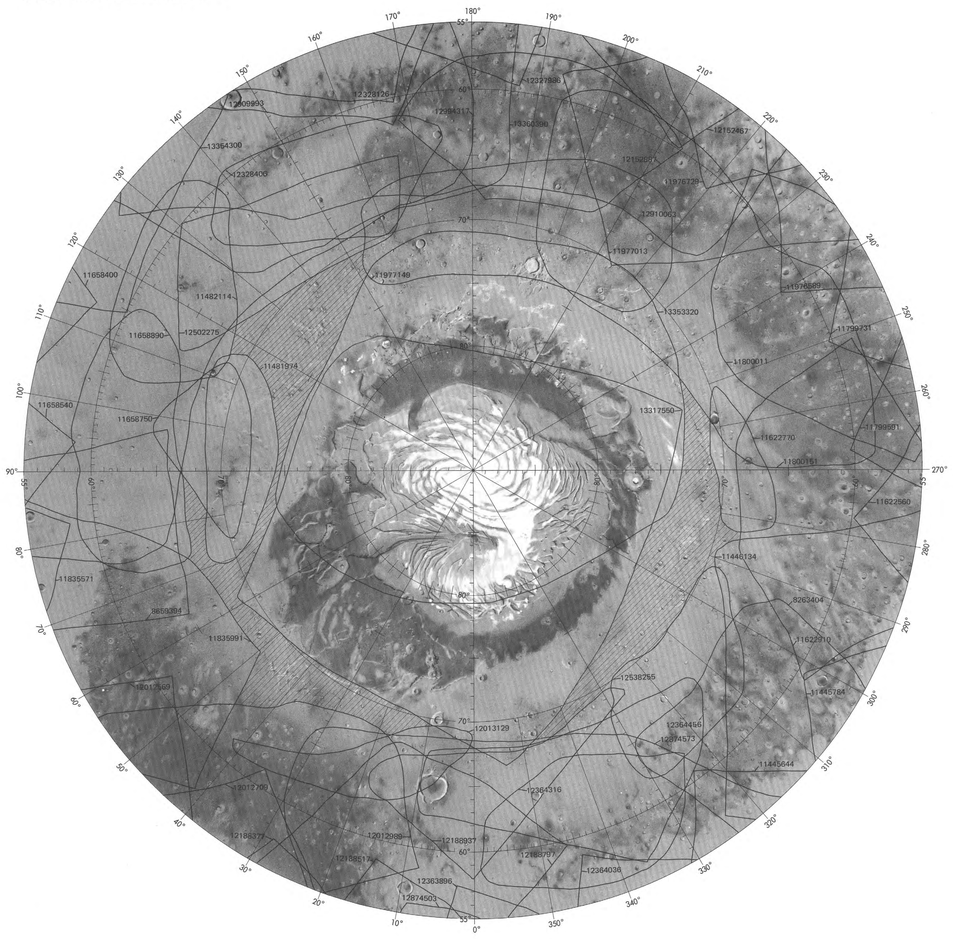
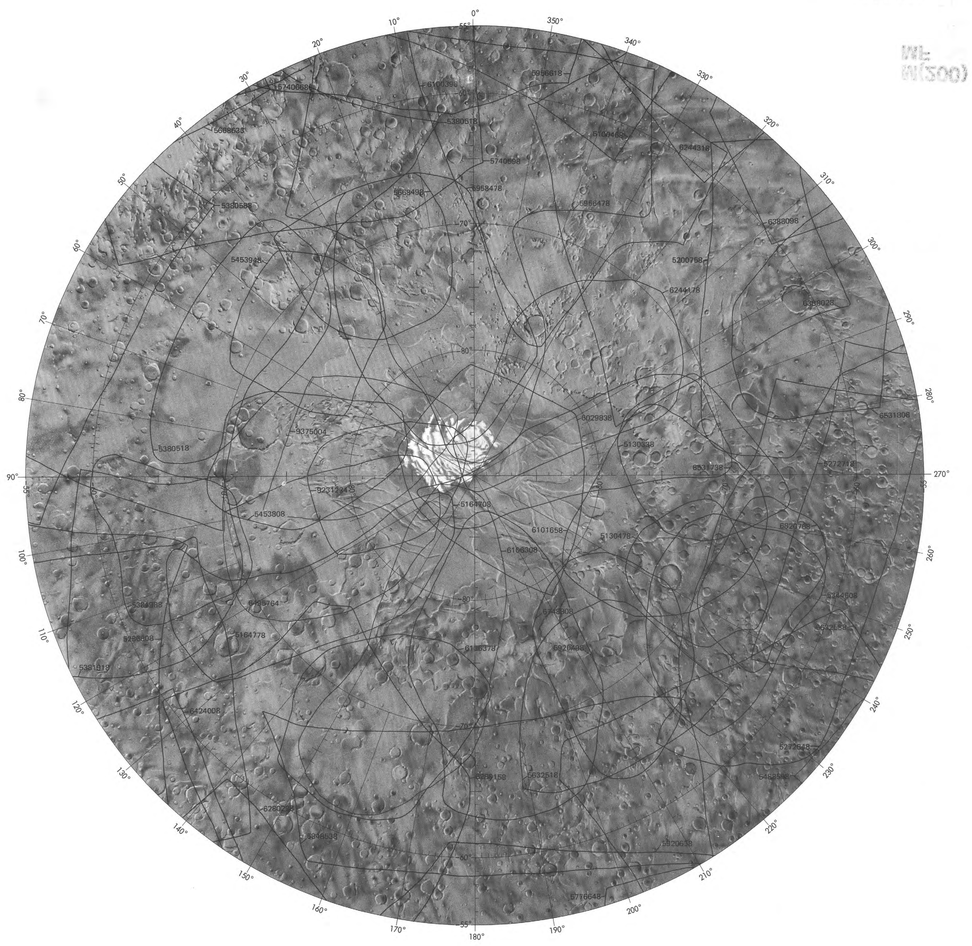
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MISCELLANEOUS FIELD STUDIES
MAP MF-675
MARINER 9 PHOTOINDEX
M 25M 3PIA

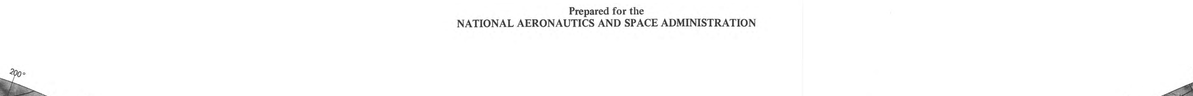


NORTH POLAR REGION
Polar cap as it appeared on August 4, 1972



SOUTH POLAR REGION
Polar cap as it appeared on February 26, 1972

SCALE 1:12,549,000 AT 60° LATITUDE
POLAR STEREOGRAPHIC PROJECTION



This photoindex shows locations of the Mariner 9 pictures that are the primary source materials for the albedo markings overlays in the U. S. Geological Survey's "Atlas of Mars." All pictures were taken by the "A" camera. The individual pictures were selected to provide complete coverage of the planet at the smallest scales possible with a minimum of overlap. They thus provide the most compact data set attainable. Most of the pictures used were from sequences designed by the Mariner 9 imaging team for computing a planetwide control net. Because they did not provide complete coverage, they were supplemented with global-scale pictures taken late in the Mariner 9 mission, and, where the latter were not available, with pictures taken primarily for topographic and geologic mapping. For a listing of topographic and geologic mapping pictures, see "Index of Mariner 9 Mapping Pictures of Mars" (1975). The pictures on this plot have been specially processed in the computer to remove density variations across the frame caused by sun elevation.

The hatched area in the north polar region was covered with frost or snow when pictures were taken. Albedo information is therefore not available from Mariner 9 in that area.

The frame outlines were drawn according to spacecraft tracking information and have been verified by matching picture images with known locations of surface features. Parts of some pictures are degraded by foreshortening and poor illumination, so outlines show useful image area only, not necessarily frame edges.

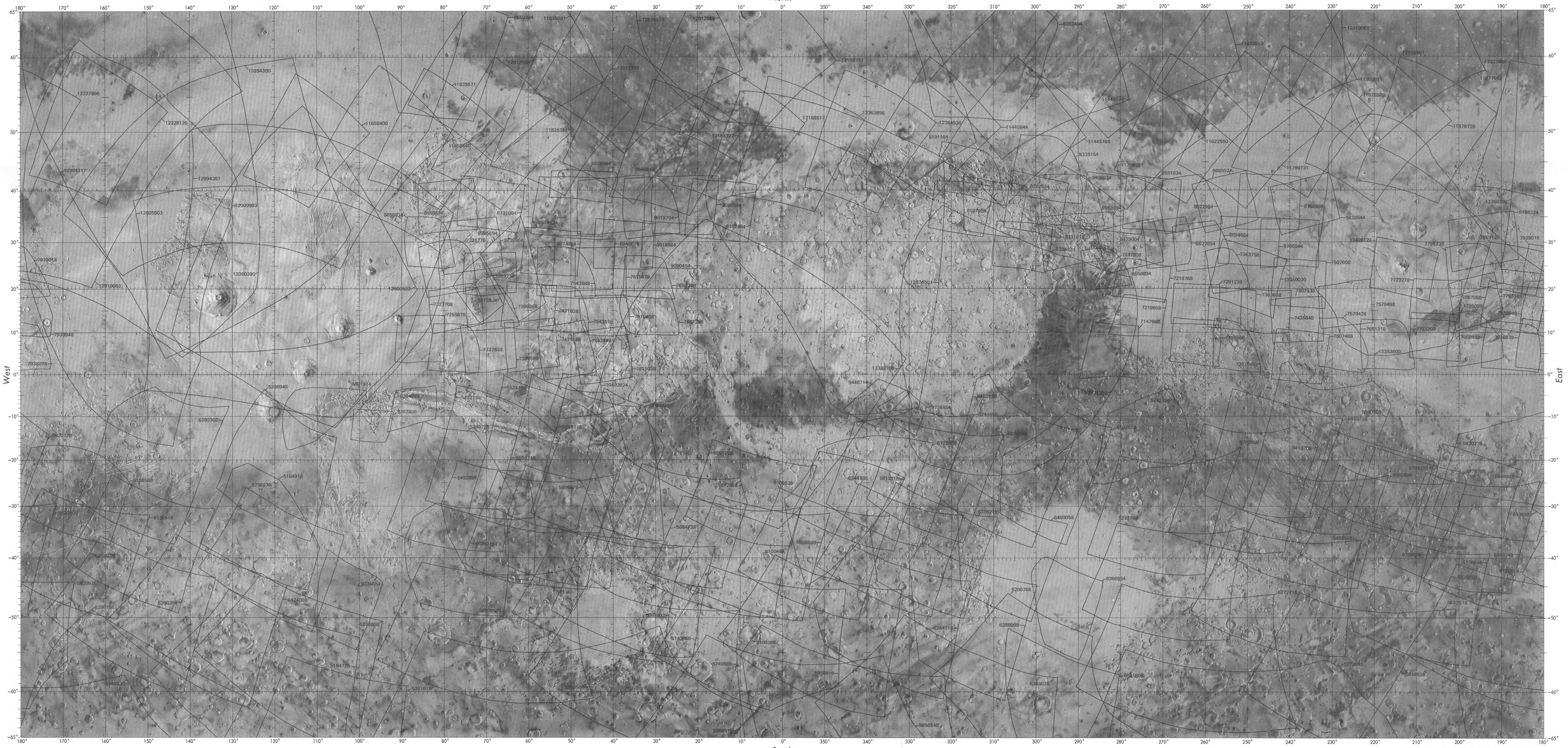
Each frame is identified by a number assigned by a clock on the Mariner 9 spacecraft. This number, or "DAS" time (for Data Automation Subsystem), indicates the number of 1.2 second intervals between the time the spacecraft was launched and the time the picture was taken. Owing to the varying times at which this number was recorded by ground receiving stations, the same picture may be identified in various tabulations by numbers differing by up to eight units in the last digit.

The designation "M 25M 3PIA" is an abbreviation for "Mars 1:25,000,000, third edition base, photoindex of albedo mapping pictures."

REFERENCE

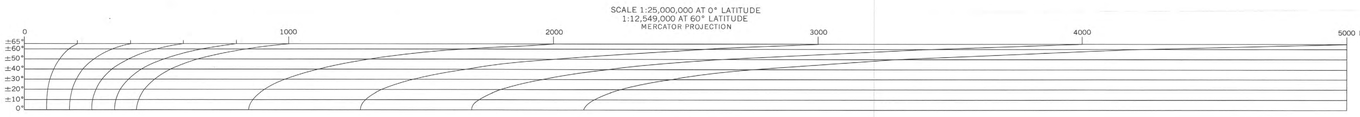
U. S. Geological Survey, 1975, Index of Mariner 9 mapping pictures of Mars (M 25M 3PIM): U. S. Geol. Survey Misc. Field Studies Map, MF-646.

North

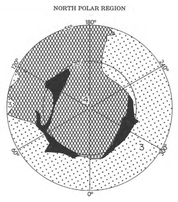


South

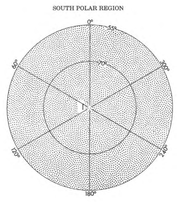
SCALE 1:25,000,000 AT 0° LATITUDE
1:12,549,000 AT 60° LATITUDE
MERCATOR PROJECTION

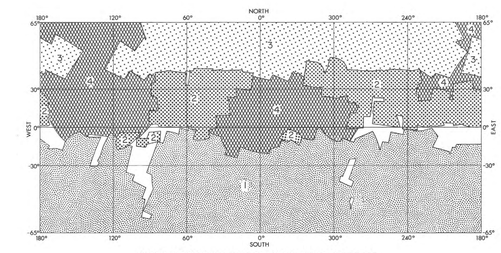


NORTH POLAR REGION



SOUTH POLAR REGION





INDEX MAP SHOWING AREA OF USEFUL IMAGE COVERAGE

LIST OF PICTURES IN AREA 1
Jan. 2, 1972 through Jan. 25, 1972
(L_s=321 through 334)

DAS	Mo.	Day	Lat.	Long.	Range (Km)
5130336	1	2	-71	273	3975
5130478	1	2	-70	247	2746
5164106	1	2	-71	129	5962
5164778	1	2	-67	124	5401
5164918	1	2	-34	122	5327
5200758	1	3	-57	299	5367
5236826	1	3	-54	115	5157
5236878	1	3	-40	120	5123
5236948	1	3	-23	120	5566
5272648	1	4	-67	256	5917
5272716	1	4	-54	257	5469
5272768	1	4	-43	271	5350
5272838	1	4	-29	272	5609
5272928	1	4	-16	272	6009
5344608	1	5	-67	290	5831
5380518	1	5	-64	64	5963
5380588	1	5	-52	73	5582
5380656	1	5	-40	76	5498
5380728	1	5	-28	77	5697
5381918	1	5	-63	104	3535
5381998	1	5	-64	102	3458
5416708	1	6	-28	353	5691
5452568	1	6	-34	68	5523
5452638	1	6	-22	68	5599
5453808	1	6	-16	82	3520
5453948	1	6	-11	44	3111
5488598	1	7	-46	244	5437
5488738	1	7	-19	245	5961
5524718	1	7	-36	59	5411
5524788	1	7	-24	59	5731
5560998	1	8	-35	236	5427
5560768	1	8	-23	236	5732
5596708	1	8	-35	52	5463
5596748	1	8	-23	52	5757
5632518	1	9	-68	219	5884
5668498	1	9	-67	40	5860
5668633	1	9	-46	44	5343
5668778	1	9	-24	44	5672
5704688	1	10	-35	221	5438
5704758	1	10	-22	220	5790
5707908	1	10	-11	97	2167
5740568	1	10	-56	35	5438
5740668	1	10	-45	36	5301
5740758	1	10	-34	36	5644
5776648	1	11	-46	213	5314
5776788	1	11	-24	212	5687
5812698	1	11	-35	36	5472
5813818	1	11	-30	347	4412
5848538	1	12	-68	192	5863
5848748	1	12	-36	200	5331
5848818	1	12	-24	200	5664
5884728	1	12	-40	15	5300
5920498	1	13	-74	206	5941
5920638	1	13	-52	190	5333
5920778	1	13	-40	191	5662
5920778	1	13	-25	191	5663
5956478	1	13	-73	22	5917
5956548	1	13	-53	3	5644
5956618	1	13	-52	7	5314
5956688	1	13	-40	8	5285
5956758	1	13	-26	8	5610
6029838	1	14	-66	320	3904
6100298	1	15	-44	353	5810
6100468	1	15	-51	354	5312
6100538	1	15	-40	353	5298
6101658	1	15	-72	257	3984
6136308	1	16	-73	179	5929
6136378	1	16	-60	168	5601
6136918	1	16	-40	108	5273
6136588	1	16	-25	167	5614
6172568	1	16	-27	342	5531
6244118	1	17	-70	339	5992
6244188	1	17	-57	339	5944
6244388	1	17	-39	335	5244
6244458	1	17	-24	334	5621
6280158	1	18	-61	157	5460
6280228	1	18	-49	154	5264
6280298	1	18	-36	152	5300
6280368	1	18	-24	150	5687
6316218	1	18	-39	327	5228
6316348	1	18	-24	325	5630
6389038	1	19	-62	323	5416
6389098	1	19	-49	320	5187
6460008	1	20	-49	137	5231
6460058	1	20	-39	310	5185
6460128	1	20	-24	309	5599
6460164	1	21	-73	145	5939
6531138	1	21	-74	317	5908
6531808	1	21	-61	308	5388
6532018	1	21	-24	300	5581
6749808	1	24	-73	219	3444
6820768	1	25	-63	253	3288

LIST OF PICTURES IN AREA 2
January 30, 1972 through March 16, 1972
(L_s=337 through 00)

DAS	Mo.	Day	Lat.	Long.	Range (Km)
7147668	1	30	7	281	3005
7147808	1	30	23	281	3888
7219698	1	31	13	274	2888
7219768	1	31	21	274	2856
7256678	2	1	9	85	2933
7291238	2	1	5	268	2161
7291698	2	1	8	266	2930
7327628	2	2	8	77	2938
7327708	2	2	16	77	2847
7327778	2	2	24	77	2843
7363618	2	2	7	262	2846
7363688	2	2	16	263	2851
7363758	2	2	24	263	2858
7399598	2	3	7	69	2953
7399668	2	3	16	68	2959
7399738	2	3	23	68	2952
7435648	2	3	16	244	2866
7471558	2	4	8	59	2975
7471628	2	4	16	59	2881
7507468	2	4	5	226	2978
7507538	2	4	13	236	2858
7543448	2	4	0	49	2902
7543448	2	5	1	50	2902
7543518	2	5	16	51	2838
7543588	2	5	24	51	2933
7579428	2	7	8	226	2979
7579498	2	7	17	226	2951
7615338	2	6	5	42	2968
7615408	2	6	15	42	2834
7615478	2	6	23	42	2823
7651318	2	8	7	217	2972
7687298	2	9	15	30	2804
7687368	2	9	23	30	2799
7723208	2	9	7	204	2832
7723278	2	9	17	204	2833
7759098	2	10	9	195	2929
7795168	2	10	17	195	2846
7795238	2	10	24	195	2853
7868988	2	11	9	186	2937
7867058	2	11	16	186	2865
7867128	2	11	24	186	2866
7938878	2	12	8	177	2954
7938948	2	12	16	177	2873
7938018	2	12	24	177	2871
8008768	2	13	8	168	2960
8191164	2	13	43	313	3433
8263404	2	15	58	310	4044
8334914	2	15	30	304	3002
8335014	2	15	37	299	3248
8335154	2	15	43	294	3477
8406974	2	16	37	290	3184
8479004	2	17	37	281	3216
8550864	2	18	30	276	3056
8551034	2	18	37	271	3246
8622864	2	19	29	267	2980
8622934	2	19	37	262	3197
8695824	2	20	29	52	2930
8695974	2	20	37	78	3153
8694884	2	20	30	258	3049
8695024	2	20	36	253	3240
8738864	2	21	29	73	3034
8731004	2	21	37	68	3225
8766844	2	21	29	249	3027
8766984	2	21	37	244	3221
8801914	2	22	36	239	3023
8838944	2	22	36	235	3233
8874024	2	23	36	50	3250
8910064	2	23	43	45	3481
8945894	2	24	21	62	2484
8945974	2	24	29	46	3004
8946814	2	24	37	41	3200
9018564	2	25	29	37	2980
9018704	2	25	37	32	3178
9090454	2	26	29	37	2974
9090594	2	26	37	23	3174
9162464	2	27	37	13	3182
9198324	2	27	29	193	3051
9231224	2	28	83	90	3413
9266854	3	28	48	297	3717
9338704	3	1	0	33	3033
9448714	3	2	9	336	3107
9736554	3	6	9	330	1992
9953634	3	9	30	290	3237
10004924	3	12	7	86	2334
10492624	3	16	5	48	2327

LIST OF PICTURES IN AREA 3
June 8, 1972 through June 30, 1972
(L_s=40 through 50)

DAS	Mo.	Day	Lat.	Long.	Range (Km)
8663394	2	20	59	79	4008
8731004	2	21	37	68	3225
11446144	6	8	48	334	4274
11446134	6	8	58	302	5091
11481974	6	9	78	76	5516
11482114	6	9	59	117	5109
11622560	6	11	48	279	4995
11622770	6	11	78	256	5398
11623910	6	11	61	277	5010
11658400	6	12	47	113	4204
11658540	6	12	67	96	4469
11658750	6	12	78	78	5329
11658890	6	12	58	78	5329
11799731	6	13	49	266	4422
11799731	6	13	49	250	4611
11800011	6	13	48	248	5077
11800151	6	13	68	232	5420
11835571	6	14	48	82	4490
11835711	6	14	48	67	4579
11835981	6	14	58	66	5043
11976589	6	16	50	226	4443
11976729	6	16	50	210	4577
11977009	6	16	59	219	5161
11977149	6	16	74	199	5600
12013569	6	16	50	53	4469
12012709	6	16	50	36	4653
12012989	6	16	59	35	5119
12013129	6	16	74	15	5613
12153467	6	22	49	208	4487
12152387	6	22	60	192	5103
12186377	6	23	46	25	4465
12186517	6	23	47	11	4678
12188397	6	23	59	11	5139
12188537	6	23	73	350	5638
12327986	6	25	49	180	4516
12328126	6	25	49	163	4622
12328406	6	25	59	156	5090
12363896	6	26	47	358	4465
12364036	6	26	47	340	4570
12364456	6	26	71	339	5433
12552275	6	29	67	137	5359
12538255	6	30	67	313	5392

LIST OF PICTURES IN AREA 4
July 9, 1972 through Oct. 16, 1972
(L_s=54 through 97)

DAS	Mo.	Day	Lat.	Long.	Range (Km)
12974603	7	9	77	345	13789
12974743	7	9	31	351	13912
12909893	7-10		31	156	13214
12910063	7-10		49	189	13549
12994317	8	3	53	131	13619
12994387	8	3	23	108	13810
13311550	10-12		88	254	9403
13328760	10-12		8	4	17462
13309030	10-12		23	290	3651
13353320	10-12		89	88	9074
13353480	10-12		33	211	9198
13354200	10-12		34	133	10815
13360390	10-12		36	145	15488
13471200	10-16		7	311	16257
13496110	10-16		23	313	3997
13505503	10-16		62	114	3263
13965908	10-16		12	116	19228

Mapping camera coverage
(frames not processed for albedo discrimination)

Mariner 9 albedo data not available

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INDEX OF MARINER 9 ALBEDO MAPPING PICTURES OF MARS

M 25M 3PIA

September 1975

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