

NOTES ON BASE

This is one photomosaic in a set of topographic map sheets covering areas of special interest on Mars at nominal scales of 1:1,000,000 and 1:500,000 (Barton, 1973, 1975). The major source of map data was the Viking 1 spacecraft.

ADOPTED FIGURE
The figure of Mars used for the computation of the map projection is an oblate spheroid (flattening of 1/153) with an equatorial radius of 3393.4 km and a polar radius of 3375.5 km. This is not the height datum defined below under the heading "Contours."

PROJECTION
The transverse Mercator projection is used for this sheet, with a scale of 1:1,000,000. Longitude increases to the west in accordance with the usage of the International Astronomical Union (IAU, 1971). Latitudes are geographic (de Vaucouleurs and others, 1973). The first meridian passes through the crater Airy-O (lat 5.19° S.) within the crater Airy.

CONTROL
Planimetric control was derived from the primary network (Davies, 1973). A set of nine Mariner 9 pictures was tied to the primary net. The positions of Viking 1 pictures were controlled by the Mariner 9 images. No simple statement is possible for the precision, but local consistency is about 2 km.

IMAGE PROCESSING
Viking 1 frames were specially processed in the computer and mosaicked. Processing included artifact and noise removal, contrast enhancement, and spatial filtration to remove camera shading and to enhance fine details in the image. Processing of all frames except those in the northwest corner was done by the Mission Test and Video System (MTVS) at the Jet Propulsion Laboratory (JPL).

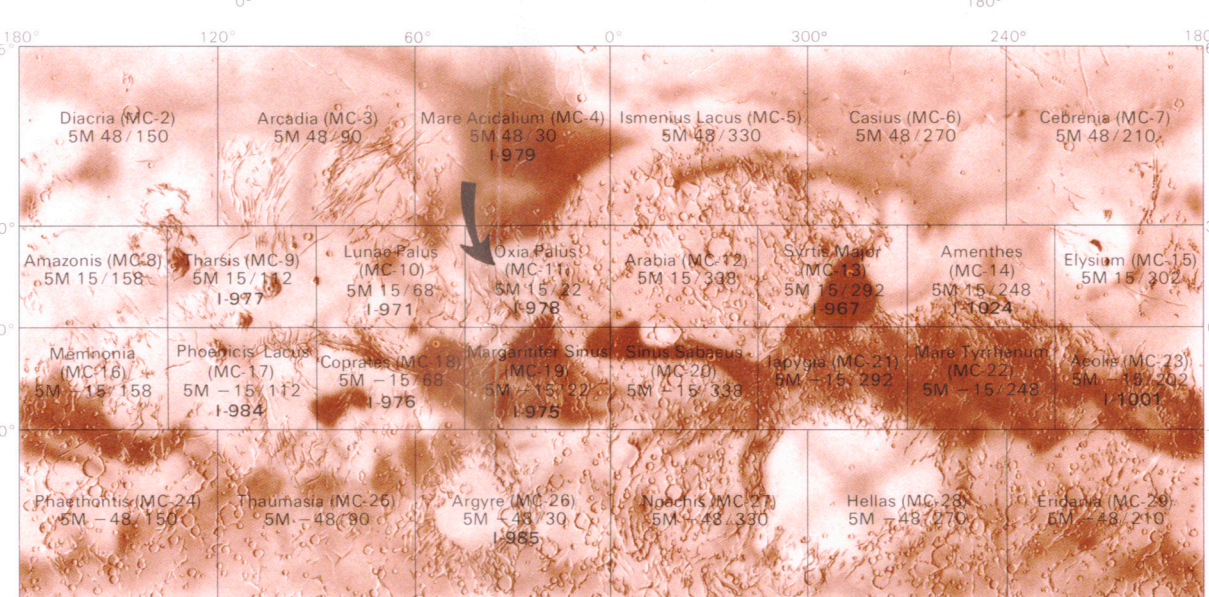
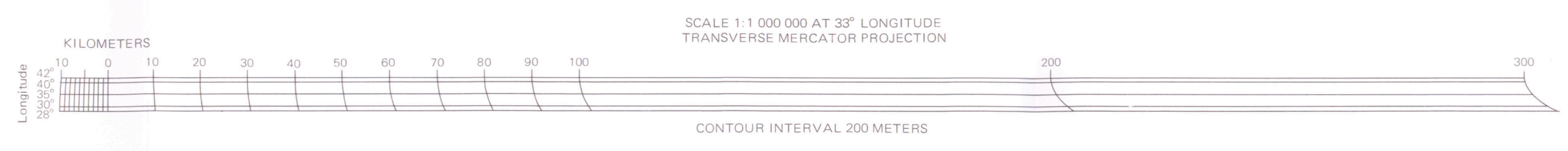
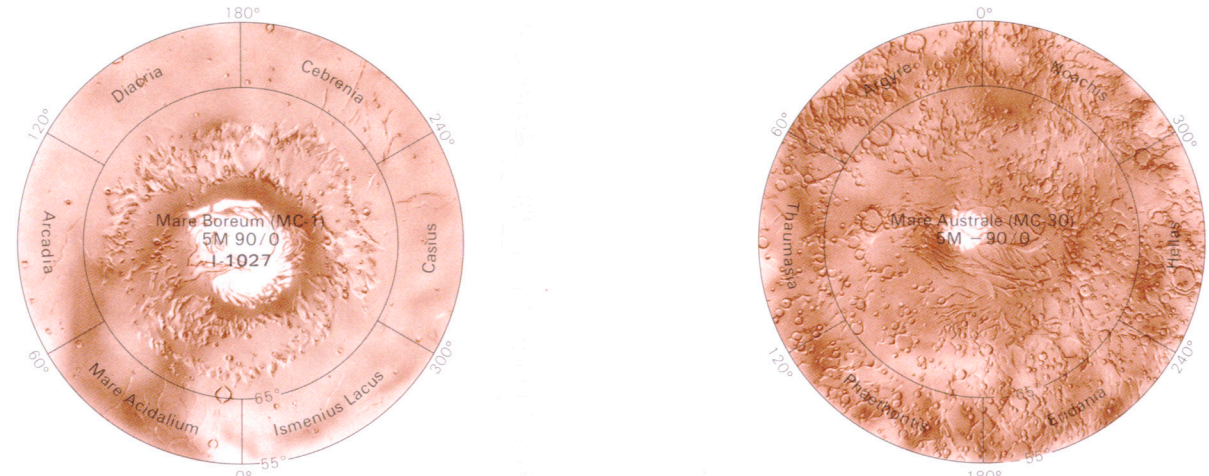
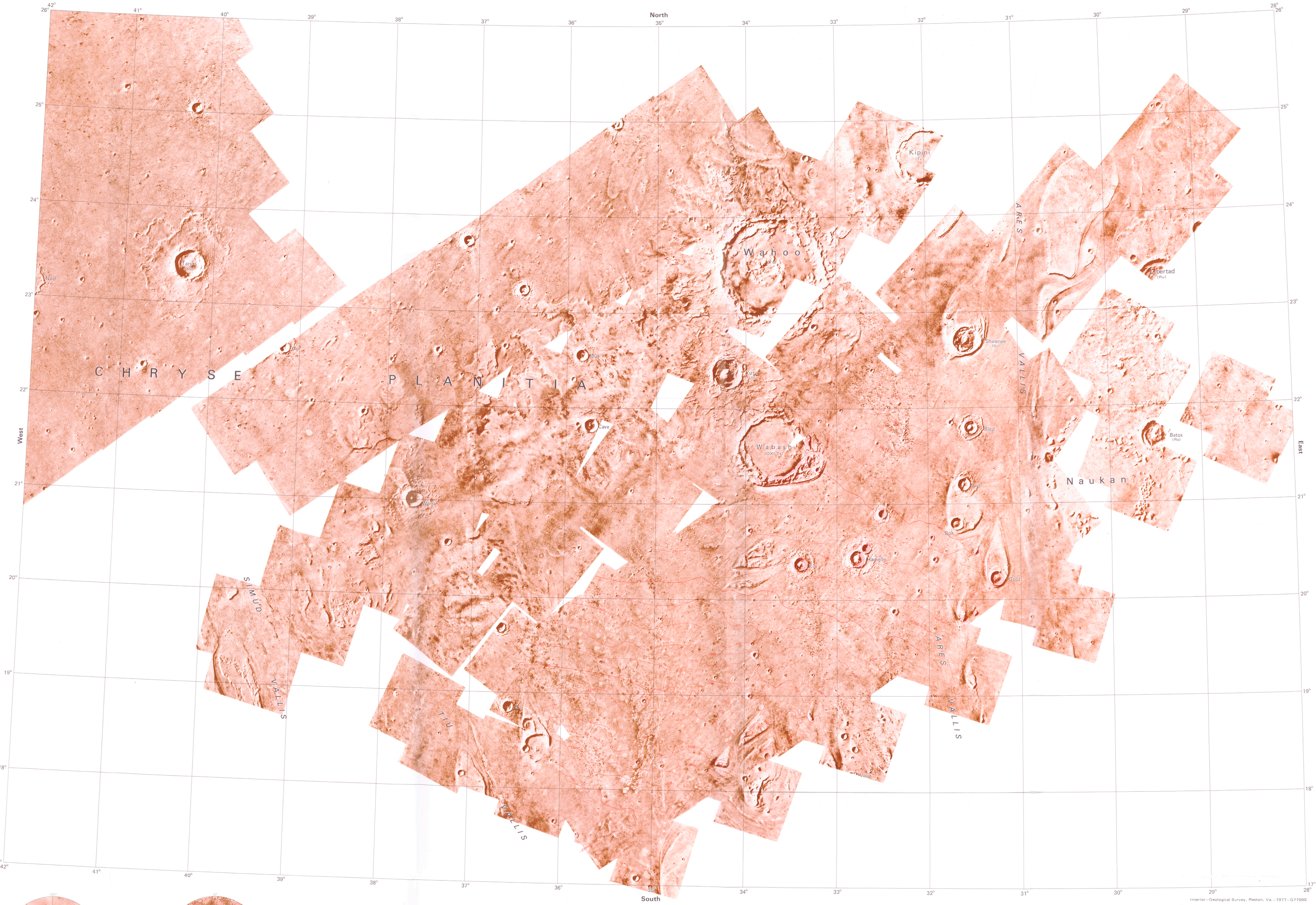
CONTOURS
Since Mars has no sea and hence no sea level, the datum (the 0 km contour line) for altitudes is defined by a gravity field described by spherical harmonics of fourth order and fourth degree (Jordan and Lorell, 1973) combined with a 6.1 millibar atmospheric pressure surface derived from radio-occultation data (Kliore and others, 1973; Christensen, 1975; Wu, 1975).

The contour lines were compiled by stereophotogrammetric methods from pairs of Viking 1 pictures taken on revolution 27. Special stereoplotter methods were applied to this extremely narrow-angle (1°) photography (Wu, 1975). Parameters for setting stereomodels in analytical plotters were derived from analytical triangulation performed with the U.S. Geological Survey GLANT computer program, the prototype of MUSAT, (Elusal, and others, 1970). This blends photogrammetric coordinate measures with position and orientation values taken from the Supplementary Experiment Data Record (SEDR) with appropriate weights for these disparate data.

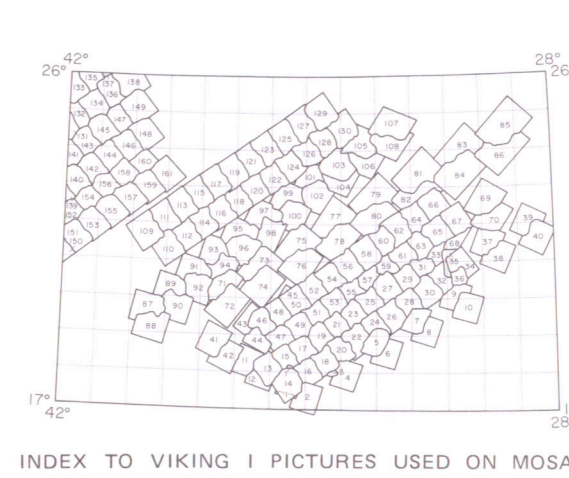
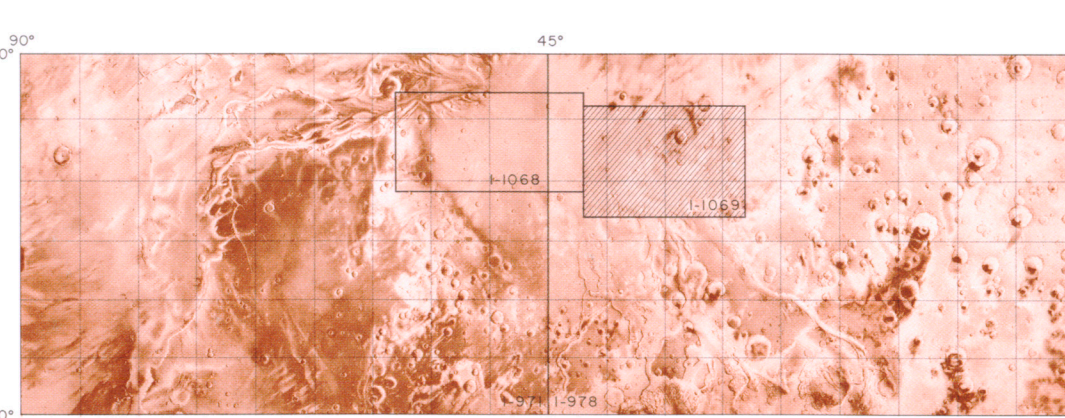
NOMENCLATURE
Names on this sheet are approved by the International Astronomical Union (1974, 1977). Named craters bearing double letters in parentheses are designated by the same letters on the 1:5,000,000 Oxia Palus sheet that covers this area. These double letter designations refer to position on the 1:5,000,000 sheet 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 letter. The prefix OXI (identifying the Oxia Palus sheet) is part of the complete designation but, for brevity, is not shown on most craters.

M IM 22/35 CMC: Abbreviation for Mars, 1:1,000,000 series; center of sheet, 22° N, lat 35° long; controlled mosaic, CM, with contours, C.

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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, 2205 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.



Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.
1	3A48	24	6A54	47	6A58	70	3A23	93	3A27	116	6A60	139	10A60	162	10A62
2	3A50	25	6A45	48	6A56	71	3A21	94	3A26	117	6A61	140	10A61	163	10A63
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5	3A53	28	6A48	51	6A58	74	3A24	97	3A30	120	6A64	143	10A66	166	10A66
6	3A54	29	6A49	52	6A59	75	3A25	98	3A31	121	6A65	144	10A67	167	10A67
7	3A55	30	6A50	53	6A60	76	3A26	99	3A32	122	6A66	145	10A68	168	10A68
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10	3A58	33	6A53	56	6A63	79	3A29	102	3A35	125	6A69	148	10A71	171	10A71
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12	3A60	35	6A55	58	6A65	81	3A31	104	3A37	127	6A71	150	10A73	173	10A73
13	3A61	36	6A56	59	6A66	82	3A32	105	3A38	128	6A72	151	10A74	174	10A74
14	3A62	37	6A57	60	6A67	83	3A33	106	3A39	129	6A73	152	10A75	175	10A75
15	3A63	38	6A58	61	6A68	84	3A34	107	3A40	130	6A74	153	10A76	176	10A76
16	3A64	39	6A59	62	6A69	85	3A35	108	3A41	131	6A75	154	10A77	177	10A77
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18	3A66	41	6A61	64	6A71	87	3A37	110	3A43	133	6A77	156	10A79	179	10A79
19	3A67	42	6A62	65	6A72	88	3A38	111	3A44	134	6A78	157	10A80	180	10A80
20	3A68	43	6A63	66	6A73	89	3A39	112	3A45	135	6A79	158	10A81	181	10A81
21	3A69	44	6A64	67	6A74	90	3A40	113	3A46	136	6A80	159	10A82	182	10A82
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23	3A71	46	6A66	69	6A76	92	3A42	115	3A48	138	6A82	161	10A84	184	10A84

CONTROLLED MOSAIC OF THE EASTERN PART OF THE CHRYSE PLANITIA REGION OF MARS
M IM 22/35 CMC
1977

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