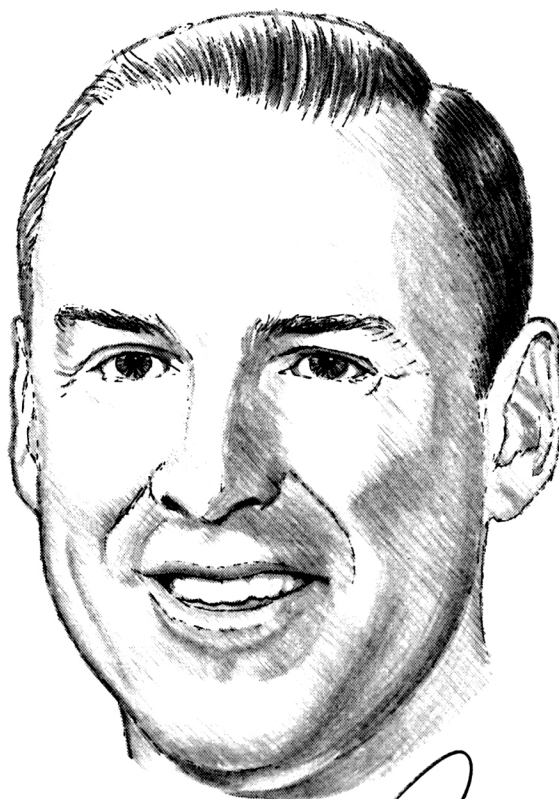


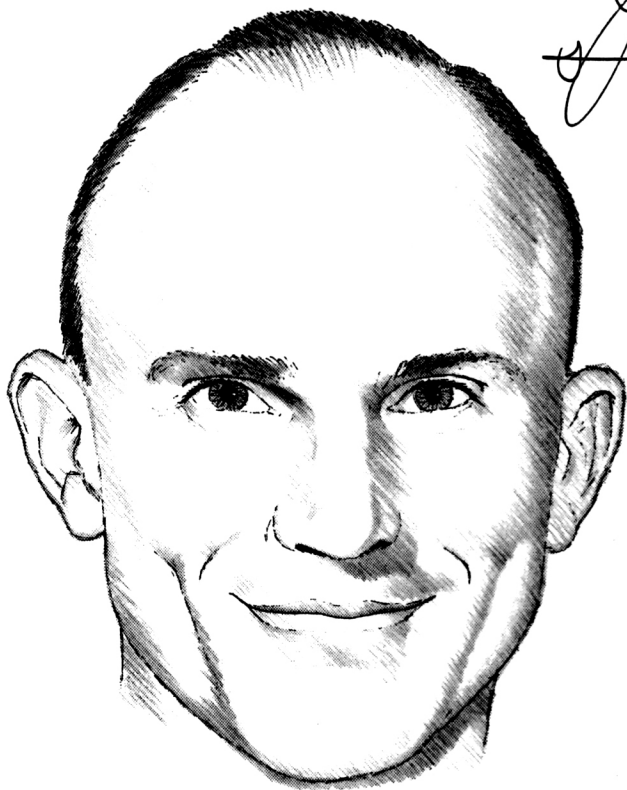
APOLLO 13



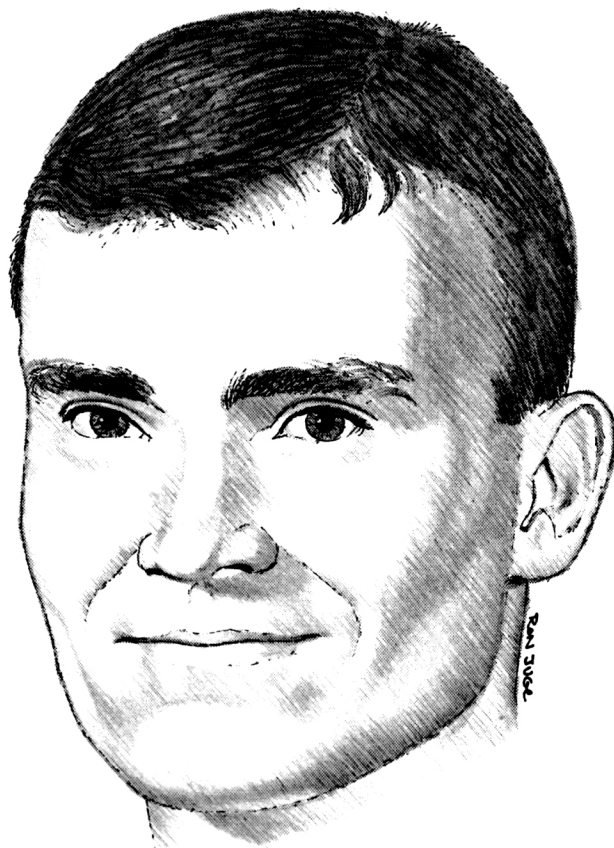
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James L. Hansen



Ken Mattingly

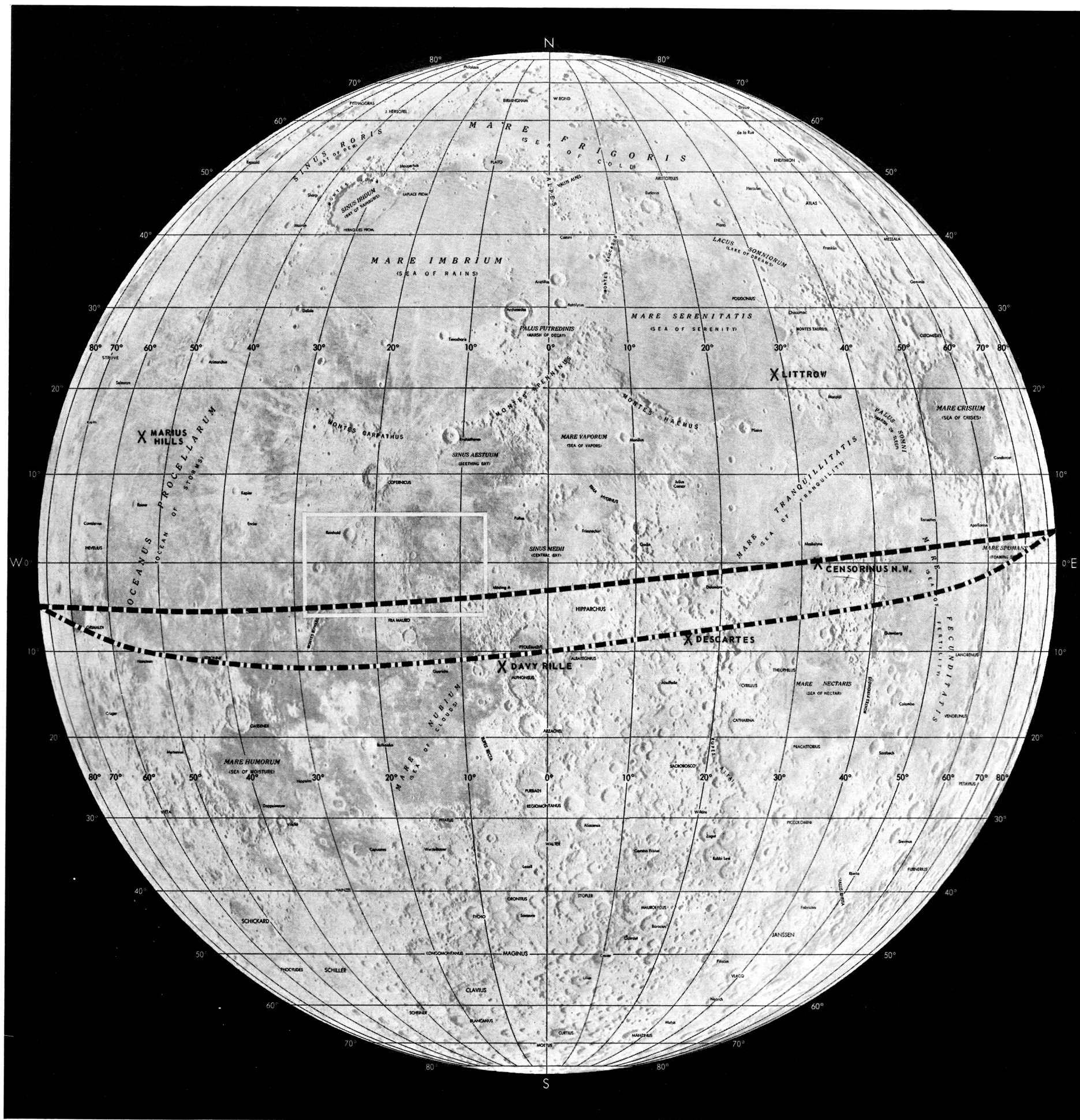


Fred W. Haise

APOLLO 13



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SIGNIFICANT EVENTS

11 April 1970 Launch Date

VEHICLE (CM-Command Module) (LM-Lunar Module) CM/LM	EVENT	LUNAR REVOLUTION (Ground Elapsed Time) hrs	G.E.T min
	Launch	0.00	00
	Translunar Injection (TLI)	0.00	36
	Lunar Orbit Insertion (LOI)	0.00	31
	Descent Orbit Insertion (DOI)	2.18	05
	CM/LM Separation	11.16	16
CM			
	Lunar Orbit Circularization	11.96	35
LM			
	Powered Descent Initiation (PDI)	13.45	30
	Lunar Landing	13.53	42
CM			
	Lunar Orbit Plane Change (LOPC-1)	18.63	42
LM			
	LM Ascent Stage Lift-Off	30.56	09
CM/LM			
	CM/LM Docking	32.39	45
	LM Jettison	33.61	09
CM			
	Lunar Orbit Plane Change (LOPC-2)	39.25	14
	Transearth Injection (TEI)	46.00	30
	Landing-Pacific Ocean	0.00	02
		(10 days 1 hr 02 min)	

MISSION DESCRIPTION

This chart displays a polar view of the lunar mission profile for the Apollo 13 Mission, scheduled to be launched on 11 April 1970 and targeted to Lunar Landing Site Fra Mauro.

The Apollo 13 Command and Lunar modules will be launched from the Kennedy Space Center Launch Pad 39A and inserted into a 100 nautical mile earth parking orbit. During the earth parking orbit the space vehicle systems will be checked out and made ready for the Translunar Injection maneuver.

The Translunar Injection maneuver will place the Command and Lunar modules into a translunar trajectory that will last approximately 75 hours.

The Lunar Orbit Insertion maneuver will occur on the far side of the moon and place the Command and Lunar modules into a 60 nautical mile by 170 nautical mile elliptical orbit. Approximately four hours later, during the third revolution, a second maneuver, the Descent Orbit Insertion, will be performed to place the Command and Lunar modules into an approximate 8 nautical mile by 60 nautical mile elliptical orbit.

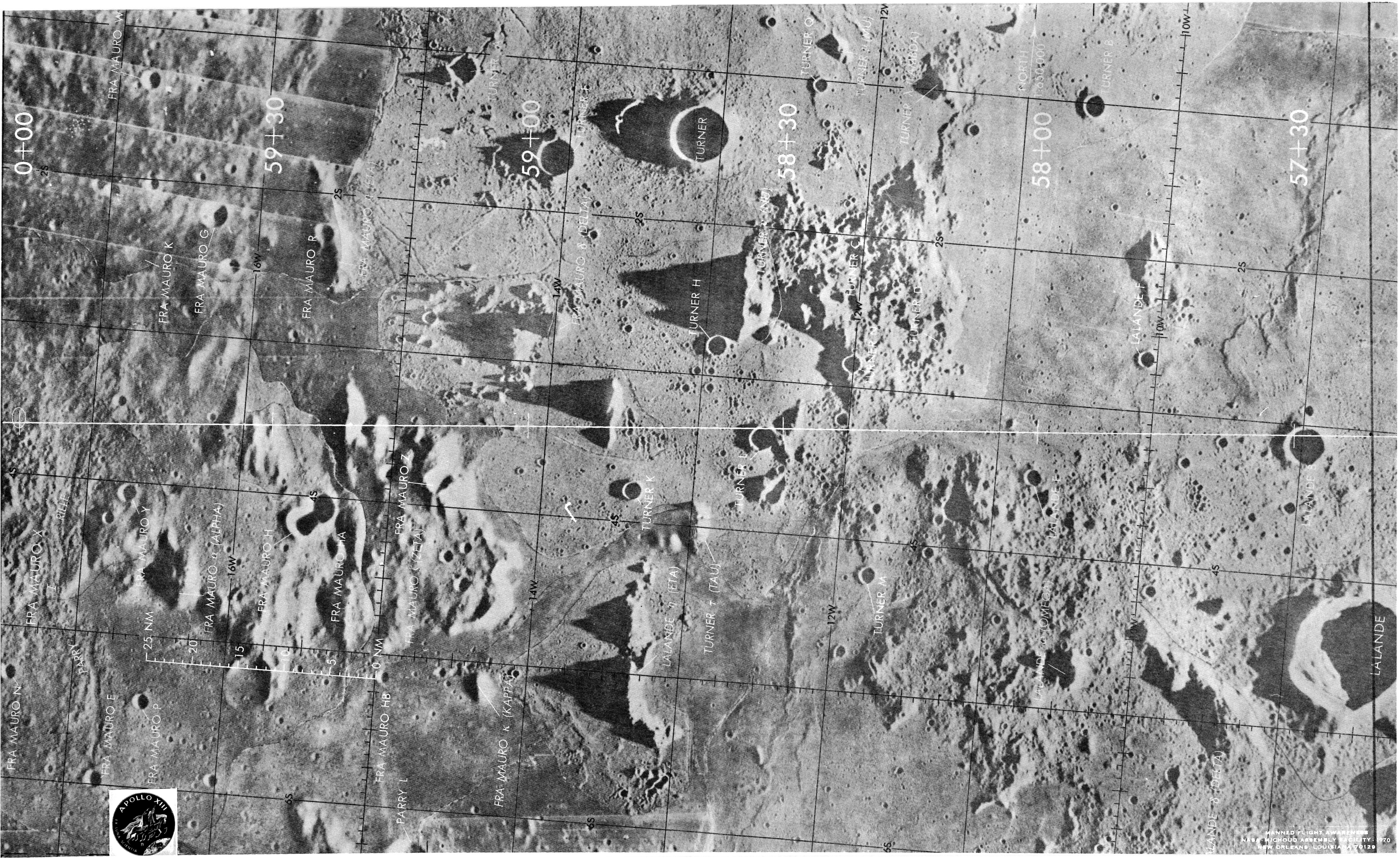
The Lunar module will separate from the Command module during the 12th revolution and land at the Fra Mauro site during the 14th revolution.

Subsequent to separation from the Lunar module the Command module will perform two additional maneuvers. The first maneuver will occur during the 12th revolution and will place the Command module into an approximate 60 nautical mile circular orbit. The second maneuver, Lunar Orbit Plane Change-1, will occur during the 19th revolution and be performed to establish a coplanar orbit with the Lunar module ascent trajectory and rendezvous orbit.

Following Command module and Lunar module rendezvous and docking the Lunar module crew will transfer into the Command module, along with lunar scientific samples, and the Lunar module jettisoned.

The second Lunar Orbit Plane Change-2 will be made during the 40th revolution and will be made in order that the Command module can fly over and photograph future lunar landing sites.

The Transearth Injection maneuver will be performed during the 46th revolution and place the spacecraft in a transearth trajectory which will last for approximately three days. Reentry into the earth's atmosphere and landing in the Pacific Ocean will occur approximately 10 days after launch.



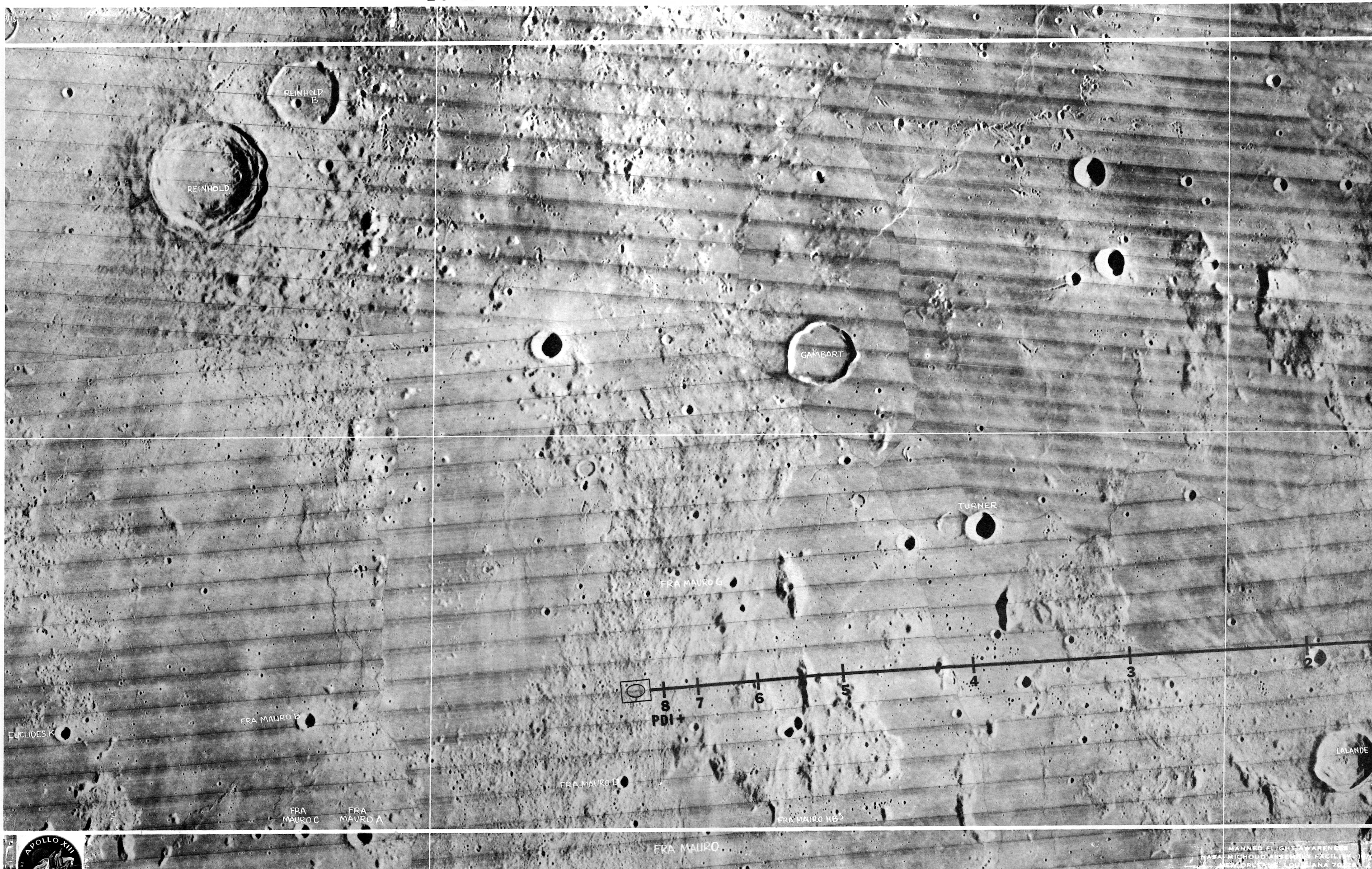
20°W

10°W

5°N

0°

5°S

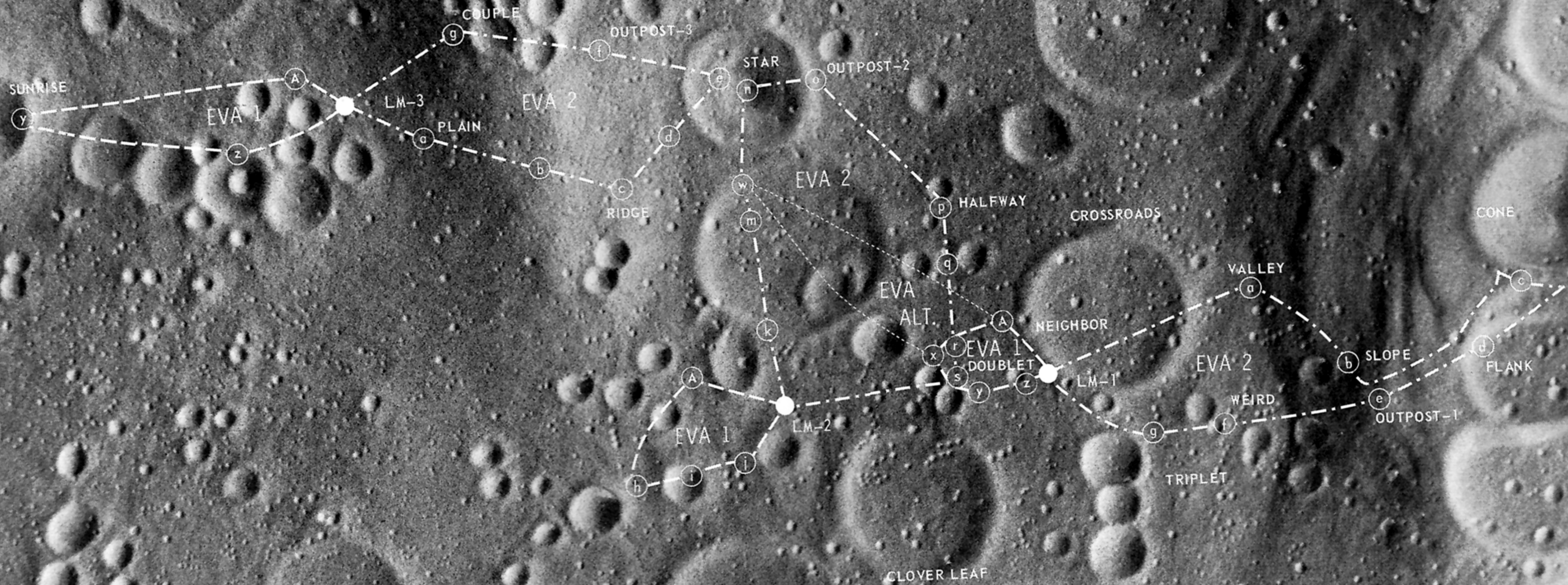


APOLLO 13 FINAL APPROACH

10°W

MANAGED FLIGHT AWARENESS
NASA WICHOUA AERONAUTICS FACILITY 1170
NEW ORLEANS, LOUISIANA 70112

FRA MAURO

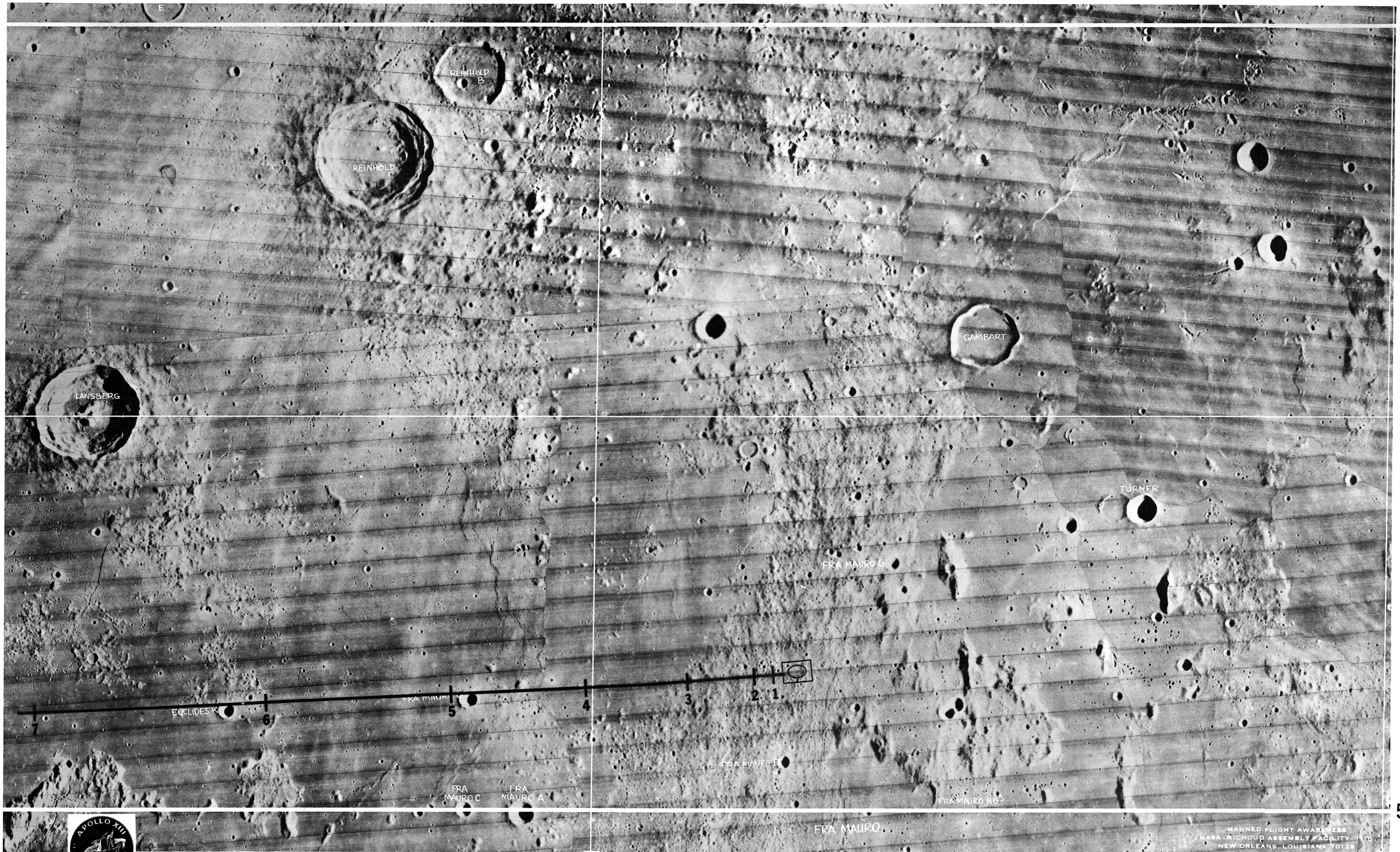


APOLLO 13 PRIMARY LANDING SITE

20°W

10°W

5°N



0°

5°S

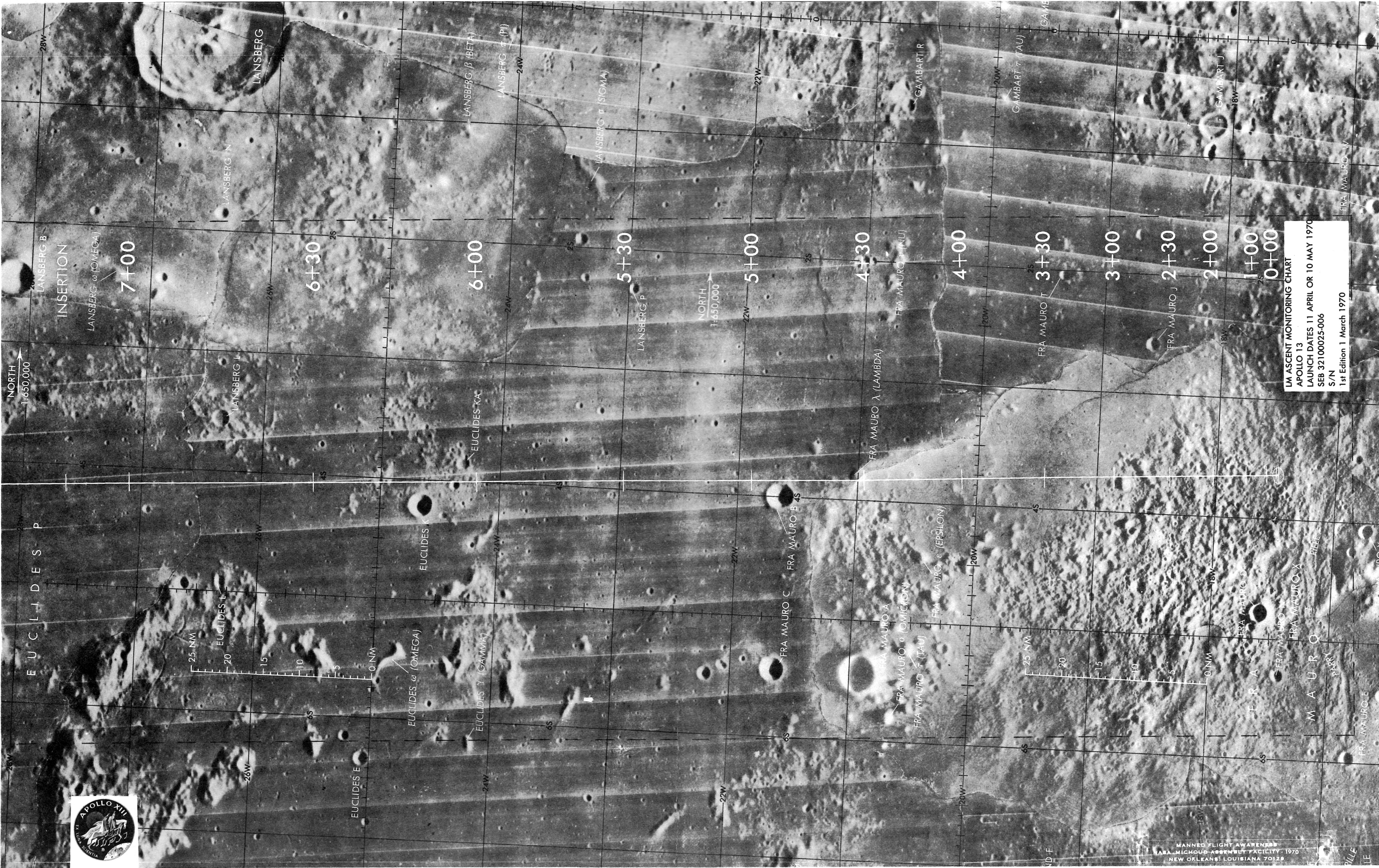
10°W

APOLLO 13 ASCENT

20°W



MANNEED FLIGHT AWARENESS
NASA - MICHOUD ASSEMBLY FACILITY 1970
NEW ORLEANS, LOUISIANA 70128



LW ASCENT MONITORING CHART
APOLLO 13
LAUNCH DATES 11 APRIL OR 10 MAY 1970
SEB 32100025-006
S/N
1st Edition 1 March 1970



MANNED FLIGHT AWARENESS
NASA-MICHOUX-ASSEMBLY FACILITY, 1970
NEW ORLEANS, LOUISIANA 70129

