Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

NOTES ON BASE

This map is one in a series covering the entire surface of Mars at a nominal scale of 1:5,000,000. The series was originally compiled from Mariner 9 data (Batson and others, 1979). The original shaded relief base was revised and augmented with image data from Viking Orbiter, but feature positions were not shifted to fit controls derived from Viking.

ADOPTED FIGURE

The figure of Mars used for the computation of the map projection is an oblate spheroid (flattening of 1/192) with an equatorial radius of 3,393.4 km and a polar radius of 3,375.7 km.

PROJECTION

The Mercator, Lambert Conformal Conic, and Polar Stereographic projections are used for the map series. The scale of the series is 1:5,000,000 at the equator. The projections have common scales of 1:4,336,000 at lat ±30° and 1:4,306,000 at lat ±65°. Standard parallels for the Lambert Conformal Conic projection are at lat ±35.8° and ±59.2°. Longitude increases to the west in accordance with astronomical convention for Mars. Latitude is planetographic.

CONTROL

Planimetric control of the shaded relief is provided by photogrammetric triangulation using Mariner 9 images (Davies, 1973; Davies and Arthur, 1973) and the radio-tracked position of the Mariner 9 spacecraft. The first meridian passes through the center of a small crater, Airy-O (lat 5.19° S., long 0°), within the crater Airy.

Primary controls used in the network include the Viking Orbiter Secondary: Experiment Data Record, radio-occultation measurements from both Mariner 9 and Viking Missions (Lorell and others, 1972; Kliore and others, 1973; Lindal and others, 1979), Earth-based radar observations (Pettengill and others, 1971; Downs and others, 1975), and the Mars primary control network of the Rand Corporation (Davies and others, 1978).

MAPPING TECHNIQUE

Shaded relief was portrayed by photointerpretive methods described by Inge and Bridges (1976). Uniform sun illumination from the west was used throughout. The original rendition of feature positions, sizes, and shapes was taken from a controlled base mosaic of Mariner 9 images. Various computer enhancements of many Mariner 9 and Viking Orbiter images besides those in the base mosaic were examined in an attempt to portray the surface as accurately as possible.

Initial shaded relief analysis and representation were made by Jay L. Inge; revisions were made by Eric Blinn.
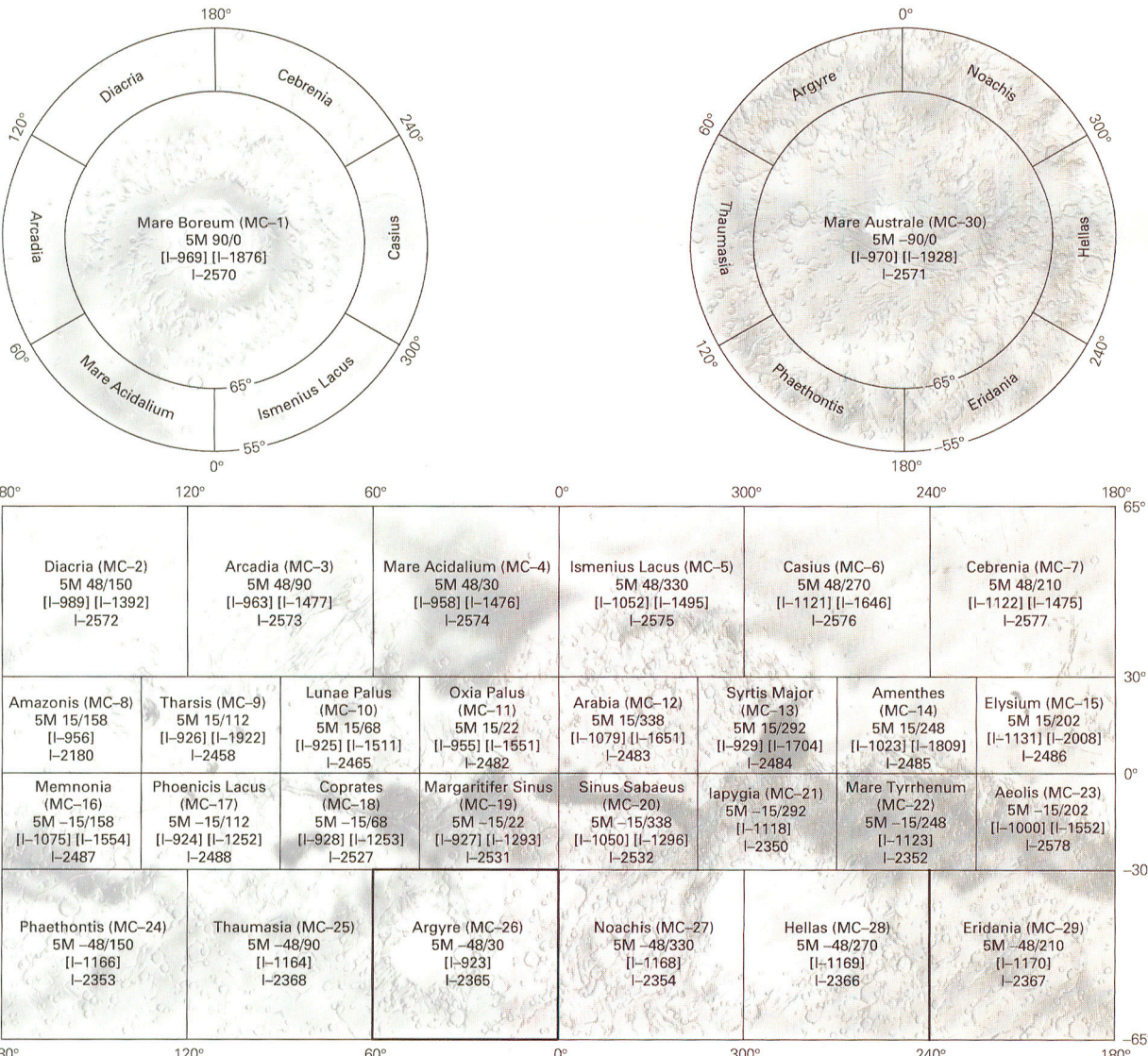
COLOR

No attempt was made on the map to duplicate precisely the color of the martian surface, although the color used may approximate it.

NOMENCLATURE

Names on this sheet are approved by the International Astronomical Union (IAU, 1974, 1977, 1980, 1986, 1992, 1996).

MC-26: Abbreviation for Mars Chart 26.

M 5M –48/30 RN Abbreviation for Mars; 1:5,000,000 series; center of sheet, lat 48° S., long 30°; shaded relief map (R) with nomenclature (N).

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North
West
East
South

NOACHIS
TERRA
MERIDIANI MONTES
ARGYRE PLANITIA
CHARITUM MONTES
NEREIDUM MONTES
Hooke
Galle
Green
Darwin
Wirtz
Helmholtz
Arkhangelsky
Hale
Bond
Vogel
Hartwig

SCALE 1 : 4 336 000 (1 mm = 4.336 km) AT -30° LATITUDE
LAMBERT CONFORMAL CONIC PROJECTION

KILOMETERS

Shaded relief revised in October 1991 on behalf of the Planetary Geology Program, Solar System Exploration Division, Office of Space Science, National Aeronautics and Space Administration.

The shaded relief portion of this map supersedes that of I-823.

Edited by Derrick D. Hirsch; cartography by Roger D. Carroll, Darlene A. Casebier, Sandra K. Castro, and Hugh F. Thomas.
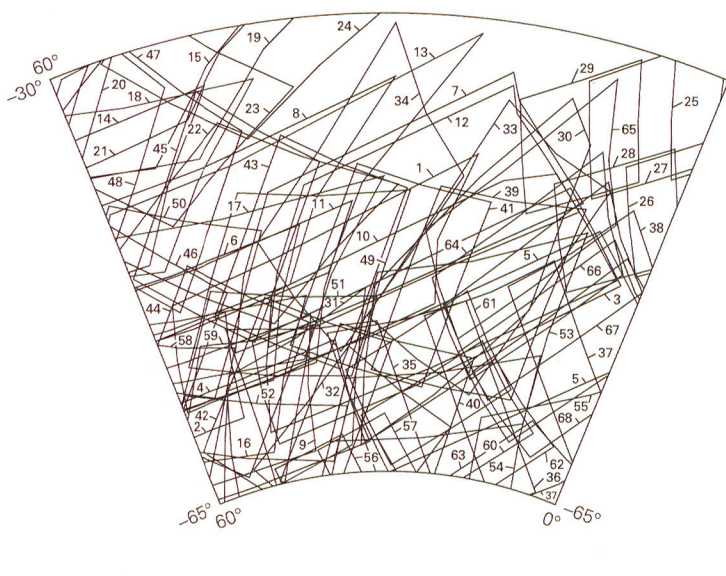
Manuscript approved for publication May 12, 1992

QUADRANGLE LOCATION

Number preceded by I refers to published shaded relief map.
(Number in brackets refers to earlier map superseded by revised version.)

NOTE TO USERS

Users noting errors or omissions are urged to indicate them on the map and to forward it to U.S. Geological Survey, Building 4, Room 450, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.
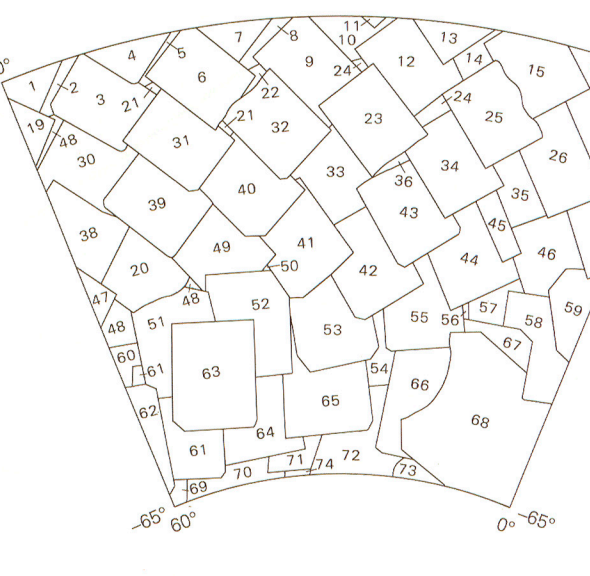
1:2,000,000-SCALE CONTROLLED PHOTOMOSAICS

I-Series	Quadrangle
I-1191	MC-26 NW
I-1192	MC-26 NC
I-1193	MC-26 NE
I-1682	MC-26 SW
I-1682	MC-26 SE

INDEX OF VIKING SOURCES

This shaded relief map has been revised by utilizing 1:2,000,000-scale controlled photomosaics and supplementary Viking pictures outlined above. Copies of various enhancements of these pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.

INDEX OF MARINER 9 PICTURES

The mosaic used to control the positioning of features on this map was made with the Mariner 9 A-camera pictures outlined above. The DAS number may vary slightly (usually by 5) among different versions of the same picture.

VIKING 1

A-camera pictures

REVISED SHADED RELIEF MAP OF THE ARGYRE QUADRANGLE (MC–26) OF MARS

1996