

SCALE 1:502 000 (1 mm = 502 m) AT 190° LONGITUDE
TRANSVERSE MERCATOR PROJECTION



Prepared on behalf of the Planetary Geology Program, Solar System Exploration Division, Office of Space Science, National Aeronautics and Space Administration, under contract W-15,814
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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). Placement of image data was taken from the Mars digital image map compiled by the U.S. Geological Survey (1991).

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.

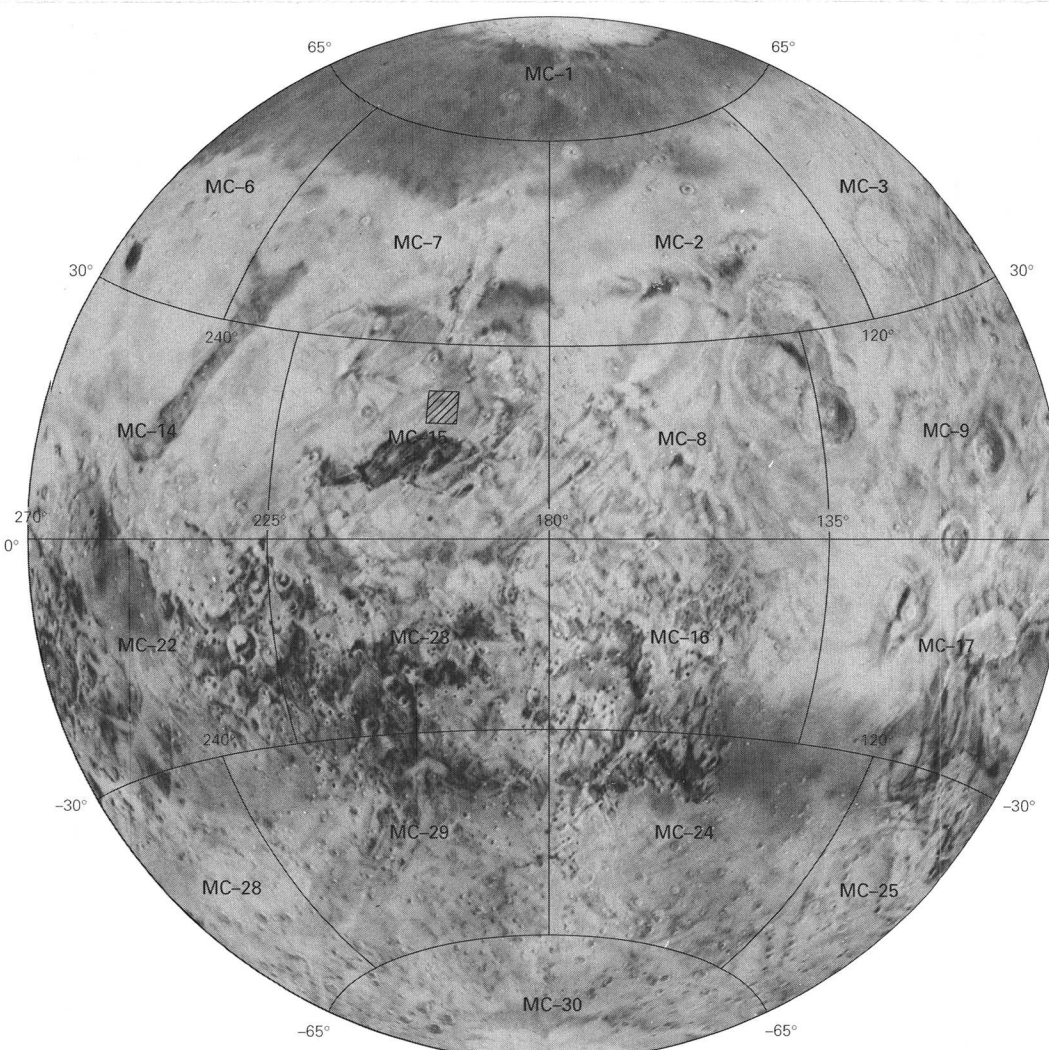
The projection is part of a Mars Transverse Mercator (MTM) system with 20° zones. The scale factor at the central meridian of the zone containing this quadrangle is 0.9960. The projection scale is based on an oblate spheroid flattening of 1/192 with an equatorial radius of 3393.4 km and a polar radius of 3375.7 km. Digital processing and mosaicking were done by Ella M. Lee.

NOMENCLATURE

Features located in this quadrangle have not been named by the International Astronomical Union.
M 500k 20/197 CM: Abbreviation for Mars: 1:500,000 series; center of sheet at 20° N, long 197°; controlled photomosaic (CM).

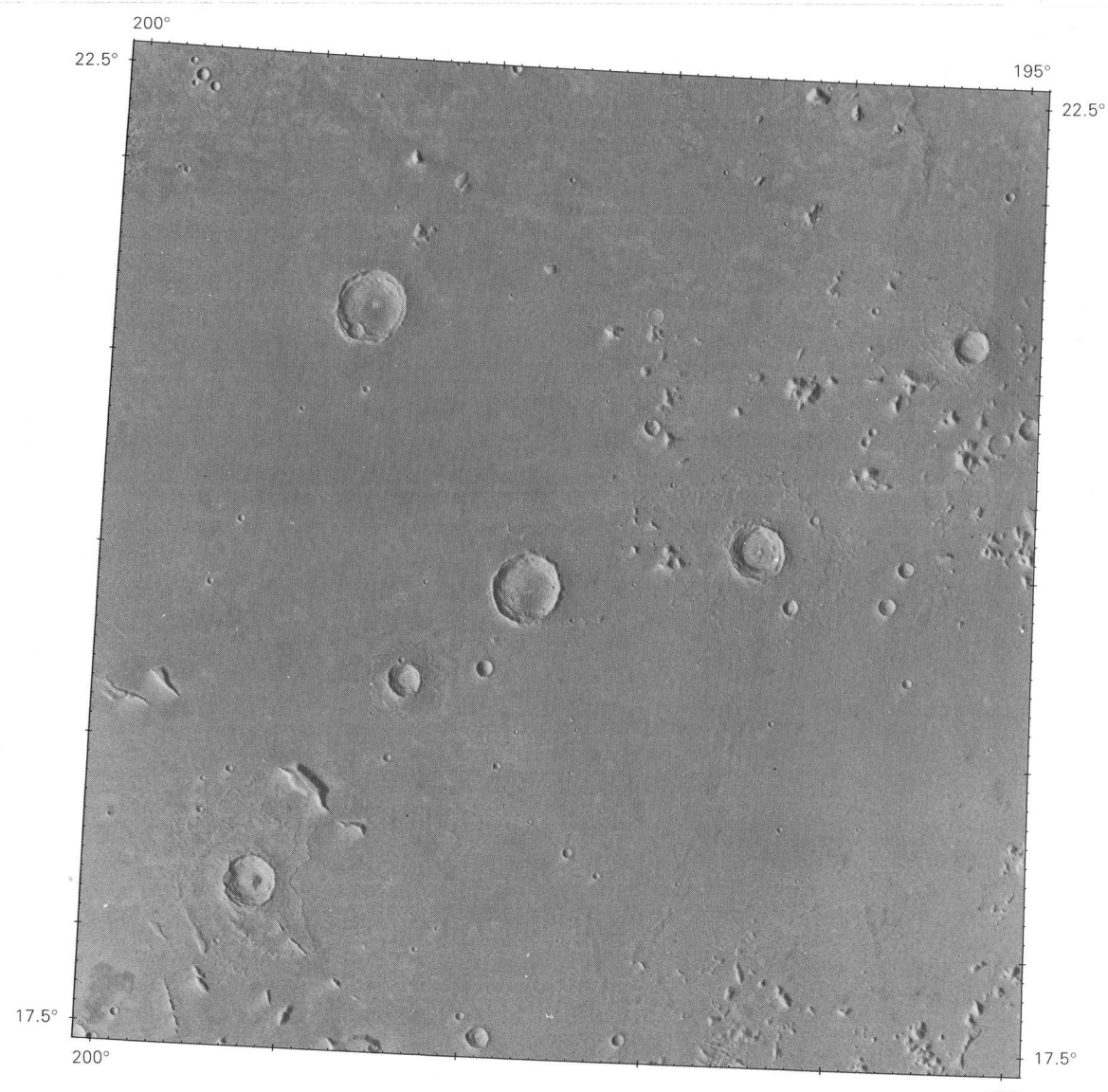
REFERENCES

- 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, Kathleen, 1987, Geometric processing of digital images of the planets. *Photogrammetric Engineering and Remote Sensing*, v. 53, no. 9, p. 1219-1222.
- U.S. Geological Survey, compiler [1991], *Elysium Planitia Region, v. 4 of Mission to Mars: Digital Image Map*. National Aeronautics and Space Administration (CD-ROM).
- 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. 456-463.

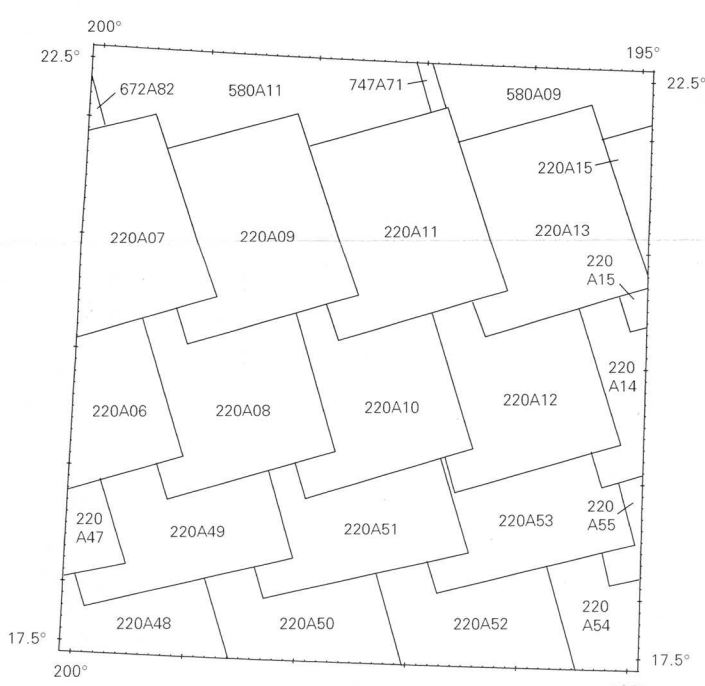


QUADRANGLE LOCATION

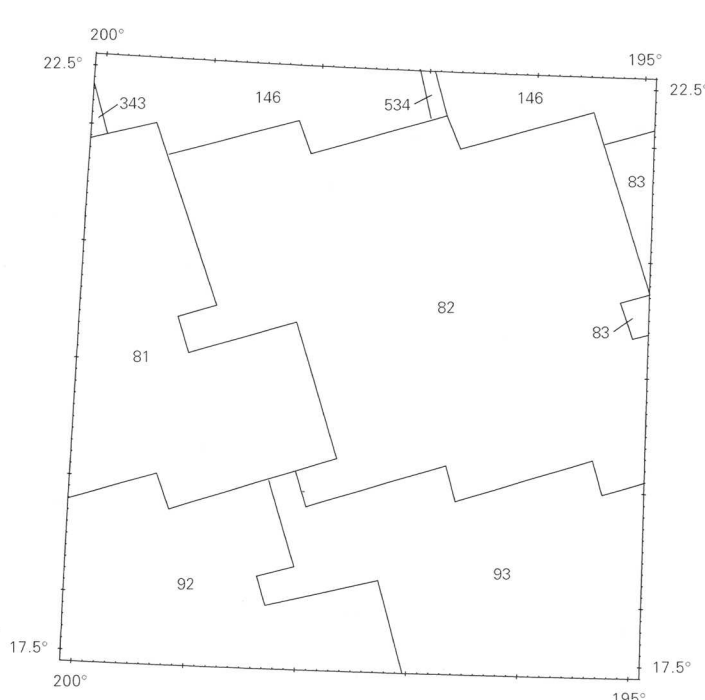
Photomosaic location is shown in the eastern hemisphere of Mars. An outline of 1:5,000,000-scale quadrangles is provided for reference.



Features located in this quadrangle have not been named by the International Astronomical Union.



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)

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 443, 2255 North Gemini Drive, Flagstaff, AZ 86001. A replacement copy will be returned.

CONTROLLED PHOTOMOSAIC OF THE MTM 20197 QUADRANGLE, ORCUS PATERA REGION OF MARS