



VIKING '75

COPIES OF VU-GRAPHS USED BY

Dr. Gerald A. Soffen,
Mr. Marshall S. Johnson

VIKING PROJECT OFFICE



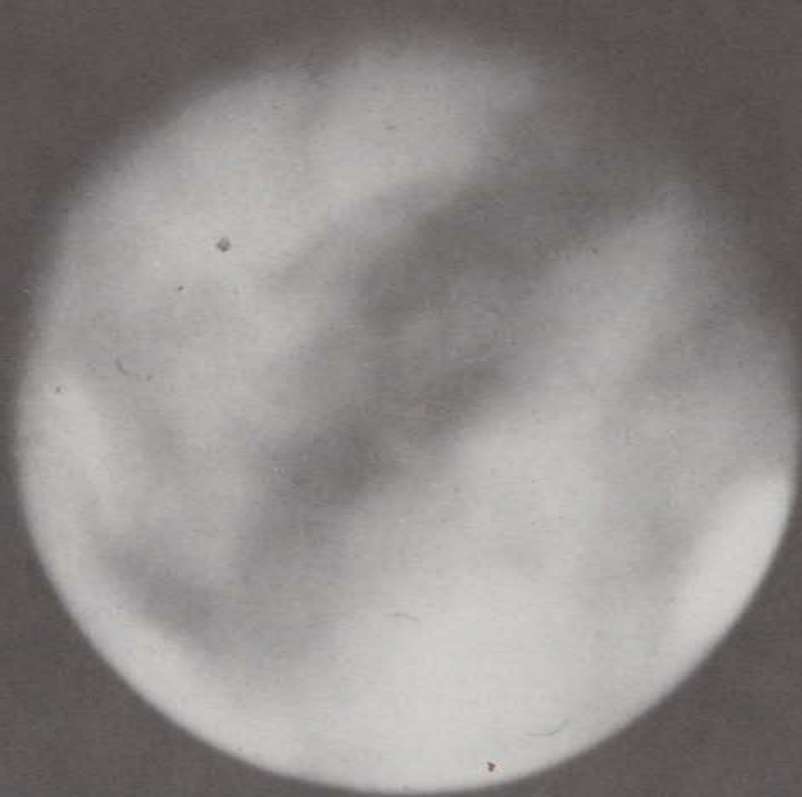
National Aeronautics and
Space Administration

Langley Research Center
Hampton, Virginia 23665
AC 804 827 3966



EARTH BASED PHOTOGRAPH OF MARS

(35,000,000 miles)





EARTH
MEAN DIAMETER
7,926 MILES



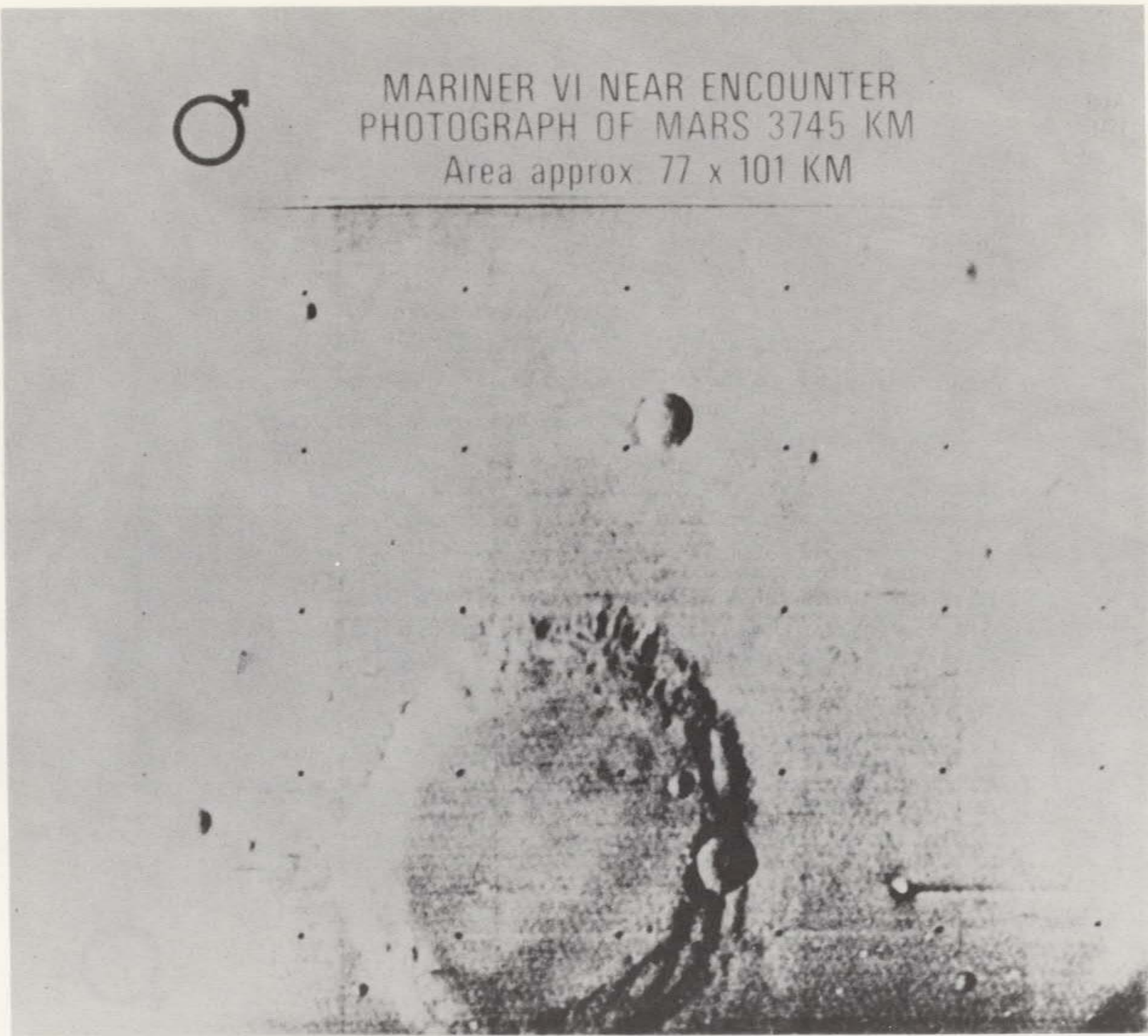
MARS
MEAN DIAMETER
4,210 MILES



MOON
MEAN DIAMETER
2,160 MILES



MARINER VI NEAR ENCOUNTER
PHOTOGRAPH OF MARS 3745 KM
Area approx. 77 x 101 KM

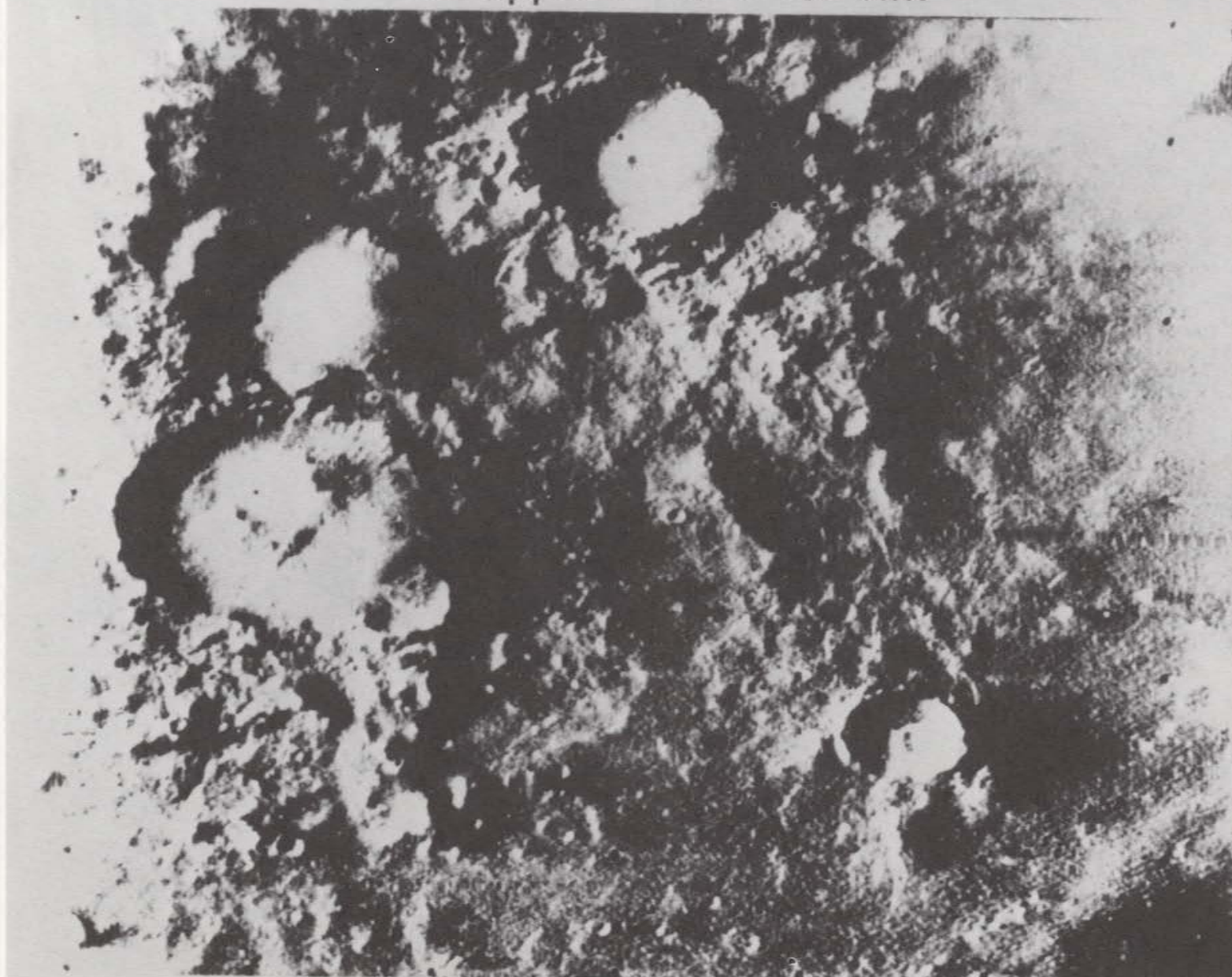




MARINER VII NEAR ENCOUNTER
PHOTOGRAPH OF MARS 6095 KM
Area approx. 145 x 161 KM

B7B

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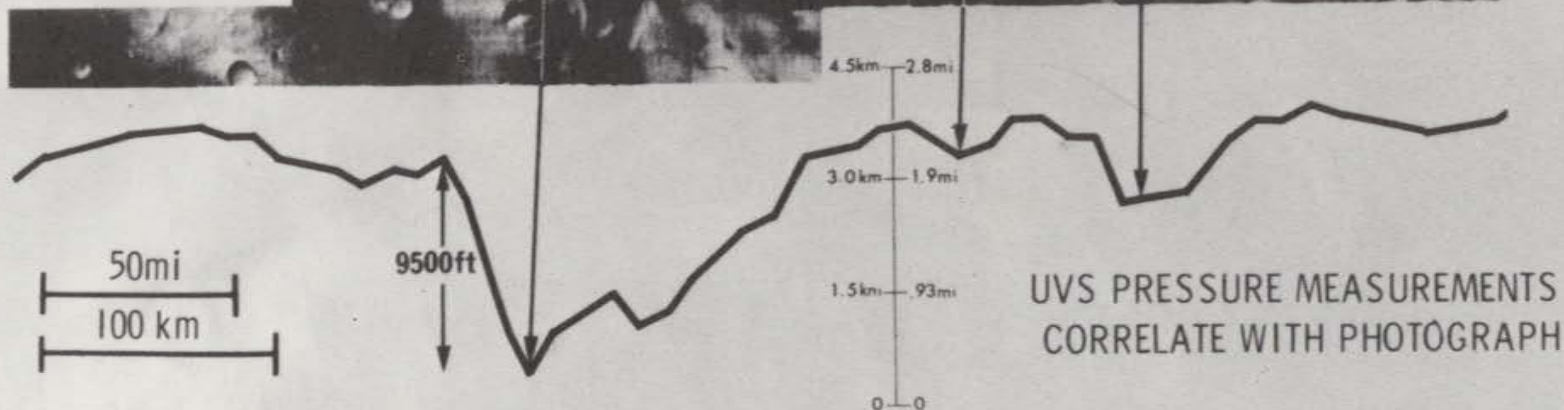
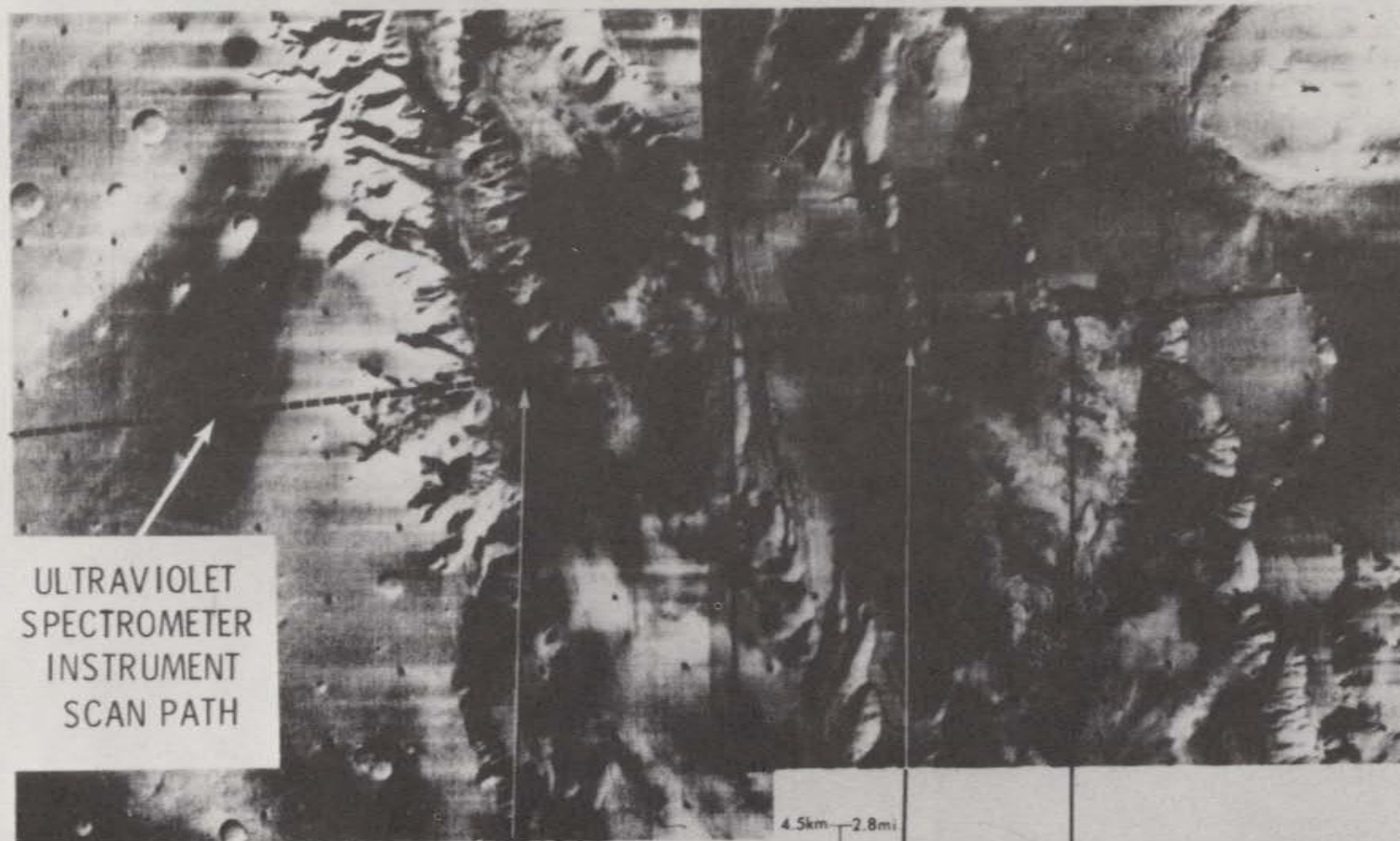




GREAT RIFT VALLEY ("GRAND CANYON") OF MARS

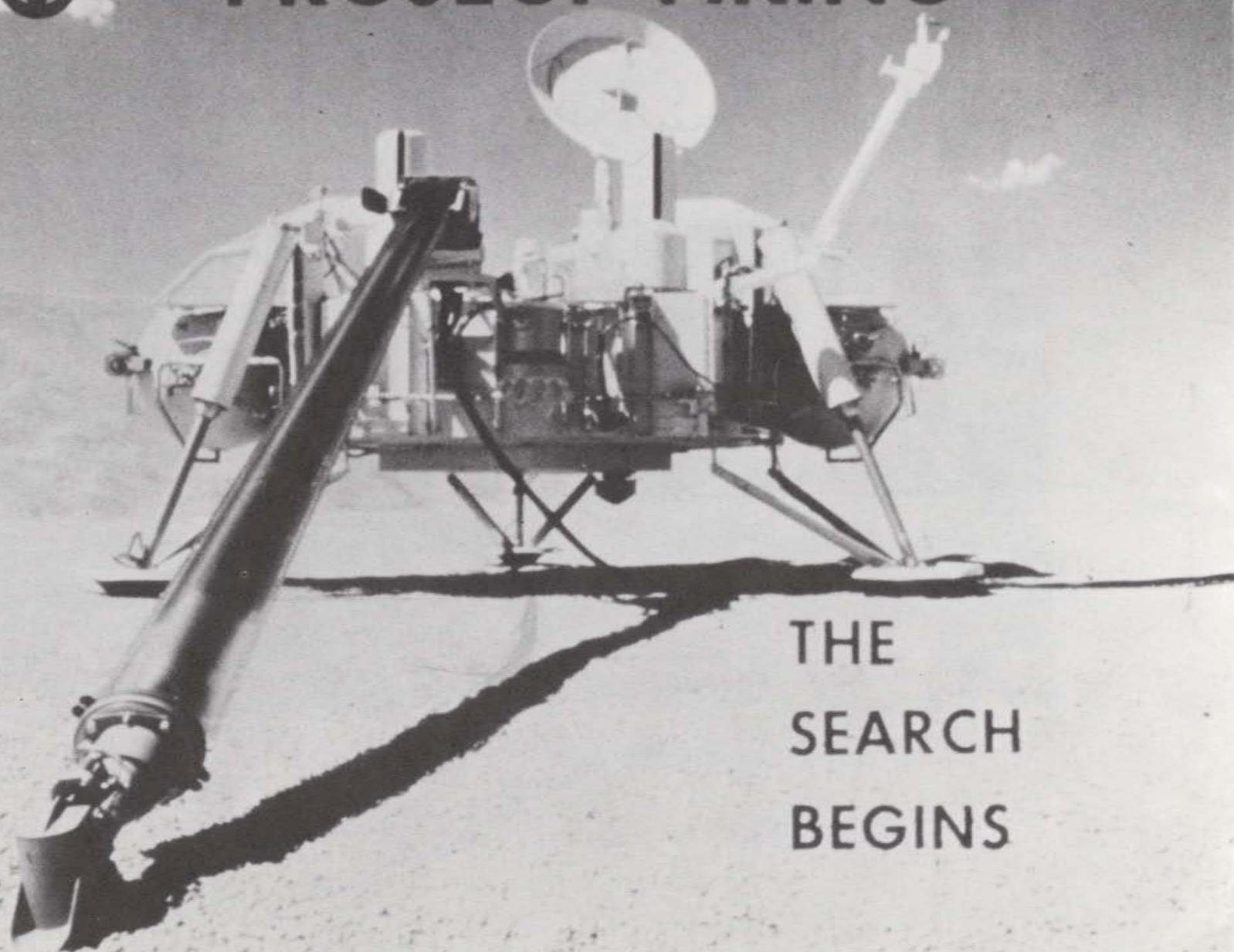
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MARINER 9 MOSAIC OF TITHONIUS LACUS REGION





PROJECT VIKING



THE
SEARCH
BEGINS



VIKING 1975 PROJECT OBJECTIVE

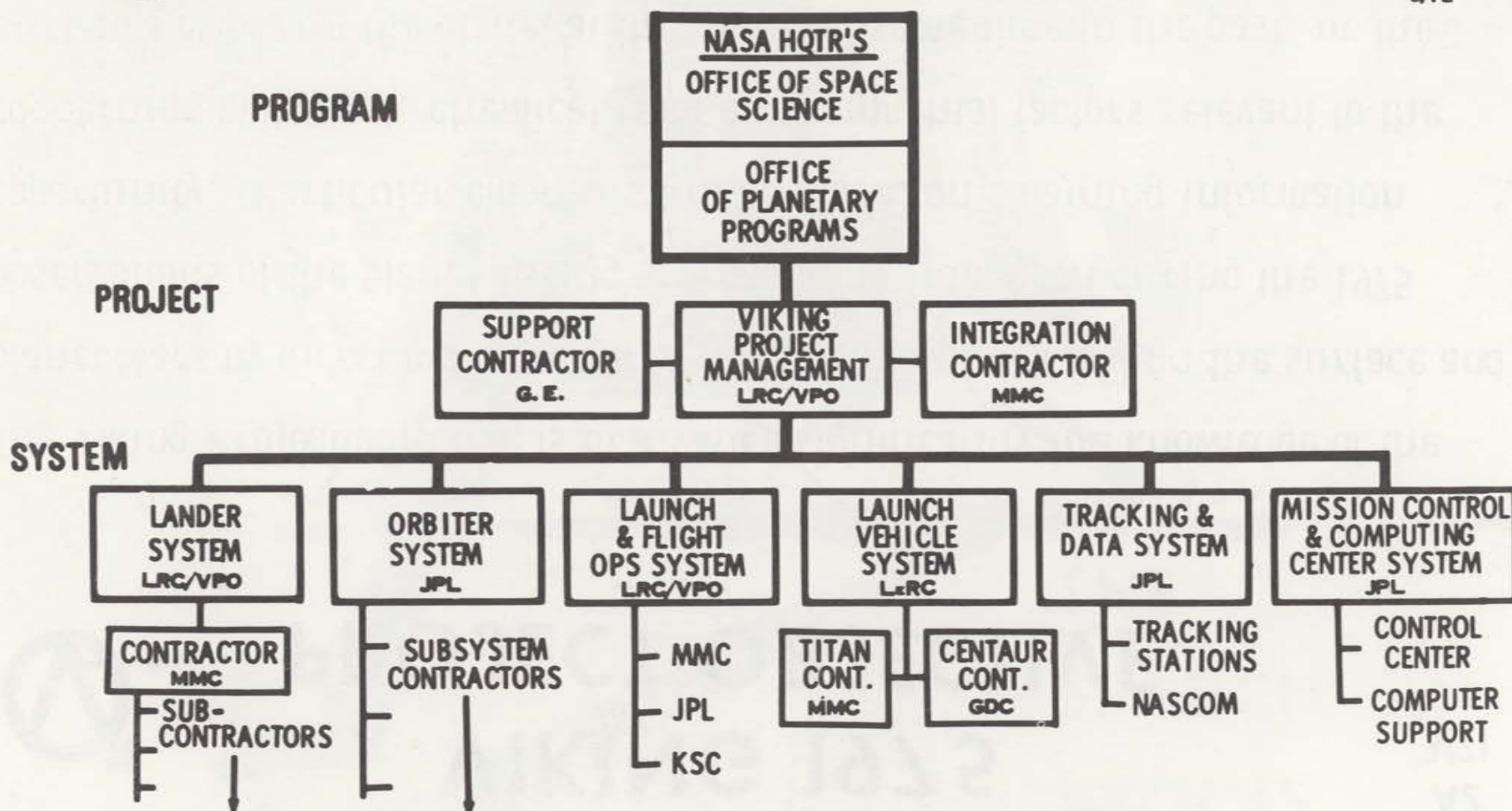
A2
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The Viking Project objective is to advance significantly the knowledge of the planet Mars by direct measurements in the atmosphere and on the surface and observations of the planet during approach and from orbit during the 1975 opportunity. Particular emphasis will be placed on obtaining information concerning biological, chemical, and environmental factors relevant to the existence of life on the planet at this time, at some time in the past, or the potentials for the development of life at a future date.



VIKING PROJECT ORGANIZATION

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Bioshield Cap



Aeroshell Cover
and Parachute



LANDER
SYSTEM

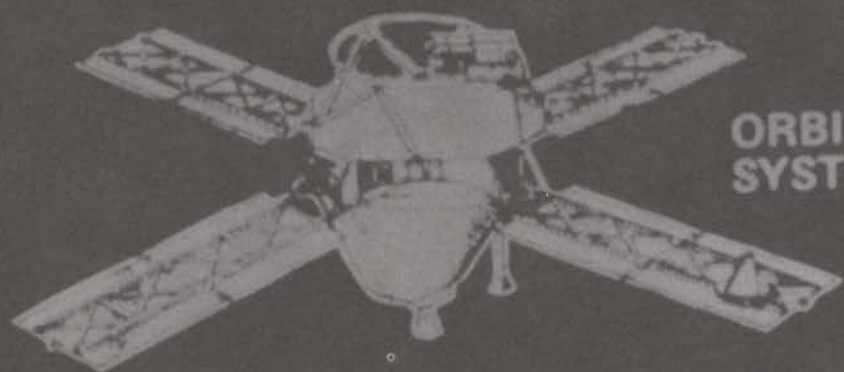
DESCENT
CAPSULE



Aeroshell
and
Heat Shield



Bioshield Base



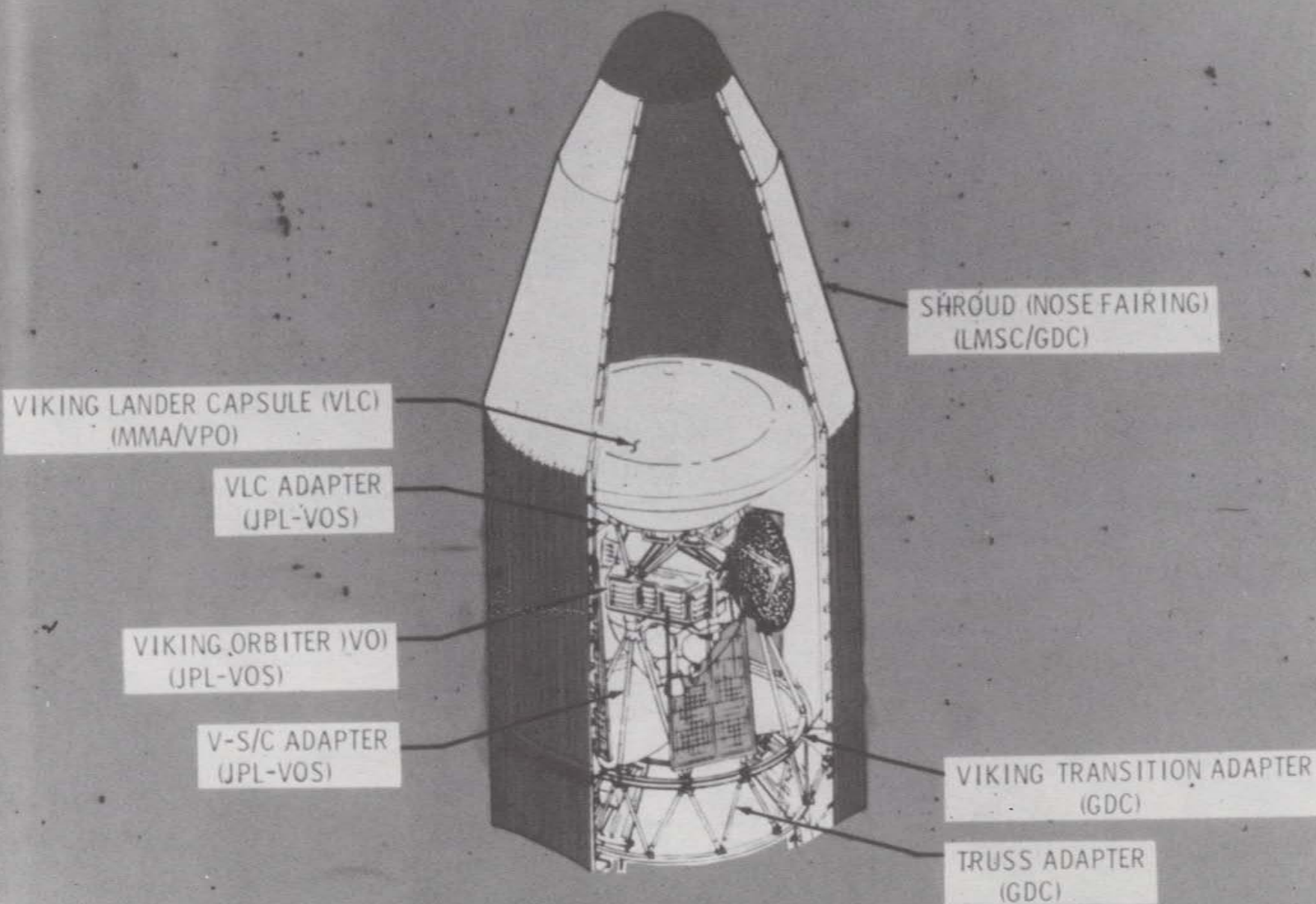
ORBITER
SYSTEM

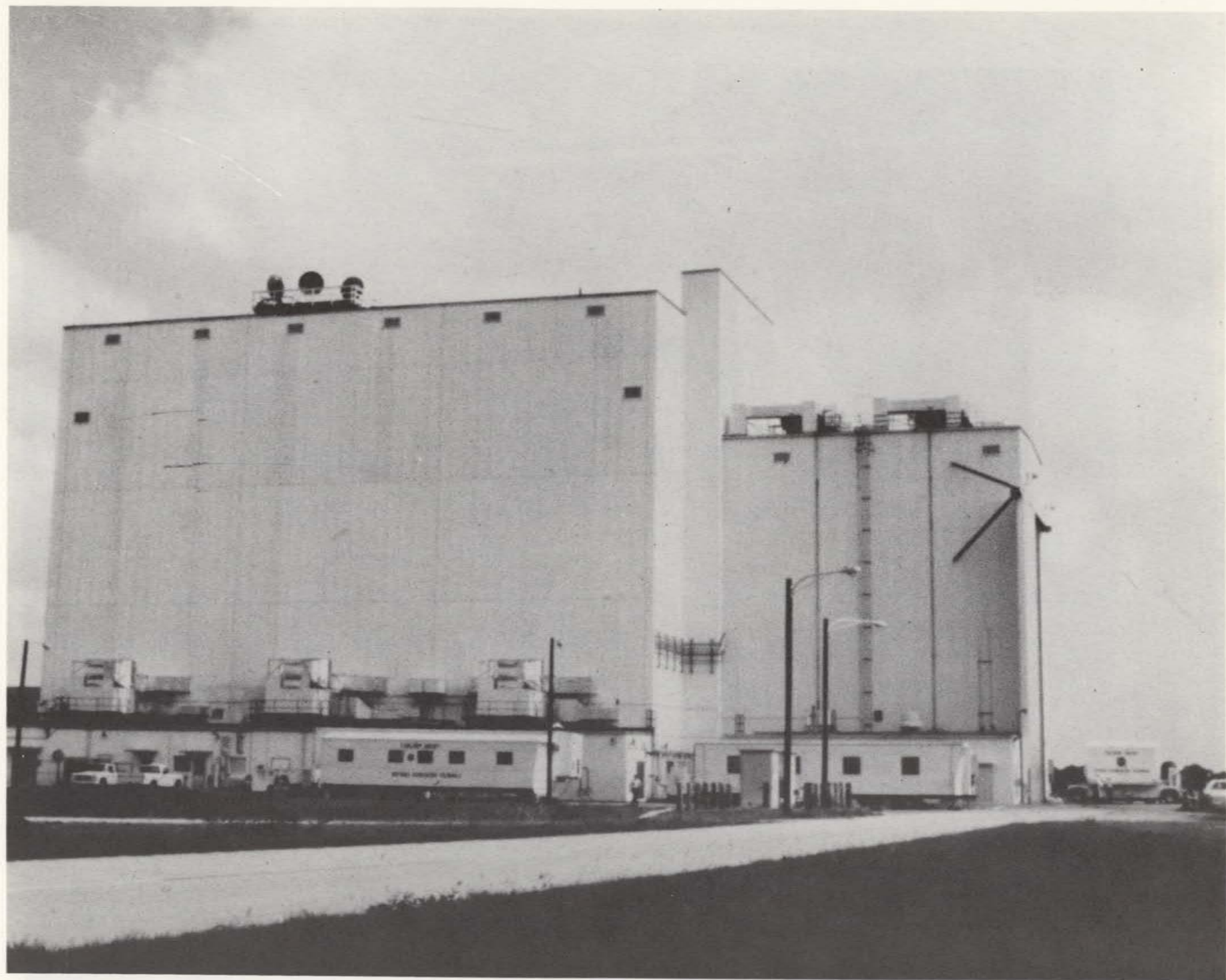


VIKING SPACECRAFT & SHROUD CONFIGURATION

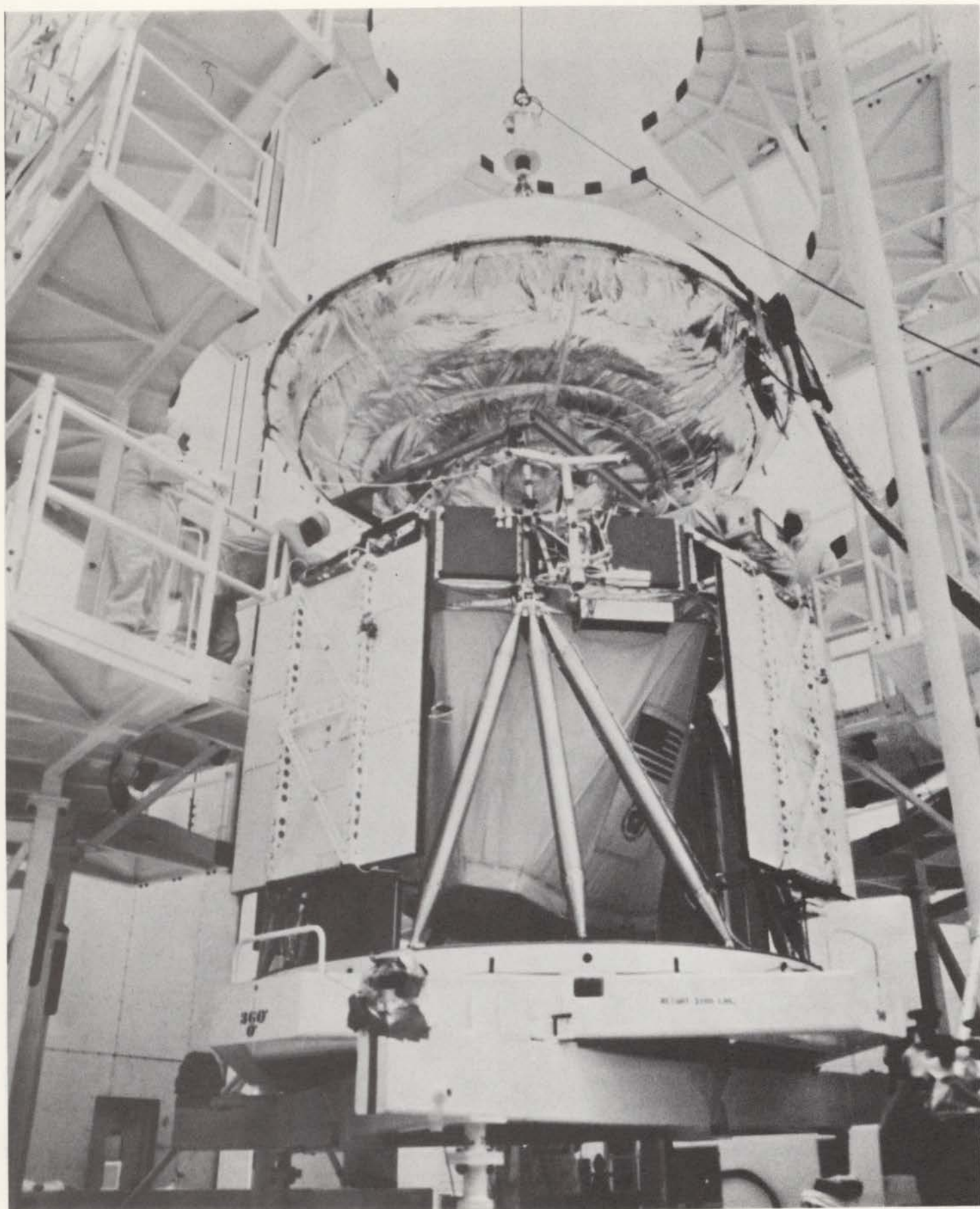
F2A

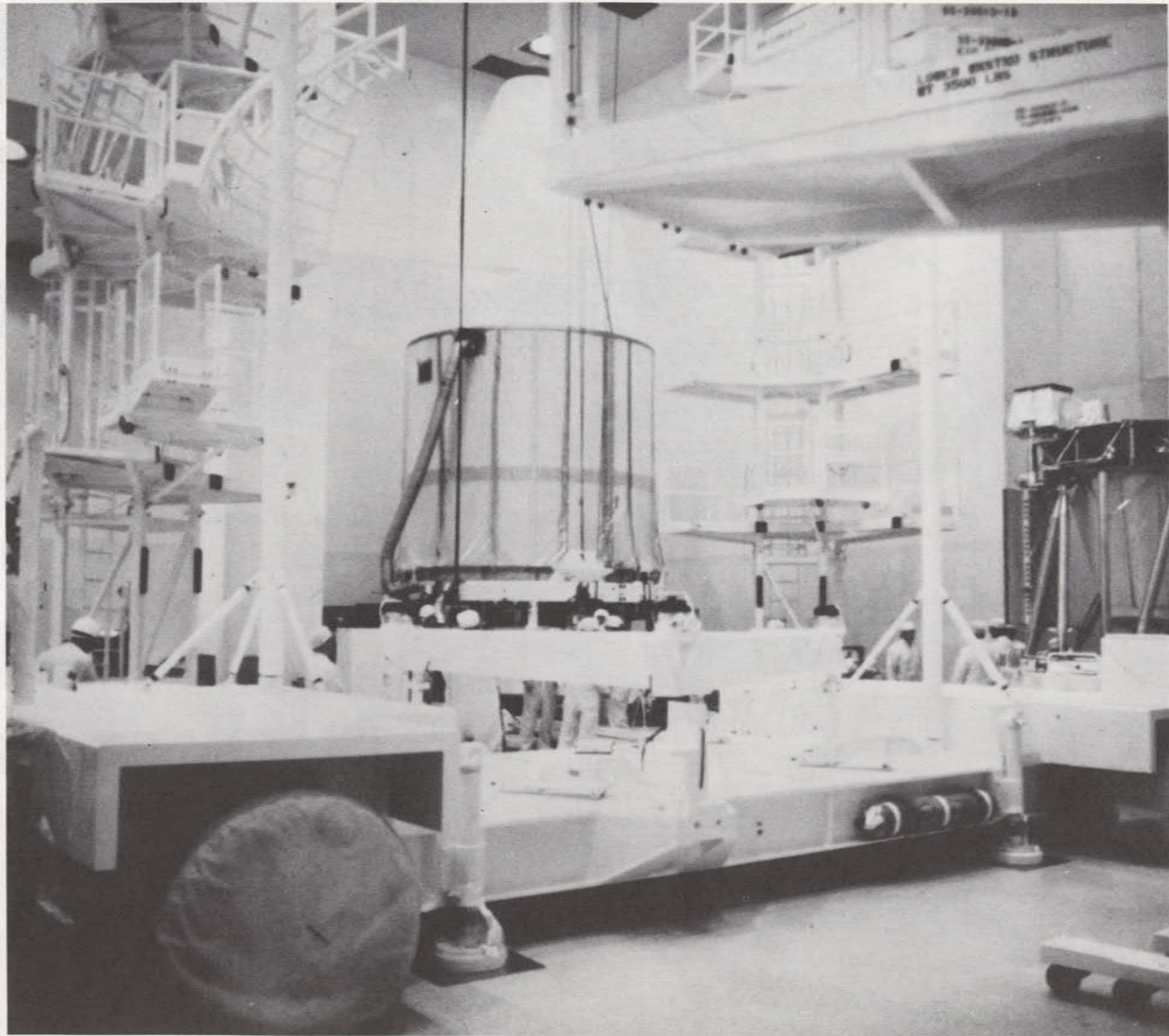
12/73

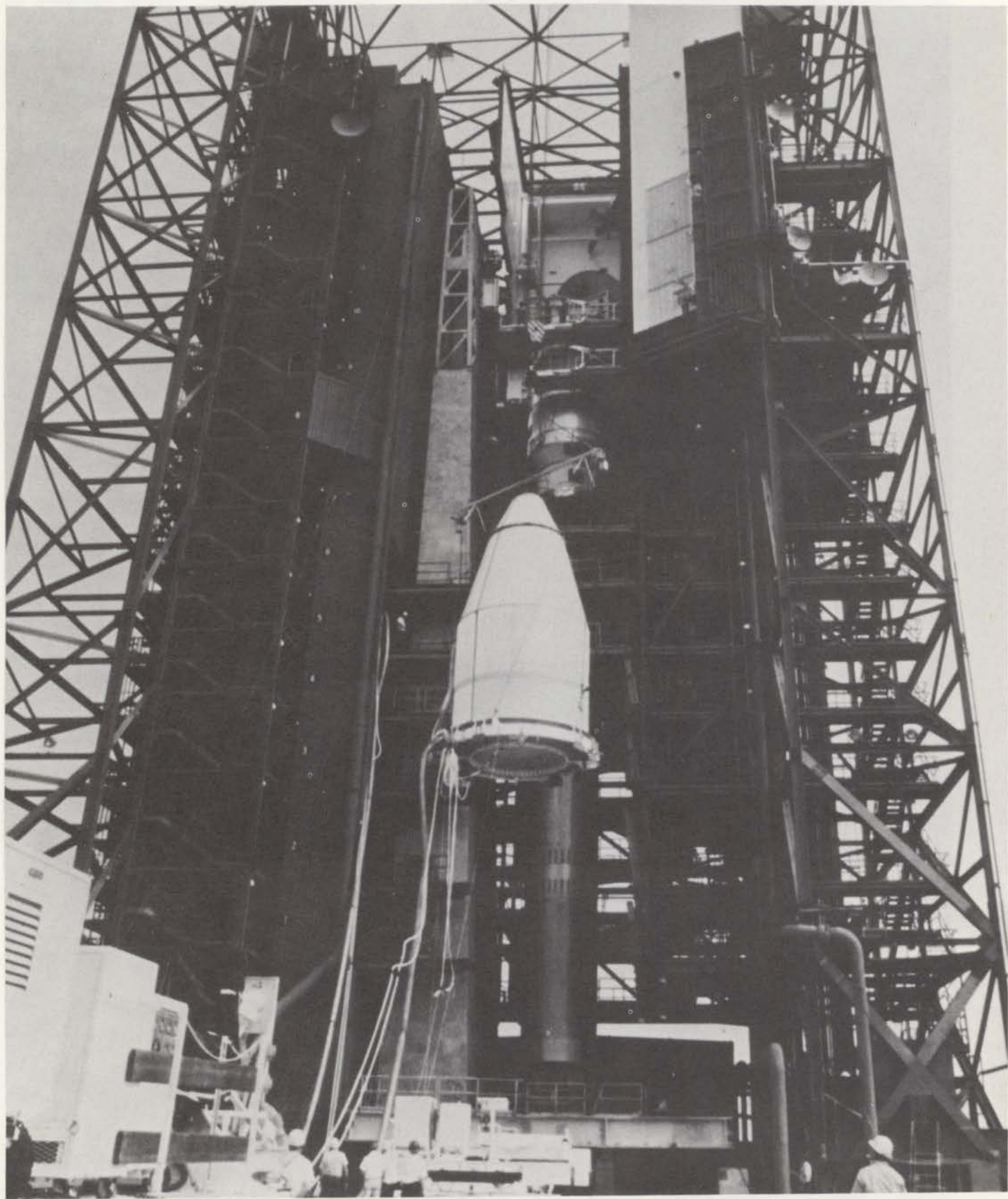


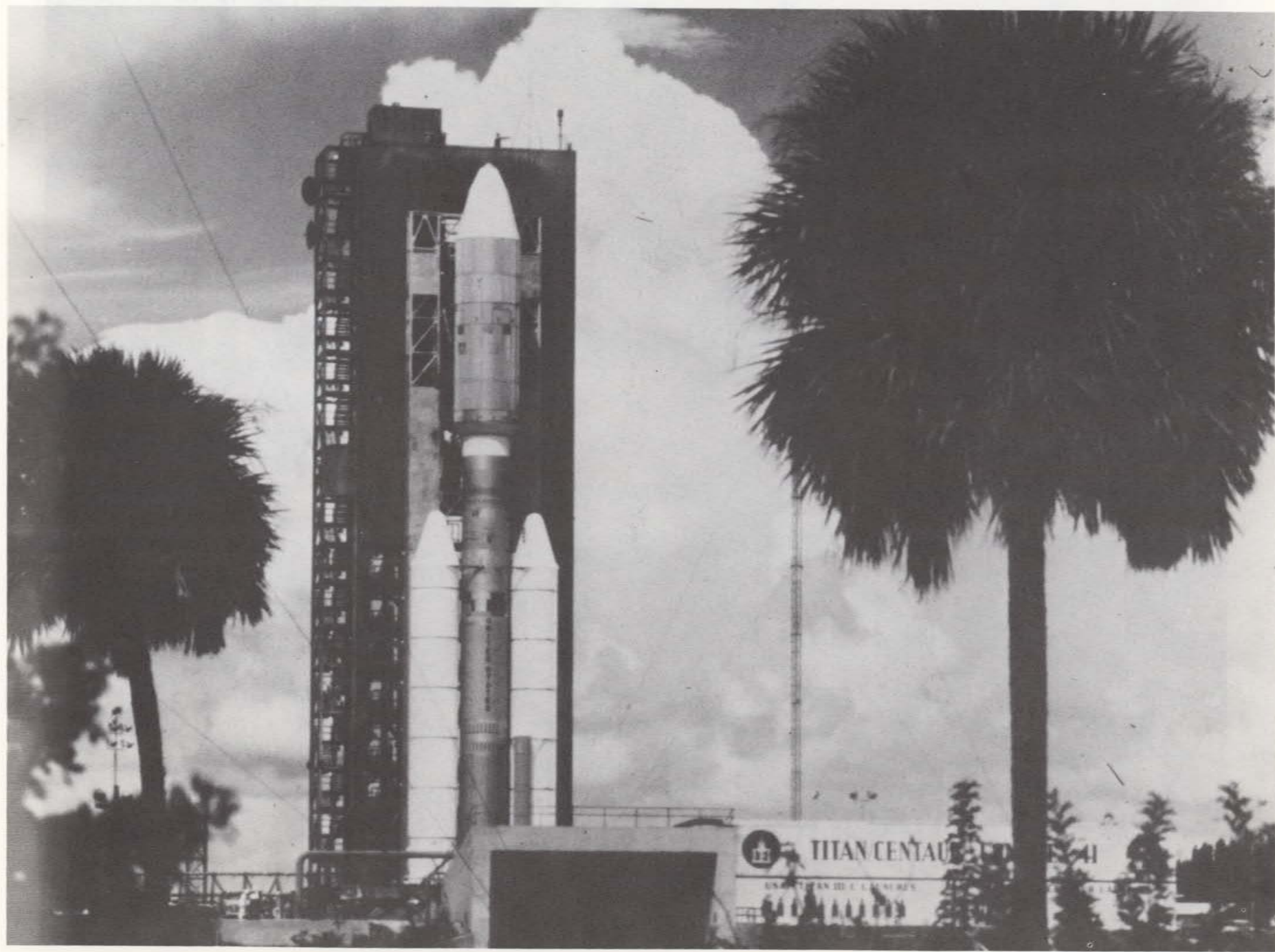


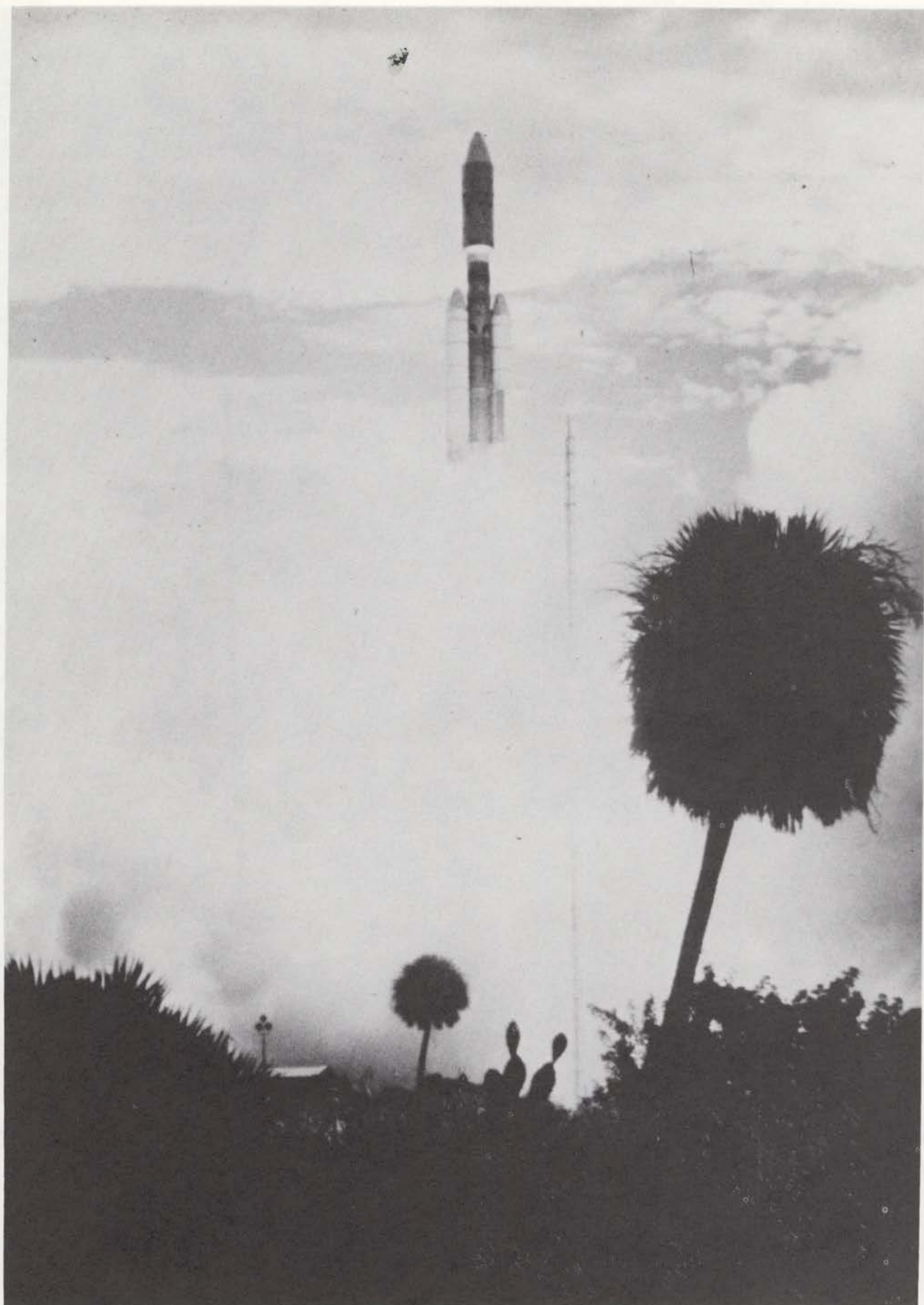






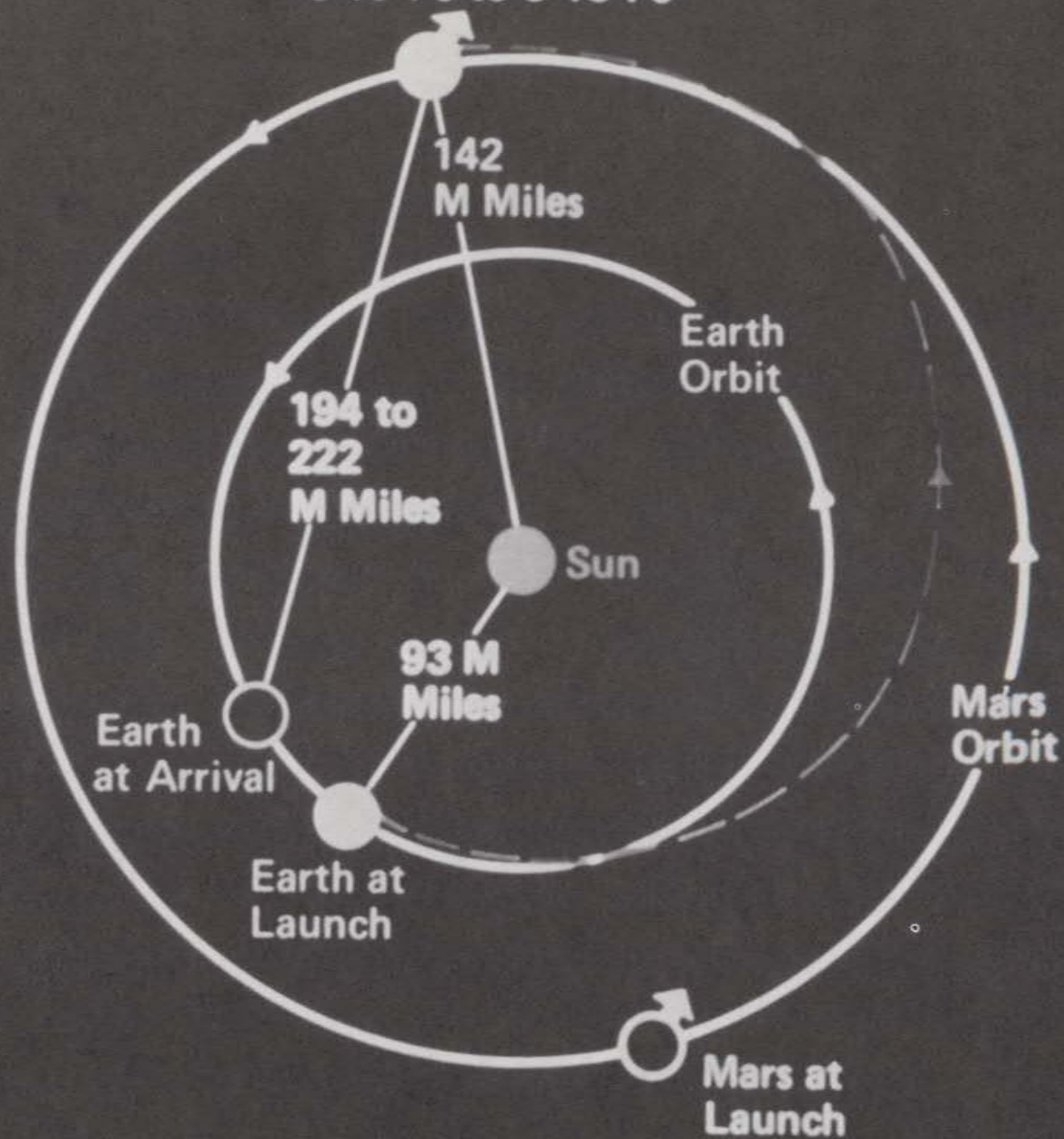






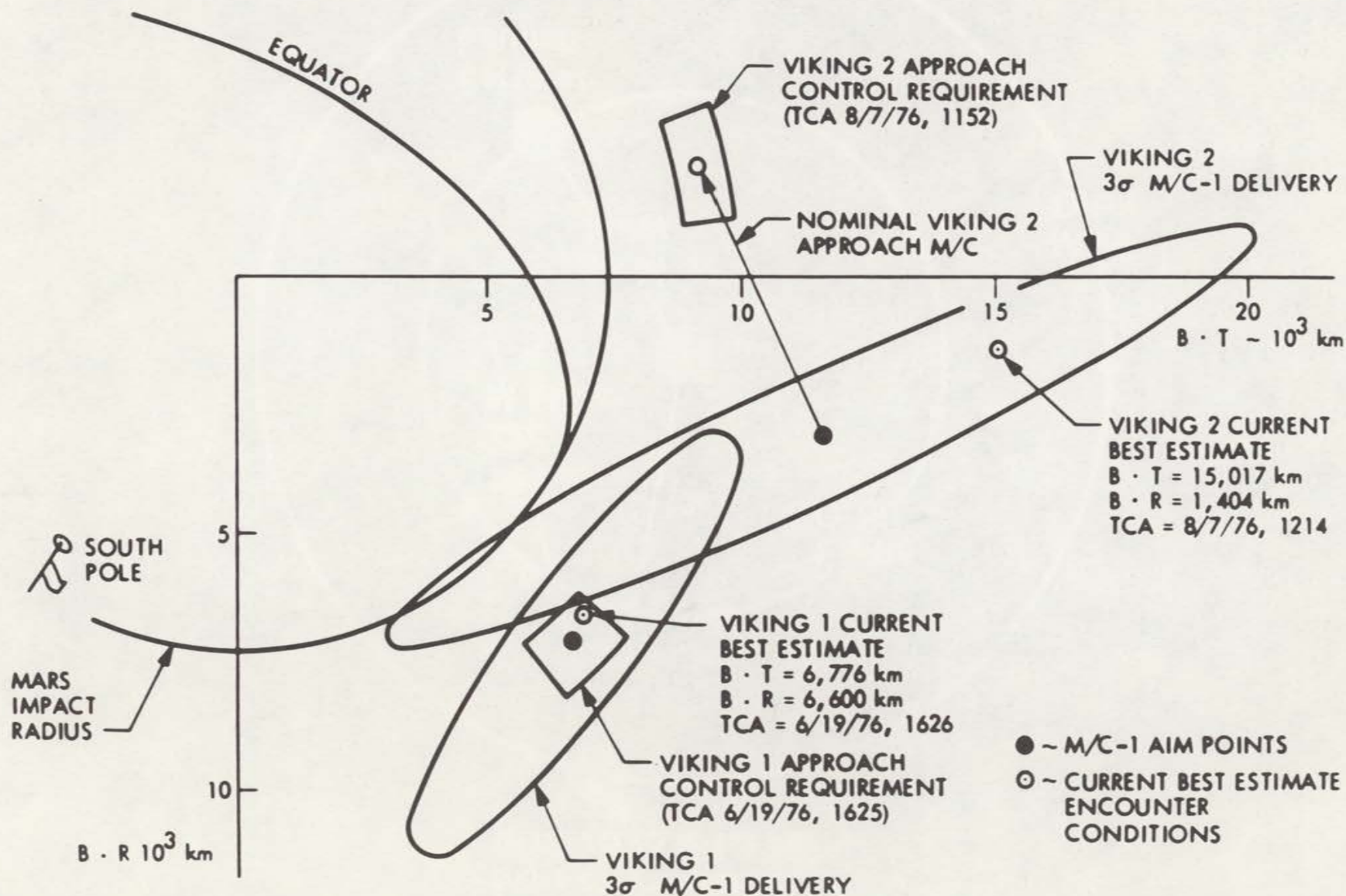


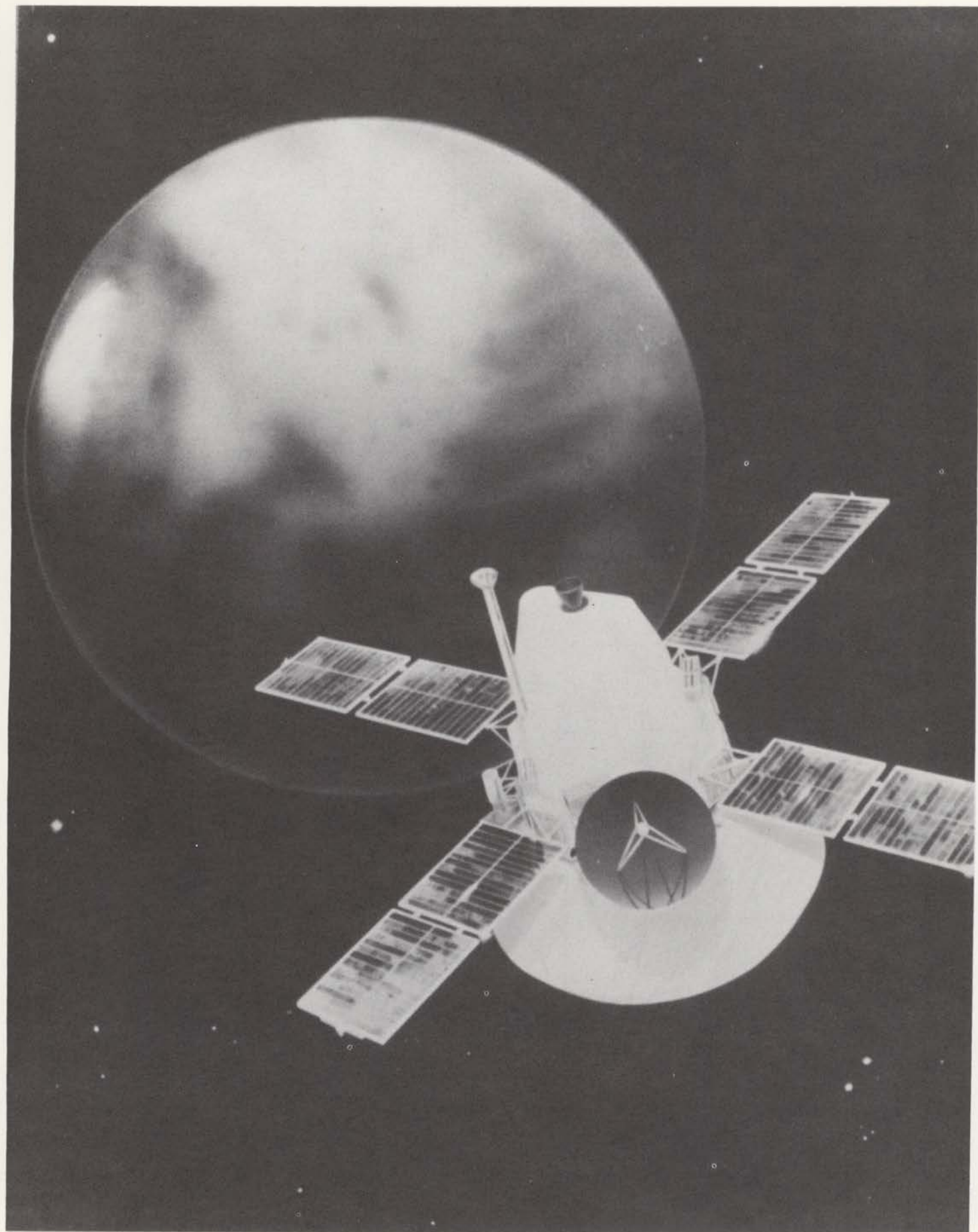
**Mars at Encounter
6-19-76 to 8-13-76**





VIKING 1 & 2 ENCOUNTERS

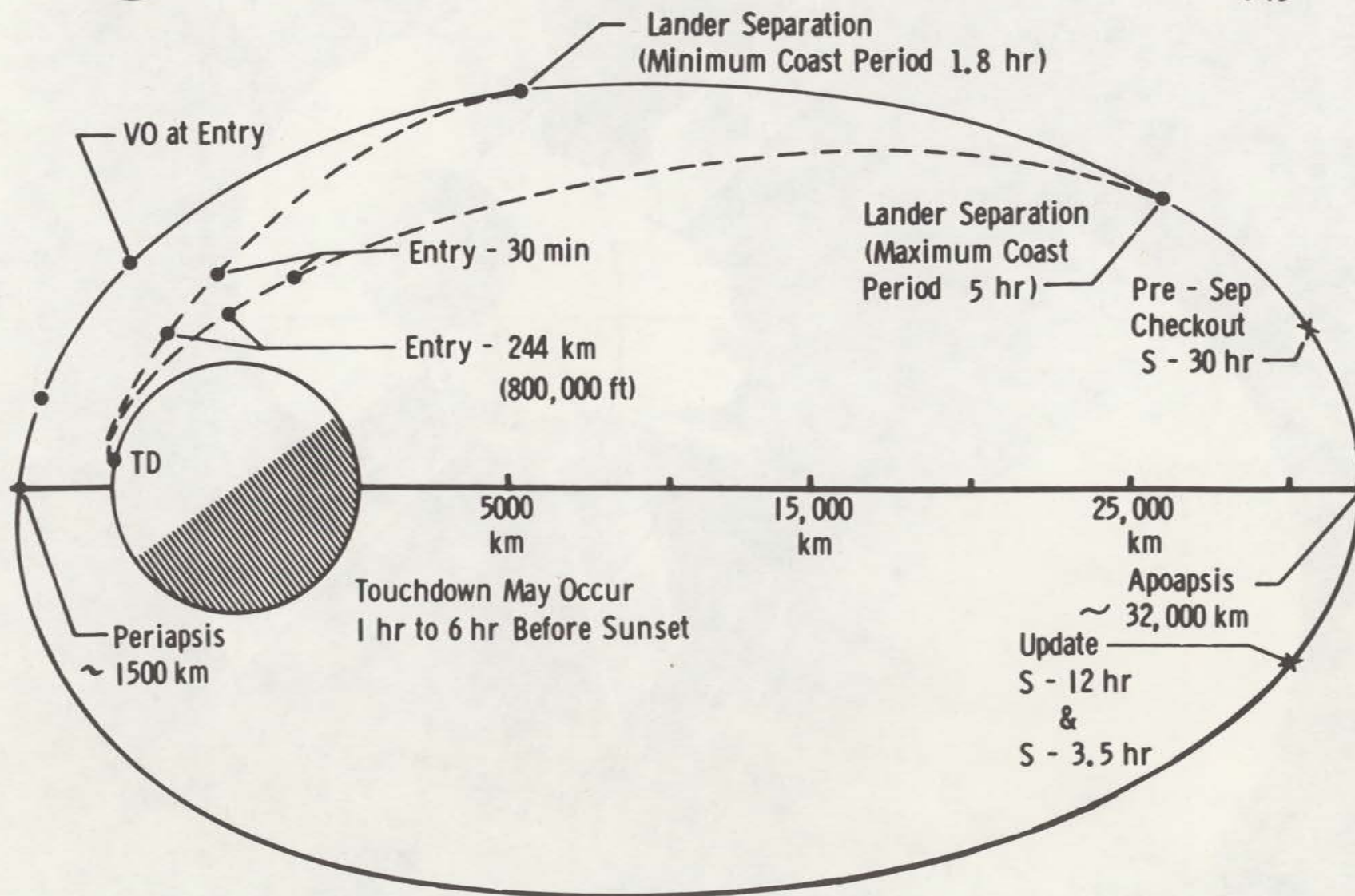






SPACECRAFT ORBIT DESCRIPTION

E6
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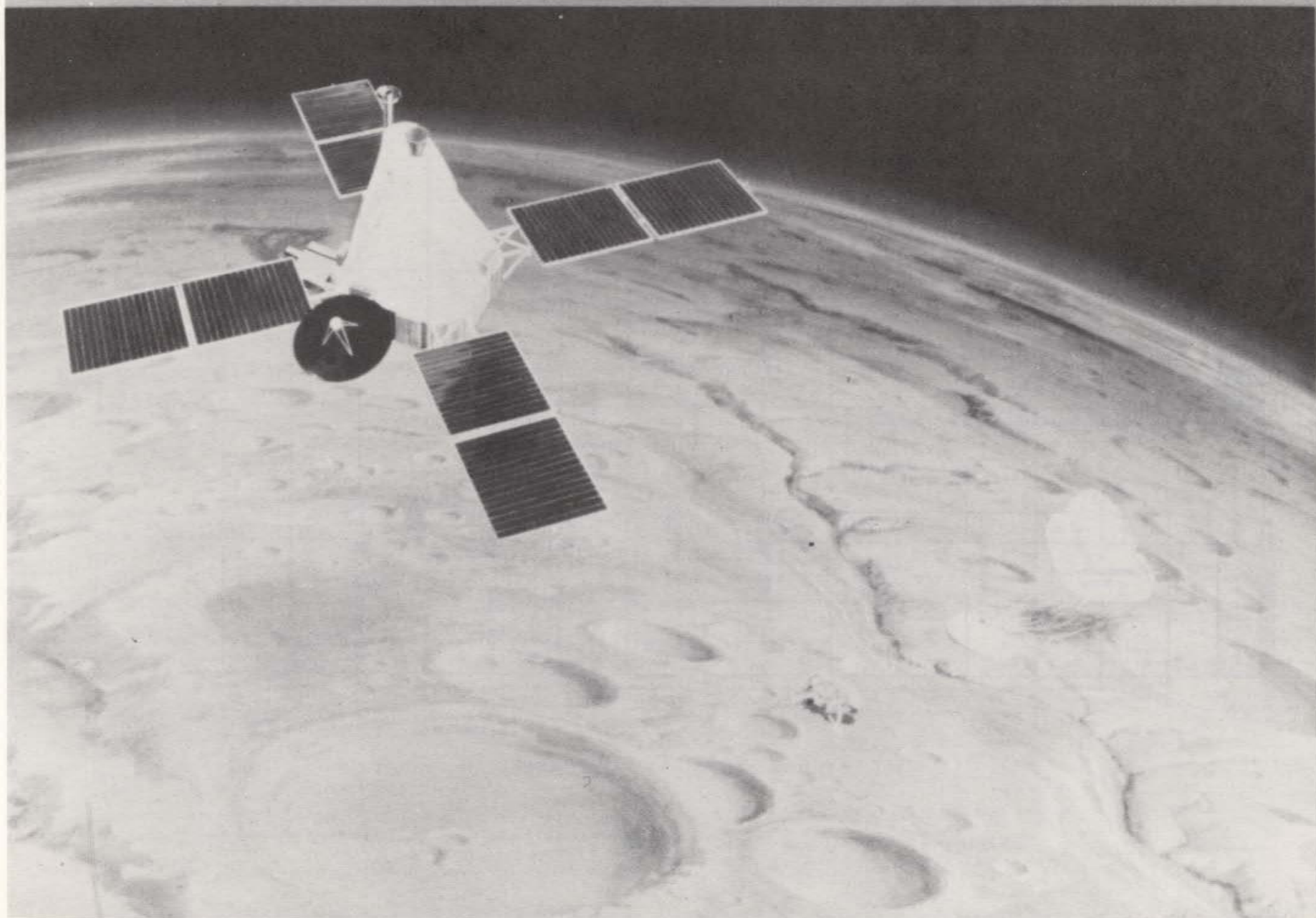




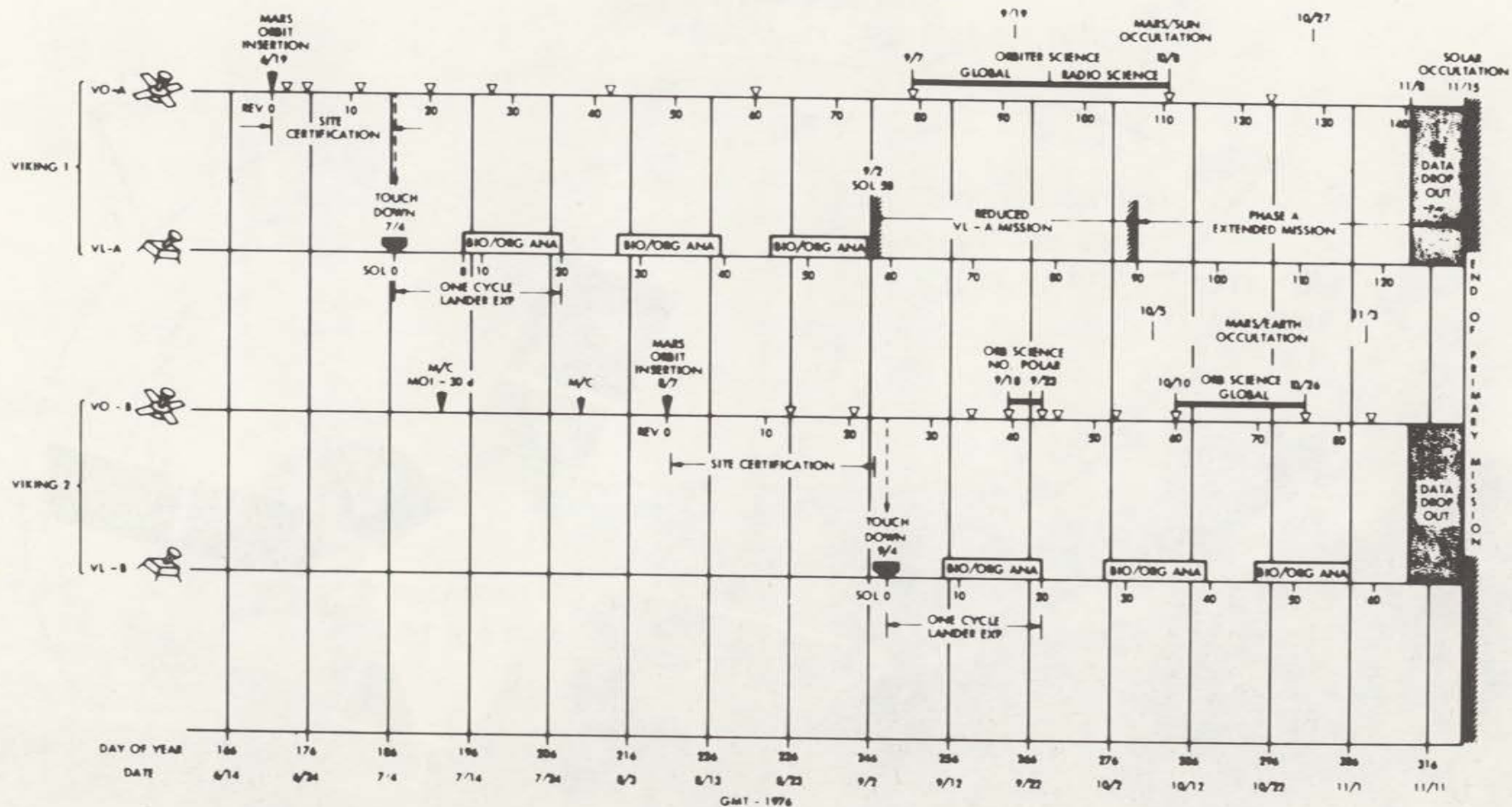
VIKING LANDER ON SURFACE OF MARS

(ARTIST CONCEPT)

E9C
10/73



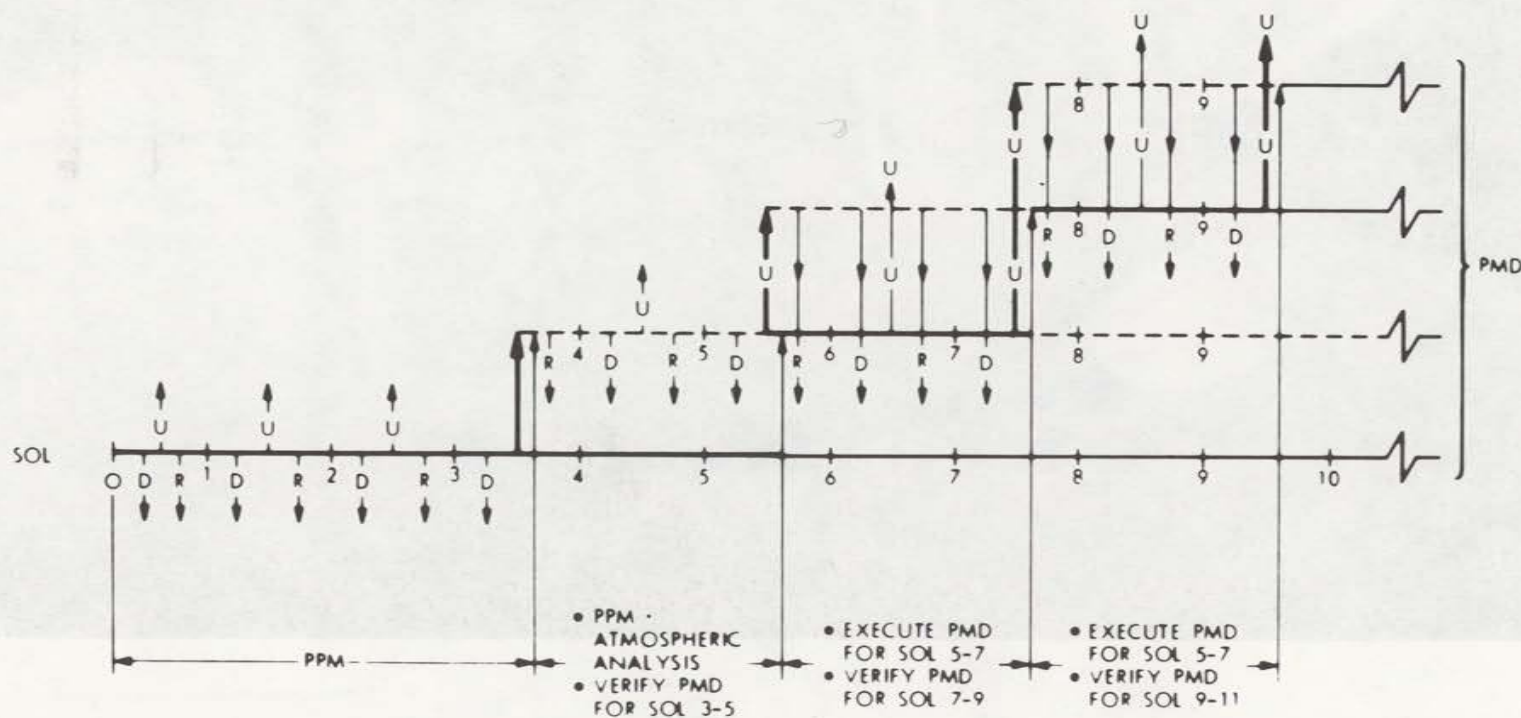
VIKING PLANETARY MISSION PROFILE

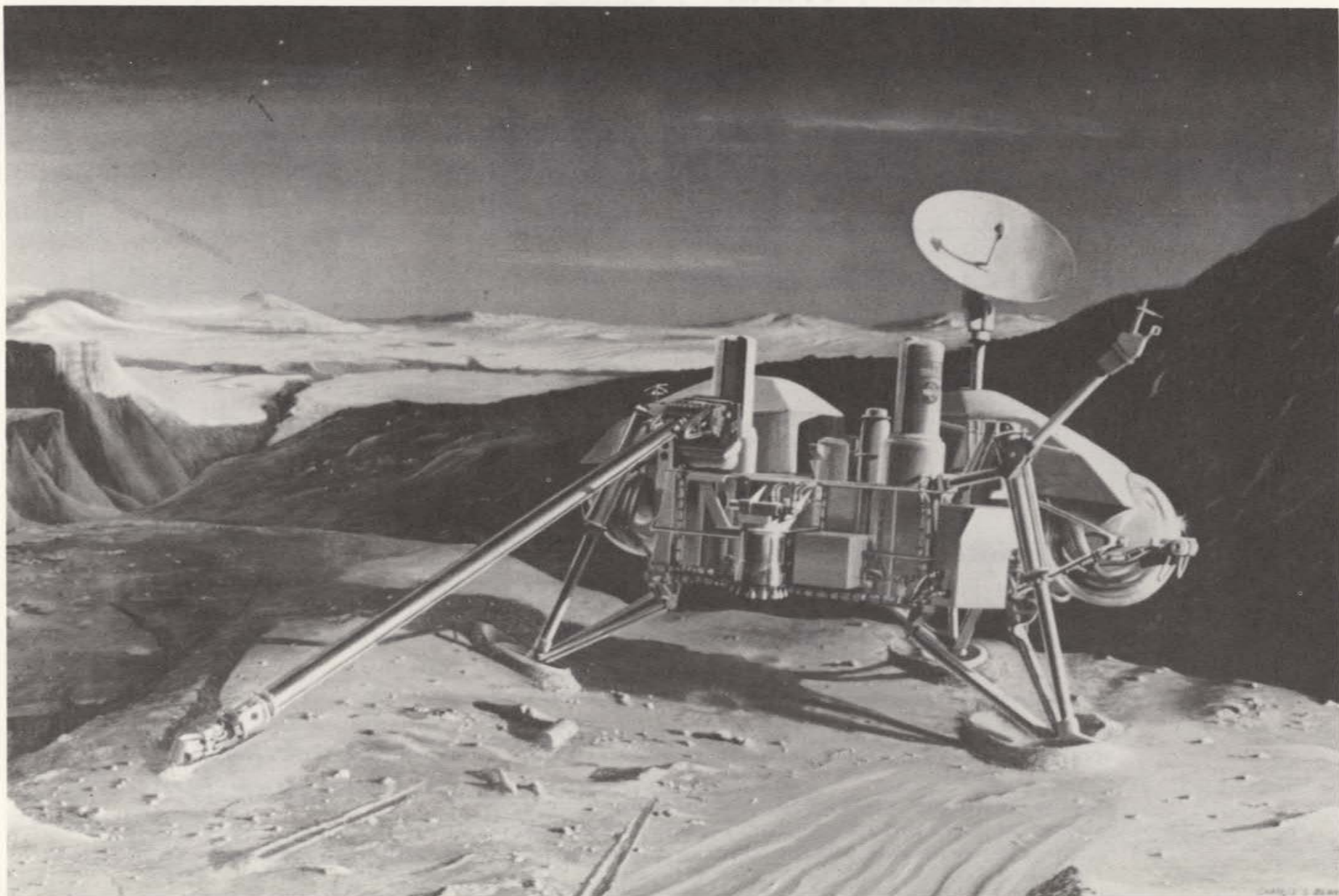


▽ - ORBITAL TRIM MANEUVERS
 — - NON - SYNCHRONOUS ORBITS

VIKING PLANETARY MISSIONS

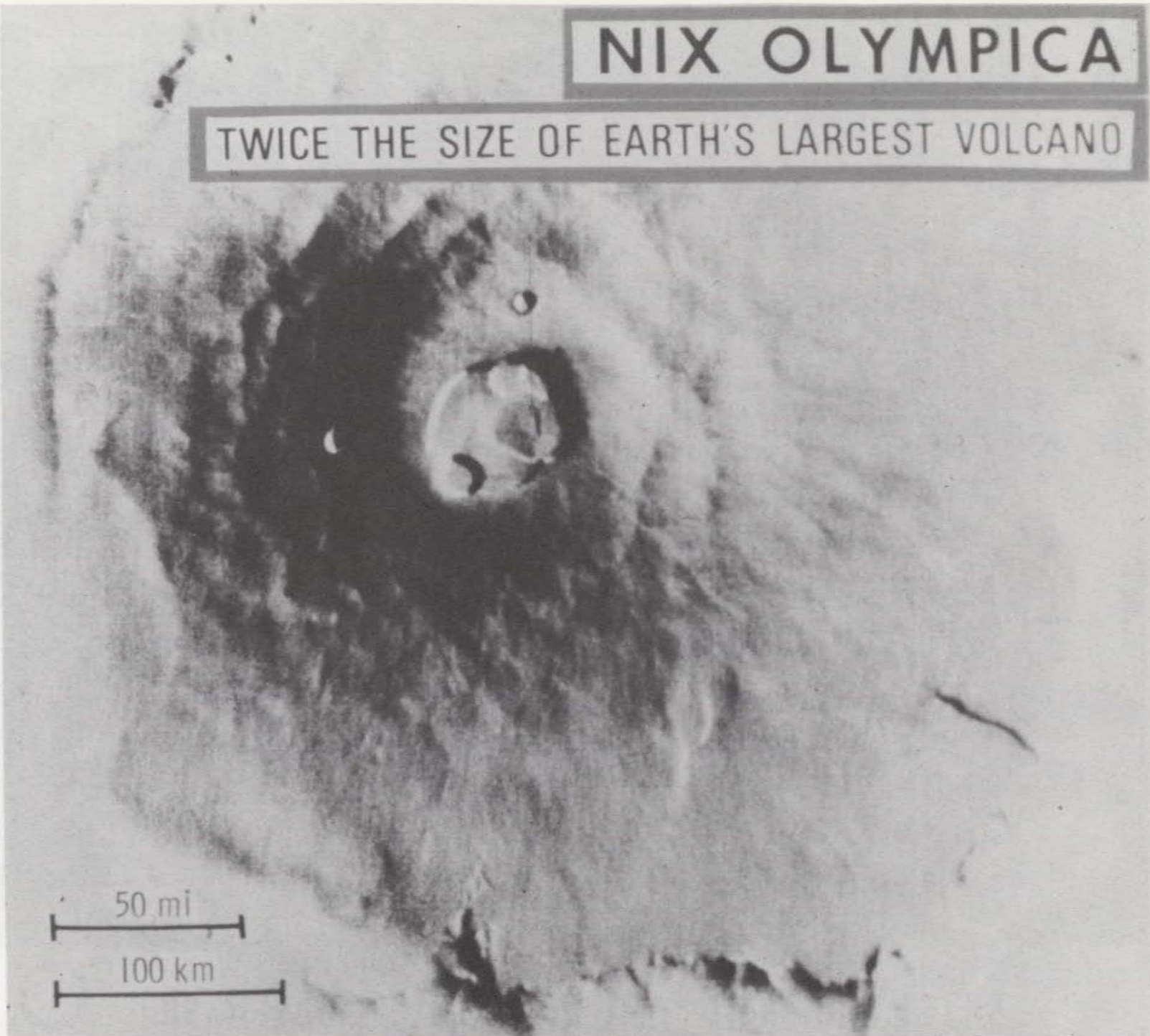
- PREPROGRAMMED MISSION (PPM)** -
- THE MISSION THAT WILL BE EXECUTED IF COMMAND CAPABILITY IS LOST
 - WOULD EQUAL THE PMD IF THE ON-BOARD COMPUTER WAS BIG ENOUGH
 - PLANNED, TESTED AND STORED IN ON-BOARD COMPUTERS BEFORE START OF PLANETARY OPERATIONS
- PRIMARY MISSION DESIGN (PMD)** -
- THE MISSION THAT WILL BE EXECUTED BASED UPON CURRENT KNOWLEDGE OF MARS, SPACE VEHICLES AND GROUND DATA SYSTEM AVAILABLE AT THIS TIME
 - PLANNED, DESIGNED AND TESTED BEFORE START OF PLANETARY OPERATIONS
 - REQUIRES PERIODIC UPLINKS TO LANDER FOR EXECUTION
- ADAPTIVE MISSION (AM)** -
- THE MISSION THAT RESULTS FROM ADAPTING THE PMD TO NEW KNOWLEDGE ABOUT MARS AND THE PERFORMANCE OF THE SPACE VEHICLES AND OR THE GROUND DATA SYSTEM AS IT IS OBTAINED
 - DETERMINED AS MISSION PROGRESSES
 - REQUIRES CAPABILITY WITHIN GDS AND VIKING FLIGHT TEAM TO RESPOND RAPIDLY





NIX OLYMPICA

TWICE THE SIZE OF EARTH'S LARGEST VOLCANO



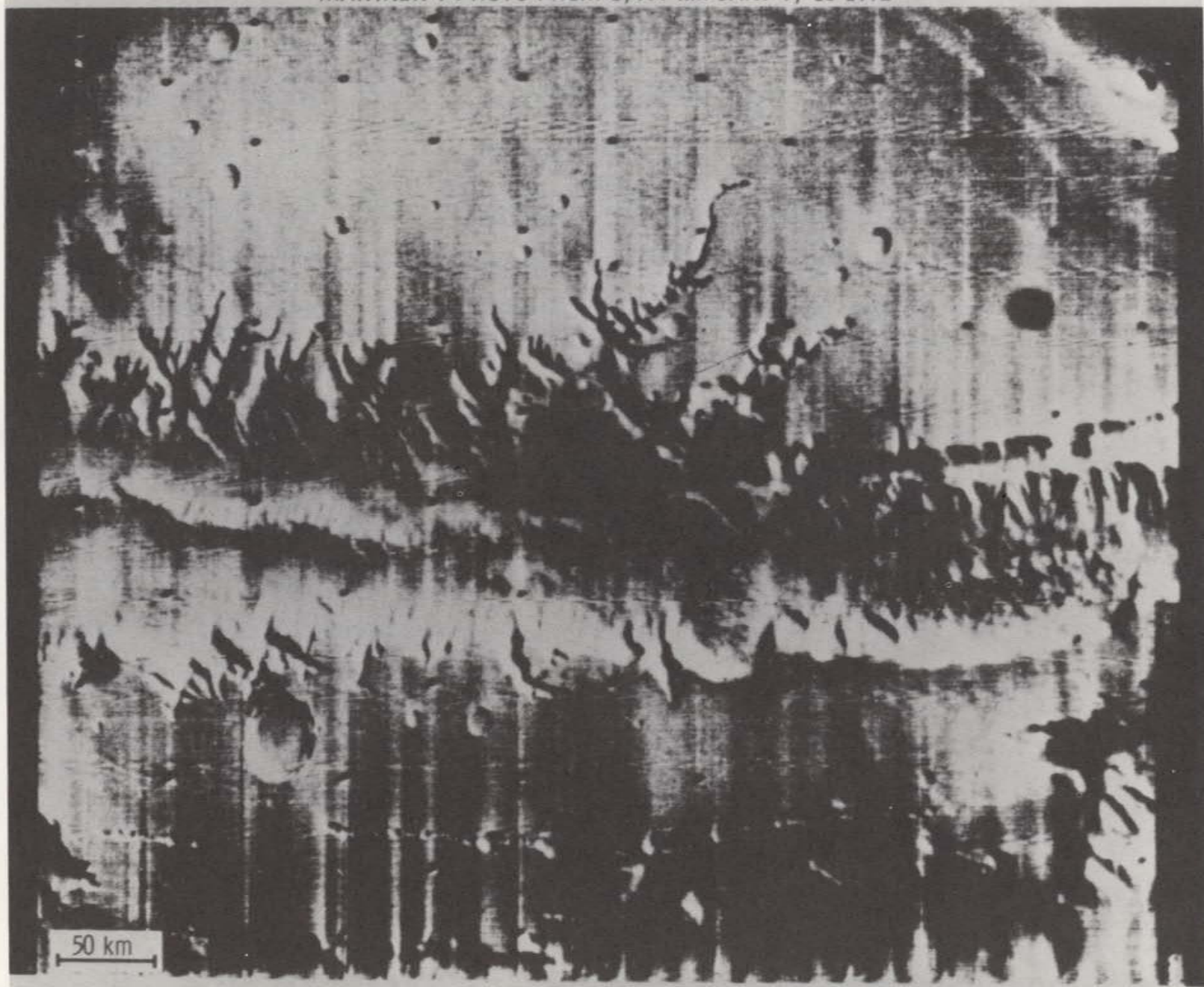


CHASM AREA (376 x 480) km - TITHONIUS LACUS

MARINER 9 PHOTO FROM 1,977 km JAN. 9, 10 1972

B881

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MARS SINUOUS VALLEY COMPARED TO RED RIVER

B8A4

7/73

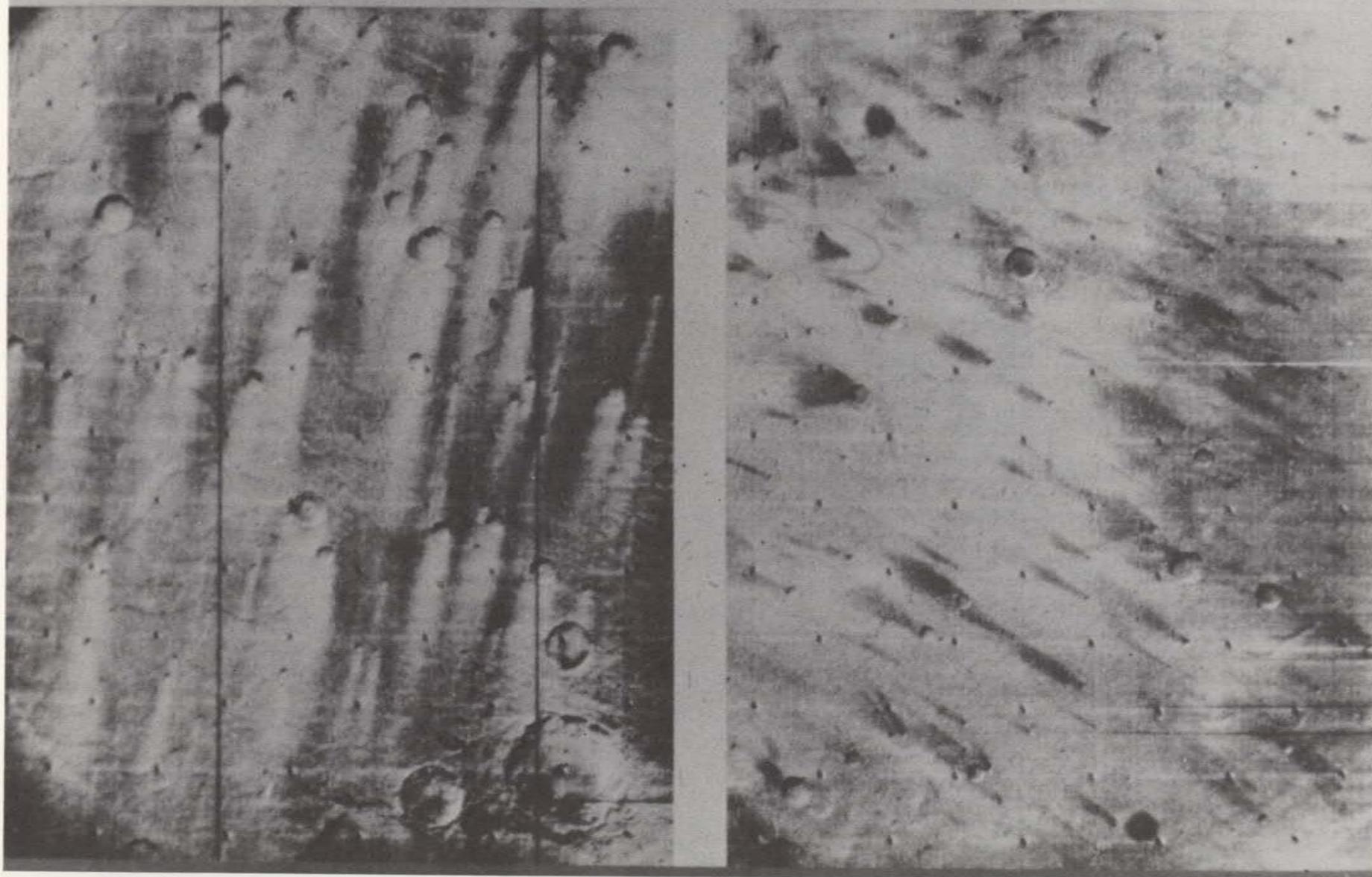




WIND & DUST EFFECTS ON MARTIAN SURFACE

MARINER 9 PHOTO

B8B8
3/72





VIKING LANDING SITES

ALBA
E-PRIME

CYDONIA
D-PRIME

CHRYSE
A-PRIME

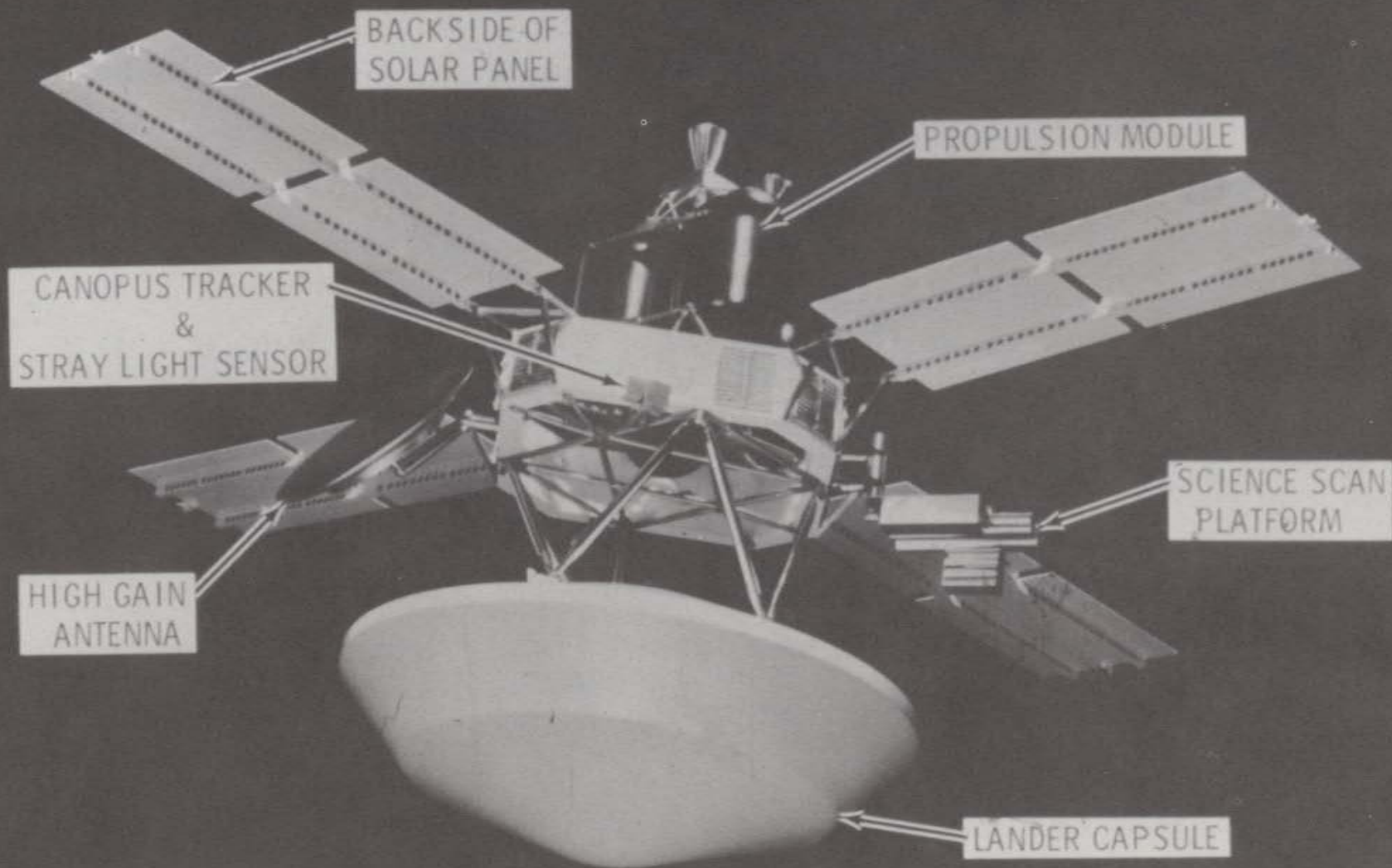
UTERUS
A-SALAD

NAME & TELEPHONE OF COMPANY OR INDIVIDUAL



VIKING SPACECRAFT CONFIGURATION IN CRUISE MODE

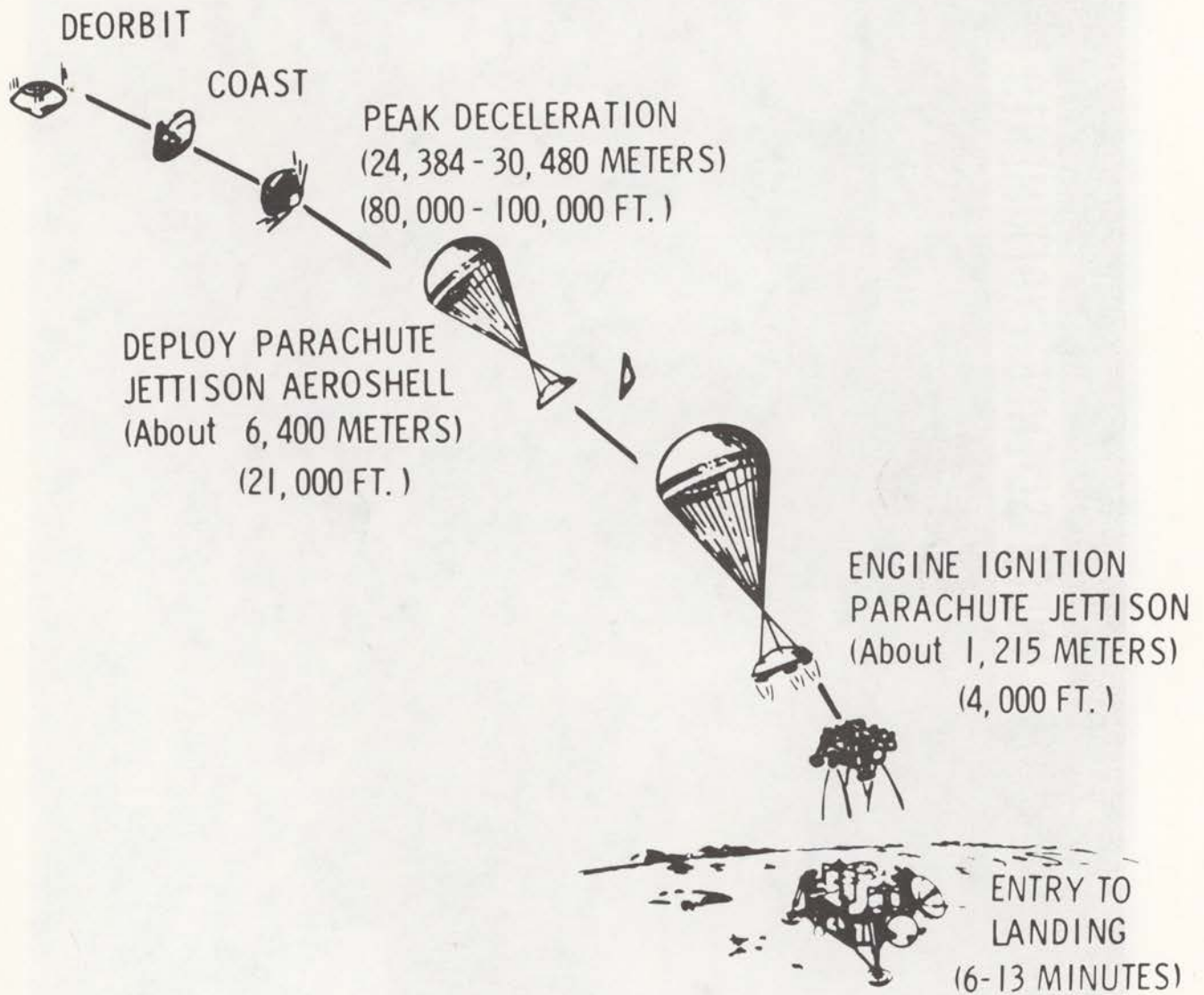
(VIEW OF SHADE SIDE OF ORBITER)



LANDER DESCENT PROFILE

G6A1

6/72



LANDER SCIENCE EXPERIMENTS

RADIO SCIENCE

METEOROLOGY

CAMERAS

PHYSICAL AND
MAGNETIC PROPERTIES

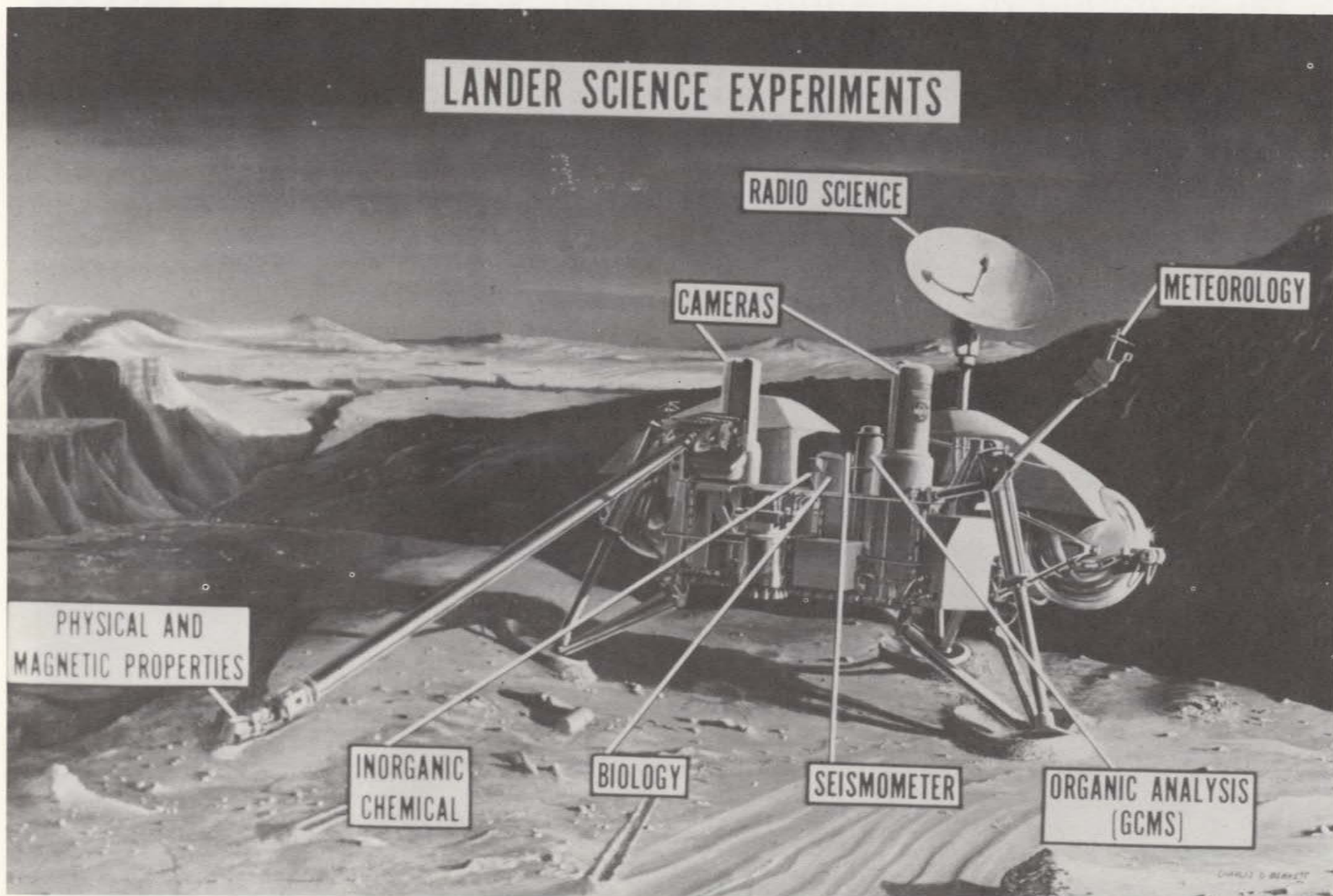
INORGANIC
CHEMICAL

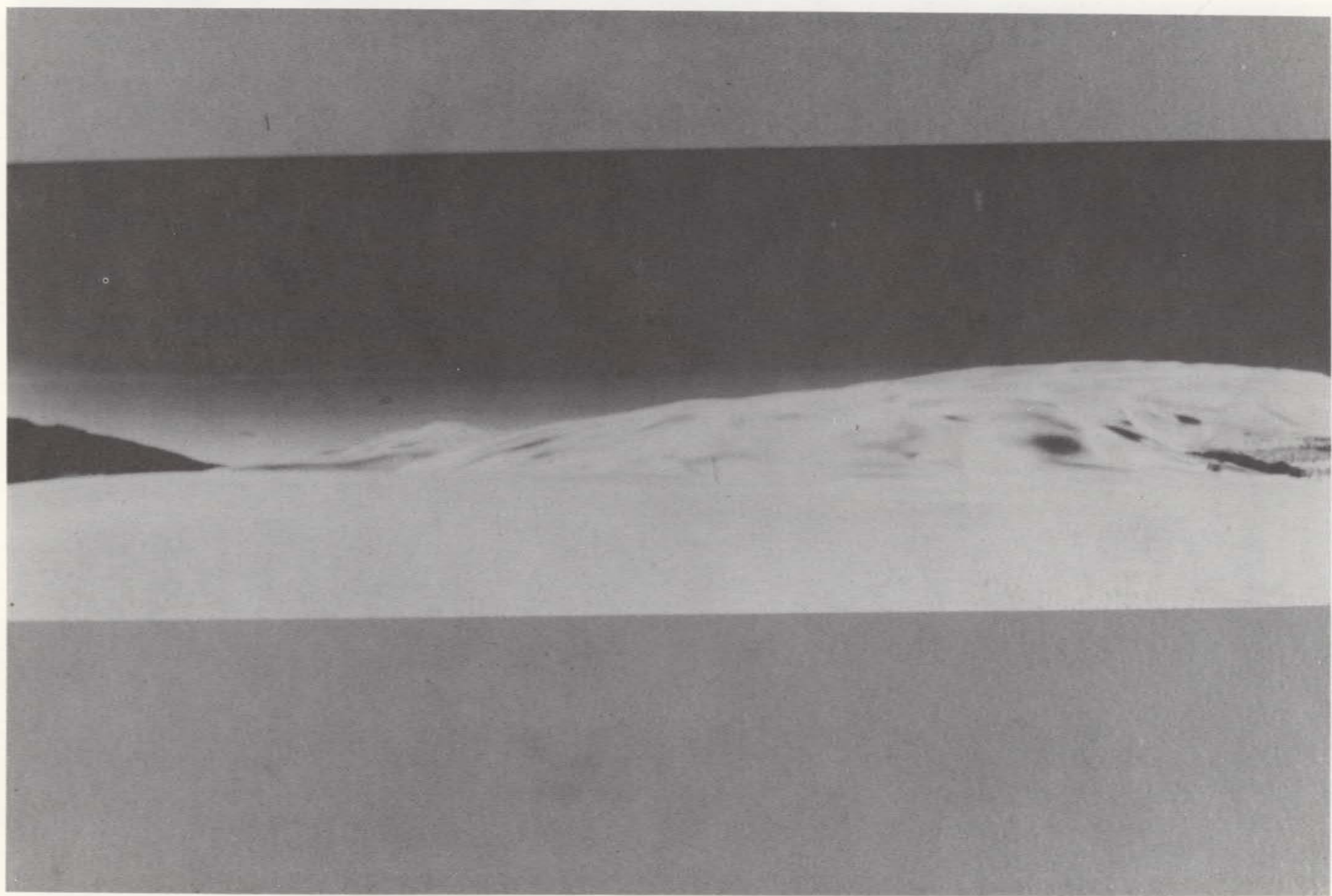
BIOLOGY

SEISMOMETER

ORGANIC ANALYSIS
(GCMS)

CHARLES D. BEAUMONT

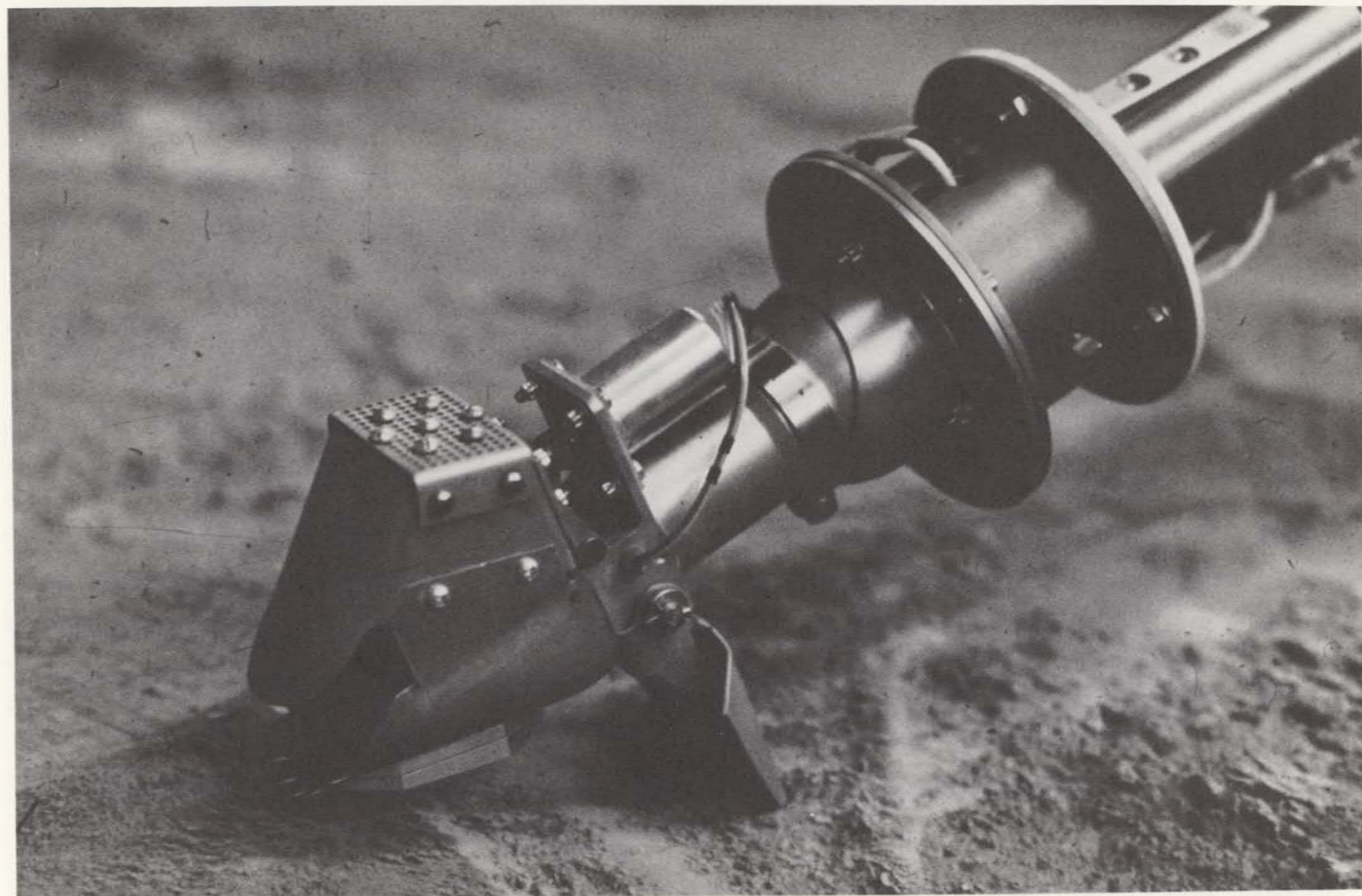




SCIENCE 012 PDF-01 6-12-74 6PM
SOLAR SITE PANORAMA

SA 20.0 EA 160.0 EL + 0 DR H CS CLR
IS 1 OF 1 GN 5 FC 173 LC 0 T 51





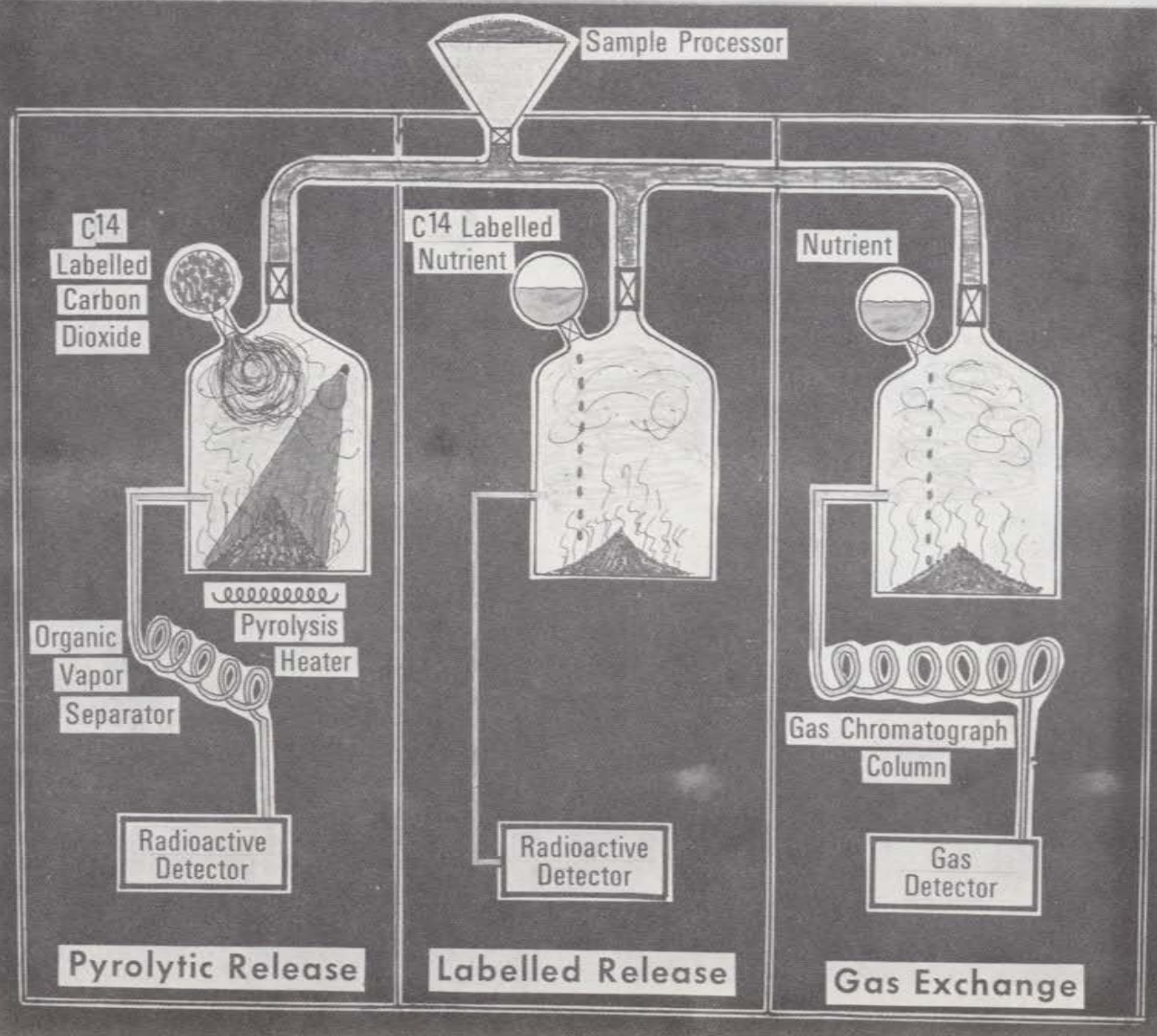
INTEGRATED BIOLOGY



INTEGRATED BIOLOGY INSTRUMENT

D6D5

6/72





BIOLOGY INSTRUMENT - QUAL UNIT

D6D2G
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