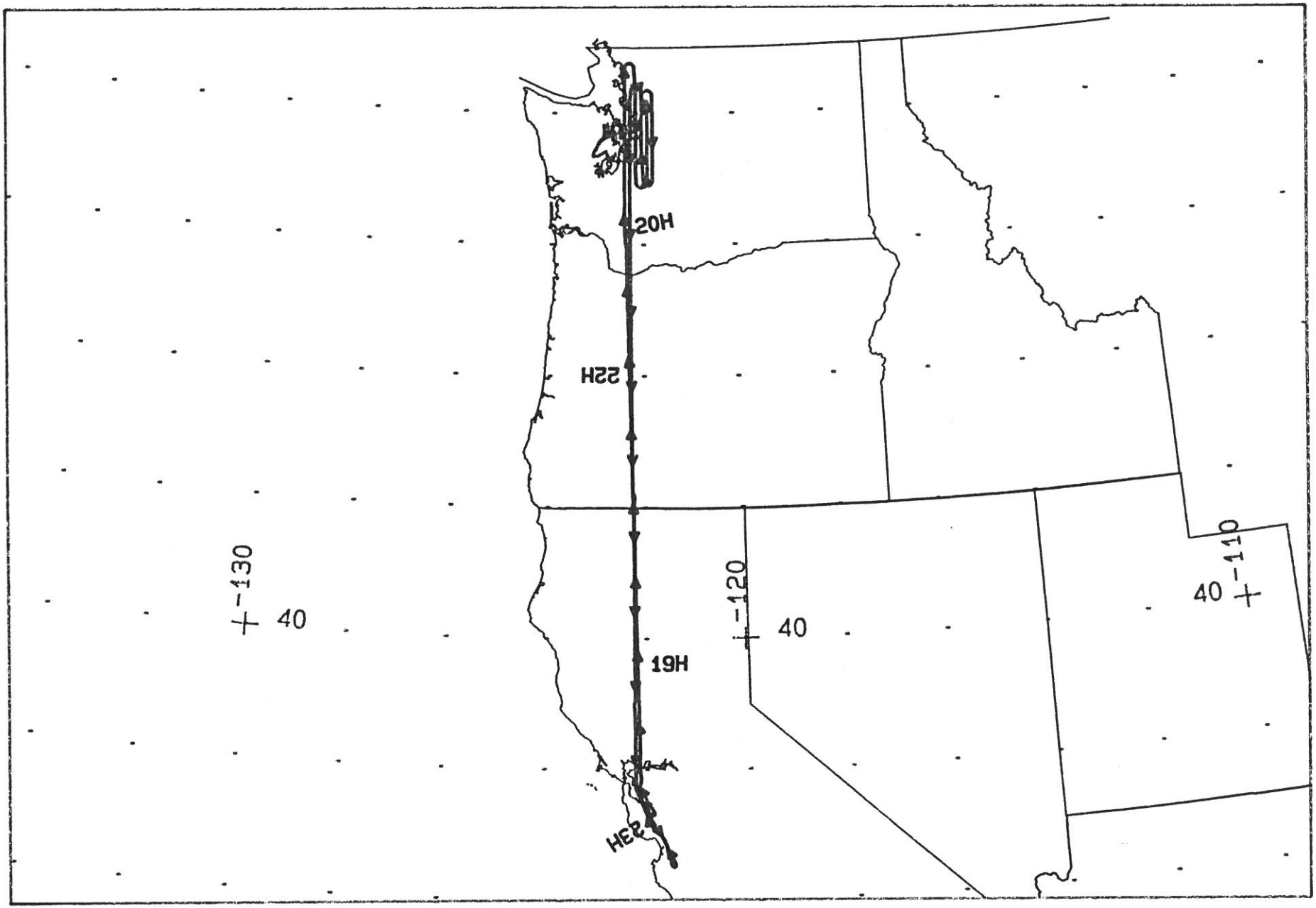
Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	4533-4565	20:07:56	20:22:14	65000/19800	10-50% strato-cirrus (frames 4564-4565)
C - D	4566-4597	20:25:56	20:39:47	"	50% strato-cirrus (frames (4566-4567); 10-30% cirro-stratus (frames 4569-4573)
E - F	4598-4620	20:42:37	20:52:18	"	10-40% cirrus (frames 4619-4620)
G - H	4621-4642	20:58:01	21:07:15	"	10% strato-cirrus (frames 4621-4622)
I - J	4643-4663	21:09:46	21:18:33	"	10-20% cirrus (frames 4662-4663)
K - L	4664-4688	21:24:36	21:35:12	"	10-50% strato-cirrus (frames 4664-4666)
M - N	4689-4716	21:42:11	21:54:09	"	10-100% cumulus (frames 4689-4703, 4706-4716)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-061

Accession # 04192

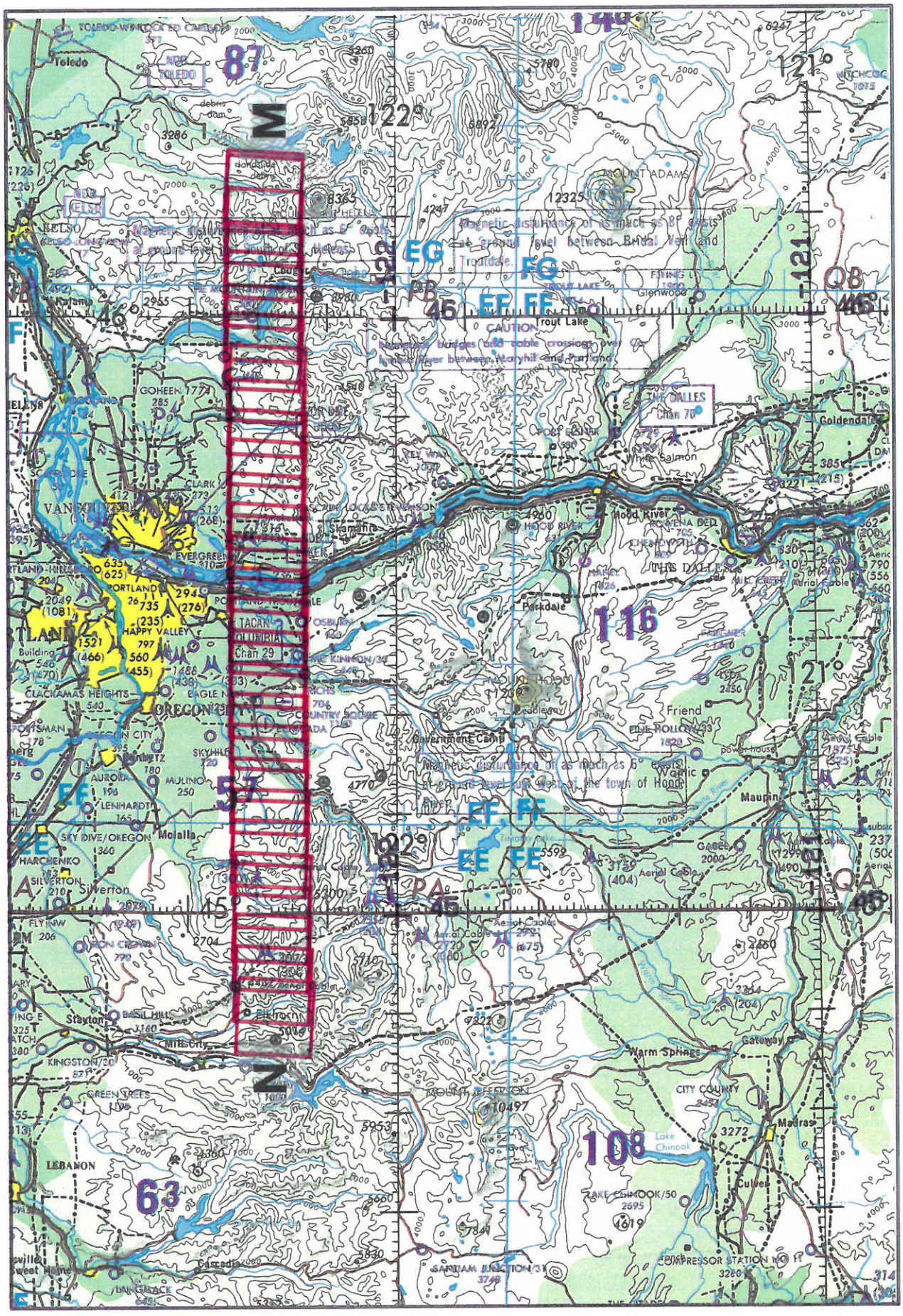
Sensor # 019

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0059	20:08:18	20:22:26	65000/19800	20-40% strato-cirrus (frames 0058-0059)
C - D	0060-0116	20:26:02	20:39:40	"	10-40% strato-cirrus (frames 0060-0061, 0065-0071)
E - F	0117-0154	20:42:45	20:52:00	"	Clear
G - H	0155-0192	20:58:10	21:07:10	"	Clear
I - J	0193-0228	21:09:55	21:18:25	"	Smeared (frames 0197 and 0201)
K - L	0229-0273	21:24:49	21:35:26	"	20% cumulus (frame 0229)

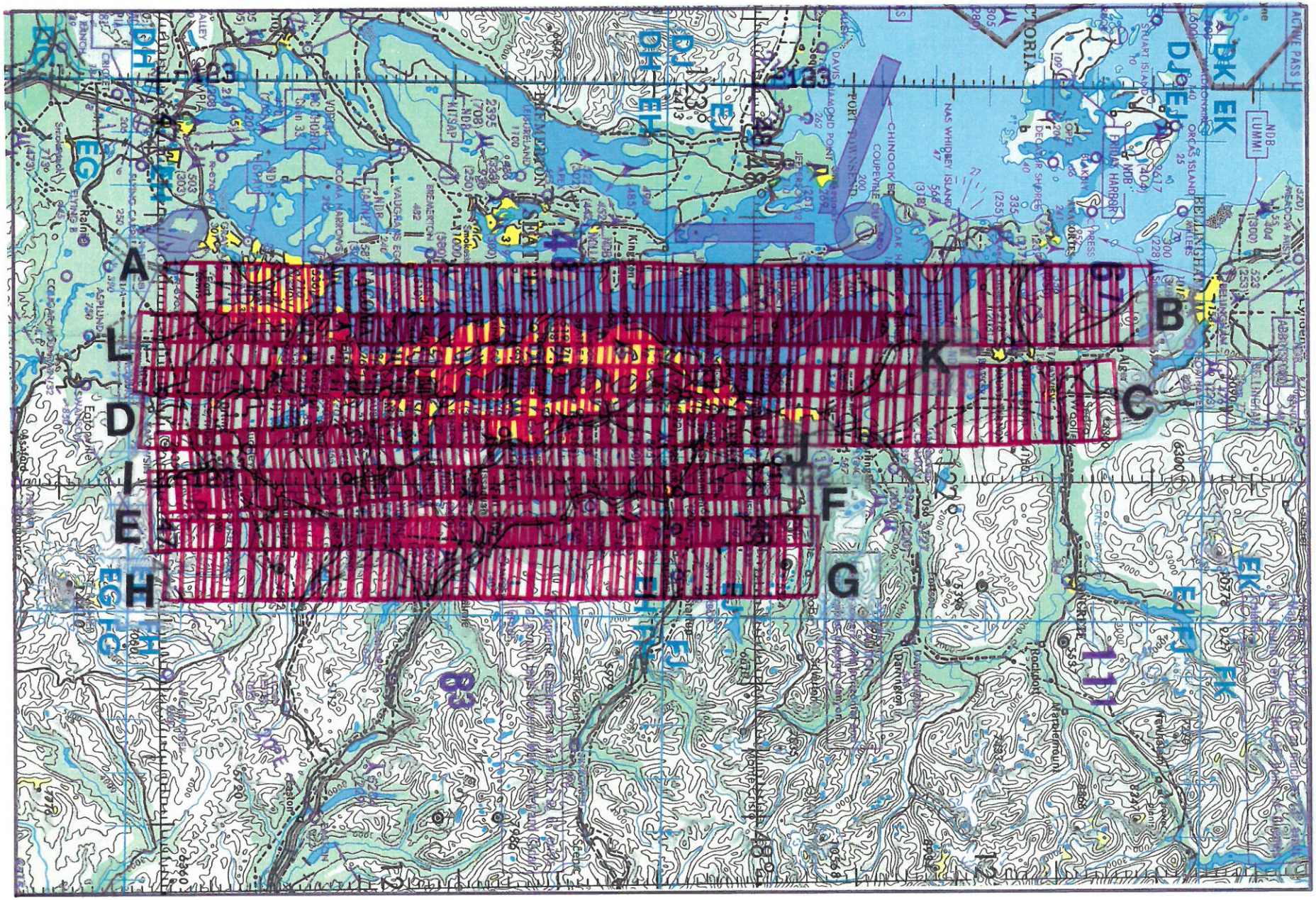


FLIGHT 91-061 28 February 1991 A/C 706 Dual HR-732 / RC-10 / MAMS

FLIGHT 91-061 28 February 1991 A/C 706 RC-10 / 2412 Accession # 04191 CNC F-16



FLIGHT 91-061 28 February 1991 A/C 706 RC-10 / 2412 Accession # 04191 ONC F-16



FLIGHT 91-061 28 February 1991 A/C 706 HR-732 / 3400 Accession # 04192 ONC F-16