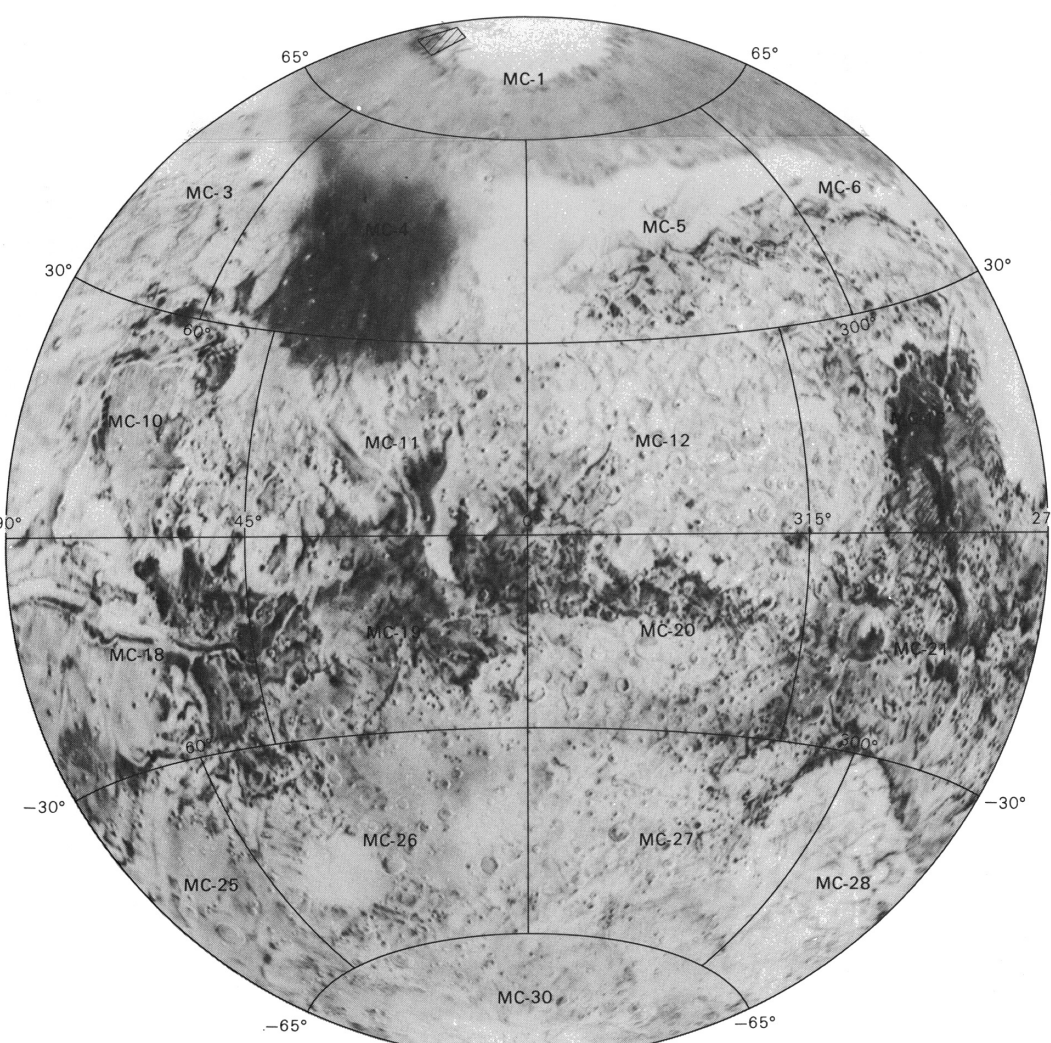


INTERIOR—GEOLOGICAL SURVEY, RESTON, VA—1986—G8113  
Prepared on behalf of the Planetary Geology Program, Planetary Division, Office of  
Space Science, National Aeronautics and Space Administration, under contract  
W-13705

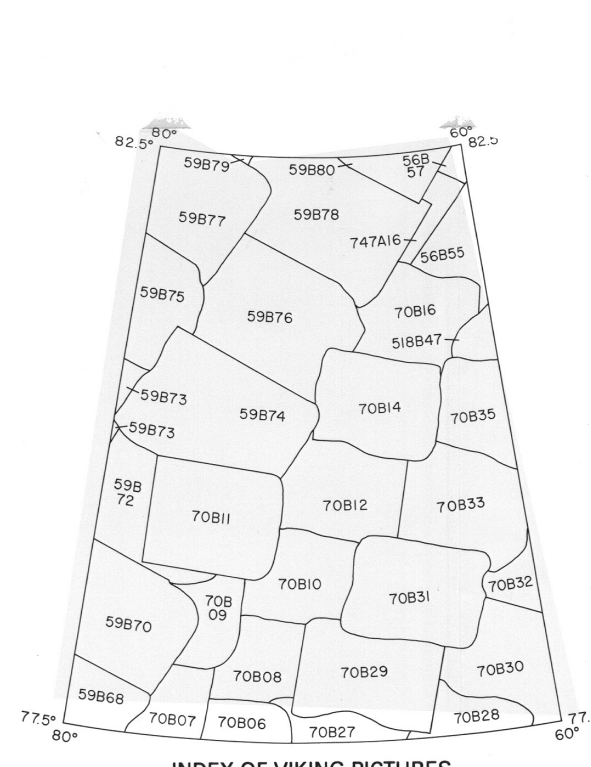


QUADRANGLE LOCATION  
Photomosaic location is shown in the western hemisphere  
of Mars. An outline of 1:5,000,000-scale quadrangles is  
provided for reference.

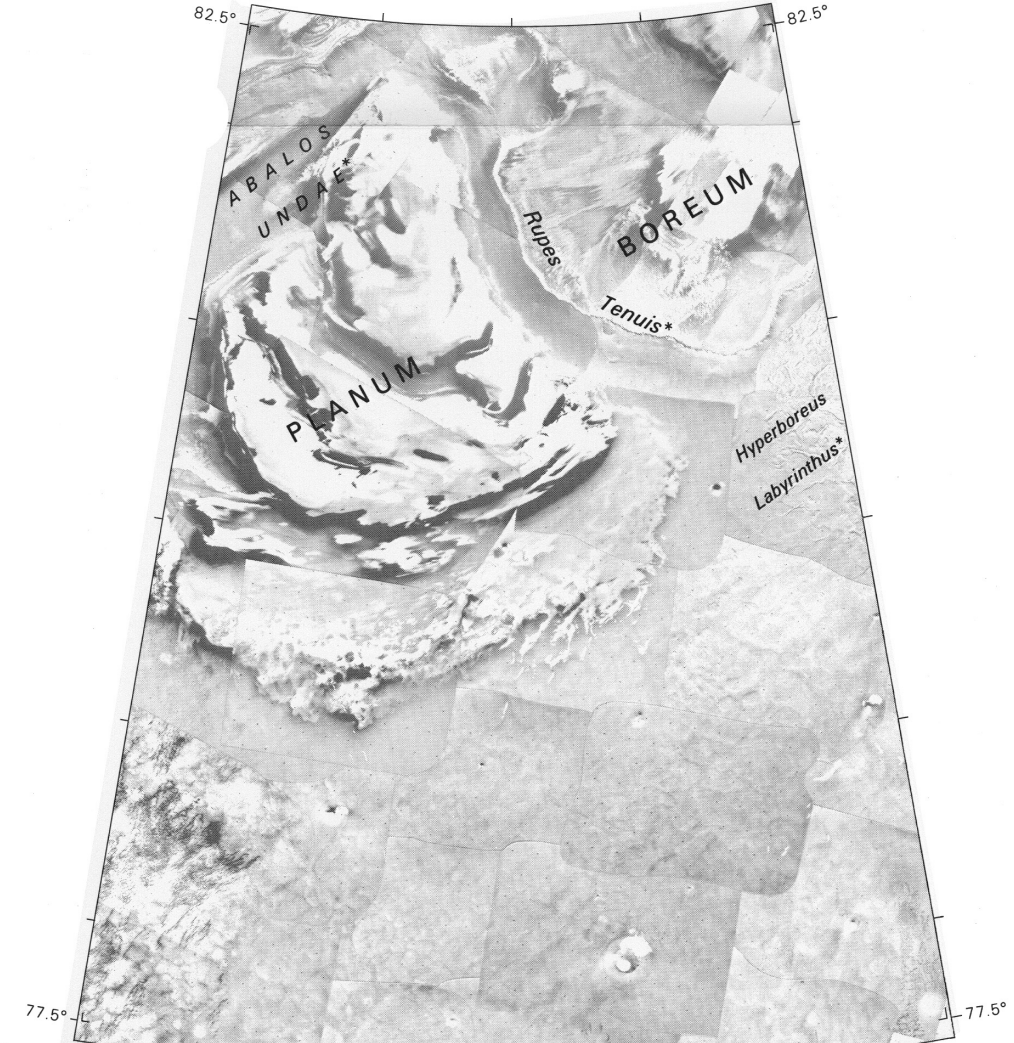
**NOTES ON BASE**  
This photomosaic is part of a series of quadrangles selected to show areas of special  
interest on Mars. Viking Orbiter high-resolution pictures (less than 100 m per picture  
element) were used to make the mosaic. The images have been digitally enhanced to  
accentuate high-frequency detail. Image placement is based on the 1978 control net  
(Davies and others, 1978), the 1982 control net (Davies and Katayama, 1983), and the  
Mars control network (Wu and Schaler, 1984). These nets contain published standard  
errors of approximately 3 km, and agreement of points common to the nets may differ  
by as much as 1 cm at map scale. Image points from 1:2,000,000-scale controlled  
photomosaics were transferred to the Transverse Mercator projection where control  
points are sparse or not available.  
The density, distribution, precision, and accuracy of available control points used for  
this map series are extremely variable. A block of mosaics compiled in areas of  
optimum control point distribution is not likely to match adjacent blocks previously  
compiled in areas of sparse or imprecise control. Where discrepancies exist between  
adjacent mosaics, the more recent compilation is probably more accurate. No  
attempt was made to resolve large edge discrepancies with previous compilations.  
The projection is based on a Mars Transverse Mercator (MTM) system with 20°  
zones. The scale factor at the central meridian of the zone containing this quadrangle  
is 0.9960. The projection scale is based on an oblate spheroid (flattening of 1/192) with  
an equatorial radius of 3393.4 km and a polar radius of 3375.7 km.

**NOMENCLATURE**  
All names shown on the reduced base mosaic are approved by the International  
Astronomical Union (IAU, 1977) except for provisional names, which are indicated by  
an asterisk.  
MTM 80070 Abbreviation for Mars; Transverse Mercator projection;  
sheet 80070  
M 500K 80/70 CM Abbreviation for Mars; 1:500,000 series; center of sheet  
lat 80° N., long 70°; controlled photomosaic (CM).

**REFERENCES**  
Davies, M.E., and Katayama, F.Y., 1983, The 1982 control network of Mars: Journal  
of Geophysical Research, v. 88, no. 19, p. 7505-7509.  
Davies, M.E., Katayama, F.Y., and Roth, J.A., 1978, Control net of Mars: February  
1978. The Rand Corporation, R-2309-NASA, 91 p.  
International Astronomical Union, 1977, Working Group for Planetary System  
Nomenclature, in 16th General Assembly, Grenoble, 1976, Proceedings: Interna-  
tional Astronomical Union Transactions, v. 148, p. 321-325, 331-336, 355-362.  
Wu, S.S.C., and Schaler, F.J., 1984, Mars control network: American Society of  
Photogrammetry, in Technical papers of the 50th annual meeting of the American  
Society of Photogrammetry, v. 2, Washington, D.C., March 11-16, 1984, p.  
456-463.



**INDEX OF VIKING PICTURES**  
The mosaic was made with the 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.



LOCATION OF FEATURES  
Contrast in the reduced base mosaic was purposely suppressed to  
emphasize the names.

**MTM 80070**  
**CONTROLLED PHOTOMOSAIC OF PART OF THE CHASMA**  
**BOREALE REGION OF MARS**  
**M 500K 80/70 CM**  
**1986**

**NOTE TO USER**  
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  
454, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replace-  
ment copy will be returned.

For sale by U.S. Geological Survey, Map Distribution,  
Box 24266, Federal Center, Denver, CO 80225