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PUBLICATION OF TOPOGRAPHIC ATLAS AND CONTROL NETWORK OF MARS,  
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To aid planetary studies and the planning of future Mars missions, we will submit by the end of fiscal year 1992 the Topographic Atlas and Control Network of Mars for publication as a NASA Special Publication. It will consist of reduced versions of 108 1:2 million-scale photomosaics that show contour lines from topographic maps at the same scale, as well as precisely located control points (Wu et al., 1990). The control points are from the planetwide network (Wu and Schafer, 1984), which is not only instrumental in the compilation of maps at various scales, but is also widely used in other research such as studies of Mars' gravity and atmosphere.

Figure 1, a combination of MC 8-NW and -SW, is an example of the photomosaics to be included in the atlas. Contour lines in the figure are at 1-km intervals. The final adjusted ground coordinates and elevations of the 77 control points shown are given in Table 1. The last column in the table lists the topographic datum (zero elevation) that can be used to compute the solid radius of the control point from the center of mass of Mars.

The atlas will also include information such as the adjusted C-matrices of each image, descriptions of the methods used and their accuracy, and guidelines for users.

References

- Wu, S. S. C., and Schafer, F. J., 1984, Mars control network, in Technical Papers of the 50th Annual Meeting of the American Society of Photogrammetry and Remote Sensing, Washington, D.C., March 11-16, v. 2, p. 456-463.
- Wu, S. S. C., Billideau, J. S., Howington-Kraus, A. E., and Spare, B. A., 1990, Publication of Mars control network: Report of Planetary Geology and Geophysics Program--1989, NASA Tech. Memo. 4210, p. 576-578.

Table 1: Control point information (picture numbers, ground coordinates, and topographic datum) for MC8W.

Figure 1: Distribution of control points on topographic map of MC8W.





Figure 1. Distribution of Control Points on the Contour Map of MC 8W  
(MC 8-NW and -SW combined)

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Table 1. Control point information of MC 8-W (picture number, ground coordinates, and topographic datum).

ID	PICTURE NUMBERS						LON	LAT	ELEV (M)	DATUM (M)
3125	789A47	722A69	722A70				68 26 18.700	20 06 15.948	-1925.039	3391192.142
3126	722A69	646A65					170 04 25.731	16 10 16.956	-1977.958	3391881.884
3129	646A44	687A28					174 03 51.922	2 06 19.996	-74.815	3393191.589
10004	750A86	646A65					175 41 45.917	9 30 34.642	-1917.798	3392709.926
10010	687A45	646A65	750A84				179 25 53.641	10 04 28.046	-1015.414	3392636.380
10801	690A06	646A46	646A23				158 01 14.751	2 50 59.348	-955.360	3393515.645
10803	738A03	789A47	614A36	690A32	722A70	614A34	159 48 29.205	26 44 07.429	-3066.405	3389890.577
10806	690A35	646A24	789A47	614A36	690A32	722A70	159 43 18.461	20 44 19.975	-2912.572	3391266.406
10810	646A66	722A68	722A70	690A32	789A47		168 46 39.547	27 19 35.132	-1967.463	3389560.491
10813	690A35	738A03	614A36	690A32	789A47	722A70	160 29 35.155	21 37 34.166	-2215.069	3391058.160
10814	690A35	646A24	789A47	690A32	722A69	722A70	166 22 17.561	20 07 23.564	-1764.774	3391226.798
10815	690A35	646A24	722A69				164 03 20.179	15 55 26.720	-1925.866	3392042.670
10858	690A35	646A24					157 53 07.299	16 15 17.134	-1778.380	3392166.097
10859	614A36	690A32	646A24	722A70	789A47	738A03	161 27 09.736	24 01 04.333	-1548.579	3390501.245
10860	646A66	722A70	690A32	738A03	614A36	614A34	165 45 14.692	26 24 24.662	-2800.334	3389837.632
10861	690A35	722A70	690A32	722A69	646A24	789A47	164 14 56.454	19 25 13.819	-1412.662	3391411.311
10862	690A35	789A47	722A70	722A69	646A24	690A32	164 32 42.180	20 39 27.574	-2232.546	3391157.997
10864	646A66	722A70	789A47	722A69			169 23 47.970	22 05 22.016	-1612.144	3390767.173
10865	646A66	722A70	690A32	789A47	722A69		166 35 46.066	21 59 32.889	-903.116	3390835.977
10866	789A47	722A70	690A32	722A69	646A24		164 41 24.071	21 43 02.529	-1376.043	3390933.977
10867	738A03	646A24	690A32	722A70	722A69	789A47	162 52 43.003	23 28 40.973	-1346.599	3390589.354
10868	646A66	722A70	690A32	789A47	614A36	614A34	165 03 52.302	24 10 54.655	-1806.903	3390380.024
10870	690A35	646A24	722A69				162 46 34.138	12 47 55.961	-1908.758	3392542.208
10871	690A35	722A70	690A32	614A36	646A24	789A47	163 23 55.487	21 51 38.768	-1773.329	3390933.023
10872	646A66	722A70	789A47	646A24	722A69		169 41 06.463	19 48 03.624	-1708.513	3391231.917
10875	738A02	646A66	722A68	722A70	789A47		171 10 04.029	29 11 12.801	-1452.737	3389058.354
10877	687A28	750A85	646A44	646A23	646A46		165 06 39.454	45 58.133	-966.956	3393355.487
10881	646A66	722A70	722A68	789A47	722A68		173 05 51.451	27 23 00.774	-1264.036	3389497.346
10882	646A66	722A70	789A47	722A68			172 31 37.842	24 22 31.723	-1227.878	3390221.325
10885	722A68	646A66	789A65				179 08 44.524	29 24 25.205	-255.914	3388960.651
10886	722A68	646A66					178 53 11.124	26 02 51.618	-2575.684	3389796.454
10887	646A66	722A68					179 37 12.273	23 15 18.484	-1807.319	3390437.986
10888	646A65	722A67					179 50 18.721	17 34 24.587	-1923.690	3391568.201
10889	646A66	722A67	646A65	722A69			176 00 01.771	17 09 44.586	-2625.244	3391651.815
10890	690A35	738A03	614A36	690A32	722A70	646A24	162 06 34.566	21 22 14.431	-966.821	3391069.043
10892	690A35	646A24					157 47 06.371	14 24 18.148	-1698.919	3392464.750
10894	690A35	722A69	614A34				160 23 19.956	17 50 53.106	-1908.965	3391808.999
10895	690A35	646A24	722A69	646A23			159 54 17.769	13 51 00.719	-1336.716	3392478.502
10896	646A66	722A67	646A65	722A69			172 00 49.561	19 39 58.183	-1859.658	3391226.932
10897	722A67	646A65	646A66	722A69			172 47 41.343	20 48 46.680	-1450.515	3390221.278
11650	646A44	687A28	750A86				169 09 03.714	38 12.843	-613.311	3393277.508
20753	646A44	687A28	687A14	687A16	750A86		178 16 18.575	3 18 31.249	-539.569	3393130.163
20754	646A44	687A28	687A14	750A86	687A16		178 02 38.219	1 54 26.667	-378.379	3393173.165
20755	646A44	687A28	750A86				172 15 33.672	2 39 02.225	-221.482	3393195.313
20756	750A84	646A65	722A67				177 52 54.222	13 34 20.014	-1160.908	3392206.520
20757	646A65	750A84	722A67				175 44 58.090	13 18 16.414	-947.533	3392254.447
20760	646A66	646A65	722A68				178 25 15.051	20 38 15.833	-582.425	3390991.289
20761	646A66	722A67	646A65	722A68	722A69		176 54 08.745	20 44 10.095	-693.179	3390976.183
20762	722A67	646A65	646A66	722A69			174 39 52.601	19 58 01.649	-562.400	3391142.589
20768	722A67	646A65	722A69				169 56 29.411	13 53 49.008	-1268.726	3392235.647
20769	722A69	646A65					169 20 00.718	12 48 05.959	-853.501	3392397.768
20770	722A69	646A65					168 17 48.043	12 47 28.372	-818.590	3392417.454
20771	690A06	646A46	750A85	646A23			163 15 44.604	5 25 06.616	-447.370	3393244.894
20772	690A35	646A46	646A23	750A85	722A69		162 55 44.429	6 37 52.949	-436.539	3393175.090
20785	646A65	750A86					174 44 31.971	7 37 04.784	-851.756	3392890.724
20786	646A44	687A28	646A65	750A86	722A69		173 05 40.846	6 23 53.718	-203.277	3392998.940
20787	646A44	687A28	687A14	687A16	750A86	646A65	176 59 11.385	6 26 13.695	-463.267	3392966.151
20788	750A84	722A67	646A65	750A86			175 17 29.483	11 00 00.708	-1033.054	3392550.744
20789	646A65	750A86	722A69	722A67			172 14 52.850	9 50 24.617	-524.722	3392708.633
20790	722A67	646A65	722A69				173 04 49.529	16 10 56.271	-804.734	3391841.306
20791	646A44	646A23	646A65	722A69			169 11 02.587	9 25 52.190	-1680.163	3392795.658
20792	646A44	687A28	646A65	750A85	750A86	722A69	171 41 13.817	7 31 10.608	-314.154	3392931.311
20793	722A67	646A65	722A69				170 27 18.361	16 00 28.240	-763.811	3391903.027
20795	690A35	646A23	722A69				164 52 01.877	10 49 34.056	-1191.302	3392734.606
20796	646A44	687A28	646A23	722A69	750A85		168 18 41.569	6 48 08.537	-865.840	3393040.095
20798	722A67	646A65	722A69				170 10 11.645	11 52 26.909	-926.427	3392504.153
21471	722A68	646A66					176 39 57.270	27 08 12.761	-1259.761	3389537.125
21472	722A68	646A66					174 15 53.517	26 46 37.005	-1309.975	3389637.802
21473	646A66	722A68	789A65				178 29 02.088	27 53 13.084	-1432.233	3389347.073
23571	690A06	646A46	750A85	646A23			157 54 31.416	5 13 44.854	-1263.186	3393417.507
23758	646A23	750A85	722A69				165 42 41.243	8 37 13.963	-615.194	3392943.135
23759	687A28	646A46	646A23	750A85			166 24 18.801	5 12 43.265	-693.175	3393181.619
23760	646A23	646A46	750A85	722A69			164 28 46.970	5 59 32.538	-413.032	3393178.601
23761	687A28	646A23	646A46	750A85	722A69		166 58 19.816	7 01 00.170	-924.004	3393050.369
23762	646A65	722A69	646A23				167 34 25.735	8 31 28.122	-502.068	3392912.364
23763	687A28	750A85	646A44	646A23			167 53 05.632	4 45 29.352	-988.445	3393176.288
23764	687A28	646A46	646A23	646A44	750A85		165 47 42.675	3 24 11.348	-814.893	3393279.722