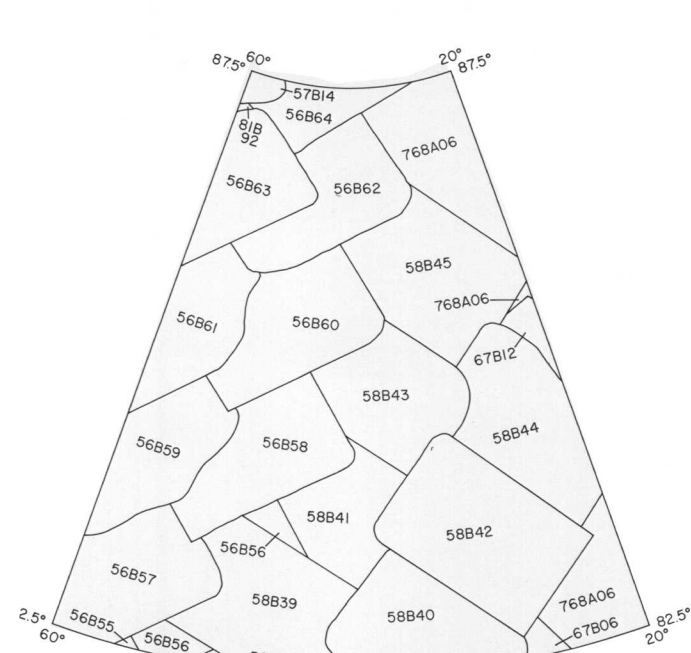


QUADRANGLE LOCATION
Photomosaic location is shown in the western hemisphere of Mars. An outline of 1:5,000,000-scale quadrangles is provided for reference.

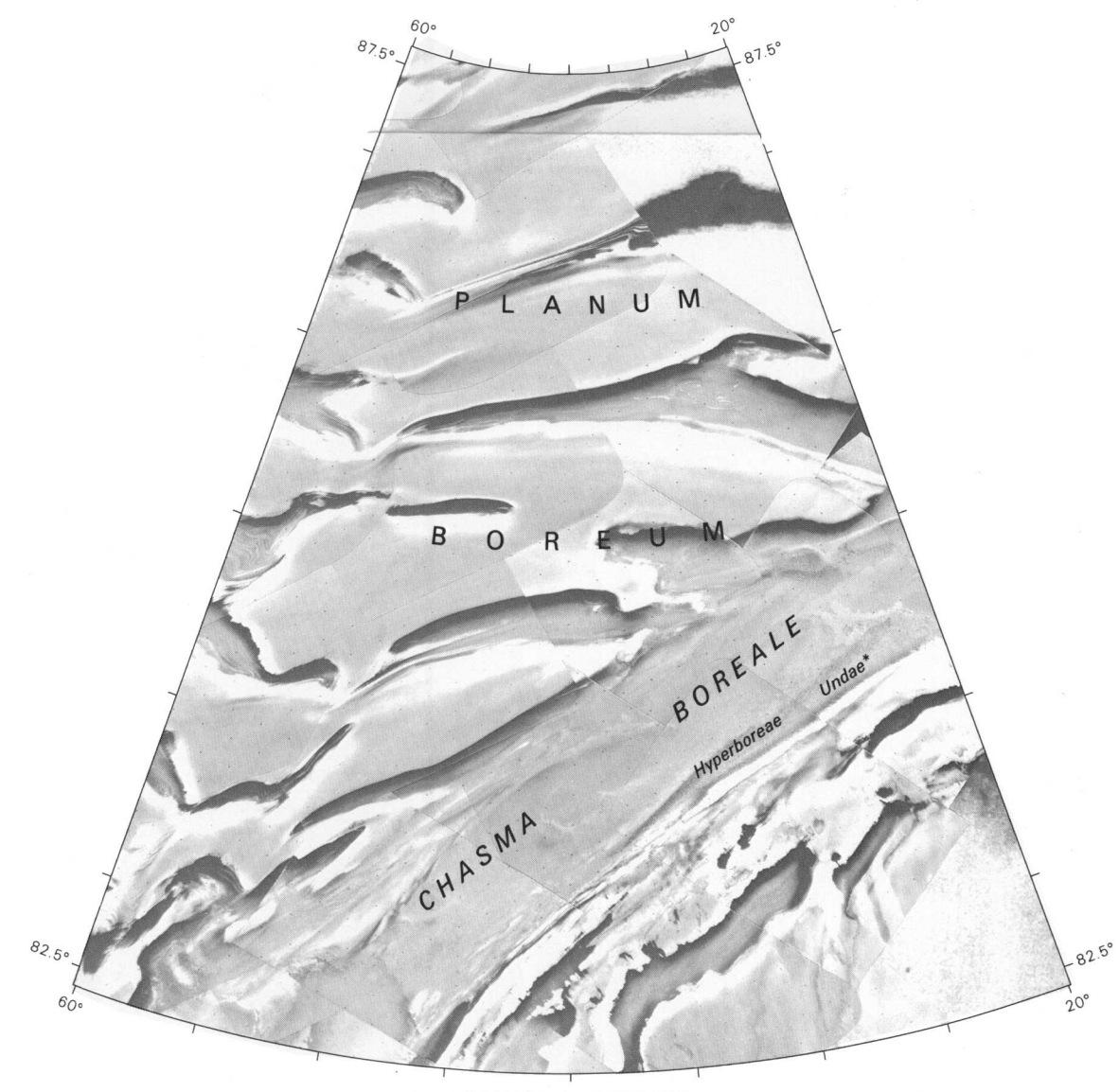
NOTES ON BASE
This photomosaic is part of a series of quadrangles selected to show areas of special interest on Mars. Viking Orbiter high-resolution pictures (less than 100 m per picture element) were used to make the mosaic. The images have been digitally enhanced to accentuate high-frequency detail. Image alignment 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 Schaber, 1984). These nets contain published standard errors of approximately 5 km, and agreement of points common to the nets may differ by as much as 1 cm at map scale. Image points from 12,000,000-scale controlled photomosaics were transferred to the Polar Stereographic 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 Transverse Mercator and Polar Stereographic projections are used for this series. The Polar Stereographic projection has a scale of 1:500,000 at lat. 88.2°S and 1:500,300 at the poles. The projection scales are 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), 1974, 1977, except for one provisional name, which is indicated by an asterisk.
M 500K 85/40 CM Abbreviation for Mars; 1:500,000 series; center of sheet at lat 85° N., long 40° E.; 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. 89, p. 7503-7504.
Davies, M.E., Katayama, F.Y., and Roth, L.A., 1978, Control net of Mars: February 1978: The Rand Corporation, B-2209 NASA, 91 p.
International Astronomical Union, 1974, Commission 16: Physical study of planets and satellites, and Lunar and martian nomenclature, in 15th General Assembly, Sydney, 1973, Proceedings: International Astronomical Union, Transactions, v. 15B, p. 105-106, 217.
1977, Working Group for Planetary System Nomenclature, in 16th General Assembly, Grenoble, 1976, Proceedings: International Astronomical Union, Transactions, v. 16B, p. 321-325, 331-336, 355-362.
Wu, S.S.C., and Schaber, 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. 466-468.



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 85040
CONTROLLED PHOTOMOSAIC OF PART OF THE CHASMA
BOREALE REGION OF MARS
M 500K 85/40 CM
1986

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 454, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.

For sale by U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225