

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 Schaler, 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 completion is likely to be more accurate.

The projection is a 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

All names shown on the reduced base mosaic are approved by the International Astronomical Union (IAU, 1986), except for provisional names indicated by an asterisk.

M 500k 20/182 CM: Abbreviation for Mars: 1:500,000 series; center of sheet lat 20° N, long 182°; 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, Karlileen, 1987, Geometric processing of digital images of the planets: Photogrammetric Engineering and Remote Sensing, v. 53, no. 9, p. 1219-1222.

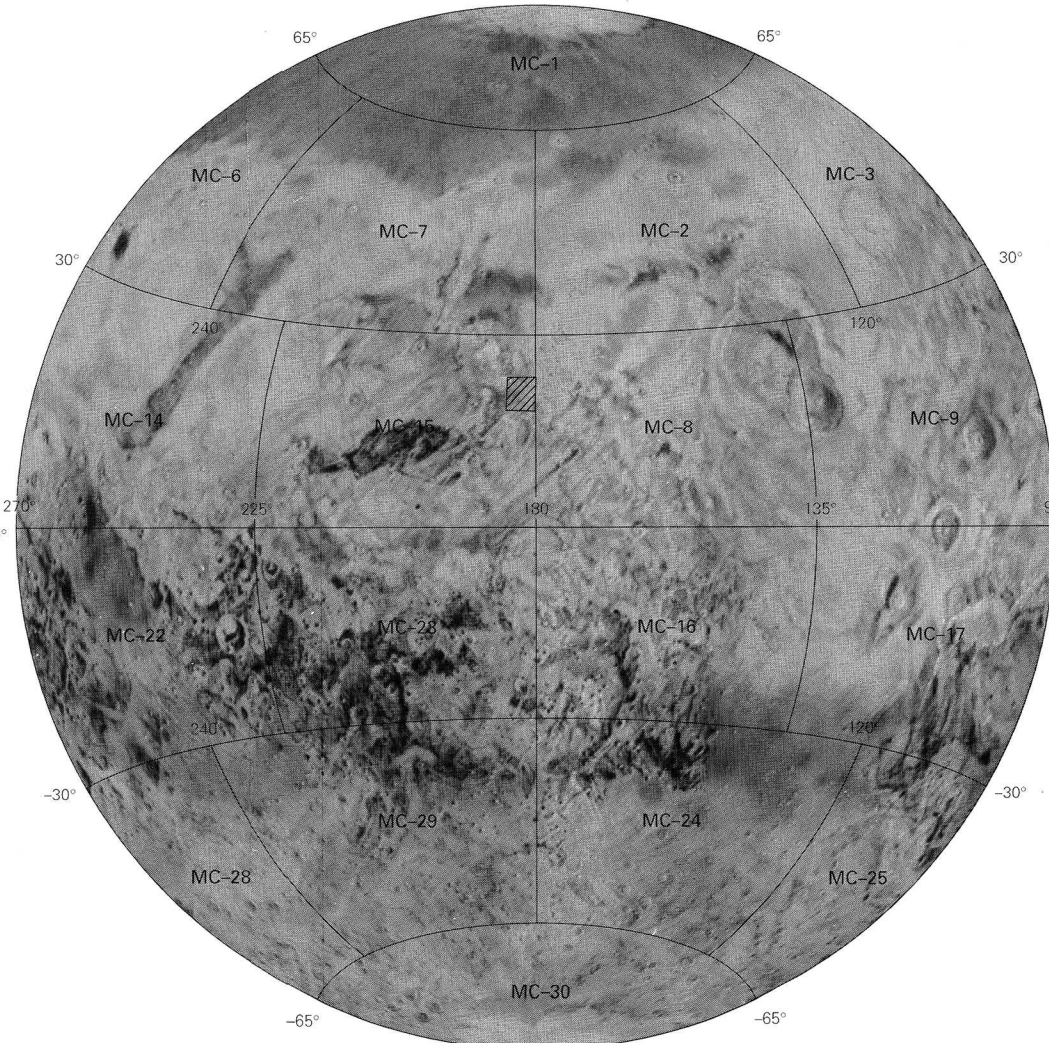
International Astronomical Union, 1986, Working Group for Planetary System Nomenclature, in Proceedings of the 19th General Assembly, Delhi, 1985: Transactions of the International Astronomical Union, v. 19B, p. 339-353.

U.S. Geological Survey, compiler (1991), Elysium Planitia Region, v. 4 of Mission to Mars: Digital image map: National Aeronautics and Space Administration [CD-ROM3].

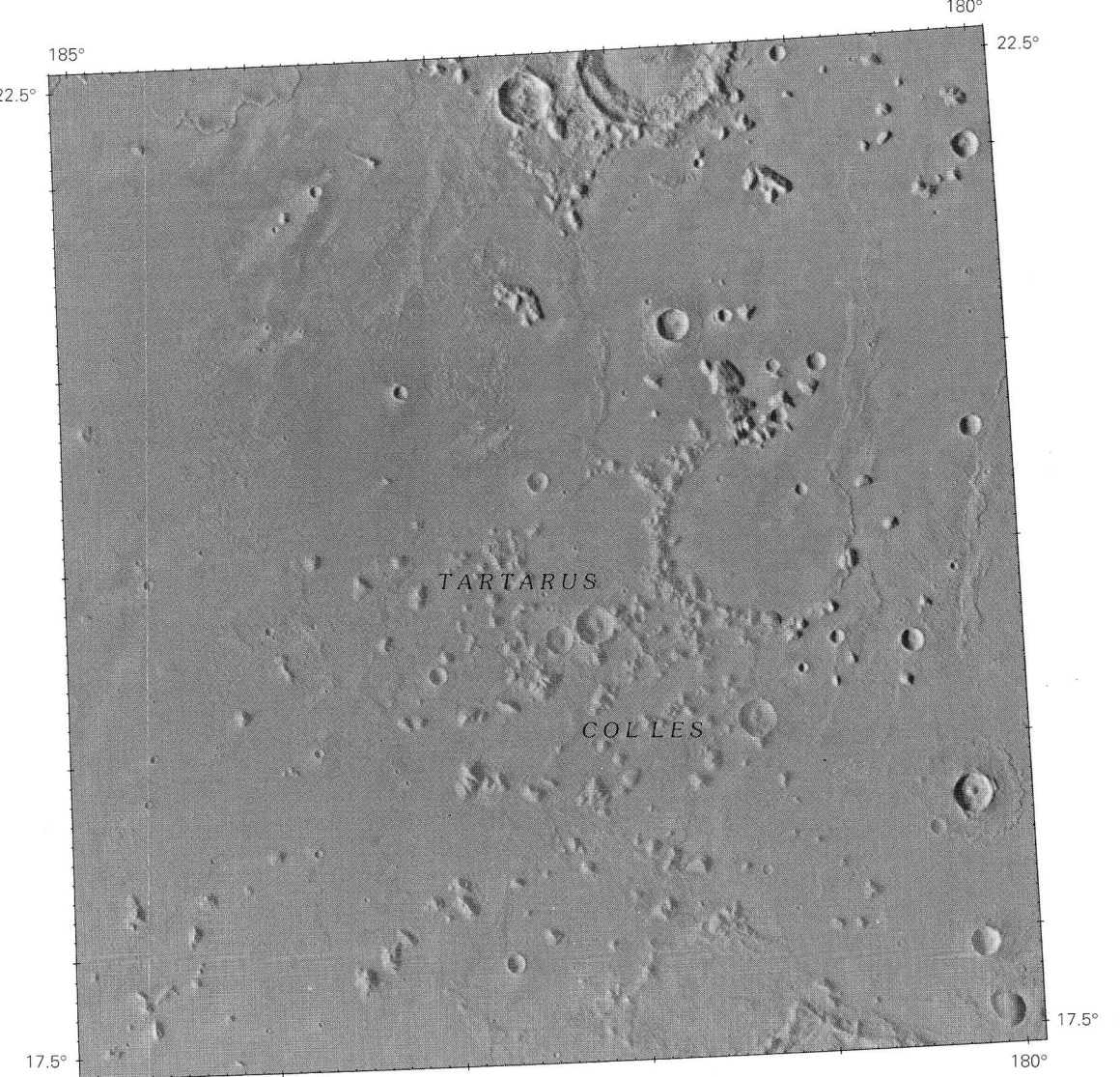
Wu, S.S.C., and Schaler, F.J., 1984, Mars control network: American Society of Photogrammetry, in Technical papers of the 50th annual meeting of the American Society of Photogrammetry, v. 2, Washington, D.C., March 11-16, 1984, p. 456-463.

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

KILOMETERS



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



Contrast in the reduced base mosaic was purposely suppressed to emphasize the names

CONTROLLED PHOTOMOSAIC OF THE MTM 20182 QUADRANGLE, ORCUS PATERA REGION OF MARS