

NOTES ON BASE
This is one sheet in a series of topographic map sheets covering that part of the surface of Mercury that was illuminated during the Mariner 10 encounter (Davies and Batson, 1975). The source of map data was the Mariner 10 television experiment (Murray, 1975).

ADOPTED FIGURE
The map projections are based on a sphere with a radius of 2439 km.

PROJECTION
The Lambert conformal conic projection is used for this sheet, with a scale of 1:4,623,000 at lat 22.5°. Latitudes are based on the assumption that the spin axis of Mercury is perpendicular to the plane of the orbit. Longitudes are positive westward in accordance with the usage of the International Astronomical Union (IAU, 1971). Meridians are numbered so that a reference crater named Hon Kal (lat 0.2° S) is centered on long 20° (Murray and others, 1974; Davies and Batson, 1975).

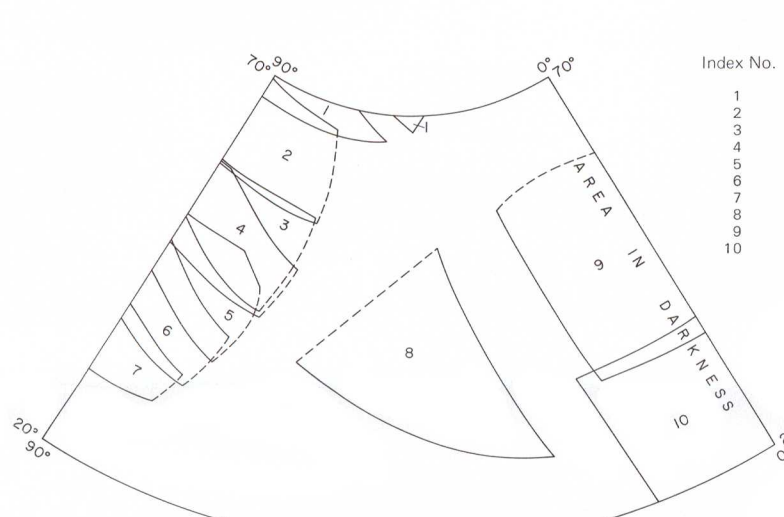
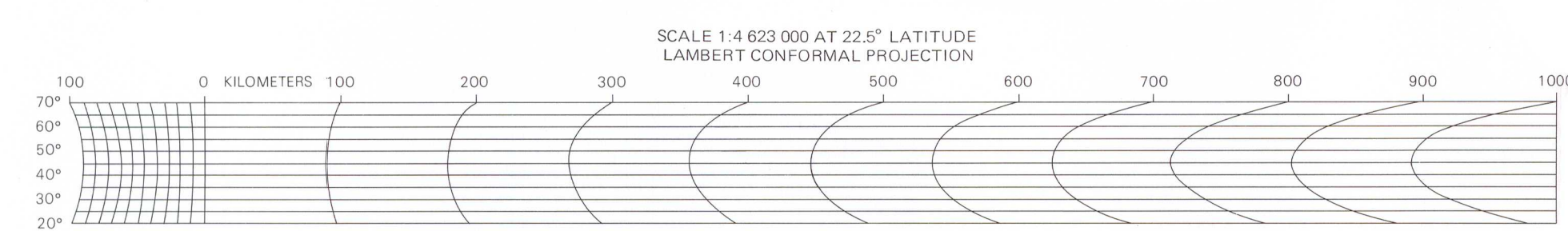
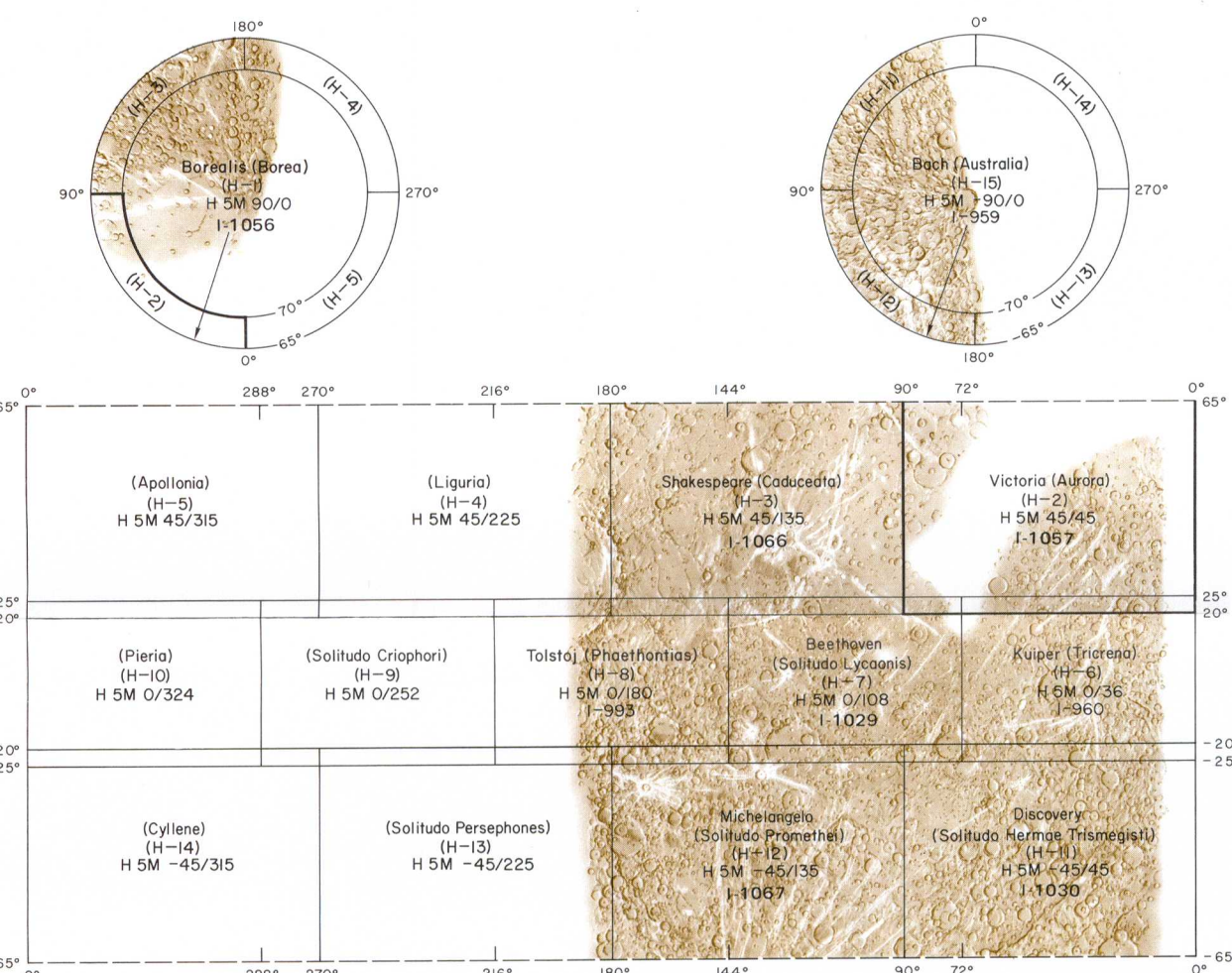
CONTROL
Planimetric control is provided by photogrammetric triangulation using Mariner 10 pictures (Davies and Batson, 1975). Discrepancies between images in the base mosaic and computed control point positions appear to be less than 2 km, except for the area in the northwest corner of the quadrangle. Pictures of this area are so foreshortened that accurate map transformations were not possible. Since the base mosaic was controlled by a later iteration of the control net, large discrepancies exist between this sheet and the Kuiper (H-4) sheet to the south. These discrepancies were not adjusted, so that features in the zone of overlap on this sheet appear at different latitudes and longitudes than they do on the Kuiper quadrangle.

MAPPING TECHNIQUES
Mapping techniques are similar to those described by Batson (1973a, 1973b). A mosaic was made with pictures that had been digitally transformed to the Lambert conformal conic projection. Shaded relief was copied from the mosaic and portrayed with uniform illumination with the sun to the west. Many Mariner 10 pictures besides those in the base mosaic were examined to improve the portrayal. The shading is not generalized and may be interpreted with nearly photographic reliability (Inge, 1972; Inge and Bridges, 1976). Shaded relief analysis and representation were made by Susan L. Davis.

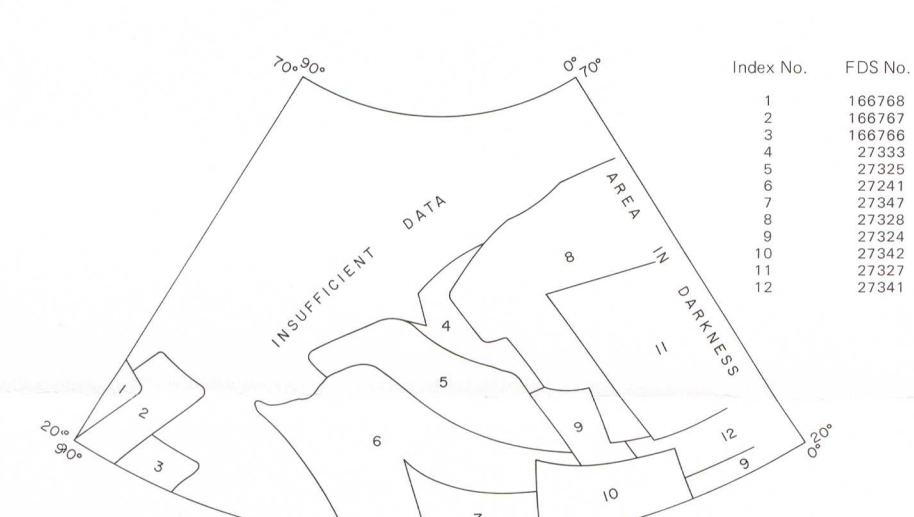
COLOR
The color of the shaded relief was selected for optimum discrimination of detail and is not intended to represent the color of Mercury even approximately.

NOMENCLATURE
All names on this sheet are approved by the International Astronomical Union (IAU, 1977).
H-2: Abbreviation for Mercury (Hermes) sheet number 2.
H 5M 45/45 R: Abbreviation for Mercury (Hermes) 1:5,000,000 series; center of sheet, 45° N latitude, 45° longitude; shaded relief map, R.

REFERENCES
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Inge, J. L., 1972, Principles of lunar illustration: *Astronaut. Chart and Inf. Center Ref. Pub.*, RP-72-1, 60 p.
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: *Photogram. Eng.*, v. 42, no. 6, p. 749-760.
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ARRANGEMENT OF MAP SHEETS ON MERCURY
The provisional name "Goethe" was changed to "Borealis", and the provisional name "Tir" was changed to "Tolstoj" by the International Astronomical Union in 1976 (IAU, 1977). The provisional names appeared on earlier editions of this index map as well as on the Tolstoj (H-8) quadrangle of Mercury. The number preceded by I refers to published shaded relief map.

SUPPLEMENTAL SOURCE INDEX
The Mariner 10 pictures outlined above were used to provide additional detail on the map but were not used on the controlled mosaic.

INDEX TO MARINER 10 PICTURES
The mosaic used to control the positioning of features on this map was made with the Mariner 10 pictures outlined above on the mosaic.

**SHADED RELIEF MAP OF THE VICTORIA QUADRANGLE OF MERCURY
(AURORA ALBEDO PROVINCE)
H-2
H 5M 45/45 R
1977**