



**NOTES ON BASE**  
This sheet is one in a shaded relief map series of the multi-ring basins on the terrestrial planets. The map was made with data returned by the Mariner 10 spacecraft.

**ADOPTED FIGURE**  
The map projection is based on a sphere with a radius of 2439 km.

**PROJECTION**  
The stereographic projection is used for this map, with the projection center at lat 30° N, long 194°. The scale of the projection is 1:5000000 at the center, 1:5000000 at 833 km from the center and 1:4126000 at the edge of the map.

**CONTROL**  
Planimetric control was provided by Davies (1976).

**MAPPING TECHNIQUES**  
Mapping techniques are similar to those described by Batson (1973) except that digital images of existing maps were used as base mosaics instead of digital elevation images. A mosaic was made of images of the Borealis (H1), Shakespeare (H13), Tolstoj (H1), and Beethoven (H7) quadrangles that had been digitized and transformed to the stereographic projection. The map images were also modified to conform to the 1976 control datum. Shaded relief was drawn with uniform illumination from the left. The Mariner 10 pictures listed in the index below were examined in detail, and surface forms portrayed with airbrush techniques described by Inge and Bridges (1976). Shaded relief analysis and representation were made by Patricia M. Bridges.

**COLOR**  
The color of the shaded relief was selected for optimum discrimination of detail and for consistency with other maps of Mercury. It is not intended to represent or even approximate the color of Mercury.

**NOMENCLATURE**  
All names on this sheet have been approved by the International Astronomical Union (IAU, 1977).  
H 5M 30/194 R: Abbreviation for Mercury (Hermes) 1:5000000 series, center of map lat 30° N, long 194° shaded relief map, R.

**REFERENCES**  
Batson, R. M., 1973, Television cartography: U.S. Geological Survey Open-file report, Astrogeology 58-35 p.  
Davies, M. E., 1976, The control net of Mercury: January 1976. The Rand Corporation R-1914-NASA, 20 p.  
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: Photogrammetric Engineering and Remote Sensing, v. 42, no. 6, p. 749-760.  
International Astronomical Union, Commission 16, 1977, Physical study of planets and satellites, in Proceedings 16th General Assembly, 1976, International Astronomical Union Transactions, v. 166, p. 325-362.

**INDEX TO MARINER 10 PICTURES**

Index No.	FDS No.	Index No.	FDS No.	Index No.	FDS No.
1	165	20	193	39	183
2	161	21	188	40	178
3	157	22	184	41	183
4	161	23	110	42	183
5	153	24	180	43	228
6	166	25	276	44	228
7	162	26	198	45	221
8	509	27	184	46	214
9	165	28	188	47	214
10	162	29	181	48	222
11	154	30	181	49	603
12	150	31	190	50	222
13	192	32	195	51	231
14	167	33	190	52	222
15	163	34	188	53	223
16	155	35	182	54	219
17	151	36	204	55	310
18	146	37	229	56	340
19	147	38	221	57	244

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

