

**NOTES ON BASE**  
This is one map in a series of topographic map sheets covering the entire surface of Mars at nominal scales of 1:25,000,000 and 1:5,000,000 (Batson, 1973; 1976). The major source of map data was the Mariner 9 television experiment (Masursky and others, 1976).

**ADOPTED FIGURE**  
The figure of Mars used for the computation of the map projection is an oblate spheroid (flattening of 1/192) with an equatorial radius of 3395.4 km and a polar radius of 3375.7 km.

**PROJECTION**  
The Lambert conformal conic projection is used for this sheet with standard parallels at 35°N and 59°N. A scale of 1:4,336,000 at lat 30°N was chosen to match the scale at lat 30°N of the adjacent Mercator projection. Longitudes increase to the west in accordance with usage of the International Astronomical Union (IAU, 1973). Latitudes are areographic (de Vasconcelos and others, 1973).

**CONTROL**  
Planimetric control is provided by photogrammetric triangulation using Mariner 9 pictures (Davies, 1973; Davies and Arthur, 1973) and the radio-tracked position of the spacecraft. The first meridian passes through the crater Airy-0 (lat 5.19°S) within the crater Airy. No simple statement is possible for the precision but local consistency is about 10 km.

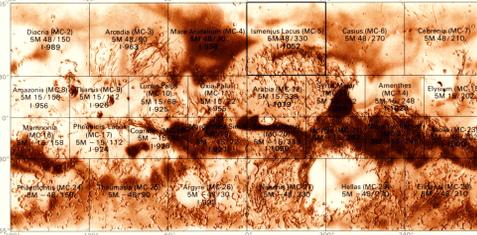
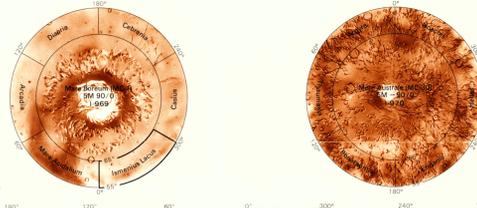
**MAPPING TECHNIQUE**  
A series of mosaics of Lambert conformal conic projections of Mariner 9 pictures was assembled at 1:5,000,000. Shaded relief was copied from the mosaics and portrayed with uniform illumination with the sun to the west. Many Mariner 9 pictures besides those in the base mosaic were examined to improve the portrayal (Levinthal and others, 1973; Green and others, 1975; Inge and Bridges, 1976). The shading is not generalized and may be interpreted with nearly photographic reliability (Inge, 1972). Shaded relief analysis and representation were made by Anthony G. Sanchez.

**COLOR**  
No attempt was made on the map to duplicate precisely the color of the Martian surface, although the color used does approximate it.

**NOMENCLATURE**  
All names on this sheet are approved by the International Astronomical Union (IAU, 1974; 1977). Double and triple letter designations for craters refer to position on the map and are derived from a grid based on equidistant meridians and parallels; the alphabet (I and O omitted) runs in the direction of increasing longitude (W) and latitude (N). The complete designation of a crater is the name of the quadrangle followed by a double or triple letter. The prefix ISM identifying the Ismenius Lacus quadrangle is part of the complete designation but, for brevity, is not shown on most craters. Some craters have commemorative names; letter designations for these craters are shown in parentheses. Where craters lie mostly on an adjoining map, their letters are derived from the other map; where craters lie exactly on the boundary of two maps, their letters are derived from the eastern or southern map.

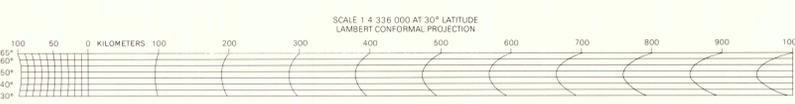
MC-5 Abbreviation for Mars Chart 5.  
M SM 48/330 R: Abbreviation for Mars 1:5,000,000 series; center of sheet, 48°N lat, 330°W long; shaded relief map, R.

**REFERENCES**  
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de Vasconcelos, G. D., Davies, M. E., and Struom, F. M., Jr., 1973, The Mariner 9 areographic coordinate system. *Jour. Geophys. Research*, v. 78, no. 20, p. 4392-4404.



Quadrangle location map showing the location of the Ismenius Lacus quadrangle on Mars. The map is bounded by 65°W to 300°W longitude and 60°N to 30°S latitude. The quadrangle is shaded in a darker shade.

**NOTE TO USERS**  
Users noting errors or omissions are urged to indicate them on the map and to forward the map to Astrogeologic Studies, Geologic Division, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.



**A camera pictures**

Index No.	DAS No.	Index No.	DAS No.
1	8204918	16	8204104
2	8204944	17	8204124
3	8199264	18	8199184
4	8199184	19	8199164
5	8004720	20	8004700
6	7970208	21	8006004
7	8006224	22	8006204
8	8320214	23	1162032
9	8320264	24	1164034
10	8199128	25	1164044
11	8199208	26	1294038
12	8019160	27	1294058
13	8019184	28	1294078
14	8006264	29	1294114
15	9234374	30	12168192

**INDEX TO MARINER 9 PICTURES**  
The mosaic used to control the positioning of features on this map was made with the Mariner 9 A camera pictures outlined above. The DAS numbers may differ slightly locally by 51 among various versions of the same picture.

**SHADED RELIEF MAP OF THE ISMENIUS LACUS QUADRANGLE OF MARS**

MC-5  
M SM 48/330 R  
1978

For sale by Branch of Distribution, U.S. Geological Survey, 1200 South East Street, Arlington, VA 22202; and Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225.



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