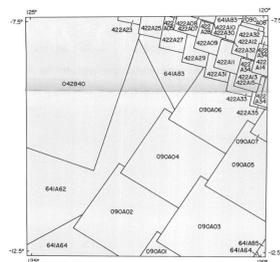
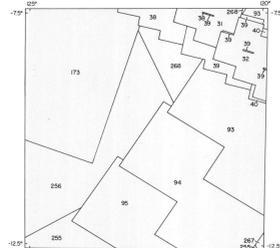


SCALE 1:502,000 (1 mm = 322 m) AT 130° LONGITUDE  
TRANSVERSE MERCATOR PROJECTION  
KILOMETERS

Prepared for the Planetary Geology Program, Solar System Exploration Division,  
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W-15514  
Manuscript approved for publication, March 29, 1990



**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.

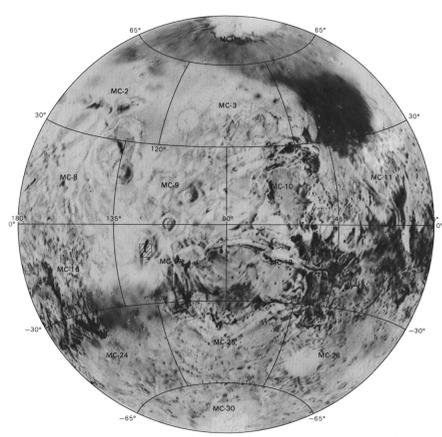


**INDEX MAP OF NOMINAL IMAGE RESOLUTION (METERS PER PIXEL)**

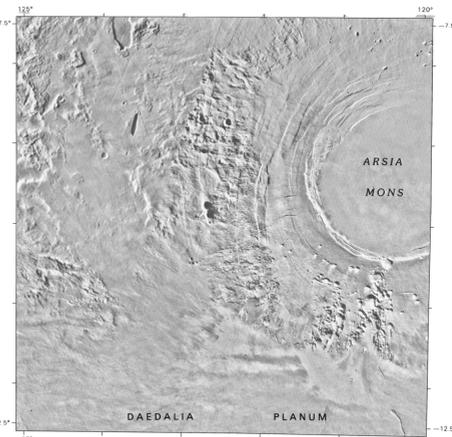
**NOTES ON BASE**  
This photomosaic covers part of an area of special scientific interest on Mars. It is published in a series designed to support topical studies, which is not expected to result in systematic coverage of the planet. The mosaic was compiled by digital methods described by Batson (1987) and Edwards (1987). The distribution of Viking Orbiter images suitable for mapping at a scale of 1:500,000 is uneven, as are the quality and distribution of map controls. The mosaics are usually compiled in blocks of two or more adjacent quadrangles that are selected on the basis of scientific importance, not necessarily in areas of optimum coverage by high-resolution images or precise map controls. Image placement is based on a planetwide topographic control net that has a published standard error of 5 km (Wu and Schaller, 1984). A block of mosaics compiled in an area where controls have optimum distribution and precision is not likely to match adjacent blocks previously compiled in areas where controls are sparse or imprecise. Where discrepancies exist between adjacent mosaics, the more recent compilation is likely to be more accurate. The projection is part of a Mars Transverse Mercator (MTM) system with 20° zones. The scale factor at the center meridian of the zone containing this quadrangle is 0.9960. The projection scale is based on an oblate spheroid (flattening of 1/193) with an equatorial radius of 3393.4 km and a polar radius of 3375.7 km. Digital processing and mosaicking were done by Patricia K. Thomas.

**NOMENCLATURE**  
All names shown on the reduced base mosaic are approved by the International Astronomical Union (IAU, 1974, 1983).  
M 500k -10/122 CM: Abbreviation for Mars; 1:500,000 series; center of sheet lat 10° S., long 122°; controlled photomosaic (CM).

**REFERENCES**  
Batson, R.M., 1987. Digital cartography of the planets: New methods, its status, and its future. *Photogrammetric Engineering and Remote Sensing*, v. 53, no. 9, p. 1211-1218.  
Edwards, Karlsson, 1987. Geometric processing of digital images of the planets: *Photogrammetric Engineering and Remote Sensing*, v. 53, no. 9, p. 1219-1222.  
International Astronomical Union, 1974. Commission 16: Physical study of planets and satellites, and lunar and martian nomenclature, in *Proceedings of the 15th General Assembly, Sydney, 1973*. Transactions of the International Astronomical Union, v. 15B, p. 106-108, 217-221.  
1983. Working Group for Planetary System Nomenclature, in *Proceedings of the 18th General Assembly, Patras, 1982*. Transactions of the International Astronomical Union, v. 18B, p. 334-336.  
Wu, S.S.C., and Schaller, 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. 406-463.



**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.



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

# CONTROLLED PHOTOMOSAIC OF THE MTM-10122 QUADRANGLE, ARSIA MONS REGION OF MARS

**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, 2215 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.