Enclosure 2
NSSDC 69-14

APOLLO 10 PHOTOGRAPHY INDEX
70-mm and 16-mm Frame Index

This *Index* contains supporting information about each photograph taken during the Apollo 10 mission, including those photographs taken of the earth. The photographs of the earth, however, are not available from the *NSSDC*. Requests for earth photographs taken from Apollo 10 should be directed to: Technology Application Center, University of New Mexico, Albuquerque, New Mexico 87106 U.S.A.

NOTE: Please understand that this is a preliminary copy and probably contains errors. This version has been forwarded to provide you with the data as quickly as possible.

Prepared by the
Mapping Sciences Laboratory
at the NASA Manned Spacecraft Center, Houston, Texas

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MAGAZINE "M"

(FRAMES AS10-34-5009 THRU 5173)

Magazine "M" contains high altitude views of the earth and moon taken during the translunar coast.

There are several shots showing the extraction of the LM from the SIVB, including one view of the LM and SIVB prior to extraction. This magazine has many good shots of the lunar surface including shots of landing sites 1 and 2 and targets of opportunity 67, 74, 75, 78a, 114, 69a, 120, 128. There are many crew select targets. There are sequence shots showing the LM in free flight, as well as a very good sequence of the LM approach and rendezvous over the farside lunar surface.

APOLLO 10 HASSELBLAD PHOTOGRAPHY AS10-34-5009 thru 5173

Magazine X Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual.	Remarks
5009	Earth	80			TLI (pp in space)					Good	Cloud Cover
5010	"	"			"					"	Cloud Cover
5011	LM in SIV B	"			"					"	
5012	Earth	"			"					"	Cloud Cover
5013	" 69-HC-487	"			"					"	Western U.S. Mexico Stereo Pair
5014	"	"			"					"	"
5015	"	"			"					"	Western U.S. Mexico Stereo Pair
5016	"	"			"					"	"
5017	"	"			"					"	Southwest U.S. Mexico Stereo
5018	"	"			"					"	"
5019	"	"			"					"	"
5020	"	"			"					"	North Africa to Sinai
5021	"	"			"					"	"
5022	"	"			"					"	"
5023	"	"			"					"	"
5024	" 69-HC-608	"			"					"	"
5025	Over Exposed										No Imagery

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5026	Earth	250			TLI (pp in space)					Good	North Africa-Sinai
5027	"	"			"					"	"
5028	"	"			"					"	North Africa
5029	"	"			"					Fair	Earth almost missed.
5030	"	"			"					Good	North Africa
5031	"	"			"					"	"
5032	"	"			"					"	Stereo Pair North Africa
5033	"	"			"					"	"
5034	"	"			"					"	North and South America
5035	"	"			"					"	"
5036	"	"			"					"	"
5037	"	"			"					"	North America
5038	"	"			"					"	"
5039	"	"			"					"	"
5040	"	"			"					"	"
5041	"	"			"					"	"
5042	"	"			"					"	Africa and Mid East

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frome No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5043	Earth	250			TLI (pp in space)					Good	Africa-Mid East
5044	"	"			"					"	"
5045	"	"			"					"	"
5046	"	"			"					"	"
5047	"	"			"					"	"
5048	"	"			"					"	"
5049	"	"			"					"	North West Africa
5050	"	"			"					"	North West Africa to U. S. Coast
5051	"	"			"					"	"
5052	"	"			"					"	"
5053	LM	80			"					"	VHF Antenna Array
5054	Earth	250			"					"	U. S. and Mexico
5055	"	250			"					"	"
5056	LM	80			"					"	LM High Gain Antenna
5057	"	"			"					"	"
5058	"	"			"					"	"
5059	"	"			"					"	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual.	Remarks
5060	LM	80			TLI (pp in space)					Good	VHF Antenna and Attitude Nozzle
5061	"	"			"					"	"
5062	"	"			"					"	Docking Target
5063	" 69-HC-607	"			"					"	Rondevous Window
5064	"	"			"					"	Attitude Nozzles
5065	"	"			"					"	Rondevous Window
5066	"	"			"					"	"
5067	"	"			"					"	Attitude Nozzles
5068	Earth	250			"					"	Western U. S. and Mexico
5069	"	"			"					"	"
5070	"	"			"					"	"
5071	"	"			"					"	Northwest Africa
5072	"	"			"					"	Africa to the Americas
5073	Moltke, Moltke B Rima Hypatia I	80		X	24.2°E	0.6°N			X	"	"
5074											Washed Out
5075											"
5076											"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5077											Washed Out
5078											Not Located
5079											"
5080	Sea of Tranquility	80		X	35.2E	2.0N			X	Fair	
5081	MEPER	"		X	85.0E	4.0N	X			Good	
5082	LM	"			(pp in	space)				"	Reflections on Window
5083	" 69-HC-606				"					"	"
5084	"	"			"					"	"
5085	"	"			"					"	"
5086	"	"			"					"	"
5087	"	"			"					"	"
5088	"	"			"					"	"
5089	"	"			"					"	"
5090	"	"			"					"	"
5091	" 69-HC-605	"			"					"	"
5092	"	"			"					"	"
5093	Crater Webb and Foaming Sea	"		X	65.0E	1.5N			X	"	Reflection on Window

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5094	Crater Webb and Foaming Sea	80		X	58.5°E	1°0'S		X		Good	
5095	Sea of Crises Picard and Lick	"		X	54.0E	9.5°N		X		"	
5096	"	"		X	50.0E	11°N		X		"	
5097	"	"		X	50.0E	6°N		X		"	
5098	Taruntius "A" and "U"	"		X	50.0E	5°N			X	"	
5099-69-HC 604	Molke and Landing Site 2	"		X	27.2E	0.7°N	X			Good	Overlap With 5100
5100	"	"		X	26.2°E	0.7°N	X			Fair	Overlap With 5099
5101		"		X	151°E	1°N	X			Good	
5102		"		X	150°E	1°10'N	X			"	
5103		"		X	147.5°E	1°N	X			"	
5104		"		X	148°E	0.5°N	X			"	
5105		"		X	146.5°E	0.5°N	X			"	
5106	Crater 217	"		X	134.5°E	2.5°N	X			"	LM Approaching CSM
5107		"		X	131°E	0.5°N	X			Fair	"
5108		"		X	130.0E	1.0N	X			Good	"
5109		"		X	129.5°E	1°N	X			"	"
5110	Crater 282	"		X	128.5°E	1.2°N	X			"	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
5111	Crater 282	80		X	127.5°E	1.5°N	X			Good	LM Approaching CSM
5112	Crater 282 ~69-HC-597	"		X	126°E	2°N	X			"	"
5113		"		X	122.5°E	2°N	X			"	"
5114		"		X	122°E	2°N	X			"	"
5115		"		X	121.5°E	2°N	X			"	"
5116	69-HC-603	"		X	117°E	2°N	X			"	"
5117	LM Docking	"		X	117.5°E	2°N	X			"	
5118	Censorinus "X", "V" Maskelyne "P"	"		X	37°E	1°N	X			Fair	Over Exposed
5119	Censorinus	"		X	33.2°E	0.5°N	X			"	"
5120	"	"		X	32.5°E	0.5°S			X	Good	Near Terminator
5121	Terminator	"		X	22°E	1.5°N			X	Poor	
5122	Sabine, Ritter, Schmidt	"		X	18.5°E	1.5°N			X	"	
5123	Godin	"		X	85°E	2.2°N			X	Good	
5124	Dembowski	"		X	7°E	3°N			X	"	Terminator
5125	Under-Exposed ~~Experiment~~									Poor	No Imagery
5126	Dubiago	80		X	71.5°E	1.5°N				Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5127	Sea of Waves Firmicus	80		X	67.2°E	3.5°N	X			Good	
5128	West Edge Foaming Sea	250		X	64.5°E	1°N	X			Good	
5129	"	"		X	64.5°E	1°N	X			Good	
5130	"	"		X	64°E	1°N	X			Good	
5131	Apollonius	"		X	61°E	4°N	X			"	
5132	Apollonius "A"	"		X	60°E	2.5°N	X			"	
5133	Sea of Fertility	"		X	53°E	0.5°N	X			"	75% Overlap
5134	Taruntius"K" and "P"	"		X	52.2°E	0.5°N	X			"	"
5135	"			X	52°E	0.5°N	X			"	"
5136	Taruntius "H"	"		X	50°E	0.5°N	X			"	"
5137	Messier"A" and "B"	"		X	48°E	1°S	X			"	50% Side Lap
5138	"	"		X	47.5°E	2°S	X			"	"
5139	Messier "A", "B","D","E"	"		X	45.5°E	3°S	X			"	
5140	SECCHI "X"	"			45.5°E	00°	X			"	
5141	Sea of Fertility	"			47°E	2°N	X			"	
5142	Lubbock "S"	"			45°E	1°N				"	50 % Overlap

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
5143	Lubbock "S"	250		X	41.5°E	1°N	X			Good	75% Overlap
5144	Lubbock "S"	"			41.2°E	1°N	X			"	75% Overlap
5145	Taruntius "F"	"		X	40.5°E	3.5°N	X			"	
5146	Near Site 1	"		X	35°E	2.2°N		X		"	95% Overlap
5147	"	"		X	35°E	2.2°N		X		"	95% Overlap
5148	"	"		X	"	"		X		"	95% Overlap
5149	"	"		X	"	"		X		"	95% Overlap
5150	"	"	X		"	"		X		"	95% Overlap (1:440,000)
5151	Maskelyne	"	X		30°E	2.2°N		X		"	1:440,000
5152	Maskelyne "Y"	"		X	27.5°E	1.5°N		X		"	
5153	Maskelyne "G" Rima Maskelyne I	"		X	27°E	2.5°N		X		"	
5154	"	"		X	27°E	3°N		X		"	40% Overlap
5155	Near Maskelyne "G"	"		X	27°E	3.5°N		X		"	
5156	Landing Site 2	"		X	24°E	1°N		X		"	
5157	"	"		X	"	"		X		"	90% Overlap
5158	"	"		X	23.7°E	0.7°N		X		"	60% Overlap

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine M Film SO-368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
5159	Landing Site 2	250	X		23.7°E	1°N		X		Fair	70% Overlap (1:440,000)
5160	Ritter	"		X	19°E	2°N			X	Good	
5161	Schmidt	"		X	19°45'E	1°N			X	"	
5162	" 69-HC-602	"		X	19.7°E	0.7°N			X	"	
5163	Godin Area	"		X	12.5°E	2°N			X	"	
5164	Godin	"		X	10°E	2.2°N			X	"	
5165	" 69-HC-601	"		X	"	"			X	"	
5166	"	"		X	09°E	2.5°N			X	"	50% Overlap
5167	Godin "C"	"	X		08°E	2°N			X	"	1:440,000
5168	Rhaeticus "B"	"		X	07°E	1.5°N			X	"	
5169	"	"	X		07.2°E	1.5°N			X	"	1:440,000
5170	Craters 221,223	80		X	165°E	4.5°N		X		"	Light Reflection
5171	Crater 302 69-HC-600	80		X	161.5°E	5°S		X		"	
5172	Craters 300, 302	80		X	158°E	6°S		X		"	
5173	Craters 300, 301 69-HC-610	80		X	157.5°E	9°S		X		"	

MAGAZINE "N"

(FRAMES AS10-27-3855 THRU 3987)

Magazine "N" contains high altitude earth and moon shots taken during the translunar coast.

There is an interesting sequence showing the earthrise over the lunar horizon. This magazine has three very good shots of the approach to landing site 3. There are several shots of the earth as seen from lunar orbit. Also, there is a sequence of shots of CSM as seen from LM during the flyby maneuver showing the lunar surface in the background.

APOLLO 10 HASSELBLAD PHOTOGRAPHY

AS10-27-3855 thru 3987

Magazine N

Film 368

Frame No. AS10-27	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3855	CSM from LM with limb of moon	250MM		X	P.P. on CSM		X			Poor	LM flyby sequence
3856	"	"		X	"		X			Poor	"
3857	"	"		X	"		X			Good	"
3858	"	"		X	"		X			Good	"
3859	"	"		X	"		X			Good	"
3860	"	"		X	"		X			Good	"
3861	"	"		X	"					Good	"
3862	"	"		X	"					Good	"
3863	"	"		X	"		X			Good	"
3864	"	"		X	"					Good	"
3865	"	"		X	"					Good	"
3866	"	"		X	"					Good	"
3867	"	"		X	"					Good	"
3868	"	"		X	"		X			Good	"
3869	CSM from LM craters 275 & 207	"		X	"		X			Good	"
3870	CSM from LM craters 275 & 207	"		X	"		X			Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3871	CSM from LM craters 275 & 207	250MM		X	PP on CSM		X			Good	LM flyby sequence
3872	CSM from LM craters 275 & 207	"		X	"		X			Good	"
3873-69-HC-470	CSM from LM crater 270	"		X	"		X			Good	"
3874	CSM from LM N.E. Corner Smyth's Sea	"		X	"			X		Good	"
3875	"	"		X	"			X		Good	"
3876	"	"		X	"			X		Good	"
3877	CSM from LM Northern Smyth's Sea	"		X	"			X		Good	"
3878	"	"		X	"		X			Good	"
3879	CSM from LM NW corner Smyth's Sea	"		X	"		X			Good	"
3880	"	"		X	"		X			Good	"
3881	69-HC-609	"		X	78°E	.5°S	X			Good	"
3882	"	"		X	PP on CSM						"
3883	"	"		X	"						"
3884	Crater 192	"		X	96.4°E	3.8°N					"
3885	Earthrise	"		X	PP in Space						Lunar-Earth Sequence

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 368

Frome No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3886	Earthrise	250MM		X	PP in	Space					Lunar-Earth Sequence
3887	Earthrise 69-HC-625	"		X	PP in	Space	X			Good	Lunar-Earth Sequence
3888	"	"		X	"		X			Good	"
3889	"	"		X	"		X			Good	"
3890	" 69-HC-627	"		X	"		X			Good	"
3891	"	"		X	"		X			Good	"
3892	" 69-HC-599	"		X	"		X			Good	"
3893	"	"		X	"		X			Good	"
3894	"	"		X	"		X			Good	"
3895	"	"		X	"		X			Good	"
3896	" 69-HC-627 — 69-HC-618	"		X	"		X			Good	"
3897	"	"		X	"		X			Good	"
3898	Earth	"			"					Good	"
3899	"	"			"					Good	"
3900	"	"			"					Good	"
3901	"	"			"					Good	"
3902	"	"			"					Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine X Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3903	Earth	250M			PP in Space					Good	Lunar-Earth Sequence
3904	"	"			"					Good	"
3905	Site 3	80		X	4.3°E	1.1°N			X	Good	"
3906	"	"		X	0.4°E	1.4°N			X	Good	"
3907	— " 69-HC-472	"		X	1.0°E	1.4°N			X	Good	"
3908	"	"		X	1.0°E	1.0°N			X	Good	"
3909	Tycho	250			TEI					Poor	T.E.I.
3910	"	"			"					Poor	"
3911	Foaming Sea	"			"					Poor	"
3912	"	"			"					Poor	"
3913	Tycho	"			"					Poor	"
3914	"	"			"					Poor	"
3915	Smyth's Sea	"			88°E	3°S	X			Fair	"
3916	Tycho-Ptolemaeus	"									
3917	" "	"			TEI					Poor	"
3918	Smyth's Sea	"			90°E	5°S				Poor	"
3919	Tycho				TEI					Poor	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
3920	Mare Crisium	250MM			TEI					Poor	T.E.I.
3921	Smyth's Sea - Langrenus	"			"					Poor	"
3922	Sea of Moscow Sea of Waves	"			"					Fair	"
3923	" "	"			"					Poor	"
3924	Mare Crisium	"			"					Fair	"
3925	Mare Crisium-Cleomedes	"			"					Fair	"
3926	Mare Crisium Langrenus	"			"					Fair	"
3927	Langrenus - Sea of Moscow	"			"					Fair	"
3928	Langrenus Sea of Moscow	"			"					Fair	"
3929	Smyth's Sea Sea of Moscow	"			"					Fair	"
3930	Langrenus Sea of Moscow	"			"					Fair	"
3931	Langrenus Mare Crisium	"			"					Fair	"
3932	Sea of Tranquility Sea of Crises	"			"					Fair	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3933	Sea of Nectar Sea of Serenity	250M			TEI					Fair	T.E.I.
3934	Langrenus Sea of Nectar	"			"					Good	"
3935	Sea of Nectar Sea of Crises	"			"					Good	"
3936	Sea of Nectar Border Sea	"			"					Good	"
3937	Langrenus Humbolt	"			"					Good	"
3938	Sea of Nectar Sea of Crises	"			"					Good	"
3939	Sea of Waves Sea of Nectar	"			"					Good	"
3940	Sea of Nectar Smyth's Sea	"			"					Good	"
3941	Sea of Serenity Smyth's Sea	"			"					Good	"
3942	Mare Australe Smyth's Sea	"			"					Good	"
3943	Mare Australe Sea of Nectar	"			"					Good	"
3944	"	"			"					Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
3945	Mare Australe Sea of Nectar	250MM			TEI					Good	T.E.I.
3946	Sea of Nectar Sea of Crises	"			"					Good	"
3947	Sea of Nectar Endymion	"			"					Good	"
3948	"	"			"					Good	"
3949	"				"					Good	"
3950	"	"			"					Fair	"
3951	Southern Sea Sea of Tranquility	"			"					Fair	"
3952	Earth	"			"	(PP in Space)				Fair	"
3953	Earth	"			"					Fair	"
3954	Lunar	"			"					Poor	"
3955	Lunar	"			"					Good	"
3956	69-HC-471	"			"					Good	"
3957	"	"			"					Good	"
3958	"	"			"					Good	"
3959	"	"			"					Good	"

Magazine N Film 368

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
3960	Lunar	250M			TEI (PP in Space)					Good	T.E.I.
3961	"	"			"					Good	"
3962	Inside CSM	"			Inside CSM					Poor	"
3963	"	"			"					Poor	"
3964	"	"			"					Poor	"
3965	"	"			"					Poor	"
3966	Lunar	"			TEI (PP in Space)					Fair	"
3967	"	"			"					Good	"
3968	"	"			"					Good	"
3969	"	"			"					Good	"
3970	Earth	"			"					Good	"
3971	Lunar	"			"					Good	"
3972	"	"			"					Good	"
3973	"	"			"					Good	"
3974	"	"			"					Good	"
3975	"	"			"					Good	"
3976	69-HC-598	"			"					Good	Arabian Peninsula

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine N Film 638

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
3977	Lunar	250MM			TEI (PP in Space)					Good	T.E.I.
3978	"	"			"					Good	"
3979	Earth	"			"					Good	Cloud Cover
3980	"	"			"					Good	"
3981	"	"			"					Good	"
3982	"	"			"					Good	"
3983	"	"			"					Good	"
3984	"	"			"					Good	"
3985	"	"			"					Good	"
3986	"	"			"					Good	"
3987	"	"			"					Good	"

MAGAZINE "O"

(FRAMES AS10-28-3988 THRU 4163)

This magazine contains two near vertical passes. One pass was recorded over site 2 and the other was taken on the central farside of the moon. The 80mm lens was used on both passes.

There are individual 250MM vertical shots taken over the farside lunar surface. The targets of opportunity that are covered are: 29, 33, 41, 43, 45, 78a, 112, 113 and 114. In addition, site 2 is covered with oblique photography.

APOLLO 10 HASSELBLAD PHOTOGRAPHY

AS10-28-3988 thru 4163

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
3988	Craters 299 & 297	250W		X	Above horizon		X			Poor	High oblique
3989	Crater 299 & 297	"		X	"	"	X			Poor	"
3990	"	"		X	"	"	X			Poor	"
3991	Crater 297	"		X	149.0E	4.2S	X			Good	"
3992	T.O. 292	"		X	141.2E	4.4S	X			Good	
3993	Crater 297	"		X	148.8E	1.8S	X			Good	
3994		"		X	139.6E	1.6S	X			Good	
3995		"		X	137.4E	1.9S	X			Good	
3996		"	X		See Remarks		X			Good	1:420,000 not plotted: locate on Mag Oframes 4099 4100
3997	T.O. 33	"			138.3E	4.2S	X			Good	
3998		"			134.1E	1.7S	X			Good	Start of sequence
3999		"			134.8E	2.2S	X			Good	"
4000		"			140.4E	2.6S	X			Good	End of sequence
4001	Near Crater 217	"			133.0E	0.7S	X			Good	Start of sequence
4002	"	"			133.2E	0.8S				Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Quol	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4003	Near Crater 217	250MM		X	133.5E	0.6N	X			Good	Start of sequence 1:420,000
4004	"	"	X		132.5E	1.1N	X			Good	30% F/OL with 4001 end of sequence
4005	Crater 287 & 288	"		X	132.0E	5.8S	X			Good	
4006	Crater 288 & 290	"		X	133.7E	7.7S	X			Good	High oblique
4007	Craters 284 & 286	"		X	130.4E	4.8S	X			Good	
4008	Crater 286	"		X	129.2E	2.7S	X			Good	
4009	Crater 290	"		X	134.0E	5.4S	X			Good	30% F/OL with 4005, 4006 high oblique
4010	T.O. 41	"		X	127.5E	4.4S	X			Good	
4011		"		X	127.6E	1.8S	X			Good	
4012	T.O. 45	"		X	122.5E	4.8S	X			Good	
4013	T.O. 43	"		X	123.6E	2.8S	X			Good	
4014		"	X		See Remarks		X			Good	1:420,000 not plotted; locate on Mag O frames 4116, 17 and 18
4015	T.O. 45	"		X	122.3E	4.6S	X			Good	
4016	T.O. 45	"		X	123.7E	5.8S	X			Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3200

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4017	Crater 279	250MM		X	118.7E	6.2S	X			Good	
4018		"		X	120.2E	5.5S	X			Good	
4019		"	X		See Remarks		X			Good	1:420,000 not plotted; locate on Mag 0 frames 4121, 22 and 23
4020	Crater 277	"			114.5E	2.2S	X			Good	
4021	"	"			114.3E	3.7S	X			Good	
4022		"	X		See Remarks		X			Good	1:420,000 not plotted; locate on Mag 0 frames 4126, 27
4023		"	X		"		X			Good	1:420,000 not plotted; locate on Mag. 0 frame 4217
4024		"	X		"		X			Good	1:420,000 " "
4025	Crater 273	"			109.8E	5.1S	X			Good	
4026	Crater 202	"			107.8E	0.1S	X			Good	
4027	Crater 270	"			104.4E	4.2S	X			Good	
4028											Not plottable
4029	T.O. 78a	80MM	X		43.0E	0.4S		X		Fair	1:1,345,000 - Near vertical approach into and over site 2
4030	"	"	X		42.0E	0.5S		X		Fair	1:1,322,000
4031	"	"	X		41.0E	0.4S		X		Fair	1:1,328,000

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4032	T.O. 78a	80MM	X		40.0E	0.4N		X		Fair	1:1,311,000 - Near vertical approach into and over Site
4033	"	"	X		39.1E	0.4N		X		Fair	" "
4034	"	"	X		38.0E	0.4N		X		Fair	" "
4035	"	"	X		37.1E	0.3N		X		Fair	" "
4036	"	"	X		36.0E	0.3N		X		Fair	" "
4037	"	"	X		35.0E	0.3N		X		Fair	" "
4038	"	"	X		34.5E	0.3N		X		Fair	" "
4039	"	"	X		32.9E	0.3N		X		Fair	" "
4040	"	"	X		31.8E	0.4N		X		Fair	" "
4041	"	"	X		31.1E	0.4N		X		Fair	" "
4042	"	"	X		29.8E	0.3N		X		Fair	" "
4043	"	"	X		28.8E	0.3N		X		Fair	" "
4044	"	"	X		27.9E	0.4N		X		Fair	" "
4045	"	"	X		27.5E	0.4N		X		Fair	Vertical photograph over Site 2
4046	"	"	X		27.5E	0.4N		X		Fair	" "
4047	"	"	X					X		Fair	Near vertical photograph over site 2

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4048	Sea of Tranquility	80MM	X		26.6E	0.7N		X		Fair	1:1,328,000- near vertical over site 2
4049	"	"	X		25.9E	0.8N		X		Fair	1:1,396.000 "
4050	"	"		X	25.6E	0.9N		X		Fair	low oblique over site 2
4051	"	"		X	25.6E	0.9N		X		Fair	" "
4052	"	"		X	26.1E	0.8N		X		Fair	High oblique over site 2
4053	T.O. 122	"		X	27.0E	0.4N		X		Fair	"
4054	"	"		X	Above horizon			X		Poor	"
4055		"		X	"	"		X		Poor	"
4056		"		X	"			X		Poor	End of sequence
4057	Start of sequence along 0^{o} Lat.(4057-4163)	"	X		178.8W	0.1S	X			Good	1:1,320,000 - start of near vertical sequence; long shadows
4058		"	X		179.8W	0.1N	X			Good	1:1,320,000 "
4059		"	X		179.4E	0.1N	X			Good	1:1,320,000 "
4060		"	X		178.5E	0.1N	X			Good	1:1,345,000 "
4061		"	X		177.7E	0.2N	X			Good	1:1,3200,000 "
4062		"	X		176.7E	0.3N	X			Good	1:1,295,000 - Near vertical pass
4063		"	X		175.9E	0.2N	X			Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4064		80MM	X		174.9E	0.3N	X			Good	Near vertical pass 1:1,395,000
4065	Crater 225	"	X		173.9E	0.3N	X			Good	1:1,345,000 "
4066	"	"	X		172.8E	0.4N	X			Good	" "
4067	"	"	X		171.9E	0.4N	X			Good	" "
4068	"	"	X		170.9E	0.5N	X			Good	" "
4069	"	"	X		169.8E	0.5N	X			Good	" "
4070		"	X		168.9E	0.5N	X			Good	" "
4071		"	X		167.7E	0.6N	X			Good	1:1,395,000 "
4072		"	X		166.8E	0.5N	X			Good	" "
4073		"	X		165.7E	0.6N	X			Good	1:1,444,000 "
4074	Crater 303	"	X		164.7E	0.5N	X			Good	1:1,395,000 "
4075	"	"	X		163.7E	0.5N	X			Good	" "
4076	"	"	X		162.7E	0.5N	X			Good	" "
4077	"	"	X		161.6E	0.5N	X			Good	" "
4078		"	X		160.6E	0.5N	X			Good	" "
4079		"	X		159.7E	0.5N	X			Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4080		80MM	X		158.9E	0.5N	X			Good	Near vertical pass 1:1,420,000
4081		"	X		158.2E	0.6N	X			Good	1:1,444,000 "
4082		"	X		157.4E	0.6N	X			Good	" "
4083		"	X		156.3E	0.7N	X			Good	1:1,470,000 "
4084		"	X		155.2E	0.7N	X			Good	" "
4085		"	X		154.4E	0.7N	X			Good	1:1,420,000 "
4086		"	X		153.5E	0.7N	X			Good	" "
4087		"	X		152.4E	0.8N	X			Good	" "
4088		"	X		151.4E	0.8N	X			Good	1:1,470,000 "
4089		"	X		150.4E	0.8N	X			Good	1:1,395,000 "
4090		"	X		149.0E	0.9N	X			Good	" "
4091		"	X		148.2E	0.9N	X			Good	1:1,420,000 "
4092		"	X		147.0E	0.8N	X			Good	1:1,376,000 "
4093		"	X		146.0E	0.9N	X			Good	1:1,395,000 "
4094		"	X		144.9E	0.8N	X			Good	1:1,395,000 "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No:	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual.	Remarks
4095		80MM	X		143.8W	0.9N	X			Good	Near vertical pass
"	1:1,395,000										1:1,395,000
4096	"	"	X		142.7W	0.9N	X			Good	1:1,370,000 "
4097	"	"	X		141.6W	0.8N	X			Good	1:1,345,000 "
4098	"	1:1,395,000	"	X		140.5W	0.7N	X			Good " "
4099	"	1:1,370,000	"	X		139.4W	0.7N	X			Good 1:1,320,000 "
4100	"	"	"	X		138.4W	0.7N	X			Good " "
4101	"	"	"	X		137.1W	0.7N	X			Good 1:1,395,000 "
4102	"	1:1,420,000	"	X		136.2W	0.6N	X			Good 1:1,370,000 "
4103	"	"	"	X		135.5W	0.6N	X			Good 1:1,320,000 "
4104	"	1:1,470,000	"	X		134.4W	0.6N	X			Good 1:1,395,000 "
4105	"	"	"	X		133.7W	0.9N	X			Good 1:1,375,000 "
4106	"	1:1,444,000	"	X		132.6W	0.9N	X			Good 1:1,370,000 "
4107		1:1,420,000	"	X		131.4W	1.0N	X			Good " "
4108	Near vertical pass		"	X		130.2W	1.0N	X			Good " "
4109			"	X		129.2W	1.0N	X			Good " "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4110	Crater 282	80MM	X		127.9E	1.1N	X			Good	Near vertical pass 1:1,370,000
4111	"	"	X		127.0E	1.0N	X			Good	"
4112	"	"	X		126.0E	1.0N	X			Good	"
4113	"	"	X		124.8E	1.0N	X			Good	"
4114		"	X		123.7E	1.0N	X			Good	1:1,395,000 starts washing out due to high sun angles
4115		"	X		122.7E	1.1N	X			Good	1:1,420,000 - high sun angles
4116		"	X		121.6E	1.0N	X			Good	" "
4117		"	X		120.7E	1.0N	X			Good	1:1,370,000 "
4118		"	X		119.8E	1.1N	X			Good	" "
4119		"	X		118.8E	1.0N	X			Good	" "
4120		"	X		117.8E	1.0N	X			Good	" "
4121		"	X		116.8E	0.9N	X			Good	" "
4122		"	X		115.9E	0.8N	X			Good	1:1,345,000 "
4123		"	X		115.1E	0.9N	X			Good	" "
4124		"	X		114.2E	0.7N	X			Good	" "
4125	Crater 206 & 207	"	X		113.2E	0.8N	X			Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual	Remarks
4110	Crater 282	80MM	X		127.9E	1.1N	X			Good	Near vertical pass 1:1,370,000
4111	"	"	X		127.0E	1.0N	X			Good	"
4112	"	"	X		126.0E	1.0N	X			Good	"
4113	"	"	X		124.8E	1.0N	X			Good	"
4114		"	X		123.7E	1.0N	X			Good	1:1,395,000 starts washing out due to high sun angles
4115		"	X		122.7E	1.1N	X			Good	1:1,420,000 - high sun angles
4116		"	X		121.6E	1.0N	X			Good	" "
4117		"	X		120.7E	1.0N	X			Good	1:1,370,000 "
4118		"	X		119.8E	1.1N	X			Good	" "
4119		"	X		118.8E	1.0N	X			Good	" "
4120		"	X		117.8E	1.0N	X			Good	" "
4121		"	X		116.8E	0.9N	X			Good	" "
4122		"	X		115.9E	0.8N	X			Good	1:1,345,000 "
4123		"	X		115.1E	0.9N	X			Good	" "
4124		"	X		114.2E	0.7N	X			Good	" "
4125	Crater 206 & 207	"	X		113.2E	0.8N	X			Good	" "

Magazine 0 Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4126	Crater 207	80MM	X		112.2E	0.9N	X			Good	1:1,345,000 - near vertical pass
4127	"	"	X		111.3E	1.0N	X			Good	"
4128		"	X		110.2E	1.1N	X			Good	"
4129	Crater 202	"	X		109.3E	1.1N	X			Good	"
4130	"	"	X		108.2E	1.1N	X			Good	"
4131	"	"	X		107.2E	1.2N	X			Good	"
4132	"	"	X		106.1E	1.3N	X			Good	"
4133		"	X		105.0E	1.2N	X			Good	"
4134		"	X		103.6E	1.2N	X			Good	"
4135		"	X		102.8E	1.3N	X			Good	"
4136		"	X		102.1E	1.3N	X			Good	"
4137		"	X		101.1E	1.3N	X			Good	"
4138		"	X		99.8E	1.3N	X			Good	"
4139		"	X		98.8E	1.2N	X			Good	"
4140	Crater 192	"	X		97.5E	1.2N	X			Good	"
4141	"	"	X		96.5E	1.2N	X			Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 0 Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4142	Crater 192	80MM		X	95.6E	1.0N	X			Good	Start of 180° roll maneuver
4143		"		X	94.1E	0.7N	X			Good	"
4144		"		X	93.0E	0.1N	X			Good	"
4145	Smyth's Sea	"		X	92.6E	0.1N	X			Good	"
4146	"	"		X	91.8E	0.5S	X			Good	"
4147	"	"		X	91.0E	0.2S	X			Good	End of 180° roll maneuver
4148	"	"	X		90.0E	0.2N	X			Good	Near vertical pass 1:1,245,000
4149	"	"	X		90.3E	0.0N	X			Good	" "
4150	"	"	X		89.6E	0.1N	X			Good	" "
4151	"	"	X		88.8E	0.1N	X			Good	1:1,295,000 "
4152	"	"	X		88.1E	0.2N	X			Good	" "
4153	"	"	X		86.6E	0.1S	X			Good	1:1,345,000 "
4154	"	"	X		85.5E	0.3N	X			Good	" "
4155	"	"	X		84.7E	0.2N	X			Good	" "
4156	"	"	X		83.7E	0.3N	X			Good	" "
4157	"	"	X		83.7E	0.0N	X			Good	" "

Magazine 0 Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual	Remarks
4158	Smyth's Sea	80MM	X		81.9E	0.1S	X			Good	1:1,295,000 - Near vertical pass
4159	"	"	X		80.6E	0.5S	X			Good	" "
4160	Schubert	"	X		79.9E	0.4S	X			Good	" "
4161	"	"	X		78.5E	0.9S	X			Good	" "
4162	"	"	X		77.5E	1.1S	X			Good	" "
4163	"	"	X		76.1E	1.2S	X			Good	" End of sequence

MAGAZINE "P"

(FRAMES AS10-29-4164 THRU 4326)

Magazine "P" contains photographs taken from LM during the descent approach to landing site 2 (just misses site). It also includes several shots of the CSM. Most of the photographs are oblique views of crew select targets. The following targets of opportunity are at least partially covered: 29, 30, 46, 55, 57, 67, 75, 78a and 112.

All photos were taken with an 80MM lens. There are three excellent low altitude obliques of Censorinus.

APOLLO 10 HASSELBLAD. PHOTOGRAPHY

Magazine P (From LM) Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4164	Unusable	80		X			X			Poor	Shows window frame 1/8 Frame Lunar Surface
4165	Eastern Sea of Tranquility	"	X		39°E	0.5°N		X		Fair	Eastern Sea of Tranquility Shows CSM 1:1,309,000
4166	Eastern Sea of Tranquility	"	X		39.5°E	0.7°N		X		Fair	Shows CSM 1:1,309.000
4167	"	"	X		38.7°E	0.7°N		X		Fair	" "
4168	"	"	X		31.1°E	1°N		X		Fair	" "
4169	"	"	X		30.8°E	1°N		X		Fair	" "
4170	"	"	X		30°E	0.9°N		X		Fair	" "
4171	"	"	X		29.5°E	0.9°N		X		Fair	" "
4172	"	"	X		28.7°E	1°N		X		Fair	" "
4173	"	"	X		28.2°E	1.2°N		X		Fair	" "
4174	"	"	X		26.4°E	1.4°N		X		Fair	" "
4175	Crater 303	"		X	161.7°E	1°S		X		Fair	
4176	Crater 301	"		X	157.5°E	6°S		X		Fair	
4177	Crater 301	"		X	156.4°E	8°S		X		Fair	
4178	Crater 301	"		X	157.5°E	3°S		X		Fair	
4179	Crater 297 T.O.#29	"			PP ABOVE HORIZON			X		Fair	

Magazine P (From LV) Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4180	Crater 297 T.O.#29	80		X	149°E	7.5°S		X		Good	
4181	Crater 297	"		X	151°E	8.2°S		X		Fair	
4182	South of "SEA" IX. Near T.O.#30	"		X	142.5°E	1.6°N	X			Fair	
4183	"	"		X	142.5°E	1.6°N	X			Fair	
4184	South Crater 218 Near T.O.#30	"		X	141.5°E	0.6°N	X			Fair	
4185	"	"		X	145°E	1.2°N	X			Fair	
4186	Crater 217 Near T.O.#30	"		X	136.7°E	0.2°N	X			Fair	
4187	South Sea "IX." Near T.O.#30	"		X	142.5°E	0.2°N	X			Fair	
4188	"	"		X	142.2°E	1.2°N	X			Fair	
4189	T.O. #30	"		X	139°E	2.5°N	X			Fair	
4190	South Sea IX Near T.O.#30	"		X	133.1°E	2.2°N	X			Fair	
4191	"	"		X	136.5°E	2.2°N	X			Fair	
4192	"	"		X	138.7°E	1°N	X			Fair	
4193	"	"		X	137.9°E	1°N	X			Fair	
4194	T.O. #30	"		X	136.4°E	3.5°N	X			Fair	
4195	Crater 217 Near T.O. #30	"		X	136.2°E	1.2°N	X			Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P (FROM LM) Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4196	Crater 217 Near T.O. #30	80	X		136E	1.5N	X			Fair	
4197	Not Plotted	"	X							Fair	
4198	Large Crater South of Crater 216	"		X	133.2E	0.2N	X			Fair	IP
4199	"	"	X		133.2E	0.2N	X			Fair	IP
4200	"	"		X	133.2E	0.2N	X			Fair	IP
4201	Near T.O. #43	"		X	123E	1.5S	X			Fair	
4202	South Crater 211 Near T.O. #46	"		X	118.7E	0.5S	X			Fair	
4203	"	"		X	119.5E	0.5S	X			Fair	
4204	"	"		X	119.5E	0.5S	X			Fair	
4205	"	"		X	119.2E	00°	X			Fair	
4206	"	"		X	119.5E	0.5N	X			Fair	
4207	"	"		X	119.5E	0.5N	X			Fair	
4208	Crater 211 T.O.#46	"		X	120E	5N	X			Fair	
4209	"	"		X	120E	5.5N	X			Fair	
4210	East Crater 206	"		X	116E	1.5N	X			Fair	
4211	"	"		X	116.5E	1.5N	X			Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4212	Images Crater 206 Near Horizon	80MM		X	112E	1.5N	X			Fair	
4213	South Crater 208			X	116E	7N	X			Fair	
4214	East of Crater 207			X	117E	1.5N	X			Fair	
4215	"			X	116.3E	01N				Fair	
4216	Not Plotted			X			X			Fair	
4217	East Crater 202			X	110.5E	00°	X			Fair	
4218	South Crater 201			X	106.5E	03N	X			Fair	
4219	Crater 201 Near T.O. #55			X	107.5E	5.5N	X			Fair	
4220	"			X	107.5E	5.5N	X			Fair	
4221	South Crater 199 Near T.O. #55			X	101.2E	1.7N	X			Fair	
4222	Near T.O. #55			X	99E	04N	X			"	
4223	South Crater 199			X	101.5E	01N	X			"	
4224	West of Crater 199 T.O. #55			X	100E	3.5N	X			"	
4225	Crater 199 T.O.#55			X	97.5E	05N	X			"	
4226	North Crater 269			X	97E	1.5N	X			"	
4227	"			X	97E	1.5N	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4228	Crater 189 Near T.O. #55	80MM		X	93.5E	3N	X			Fair	
4229	Near T.O. #59			X	80E	1.5S	X			Fair	
4230	"			X	81.5E	01S	X			Fair	
4231	"			X	78E	01S	X			Fair	
4232	"			X	79.2E	2.5S	X			Fair	
4233	"			X	77.7E	01S	X			Fair	
4234	Gilbert			X	77.5E	0.5S	X			Fair	
4235	Gilbert			X	77E	0.5S	X			Fair	
4236	Gilbert		X		77.5E	0.5S	X			"	
4237	Not Plotted		X				X			"	
4238	Near Mare Undarum			X	72E	0.2S	X			"	
4239	"			X	70E	0°	X			"	
4240	Mare Spumans			X	67.5E	1.3N	X			"	
4241	"			X	67.5E	0.5N	X			"	
4242	"			X	67.5E	0.5N	X			"	
4243	"			X	64.5E	0.5N	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4244	T. O. #67	80MM		X	64E	3N	X			Fair	Southern Rim of Sea of Crises
4245	T. O. #67			X	62.5E	2.5N	X			Fair	Southern Rim of Sea of Crises
4246	Near T.O. #69a			X	57E	0°	X			Fair	
4247	Near T.O. #69a			X	56E	1N	X			Fair	
4248	"			X	54.7E	1S	X			Fair	
4249	"			X	53E	1N	X			Fair	
4250	"			X	50.7E	0.2N		X		Good	
4251	"			X	51.2E	0.5N		X		Good	
4252	"			X	50E	0.2S		X		Good	
4253	Near T. O. #75			X	48E	01S		X		Good	
4254	Near T. O. #75			X	48E	01S		X		Good	
4255	Near T. O. #75			X	48E	0.5S		X		Good	
4256	Near T.O. #75			X	47E	3S		X		Good	
4257	Near T.O. #75			X	47.2E	0.5N	X			Fair	
4258	Near T.O. #75			X	47.3E	0.5N		X		Good	
4259	Near T.O. #75			X	46.6E	0.2E		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4260	Near T. O. #75	80		X	46E	0.5N		X		Fair	
4261	"	"		X	45.2E	0°		X		Good	
4262	"	"		X	43.5E	0.7N		X		Fair	
4263	"	"		X	43.5E	1N		X		Fair	
4264	T. O. 78a	"		X	42.5E	0.5S		X		Good	
4265	"	"		X	42.5E	0.5N		X		Good	
4266	"	"		X	41.7E	0.7N		X		Good	Highlands Between Sea of Fertility And Sea of Tranquility
4267	"	"		X	40E	0.2N		X		Fair	Sea of Tranquility
4268	"	"		X	40.5E	0.2S		X		Fair	Pyrenaeus Montes
4269	"	"		X	40E	0.5N		X		Fair	Sea of Tranquility
4270	"	"		X	39.5E	0.5N		X		Fair	
4271	"	"		X	39.5E	0.7N		X		Fair	
4272	"	"		X	39E	0.5N		X		Fair	
4273	"	"		X	38.5E	00°		X		Fair	
4274	"	"		X	38.5E	0.7N		X		Fair	
4275	"	"		X	38.5E	0.5N		X		Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4276	T. O. 78a	80		X	38E	0.5N		X		Good	
4277	"	"		X	37.5E	0.5N		X		Good	
4278	"	"		X	37E	0.2N		X		Fair	
4279	"	"		X	36.2E	0.5N		X		Good	
4280	"	"		X	35.5E	0.4N		X		Good	
4281	"	"		X	35.5E	0.2N		X		Fair	
4282	"	"		X	35.2E	0.5N		X		Fair	
4283	"	"		X	34.2E	0.5N		X		Fair	Pyrenaeus
4284	"	"		X	34E	0.2N		X		Fair	
4285	"	"	X		34.2E	0.5N		X		Good	1:260,000
4286	"	"	X		34.2E	0.5N		X		Good	"
4287	"	"		X	32.6E	2.4N		X		Fair	Sea of Tranquility
4288	"	"		X	PP ABOVE HORIZON			X		Fair	
4289	"	"		X	32.7E	2.2N		X		Fair	
4290	"	"		X	32.2E	0.3S		X		Good	Censorinus
4291	"	"		X	32.7E	0.2S		X		Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4292	T. O. 78a	80		X	32.7E	0.2S		X		Good	Censorinus
4293	"	"		X	32.2E	0.7S		X		Good	Sea of Tranquility
4294	"	"		X	31E	0.6N		X		Fair	
4295	"	"		X	30.7E	0.5N		X		Fair	
4296	Maskelyne	"		X	30.5E	2N		X		Fair	
4297	Sea of Tranquility	"		X	28.5E	0.3N		X		Fair	
4298	"	"		X	28E	0.4N		X		Fair	
4299	"	"		X	28E	0.2N		X		Fair	
4300	"	"		X	28.1E	0.2S		X		Good	
4301	"	"		X	28.2E	0.2N		X		Good	
4302	"	"		X	28.1E	0.5N		X		Good	
4303	"	"		X	27.4E	1.2N		X		Good	
4304	"	"		X	26.6E	1.7N		X		Good	
4305	"	"		X	PP ABOVE HORIZON			X		Fair	
4306	"	"		X	PP ABOVE HORIZON			X		Fair	
4307	"	"		X	26.1E	1.7N		X		Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine P Film 3409

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4308	Sea of Tranquility	80MM		X	26.5E	0.4N		X		Fair	
4309	"			X	26.5E	0.5N		X		Fair	
4310	"			X	26.4E	0.5N		X		Fair	
4311	"			X	25.7E	0.5N		X		Fair	
4312	"			X	25.5E	0.5N		X		Fair	
4313	"			X	25.5E	0.5N		X		Fair	
4315	"			X	25.2E	0.2N		X		Fair	
4315	"			X	25.2E	0.2N		X		Good	
4316	"			X	25E	0.5N		X		Fair	
4317	"			X	24.9E	0.5N		X		Fair	
4318	"			X	24.9E	0.5N		X		Fair	
4319	"			X	24.8E	0.5N		X		Fair	
4320	"			X	24.7E	0.5N		X		Fair	
4321	"			X	24.7E	0.6N		X		Fair	
4322	"			X	24.7E	0.5N		X		Good	
4323	"			X	24.7E	0.5N		X		Good	
4224	T. O. #112			X	24.2E	0.3S		X		Good	
4225	Sea of Tranquility		X		24E	0.2N		X		Good	1:300,000
4226	"		X		23.9E	0.2N		X		Good	"

MAGAZINE "Q"

(FRAMES AS10-30-4327 THRU 4499)

Magazine "Q" contains an oblique sequence of landing sites 1 and 2.

The following targets of opportunity are at least partially covered: 16a, 30, 34, 46, 55, 59, 67, 69a, 70, 74, 75, 76, 78, 112, 113, 114 and 123.

Several crew select oblique views are present.

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG	LAT	HIGH	MED.	LOW		
4327	Crater IX T.O. 34	250M		X	138.5E	06.0N		X		Good	First frame of a 10 frame sequence
4328	" "	"		X	138.0E	06.0N		X		Good	Low oblique photography of crater floor and western rim
4329	" "	"		X	138.0E	06.0N		X		Good	" "
4330	" "	"		X	137.5E	06.0N		X		Good	" "
4331	" "	"		X	137.0E	06.0		X		Good	" "
4332	" "	"		X	136.5E	05.5N		X		Good	" "
4333	" "	"		X	136.0E	05.5N		X		Good	" "
4334	" "	"		X	135.5E	05.5N		X		Good	" "
4335	" "	"		X	135.0E	05.5N		X		Good	" "
4336	" "	"		X	135.0E	05.5N		X		Good	" "
4337	" "	"		X	134.5E	05.0N		X		Good	End of 10 frame sequence
4338	Crater 216	"		X	134.5E	04.0N		X		Good	"
4339	"	"		X	133.0E	04.5N		X		Good	Floor and central peak of Crater 216
4340	"	"		X	132.5E	04.5N		X		Good	"
4341	"	"		X	132.5E	04.5N		X		Good	"
4342	"	"		X	132.5E	04.5N		X		Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4343	Crater near #212 & 213	250MM		X	124.5E	07.0N		X		Good	Medium size crater with high central peak
4344	" "	"		X	124.0E	07.0N		X		Good	" "
4345	" "	"		X	124.0E	07.0N		X		Good	" "
4346	" "	"		X	124.0E	07.0N		X		Good	" "
4347	Crater #212	"		X	123.5E	10.0N		X		Good	Large smooth floored crater
4348	"	"		X	123.5E	10.0N		X		Good	" "
4349	Crater #211 T.O. 46	"		X	119.0E	05.0N		X		Good	Large rough rimed crater with massive central peak
4350	" "	"		X	119.0E	05.0N		X		Good	" "
4351	" "	"		X	119.0E	05.0N		X		Good	" "
4352	" "	"		X	119.0E	05.0N		X		Good	" "
4353	" "	"		X	119.5E	04.5N		X		Good	" "
4354	" "	"		X	119.5E	04.5N		X		Good	" "
4355	" "	"		X	119.5E	04.5N		X		Good	" "
4356	" "	"		X	119.0E	04.5N		X		Good	" "
4357	" "	"		X	119.0E	04.5N		X		Good	" "
4358	" "	"		X	119.0E	04.5N		X		Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4359	Crater #211 T.O. 46	250M		X	119.0E	04.5N		X		Good	Large rough rimed crater with massive central peak
4360	" "	"		X	118.5E	04.5N		X		Good	" "
4361	" "	"		X	118.5E	04.5N		X		Good	" "
4362	" "	"		X	119.5E	05.0N		X		Good	" "
4363	" "	"		X	119.5E	05.0N		X		Good	" "
4364	" "	"		X	119.5E	05.0N		X		Good	" "
4365	Near Crater #206	"		X	115.0E	05.0N		X		Fair	Unusual surface configuration
4366	"	"		X	115.0E	05.0N		X		Fair	" "
4367	"	"		X	115.0E	05.0N		X		Fair	" "
4368	"	"		X	115.0E	05.0N		X		Fair	" "
4369	"	"		X	115.0E	05.0N		X		Fair	" "
4370	"	"		X	115.0E	05.0N		X		Fair	" "
4371	Near Crater #202	"		X	107.0E	0.0N		X		Good	Double impact type crater
4372	Near Crater#199-T.O.55	"		X	100.0E	4.5N		X		Fair	Bright Copernican Crater with extensive ray system
4373	Near Crater#199-T.O.55	"		X	100.0E	4.5N		X		Fair	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4374	Near Crater 199-T.O. 55	250MM		X	100.0E	4.5N		X		Good	Bright Copernican Crater with extensive ray system
4375	" "	"		X	100.0E	4.5N		X		Good	" "
4376	Near Jansky	"		X	92.0E	7.5N		X		Good	Twenty-nine frame sequence over Jansky and Neper
4377	" "	"		X	91.5E	7.0N		X		Good	Overlapping obliques
4378	" "	"		X	91.0E	7.0N		X		Good	" "
4379	" "	"		X	91.0E	7.0N		X		Good	" "
4380	" "	"		X	90.5E	7.0N		X		Good	" "
4381	" "	"		X	90.5E	7.0N		X		Good	" "
4382	" "	"		X	90.0E	7.0N		X		Good	" "
4383	" "	"		X	90.0E	7.0N		X		Good	" "
4384	" "	"		X	90.0E	7.0N		X		Good	" "
4385	" "	"		X	90.0E	7.0N		X		Good	" "
4386	" "	"		X	90.0E	7.0N		X		Good	" "
4387	" "	"		X	89.5E	7.0N		X		Good	" "
4388	Jansky "	"		X	89.0E	7.0N		X		Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4389	Jansky	250MM		X	88.5E	6.5N		X		Good	Overlapping obliques
4390	"	"		X	88.0E	6.5N		X		Good	
4391	"	"		X	87.5E	6.5N		X		Good	" "
4392	"	"		X	87.5E	6.5N		X		Good	" "
4393	"	"		X	86.5E	6.0N		X		Good	" "
4394	Near Jansky	"		X	86.5E	6.0N		X		Good	" "
4395	"	"		X	85.5E	6.0N		X		Good	" "
4396	Neper	"		X	85.5E	6.0N		X		Good	" "
4397	Neper	"		X	85.5E	6.0N		X		Good	" "
4398	"	"		X	85.5E	6.0N		X		Good	" "
4399	"	"		X	85.0E	6.5N		X		Good	" "
4400	"	"		X	84.5E	7.0N		X		Good	" "
4401	"	"		X	84.5E	7.0N		X		Good	" "
4402	"	"		X	84.5E	7.0N		X		Good	" "
4403	"	"		X	84.0E	7.0N		X		Good	" "
4404	"	"		X	84.0E	7.0N		X		Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine 2 Film 3409

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4405	Neper	250MM		X	83.5E	7.0N		X		Good	Overlapping obliques
4406	"	"		X	83.5E	7.0N		X		Good	" "
4407	"	"		X	83.5E	7.0N		X		Good	" "
4408	"	"		X	83.0E	7.0N		X		Good	" "
4409	"	"		X	83.0E	7.0N		X		Good	" "
4410	"	"		X	83.0E	7.0N		X		Good	" "
4411	Not located	"		X							Unable to locate
4412	"			X							"
4413	"			X							"
4414	Mare Crisium T.O. 70	"		X	57.0E	12.0N	X			Good	High obliques of floor and rim of Mare Crisium
4415	" "	"		X	57.0E	12.0N	X			Good	" "
4416	" "	"		X	56.0E	11.5N	X			Good	" "
4417	" "	"		X	55.0E	11.5N	X			Good	" "
4418	" "	"		X	54.5E	11.0N	X			Good	" "
4419	" "	"		X	54.0E	11.0N	X			Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4420	Mare Crisium T.O. 70	250MM		X	53.5E	10.5N	X			Good	High obliques of floor and rim of Mare Crisium
4421	Pickard - T.O. 70	"		X	55.0E	14.0N	X			Good	" "
4422	Messier - T.O. 75	"		X	46.5E	2.0S	X			Good	High oblique of Messier and Messier A
4423	Messier - T.O. 75	"		X	46.5E	2.0S	X			Good	" "
4424	Secchi	"		X	44.0E	3.0N	X			Good	High oblique of Secchi
4425	Secchi	"		X	44.0E	2.0N	X			Good	" "
4426	Near Taruntius-T.O. 74	"		X	50.0E	7.0N	X			Fair	Obliques of Western Rim of Mare Crisium
4427	" "	"		X	48.5E	8.5N	X			Fair	" "
4428	" "	"		X	48.0E	9.0N	X			Fair	" "
4429	" "	"		X	48.0E	9.0N	X			Fair	" "
4430	" T.O.76	"		X	47.0E	9.0N	X			Fair	" "
4431	" T.O. 76	"		X	46.5E	8.5N	X			Fair	" "
4432	" T.O. 76	"		X	45.5E	9.5N	X			Fair	Palus Somnii
4433	" T.O. 76	"		X	45.0E	9.0N	X			Fair	"
4434	Taruntius	"		X	47.0E	5.5N	X			Fair	Rim and floor of Taruntius
4435	"	"		X	46.0E	5.5N	X			Fair	" "

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual.	Remarks
4436	T.O. 78	250M		X	37.5E	1.0N	X			Good	Mare Tranquillitatis
4437	T.O. 78	"		X	37.5E	1.5N	X			Good	"
4438	Mare Tranquillitatus	"		X	35.5E	4.0N	X			Good	High oblique
4439	Mare Maskelyne	"		X	35.0E	1.0N	X			Good	High oblique of Maskelyne
4440	Mare Maskelyne	"		X	34.0E	2.0N	X			Good	" "
4441	Mare Tranquillitatis T.O. 112 and 113	"		X	25.5E	1.0S		X		Fair	Landing site 2
4442	" " " "	"		X	25.5E	1.0S		X		Fair	"
4443	" " T.O. 114	"		X	25.5E	1.0N		X		Fair	"
4444	" " T.O. 114	"		X	25.5E	1.0N		X		Fair	"
4445	" " T.O. 114	"		X	25.0E	1.0N		X		Fair	"
4446	" " T.O. 114	"		X	25.0E	1.0N		X		Fair	"
4447	" " T.O. 114	"		X	24.5E	1.0N		X		Fair	"
4448	" " T.O. 114	"		X	24.5E	1.0N		X		Fair	"
4449	Rima Ariadaeus-T.O. 123	"		X	17.5E	5.0N		X		Good	High forward oblique of Rima Ariadaeus
4450	Rima Ariadaeus-T.O. 123	"		X	17.5E	5.0N		X		Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4451	Sabine-Ritter	250MM		X	21.0E	1.0N		X		Good	Rim and floor of Sabine-Ritter
4452	Craters 227, 226-T.O.16a	80MM		X	173.0E	9.5N			X	Good	High oblique with low sun
4453	Craters 221, 223	"		X	168.0E	5.0N			X	Good	" "
4454	Crater 218	"		X	146.5E	5.0N			X	Good	Long overlapping oblique sequence looking north
4455	Crater 218	"		X	145.0E	5.0N			X	Good	" "
4456	Crater 218	"		X	144.0E	4.5N			X	Good	" "
4457	Crater IX	"		X	143.0E	4.5N			X	Good	" "
4458	Crater IX, T.O. 30 & 34	"		X	141.5E	4.0N			X	Good	" "
4459	Crater IX, T.O. 30 & 34	"		X	141.0E	5.0N			X	Good	" "
4460	Crater IX, T.O. 30 & 34	"		X	141.0E	5.0N			X	Good	" "
4461	Crater IX, T.O. 30 & 34	"		X	140.0E	5.0N			X	Good	" "
4462	Crater IX, T.O. 30 & 34	"		X	138.5E	5.5N			X	Good	" "
4463	Crater IX, T.O. 30 & 34	"		X	137.0E	5.0N			X	Good	" "
4464	Crater IX, T.O. 30 & 34	"		X	137.0E	5.0N			X	Good	" "
4465	Craters 216, 217, T.O.34	"		X	135.0E	4.5N			X	Good	" "
4466	Craters 216, 217	"		X	135.5E	5.0N			X	Good	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No	Description	F.L.	V-P-H	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG	LAT	HIGH	MED.	LOW		
4467	Crater 216	80MM		X	134.0E	5.0N			X	Good	Long overlapping oblique sequence looking north
4468	"	"		X	133.0E	5.5N			X	Good	" "
4469	"	"		X	131.0E	4.5N			X	Good	" "
4470	Crater 211 - T.O. 46	"		X	121.5E	4.5N			X	Good	" "
4471	Crater 211 - T.O. 46	"		X	120.0E	4.5N			X	Good	" "
4472	" "	"		X	120.0E	4.5N			X	Good	" "
4473	" "	"		X	120.0E	4.5N			X	Good	" "
4474	" "	"		X	120.0E	4.5N			X	Good	" "
4475	Mare Smythii-T.O. 59	"		X	84.5E	0.0	X			Fair	Long forward looking oblique sequence over Mare Smythii with earth in background
4476	" "	"		X	82.5E	0.0	X			Fair	" "
4477	" "	"		X	81.0E	0.0	X			Fair	" "
4478	" "	"		X	80.0E	0.0	X			Fair	" "
4479	" "	"		X	79.0E	0.0	X			Fair	" "
4480	" "	"		X	78.0E	0.0	X			Fair	" "
4481	" "	"		X	77.5E	0.0	X			Fair	" "
4482	" "	"		X	75.5E	0.5N	X			Fair	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine Q Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point LONG.	Principal Point LAT.	Sun Angle HIGH	Sun Angle MED.	Sun Angle LOW	Photo Qual.	Remarks
4483	Mare Smythii - T.O. 59	80MM		X	74.5E	0.5N	X			Fair	Long forward looking oblique sequence over Mare Smythii with earth in background
4484	" "	"		X	72.5E	1.0N	X			Fair	" "
4485	" "	"		X	71.5E	1.0N	X			Fair	" "
4486	" "	"		X	69.5E	1.0N	X			Fair	" "
4487	" "	"		X	68.5E	1.0N	X			Fair	" "
4488	" "	"		X	67.0E	1.0N	X			Fair	" "
4489	" "	"		X	67.0E	1.0N	X			Fair	" "
4490	" "	"		X	66.0E	1.0N	X			Fair	" "
4491	" "	"		X	65.0E	1.0N	X			Fair	" "
4492	" "	"		X	64.0E	1.0N	X			Fair	" "
4493	" "	"		X	On horizon		X			Fair	" "
4494	Mare Spuman	"		X	"		X			Fair	" "
4495	"	"		X	"		X			Fair	" "
4496	"	"		X	"		X			Fair	" "
4497	" T.O. 69a & 67	"		X	"		X			Fair	" "
4498	" " "	"		X	"		X			Fair	" "
4499	" "	"		X	"		X			Fair	" "

MAGAZINE "R"

(FRAMES AS10-31-4500 THRU 4674)

Magazine "R" contains a near vertical pass from site 1 through site 2. The areas of interest and named crater regions photographed are: Sea of Fertility, Foaming Sea, Sea of Tranquility, Maskelyne, Sabine, Delambre, and Taruntius G and K. There are farside photos of craters IX, 218 and 221.

The following targets of opportunity (at an oblique angle) are imaged: 67, 70, 74, 76, 78a, 107, 112, 114, 116a, 123 and 128.

Most of the areas were photographed with the 250MM lens and were exposed under a high degree of sun angle.

APOLLO 10 HASSELBLAD PHOTOGRAPHY AS10-31-4500 thru 4674

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4500	T.O. 67	80MM	X		62.4E	0.6N	X			Good	1,440,000 Pass over Sites 1 and 2
4501	T.O. 67	"	X		60.3E	1.1N	X			Good	1,440,000 Crater Apollonius
4502	Foaming Sea	"	X		58.9E	1.9N	X			"	1,440,000
4503	"	"	X		58.0E	2.0N	X			"	"
4504		"	X		57.3E	2.1N	X			"	"
4505		"	X		56.4E	1.6N	X			"	"
4506	Sea of Fertility	"	X		55.9E	1.7N	X			"	"
4507	"	"	X		54.9E	1.6N	X			"	"
4508	"	"	X		54.1E	1.5N	X			"	"
4509	"	"	X		53.7E	1.6N	X			"	1,420,000
4510	Taruntius "K"	"	X		51.7E	1.6N	X			"	"
4511	Taruntius "G"	"	X		50.9E	1.5N	X			"	"
4512	"	"	X		49.6E	1.5N	X			"	"
4513	Sea of Fertility	"	X		48.3E	1.5N	X			"	1,330,000
4514	"	"	X		47.2E	1.4N	X			"	"
4515	"	"	X		46.0E	1.2N	X			"	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH.	MED.	LOW		
4516	Secchi	80MM		X	44.8E	1.0N	X			Good	
4517	"	"		X	43.8E	1.1N	X			"	
4518	"	"		X	43.2E	1.1N	X			"	
4519	Lubbock S	"		X	42.1E	1.1N	X			"	
4520	"	"		X	41.2E	1.2N	X			"	
4521	"	"		X	40.1E	1.5N	X			"	
4522	Site I Approach	"		X	39.4E	1.4N	X			"	
4523	"	"		X	38.2E	1.3N	X			"	
4524	"	"		X	37.5E	1.6N	X			"	
4525	"	"		X	36.4E	1.5N	X			"	
4526	Site 1	"		X	35.6E	1.8N	X			"	
4527	Site 1	"		X	34.4E	1.7N	X			"	
4528	Site 1	"		X	33.4E	1.7N	X			"	
4529		"		X	32.5E	1.4N	X			"	
4530	Maskelyne	"		X	31.8E	1.0N	X			"	
4531	Maskelyne	"	X		30.4E	0.5N	X			"	1,330,000

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED	LOW		
4532	Maskelyne	80MM	X		29.5E	0.5N		X		Good	1:330,000
4533		"	X		28.4E	0.5N		X		"	"
4534		"	X		27.4E	0.6N		X		"	"
4535	T.O. 112	"	X		26.8E	0.3N		X		"	"
4536	T.O. 112	"	X		25.9E	0.0N		X		"	"
4537	Site 2	"	X		24.6E	0.2S		X		"	"
4538	T.O. 114 - Site 2	"	X		23.8E	0.3S		X		"	"
4539	T.O. 114	"	X		22.8E	0.4S		X		"	"
4540	T.O. 114	"		X	22.0E	0.4S		X		"	"
4541	Sabine	"		X	21.0E	0.3S		X		"	"
4542	Sabine	"		X	20.0E	0.4S		X		"	"
4543		"		X	19.1E	0.4S		X		"	"
4544	Delambre	"		X	18.5E	0.5S			X	"	"
4545	Delambre	"		X	16.9E	0.4S			X	"	"
4546		"		X	16.2E	0.3S			X	"	"
4547		"		X	15.3E	0.4S			X	"	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine E Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4548		80MM		X	14.2E	0.3S			X	Good	
4549		"		X	13.3E	0.4S			X	"	
4550		"		X	12.3E	0.0N			X	"	
4551	T.O. 128	"		X	11.2E	0.2N			X	"	
4552	T.O. 128	"		X	10.1E	0.2N			X	"	
4553	T.O. 128	"		X	9.4E	0.2N			X	"	
4554		"		X	8.2E	0.3N			X	Fair	
4555		"		X	7.0E	0.3N			X	"	
4556		"		X	6.1E	0.4N			X	"	
4557		"		X	5.2E	0.5N			X	Poor	
4558		"		X	4.1E	0.8N			X	"	End of pass over sites 1 & 2
4559		"		X					X	"	
4560	T.O. 70	250MM		X	Above	Horizon	X			Good	
4561	T.O. 67	"		X	60.6E	4.8N	X			"	Apollonius P & F
4562	Palus Somnii	"		X	46.0E	20.0N	X			"	
4563	T.O. 74	"		X	50.4E	7.2N	X			"	Taruntius "A"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4564	T.O. 76	250MM		X	45.1E	11.4N	X			Good	
4565	Palus Somnii	"		X	Horizon		X			"	
4566	Taruntius	"		X	46.4E	5.7N	X			"	
4567	Taruntius	"		X	45.9E	6.3N	X			"	
4568	T.O. 76	"		X	Horizon		X			"	Palus Somnii
4569	T.O. 74	"		X	46.8E	5.8N	X			"	Taruntius
4570	Taruntius	"		X	45.6E	5.2N	X			"	
4571	T.O. 76	"		X	43.2E	13.2N	X			"	
4572	T.O. 78a	"		X	33.2E	0.3S	X			Fair	
4573		"		X	43.5E	5.9N	X			Good	
4574	Taruntius "E" & "F"	"		X	40.5E	5.5N	X			Good	
4575	T.O. 78a	"		X	33.3E	0.3S	X			Fair	
4576	T.O. 78a	"		X	33.3E	0.3S	X			Fair	
4577	T.O. 76	"		X	39.4E	7.9N		X		Good	Cauchy
4578	T.O. 76	"		X	38.5E	7.8S		X		Good	Cauchy
4579	T.O. 78a	"		X	31.7E	0.4S	X			Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4580	Near Site 1	250MM		X	35.5E	3.7N	X			Good	
4581	"	"		X	36.0E	2.9N	X			Good	
4582	"	"		X	35.7E	2.8N	X			Good	
4583	"	"		X	35.7E	2.8N	X			Good	
4584	"	"		X	35.5E	2.6N	X			Good	
4585	"	"		X	36.3E	2.6N	X			Good	End of vertical pass over sites 1 and 2
4586	Site 1	"		X	34.7E	2.8N	X			Good	
4587	T.O. 78a	"		X	24.6E	0.9S	X			Good	
4588	Sea of Tranquility	"		X	33.2E	2.8N	X			Good	
4589	"	"		X	33.1E	3.0N	X			Good	
4590	T.O. 76	"		X	33.7E	5.0N	X			Good	
4591	Site 1	"		X	32.8E	2.7N	X			Fair	
4592	Site 1	"		X	32.7E	2.7N	X			Fair	
4593	Maskelyne "H"	"		X	32.4E	2.7N	X			Fair	
4594	Maskelyne "H"	"		X	33.3E	2.8N	X			Fair	
4595	Maskelyne "H"	"		X	33.2E	2.7N	X			Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4596	Maskelyne "H"	250MM		X	32.9E	2.7N	X			Fair	
4597	Maskelyne "H"	"		X	32.9E	2.7N	X			Fair	
4598	North edge of Sea of Tranquility	"		X	30.1E	10.5N	X			Good	
4599	T.O. 107	"		X	24.8E	14.8N	X			Good	Plinius on the horizon
4600	Maskelyne "M"	"		X	28.5E	5.2N	X			Good	
4601	T.O. 112	"		X	24.5E	0.8S	X			Good	
4602	T.O. 114	"		X	24.2E	0.5N	X			Good	Site 2
4603	T.O. 114	"		X	24.2E	0.5N	X			Good	"
4604	T.O. 114	"		X	24.1E	0.5N	X			Good	"
4605	T.O. 114	"		X	24.1E	0.5N	X			Good	"
4606	T.O. 114	"		X	24.0E	0.5N	X			Good	"
4607	T.O. 114	"		X	24.0E	0.5N	X			Good	"
4608	T.O. 114	"		X	23.9E	0.5N	X			Good	"
4609	T.O. 114	"		X	23.7E	0.5N	X			Good	"
4610	T.O. 114	"		X	23.5E	0.5N	X			Good	"
4611	T.O. 114	"		X	23.4E	0.0N	X			Good	"
4612	T.O. 114	"		X	23.3E	0.0N	X			Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sur. Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4613	Site 2 Area	250MM		X	23.1E	0.0N	X			Good	
4614	"	"		X	23.0E	0.0N	X			Good	
4615	"	"		X	22.9E	0.0N	X			Good	
4616	"	"		X	22.7E	0.0N	X			Good	
4617	"	"		X	22.6E	0.0N	X			Good	
4618	"	"		X	22.4E	0.0N	X			Good	
4619	"	"		X	22.3E	0.0N	X			Good	
4620	"	"		X	22.1E	0.0N	X			Good	
4621	"	"		X	22.0E	0.0N	X			Good	
4622	"	"		X	21.9E	0.0N	X			Good	
4623	"	"		X	21.7E	0.0N	X			Good	
4624	Sea of Tranquility	"		X	24.8E	3.5N		X		Good	
4625	"	"		X	24.6E	2.6N		X		Good	
4626	"	"		X	24.6E	5.9N		X		Good	
4627	Sabine	"		X	21.0E	0.4N		X		Good	
4628	Sabine	"		X	20.7E	0.5N		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sur. Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4629	Sabine, Ritter	250M		X	19.4E	0.9N		X		Good	
4630	T.O. 116a	"		X	22.0E	5.9N	X			Good	Arago
4631	T.O. 116a	"		X	23.0E	7.1N	X			Good	
4632	T.O. 116a	"		X	22.8E	5.4N	X			Good	Arago
4633	T.O. 116a	"		X	22.6E	4.7N	X			Good	Arago
4634	Mare Tranquillitatis	"		X	22.8E	2.5N		X		Good	
4635	"	"		X	22.7E	2.4N		X		Good	
4636	T.O. 116a	"		X	22.4E	3.2N		X		Good	
4637	T.O. 116a	"		X	22.3E	3.5N		X		Good	
4638	T.O. 123	"		X	17.1E	5.5N		X		Good	Ariadaeus Rille
4639	T.O. 123	"		X	16.8E	5.7N		X		Good	Ariadaeus Rille
4640	T.O. 123	"		X	16.2E	5.8N		X		Good	Ariadaeus Rille
4641	T.O. 123	"		X	16.1E	5.9N		X		Good	
4642	T.O. 123	"		X	14.7E	6.6N		X		Good	
4643	T.O. 123	"		X	14.6E	6.6N		X		Good	
4644	T.O. 123	"		X	14.5E	6.6N		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4645	T.O. 123	250MM		X	14.4E	6.7N		X		Good	
4646	T.O. 123	"		X	13.3E	7.1N		X		Good	
4647	T.O. 128	"		X	10.6E	2.1N		X		Good	Godin
4648	Hyginius Rille	"		X	8.5E	7.9N			X	Fair	
4649	"	"		X	8.1E	8.0N			X	Fair	
4650	"	"		X	7.6E	8.1N			X	Fair	
4651	"	"		X	7.1E	8.2N			X	Fair	
4652	"	"		X	6.6E	8.5N			X	Fair	
4653	Crater 221	"		X	164.3E	10.2N		X		Fair	
4654	"	"		X	164.1E	10.0N		X		Fair	
4655	"	"		X	163.9E	10.0N		X		Fair	
4656	"	"		X	163.6E	10.0N		X		Fair	
4657	"	"		X	163.2E	9.8N		X		Fair	
4658	"	"		X	163.0E	9.6N		X		Fair	
4659	Crater 218	"		X	146.6E	6.6N	X			Fair	
4660	"	"		X	146.2E	6.1N	X			Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine R Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4661	Crater 218	250MM		X	145.6E	6.4N	X			Good	
4662	"	"		X	144.8E	6.9N	X			Good	
4663	Basin IX	"		X	143.8E	7.0N	X			Good	
4664	"	"		X	143.5E	7.0N	X			Good	
4665	"	"		X	143.1E	7.1N	X			Good	
4666	"	"		X	142.6E	7.0N	X			Good	
4667	"	"		X	142.1E	7.0N	X			Good	
4668	"	"		X	141.9E	7.0N	X			Good	
4669	"	"		X	141.7E	7.0N	X			Good	
4670	"	"		X	141.1E	7.0N	X			Good	
4671	"	"		X	140.8E	7.0N	X			Good	
4672	"	"		X	140.5E	7.0N	X			Good	
4673	"	"		X	140.1E	7.0N	X			Good	
4674	"	"		X	139.8E	7.0N	X			Good	

MAGAZINE "S"

(FRAMES AS10-32-4675 thru 4856)

Magazine "S" contains high altitude photographs of the lunar surface. Both the 80 and 250MM focal length lens were used.

There are sequences of vertical, near vertical and oblique overlapping photographs covering sites 1, 2 and 3, targets of opportunity 29, 59, 78a, 104, 112, 114, 123, 128, and 142. Also, there are numerous crew select targets of both earthside and farside areas.

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG	LAT	HIGH	MED.	LOW		
4675	Langrenus	250MM		X	61.1E	9.4S		X		Good	
4676	"	"		X	63.1E	8.6S		X		Good	
4677	"	"		X	62.2E	8.7S		X		Good	
4678	"	"		X	59.2E	7.5S		X		Good	
4679	"	"		X	59.2E	7.5S		X		Good	
4680	"	"		X	59.3E	9.0S		X		Good	
4681	"	"		X	59.4E	10.0S		X		Good	
4682	Sea of Fertility Taruntius H, K, P	"		X	54.1E	0.0S		X		Good	
4683	" "	"		X	53.0E	0.3N		X		Good	
4684	Sea of Fertility Taruntius K, H, and G	"		X	52.5E	0.5N		X		Good	
4685	Taruntius G	"		X	50.0E	0.3N		X		Good	
4686	Sea of Fertility	"		X	50.7E	1.8N		X		Good	
4687	Sea of Fertility Taruntius H, K, P	"		X	49.5E	1.0N		X		Good	
4688	Taruntius G	"		X	47.9E	0.3N		X		Good	
4689	Sea of Fertility	"		X	47.0E	1.1N		X		Good	
4690	Secchi	"		X	46.0E	1.1N		X		Good	
4691	"	"		X	44.2E	2.0N		X		Good	Hatch window shadow

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4692	Lubbock S	250MM		X	43.3E	0.7N		X		Good	
4693	Near T.O. 78a, Lubbock S	"		X	42.6E	0.8N		X		Good	
4694	" "	"		X	42.2E	0.6N		X		Good	
4695	" "	"		X	41.6E	0.6N		X		Good	
4696	" "	"		X	41.1E	0.7N		X		Good	
4697	" "	"		X	40.4E	1.1N		X		Good	
4698	" "	"		X	40.4E	1.2N		X		Good	
4699	" "	"		X	40.6E	0.2N		X		Poor	Blurred (blocked view of CSM window).
4700	" "	"		X	40.1E	1.1N		X		Good	
4701	" "	"		X	39.7E	1.2N		X		Good	
4702	Sea of Tranquility	"		X	39.4E	1.1N		X		Good	
4703	" "	"		X	39.0E	1.1N		X		Good	
4704	Site 1	"		X	37.8E	1.4N		X		Good	
4705	"	"		X	36.9E	1.6N		X		Good	
4706	"	"		X	34.6E	2.1N		X		Good	
4707	"	"		X	35.1E	2.0N		X		Good	
4708	"	X		X	35.1E	2.2N		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4709	T.O. 78a - Maskelyne	250MM		X	33.5E	2.2N		X		Good	Hand-held obliques blocked view (CSM window)
4710	" "	"		X	33.2E	2.3N		X		Good	" "
4711	" "	"		X	31.3E	1.6N		X		Good	" "
4712	" "	"		X	30.4E	1.4N		X		Good	" "
4713	" "	"		X	29.5E	1.3N		X		Good	" "
4714	" "	"		X	28.6E	1.3N		X		Good	" "
4715	Sea of Tranquility	"		X	27.8E	1.1N		X		Good	" "
4716	T.O. 104 - Theophilus	"		X	25.3E	12.5S		X		Good	
4617	" "	"		X	25.7E	12.8S		X		Good	
4718	" "	"		X	24.3E	11.9S		X		Good	
4719	Near T.O. 114 -Site 2	"		X	26.3E	0.2N		X		Good	
4720	" "	"		X	25.9E	0.4N		X		Good	
4721	" "	"		X	25.2E	0.1N		X		Good	
4722	" "	"		X	24.5E	0.1N		X		Good	
4723	" "	"		X	23.4E	0.1N		X		Good	
4724	" "	"		X	24.1E	0.8S		X		Good	
4725	Sabine	"		X	23.9E	0.4N		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4726	Sabine	250MM		X	23.5E	0.4N			X	Good	Hand-held obliques
4727	T.O. 114 Sabine & Ritter	"		X	23.0E	0.4N			X	Good	"
4728	" "	"		X	22.5E	0.5N			X	Good	"
4729	" "	"		X	22.0E	0.4N			X	Good	"
4730	" "	"		X	21.4E	0.5N			X	Good	"
4731	" "	"		X	20.6E	0.5N			X	Good	"
4732	Delambre	"		X	Above horizon				X	Good	"
4733	"	"		X	17.2E	2.5S			X	Good	"
4734	Central Bay Triesnekcer T.O. 123	"		X	1.0W	5.0N			X	Good	Looking into darkness
4735	T.O. 142 - Oppolozer	"		X	In darkness				X	Good	"
4736	Albategnius	"		X	Above horizon				X	Good	"
4737	T.O. 142 - Oppolozer	"		X	In darkness				X	Good	"
4738	T.O. 142 - Blagg	"		X	03.0W	02.4S			X	Good	"
4739	T.O. 78a - Mare near Lubbock S	80MM "	X		43.1E	0.8N		X		Good	1:1,451,625
4740	" "	"	X		42.2E	0.6N		X		Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frome No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4741	T.O. 78a - Lubbock S	80MM	X		40.7E	0.6N		X		Good	1:1,451,675
4742	Sea of Tranquility T.O. 78a	"	X		39.3E	0.5N		X		Good	
4743	Sea of Tranquility	"	X		37.8E	0.5N		X		Good	
4744	"	"		X	36.1E	0.5N		X		Good	
4745	Censorinus A Maskelyne T.O. 78	"		X	35.0E	0.5N		X		Good	
4746	" "	"		X	32.1E	0.7N		X		Good	
4747	" "	"		X	30.3E	0.7N		X		Good	
4748	Maskelyne	"		X	28.2E	0.8N		X		Good	
4749	Site 2 - T.O. 112	"		X	27.0E	0.8N		X		Good	
4750	Site 2 - T.O. 112 & 114	"		X	25.3E	0.6N		X		Good	
4751	" "	"		X	25.0E	0.6N		X		Good	
4752	" "	"		X	24.6E	0.5N		X		Good	
4753	" "	"		X	23.7E	0.5N		X		Good	
4754	Site 2, T.O. 112 Sabine & Ritter	"		X	23.3E	0.5N		X		Good	
4755	" T.O. 114	"		X	22.6E	0.5N		X		Good	
4756	"	"		X	22.0E	0.5N		X		Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4757	Site 2 - T.O. 114 Sabine & Ritter	80MM		X	21.3E	0.4N		X		Good	
4758	Dionysius - T.O. 114 Sabine & Ritter	"		X	20.5E	0.4N		X		Good	
4759	" "	"		X	20.0E	0.4N		X		Good	
4760	Sabine & Ritter	"		X	19.2E	0.3N		X		Good	
4761	Sabine & Ritter Delambre	"		X	18.5E	0.2N		X		Good	
4762	Delambre	"		X	17.6E	0.1N		X		Good	
4763	Theon Sr.	"		X	16.9E	0.1N		X		Good	
4764	"	"		X	16.1E	0.1N		X		Good	
4765	"	"		X	15.2E	0.0N		X		Good	
4766	"	"	X		14.4E	0.1N		X		Good	1:1,300,000
4767	"	"	X		13.6E	0.1N		X		Good	"
4768	Lade	"	X		12.6E	0.1N		X		Good	"
4769	"	"	X		11.9E	0.1N		X		Good	"
4770	"	"	X		10.9E	0.2N		X		Good	"
4771	"	"	X		10.1E	0.1N		X		Good	"
4772	"	"	X		09.4E	0.0N			X	Good	"

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4773	Lade	80MM	X		98.5E	0.0N			X	Good	1:1,300,000
4774	Highlands	"	X		07.6E	0.0N			X	Good	"
4775	"	"	X		06.7E	0.0N			X	Good	"
4776	"	"	X		05.9E	0.0N			X	Good	"
4777	Central Bay-Highlands	"	X		05.1E	0.3N			X	Good	"
4778	" "	"	X		04.4E	0.3N			X	Good	"
4779	" "	"	X		04.1E	0.3N			X	Good	"
4780	" "	"	X		03.6E	0.4N			X	Good	"
4781	" "	"	X		03.2E	0.4N			X	Good	1:1,350,000
4782	Central Bay - Blagg T.O. 142	"	X		03.1E	0.5N			X	Good	1:1,500,000
4783	T.O. 142	"		X	03.0E	0.6N			X	Poor	Bad glare
4784	T.O. 142	"		X	02.6E	0.5N			X	Poor	"
4785	Central Bay, Blagg Bruce Site 3	"		X	01.2E	0.4N			X	Poor	"
4786	T.O. 142	"		X	0.1W	0.3N			X	Poor	"
4787	T.O. 142	"		X	01.2W	0.2N			X	Poor	Bad glare into terminator
4788	T.O. 142 - Oppolozer	"		X	02.5W	0.0N			X	Poor	" "

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG	LAT	HIGH	MED	LOW		
4789	T.O. 142, Highlands	SOMY		X	03.9W	0.2S			X	Poor	Bad glare into terminator
4790	T.O. 29, Crater 302	"		X	161.2E	13.2S		X		Good	
4791	T.O. 29, Crater 302	"		X	159.1E	14.2S		X		Good	
4792	Crater 300, T.O. 29	"		X	157.0E	07.1S		X		Good	
4793	Crater 300, T.O. 29	"		X	Above horizon			X		Good	
4794	T.O. 29, Crater 297	"		X	149.5E	06.2S		X		Good	
4795	" "	"		X	149.1E	13.2S		X		Good	
4796	" "	"		X	146.0E	10.1S		X		Good	
4797	" "	"		X	147.4E	05.0S		X		Good	
4798	" "	"		X	144.1E	11.4S		X		Good	
4799	Unknown	"		X	Above horizon		X			Fair	Unable to locate
4800	"	"		X	"	"	X			Fair	" "
4801	"	"		X	"	"	X			Fair	" "
4802	Smyth's Sea, T.O. 59	"		X	"	"	X			Fair	
4803	"	"		X	"	"	X			Fair	
4804	"	"		X	"	"	X			Fair	
4805	Crater 263	"		X	"	"	X			Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4806	Crater 263, Kastner R	80MM		X	Above	horizon	X			Fair	
4807	"	"		X	"	"	X			Fair	
4808	Earth - Gilbert M Gilbert N	"		X	"	"	X			Fair	
4809	T.O. 123, Hyginus Rille	"		X	06.5E	09.0N		X		Good	
4810	" "	"		X	05.2E	09.5N		X		Good	
4811	Hyginus Rille, T.O. 123	"		X	07.4E	07.2N			X	Good	
4812	Central Bay	"		X	01.2W	01.4N			X	Good	
4813	Hyginus-T.O. 123 Hyginus Rille	"		X	05.3E	08.2N			X	Good	
4814	"	"		X	05.2E	07.4N			X	Good	
4815	"	"		X	05.1E	07.2N			X	Good	
4816	Triesnecker, T.O. 123 Central Bay	"		X	02.3E	08.2N			X	Good	
4817	"	"		X	04.1E	04.5N			X	Good	
4818	Central Bay	"		X	03.1W	01.3N			X	Good	
4819	Triesnecker, T.O. 123 Central Bay	"		X	04.3E	05.2N			X	Good	
4820	"	"		X	0.2W	10.4N			X	Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4821	Triesnecker, T.O. 123 Central Bay	80MM		X	0.5W	8.3N			X	Good	
4822	"	"		X	Above	horizon			X	Good	
4823	T.O. 29, Crater 302	"		X	162.2E	10.1S			X	Good	
4824	"	"		X	161.2E	09.3S			X	Good	
4825	North (adjacent) of Crater 299, T.O. 29	"		X			X			Good	
4826	Crater 299, T.O. 29	"		X	156.0E	2.0S	X			Good	
4827	"	"		X	148.1E	04.1N	X			Good	
4828	T.O. 29, Crater 295	"		X	146.5E	04.1S	X			Good	
4829	T.O. 59, Smyth's Sea	"		X	82.3E	01.1S	X			Good	
4830	" "	"	X		82.2E	0.2N	X			Good	1:1,202,775
4831	North of (adjacent) to Gilbert M	"	X		76.2E	01.5S	X			Good	"
4832	"	"	X		75.0E	03.0S	X			Good	"
4833	[illegible]	"	X		72.0E	04.0S	X			Good	"
4834	MACLAURIN	"		X	69.4E	01.5S	X			Good	
4835	[illegible] "	"		X	69.4E	01.4N	X			Good	
4836	[illegible] "	"		X	69.0E	01.1N	X			Good	
4837	[illegible] "	"		X	66.5E	01.2N	X			Good	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG	LAT	HIGH	MED.	LOW		
4838	T.O. ~~78~~ 67	80MM		X	62.0E	02.5N	X			Good	
4839	[redacted]	"		X	66.0E	0.50S	X			Good	
4840	[redacted]	"		X	84.2E	01.0S	X			Good	
4841	T.O." 78a	"		X	36.3E	03.4S	X			Good	
4842	"	"		X	38.4E	0.5S	X			Good	
4843	Censorinus A	"	X		33.4E	01.0S	X			Good	1:1,587,000
4844	"	"	X		33.0E	0.3S	X			Good	1:1,463,000
4845	"	"	X		32.2E	0.4S	X			Good	1:1,375,000-Hatch frame window
4846	Sea of Tranquility	"	X		28.2E	0.2N		X		Good	" "
4847	T.O. 112, Moltke	"	X		25.4E	01.2S		X		Good	1:148,213 "
4848	"	"	X		24.4E	0.2S		X		Good	1:1,375,000 "
4849	"	"	X		23.3E	0.3S		X		Good	"
4850	Near T.O. 113	"		X	14.5E	0.4N		X		Good	
4851	"	"		X	14.3E	0.5N		X		Fair	
4852	Near T.O. 113	"		X	13.4E	0.5N		X		Fair	
4853	T.O. 128, Lade Godin	"		X	08.0E	0.1N		X		Fair	
4854	Central Bay, T.O. 142 Blagg, Bruce	"		X	06.0E	0.4N		X		Fair	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine S Film 3400

Frame No	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4855	Central Bay, T.O. 142 Blagg, Bruce	80MM		X	05.0E	0.4N			X	Fair	
4856	"	"		X	02.5E	0.3N			X	Fair	

MAGAZINE "T"

(FRAMES AS10-33-4857 THRU 5008)

Magazine "T" contains targets of opportunity, crew select targets, and a series of obliques into Mare Tranquillitatis. The targets of opportunity photographed are: 29, 33, 34, 41, 45, 46, 55, 59, 75, 78, 114, 120 and 128.

APOLLO 10 HASSELBLAD PHOTOGRAPHY

AS10-33-4857 thru 5008

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4857	Near Crater #220	250		X	159.5E	3.5N	X			Poor	
4858	"	"		X	158.5E	2.0N	X			Poor	
4859	"	"		X	157.5E	3.5N	X			"	
4860	Crater #220	"		X	159.5E	4.0N	X			"	
4861	"	"		X	160.0E	5.0N	X			"	
4862	Near Crater #220	"		X	158.5E	2.0N	X			"	
4863	Near Crater #301	"		X	160.0E	3.5S	X			"	
4864		"		X	156.5E	1.0N	X			"	
4865	Crater #297	"		X	151.0E	4.5S	X			"	
4866	"	"		X	152.0E	5.0S	X			"	
4867	Removed	"		X	152.0E	5.0S	X			"	
4868	Crater #297	"		X	152.0E	5.0S	X			"	
4869	" #217	"		X	134.5E	1.5N	X			"	
4870	Near Crater #217	"		X	134.0E	0.0°	X			"	
4871	"	"		X	131.0E	0.0°	X			"	
4872	Near Crater #286	"		X	130.0E	2.0S	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4873	T. O. 45	250		X	122.0E	5.5S	X			Poor	
4874	T. O. 45	"		X	122.0E	5.5S	X			"	
4875	T. O. 45	"		X	122.0E	6.5S	X			"	
4876	Not Used										
4877	"										
4878	"										
4879	T. O. 45	"		X	122.0E	5.5S	X			"	
4880	Crater #273	"		X	109.0E	6.0S	X			"	
4881	"	"		X	110.5E	4.0S	X			"	
4882	"	"		X	110.5E	4.0S	X			"	
4883	Not Used										
4884	"										
4885	T. O. 59	"		X	90.0E	2.0S	X			"	
4886	Mare Smythii	"		X	88.0E	3.0N	X			"	
4887	T. O. 59	"		X	90.0E	2.0S	X			"	
4888		"		X	89.5E	6.0S	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4889	Near Crater #266	250		X	89.5E	6.0S	X			Poor	
4890	T. O. 59	"		X	90.0E	2.0S	X			"	
4891		"		X	86.5E	7.0S	X			"	
4892	Near Mare Spumans	"		X	66.0E	3.0S	X			"	
4893		"		X	61.5E	3.0S	X			"	
4894		"		X	61.5E	3.0S	X			"	
4895		"		X	63.0E	3.0S	X			"	
4896		"		X	56.0E	2.5S	X			Fair	
4897		"		X	56.5E	3.0S	X			"	
4898		"		X	56.5E	3.0S	X			"	
4899	Sea of Fertility	80	X		53.8E	1.6S		X		"	1:1,250,000
4900	"	"	X		53.9E	2.1S		X		"	"
4901	"	"	X		53.6E	2.6S		X		"	"
4902	"	"	X		52.2E	0.7N		X		Good	1:700,000
4903	"	"	X		52.3E	0		X		"	"
4904	"	"		X	49.9E	2.1N		X		"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4905	Sea of Fertility	80MM	X		44.3E	1.3N		X		Fair	1:1,000,000
4906	T. O. 75	"	X		48.1E	1.6S		X		"	"
4907	W. of Censorinus	"	X		38.2E	2.3S		X		"	"
4908	Gutenburg	"		X	40.4E	6.6S			X	"	
4909	W. of Maskeylne	"	X		27.5E	3.6S			X	Poor	1:1,000,000
4910	Theophilus	"		X	25.9E	10.9S	X			Poor	
4911	Crater 227	"		X	174.4E	7.1N	X			Good	
4912	Crater 226	"		X	173.4E	12.2N	X			"	
4913	E. of Crater 221	"		X	166.4E	5.4N	X			"	
4914	T. O. 34	250		X	139.4E	7.1N	X			Poor	
4915	T. O. 34	"		X	130.8E	5.5N	X			"	
4916	W. of T. O. 34	"		X	128.3E	7.3N	X			"	
4917	Crater 212	"		X	124.4E	11.0N	X			"	
4918	T. O. 46	"		X	120.0E	6.6N	X			"	
4919	T. O. 55	"		X	100.2E	4.8N	X			"	
4920	Neper	"		X	84.7E	8.7N	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4921	Neper	80		X	85.3E	8.7N	X			Poor	
4922	Oblique Strip Tranquillitatus (T.O. 78,114,120)	"		X	37.5E	0.7N	X			"	
4923	"	"		X	39.0E	0.8N	X			"	
4924	"	"		X	39.0E	0.2N	X			"	
4925	"	"		X	30.6E	1.3N	X			"	
4926	"	"		X	32.7E	1.4N	X			"	
4927	"	"		X	32.6E	1.2N	X			"	
4928	"	"		X	31.0E	0.9N	X			"	
4929	"	"		X	30.7E	0.9N	X			"	
4930	"	"		X	30.5E	0.9N	X			"	
4931	"	"		X	29.6E	1.1N	X			"	
4932	"	"		X	29.0E	0.9N	X			"	
4933	"	"		X	27.1E	1.0N	X			"	
4934	"	"		X	26.9E	0.9N	X			"	
4935	"	"		X	25.1E	0.8N	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT	HIGH	MED.	LOW		
4936	Oblique Strip Tranquillitatus	80		X	24.5E	0.8N	X			Poor	
4937	"	"		X	23.3E	0.5N	X			"	
4938	"	"		X	21.5E	0.5N	X			"	
4939	"	"		X	20.1E	0.6N	X			"	
4940	"	"		X	19.1E	0.5N	X			"	
4941	"	"		X	18.5E	0.6N	X			"	
4942	"	"		X	18.0E	0.5N	X			"	
4943	"	"		X	17.7E	0.6N	X			"	
4944	"	"		X	16.6E	0.5N	X			"	
4945	"	"		X	16.0E	0.5N	X			"	
4946	T. O. 128	"	X		6.3E	1.2N			X	Good	1:1,000,000
4947	"	"	X		6.0E	1.3N			X	"	"
4948	"	"	X		5.7E	1.4N			X	"	1:1,000,000
4949	Rhaetigus	"		X	6.7E	1.5N			X	Poor	
4950	"	"		X	6.2E	1.6N			X	"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4951	Sinus Medii	80		X	4.6E	1.4N			X	Poor	
4952	"	"		X	3.3E	1.4N			X	"	
4953	"	"		X	1.5E	1.5N			X	"	
4954	Craters 302 & 305	"		X	over horizon				X	Good	
4955	"	"		X	167.9E	11.4S			X	"	
4956	"	"		X	166.3E	12.0S			X	"	
4957	"	"		X	166.0E	11.8S			X	"	
4958	"	"		X	165.0E	11.5S			X	"	
4959	"	"		X	164.4E	11.5S			X	"	
4960	"	"		X	163.7E	11.9S			X	"	
4961	"	"		X	162.9E	11.9S		X		"	
4962	"	"		X	162.0E	11.9S		X		"	
4963	"	"		X	overhorizon			X		"	
4964	"	"		X	"	"		X		"	
4965	Crater 297	250		X	152.0E	5.4S	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4966	T. O. 29	250		X	146.4E	5.2S	X			Fair	
4967	"	"		X	146.4E	4.4S	X			"	
4968	"	"		X	146.2E	4.9S	X			"	
4969	"	"		X	146.4E	5.7S	X			"	
4970	"	"		X	146.2E	5.7S	X			"	
4971	Craters 292 & 293	"		X	140.4E	6.0S	X			"	
4972	"	"		X	140.1E	6.0S	X			"	
4973	"	"		X	140.1E	5.9S	X			"	
4974	"	"		X	139.4E	6.3S	X			"	
4975	"	"		X	139.4E	5.7S	X			"	
4976	T. O. 33	"		X	136.8E	4.2S	X			"	
4977	"	"		X	137.2E	3.5S	X			"	
4978	T. O. 41	"		X	129.3E	4.6S	X			"	
4979	"	"		X	128.9E	4.7S	X			"	
4980	"	"		X	127.8E	6.0S	X			"	
4981	"	"		X	127.5E	5.0S	X			"	
4982	"	"		X	127.3E	5.7S	X			"	

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4983	T. O. 41	250		X	126.7E	5.3S	X			Fair	
4984	"	"		X	125.7E	6.0S	X			Poor	
4985	"	"		X	124.9E	6.5S	X			"	
4986	"	"		X	124.0E	6.8S	X			"	
4987	T. O. 45	"		X	122.4E	6.4S	X			"	
4988	"	"		X	122.4E	5.3S	X			"	
4989	"	"		X	122.3E	5.0S	X			"	
4990	"	"		X	122.1E	5.2S	X			"	
4991	Crater 279	"		X	119.2E	11.2S	X			"	
4992	"	"		X	117.9E	10.6S	X			"	
4993	"	"		X	117.2E	11.0S	X			"	
4994	Unused										
4995	Unused										
4996	T. O. 59	"		X	85.9E	0.3S	X			Poor	
4997	"	"		X	83.6E	0.5S	X				
4998	"	"		X	80.1E	3.9S	X				

APOLLO 10 HASSELBLAD PHOTOGRAPHY

Magazine T Film 3400

Frame No.	Description	F.L.	VERT	OBLIQ	Principal Point		Sun Angle			Photo Qual.	Remarks
					LONG.	LAT.	HIGH	MED.	LOW		
4999	T. O. 59	250		X	82.1E	1.0S	X			Poor	
5000	"	"		X	82.0E	0.7S	X			"	
5001	"	"		X	79.5E	1.6S	X			"	
5002	"	"		X	78.9E	1.6S	X			"	
5003	"	"		X	78.6E	1.4S	X			"	
5004	"	"		X	78.1E	1.2S	X			"	
5005	"	"		X	77.8E	0.7S	X			"	
5006	"	"		X	77.8E	0.7S	X			"	
5007	"	"		X	77.8E	0.7S	X			"	
5008	"	"		X	77.2E	0.7S	X			"	

MAGAZINE "U"

This magazine containing special color film was not available for screening.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16MM)

There are 15 magazines of 16MM sequence photography with SO 368 (CEX) and SO 168 (CIN) Film. Eleven of the magazines contain plottable scenes of the lunar surface. Four magazines contain photographs of IVA, docking and re-entry. A review of the film in the magazines indicates that very good lunar surface detail was obtained from high and low obliques, and near vertical sequences as well as in many panoramic views. Most exposures were good except near subsolar when the rendition of scene was poor.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine A Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
		Docking - no scene.	Not plotted.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine AA Film SO 168

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
		IVA	Not plotted.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine B Film SO 168

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
		IVA	Not plotted.

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-1120	Not located	Underexposed, window glare scene not identifiable	Not plotted
1121-4376	Sequence from 177°W to 15°E	Continuous near vertical sequence from lunar far-side across Sea of Tranquility.	Plotted
4377-4666	Sequence from 33°E to 18°E	Continuous high oblique sequence over Maskelyne, Sabine and Ritter.	Plotted
4667-5414	8°S, 15°E (approx. center of sequence)	Panoramic high obliques over Delambre and Theon Jr.	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine D Film SO-368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-1407	2°S, 86°E (approx. center of sequence)	High oblique sequence of earthrise over Smyth's Sea-poor scene rendition.	Plotted
1408-2265	Sequence from 46°E to 4°E	Continuous high to low oblique sequence from edge of Sea of Fertility near Secchi, over LLS1 and 2, Sabine and Ritter, stops at margin of Central Bay.	Plotted
2666-2671		Blank	
2672-3089	1°S, 83°E (approx. center of sequence)	High oblique sequence of earthrise over Smyth's Sea-poor scene radiation	Plotted
3090-3121			Not plottable at map scale
3122-3175		Entire moon	
3176-3195			Not plotted
3196-5732		Earth view	

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine F Film SO-368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-973	5°S, 168°W (approx. center of sequence)	High oblique sequence of lunar farside craters.	Plotted
974-1043	1°S, 163°E (approx. center of sequence)	Near vertical sequence of lunar farside single crater	Plotted
1044-1206	3°N, 143°E (approx. center of sequence)	Near vertical sequence of lunar farside single crater	Plotted
1207-1273	3°N, 132oE (approx. center of sequence)	Near vertical sequence of lunar farside single crater	Plotted
1274-1338	4°N, 120°E (approx. center of sequence)	Near vertical sequence of lunar farside single crater	Plotted
1339-1676	Not located	Earthrise-poor condition of scene	Not plotted
1677-1687		Over-exposure-no scene	Not plotted
1688-2213	Not located	Farside scene near sub-solar-poor condition. Start of roll.	Not plotted
2214-2225		Roll-no scene	Not plotted
2226-5341	Sequence from 51°E to 23°E	Continuous near vertical sequence from Sea of Fertility across Sea of Tranquility, south of LLS2.	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine C Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-5342	Sequence from 62°E to 21°E.	Continuous sequence starting with lunar farside scene at edge of Sea of Waves and Foaming Sea and continues to frontside overSea of Fertility and ends in Sea of Tranquility. Passes south of LLS 2.	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine H Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-5021	Sequence starts at 124°E and ends at 77°E.	Sequence contains near vertical, low and high obliques of lunar farside scenes, Smyth's Sea and earthrise.	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine I Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-5462	Sequence starts at 171°E and ends at 128°E.	High to low oblique of lunar farside scene. Features not named.	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine J Film SO 168

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
		Overexposed - re-entry. Underexposed - chutes out.	Not plotted.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine K Film So-368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-162		LM photography of CSM only	Not plotted
163-2790	Sequence from 115°E to 74°E.	LM photography of CSM with lunar farside scene in background.	Plotted-location questionable
2791-3970	Sequence from 38°E to 22°E	LM photography of CSM with lunar frontside scene in background. Sequence over LLS2.	Plotted
3971-4207		Blank	Not plotted
4208-4360	6°N, 119°E (approx. center of sequence)	Oblique sequence of lunar farside single crater (No. 211)	Plotted
4361-5058	2°S, 80°E (approx. center of sequence)	High oblique sequence of earth rise over Smyth's Sea-poor scene rendition	Plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine L Film SO 168

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-929		IVA	Not plotted
930-1955	Sequence from 22°E to 9°E.	Continuous sequence of high to low obliques from Sabine and Ritter to Godin.	Plotted
1956-2234		LM photography of CSM.	Not plotted

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine V Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-2104	Earth.	Earth view.	Unplottable.
2105-2625	Not located.	High to low obliques from LM. Overlapping sequence of lunar farside scene.	Not plotted.
2626-2682	1°N, 45°E (Approximate center of sequence).	Low to near vertical sequence taken from LM. Partial overlap of lunar frontside scene-Messier, Messier A, and Secchi predominant craters.	Plotted.
2683-2862	16°S, 30°E (Approximate center of sequence).	High obliques taken near terminator - Theophilus, Madler, and Isidorus predominant craters.	Plotted.
2863-3240	10°N, 103°E (Approximate center of sequence).	High obliques of lunar farside scene - craters not named - nos. are 197, 198, 199.	Plotted.
3241-3329	12°N, 85°E (Approximate center of sequence).	High obliques of lunar farside scene - Neper, Goddard, and the Border Sea predominant features.	Plotted.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine W Film SO 368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-977	Sequence starts at 43°E and ends at 4°W.	Sequence starts with high obliques at edge of Sea of Fertility and passes over Maskelyne, LLS 2, Sabine and Ritter, and LLLS 3.	Plotted
977-end		Panoramic high obliques of Tsiolkovsky, quarter, half, and full moon, and earth.	Not plottable at map scale.

APOLLO 10 SEQUENCE PHOTOGRAPHY (16 mm)

Magazine Y Film SO-368

FRAME NO.	LOCATION	DESCRIPTION	REMARKS
1-1492	Not located	Docking-farside scene in background	Not plotted
1493-2050	Sequence from 164°E to 144°E	Continuous high to low oblique sequences of lunar farside scene-features not named.	Plotted
2051-3603	Not located	Broken series of frames of hand-held telephoto panoramic shots of lunar farside scene; mostly low obliques and near vertical. Locations questionable.	Not plotted
3604-5614	Sequence from 44°E to 26°E	High altitude continuous; low oblique to near vertical sequence from edge of Sea of Fertility over Censorinus into Sea of Tranquility.	Plotted

APOLLO - SATURN 4

November 9, 1967

70mm ONBOARD PHOTOGRAPHIC IDENTIFICATION LIST

Camera: Maurer, Model 220 C
Lens: Kodak Ektar, f/2.8. 75mm
Film: Kodak, Ektachrome, thin base, MS, SO-368. 70mm
Lens Setting: f/8 at 1/500 second
Mounting: In Command Pilot's window

Launch: 12:00:01 Zulu from Complex 39-A
Kennedy Space Center, Florida
Splash: 21:36:54 Zulu, Southwest of Honolulu, Hawaii
Identification by: Richard W. Underwood, MSC/FI
Herbert A. Tiedemann, MSC/FI

GENERAL INFORMATION:

The camera system was activated by a gravity switch set for G=5. It is possible that it was activated by the initial vibration at lift-off. Therefore, times and altitudes are approximate but within one minute of true. The first exposure was at G.E.T. equals 4 hours and 28 minutes with an exposure interval of approximately 10.6 seconds. The spacecraft nadir point for the first exposure was approximately 18S - 23E. Apogee was reached at G.E.T. equals 5 hours, 46 minutes, 48 seconds, at an altitude of 9,769 nautical miles and an approximate nadir point of 28S - 36E. All photography was on the third revolution. Every tenth photograph is indicated on this list. Intermediate exposures can be interpolated.

EXPOSURE NUMBER	G.E.T. TIME	APPROXIMATE ALTITUDES NAUTICAL MILES	KILOMETERS	LOCATION AND IDENTIFICATION
AS4-1-1	4:28	7295	13,510	Black unlighted sky.
AS4-1-10	4:29	7360	13,631	Black unlighted sky.
AS4-1-20	4:31	7487	13,866	Black unlighted sky.
AS4-1-30	4:33	7610	14,094	Black unlighted sky.
AS4-1-40	4:35	7730	14,316	Black unlighted sky.
AS4-1-50	4:36	7788	14,423	Atlantic Ocean between Africa and South America, horizon at edge of format.
AS4-1-60	4:38	7902	14,635	Atlantic Ocean between Africa and South America, horizon at edge of format.
AS4-1-70	4:40	8012	14,838	Atlantic Ocean between Africa and South America, horizon at edge of format.

EXPOSURE NUMBER	G.E.T. TIME	APPROXIMATE ALTITUDES NAUTICAL MILES	KILOMETERS	LOCATION AND IDENTIFICATION
AS4-1-80	4:43	8171	15,133	Coastal Brazil (Fortaleza to Rio), Coastal Africa (Dakar to Casablanca), Atlantic Ocean.
AS4-1-90	4:44	8222	15,227	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-100	4:46	8321	15,410	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-110	4:48	8417	15,588	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-120	4:50	8509	15,759	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-130	4:51	8554	15,842	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-140	4:53	8641	16,003	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-150	4:55	8725	16,159	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-160	4:56	8766	16,235	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-170	4:58	8844	16,379	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-180	5:00	8920	16,520	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-190	5:02	8992	16,653	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-200	5:04	9060	16,779	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-210	5:06	9126	16,901	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-220	5:07	9157	16,959	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-230	5:09	9218	17,072	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-240	5:11	9275	17,177	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-250	5:12	9302	17,227	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.
AS4-1-260	5:13	9329	17,277	Coastal Brazil, Atlantic Ocean, West Africa, Sahara. Looking N.W.

EXPOSURE NUMBER	G.E.T. TIME	APPROXIMATE ALTITUDES NAUTICAL MILES	KILOMETERS	LOCATION AND IDENTIFICATION
AS4-1-270	5:15	9380	17,371	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, looking N.W.
AS4-1-280	5:16	9404	17,416	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, looking N.W.
AS4-1-290	5:18	9450	17,501	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, looking N.W.
AS4-1-300	5:20	9493	17,581	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, looking N.W.
AS4-1-310	5:21	9514	17,620	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, looking N.W.
AS4-1-320	5:23	9551	17,688	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-330	5:24	9569	17,722	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-340	5:25	9587	17,755	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-350	5:26	9603	17,785	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-360	5:28	9641	17,855	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-370	5:30	9661	17,892	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-380	5:32	9691	17,948	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-390	5:34	9706	17,976	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-400	5:36	9725	18,011	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking N.W.
AS4-1-410	5:39	9745	18,048	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-420	5:41	9756	18,068	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-430	5:43	9763	18,081	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-440	5:45	9767	18,088	Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.
AS4-1-450	5:47	9769	18,092	APOGEE, Coastal Brazil, Atlantic Ocean, West Africa, Sahara, Antarctica, looking west.

NUMBER	TIME	NAUTICAL MILES	KILOMETERS	LOCATION AND IDENTIFICATION
AS4-1-460	5:49	9767	18,088	Coastal Brazil. Atlantic Ocean, West Africa, Sahara, Antarctica. looking west.
AS4-1-470	5:51	9762	18,079	Coastal Brazil. Atlantic Ocean, West Africa, Sahara, Antarctica. looking west.
AS4-1-480	5:53	9754	18,064	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-490	5:55	9743	18,044	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-500	5:57	9729	18,018	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-510	5:58	9721	18,003	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-520	6:00	9702	17,968	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-530	6:02	9680	17,927	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-540	6:04	9655	17,881	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-550	6:06	9627	17,829	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-560	6:08	9596	17,772	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-570	6:09	9579	17,740	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-580	6:11	9544	17,675	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-590	6:12	9521	17,633	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-600	6:13	9504	17,601	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-610	6:15	9463	17,525	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-620	6:17	9418	17,442	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-630	6:18	9394	17,398	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.
AS4-1-640	6:20	9343	17,303	Coastal Brazil. Atlantic Ocean, West Africa, Antarctica. looking west.

EXPOSURE NUMBER	G.E.T. TIME	APPROXIMATE ALTITUDES NAUTICAL MILES	KILOMETERS	LOCATION AND IDENTIFICATION
AS4-1-650	6:22	9290	17,205	Coastal Brazil. Atlantic Ocean, West Africa. Antarctica, looking west.
AS4-1-660	6:24	9234	17,101	Coastal Brazil. Atlantic Ocean. West Africa. Antarctica, looking west.
AS4-1-670	6:26	9174	16,990	Coastal Brazil. Atlantic Ocean. West Africa. Antarctica, looking west.
AS4-1-680	6:28	9111	16,873	Coastal Brazil. Atlantic Ocean, Antarctica. Looking west.
AS4-1-690	6:30	9046	16,753	Atlantic Ocean. Antarctica, looking west.
AS4-1-700	6:32	8976	16,624	Atlantic Ocean. Antarctica, looking west.
AS4-1-710	6:34	8903	16,488	Atlantic Ocean. Antarctica, looking west.
AS4-1-720	6:36	8827	16,348	Atlantic Ocean. Antarctica. looking west.
AS4-1-730	6:38	8748	16,201	Atlantic Ocean. Antarctica, looking west.
AS4-1-740	6:40	8665	16,048	Atlantic Ocean. Antarctica, looking west.
AS4-1-750	6:41	8628	15,979	Atlantic Ocean. Antarctica, looking west.
AS4-1-755	6:41	8601	15,929	Atlantic Ocean. Antarctica, looking west.

APOLLO - SATURN 6

April 4, 1968

70mm ONBOARD PHOTOGRAPHIC IDENTIFICATION LIST

Camera: Maurer, Model 220 G
Lens: Kodak Ektar, f/2.8, 76mm
Film: Kodak, Ektachrome, High Resolution Aerial, SO-121, 70mm
Lens Setting: f/5.6 at 1/500 second
Mounting: In Hatch Window

Launch: 12:00:01 Zulu from Complex 39-A Kennedy Space Center, Fla.
Splash: Zulu, N. of Honolulu, Hawaii
Identification by: Richard W. Underwood, MSC/BL4
Herbert A. Tiedemann, MSC/BL4

GENERAL INFORMATION:

The camera system was activated by a gravity switch set for G=2.5 (ambient ≠ 1.5 G) at Ground Elapsed Time (GET) equals 00:01:30 after lift-off. The first exposure was at GET 01:29:51, with an exposure interval of approximately 8.64 seconds. During the first exposures, the camera was pointed away from the Earth. The camera continued to operate until shortly after the beginning of the third revolution, when the last exposure on the roll was taken.

PHOTO FRAME NUMBER	ORBIT (REVOLUTION)	GROUND ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-756	1	01:29:51	Camera on.
(Frames 756 through 818 were taken with camera facing away from the Earth, and show only the dark void of space.)			
AS6-2-819	1	01:38:55	Looking north over cloud-covered portions of Georgia, Tennessee, North Carolina, and South Carolina.
AS6-2-820	1	01:39:04	Same as above.
AS6-2-821	1	01:39:12	" " "
AS6-2-822	1	01:39:21	" " "
AS6-2-823	1	01:39:29	" " "
AS6-2-824	1	01:39:38	" " "
AS6-2-825	1	01:39:46	" " "
AS6-2-826	1	01:39:55	" " "
AS6-2-827	1	01:40:03	" " "

FRAME NUMBER	(REVOLU-TION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-828	1	01:40:12	Georgia, South Carolina: Looking over cloud cover north of Columbia, Savannah River, North and South Forks of Edisto River in foreground.
AS6-2-829	1	01:40:20	Georgia, South Carolina: Williston, Blackville, Barnwell, Denmark, Bamberg, Orangeburg: Savannah River, Congaree River, Edisto River; Augusta, Columbia, beneath edge of cloud cover.
AS6-2-830	1	01:40:29	South Carolina: Barnwell, Williston, Blackville, Denmark, Bamberg, Orangeburg: Congaree River, Edisto River; Aiken, Columbia beneath edge of cloud cover.
AS6-2-831	1	01:40:37	South Carolina: Georgetown; Lake Marion, Winyah Bay, Congaree River; Columbia beneath cloud cover
AS6-2-832	2	01:40:46	South Carolina: Atlantic coastline from Charleston to Winyah Bay; extensive cloud cover.
AS6-2-833	2	01:40:55	South Carolina: Andrews, Georgetown; Black River, Winyah Bay, Atlantic Ocean; extensive cloud cover.
AS6-2-834	2	01:41:03	Atlantic Ocean, clouds.
AS6-2-835	2	01:41:12	" " "
AS6-2-836	2	01:41:20	" " "
AS6-2-837	2	01:41:29	" " "
AS6-2-838	2	01:41:37	" " "
AS6-2-839	2	01:41:46	" " "
AS6-2-840	2	01:41:54	" " "
AS6-2-841	2	01:42:03	" " "
AS6-2-842	2	01:42:11	" " "
AS6-2-843	2	01:42:20	" " "
AS6-2-844	2	01:42:29	" " "
AS6-2-845	2	01:42:37	" " "
AS6-2-846	2	01:42:46	" " "
AS6-2-847	2	01:42:54	" " "
AS6-2-848	2	01:43:03	" " "
AS6-2-849	2	01:43:11	" " "
AS6-2-850	2	01:43:20	" " "
AS6-2-851	2	01:43:28	" " "
AS6-2-852	2	01:43:37	" " "
AS6-2-853	2	01:43:45	Bermuda: Atlantic Ocean, clouds.
AS6-2-854	2	01:43:54	" " " "
AS6-2-855	2	01:44:02	" " " "

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-856	2	01:44:11	Atlantic Ocean, clouds.
AS6-2-857	2	01:44:20	" " "
AS6-2-858	2	01:44:28	" " "
AS6-2-859	2	01:44:36	" " "
AS6-2-860	2	01:44:45	" " "
AS6-2-861	2	01:44:53	" " "
AS6-2-862	2	01:45:02	" " "
AS6-2-863	2	01:45:10	" " "
AS6-2-864	2	01:45:19	" " "
AS6-2-865	2	01:45:28	" " "
AS6-2-866	2	01:45:36	" " "
AS6-2-867	2	01:45:45	" " "
AS6-2-868	2	01:45:53	" " "
AS6-2-869	2	01:46:02	" " "
AS6-2-870	2	01:46:11	Atlantic Ocean, clouds, sun glint.
AS6-2-871	2	01:46:19	" " " " "
AS6-2-872	2	01:46:27	" " " " "
AS6-2-873	2	01:46:36	" " " " "
AS6-2-874	2	01:46:45	" " " " "
AS6-2-875	2	01:46:53	" " " " "
AS6-2-876	2	01:47:01	" " " " "
AS6-2-877	2	01:47:10	" " " " "
AS6-2-878	2	01:47:18	" " " " "
AS6-2-879	2	01:47:27	Atlantic Ocean, clouds.
AS6-2-880	2	01:47:36	" " "
AS6-2-881	2	01:47:44	" " "
AS6-2-882	2	01:47:53	" " "
AS6-2-883	2	01:48:01	" " "
AS6-2-884	2	01:48:10	" " "
AS6-2-885	2	01:48:18	" " "
AS6-2-886	2	01:48:27	" " "
AS6-2-887	2	01:48:35	" " "
AS6-2-888	2	01:48:44	" " "
AS6-2-890	2	01:49:01	" " "
AS6-2-891	2	01:49:10	" " "
AS6-2-892	2	01:49:28	" " "
AS6-2-893	2	01:49:37	" " "
AS6-2-889	2	01:48:53	" " "

RAME UMBER	(REVOLU- TION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
S6-2-894	2	01:49:45	Atlantic Ocean, clouds, sun glint.
S6-2-895	2	01:49:56	" " " " "
S6-2-896	2	01:50:04	" " " " "
S6-2-897	2	01:50:13	" " " " "
S6-2-898	2	01:50:21	" " " " "
S6-2-899	2	01:50:30	" " " " "
S6-2-900	2	01:50:38	" " " " "
S6-2-901	2	01:50:47	" " " " "
S6-2-902	2	01:50:55	" " " " "
S6-2-903	2	01:51:04	" " " " "
S6-2-904	2	01:51:13	" " " " "
S6-2-905	2	01:51:21	" " " " "
S6-2-906	2	01:51:30	" " " " "
S6-2-907	2	01:51:38	" " " " "
S6-2-908	2	01:51:47	" " " " "
S6-2-909	2	01:51:55	" " " " "
S6-2-910	2	01:52:04	" " " " "
S6-2-911	2	01:52:12	" " " " "
S6-2-912	2	01:52:21	" " " " "
S6-2-913	2	01:52:29	" " " " "
S6-2-914	2	01:52:38	" " " " "
S6-2-915	2	01:52:46	" " " " "
S6-2-916	2	01:52:55	" " " " "
S6-2-917	2	01:53:03	" " " " "
S6-2-918	2	01:53:12	" " " " "
S6-2-919	2	01:53:20	" " " " "
S6-2-920	2	01:53:29	" " " " "
S6-2-921	2	01:53:38	" " " " "
S6-2-922	2	01:53:46	" " " " "
S6-2-923	2	01:53:55	" " " " "
S6-2-924	2	01:54:04	" " " " "
S6-2-925	2	01:54:12	" " " " "
S6-2-926	2	01:54:21	" " " " "
S6-2-927	2	01:54:30	" " " " "
S6-2-928	2	01:54:38	" " " " "
S6-2-929	2	01:54:47	" " " " "
S6-2-930	2	01:54:55	" " " " "
S6-2-931	2	01:55:04	" " " " "
S6-2-932	2	01:55:12	" " " " "
S6-2-933	2	01:55:21	" " " " "

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-934	2	01:55:30	Atlantic Ocean, clouds, sun glint.
AS6-2-935	2	01:55:38	Mauritania: Atlantic coast north of Senegal River.
AS6-2-936	2	01:55:47	Mauritania, Senegal: Rosso: Trarza Scrub Hills (long, fixed sand dunes), excellent meander patterns along Senegal River.
AS6-2-937	2	01:55:55	Mauritania, Senegal: Rosso, Dagana; Lake Rkiz, Trarza Scrub Hills (long, fixed sand dunes), Lake de Guier, excellent meander patterns along Senegal River.
AS6-2-938	2	01:56:04	Mauritania, Senegal: Rosso, Dagana, Podor; Lake Rkiz, Trarza Scrub Hills (long, fixed sand dunes), Lake de Guier, excellent meander patterns along Senegal River.
AS6-2-939	2	01:56:12	Mauritania, Senegal: Bogue, Podor; Trarza Scrub Hills (long, fixed sand dunes), excellent meander patterns along Senegal River.
AS6-2-940	2	01:56:21	Mauritania, Senegal: Bogue, Kaedi: excellent meander patterns along Senegal River.
AS6-2-941	2	01:56:27	Mauritania, Senegal: Kaedi, Matam; drainage of the Gordol Noir, excellent meander patterns along Senegal River.
AS6-2-942	2	01:56:36	Same as above.
AS6-2-943	2	01:56:45	Mauritania, Senegal, Mali: Selibaby, Bakel; Oued Garfa, Assaba Plateau, excellent meander patterns along Senegal River.
AS6-2-944	2	01:56:53	Mauritania, Senegal, Mali: Selibaby, Bakel; Oued Garfa, Assaba Plateau, Senegal River.
AS6-2-945	2	01:57:02	Mauritania, Senegal, Mali: Kayes; Assaba Plateau, Senegal River.
AS6-2-94	2	01:57:10	Mali: Kayes; Senegal River, Kolinbine River.
AS6-2-947	2	01:57:19	Mali: Bafoulabe; Senegal River and tributaries.
AS6-2-948	2	01:57:27	Same as above.
AS6-2-949	2	01:57:36	Mali: Baoule and Bakoy Rivers, tributaries of Senegal River.
AS6-2-950	2	01:57:45	Mali, Guinea: Baoule and Bakoy Rivers, tributaries of Senegal River.
AS6-2-951	2	01:57:53	Mali, Guinea: headwaters of Baoule and Bakoy Rivers.
AS6-2-952	2	01:58:02	Mali, Guinea: Bamako: Niger River.
AS6-2-953	2	01:58:10	Mali: Bamako; Niger River and tributary, Baoule River.
AS6-2-954	2	01:58:19	Mali: Baoule and Bagoe Rivers, tributaries of Niger River.
AS6-2-955	2	01:58:27	Same as above.
AS6-2-956	2	01:58:35	Mali, Ivory Coast: Bagoe and Banifing River systems.
AS6-2-957	2	01:58:44	Mali, Ivory Coast, Upper Volta: Bagoe and Banifing River systems, headwaters of Komoe and Black Volta River systems.
AS6-2-958	2	01:58:52	Same as above.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
S6-2-959	2	01:59:01	Mali, Ivory Coast, Upper Volta: headwaters of Bagoe, Banifing, Komoe and Black Volta River systems.
S6-2-960	2	01:59:10	Ivory Coast, Upper Volta: headwaters of Komoe and Black Volta River systems.
S6-2-961	2	01:59:18	Same as above.
S6-2-962	2	01:59:27	Ivory Coast, Upper Volta, Ghana: Komoe; Black Volta River systems and tributaries: clouds.
S6-2-963	2	01:59:35	Ivory Coast, Upper Volta, Ghana: Black Volta River; clouds.
S6-2-964	2	01:59:44	Ivory Coast, Ghana: Black Volta River; clouds.
S6-2-965	2	01:59:52	Ivory Coast, Chana: junction of Black Volta and White Volta Rivers at upper end of Lake Volta; clouds.
S6-2-966	2	02:00:01	Ghana: Lake Volta; clouds.
S6-2-967	2	02:00:10	" " " "
S6-2-968	2	02:00:18	" " " "
S6-2-969	2	02:00:27	Ghana, Togo: Lake Volta; clouds.
S6-2-970	2	02:00:35	" " " " "
S6-2-971	2	02:00:44	Ghana, Togo: Lome; Lake Volta, Gulf of Guinea, Keta Lagoon, Lake Togo; clouds.
S6-2-972	2	02:00:52	Ghana, Togo, Dahomey: Lome; Gulf of Guinea, Keta Lagoon, Lake Togo, Lake Aheme; clouds.
S6-2-973	2	02:01:01	Ghana, Togo, Dahomey, Nigeria: Lome, Cotonue, Porto Novo; Gulf of Guinea, Keta Lagoon, Lake Toto, Lake Aheme, Lake Nokoue; clouds.
S6-2-974	2	02:01:10	Dahomey: Porto Novo, Cotonou; Lake Aheme, Lake Nokoue, Gulf of Guinea
S6-2-975	2	02:01:18	Dahomey: Porto Novo; Gulf of Guinea.
S6-2-976	2	02:01:27	Gulf of Guinea, clouds, sun glint.
S6-2-977	2	02:01:35	" " " " " "
S6-2-978	2	02:01:44	" " " " " "
S6-2-979	2	02:01:53	" " " " " "
S6-2-980	2	02:02:01	" " " " " "
S6-2-981	2	02:02:10	" " " " " "
S6-2-982	2	02:02:18	" " " " " "
S6-2-983	2	02:02:27	" " " " " "
S6-2-984	2	02:02:35	" " " " " "
S6-2-985	2	02:02:43	" " " " " "
S6-2-986	2	02:02:52	" " " " " "
S6-2-987	2	02:03:01	" " " " " "

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
\S6-2-988	2	02:03:09	Equatorial Guinea: Gulf of Guinea coast, Cape San Juan; clouds, dark.
\ 6-2-989	2	02:03:18	Equatorial Guinea, Gabon: Libreville; Cape San Juan, Gulf of Guinea coast; clouds, dark.
\S6-2-990	2	02:03:26	Equatorial Guinea, Gabon: Libreville; Cape San Juan, Gabon Bay, Gulf of Guinea coast, clouds, dark.
\S6-2-991	2	02:03:35	Equatorial Guinea, Gabon: Libreville; Gabon Bay, Mondah Bay, Gulf of Guinea coast; clouds, dark.
\S6-2-992	2	02:03:44	Gabon: head of Gabon Bay, Ogooue River; clouds, dark.
\S6-2-993	2	02:03:52	Gabon: Ogooue River, Crystal Mts.; clouds, dark.
\S6-2-994	2	02:04:01	" " " " " " "
\S6-2-995	2	02:04:07	Gabon: Ogooue River, clouds, dark.
\S6-2-996	2	02:04:16	" " " " "
\S6-2-99	2	02:04:24	Gabon: Franceville; Ogooue River; clouds, dark.
\S6-2-998	2	02:04:33	Gabon, Congo: Franceville: Ogooue River; clouds, dark.
\S6-2-999	2	02:04:42	Gabon, Congo: headwaters of Ogooue and Alima Rivers; clouds, dark.
\S6-2-1000	2	02:04:50	Gabon, Congo: headwaters of Ogooue, Alima and Lefini Rivers; clouds, dark.
\S6-2-1001	2	02:04:59	Congo: trellis drainage patterns in upper Alima and Lefini River systems: clouds, dark.
\S6-2-1002	2	02:05:08	Congo, Republic of the Congo: Congo River, trellis drainage patterns of Lefini River system; clouds, forest fires, dark.
\S6-2-1003	2	02:05:16	Congo, Republic of the Congo: junction of Lefini and Kwa Rivers with "Chenal" section of Congo River: clouds, forest fires, dark.
\S6-2-1004	2	02:05:25	Congo, Republic of the Congo: Kwango River, junction of Kwa River with "Chenal" section of Congo River; clouds, forest fires, dark.
\S6-2-1005	2	02:05:34	Congo, Republic of the Congo: Junction of Kwango and Wamba Rivers, junction of Kwa River and "Chenal" section of Congo River; clouds, forest fires, dark.
\S6-2-1006	2	02:05:42	Republic of the Congo: junction of Kwango and Wamba Rivers; clouds, forest fires, dark.
\S6-2-1007	2	02:05:51	Same as above.
\S6-2-1008	2	02:05:59	Republic of the Congo: drainage basin of Kwango and Kwilu Rivers; clouds, forest fires, dark.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1009	2	02:06:08	Republic of the Congo: Kwilu River drainage basin; clouds, forest fires, dark.
AS6-2-1010	2	02:06:17	Republic of the Congo: Kwenge and Lutshima Rivers, tributaries of Kwilu River; clouds, dark.
AS6-2-1011	2	02:06:25	Republic of the Congo: drainage of the Kasai and Kwili Rivers; clouds, dark.
AS6-2-1012	2	02:06:34	Republic of the Congo: drainage of the Kasai River; clouds, dark.
AS6-2-1013	2	02:06:42	Republic of the Congo, Angola: Tshikapa; upper Kasai River; clouds, dark.
AS6-2-1014	2	02:06:51	Republic of the Congo, Angola: Tshikapa, Portugalia; headwaters of the Kasai River; clouds, dark.
AS6-2-1015	2	02:07:00	Republic of the Congo, Angola: Tshikapa, Portugalia; headwaters of the Kasai River; clouds, dark.
AS6-2-1016	2	02:07:08	Republic of the Congo, Angola: Portugalia; headwaters of the Kasai River; clouds, dark.
AS6-2-1017	2	02:07:17	Republic of the Congo, Angola: Katanga Province; headwaters of the Kasai River: clouds, dark.
AS6-2-1018	2	02:07:25	Republic of the Congo: Katanga Province; mixed trellis and dendritic drainage; clouds, dark.
AS6-2-1019	2	02:07:34	Same as above.
AS6-2-1020	2	02:07:43	" " "
AS6-2-1021	2	02:07:51	Republic of the Congo: Katanga Province, Kamina; clouds, dark.
AS6-2-1022	2	02:08:00	" " " " " " " " "
AS6-2-1023	2	02:08:09	Republic of the Congo: Katanga Province, Kamina, Bukama; Hakansson Mts.; clouds, dark.
AS6-2-1024	2	02:08:17	Republic of the Congo: Katanga Province, Bukama; Hakansson Mts., Bia Mts., Upemba National Park; clouds, dark.
AS6-2-1025	2	02:08:26	Republic of the Congo: Katanga Province; Mituma Mts.; clouds, very dark.
AS6-2-1026	2	02:08:34	Republic of the Congo: Katanga Province, Jadotville; clouds, very dark.
S6-2-1027	2	02:08:43	Republic of the Congo: Katanga Province, Jadotville; clouds, very dark.
S6-2-1028	2	02:08:52	Republic of the Congo, Zambia: Katanga Province, Lubumbashi (Elizabethville); clouds, very dark.
S6-2-1029	2	02:09:00	Republic of the Congo, Zambia: Katanga Province, Lubumbashi (Elizabethville); Luapala River; clouds, very dark.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
S6-2-1030	2	02:09:08	Republic of the Congo, Zambia: Katanga Province, Lubumbashi (Elizabethville), Mufulira, Chingola, Fort Roseberry; Luapala River; clouds, very dark.
S6-2-1031	2	02:09:17	Republic of the Congo, Zambia: Mufulira, Kitwe, Chingola, Fort Roseberry; Luapala River; clouds, very dark.
S6-2-1032	2	02:09:25	Republic of the Congo, Zambia: Mufulira, Ndola; Luapala River; clouds, very dark.
S6-2-1033	2	02:09:34	Republic of the Congo, Zambia: Katanga Province; Luapala River; clouds, very dark.
S6-2-1034	2	02:09:43	Republic of the Congo, Zambia: Katanga Province, Chitango; Luapala River, Lake Lusiwasi, Lavashi Ridge; clouds, very dark.
S6-2-1035	2	02:09:51	Zambia: Chitango; Lake Lusiwasi, Muchinga Escarpment, Luangwa River, clouds, very dark.
S6-2-1036	2	02:10:00	Zambia: Chitango; Lake Lusiwasi, Muchinga Escarpment, Luangwa River, clouds, very dark.
S6-2-1037	2	02:10:08	Zambia, Malawi: Fort Jameson; Luangwa River; clouds, very dark.
S6-2-1038	2	02:10:17	Zambia, Malawi, Mozambique: Fort Jameson; Luangwa River; clouds, very dark.
S6-2-1039	2	02:10:26	Zambia, Malawi, Mozambique: Fort Jameson; clouds, very dark.
S6-2-1040	2	02:10:34	Zambia, Malawi, Mozambique: east of Fort Jameson; clouds, very dark.
S6-2-1041	2	02:10:43	Malawi, Mozambique: Kirk Range; clouds, very dark.
S6-2-1042	2	02:10:52	" " " " " " "
S6-2-1043	2	02:11:00	Malawi, Mozambique: Zemba, Blantyre; Kirk Range, Shire River; clouds, very dark.
S6-2-1044	2	02:11:09	Malawi, Mozambique: Zemba, Blantyre; Shire River, Lake Chilwa; clouds, very dark.
S6-2-1045	2	02:11:18	Malawi, Mozambique: Lake Chilwa, Mount Mlanje; clouds, very dark.
S6-2-1046	2	02:11:26	" " " " " " " " "
S6-2-1047	2	02:11:35	Mozambique: clouds,very dark.
S6-2-1048	2	02:11:43	Mozambique: coastline on Mozambique channel, mouth of Licungo River; clouds, very dark.
S6-2-1049	2	02:11:51	Mozambique: Pebaue; coastline on Mozambique Channel; clouds, dark.
S6-2-1050	2	02:12:00	Ligonha River; clouds, very dark.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1051	2	02:12:09	Mozambique: coastline on Mozambique Channel, from Ligonha River to Melela River, coral reefs in channel; clouds, very dark.
AS6-2-1052	2	02:12:18	Mozambique: coastline on Mozambique Channel at Ligonha and Molocure Rivers, coral reefs in channel; clouds, very dark.
AS6-2-1053	2	02:12:26	Mozambique Channel, clouds, very dark.
AS6-2-1054	2	02:12:34	" " " " "
AS6-2-1055	2	02:12:43	" " " " "
AS6-2-1056	2	02:12:52	" " " " "
AS6-2-1057	2	02:13:00	" " " " "
AS6-2-1058	2	02:13:09	" " " " "
AS6-2-1059	2	02:13:17	" " " " "
AS6-2-1060	2	02:13:26	" " " " "
AS6-2-1061	2	02:13:34	Malagasy Republic: west coast of Madagascar at Morondava; clouds, very dark.
AS6-2-1062	2	02:13:43	Same as above.
AS6-2-1063	2	02:13:52	" " "
AS6-2-1064	2	02:14:00	Malagasy Republic: inland from Morondava; clouds, very dark.
AS6-2-1065	2	02:14:09	Malagasy Republic: central Madagascar; clouds, land completely dark.
AS6-2-1066	2	02:14:17	Same as above.
AS6-2-1067	2	02:14:26	Malagasy Republic: central and eastern Madagascar; clouds, land completely dark.
AS6-2-1068	2	02:14:35	Malagasy Republic: Madagascar coastline on Indian Ocean at Manakara; clouds, land completely dark.
AS6-2-1069	2	02:14:43	Same as above.
AS6-2-1070	2	02:14:52	" " "
AS6-2-1071	2	02:15:00	Indian Ocean: red cloud tops.
AS6-2-1072	2	02:15:09	" " " " "
AS6-2-1073	2	02:15:18	" " " " "
AS6-2-1074	2	02:15:26	" " " " "
AS6-2-1075	2	02:15:35	" " " " "
AS6-2-1076	2	02:15:44	" " " " "
AS6-2-1077	2	02:15:52	" " " " "
AS6-2-1078	2	02:16:01	" " " " "
AS6-2-1079	2	02:16:10	" " " " "

Frames 1080 to 1399 were taken during the night pass, with no visible clouds, land, or ocean.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1434	2	03:07:28	Mexico: Baja California, Pacific Coast at Bahia Santa Maria, Sierra de Juarez, Sierra San Pedro Martir, Gulf of California coast at San Felipe, mouth of Colorado River; west half dark.
AS6-2-1435	2	03:07:37	Mexico: San Felipe; Gulf of California, Sierra de Juarez, Sierra San Pedro Martir, mouth of Colorado River, Bahia de Aduar, Great Sonoran Desert; west half dark.
AS6-2-1436	2	03:07:45	Mexico, Arizona: Gulf of California, mouth of Colorado River, Bahia de Aduar, Great Sonoran Desert, Pinacates volcanic field.
AS6-2-1437	2	03:07:54	Mexico, Arizona: Gulf of California, Bahia de Aduar, Bahia San Jorge, Great Sonoran Desert, Pinacates volcanic field, Rio Sonoyta, Organ Pipe Cactus National Monument.
AS6-2-1438	2	03:08:02	Mexico, Arizona: Gulf of California, Bahia de Aduar, Bahia San Jorge, Pinacates volcanic field, Rio Sonoyta, Organ Pipe Cactus National Monument.
AS6-2-1439	2	03:08:11	Mexico, Arizona: Sonoyta River, Organ Pipe Cactus National Monument, Baboquivari Mountains.
AS6-2-1440	2	03:08:20	Mexico, Arizona: Nogales, Tucson; Baboquivari Mountains, Coronado National Forest, copper mines.
AS6-2-1441	2	03:08:28	Mexico, Arizona: Nogales, Tucson; Coronado National Forest, San Pedro River, copper mines.
AS6-2-1442	2	03:08:37	Mexico, Arizona: Nogales, Tucson, Aqua Prieta; smokestack at Douglas, Willcox Dry Lake.
AS6-2-1443	2	03:08:45	Mexico, Arizona, New Mexico: Willcox, Nogales; smokestack at Douglas, Willcox Dry Lake, Animas Valley, Coronada National Forest, Peloncillo Mountains.
AS6-2-1444	2	03:08:54	Mexico, Arizona, New Mexico: Nogales, Douglas, Lordsburg, Peloncillo Mountains, Continental Divide, Animas Valley, Big and Little Hatchet Mountains.
AS6-2-1445	2	03:09:02	Mexico, Arizona, New Mexico: Lordsburg, Deming, Palomas; Animas Valley, Continental Divide, Big and Little Hatchet Mountains, Cedar Mountains, Florida and Tres Hermanas Mountains, Palomas volcanic field, mines at Silver City.
AS6-2-1447	2	03:09:20	Mexico, New Mexico, Texas: Deming, Palomas; Las Cruces, El Paso, Florida Mountains, East and West Potrillo Mountains, San Andres, Franklin and Juarez Mountains, Rio Grande.

PHOTO FRAME NUMBER	ORBIT (REVOLUTION)	GROUND ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1446	2	03:09:11	Mexico, New Mexico: Deming, Palomas; mines at Silver City, Cedar Mountains, Caballo Reservoir, Florida and Tres Hermanas Mountains, Palomas volcanic field.
AS6-2-1448	2	03:09:28	Mexico, New Mexico, Texas: Las Cruces, El Paso, Juarez, Alamogordo; Rio Grande, San Andres, Franklin and Organ Mountains, Sacramento Mountains, White Sands.
AS6-2-1449	2	03:09:37	Mexico, New Mexico, Texas: El Paso, Alamogordo; White Sands, Sacramento and Cornudas Mountains, Guadalupe Mountains, highest point in Texas, Salt Basin.
AS6-2-1450	2	03:09:46	New Mexico, Texas: Carlsbad, Sacramento and Cornudas Mountains, Guadalupe Mountains, highest point in Texas, Salt Basin, Pecos River.
AS6-2-1451	2	03:09:54	New Mexico, Texas: Carlsbad; Guadalupe Mountains, highest point in Texas, Salt Basin, Pecos River, Red Bluff Lake, Mescalero Escarpment.
AS6-2-1452	2	03:10:03	New Mexico, Texas: Hobbs; Pecos River, Red Bluff Lake, Mescalero Escarpment, Staked Plains, west Texas gas and oil fields.
AS6-2-1453	2	03:10:11	New Mexico, Texas: Hobbs, Andrews; Mescalero Escarpment, Staked Plains, west Texas gas and oil fields.
AS6-2-1454	2	03:10:20	New Mexico, Texas: Hobbs, Andrews, Odessa, Midland, Brownfield; Staked Plains, west Texas gas and oil fields.
AS6-2-1455	2	03:10:29	Texas: Midland, Brownfield, Big Spring: J. B. Thomas Lake, headwaters of Colorado and Brazos Rivers, west Texas gas and oil fields.
AS6-2-1456	2	03:10:37	Texas: Big Spring, Sweetwater; J. B. Thomas Lake, headwaters of Colorado River, forks of the Brazos River, west Texas gas and oil field.
AS6-2-1457	2	03:10:46	Texas: Snyder, Colorado City, Sweetwater, Abilene; J. B. Thomas Lake, junction forks of the Brazos River, west Texas gas and oil field.
AS6-2-1458	2	03:10:55	Texas: Abilene; junction forks of the Brazos River, Hubbard Creek Lake, Interstate 20.
AS6-2-1459	2	03:11:04	Texas: Abilene, Breckenridge; Brazos River, Hubbard Creek Lake, Possum Kingdom Lake, Interstate 20.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1460	2	03:11:12	Texas: Cisco, Graham, Weatherford: Brazos River, Hubbard Creek Lake, Possum Kingdom Lake, Lake Bridgeport, Interstate 20.
AS6-2-1461	2	03:11:21	Texas: Mineral Wells, Denton, Fort Worth: Brazos River, Trinity River drainage.
AS6-2-1462	2	03:11:30	Texas: Fort Worth-Dallas metropolitan area: Brazos and Trinity Rivers, Grapevine and Garza-Little Elm Reservoirs.
AS6-2-1463	2	03:11:38	Texas: Fort Worth-Dallas metropolitan area; Trinity River, Grapevine, Garza-Little Elm and Lavon Reservoirs, Cedar Lake and Lake Tawakoni.
AS6-2-1464	2	03:11:47	Texas: Dallas metropolitan area, McKinney, Greenville, Sulphur Springs; Cedar Lake, Lake Tawakoni, Trinity, Sabine and Sulphur Rivers .
AS6-2-1465	2	03:11:56	Texas: Greenville, Tyler, Longview; Cedar Lake, Lake Tawakoni, Sabine and Sulphur Rivers.
AS6-2-1466	2	03:12:04	Texas: Tyler, Longview, Marshall; Sabine and Sulphur Rivers, Caddo Lake, Texarkana Reservoir.
AS6-2-1467	2	03:12:13	Texas, Louisiana, Arkansas: Longview, Marshall, Shreveport, Texarkana; Sabine River, Red River, Texarkana Reservoir, Caddo Lake.
AS6-2-1468	2	03:12:21	Texas, Louisiana, Arkansas: Shreveport, Texarkana, El Dorado; Lake Caddo, Texarkana Reservoir, Red River; clouds.
AS6-2-1469	2	03:12:30	Texas, Louisiana, Arkansas: Minden, El Dorado; Red River; clouds.
AS6-2-1470	2	03:12:38	Louisiana, Arkansas: El Dorado; clouds.
AS6-2-1471	2	03:12:47	Louisiana, Arkansas: clouds.
AS6-2-1472	2	03:12:56	Louisiana, Arkansas, Mississippi: clouds.
AS6-2-1473	2	03:13:05	Mississippi: clouds.
AS6-2-1474	2	03:13:13	" "
AS6-2-1475	2	03:13:22	Mississippi, Alabama: clouds.
AS6-2-1476	2	03:13:30	Alabama: clouds.
AS6-2-1477	2	03:13:39	" "
AS6-2-1478	2	03:13:48	" "
AS6-2-1479	2	03:13:56	Alabama, Georgia: clouds.
AS6-2-1480	2	03:14:05	Georgia: clouds.
AS6-2-1481	2	03:14:14	Georgia: Macon; Ocmulgee River; clouds.
AS6-2-1482	2	03:14:22	Georgia: Macon, Dublin; Ocmulgee and Oconee Rivers; clouds.

FRAME NUMBER	(REVOLUTION)	ELAPSED TIME	LOCATION AND IDENTIFICATION
AS6-2-1483	2	03:14:31	Georgia: Dublin, Hazlehurst; Ocmulgee, Oconee and Altamah Rivers; clouds.
AS6-2-1484	2	03:14:40	Georgia: Baxley, Jessup; Altamaha River, Atlantic coast from Brunswick to Wassaw Sound; clouds.
AS6-2-1485	2	03:14:48	Georgia, South Carolina: Atlantic coast from Brunswick to Savannah; clouds.
AS6-2-1486	2	03:14:57	Georgia, South Carolina: Atlantic coast from Altamaha Sound to Savannah River; clouds.
AS6-2-1487	3	03:15:06	Atlantic Ocean, clouds, sun glint.
AS6-2-1488	3	03:15:14	" " " " "
AS6-2-1489	3	03:15:23	" " " " "
AS6-2-1490	3	03:15:32	" " " " "
AS6-2-1491	3	03:15:40	" " " " "
AS6-2-1492	3	03:15:49	" " " " "
AS6-2-1493	3	03:15:58	" " " " "
AS6-2-1494	3	03:16:06	" " " " "
AS6-2-1495	3	03:16:15	Atlantic Ocean, Gulf Stream, clouds, sun glint.
AS6-2-1496	3	03:16:24	Same as above.
AS6-2-1497	3	03:16:32	Atlantic Ocean, clouds, sun glint.
AS6-2-1498	3	03:16:41	" " " " "
AS6-2-1499	3	03:16:50	" " " " "
AS6-2-1500	3	03:16:59	" " " " "
AS6-2-1501	3	03:17:08	" " " " "
AS6-2-1502	3	03:17:17	" " " " "
AS6-2-1503	3	03:17:26	" " " " "
AS6-2-1504	3	03:17:34	" " " " "
AS6-2-1505	3	03:17:43	" " " " "
AS6-2-1506	3	03:17:52	" " " " "
AS6-2-1507	3	03:18:00	" " " " "
AS6-2-1508	3	03:18:09	" " " " "
AS6-2-1509	3	03:18:18	" " " " "
AS6-2-1510	3	03:18:27	" " " " "

11/14/68

APOLLO 7 PRELIMINARY REPORT

70mm. Photography Identification List

COMPLETED BY: Photographic Technology Laboratory (PL)
Operational Applications Office (PL4)

PHOTOGRAPHY BY: Captain Walter M. Schirra, USN
Major Donn F. Eisele, USAF
R. Walter Cunningham

LIFTOFF: 15:02:45 GMT, October 11, 1968
SPLASHDOWN: 11:12:30 GMT, October 22, 1968
DURATION: 260:09:45

This report is of a preliminary nature and subject to revision when more complete and accurate information is available.

CAMERA: Hasselblad 500-C (NASA Modified), 70mm. format, Part No. SEB-33100029-205, Serial No. 023.

LENS: Zeiss Planar, 80mm. focal length, f/2.8, Part No. SEB-33100029-205, Serial No. 023.

FILMS: Kodak SO-368, Medium Speed Ektachrome, ASA-64
Kodak SO-121, High Resolution Aerial Ektachrome, Aerial Exposure Index = 6
Kodak Type 3400, Fine Grain Panatomic-X Aerial, Aerial Exposure Index = 20
Size of Film = 70mm. Type 2 perforations, 2.5mils thick on polyester base

Information regarding processing of film is available in the Photographic Technology Laboratory.

FILTERS: Wratten 2A, lower limit of transmittance is 4100 Angstroms.
Wratten 25A (red), lower limit of transmittance is 5850 Angstroms.
Wratten 58 (green), transmittance in excess of 10% from 4950 Angstroms to 5800 Angstroms.

MAGAZINE	PART NUMBER	SERIAL NUMBER	MSC NUMBERS	FILM	FILTER
M	SEB-33100030-212	003	AS7-3-1511 to AS7-3-1557	SO-368	None
N	SEB-33100030-212	009	AS7-4-1558 to AS7-4-1612	SO-368	None
Q	SEB-33100030-212	010	AS7-5-1613 to AS7-5-1671	SO-121	2A
R	SEB-33100030-212	005	AS7-6-1672 to AS7-6-1737	SO-121	2A
S	SEB-33100029-203	003	AS7-7-1738 to AS7-7-1879	SO-121	2A

DESIGNATOR	PART NUMBER	SERIAL NUMBER	NSC NUMBERS	FILM	FILTER
R	SEB-33100030-212	020	AS7-8-1980 to AS7-8-1943	SO-121	2A
V	SEB-33100030-212	007	AS7-9-1944 to AS7-9-1948	3400	Not Known
U	SEB-33100030-212	001	AS7-10-1949 to AS7-10-1979	3400	Not Known
P	SEB-33100030-212	008	AS7-11-1980 to AS7-11-2043	SO-121	None

THE RELIABILITY OF DATA

The time, altitude, and positional data for the photos was extracted from pre-flight projected trajectory data prepared by Mission Planning and Analysis Division at intervals during the flight of Apollo 7. Each flight track was drawn on an Apollo Mission Plotting Chart, with the time and altitude noted each 45° of longitude. Real time checks with the Mission Operations Control Room display board indicated that the pre-flight data was sufficiently accurate for the scale of the map used, except for revolutions 104-128, and from about 150 to splashdown, wherein the times were as much as three or four minutes off, and the altitudes perhaps 10 or more nautical miles in error, a result of nonnominal SPS burns.

The sub-spacecraft point, generally within 10 minutes of latitude and longitude, was picked for each photograph where the terrain detail was sufficient to give an indication of direction and tilt. From the sub-spacecraft point the time and altitude was interpolated; the values are generally good within one minute and one nautical mile, within the limitations of the available data as noted above.

The latitude and longitude of the principal point of the photographs was plotted wherever possible. On photos with high oblique viewing angles or those containing only small portions of land, the locations of the center of the near land mass was plotted. The principal point values are generally accurate to within 10 minutes of latitude and longitude, except for those distant views where the accuracy is generally less. The sun angle was figured for the principal point, using a chart prepared by Flight Crew Support Division; the values are probably accurate to within two or three degrees.

A revision of the data, using more accurate, post-flight data, is planned.

Richard W. Underwood
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Norbert A. Tiedemann
Aerospace Technologist

MSC Form 1825
(Oct 68)(CR) APOLLO 7 Magazine "M"

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	CAMERA	ROLL	DATE	GMT	MET	OBJECT OR PHOTO LATITUDE	OBJECT OR PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	SUN ANGLE	AREA DESCRIPTION
1	AS7-3-1511	2	10/11/68	17:09	02:06			147	04°00'S	013°00'E		Out of focus, underexposed; Congo coast
2	-1512	2	"									Spacecraft window, underexposed
3	-1513	2	"									Urine dump
4	-1514	2	"									Spacecraft window, out of focus
5	-1515	2	"									Spacecraft window, out of focus
6	-1516	2	"									Spacecraft window, out of focus
7	-1517	2	"									Spacecraft window, out of focus
8	-1518	2	"									S-IVB, view of extended panels, debris; range 250'
9	-1519	2	"									S-IVB, view of extended panels, debris; range 350'
10	-1520	2	"									Underexposed
11	-1521	2	"									S-IVB over Pacific Ocean; range 500'
12	-1522	2	"									S-IVB over Pacific Ocean; range 550'
13	-1523	2	"									S-IVB over Pacific Ocean; range 525'
14	-1524	2	"									S-IVB over Pacific Ocean; range 500'
15	-1525	2	"									S-IVB over Pacific Ocean; range 475'
16	-1526	2	"									S-IVB over Pacific Ocean; range 400'
17	-1527	2	"									S-IVB over Pacific Ocean; range 325'
18	-1528	2	"	18:10	03:07	31°40'N	116°00'W	125	31°00'N	114°30'W	46°	S-IVB over Baja California; range 200'
19	-1529	2	"	18:11	03:08	30°30'N	114°20'W	125	31°00'N	112°30'W	47°	S-IVB over Baja California; range 175'
20	-1530	2	"	18:11	03:08	30°30'N	113°30'W	125	31°00'N	112°00'W	47°	S-IVB over Gulf of California; range 175'
21	-1531	2	"	18:11	03:08	30°40'N	112°40'W	125	31°30'N	111°00'W	47°	S-IVB over Sonora; range 150'
22	-1532	2	"	18:11	03:08	31°00'N	112°00'W	125	31°30'N	109°00'W	47°	S-IVB over Arizona; range 130'
23	-1533	2	"	18:12	03:09	31°00'N	107°30'W	125	31°30'N	107°00'W	48°	S-IVB over New Mexico; range 100'
24	-1534	2	"	18:12	03:09	30°30'N	106°30'W	125	31°00'N	105°30'W	48°	S-IVB over Texas, range 65'
25	-1535	2	"	18:12	03:09	31°00'N	104°00'W	125	31°00'N	103°00'W	48°	S-IVB over Texas; range 50'
26	-1536	2	"	18:13	03:10	31°00'N	84°00'W	126	31°40'N	103°00'W	48°	S-IVB over Texas; range 50'
27	-1537	2	"	18:13	03:10			126	31°40'N	102°00'W	49°	S-IVB over Texas; range 50'
28	-1538	2	"	18:14	03:11			126			50°	S-IVB over Houston; range 75'
29	-1539	2	"	18:15	03:12			126			50°	S-IVB over Houston; range 60'
30	-1540	2	"	18:16	03:13			126			50°	S-IVB over Louisiana; range 90'
31	-1541	2	"	18:16	03:13	31°00'N	90°00'W	126	31°20'N	89°00'W	49°	S-IVB over Mississippi; range 100'
32	-1542	2	"	18:17	03:14	30°00'N	88°00'W	126	31°00'N	87°00'W	49°	S-IVB over Mobile; range 110'
33	-1543	2	"	18:18	03:15	29°30'N	85°30'W	126	30°40'N	84°00'W	48°	S-IVB over Cape San Blas, Florida; range 110'
34	-1544	3	"	18:19	03:16	28°00'N	82°00'W	126	30°00'N	82°00'W	48°	S-IVB over Kennedy Space Center; range 125'
35	-1545	3	"	18:19	03:16	28°30'N	81°30'W	126	30°00'N	80°30'W	48°	S-IVB over Kennedy Space Center; range 125'
36	-1546	3	"	18:19	03:16	28°00'N	80°30'W	127	29°40'N	80°00'W	48°	S-IVB over Atlantic Ocean; range 125'
37	-1547	3	"									S-IVB over Atlantic Ocean; range 125'
38	-1548	3	"									S-IVB over Atlantic Ocean; range 125'
39	-1549	3	"									S-IVB over Atlantic Ocean; range 250'
40	-1550	3	"									S-IVB over Atlantic Ocean; range 300'
41	-1551	3	"									S-IVB over Atlantic Ocean; range 350'
42	-											Blank
43	-											Blank
44	-											Blank
45	-											Blank
46	-											Blank
47	-											Blank
48	-											Blank
49	-											Blank
50	-											Blank
51	-											Blank
52	-											Blank
53	-											Blank
54	-											Blank

MSC Form 2885
(Oct 68)(OMB)

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										SUN ANGLE	REMARKS
AS-7-[illegible]											Blank
											Patch window, fogged exposure
											Clouds
											Clouds
											Clouds over Pacific Ocean
											Clouds over Pacific Ocean
											Window with debris

MSC Form 1329
(Oct 67)(01) APOLLO 7 Magazine "N"

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Frame No.	Mag.	Date	GMT	Center of Photo Latitude	Center of Photo Longitude	Alt.	Subsatellite Latitude	Subsatellite Longitude	Sun Angle	Area Description
1										Blank
2										Capt. Schirra
3										Mr. Cunningham
4	9	10/22/68								Rendezvous with S-IVB; range 3500'
5	9	"								Rendezvous with S-IVB; range 2220'
6	9	"								Rendezvous with S-IVB; range 1800'
7	9	"								Rendezvous with S-IVB; range 1600'
8	10	"								Rendezvous with S-IVB; range 1400'
9	10	"								Rendezvous with S-IVB; range 1200'
10	10	"								Rendezvous with S-IVB; range 1000'
11	9	"								Rendezvous with S-IVB; range 850'
12	9	"								Rendezvous with S-IVB; range 700'
13	9	"								Rendezvous with S-IVB; range 550'
14	10	"								Rendezvous with S-IVB; range 400'
15	10	"								Rendezvous with S-IVB; range 300'
16	10	"								Rendezvous with S-IVB; range 250'
17	9	"								Rendezvous with S-IVB; range 200'
18	10	"								Rendezvous with S-IVB; range 150'
19	9	"								Rendezvous with S-IVB; range 125'
20	10	"								Rendezvous with S-IVB; range 100'
21	10	"								Rendezvous with S-IVB; range 75'
22	10	"								Rendezvous with S-IVB; range 50'
23	10	"								Rendezvous with S-IVB; range 25'
24	10	"								Rendezvous with S-IVB; range 0'
25	10	"								Rendezvous with S-IVB; range 220'
26	10	"								Rendezvous with S-IVB; range 325'
27	10	"								Rendezvous with S-IVB; range 300'
28										Window, badly fogged
29										Hatch window
30										Blank
31										Blank
32										Blank
33										Blank
34										Capt. Schirra
35										Maj. Eisele
36										Mr. Cunningham
37										Mr. Cunningham
38										Mr. Cunningham
39										Out of focus
40										Mr. Cunningham
41										Mr. Cunningham
42	141	10/22/68	23:21:22	16°00'S	145°15'W	119	18°40'S	143°00'W	62°	Tuamoto Archipelago, view southeast
43	141	"	23:21:37	15°30'S	144°00'W	123	18°20'S	142°00'W	63°	Tuamoto Archipelago: Rangiroa, Tikehau, Matahiva, Aratika
44	154	10/22/68	19:00:24	24°00'S	73°30'W	122	21°40'S	71°00'W	14°	Chile, Argentina: Atacama desert, Antofagasta, Andes Mts.
45	154	"	19:01:43	23°00'S	69°30'W	122	22°00'S	68°00'W	16°	Argentina, Chile, Bolivia: Salar de Atacama, Andes Mts. Paso Ch
46	154	"	19:56:03	31°00'S	51°00'W	105	27°00'S	52°30'W	60°	Brazil, Uruguay: Atlantic coast, Lagoa dos Patos, Lagoa Mirim
47	154	"	19:07:24	29°00'S	49°30'W	109	27°40'S	49°00'W	51°	Brazil: Atlantic coast, Rio Grande do Sul and Santa Catarina
48										Capt. Schirra
49										Mr. Cunningham
50										Blank
51	155									Brazil: Lagoa dos Patos; out of focus, with red filter
52	155									Christmas Island; out of focus
53										Maj. Eisele
54										Window, spacecraft interior
55										Window of spacecraft
56										Clouds, water; overexposed, poor image because of window
57	157	10/22/68	00:40:24:37	27°30'N	92°30'E	43	28°40'N	93°00'E	160	India, Tibet, Bhutan: Himalayas, Kangto Pk, Manas River
58	605									Overexposed
59	606									Underexposed

NSS Form 1915
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FRAME	ROLL	DATE	GMT	ET	LATITUDE	LONGITUDE OF	AMC.	SPACECRAFT ALTITUDE	SUN ANGLE	AREA DESCRIPTION
55	158	10/22/68	02:19	261:16:00	00°40'S	125°45'E	115	98°30'S	135°00'S	00 Indonesia: Biak and Supiori Islands
56	158		02:22	261:22:00	09°20'S	149°00'E	120	98°00'S	45°00'E	02 Papua: Pyle Ackland Bay, Cape Nelson, Solomon Sea
57	158		02:24	261:27:00	09°20'S	151°45'E	120	98°00'S	82°00'E	03 Woodlark Island, Solomon Sea
58	158		03:45	262:02:00	08°30'S	100°00'E	120	98°00'S	98°00'E	04 Thailand: Gulf of Siam coast at Nakhon Si Thammarat
59	158		03:50	262:07:00	08°00'S	102°00'E	120	98°00'S	81°00'E	05 Indonesia: Bangka Is and, Makassar Strait
60	158		03:53	262:10:00	09°30'S	124°00'E	120	97°00'S	121°00'E	06 Indonesia: Alor, Pantar, Lomblen, Adonara, Timor Islands

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Photographic Technology Laboratory
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														SUN ANGLE	AREA DESCRIPTION
	A37-[illegible]	672		41	10/11/68	07:56	64:33	21°30'N	87°00'E	122	21°00'N	88°00'E		50°	India: mouth of Hooghly River, Bay of Bengal
2		-10		42	"	07:57	64:34	21°30'N	87°00'E	122	21°00'N	88°00'E		50°	India: mouth of Hooghly River, Bay of Bengal
3		-11		42	"	07:57	64:34	21°30'N	86°00'E	122	20°30'N	86°00'E		49°	India, Pakistan: mouth of Baringate River, Bay of Bengal
4		-12		42	"	07:57	64:34	22°00'N	88°00'E	122	21°00'N	87°00'E		48°	Pakistan: mouths of the Ganges River, Bay of Bengal
5		-13		42	"	07:58	64:35	21°00'N	86°00'E	122	20°00'N	86°00'E		47°	Pakistan, Burma coast: Cox's Bazar to Yavu River mouth
6		-14		42	"	07:58	64:35	20°30'N	86°00'E	122	20°00'N	86°00'E		47°	Burma: Bay of Bengal coast at Akyab
7		-15		42	"	07:58	64:35	19°30'N	86°00'E	123	19°00'N	86°00'E		47°	Burma: Bay of Bengal coast, Cheduba Island
8		-16		42	"	07:59	64:35	19°30'N	86°00'E	123	19°00'N	86°00'E		47°	Burma: Bay of Bengal coast, Aroorey Bay, Cheduba Island
9		-17		42	"	07:59	64:35	16°30'N	96°30'E	124	17°30'N	96°00'E		41°	Burma: Rangoon, Hlaing River
10		-18		41	"	07:59	64:36	13°30'N	105°30'E	126	12°30'N	105°00'E		41°	Cambodia: Mekong River near Stung Treng
11		-19		40	"										Clouds
12		-20		41	"										Clouds
13		-21		41	"										Clouds
14		-22		41	"										Clouds
15		-23		41	"										Clouds
16		-24		41	"										Clouds
17		-25		41	"										Clouds
18		-26		41	"										Clouds, water
19		-27		41	"										Limb
20		-28		41	"										Limb
21		-29		42	"	08:12	65:46	27°00'N	13°00'E	129	29°00'N	06°00'W		25°	Morocco: coast near Ifni; overexposed
22		-30		42	"	08:57	65:54	31°20'N	33°40'E	124	31°30'N	28°00'E		48°	United Arab Republic: Nile Delta from Alexandria to Port Said
23		-31		42	"	08:57	65:54	30°10'N	32°10'E	124	30°20'N	31°00'E		51°	United Arab Republic: Nile Delta, Cairo, Gulf of Suez, Suez Canal
24		-32		42	"	08:58	65:55	29°30'N	32°40'E	124	29°40'N	31°00'E		55°	Sinai Peninsula, Red Sea, Gulf of Aqaba
25		-33		42	"	08:58	65:55	31°00'N	33°30'E	124	29°50'N	32°00'E		49°	Mediterranean coast, Suez Canal to Israel, Dead Sea
26		-34		42	"	08:58	65:55	28°30'N	34°30'E	124	28°40'N	33°00'E		52°	Sinai Peninsula, looking down Red Sea
27		-35		42	"	08:59	65:55	31°30'N	35°40'E	123	29°30'N	35°00'E		40°	Israel, Jordan: Dead Sea area
28		-36		42	"	09:00	65:56	30°00'N	46°40'E	121	30°10'N	46°00'E		50°	Iran, Iraq, Kuwait: mouth of Tigris-Euphrates Rivers, Zagros Mts
29		-37		42	"	09:00	65:56	31°00'N	47°30'E	121	30°00'N	47°00'E		48°	Iran, Iraq: mouth of Tigris-Euphrates River, Zagros Mts
30		-38		42	"	09:01	66:00	28°00'N	51°00'E	121	29°00'N	51°00'E		52°	Iran: Persian Gulf coast at Kangan, Zagros Mts
31		-39		42	"	09:01	66:00	27°30'N	52°00'E	121	29°00'N	53°00'E		52°	Iran: Persian Gulf coast south of Lar, Zagros Mts
32		-40		42	"	09:04	66:01	27°00'N	55°00'E	121	28°30'N	55°00'E		51°	Iran: Persian Gulf coast, Qeshm Island
33		-41		42	"	09:05	66:02	25°30'N	62°00'E	121	28°30'N	60°00'E		50°	Iran, Pakistan: Gulf of Oman coast, Makran Ranges
34		-42		42	"	09:08	66:05	22°30'N	69°00'E	122	26°00'N	68°00'E		47°	India: Gulf and Rann of Kutch
35		-43		42	"	09:09	66:06	21°00'N	73°00'E	122	25°00'N	70°00'E		46°	India: Gulf of Cambay
36		-44		42	"	09:20	66:17	09°30'N	115°30'E	137	10°00'N	117°00'E		69°	Indonesia: Sumbawa Island, Tambora Crater
37		-45		42	"	09:20	66:17	09°30'N	120°00'E	137	11°00'N	119°00'E		67°	Indonesia: east end of Sumba Island
38		-46		42	"										Clouds, water, reef
39		-47		42	"										Clouds, water
40		-48		42	"										Clouds, water
41		-49		43	"	10:38	67:35	16°40'N	54°40'E	124	15°40'N	54°00'E		41°	Muscat and Oman: Arabian Sea coast at Salalah
42		-50		44	"	11:56	68:53	28°30'N	16°00'W	124	31°40'N	16°00'E		50°	Canary Islands: Gran Canaria, Comera, Inner fo Santa Cruz
43		-51		44	"	11:56	68:53	28°30'N	13°30'W	124	31°30'N	12°00'E		52°	Canary Islands: Fuerteventura, Lanzerote; Morocco coast
44		-52		44	"	11:56	68:53	27°00'N	15°00'W	124	31°30'N	16°00'E		52°	Canary Islands: Fuerteventura; Morocco coast
45		-53		44	"	11:57	68:54	27°30'N	13°30'W	124	31°30'N	15°00'E		52°	Canary Islands: Fuerteventura, Lanzerote; Morocco
46		-54		44	"	12:10	69:07	14°40'N	32°20'W	124	14°40'N	32°30'E		43°	Sudan: Blue and White Nile below Khartoum
47		-55		44	"	12:10	69:07	14°30'N	33°00'W	124	14°20'N	33°30'E		43°	Sudan: Blue and White Nile below Khartoum
48		-56		44	"	12:11	69:08	11°40'N	37°20'W	125	11°00'N	36°00'E		32°	Ethiopia: Lake Tana
49		-57		45	"	14:48	71:45	25°00'N	96°00'W	125	30°30'N	95°00'W		28°	Texas: Gulf Coast, Corpus Christi to Freeport
50		-58		45	"	14:48	71:45	29°00'N	96°30'W	125	30°30'N	93°30'W		28°	Texas: Gulf Coast, Corpus Christi to Houston
51		-59		45	"	14:50	71:47	31°00'N	87°00'W	124	31°00'N	87°30'W		31°	Alabama, Florida: Pensacola, Mobile
52		-60		45	"	14:51	71:48	31°30'N	81°30'W	124	31°30'N	81°30'W		30°	Georgia, South Carolina: Atlantic coast at Savannah
53		-61		45	"	14:51	71:48	32°00'N	81°00'W	123	31°30'N	81°00'W		30°	Georgia, South Carolina: Atlantic coast at Savannah
54		-62		45	"	14:52	71:49	32°30'N	80°30'W	123	31°30'N	80°30'W		29°	Georgia, South Carolina: Atlantic coast, Savannah to Charleston
55		-63		45	"	14:52	71:49	32°30'N	80°30'W	123	31°30'N	79°30'W		29°	Georgia, South Carolina: Atlantic coast, Savannah to Charleston
56		-64		45	"										Clouds, water
57		-65		45	"										Clouds, water

MSC Form 1565
(Oct 69) (Cat)

APOLLO 7 Magazine O

Photographic Technology Laboratory
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Herbert A. Tiecemann

FRAME	LENS	PACE	ZULU	LAT	LONG	ALT.	SUN ANGLE	AREA DESCRIPTION
59								Clouds, water
60		L7	16:49	23°40'N	113°00'W	126	35°30'N	115°00'W
61		L7	17:55	23°20'N	109°20'W	124	30°30'N	109°30'W
62		L6	19:01	23°20'N	83°43'W	121	28°30'N	59°30'W
63		L6	19:01	23°20'N	83°43'W	121	28°30'N	59°30'W
64		L7	19:59	23°20'N	59°20'W	121	28°30'N	59°30'W
65		L7	19:59	23°20'N	59°20'W	121	28°30'N	59°30'W
66		L6	21:01	23°20'N	35°43'W	121	28°30'N	59°30'W
67		L6	21:01	23°20'N	35°43'W	121	28°30'N	59°30'W
68		L7	21:59	23°20'N	11°20'W	121	28°30'N	59°30'W
69		L7	21:59	23°20'N	11°20'W	121	28°30'N	59°30'W
70		L6	23:01	23°20'N	13°20'W	121	28°30'N	59°30'W
71		L6	23:01	23°20'N	13°20'W	121	28°30'N	59°30'W
72		L7	23:59	23°20'N	13°20'W	121	28°30'N	59°30'W
73		L7	23:59	23°20'N	13°20'W	121	28°30'N	59°30'W
74		L6	25:01	23°20'N	13°20'W	121	28°30'N	59°30'W
75		L6	25:01	23°20'N	13°20'W	121	28°30'N	59°30'W
76		L7	25:59	23°20'N	13°20'W	121	28°30'N	59°30'W
77		L7	25:59	23°20'N	13°20'W	121	28°30'N	59°30'W
78		L6	27:01	23°20'N	13°20'W	121	28°30'N	59°30'W
79		L6	27:01	23°20'N	13°20'W	121	28°30'N	59°30'W
80		L7	27:59	23°20'N	13°20'W	121	28°30'N	59°30'W
81		L7	27:59	23°20'N	13°20'W	121	28°30'N	59°30'W
82		L6	29:01	23°20'N	13°20'W	121	28°30'N	59°30'W
83		L6	29:01	23°20'N	13°20'W	121	28°30'N	59°30'W
84		L7	29:59	23°20'N	13°20'W	121	28°30'N	59°30'W
85		L7	29:59	23°20'N	13°20'W	121	28°30'N	59°30'W
86		L6	31:01	23°20'N	13°20'W	121	28°30'N	59°30'W
87		L6	31:01	23°20'N	13°20'W	121	28°30'N	59°30'W
88		L7	31:59	23°20'N	13°20'W	121	28°30'N	59°30'W
89		L7	31:59	23°20'N	13°20'W	121	28°30'N	59°30'W
90		L6	33:01	23°20'N	13°20'W	121	28°30'N	59°30'W
91		L6	33:01	23°20'N	13°20'W	121	28°30'N	59°30'W
92		L7	33:59	23°20'N	13°20'W	121	28°30'N	59°30'W
93		L7	33:59	23°20'N	13°20'W	121	28°30'N	59°30'W
94		L6	35:01	23°20'N	13°20'W	121	28°30'N	59°30'W
95		L6	35:01	23°20'N	13°20'W	121	28°30'N	59°30'W
96		L7	35:59	23°20'N	13°20'W	121	28°30'N	59°30'W
97		L7	35:59	23°20'N	13°20'W	121	28°30'N	59°30'W
98		L6	37:01	23°20'N	13°20'W	121	28°30'N	59°30'W
99		L6	37:01	23°20'N	13°20'W	121	28°30'N	59°30'W
100		L7	37:59	23°20'N	13°20'W	121	28°30'N	59°30'W
101		L7	37:59	23°20'N	13°20'W	121	28°30'N	59°30'W
102		L6	39:01	23°20'N	13°20'W	121	28°30'N	59°30'W
103		L6	39:01	23°20'N	13°20'W	121	28°30'N	59°30'W
104		L7	39:59	23°20'N	13°20'W	121	28°30'N	59°30'W
105		L7	39:59	23°20'N	13°20'W	121	28°30'N	59°30'W
106		L6	41:01	23°20'N	13°20'W	121	28°30'N	59°30'W
107		L6	41:01	23°20'N	13°20'W	121	28°30'N	59°30'W
108		L7	41:59	23°20'N	13°20'W	121	28°30'N	59°30'W
109		L7	41:59	23°20'N	13°20'W	121	28°30'N	59°30'W
110		L6	43:01	23°20'N	13°20'W	121	28°30'N	59°30'W
111		L6	43:01	23°20'N	13°20'W	121	28°30'N	59°30'W
112		L7	43:59	23°20'N	13°20'W	121	28°30'N	59°30'W
113		L7	43:59	23°20'N	13°20'W	121	28°30'N	59°30'W
114		L6	45:01	23°20'N	13°20'W	121	28°30'N	59°30'W
115		L6	45:01	23°20'N	13°20'W	121	28°30'N	59°30'W
116		L7	45:59	23°20'N	13°20'W	121	28°30'N	59°30'W
117		L7	45:59	23°20'N	13°20'W	121	28°30'N	59°30'W
118		L6	47:01	23°20'N	13°20'W	121	28°30'N	59°30'W
119		L6	47:01	23°20'N	13°20'W	121	28°30'N	59°30'W
120		L7	47:59	23°20'N	13°20'W	121	28°30'N	59°30'W
121		L7	47:59	23°20'N	13°20'W	121	28°30'N	59°30'W
122		L6	49:01	23°20'N	13°20'W	121	28°30'N	59°30'W
123		L6	49:01	23°20'N	13°20'W	121	28°30'N	59°30'W
124		L7	49:59	23°20'N	13°20'W	121	28°30'N	59°30'W
125		L7	49:59	23°20'N	13°20'W	121	28°30'N	59°30'W
126		L6	51:01	23°20'N	13°20'W	121	28°30'N	59°30'W
127		L6	51:01	23°20'N	13°20'W	121	28°30'N	59°30'W
128		L7	51:59	23°20'N	13°20'W	121	28°30'N	59°30'W
129		L7	51:59	23°20'N	13°20'W	121	28°30'N	59°30'W
130		L6	53:01	23°20'N	13°20'W	121	28°30'N	59°30'W
131		L6	53:01	23°20'N	13°20'W	121	28°30'N	59°30'W
132		L7	53:59	23°20'N	13°20'W	121	28°30'N	59°30'W
133		L7	53:59	23°20'N	13°20'W	121	28°30'N	59°30'W
134		L6	55:01	23°20'N	13°20'W	121	28°30'N	59°30'W
135		L6	55:01	23°20'N	13°20'W	121	28°30'N	59°30'W
136		L7	55:59	23°20'N	13°20'W	121	28°30'N	59°30'W
137		L7	55:59	23°20'N	13°20'W	121	28°30'N	59°30'W
138		L6	57:01	23°20'N	13°20'W	121	28°30'N	59°30'W
139		L6	57:01	23°20'N	13°20'W	121	28°30'N	59°30'W
140		L7	57:59	23°20'N	13°20'W	121	28°30'N	59°30'W
141		L7	57:59	23°20'N	13°20'W	121	28°30'N	59°30'W
142		L6	59:01	23°20'N	13°20'W	121	28°30'N	59°30'W
143		L6	59:01	23°20'N	13°20'W	121	28°30'N	59°30'W
144		L7	59:59	23°20'N	13°20'W	121	28°30'N	59°30'W
145		L7	59:59	23°20'N	13°20'W	121	28°30'N	59°30'W
146		L6	61:01	23°20'N	13°20'W	121	28°30'N	59°30'W
147		L6	61:01	23°20'N	13°20'W	121	28°30'N	59°30'W
148		L7	61:59	23°20'N	13°20'W	121	28°30'N	59°30'W
149		L7	61:59	23°20'N	13°20'W	121	28°30'N	59°30'W
150		L6	63:01	23°20'N	13°20'W	121	28°30'N	59°30'W
151		L6	63:01	23°20'N	13°20'W	121	28°30'N	59°30'W
152		L7	63:59	23°20'N	13°20'W	121	28°30'N	59°30'W
153		L7	63:59	23°20'N	13°20'W	121	28°30'N	59°30'W
154		L6	65:01	23°20'N	13°20'W	121	28°30'N	59°30'W
155		L6	65:01	23°20'N	13°20'W	121	28°30'N	59°30'W
156		L7	65:59	23°20'N	13°20'W	121	28°30'N	59°30'W
157		L7	65:59	23°20'N	13°20'W	121	28°30'N	59°30'W
158		L6	67:01	23°20'N	13°20'W	121	28°30'N	59°30'W
159		L6	67:01	23°20'N	13°20'W	121	28°30'N	59°30'W
160		L7	67:59	23°20'N	13°20'W	121	28°30'N	59°30'W
161		L7	67:59	23°20'N	13°20'W	121	28°30'N	59°30'W
162		L6	69:01	23°20'N	13°20'W	121	28°30'N	59°30'W
163		L6	69:01	23°20'N	13°20'W	121	28°30'N	59°30'W
164		L7	69:59	23°20'N	13°20'W	121	28°30'N	59°30'W
165		L7	69:59	23°20'N	13°20'W	121	28°30'N	59°30'W
166		L6	71:01	23°20'N	13°20'W	121	28°30'N	59°30'W
167		L6	71:01	23°20'N	13°20'W	121	28°30'N	59°30'W
168		L7	71:59	23°20'N	13°20'W	121	28°30'N	59°30'W
169		L7	71:59	23°20'N	13°20'W	121	28°30'N	59°30'W
170		L6	73:01	23°20'N	13°20'W	121	28°30'N	59°30'W
171		L6	73:01	23°20'N	13°20'W	121	28°30'N	59°30'W
172		L7	73:59	23°20'N	13°20'W	121	28°30'N	59°30'W
173		L7	73:59	23°20'N	13°20'W	121	28°30'N	59°30'W
174		L6	75:01	23°20'N	13°20'W	121	28°30'N	59°30'W
175		L6	75:01	23°20'N	13°20'W	121	28°30'N	59°30'W
176		L7	75:59	23°20'N	13°20'W	121	28°30'N	59°30'W
177		L7	75:59	23°20'N	13°20'W	121	28°30'N	59°30'W
178		L6	77:01	23°20'N	13°20'W	121	28°30'N	59°30'W
179		L6	77:01	23°20'N	13°20'W	121	28°30'N	59°30'W
180		L7	77:59	23°20'N	13°20'W	121	28°30'N	59°30'W
181		L7	77:59	23°20'N	13°20'W	121	28°30'N	59°30'W
182		L6	79:01	23°20'N	13°20'W	121	28°30'N	59°30'W
183		L6	79:01	23°20'N	13°20'W	121	28°30'N	59°30'W
184		L7	79:59	23°20'N	13°20'W	121	28°30'N	59°30'W
185		L7	79:59	23°20'N	13°20'W	121	28°30'N	59°30'W
186		L6	81:01	23°20'N	13°20'W	121	28°30'N	59°30'W
187		L6	81:01	23°20'N	13°20'W	121	28°30'N	59°30'W
188		L7	81:59	23°20'N	13°20'W	121	28°30'N	59°30'W
189		L7	81:59	23°20'N	13°20'W	121	28°30'N	59°30'W
190		L6	83:01	23°20'N	13°20'W	121	28°30'N	59°30'W
191		L6	83:01	23°20'N	13°20'W	121	28°30'N	59°30'W
192		L7	83:59	23°20'N	13°20'W	121	28°30'N	59°30'W
193		L7	83:59	23°20'N	13°20'W	121	28°30'N	59°30'W
194		L6	85:01	23°20'N	13°20'W	121	28°30'N	59°30'W
195		L6	85:01	23°20'N	13°20'W	121	28°30'N	59°30'W
196		L7	85:59	23°20'N	13°20'W	121	28°30'N	59°30'W
197		L7	85:59	23°20'N	13°20'W	121	28°30'N	59°30'W
198		L6	87:01	23°20'N	13°20'W	121	28°30'N	59°30'W
199		L6	87:01	23°20'N	13°20'W	121	28°30'N	59°30'W
200		L7	87:59	23°20'N	13°20'W	121	28°30'N	59°30'W
201		L7	87:59	23°20'N	13°20'W	121	28°30'N	59°30'W
202		L6	89:01	23°20'N	13°20'W	121	28°30'N	59°30'W
203		L6	89:01	23°20'N	13°20'W	121	28°30'N	59°30'W
204		L7	89:59	23°20'N	13°20'W	121	28°30'N	59°30'W
205		L7	89:59	23°20'N	13°20'W	121	28°30'N	59°30'W
206		L6	91:01	23°20'N	13°20'W	121	28°30'N	59°30'W
207		L6	91:01	23°20'N	13°20'W	121	28°30'N	59°30'W
208		L7	91:59	23°20'N	13°20'W	121	28°30'N	59°30'W
209		L7	91:59	23°20'N	13°20'W	121	28°30'N	59°30'W
210		L6	93:01	23°20'N	13°20'W	121	28°30'N	59°30'W
211		L6	93:01	23°20'N	13°20'W	121	28°30'N	59°30'W
212		L7	93:59	23°20'N	13°20'W	121	28°30'N	59°30'W
213		L7	93:59	23°20'N	13°20'W	121	28°30'N	59°30'W
214		L6	95:01	23°20'N	13°20'W	121	28°30'N	59°30'W
215		L6	95:01	23°20'N	13°20'W	121	28°30'N	59°30'W
216		L7	95:59	23°20'N	13°20'W	121	28°30'N	59°30'W
217		L7	95:59	23°20'N	13°20'W	121	28°30'N	59°30'W
218		L6	97:01	23°20'N	13°20'W	121	28°30'N	59°30'W
219		L6	97:01	23°20'N	13°20'W	121	28°30'N	59°30'W
220		L7	97:59	23°20'N	13°20'W	121	28°30'N	59°30'W
221		L7	97:59	23°20'N	13°20'W	121	28°30'N	59°30'W
222		L6	99:01	23°20'N	13°20'W	121	28°30'N	59°30'W
223		L6	99:01	23°20'N	13°20'W	121	28°30'N	59°30'W
224		L7	99:59	23°20'N	13°20'W	121	28°30'N	59°30'W
225		L7	99:59	23°20'N	13°20'W	121	28°30'N	59°30'W
226		L6	101:01	23°20'N	13°20'W	121	28°30'N	59°30'W
227		L6	101:01	23°20'N	13°20'W	121	28°30'N	59°30'W
228		L7	101:59	23°20'N	13°20'W	121	28°30'N	59°30'W
229		L7	101:59	23°20'N	13°20'W	121	28°30'N	59°30'W
230		L6	103:01	23°20'N	13°20'W	121	28°30'N	59°30'W
231		L6	103:01	23°20'N	13°20'W	121	28°30'N	59°30'W
232		L7	103:59	23°20'N	13°20'W	121	28°30'N	59°30'W
233		L7	103:59	23°20'N	13°20'W	121	28°30'N	59°30'W
234		L6	105:01	23°20'N	13°20'W	121	28°30'N	59°30'W
235		L6	105:01	23°20'N	13°20'W	121	28°30'N	59°30'W
236		L7	105:59	23°20'N	13°20'W	121	28°30'N	59°30'W
237		L7	105:59	23°20'N	13°20'W	121	28°30'N	59°30'W
238		L6	107:01	23°20'N	13°20'W	121	28°30'N	59°30'W
239		L6	107:01	23°20'N	13°20'W	121	28°30'N	59°30'W
240		L7	107:59	23°20'N	13°20'W	121	28°30'N	59°30'W
241		L7	107:59	23°20'N	13°20'W	121	28°30'N	59°30'W
242		L6	109:01	23°20'N	13°20'W	121	28°30'N	59°30'W
243		L6	109:01	23°20'N	13°20'W	121	28°30'N	59°30'W
244		L7	109:59	23°20'N	13°20'W	121	28°30'N	59°30'W
245		L7	109:59	23°20'N	13°20'W	121	28°30'N	59°30'W
246		L6	111:01	23°20'N	13°20'W	121	28°30'N	59°30'W
247		L6	111:01	23°20'N	13°20'W	121	28°30'N	59°30'W
248		L7	111:59	23°20'N	13°20'W	121	28°30'N	59°30'W
249		L7	111:59	23°20'N	13°20'W	121	28°30'N	59°30'W
250		L6	113:01	23°20'N	13°20'W	121	28°30'N	59°30'W
251		L6	113:01	23°20'N	13°20'W	121	28°30'N	59°30'W
252		L7	113:59	23°20'N	13°20'W	121	28°30'N	59°30'W
253		L7	113:59	23°20'N	13°20'W	121	28°30'N	59°30'W
254		L6	115:01	23°20'N	13°20'W	121	28°30'N	59°30'W
255		L6	115:01	23°20'N	13°20'W	121	28°30'N	59°30'W
256		L7	115:59	23°20'N	13°20'W	121	28°30'N	59°30'W
257		L7	115:59	23°20'N	13°20'W	121	28°30'N	59°30'W
258		L6	117:01	23°20'N	13°20'W	121	28°30'N	59°30'W
259		L6	117:01	23°20'N	13°20'W	121	28°30'N	59°30'W
260		L7	117:59	23°20'N	13°20'W	121	28°30'N	59°30'W
261		L7	117:59	23°20'N	13°20'W	121	28°30'N	59°30'W
262		L6	119:01	23°20'N	13°20'W	121	28°30'N	59°30'W
263		L6	119:01	23°20'N	13°20'W	121	28°30'N	59°30'W
264		L7	119:59	23°20'N	13°20'W	121	28°30'N	59°30'W
265		L7	119:59	23°20'N	13°20'W	121	28°30'N	59°30'W
266		L6	121:01	23°20'N	13°20'W	121	28°30'N	59°30'W
267		L6	121:01	23°20'N	13°20'W	121	28°30'N	59°30'W
268		L7	121:59	23°20'N	13°20'W	121	28°30'N	59°30'W
269		L7	121:59	23°20'N	13°20'W	121	28°30'N	59°30'W
270		L6	123:01	23°20'N	13°20'W	121	28°30'N	59°30'W
271		L6	123:01	23°20'N	13°20'W	121	28°30'N	59°30'W
272		L7	123:59	23°20'N	13°20'W	121	28°30'N	59°30'W
273		L7	123:59	23°20'N	13°20'W	121	28°30'N	59°30'W
274		L6	125:01	23°20'N	13°20'W	121	28°30'N	59°30'W
275		L6	125:01	23°20'N	13°20'W	121	28°30'N	59°30'W
276		L7	125:59	23°20'N	13°20'W	121	28°30'N	59°30'W
277		L7	125:59	23°20'N	13°20'W	121	28°30'N	59°30'W
278		L6	127:01	23°20'N	13°20'W	121	28°30'N	59°30'W
279		L6	127:01	23°20'N	13°20'W	121	28°30'N	59°30'W
280		L7	127:59	23°20'N	13°20'W	121	28°30'N	59°30'W
281		L7	127:59	23°20'N	13°20'W	121	28°30'N	59°30'W
282		L6	129:01	23°20'N	13°20'W	121	28°30'N	59°30'W
283		L6	129:01	23°20'N	13°20'W	121	28°30'N	59°30'W
284		L7	129:59	23°20'N	13°20'W	121	28°30'N	59°30'W
285		L7	129:59	23°20'N	13°20'W	121	28°30'N	59°30'W
286		L6	131:01	23°20'N	13°20'W	121	28°30'N	59°30'W
287		L6	131:01	23°20'N	13°20'W	121	28°30'N	59°30'W
288		L7	131:59	23°20'N	13°20'W	121	28°30'N	59°30'W
289		L7	131:59	23°20'N	13°20'W	121	28°30'N	59°30'W
290		L6	133:01	23°20'N	13°20'W	121	28°30'N	59°30'W
291		L6	133:01	23°20'N	13°20'W	121	28°30'N	59°30'W
292		L7	133:59	23°20'N	13°20'W	121	28°30'N	59°30'W
293		L7	133:59	23°20'N	13°20'W	121	28°30'N	59°30'W
294		L6	135:01	23°20'N	13°20'W	121	28°30'N	59°30'W
295		L6	135:01	23°20'N	13°20'W	121	28°30'N	59°30'W
296		L7	135:59	23°20'N	13°20'W	121	28°30'N	59°30'W
297		L7	135:59	23°20'N	13°20'W	121	28°30'N	59°30'W
298		L6	137:01	23°20'N	13°20'W	121	28°30'N	59°30'W
299		L6	137:01	23°20'N	13°20'W	121	28°30'N	59°30'W
300		L7	137:59	23°20'N	13°20'W	121	28°30'N	59°30'W
301		L7	137:59	23°20'N	13°20'W	121	28°30'N	59°30'W
302		L6	139:01	23°20'N	13°20'W	121	28°30'N	59°30'W
303		L6	139:01	23°20'N	13°20'W	121	28°30'N	59°30'W
304		L7	139:59	23°20'N	13°20'W	121	28°30'N	59°30'W
305		L7	139:59	23°20'N	13°20'W	121	28°30'N	59°30'W
306		L6	141:01	23°20'N	13°20'W	121	28°30'N	59°30'W
307		L6	141:01	23°20'N	13°20'W	121	28°30'N	59°30'W
308		L7	141:59	23°20'N	13°20'W	121	28°30'N	59°30'W
309		L7	141:59	23°20'N	13°20'W	121	28°30'N	59°30'W
310		L6	143:01	23°20'N	13°20'W	121	28°30'N	59°30'W
311		L6	143:01	23°20'N	13°20'W	121	28°30'N	59°30'W
312		L7	143:59	23°20'N	13°20'W	121	28°30'N	59°30'W
313		L7	143:59	23°20'N	13°20'W	121	28°30'N	59°30'W
314		L6	145:01	23°20'N	13°20'W	121	28°30'N	59°30'W
315		L6	145:01	23°20'N	13°20'W	121	28°30'N	59°30'W
316		L7	145:59	23°20'N	13°20'W	121	28°30'N	59°30'W
317		L7	145:59	23°20'N	13°20'W	121	28°30'N	59°30'W
318		L6	147:01	23°20'N	13°20'W	121	28°30'N	59°30'W
319		L6	147:01	23°20'N	13°20'W	121	28°30'N	59°30'W
320		L7	147:59	23°20'N	13°20'W	121	28°30'N	59°30'W
321		L7	147:59	23°20'N	13°20'W	121	28°30'N	59°30'W
322		L6	149:01	23°20'N	13°20'W	121	28°30'N	59°30'W
323		L6	149:01	23°20'N	13°20'W	121	28°30'N	59°30'W
324		L7	149:59	23°20'N	13°20'W	121	28°30'N	59°30'W
325		L7	149:59	23°20'N	13°20'W	121	28°30'N	59°30'W
326		L6	151:01	23°20'N	13°20'W	121	28°30'N	59°30'W
327		L6	151:01	23°20'N	13°20'W	121	28°30'N	59°30'W
328		L7	151:59	23°20'N	13°20'W	121	28°30'N	59°30'W
329		L7	151:59	23°20'N	13°20'W	121	28°30'N	59°30'W
330		L6	153:01	23°20'N	13°20'W	121	28°30'N	59°30'W
331		L6	153:01	23°20'N	13°20'W	121	28°30'N	59°30'W
332		L7	153:59	23°20'N	13°20'W	121	28°30'N	59°30'W
333		L7	153:59	23°20'N	13°20'W	121	28°30'N	59°30'W
334		L6	155:01	23°20'N	13°20'W	121	28°30'N	59°30'W
335		L6	155:01	23°20'N	13°20'W	121	28°30'N	59°30'W
336		L7	155:59	23°20'N	13°20'W	121	28°30'N	59°30'W
337		L7	155:59	23°20'N	13°20'W	121	28°30'N	59°30'W
338		L6	157:01	23°20'N	13°20'W	121	28°30'N	59°30'W
339		L6	157:01	23°20'N	13°20'W	121	28°30'N	59°30'W
340		L7	157:59	23°20'N	13°20'W	121	28°30'N	59°30'W
341		L7	157:59	23°20'N	13°20'W	121	28°30'N	59°30'W
342		L6	159:01	23°20'N	13°20'W	121	28°30'N	59°30'W
343		L6	159:01	23°20'N	13°20'W	121	28°30'N	59°30'W
344		L7	159:59	23°20'N	13°20'W	121	28°30'N	59°30'W
345		L7	159:59	23°20'N	13°20'W	121	28°30'N	59°30'W
346		L6	161:01	23°20'N	13°20'W	121	28°30'N	59°30'W
347		L6	161:01	23°20'N	13°20'W	121	28°30'N	59°30'W
348		L7	161:59	23°20'N	13°20'W	121	28°30'N	59°30'W
349		L7	161:59	23°20'N	13°20'W	121	28°30'N	59°30'W
350		L6	163:01	23°20'N	13°20'W	121	28°30'N	59°30'W
351		L6	163:01	23°20'N	13°20'W	121	28°30'N	59°30'W
352		L7	163:59	23°20'N	13°20'W	121	28°30'N	59°30'W
353		L7	163:59	23°20'N	13°20'W	121	28°30'N	59°30'W
354		L6	165:01	23°20'N	13°20'W	121	28°30'N	59°30'W
355		L6	165:01	23°20'N	13°20'W	121	28°30'N	59°30'W
356		L7	165:59	23°20'N	13°20'W	121	28°30'N	59°30'W
357		L7	165:59	23°20'N	13°20'W	121	28°30'N	59°30'W
358		L6	167:01	23°20'N	13°20'W	121	28°30'N	59°30'W
359		L6	167:01	23°20'N	13°20'W	121	28°30'N	59°30'W
360		L7	167:59	23°20'N	13°20'W	121	28°30'N	59°30'W
361		L7	167:59	23°20'N	13°20'W	121	28°30'N	59°30'W
362		L6	169:01	23°20'N	13°20'W	121	28°30'N	59°30'W
363		L6	169:01	23°20'N	13°20'W	121	28°30'N	59°30'W
364		L7	169:59	23°20'N	13°20'W	121	28°30'N	59°30'W
365		L7	169:59	23°20'N	13°20'W	121	28°30'N	59°30'W
366		L6	171:01	23°20'N	13°20'W	121	28°30'N	59°30'W
367		L6	171:01	23°20'N	13°20'W	121	28°30'N	59°30'W
368		L7	171:59	23°20'N	13°20'W	121	28°30'N	59°30'W
369		L7	171:59	23°20'N	13°20'W	121	28°30'N	59°30'W
370		L6	173:01	23°20'N	13°20'W	121	28°30'N	59°30'W
371		L6	173:01	23°20'N	13°20'W	121	28°30'N	59°30'W
372		L7	173:59	23°20'N	13°20'W	121	28°30'N	59°30'W
373		L7	173:59	23°20'N	13°20'W	121	28°30'N	59°30'W
374		L6	175:01	23°20'N	13°20'W	121	28°30'N	59°30'W
375		L6	175:01	23°20'N	13°20'W	121	28°30'N	59°30'W
376		L7	175:59	23°20'N	13°20'W	121	28°30'N	59°30'W
377		L7	175:59	23°20'N	13°20'W	121	28°30'N	59°30'W
378		L6	177:01	23°20'N	13°20'W	121	28°30'N	59°30'W
379		L6	177:01	23°20'N	13°20'W	121	28°30'N	59°30'W
380		L7	177:59	23°20'N	13°20'W	121	28°30'N	59°30'W
381		L7	177:59	23°20'N	13°20'W	121	28°30'N	59°30'W
382		L6	179:01	23°20'N	13°20'W	121	28°30'N	59°

NHQ Form 1025
(Oct 63)(OS)

APOLLO 7
Magazine P

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME NUMBER	DAY	DATE	GMT	GET	LATITUDE	LONGITUDE	ALT.	SUN ANGLE	AREA DESCRIPTION
1		8	10/20/68	03:02	11:59	30°00'N	86°10'E	125	25°	82°00'E	Nepal, India, Tibet: Himalayas, view east from 85°E, Ganges R
2			8	"	03:02	11:59	25°00'N	85°00'E	125	34°30'N	82°00'E	Nepal, India, Tibet: Himalayas, view east from 85°E, Ganges R
3			8	"	03:03	12:00	22°30'N	83°30'E	125	29°00'N	96°00'E	Nepal, India, Tibet: Himalayas, view east from 83°30'E
4			8	"	03:03	12:00	20°00'N	82°00'E	125	23°00'N	84°00'E	India, Bhutan, Tibet: mine eyes, view east from 82°
5			8	"	03:12	12:10	32°30'N	132°30'E	125	34°00'N	122°00'E	Japan: Kyushu, Nagoshima, Kagosak.
6			8	"	03:13	12:10	31°30'N	130°30'E	125	33°00'N	120°00'E	Japan: Kyushu, Miyazaki, Kirishima National Park
7			8	"	03:13	12:10	31°00'N	131°00'E	125	32°30'N	122°00'E	Japan: Kyushu, Miyazaki, Kirishima National Park
8											Cloud cells over water
9			8	"	04:25	13:22	22°40'N	37°05'E	129	15°20'N	41°00'E	Ethiopia, Somali, Yemen, South Arabia: Red Sea, Gulf of Aden
10			8	"	04:25	13:22	18°00'N	40°00'E	129	10°40'N	44°00'E	Yemen, South Arabia: Red Sea, Farasan Islands
11			8	"	04:26	13:23	19°00'N	40°30'E	130	11°00'N	46°00'E	Saudi Arabia: Empty Quarter, Jebel Tuwy
12			8	"	04:28	13:25	31°00'N	50°00'E	129	21°00'N	53°00'E	Saudi Arabia, Trucial States: view north east across Persian Gu
13			8	"	04:36	13:33	20°30'N	69°00'E	129	10°30'N	70°30'E	India, Laccadive Islands, view east from 77°
14			8	"	04:36	13:33	30°45'N	80°00'E	129	20°30'N	86°00'E	Tibet: Tibet Plateau, mine eyes, Gurla Mandata
15			8	"	04:37	13:34	30°30'E	85°30'E	129	21°00'N	87°00'E	Tibet: Tibet Plateau, Yeru Tsangpo, Dzak district River
16											Blank
17				"							Out of focus, overexposed
18				"							Out of focus
19			9	"	04:59	13:56	11°00'N	157°30'E	128	1°30'N	166°00'E	21° Marshall Islands: Ailinglae and Rongelap Atoll's
20			9	"	04:59	13:56	07°00'N	172°00'E	128	3°00'N	171°00'E	19° Marshall Islands: Maloro, Arno, Mili Atolls
21			10	"	03:56	14:53	17°30'N	23°00'E	131	13°00'N	23°00'E	21° Chad, Sudan, Libya: Ennedi Plateau, Wadi Valley, south of
22			10	"	05:56	14:55	21°40'N	32°30'E	130	22°20'N	30°00'E	28° United Arab Republic: Nile River, Lake Nasser
23			10	"	05:59	14:56	28°30'N	34°00'E	129	24°40'N	36°00'E	27° United Arab Rep., Israel, Saudi Arabia: Red Sea area, View
24			10	"	06:00	14:57	24°30'N	37°00'E	128	24°40'N	37°00'E	29° Saudi Arabia: Red Sea, Ras Abu Madd
25			10	"	06:05	15:02	29°00'N	50°30'E	126	25°40'N	50°00'E	35° Iran: Persian Gulf coast, Bushire
26			11	"	07:36	16:33	31°00'N	35°15'E	20	30°50'N	30°00'E	8° United Arab Republic, Israel: Nile Delta, Suez Canal
27											Clouds, underexposed
28											
29			12	"	10:37	19:34	30°00'N	11°00'E	126	31°00'N	07°00'W	43° Morocco: Ras Chir, remarkable cloud no terra, underexposed
30			12	"	10:44	19:41	31°00'N	30°30'E	26	30°50'N	29°00'E	47° United Arab Republic, Israel: Nile Delta, underexposed
31			13	"	10:45	19:42	32°00'N	33°00'E	26	32°00'N	32°00'E	48° Mediterranean coast area, Suez Canal to Jordan, Syria, and
32			13	"	10:45	19:42	30°30'N	32°40'E	126	29°00'N	34°00'E	47° United Arab Republic, Israel: Suez Canal, Sinai Peninsula
33			13	"	10:45	19:42	31°00'N	32°00'E	27	29°00'N	33°00'E	46° United Arab Republic, Israel: Suez Canal, Sinai Peninsula
34			13	"	10:46	19:43	31°00'N	35°15'E	27	29°50'N	34°00'E	50° Israel, Jordan, Syria, Lebanon: underexposed
35			13	"	10:46	19:43	29°30'N	36°00'E	127	29°00'N	35°00'E	49° Israel, Jordan, Saudi Arabia, Gulf of Aqaba
36			14	"	12:09	21:05	28°00'N	16°00'W	125	31°40'N	14°00'W	32° Canary Islands, Fuerteventura
37			14	"	12:09	21:06	30°00'N	16°30'W	125	31°40'N	15°00'W	5° Morocco: Ras Bojir, remarkable cloud patterns
38											
39			15	"	14:59	23:56	24°30'N	97°30'W	127	26°00'N	98°30'W	8° Mexico: Tamaulipas, south end of Laguna Madre
40			15	"	15:03	24:00	28°00'N	82°30'W	126	28°30'N	84°00'W	42° Florida: Tampa, St. Petersburg, Gulf of Mexico
41			15	"	15:04	24:01	28°20'N	80°30'W	126	30°30'N	81°30'W	29° Florida: east coast, Ponce de Leon Inlet to Miami
42			15	"	15:04	24:01	26°00'N	81°00'W	126	30°30'N	81°30'W	41° Florida: west coast, Flagler Beach to Melbourne
43			17	"	18:05	27:02	34°20'N	120°30'W	126	31°10'N	120°30'W	26° California: Newport Beach to Point Arguello, San Channel Islands
44			17	"	18:05	27:02	31°20'N	117°00'W	126	31°10'N	117°30'W	42° California: Oceanside to Point Arguello, Mojave Desert
45			17	"	18:06	27:03	33°20'N	118°30'W	125	31°20'N	118°30'W	42° California: La Jolla to Santa Barbara
46			17	"	18:06	27:03	34°40'N	119°00'W	125	31°30'N	117°00'W	42° California: Oceanside to Point Fugo, San Joaquin Valley
47			17	"	18:06	27:03	33°20'N	115°40'W	125	31°30'N	116°00'W	43° California, Mexico: Salton Sea, Imperial Valley Baja Cal
48			17	"	18:06	27:03	31°20'N	113°00'W	125	31°40'N	113°30'W	45° Mexico, Arizona: Sonora, Tucson, Willcox Lake, Pinacates
49			17	"	18:07	27:04	31°20'N	114°00'W	125	31°40'N	114°40'W	45° Mexico, Arizona: Sonora, Pinacates, Gulf of California
50			17	"	18:07	27:04	31°20'N	113°30'W	125	31°40'N	114°20'W	45° Mexico, Arizona: Sonora, Pinacates, Gulf of California
51			17	"	18:07	27:04	29°20'N	113°00'W	125	31°40'N	113°30'W	46° Mexico: Sonora, Baja California, Guaymas
52			17	"	18:07	27:05	31°00'N	107°00'W	125	31°40'N	108°00'W	47° Mexico, Texas, New Mexico: Chihuahua, Laguna Guzman
53			17	"	18:09	27:06	32°40'N	106°30'W	125	31°40'N	107°00'W	47° New Mexico: White Sands area, Sacramento Mts.
54			17	"	18:09	27:06	31°40'N	104°40'W	124	31°20'N	105°00'W	47° New Mexico, Texas: Sacramento and Guadalupe Mts., Pecos Valley
55			17	"	18:09	27:06	33°00'N	103°30'W	124	31°40'N	103°00'W	48° New Mexico, Texas: Llano Estacado, Lubbock, Cap Rock Escarp
56			17	"	18:10	27:07	31°20'N	103°00'W	124	31°40'N	102°30'W	48° New Mexico, Texas: Seguea, Fecos, Pecos River Valley
57			17	"	18:11	27:08	30°00'N	94°30'W	124	29°30'N	95°30'W	50° Texas, Louisiana: Gulf Coast, Sabine Pass, Galveston Bay
58			17	"	18:12	27:09	29°00'N	93°15'W	24	31°30'N	94°30'W	50° Texas, Louisiana: Gulf Coast, Sabine Pass to Vermilion Bay

MSC Form 1025
(Oct 67)(ec)

APOLLO 7 Magazine P

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

									SUN ANGLE	AREA DESCRIPTION
										Louisiana: New Orleans, L. Pontchartrain, Biloxi, Mississippi R.
										Florida: Tampa, St Petersburg area
										Florida: New Smyrna to Palm Bayou, Kennedy Space Center
										Florida: Titusville to Jupiter
										Grand Bahama and Great Abaco Islands
										Grand Bahama and Great Abaco Islands
										Dust specks, glare inside spacecraft
										Water window inside spacecraft

NSC Form 2595
(Oct 67)(XC)

Apollo 7
Magazine Q

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

ROLL	FRAME	DATE	GMT	ALT.	CENTRAL POINT LAT.	CENTRAL POINT LONG.	AZ.	SUN ANGLE	SUN AZIMUTH	AREA DESCRIPTION
	24	10/4/68	04:23	37:20	20°00'N	54°30'E	137	28°00'N	42°30'E	Saudi Arabia: Red Sea coast at Al Lith
	25	"	04:24	37:21	23°40'N	53°50'E	131	27°20'N	39°30'E	Saudi Arabia: Lobe, Muwaila, south of Ar Rivad
	26	"	04:25	37:23	27°00'N	51°30'E	126	25°00'N	34°30'E	Iran: Persian gulf coast, Lasam Island
	27	"	04:27	37:27	26°30'N	50°30'E	117	25°00'N	33°00'E	Pakistan: Kirther and Makran Ranges
	28	"	04:28	37:29	31°30'N	51°30'E	111	28°30'N	34°30'E	Iraq: Karun oilfields area
	29	"								Blank
	30	"	04:48	37:40	25°00'N	28°00'E	122	8°30'N	12°00'E	Canary Islands: Tenerife, Ferro, Morocco
	31	"	05:51	38:36	19°00'N	17°00'E	114	3°00'N	5°00'E	Niger: Grand Erg, sand dunes
	32	"	05:52	38:40	20°00'N	15°30'E	113	2°30'N	4°00'E	Chad: Tibesti Mts, Emi Koussi volcano
	33	"	05:54	38:51	23°30'N	26°30'E	120	2°30'N	25°00'E	United Arab Republic: Gilf Kebir Plateau
	34	"	05:56	38:53	28°20'N	33°00'E	118	2°30'N	31°00'E	Sinai Peninsula, from Gulf of Suez to Dead Sea
	35	"	05:58	38:56	29°00'N	34°00'E	116	2°30'N	32°00'E	Israel: Persian Gulf coast
	36	"	06:06	39:02	26°00'N	50°00'E	104	2°30'N	51°00'E	Kuwait, Kuwait, Iraq: Fire dyes, looks north east from Kuwait, Persian Gulf
	37	"	06:14	39:11	21°00'N	116°30'E	125	33°00'N	114°30'E	China: coast, ne east of Hong Kong, Han River
	38	"	06:17	39:14	19°00'N	121°00'E	127	69°30'N	121°00'E	Philippine Islands: North Luzon Coast, between 2 areas
										Blank
										Blank
	33	"	19:35	52:32	26°40'N	113°00'W	122	59°00'N	179°30'W	Mexico: south half of Baja California
	32	"	19:35	52:32	29°00'N	115°00'W	122	62°00'N	179°00'W	Mexico: Baja California, Long Span El Mirlo to San Luis Island
	33	"	19:36	52:33	28°40'N	114°00'W	122	60°30'N	177°30'W	Mexico: canyon, Baja California, mainland north of Guaymas
	32	"	19:35	52:32	28°40'N	112°30'W	122	60°30'N	176°00'W	Mexico: Baja California, Tiburon Island, mainland north of Guaymas
	33	"	19:35	52:33	27°30'N	111°00'W	122	59°00'N	174°30'W	Mexico: Baja California, La Paz, mainland at Guaymas
	33	"	19:38	52:35	24°40'N	107°00'W	120	55°00'N	170°00'W	Mexico: Gulf Coast, south end of Laguna Madre
	33	"	19:38	52:35	24°20'N	97°00'W	123	55°00'N	167°00'W	Mexico: Gulf Coast, south end of Laguna Verde
	33	"	19:42	52:37	21°30'N	89°30'W	123	52°00'N	165°00'W	Mexico: north coast of Yucatan, Merida
	33	"	19:42	52:37	21°30'N	89°30'W	123	52°00'N	165°00'W	Mexico: north coast of Yucatan, Merida
	33	"	19:41	52:38	20°40'N	87°15'W	123	51°00'N	164°00'W	Mexico: northeast tip of Yucatan, Puerto Juarez
	34	"	19:45	52:42	12°30'N	72°15'W	126	39°00'N	128°00'W	Colombia, Venezuela: Peninsula de Guajira, Golfo de Venezuela
	34	"	19:45	52:42	12°30'N	71°30'W	128	40°00'N	128°00'W	Colombia, Venezuela: Peninsula de Guajira, Golfo de Venezuela
	34	"	19:46	52:43	12°00'N	70°30'W	130	41°00'N	128°00'W	Venezuela: Peninsula de Paraguana, Gulf of Venezuela, Maracaibo
	34	"	19:46	52:43	10°30'N	68°30'W	130	40°00'N	128°00'W	Venezuela: coast, ne, Puerto Cabello, Lake Valencia
	34	"	19:47	52:44	11°00'N	64°30'W	130	40°00'N	128°00'W	Venezuela: coast at Peninsula de Araya, Cumana
	34	"	19:47	52:40	08°00'N	64°00'W	130	38°00'N	128°00'W	Venezuela: Orinoco River, Ciudad Bolivar, Rio Caroni
	34	"								Clouds, remarkable frontal patterns
	34	"	21:10	54:07	23°00'N	108°00'W	123	69°30'N	178°00'W	Mexico: centre Baja California
	34	"	21:10	54:07	23°00'N	110°00'W	123	69°30'N	178°00'W	Mexico: southern Baja California
	34	"	21:12	54:09	21°00'N	106°00'W	124	66°30'N	174°30'W	Mexico: Puerto Vallarta
	34	"	21:12	54:09	19°00'N	104°30'W	124	66°00'N	173°00'W	Mexico: Puerto Vallarta to Manzanillo
	34	"	21:12	54:09	17°00'N	102°00'W	124	63°00'N	169°00'W	Mexico: Bahia de Petacalco
	34	"	21:13	54:10	17°30'N	101°00'W	125	63°30'N	169°00'W	Mexico: Bahia de Petacalco
	34	"	21:13	54:10	17°00'N	100°00'W	125	63°30'N	169°00'W	Mexico: Acapulco
	34	"	21:13	54:10	16°40'N	99°00'W	126	63°30'N	169°00'W	Mexico: Acapulco to Tecpanaca
										Blank
	26	"	23:40	56:45	24°00'N	119°00'E	121	25°30'N	117°00'E	China: coast at Quemoy Island
	26	"	23:40	56:45	24°00'N	119°30'E	121	25°40'N	118°00'E	China: coast at Quemoy Island
	39	10/4/68	02:43	59:40			126			Saudi Arabia: Empty Quarter, sand dunes
	38	"	02:43	59:40	22°00'N	61°30'E	130	16°00'N	61°00'E	Saudi Arabia, Trucial States: coast at Abu Dhabi
	39	"	02:44	59:41	22°00'N	60°30'E	131	15°00'N	60°00'E	Muscat and Oman: Oman Ranges
	38	"	02:45	59:42	24°30'N	60°00'E	131	21°00'N	61°00'E	Muscat and Oman: Oman Ranges: coast of Iran in background
	39	"	02:46	59:43	25°00'N	61°00'E	130	21°00'N	61°00'E	Pakistan: Kirther and Makran Ranges, Indus River
	38	"	02:47	59:44	25°00'N	67°00'E	130	24°00'N	66°00'E	Pakistan: Karachi, Kirther and Pab Ranges, Indus River
	38	"	02:58	59:55	32°00'N	119°00'E	124	31°00'N	117°00'E	China: Hsiang-Yang, Han River
	38	"	02:59	59:55	36°00'N	120°00'E	123	31°00'N	118°00'E	China: Shantung Peninsula
	38	"	03:02	59:58	31°30'N	130°00'E	94	30°00'N	127°00'E	Japan: south en tip of Kyushu
										Blank, ocean
	39	"	04:15	61:12	21°00'N	57°00'E	103	10°00'N	57°00'E	Yemen: Red Sea coast at Ras Abu Sheera
	39	"	04:17	61:20	34°00'N	64°00'E	127	16°30'N	63°30'E	Afghanistan: Kabul, Panjshir River, Band-i-Baba Ra

NSS Form 1205
(Oct 69)(Old)

APOLLO 7 Magazine Q

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	ROLL	ROLL NO.	DATE	GMT	DOP	CENTER OF FRAME LATITUDE	CENTER OF FRAME LONGITUDE	ALT.	SUBSATELLITE LATITUDE	SUBSATELLITE LONGITUDE	SUN ANGLE	AREA DESCRIPTION
1	Q	40	11	06:21	63:00	12930'N	125°30'E	135	13°00'N	126.00°E		Philippine Islands: north coast of Luzon
2	Q	40										Clouds, water, rock (Philippine Islands, north of Bataan Peninsula)
3	Q	40										Clouds, water, rock

NSF Form 1025
(Oct 68)(02)

APOLLO 7
Magazine R

Photographic Technology Laboratory
Richard V. Underwood
Herbert A. Tiedeman

FRAME	DATE	GMT	LAT	LONG	ALT	SUN ANGLE	AREA IDENTIFICATION
102	10/83	00:07	162:44	24°00'S	115°00'E	112	30°40'S 122°00'E	59° Western Australia: Shark Bay
103	"	00:07	162:44	24°00'S	115°00'E	112	30°40'S 122°00'E	59° Western Australia: Shark Bay, Hamelin Pool
104	"	00:08	162:45	24°00'S	115°00'E	112	27°00'S 122°00'E	63° Western Australia: Lakes Austin, Dariee, Dollard, Salt Lakes
104	"	04:02	00°16'S	[illegible]	[illegible]	[illegible]	[illegible]	58° Kenya, Somalia: coastline, Formose Bay, Tana River, Siwa Channel
104	"	04:02	00°16'S	[illegible]	[illegible]	[illegible]	[illegible]	58° Kenya, Somalia: coastline south of Lamu
	"							Clear
	"							Cirrus streaks over water
	"							Cloud streaks over water, coastal northwest Africa in background
105	"	12:33	165:33	19°00'S	95°00'E	122°00'S	33°00'E	48° Madagascar: central part of island, Mangoky, Tsiribihina
105	"	12:36	165:36	21°00'S	100°00'E	122°00'S	43°00'E	42° Madagascar: central part of island, Mangoky, Tsiribihina
	"							Terminator, sunlight on water and clouds
	"							Clear
105	"							Hurricane Gladys, Gulf of Mexico
106	"							Hurricane Gladys, Gulf of Mexico
106	"	13:41	166:38	28°20'N	84°00'W	29°20'N	80°50'W	35° Florida: Kennedy Space Center
106	"	15:16	168:13	28°30'N	84°00'W	29°30'N	80°40'W	35° Florida: Kennedy Space Center
107	"	15:16	168:13	28°00'N	84°00'W	29°00'N	80°40'W	35° Great Bahama Bank
107	"	15:18	168:15	24°30'N	84°00'W	25°30'N	80°40'W	35° Great Bahama Bank, Caicos Islands, Turks Islands, Mouchoir Bank, Silver Bank
107	"	15:19	168:15	24°00'N	84°00'W	25°00'N	80°40'W	35° Great Bahama Bank, Caicos and Turks Islands
107	"	15:19	168:16	23°30'N	84°00'W	24°30'N	80°40'W	35° Bahamas: east end
115	10/84	05:10	182:07	19°30'S	145°30'E	11°00'S	140°00'E	59° Australia: Northern Territory, Groote Eylandt, Gulf of Carpentaria
115	"	05:11	182:08	18°00'S	145°00'E	10°00'S	140°00'E	59° Australia: Queensland, Albatross Bay, Gulf of Carpentaria
115	"	05:12	182:08	17°30'S	144°00'E	10°00'S	140°00'E	59° Australia: Queensland, Cape York Peninsula, Great Barrier Reef
115	"	05:12	182:09	17°00'S	143°00'E	10°00'S	140°00'E	59° Australia: Queensland, Cape York Peninsula, Gulf of Carpentaria
116	"	05:14	182:10	26°30'S	134°00'E	20°00'S	130°00'E	39° South Australia, Northern Territory, Lake Eyre, Simpson Desert
116	"	05:52	183:49	24°30'S	132°00'E	20°00'S	130°00'E	59° Australia: Queensland, Great Sandy Desert, Tanami Desert
117	"	05:52	183:50	22°30'N	32°00'E	19°00'N	31°00'E	59° Nile River Delta, Suez Canal, Sinai Peninsula, Red Sea
117	"	05:53	183:50	24°00'N	30°00'E	21°00'N	30°00'W	51° Sinai Peninsula, Saudi Arabia: Tabuk, Qasaba, Wadi Sirhan, Dead Sea
117	"	09:15	186:15	24°30'S	115°30'E	22°00'S	113°00'E	59° Western Australia: Carnarvon, Shark Bay
118	"	09:19	186:19	24°30'S	113°30'E	24°00'S	113°00'E	59° Western Australia: Northwest Cape, Exmouth Gulf, Carnarvon
118	"	09:19	186:19	24°30'S	113°30'E	24°00'S	113°00'E	59° Western Australia: Carnarvon, Shark Bay
119	"	09:54	187:05	24°30'S	113°30'E	24°00'S	113°00'E	59° Western Australia: Shark Bay, Bluff Point, Freycinet Peninsula
120	"	12:38	189:38	18°00'S	21°30'E	14°30'S	12°00'E	59° Angola: coast at Luanda
120	"	12:43	189:43	17°00'S	21°30'E	14°30'S	20°00'E	59° Namibia, Damaraland: Kariba Reservoir
120	"	12:45	189:45	16°30'S	21°30'E	13°00'S	35°00'E	59° Mozambique: coast at Beira
120	"	12:45	189:45	16°00'S	21°30'E	13°00'S	35°00'E	59° Mozambique: mouth of Zambezi River
120	"							Overexposed
22	"	13:48	190:45	31°00'N	91°30'W	28°30'N	89°30'W	59° Mississippi River Delta, Gulf of Mexico, New Orleans, Lake Pontchartrain area
22	"	13:48	190:45	30°30'N	90°00'W	28°00'N	89°00'W	59° Louisiana: New Orleans, Lake Pontchartrain area
120	INT NEG.	13:48	190:45	31°00'N	91°00'W	28°00'N	89°00'W	62° Mississippi, Alabama, Florida: Mobile Bay, Pensacola
23	"							Hurricane Gladys, Gulf of Mexico
22	"	15:40	191:32	00°00'S	36°00'W	04°00'S	32°00'W	63° Brazil: Natal, Cabo de São Roque
122	"	15:50	192:51	32°00'S	21°00'E	27°00'S	19°00'E	59° South Africa: South West Africa, Orange River, Vioolsdrift
122	"	15:54	192:51	32°00'S	20°00'E	27°00'S	19°00'E	59° South Africa: St. Helena Bay, Cape Columbine, Cape Town
123	"	12:10	194:07	00°00'S	60°00'W	03°00'S	58°00'W	72° Brazil: Amazon Basin
123	"	12:15	194:14	12°00'S	38°00'W	15°00'S	40°00'W	48° Brazil: Bahia State, Salvador
23	"	12:17	194:16	13°00'S	38°00'W	15°00'S	39°00'W	48° Brazil: Bahia State, mouth of Jequitinhonha
124	"	12:55	195:02	39°00'S	62°00'W	41°00'S	66°00'W	24° Chile, Argentina: Salar de Cuyani, out of focus
124	"	12:59	195:07	21°00'S	42°30'W	23°30'S	40°00'W	72° Brazil: coastline, Santos to Florianopolis
124	"	13:01	195:08	21°00'S	45°00'W	23°00'S	42°00'W	72° Brazil: Sao Paulo, Santos
124	"	20:26	202:23			21°00'N	31°00'E	35° Cyprus: Gloria
124	"	20:26	202:23			21°00'N	31°00'E	35° Cyprus: Gloria
125	"	02:52	207:14	21°30'S	166°30'E	150° 24°00'S	168°00'E	42° New Caledonia, Loyalty Islands
125	"	09:36	214:13	13°00'N	15°00'E	12° 12°00'N	16°00'E	59° Chad, Niger, Nigeria, Cameroon: Lake Chad
125	"	12:22	217:13	29°00'N	87°00'W	120° 29°30'N	87°00'W	35° Florida: view east from Gulf of Mexico, sunglint
125	"	12:22	217:13	27°30'N	87°00'W	118° 28°00'N	84°00'W	35° Florida: view east from Gulf of Mexico, sunglint
125	"	12:23	217:20	28°00'N	84°00'W	113° 26°30'N	81°30'W	35° Florida: Kennedy Space Center, sunglint

NASA Photo Lab
(Code 672)(GC)

APOLLO 7 Magazine R

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME	MAG.	ALT.	TILT	CENTER OF PHOTO	FILM/FILTER	EXPOSURE	SUN ANGLE	AREA DESCRIPTION
20								Mexico: Guadalupe Island, cloud vortex, Baja California background
21								Mexico: Gulf of California coast, view south from Sonora
22								Western United States: coast of San Francisco Bay area
23								Coast Range Mountains, Mt. Shasta, Mt. Lassen, Sacramento Valley
24								Texas: Rio Grande to El Paso, view west to Pacific Ocean
25								Texas: Rio Grande to El Paso & area, Big Bend National Park
26								Texas: Edwards Plateau, Llano River

APOLLO 7 Magazine "S"

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME	ROLL	DATE	GMT	G.E.T.	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	SUN ANGLE	ROLL DESCRIPTION
	1										Blank
497	50	10/17/68	23:59	60:56			121			59°	Pacific Ocean, clouds, Gardiner's Pinnacles?
			24:02	61:5			121			59°	Pacific Ocean, clouds
			00:01	61:56	23°00'N	160°30'W	125	22°30'N	161°30'W	59°	Hawaiian Islands: Kauai, Niihau
			00:02	61:57	22°58'N	159°30'W	120	22°30'N	159°30'W	59°	Hawaiian Islands: Oahu
			00:02	61:58	22°58'N	158°30'W	120	22°30'N	158°30'W	59°	Hawaiian Islands: Oahu, Molokai, Lanai, Kahoolawe, Maui
	51		00:59	62:54	22°58'N	158°30'W	122	22°30'N	158°30'W	59°	Hawaiian Islands: Oahu, Molokai, Lanai, Kahoolawe, Maui
	51		01:02	62:59	22°58'N	156°30'W	122	22°30'N	157°30'W	59°	Hawaiian Islands: Maui, Kahoolawe, Molokai, Lanai, Hawaii
	51		01:03	63:00	21°58'N	156°30'W	123	22°30'N	156°30'W	59°	Hawaiian Islands: Maui, Kahoolawe, Hawaii
	51		01:03	63:00	21°58'N	155°30'W	123	22°30'N	156°30'W	59°	Hawaiian Islands: Maui, Kahoolawe, Hawaii
	51		01:04	63:01	20°58'N	155°30'W	123	22°30'N	155°30'W	59°	Hawaii
	52		01:11	63:08	23°58'N	96°30'E	122	22°30'N	95°30'E	59°	Coast, mouth, inside Hsi Chiang, Wu-chow, Kwangsi, China
	52		01:12	63:09	23°58'N	95°30'E	122	22°30'N	94°30'E	59°	Coast, mouth, inside Hsi Chiang, Wu-chow, Kwangsi, China
	52		01:13	63:10	23°58'N	94°30'E	122	22°30'N	93°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	93°30'E	122	22°30'N	92°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	92°30'E	122	22°30'N	91°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	91°30'E	122	22°30'N	90°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	90°30'E	122	22°30'N	89°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	89°30'E	122	22°30'N	88°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	88°30'E	122	22°30'N	87°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	87°30'E	122	22°30'N	86°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	86°30'E	122	22°30'N	85°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	85°30'E	122	22°30'N	84°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	84°30'E	122	22°30'N	83°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	83°30'E	122	22°30'N	82°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	82°30'E	122	22°30'N	81°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	81°30'E	122	22°30'N	80°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	80°30'E	122	22°30'N	79°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	79°30'E	122	22°30'N	78°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	78°30'E	122	22°30'N	77°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	77°30'E	122	22°30'N	76°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	76°30'E	122	22°30'N	75°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	75°30'E	122	22°30'N	74°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	74°30'E	122	22°30'N	73°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	73°30'E	122	22°30'N	72°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	72°30'E	122	22°30'N	71°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	71°30'E	122	22°30'N	70°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	70°30'E	122	22°30'N	69°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	69°30'E	122	22°30'N	68°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	68°30'E	122	22°30'N	67°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	67°30'E	122	22°30'N	66°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	66°30'E	122	22°30'N	65°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	65°30'E	122	22°30'N	64°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	64°30'E	122	22°30'N	63°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	63°30'E	122	22°30'N	62°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	62°30'E	122	22°30'N	61°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	61°30'E	122	22°30'N	60°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	60°30'E	122	22°30'N	59°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	59°30'E	122	22°30'N	58°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	58°30'E	122	22°30'N	57°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	57°30'E	122	22°30'N	56°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	56°30'E	122	22°30'N	55°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	55°30'E	122	22°30'N	54°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	54°30'E	122	22°30'N	53°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	53°30'E	122	22°30'N	52°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	52°30'E	122	22°30'N	51°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	51°30'E	122	22°30'N	50°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	50°30'E	122	22°30'N	49°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	49°30'E	122	22°30'N	48°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	48°30'E	122	22°30'N	47°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	47°30'E	122	22°30'N	46°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	46°30'E	122	22°30'N	45°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	45°30'E	122	22°30'N	44°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	44°30'E	122	22°30'N	43°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	43°30'E	122	22°30'N	42°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	42°30'E	122	22°30'N	41°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	41°30'E	122	22°30'N	40°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	40°30'E	122	22°30'N	39°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	39°30'E	122	22°30'N	38°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	38°30'E	122	22°30'N	37°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	37°30'E	122	22°30'N	36°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	36°30'E	122	22°30'N	35°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	35°30'E	122	22°30'N	34°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	34°30'E	122	22°30'N	33°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	33°30'E	122	22°30'N	32°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	32°30'E	122	22°30'N	31°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	31°30'E	122	22°30'N	30°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	30°30'E	122	22°30'N	29°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	29°30'E	122	22°30'N	28°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	28°30'E	122	22°30'N	27°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	27°30'E	122	22°30'N	26°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	26°30'E	122	22°30'N	25°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	25°30'E	122	22°30'N	24°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	24°30'E	122	22°30'N	23°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	23°30'E	122	22°30'N	22°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	22°30'E	122	22°30'N	21°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	21°30'E	122	22°30'N	20°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	20°30'E	122	22°30'N	19°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	19°30'E	122	22°30'N	18°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	18°30'E	122	22°30'N	17°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	17°30'E	122	22°30'N	16°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	16°30'E	122	22°30'N	15°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	15°30'E	122	22°30'N	14°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	14°30'E	122	22°30'N	13°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	13°30'E	122	22°30'N	12°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	12°30'E	122	22°30'N	11°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	11°30'E	122	22°30'N	10°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	10°30'E	122	22°30'N	9°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	9°30'E	122	22°30'N	8°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	8°30'E	122	22°30'N	7°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	7°30'E	122	22°30'N	6°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	6°30'E	122	22°30'N	5°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	5°30'E	122	22°30'N	4°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	4°30'E	122	22°30'N	3°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	3°30'E	122	22°30'N	2°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	2°30'E	122	22°30'N	1°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	1°30'E	122	22°30'N	0°30'E	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	0°30'E	122	22°30'N	0°30'W	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	1°30'W	122	22°30'N	2°30'W	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	2°30'W	122	22°30'N	3°30'W	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N	3°30'W	122	22°30'N	4°30'W	59°	Coast, mouth of Kwangtze River
	52		01:13	63:10	23°58'N

NSO Form 1067
(Oct 63)(02)

APOLLO 7 Magazine "S"

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME	DATE (GMT)	TIME (GMT)		CENTER OF PHOTO			SPACECRAFT			SUN ANGLE	AREA DESCRIPTION
				LAT	LONG	ALT	LAT	LONG	ALT		
60	MAY 68	16:09	07:05	30°00'N	87°30'W	90	30°00'N	87°00'W		45°	Florida: Pensacola area
61		16:09	07:05	29°30'N	85°30'W	90	30°00'N	85°00'W		45°	Florida: Apalachicola area
62		17:36	08:32	30°00'N	116°00'W	90	30°00'N	116°00'W		45°	Mexico: Baja California, south of Ensenada
63		17:36	08:33	30°00'N	112°00'W	90	30°00'N	112°00'W		45°	Mexico: Sonora, Rio Magdalena
64		17:36	08:35	30°00'N	107°30'W	90	30°00'N	107°00'W		45°	Mexico: Northern Chihuahua, Nuevo Casas Grandes
65		17:36	08:36	30°00'N	104°00'W	90	30°00'N	104°00'W		45°	Mexico: Northern Chihuahua, Rio del Carmen
66		17:37	08:37	30°00'N	101°00'W	90	30°00'N	101°00'W		45°	Mexico: Coahuila, Serrania del Burro, Sierra del Colorado
67		17:38	08:38	28°30'N	96°00'W	90	28°30'N	96°00'W		45°	Texas: Matagorda Bay
68											Hurricane Gladys, Gulf of Mexico
69		19:15	10:12	19°00'N	98°00'W	90	19°00'N	98°00'W		60°	Mexico: Tuxpan-Tampico area
70		19:27	10:24	04°00'S	63°00'W	90	04°00'S	63°00'W		60°	Brazil: Junction Amazon and Madeira Rivers
71		19:28	10:25								Brazil: coast of Rio Tocantins?
72		19:29	10:26	11°00'S	36°00'W	90	11°00'S	36°00'W		60°	Brazil: San Francisco River, Recife to Paravelos
73		19:32	10:29	12°00'S	32°00'W	90	12°00'S	32°00'W		60°	Brazil: coast south of Salvador
74											Dark
75											Dark
76		20:54	11:51	09°00'S	98°00'W	90	09°00'S	98°00'W		30°	Peru: coast at Chimbote
77		21:23	12:20	25°00'S	69°00'W	90	25°00'S	69°00'W		30°	Chile: coast north of Iquique
78	046/68	04:10	19:19	26°00'S	68°00'E	90	26°00'S	68°00'E		30°	Brazil, India, Pacific Ocean, Atlantic Ocean, Caribbean, Colombia, Central America
79		21:38	12:35	19°00'N	69°00'E	90	19°00'N	69°00'E		60°	India: coast at Alleppey
80		21:39	12:36	08°30'N	80°00'E	90	08°30'N	80°00'E		60°	India: south tip, east coast
81		21:40	12:37	08°30'N	80°00'E	90	08°30'N	80°00'E		60°	Ceylon
82		21:40	12:37	08°30'N	80°00'E	90	08°30'N	80°00'E		60°	Ceylon, Adams Bridge
83		21:41	12:38	08°30'N	80°00'E	90	08°30'N	80°00'E		60°	Ceylon, Jaffna Peninsula
84		21:42	12:39	12°00'S	132°00'E	113	12°00'S	132°00'E		60°	Australia: Arnhem Bay, Gove Peninsula
85		21:43	12:40	12°00'S	132°00'E	113	12°00'S	132°00'E		60°	Australia: Port Bradshaw, Melville Island
86		21:44	12:41	12°00'S	132°00'E	113	12°00'S	132°00'E		60°	Australia: Northern Territory, Darwin, Lake Bennett
87		21:45	12:42	12°00'S	132°00'E	113	12°00'S	132°00'E		60°	Australia: Gulf of Carpentaria
88		21:46	12:43	12°00'S	132°00'E	113	12°00'S	132°00'E		60°	Australia: Richard Stevenson
89		12:00	02:57	29°00'N	95°00'W	90	29°00'N	95°00'W		45°	Texas: Gulf Coast at Rockport
90		12:01	02:58	29°30'N	97°00'W	90	29°30'N	97°00'W		45°	Texas: Coast at Port Aransas
91											Gulf of Mexico, clouds
92											Hurricane Gladys, Gulf of Mexico
93											Hurricane Gladys, Gulf of Mexico
94		17:38	122:35	05°00'S	35°30'W	90	05°00'S	34°00'W		30°	Brazil: Cape de Sao Roque
95											Clouds
96											Clouds
97		22:14	13:11	21°00'S	68°30'W	117	21°00'S	71°00'W		60°	Chile: coast at Antofagasta
98		22:14	13:11	24°00'S	70°00'W	117	24°00'S	70°00'W		60°	Chile: coast at Antofagasta
99		22:14	13:11	25°00'S	69°00'W	117	25°00'S	72°00'W		60°	Chile: coast south of Antofagasta
100		22:15	13:12	27°00'S	67°00'W	117	27°00'S	69°00'W		60°	Argentina: Andes Mts, Salar del Hombre Muerto
101		22:15	13:12	28°00'S	67°00'W	117	28°00'S	69°00'W		60°	Argentina: Andes Mts, Salar del Hombre Muerto
102	MAY 68	02:04	18:11	27°00'N	126°00'W	90	27°15'N	126°00'W		60°	Okinawa and Islands of Amami Gunto
103		02:24	18:32	31°00'N	69°00'E	113	31°00'N	69°00'E		60°	Pakistan: Toba, Kakar and Sulaiman Ranges near Fort Sandeman
104											Clouds, undetermined
105											Clouds
106		03:51	135:48	09°00'N	99°30'E	89	09°00'N	99°30'E		30°	Thailand: Gulf of Siam coast at Surat Thani, Samui Island
107		03:51	135:48	09°00'N	100°00'E	89	09°00'N	100°00'E		30°	Thailand: Gulf of Siam coast east of Surat Thani, Samui Island
108		03:52	135:49	08°30'N	100°00'E	89	08°30'N	100°00'E		30°	Thailand: Gulf of Siam coast at Satteni
109		03:52	135:49	08°00'N	100°00'E	89	08°00'N	100°00'E		30°	Malaysia: Malaya, east coast south of Kota Bharu
110		03:53	135:49	06°30'N	102°00'E	89	06°30'N	102°00'E		30°	Malaysia: Malaya, east coast from Cukai to Pahang River
111		07:01	135:56	12°00'S	130°00'E	101	12°00'S	130°00'E		30°	Australia: Northern Territory, Darwin
112		07:02	135:57	12°00'S	130°00'E	101	12°00'S	130°00'E		30°	Australia: Northern Territory, Darwin
113		07:02	135:58	12°00'S	132°00'E	102	12°00'S	132°00'E		30°	Australia: Gulf of Carpentaria
114		07:03	135:58	12°00'S	132°00'E	102	12°00'S	132°00'E		30°	Australia: Gulf of Carpentaria
115		07:03	136:00	12°00'S	132°00'E	102	12°00'S	132°00'E		30°	Australia: Gulf of Carpentaria
116		07:04	136:00	12°00'S	134°00'E	103	12°00'S	134°00'E		30°	Australia: Queensland, Great Dividing Range, Flinders River

NSSDC Data Sets
(Data Publication)

APOLLO 7 Magazine "S"

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

Roll	Mag	Frame	Date	GMT	Center of Frame Lat	Center of Frame Long	Orientation	Area Coverage Lat	Area Coverage Long	Sun Angle	Area Description
S7-1	S	1	10/11/68	17:04:13	23°30'S	142°30'E				133	Australia: Queensland, east coast near Townsville.
-	-	2	-	17:04:19	23°30'S	142°30'E				133	Australia: Queensland, east coast near Townsville.
-	-	3	-	17:04:25	23°30'S	142°30'E				133	Australia: Queensland, east coast near Townsville.
-	-	4	-	17:04:31	23°30'S	142°30'E				133	India: south tip, east coast at Trivandrum.
-	-	5	-	17:04:37	23°30'S	142°30'E				133	Northern Ceylon.
-	-	6	-	17:04:43	23°30'S	142°30'E				133	Ceylon, south coast.
-	-	7	-	17:04:49	23°30'S	142°30'E				133	Western Australia: King Sound.
-	-	8	-	17:04:55	23°30'S	142°30'E				133	Western Australia: Lacepede Bay, 90 Mile Beach.
-	-	9	-	17:05:01	23°30'S	142°30'E				133	Western Australia: Great Sandy Desert, Dunes.
S7-1	S	10	10/11/68	17:05:07	23°30'S	142°30'E				133	Western Australia: Fitzroy River, Margaret River.
-	-	11	-	17:05:13	23°30'S	142°30'E				133	Western Australia: Gregory Lake.
-	-	12	-	17:05:19	23°30'S	142°30'E				133	Western Australia: Northern Territory, Lake Nash.
-	-	13	-	17:05:25	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	14	-	17:05:31	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	15	-	17:05:37	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
S7-1	S	16	10/11/68	17:05:43	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	17	-	17:05:49	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	18	-	17:05:55	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	19	-	17:06:01	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	20	-	17:06:07	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	21	-	17:06:13	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	22	-	17:06:19	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	23	-	17:06:25	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	24	-	17:06:31	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	25	-	17:06:37	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	26	-	17:06:43	23°30'S	142°30'E				133	Western Australia: Northern Territory, near Alice Springs.
-	-	27	-	17:06:49	23°30'S	142°30'E				133	Western Australia: Northern Territory, Mereenie oil field.
-	-	28	-	17:06:55	23°30'S	142°30'E				133	Ontario, Canada, Bay of Fundy: Lake Timiskaming.
-	-	29	-	17:07:01	23°30'S	142°30'E				133	Ontario, Canada, Bay of Fundy: Lake Timiskaming.
-	-	30	-	17:07:07	23°30'S	142°30'E				133	Texas: West, Fort Worth area and east.
-	-	31	-	17:07:13	23°30'S	142°30'E				133	Texas: Houston area.
-	-	32	-	17:07:19	23°30'S	142°30'E				133	Texas: poor exposure.
-	-	33	-	17:07:25	23°30'S	142°30'E				133	Texas, Louisiana: Red River north of Shreveport.
-	-	34	-	17:07:31	23°30'S	142°30'E				133	Texas: Horse Islands.
-	-	35	-	17:07:37	23°30'S	142°30'E				133	Sierra Leone: coast west of Freetown.
-	-	36	-	17:07:43	23°30'S	142°30'E				133	Liberia: coast at Greenville.
-	-	37	-	17:07:49	23°30'S	142°30'E				133	Texas: Houston area.
-	-	38	-	17:07:55	23°30'S	142°30'E				133	Texas: Houston area.
-	-	39	-	17:08:01	23°30'S	142°30'E				133	Texas: Houston area.
-	-	40	-	17:08:07	23°30'S	142°30'E				133	Hawaii: Honolulu area.
-	-	41	-	17:08:13	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico.
-	-	42	-	17:08:19	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico.
-	-	43	-	17:08:25	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico.
-	-	44	-	17:08:31	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico.
-	-	45	-	17:08:37	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico; tape or frame.
-	-	46	-	17:08:43	23°30'S	142°30'E				133	Hurricane Gladys, Gulf of Mexico; partial frame.

APOLLO 7
Magazine U

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME	SCENE	GMT	ALT.	SUN ANGLE	AREA DESCRIPTION
	Earth Terrain			38°	Congo, Zambia, Malawi, Tanzania looking SE
					Zambia, Malawi, Tanzania, Lakes Nyasa and Rukwa
					Zambia, Malawi, Tanzania, Lake Nyasa, Mozambique
					Malawi, Tanzania, Mozambique, Lake Nyasa
					Malawi, Tanzania, Mozambique, Lake Nyasa
250	Earth	211:17 21?:?	74?	58°	Chile, Pacific coast looking NE from Argentina
					Chile
					Chile
					Chile, Pacific coast looking west from Argentina
	Water Terrain	211:?? 21?:?	193		Out of focus, Argentina, Chile
					Out of focus, Argentina, Chile
					Out of focus, Argentina, Chile
					Out of focus, Argentina, Chile
					Out of focus, Argentina
					Out of focus, Argentina, Salinas Grandes
					Out of focus, Argentina, Salinas Grandes
					Out of focus, Argentina
					Out of focus, Argentina
					Out of focus, Argentina
					Out of focus, Brazil-Argentina, Rapids River
					Out of focus, Brazil-Argentina, Rapids River
					Out of focus, Brazil-Argentina, Rapids River
					Out of focus, Brazil-Rio Grande Do Sul
					Out of focus, Braz.-Rio Grande Do Sul
					Out of focus, Brazil-Rio Grande Do Sul
					Out of focus, Brazil-Rio Grande Do Sul
					Out of focus, Brazil-Rio Grande Do Sul
					Out of focus, Braz.-Rio Grande Do Sul
	Earth Terrain	211:?? 213:05	205	26°/30°	Out of focus, Braz.-Rio Grande Do Sul

MSC Form 1315
Rev 8/1/67

Apollo 7
Magazine V

Photographic Technology Laboratory
Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	FILM TYPE	FILTER	EXPOSURE	GMT	LATITUDE	LONGITUDE	SUN ANGLE	AREA DESCRIPTION
1	[illegible]	21	1/125	14:21	[illegible]	[illegible]	33°	Mexico, Sonora, Arizona looking NE
2	[illegible]	9	1/125	14:21	[illegible]	[illegible]	33°	Mexico, Sonora, Arizona looking NE
3	[illegible]	9	1/125	14:22	[illegible]	[illegible]	33°	Mexico, Sonora, Arizona looking NE
4	[illegible]	21	1/125	14:22	[illegible]	[illegible]	33°	Out of focus, Arizona-New Mexico looking N.
5	[illegible]							Duplicate

APOLLO 8

70 mm PHOTO INDICES

Prepared by

National Aeronautics and Space Administration
Manned Spacecraft Center
Mapping Sciences Laboratory
Houston, Texas 77058

The photo logs (indices) contained in this report are indices of the 70mm Hasselblad photography taken during the Apollo 8 mission. These indices are arranged by magazine with the frames numbered consectively within each magazine. Where possible, the approximate selenographic coordinates of the principle point of each photograph has been given. In addition, other supporting data has been furnished. In the case of magazines A and B where it could not be ascertained on which orbit the photograph was acquired, a sun angle for the 3rd orbit was used. When a shutter speed and f stop are not indicated, the best assumption is that the corresponding shutter speed and f stop shown for that particular area on the ATO for December 21, 1968, were used.

The frames as listed in these indices are those plotted on the photo indices charts, 1 of 3 and 3 of 3. No attempt has been made to list by frame the coverage shown on the photo index of the 16mm, 2 of 3.

APOLLO 8 - MAGAZINE A FILM SO-368 SUN ANGLE READ FOR REV 3

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
TL AS8	-16-2581	-	-	High Alt. Earth	Near Vert.	-	-	-	-	E.Coast,Fla. Cuba,Bahamas	Good Exp.
TL	2582	-	-	-	-	-	-	-	-	S IV B	Good Exp.
TL	2583	-	-	-	-	-	-	-	-	"	80MM "
TL	2584	-	-	-	-	-	-	-	-	"	"
TL	2585	-	-	-	-	-	-	-	-	"	"
TL	2586	-	-	-	-	-	-	-	-	"	"
TL	2587	-	-	High Alt Earth	-	-	-	-	-	Africa S. America	"
TL	2588	-	-	"	-	-	-	-	-	"	"
TL	2589	-	-	"	-	-	-	-	-	"	"
TL	2590	-	-	"	-	-	-	-	-	"	"
TL	2591	-	-	-	-	-	-	-	-	S IV B	"
TL	2592	-	-	-	-	-	-	-	-	"	"
TL	2593	-	-	High Alt Earth	-	-	-	-	-	Earth	"
TL	2594	-	-	"	-	-	-	-	-	"	"
TL	2595	-	-	"	-	-	-	-	-	"	"
TL	2596	-	-	Earth	-	-	-	-	-	"	"
TL	2597	-	-	"	-	-	-	-	-	"	"
TL	2598	-	-	"	-	-	-	-	-	"	"
TL	2599	-	-	"	-	-	-	-	-	"	"
TL	2600	-	-	"	-	-	-	-	-	"	"
TL	2601	-	-	"	-	-	-	-	-	"	"
TL	2602	-	-	"	-	-	-	-	-	"	"
TL	2603	-	-	"	-	-	-	-	-	"	"
TL	2604	-	-	"	-	-	-	-	-	"	"
TL	2605	-	-	"	-	-	-	-	-	"	"
TL	2606	-	-	"	-	-	-	-	-	"	"
TL	2607	-	-	"	-	-	-	-	-	"	"
TL	2608	-	-	"	-	-	-	-	-	"	250MM
TL	2609	-	-	"	-	-	-	-	-	"	"
	2610	-	-	"	-	-	-	-	-	-	Blank Dark
	2611	6°S	61°W	Oblique	SW	-	-	25	10 IV HR 46	Langrenus	Dark
	2612	"	"	"	"	-	-	25	"	"	Good Exp.
	2613	9°S	"	"	S	-	-	32	"	"	T/O 68

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	AS8-16-2614	9°S	61°E	Oblique	S	-	-	33	LO IV HR 46	Langrenus	T/O 68 Good Exp.
	2615	"	"	"	"	-	-	34	"	"	" T/O 68
	2616	"	"	"	"	-	-	31	"	"	" T/O 68
	2617										Dark
	2618										"
TL	2619	thru	2658	-	-	-	-	-	-	-	Earth

APOLLO 8 - MAGAZINE B FILM SO-368 SUN ANGLE READ FOR REV 3

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	AS8-14-2383			High Oblique	West	5.6	1/250	Near SSP			Earth above hor. Good 250mm
	2384			"	"	"	1/250	"			"
	2385	-	-	"	"	"	"	-	-	-	80mm
	2386	-	-	"	"	"	"	-	-	-	"
	2387	-	-	"	"	"	"	-	-	-	"
	2388	-	-	"	"	"	"	-	-	-	"
	2389	13°S	105°E	"	WSW	"	"	70	LO 11 S-14 LO I S-1,S-9	NE of Humboldt	"
	2390	"	"	"	"	"	"	70	"	"	"
	2391	"	"	"	"	"	"	70	"	"	"
	2392	"	"	"	"	"	"	70	"	"	"
	2393	"	"	"	"	"	"	70	"	"	"
	2394	"	"	"	"	"	"	70	"	"	"
	2395	"	"	"	"	"	"	70	"	"	"
	2396	"	"	"	"	"	"	70	"	"	"
	2397	03S	154°W	V	Vertical	"	"	06	LO 1, S-3 LO V A8,10,12	Farside	Near Term. 250mm
	2398	03S	154°W	"	"	"	"	06	"	"	"
	2399	03S	155°W	"	"	"	"	06	"	"	"
	2400	03S	155.5W	"	"	"	"	07	"	"	"
	2401	03S	156°W	"	"	"	"	07	"	"	"
	2402	157°W	3°S	"	"	"	"	07	"	"	"
	2403	05S	157W	NV	Near Vert.	"	"	00	"	"	Dark
	2404	05S	157.5W	"	"	"	"	00	"	"	"
	2405	5°S	159°30'W	NV	"	-	-	10	"	"	"
	2406	6°S	160°W	"	"	-	-	10	"	"	"
	2407	"	"	"	"	-	-	10	"	"	"
	2408	5°S	161°30'W	"	"	-	-	11	"	"	"
	2409	4°S	162°W	"	"	-	-	12	"	"	"
	2410	6°30'S	163°W	"	"	-	-	12	"	"	"
	2411	"	"	"	"	-	-	12	"	"	"
	2412	7°30'S	165°W	Oblique	Oblique	-	-	15	"	"	"T/O 12
	2413	6°30'S	165°W	NV	Near Vert.	-	-	15	"	"	" "
	2414	7°30'S	166°W	"	"	-	-	15	"	"	" "
	2415	7°S	167°W	"	"	-	-	17	"	"	" "

Stereo

Excellent Contrast, Stereo

Stereo

Stereo Possible

APOLLO 8 - MAGAZINE B FILM SO-368

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS	
	AS8-14-2416	7°30'S	171°W	NV	Near Vert.	-	-	21	LO I, S-3 LO II, S-3	Farside	Dark	
	2417	8°30'S	171°30'W	Oblique	SW	-	-	21	"	"	"	
	2418	8°S	170°30'W	NV	Near Vert.	-	-	21	"	"	"	
	2419	8°S	175°W	"	"	-	-	25	"	"	"	Stereo
	2420	10°S	175°W	NV	"	-	-	25	"	"	Somewhat Dark	
	2421	"	"	"	"	-	-	25	"	"	"	
	2422	9°S	177°30'W	"	"	-	-	27	"	"	"	
	2423	8°30'S	180°W	"	"	-	-	31	LO II, S-3, S-5	"	"	
	2424	9°S	178°E	"	"	-	-	33	"	"	"	
	2425	9°S	177°E	"	"	-	-	34	"	"	"	
	2426	10°S	174°E	"	"	-	-	36	"	"	"	
	2427	10°S	174°E	"	"	-	-	37	"	"	"	
	2428	10°S	172°30'E	"	"	-	-	38	"	"	"	
	2429	10°30'S	169°E	"	"	-	-	42	"	"	Good Exp.	
	2430	10°S	166°E	"	"	-	-	44	LO I, S-9 LO II, S-3, S-5	"	"	
	2431	10°S	164°E	"	"	-	-	47	"	"	"	
	2432	11°S	165°E	"	"	-	-	45	"	"	"	
	2433	10°S	161°30'E	"	"	-	-	48	"	"	"	
	2434	10°S	161°E	"	"	-	-	50	"	"	"	
	2435	11S	157°E	"	"	-	-	48	"	"	"	
	2436	12S	152.5°E	"	"	-	-	49	"	"	"	
	2437	12S	152°E	"	"	-	-	53	"	"	"	
	2438	12S	150°E	Oblique	WNW	-	-	53	"	"	"	Stereo
	2439	12S	150°E	"	"	-	-	54	"	"	"	
	2440	13S	143°E	"	"	-	-	71	LO I, S-9 LO II, S-5	"	"	
	2441	12.5S	140°E	"	"	-	-	68	"	"	"	
	2442	"	137°30'E	Oblique	W	-	-	69	"	"	"	
	2443	13S	132°E	Oblique	W	-	-	70	"	"	"	
	2444	13S	127°E	"	NE	-	-	71	"	"	"	
	2445	"	"	"	SW	-	-	76	LO I, S-9	"	"	
	2446	"	"	"	SW	-	-	75	"	"	" T/O 49	
	2447	21°S	128° E	HighOblique	S	-	-	63	"	Tsiolkovsky	" T/O 47	Stereo
	2448	"	"	"	"	-	-	63	"	"	" "	

APOLLO 8 - MAGAZINE B FILM SO-368

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS	
	AS8-14-2449	21°S	128°E	High Oblique	South	-	-	69	LO I S-9	Tsiolkovsky	T/O 40 Good Exp.	Stereo
	2450	"	"	"	"	-	-	69	"	"	" T/O 40	
	2451	"	"	"	"	-	-	69	"	Farside	" "	
	2452	11°S	113°E	"	W	-	-	77	"	"	"	
	2453	12°30'S	113°E	"	"	-	-	77	"	"	"	
	2454	16°S	112°E	"	WSW	-	-	70	"	"	"	
	2455	-	-	Very High Oblique	SSW	-	-	-	-	-	" T/O 52	
	2456	-	-	"	"	-	-	-	-	-	" "	
	2457	-	-	"	"	-	-	-	-	-	" "	
	2458	-	-	"	"	-	-	-	-	-	" "	
	2459	-	-	"	"	-	-	-	-	-	" "	Stereo
	2460	-	-	"	"	-	-	-	-	-	" "	
	2461	-	-	"	"	-	-	-	-	-	" "	
	2462	-	-	"	"	-	-	-	-	-	" "	
Transearth	2463	-	-	High Alt Moon	-	-	-	40	Humboldt	Moon	Blue Filter	
"	2464	-	-	"	-	-	-	-	-	"	Red "	
"	2465	-	-	"	-	-	-	-	-	"	B "	
"	2466	-	-	"	-	-	-	-	-	"	R "	
"	2467	-	-	"	-	-	-	-	-	"	B "	
"	2468	-	-	"	-	-	-	-	-	"	R "	
"	2469	-	-	"	-	-	-	-	-	"	R "	
"	2470	-	-	"	-	-	-	-	-	"	B "	
"	2471	-	-	"	-	-	-	-	-	"	B "	
"	2472	-	-	"	-	-	-	-	-	"	R "	
"	2473	-	-	"	-	-	-	15	Sea Fertility	"	Good Exp.	Stereo
"	2474	-	-	"	-	-	-		" Nectar " Crises	"	Good Exp.	
"	2475	-	-	"	-	-	-		-	"	R Filter	
"	2476	-	-	"	-	-	-		-	"	B Filter	
"	2477	-	-	"	-	-	-		-	"	B "	
"	2478	-	-	"	-	-	-		-	"	R "	
"	2479	-	-	"	-	-	-		-	"	R "	
"	2480	-	-	"	-	-	-		-	"	B "	
"	2481	-	-	"	-	-	-		-	"	B "	

APOLLO 8 - MAGAZINE B FILM SO-368

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
Trans earth AS8	-14-2482	-	-	High Alt Moon	-	-	-		-	-	R Filter
"	2483	-	-	"	-	-	-		-	-	OverExposed
"	2484	-	-	"	-	-	-		30	Smithii Crises	Good Exp.
"	2485	-	-	"	-	-	-		-	Fertility	" "
"	2486	-	-	"	-	-	-		-	-	R Filter
"	2487	-	-	"	-	-	-		-	-	B "
"	2488	-	-	"	-	-	-		30	Crises Fertility	Good Exp
"	2489	-	-	"	-	-	-		-	Smithii	" "
"	2490	-	-	"	-	-	-		-	"	" "
"	2491	-	-	"	-	-	-		-	"	" "
"	2492	-	-	"	-	-	-		-	-	Blue Filter
"	2493	-	-	"	-	-	-		-	-	" "
"	2494	-	-	"	-	-	-		-	-	" "
"	2495	-	-	"	-	-	-		-	-	" "
"	2496	-	-	"	-	-	-		-	-	" "
"	2497	-	-	"	-	-	-		-	-	" "
"	2498	-	-	"	-	-	-		-	-	Red "
"	2499	-	-	"	-	-	-		-	-	" "
"	2500	-	-	"	-	-	-		-	-	" "
"	2501	-	-	"	-	-	-		-	-	" "
"	2502	-	-	"	-	-	-		-	-	" "
"	2503	-	-	"	-	-	-		-	-	" "
"	2504	-	-	"	-	-	-		-	-	Blue "
"	2505	-	-	"	-	-	-		-	-	Good Exp.
"	2506	-	-	"	-	-	-		-	-	" "
"	2507	-	-	Transearth	-	-	-		-	-	Earth
"	2508	-	-	"	-	-	-		-	-	"
"	2509	-	-	"	-	-	-		-	-	"
"	2510	-	-	"	-	-	-		-	-	"
"	2511	-	-	"	-	-	-		-	-	"
"	2512	-	-	"	-	-	-		-	-	"
"	2513	-	-	"	-	-	-		-	-	"
"	2514	-	-	"	-	-	-		-	-	"

Stereo Panoramic Change

APOLLO 8 - MAGAZINE B FILM SO-368

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
Trans earth	AS8-14-2515	-	-	Transearth	-	-	-	-	-	-	Earth
"	2516	-	-	"	-	-	-	-	-	-	"
"	2517	-	-	"	-	-	-	-	-	-	"
"	2518	-	-	"	-	-	-	-	-	-	"
"	2519	-	-	"	-	-	-	-	-	-	"
"	2520	-	-	"	-	-	-	-	-	-	"
"	2521	-	-	"	-	-	-	-	-	-	"
"	2522	-	-	"	-	-	-	-	-	-	"
"	2523	-	-	"	-	-	-	-	-	-	"
"	2524	-	-	"	-	-	-	-	-	-	"
"	2525	-	-	"	-	-	-	-	-	-	"
"	2526	-	-	"	-	-	-	-	-	-	"
"	2527	-	-	"	-	-	-	-	-	-	"
"	2528	-	-	"	-	-	-	-	-	-	"
"	2529	-	-	"	-	-	-	-	-	-	"
"	2530	-	-	"	-	-	-	-	-	-	"
"	2531	-	-	"	-	-	-	-	-	-	"
"	2532	-	-	"	-	-	-	-	-	-	"
"	2533	-	-	"	-	-	-	-	-	-	"
"	2534	-	-	"	-	-	-	-	-	-	"
					Note: Entire roll shot with 250mm lens except 2385 to 2396 which were shot with 80mm lens.						

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	17-2659	03S	152W	Convergent Stereo		f/5.6	1/250	00	LO I S-3 LOV A-12	Farside	Entire roll shot with 80mm lens
	2660							01			
	2661							02			
	2662							02			
	2663							03			
	2664	04S	157W					03	LOI S-3 LOV A-12		
	2665							04			
	2666							05			
	2667							06			
	2668							07			
	2669	06S	162W					08	LO I S-3		
	2670							09			
	2671							10			
	2671							11			
	2673							12			
	2674							13			
	2675	07S	169W					14	LO I S-3 LO II S-3		
	2676							15			
	2677							16			
	2678							17			
	2679							18			
	2680	08S	174W					19	LO I S-3 LO II S-3		
	2681							20			
	2682							21			
	2683							22			
	2684							23			
	2685	09S	179W					24	LO II S-3		
	2686							25			
	2687							26			
	2688							27			
	2689							28			
	2690	09S	176E					29	LOII S-3,S-5		
	2691							30			

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2692			Convergent Stereo		f/56	1/250	31		Farside	
	2693							32			
	2694	10S	172E					33			
	2695							34			
	2696							35			
	2697							36			
	2698							37			
	2699							38			
	2700	11S	167E					38	LOI S-9 LOII S-3,S-		
	2701							39			
	2702							40			
	2703							41			
	2704							42			
	2705	11S	162E					43	LOI S-9 LOII S-3,S-		
	2706							44			
	2707							45			
	2708							46			
	2709							47			
	2710	12S	157E					48	LOI S-9 LOII S-5		
	2711							49			
	2712							50			
	2713							51			
	2714	12S	152E					52	LOI S-9 LOII S-5		
	2715							53			
	2716							54			
	2717							55			
	2718							56			
	2719							57			
	2720	12S	147E					57.5	LOI S-9 LOII S-5		
	2721							58			
	2722							59			
	2723							60			
	2724							61			

APOLLO 8 - MAGAZINE C FILM 3400

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2725					f/5.6	1/250	62	LOI S-9 LOII S-5 LOIII S-21.5	Farside	
	2726	12S	140E	CS				63			
	2727							64			
	2728							65			
	2729							66			
	2730	12S	136E					68	LOI S-9 LOIII S-21.5		T/O 30
	2731							69			
	2732							70			
	2733							71			
	2734							72			
	2735	12S	129E					73	LOI S-9 LOIII S-21.5		
	2736							74			
	2737							75			
	2738							76			
	2739							77			End of Convergent Stereo
	2740	12S	122E	Low Oblique	Forward-West			78	LOI S-9 LOIII S-21.5		
	2741							79			
	2742	11S	120E		Forward-West			80	LOI S-9 LOII S-14 LOIII S-21.5		
	2743							80			
	2744	10S	116E		Forward-West			81	LOI S-9 LOII S-14		
	2745							82			Sub-Solar Point
	2746	10S	115E		Forward-West			81	LOI S-9 LOII S-14		
	2747							81			
	2748							81			
	2749	10S	112E	High Oblique	Forward			80.5	LOI S-9 LOII S-14		
	2750							80			
	2751							79			
	2752	09S	109E		Forward			79	LOI S-9 LOII S-14		
	2753							78			
	2754							78			
	2755	09S	106E		Forward			77	LOI S-9 LOII S-14		
	2756							77			
	2757							76			

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2758			High Oblique	Forward	f/5.6	1/250	76			
	2759							75			
	2760							75			
	2761	08S	102E	Convergent Stereo	Forward			74	LOII S-14	SE of Smythii	Start Convergent Stereo
	2762							74			
	2763							73			
	2764							73			
	2765	08S	100E		North Looking			72	LOII S-14	SE of Smythii	
	2766							72			
	2767							71			
	2768							71			
	2769							70			
	2770							70			
	2771							69			
	2772	07S	96E		Rear(east)looking North			69	LO II S-14	SE of Smythii	
	2773							69			
	2774							68			
	2775							68			
	2776							67			
	2777	10S	95E		Rear (East)			66	LOII S-14	SE of Smythii	
	2778							65			
	2779							64			
	2780	11S	91E		Rear (East)			63.5	LOII S-14	SE of Smythii	
	2781							60			
	2782							58			
	2783							57			
	2784							55			
	2785	09S	80E		Rear (East)			53	LOII S-14 LOIV-27,34	Kastner R	
	2786							52			
	2787							51			
	2788							50			
	2789	08S	76E		Rear (East)			49	LOV-34	Kastner	
	2790							48			

APOLLO 8 - MAGAZINE C FILM 3400

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2791			Convergent Stereo	Rear(East)	f/5.6	1/250	47			
	2792							46			
	2793							45			End Convergent Stereo
	2794			LOV Oblique	Forward						
	2795	05S	67E	L.O.	Forward				LOIV-39,46 178,184,185	Maclaurin M	
	2796										
	2797	02S	58E	H.O.	Forward			32	LOI-54 LOIV-39,40, 46,47,177, 184,185	Langrenus K	
	2798										
	2799										
	2800										
	2801	01N	51E	H.O.	Forward			25	LOI S-4,S-5 LOIV 46,47, 53,54,177, 184,185	Webb	High Horizon
	2802										
	2803										
	2804										
	2805	—	—	H.O.	Forward			29	LOI S-5 LOV V-3-1 LOIV-53,54, 60,61,184, 185	Taruntius K	SA picked at bottom of the frame T/O 80
	2806										T/O 80
	2807										"
	2808										"
	2809										"
	2810	—	—	H.O.	Forward			23	LOI A1,S5 LOII S-1 LOIII P-2 LOV V3-1,V5-1,V8A&B	Tarantius LOIV 65,66,72,73	" "

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2811										T/O 80
	2812							21		Secchi	"
	2813										"
	2814										"
	2815	--	--	H.O.	Forward			17	LOV A-1,S-6	Secchi	"
									LOII S-1, S-2,P-1		
									~~LOIII P-2~~		
									~~LOIV 65,66 72,73~~		
									LOV 3.1, 5.1,~~8A&B~~		
	2816										"
	2817										"
	2818							15	LOI A-1,	Taruninus F	"
	2819								A-2,S-6		"
									LOII P-1, P-2,S-2		
									~~LOIV 65,66 72,73,77, 78~~		
									LOV 8,9,11, 12		
	2820	--	--	H.O.	Forward			10	LOI ~~S-9,~~ A-3	Maskelyne F	"
									LOII P-2, P-5,P-6		
	2821								LOIII P-1,		"
									P-5,P-6		
									LOIV 72,73, 77,78		
									~~LOV V9,11A &B,12,13, 16A&B~~		
	2822										"
	2823										"

APOLLO 8 - MAGAZINE C FILM 3400

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
8	2824	--	—	H.O.	Forward	f/5.6	1/250	05.5	LOI S-7, A-3	Maskelyne M	T/O 80
									LOII P-5, P-6		
									LOIII P-6		
									LOIV 77,78, 85		
									LOV V-9.1, 11A&B,12		
8	2825										"
8	2826			H.O.	Forward			02	Same as 2824	Sea of Tranquility	Horizon only T/O 80
9	2827	04S	161W	L.O.				05.5	LOI S-3	FS	Start of T/011
									LOV A-12	America	Rev. 9

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
4	12-2044	04S	148W	Vertical Stereo		f/2.8	Shutter Speed is 1/250 for entire roll	0	LOI S-3 LOV A-8, A-12	Farside	Used 80mm Lens on Vert Stereo Pass
	2045							0			
	2046	04S	150W					0			
	2047							1			
	2048							2			
	2049							4			
	2050							5			
	2051							6			
	2052	05S	157W					7	LOI S-3		
	2053							8			
	2054							9			
	2055							10			
	2056							11			
	2057							12			
	2058							13			
	2059					f/4		14			Exposure Change
	2060							14			
	2061							15			
	2062	06S	167W					16	LOI S-3		
	2063							17			Extra Frame
	2064							18			
	2065							19			
	2066							20			
	2067							21			
	2068							22			
	2069	08S	173W					23	LOI S-3 LOII S-3		
	2070							24			
	2071							25			
	2072							26			

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
4	2073			Vertical Stereo		f/4		27		Farside	
	2074							28			
	2075							29			
	2076	09S	180W			f/5.6		29	LOII S-3, S-5		Exposure Change
	2077							30			
	2078							31			
	2079							32			
	2080							33			
	2081							34			
	2082							35			
	2083							35			
	2084							36			
	2085							37			
	2086							38			
	2087							39			
	2088	11S	168E					40	LOI S-9		
									LOII S-3, S-5		
	2089							41			
	2090					f/8		42			Exposure Change
	2091							43			
	2092							44			
	2093							45			
	2094							46			Extra Frame
	2095							47			
	2096							48			
	2097							49			
	2098							50			
	2099							51			
	2100	12S	157E					51.5	LOI S-9		
									LOII S-3, S-5		

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
4	12-2101			Vertical Stereo		f/8		52		Farside	
	2102							53			
	2103							54			
	2104							55			
	2105							56			
	2106							57			
	2107							58			
	2108							59			
	2109							60			
	2110							61			Extra Frame
	2111	13S	174#					61	LO IS-9		
									LOII S-5		
	2112							62			
	2113							63			
	2114							64			
	2115							65			
	2116							66			
	2117	14S	140E					66.5	LOI S-9		
									LOII S-5		
									LOIII S-21.5		
	2118							67			
	2119							68			
	2120							69			
	2121							70			
	2122	13S	134E					71.5	LOI S-9		
									LOIII S-21.5		
	2123							72			
	2124					2/11		73			Possible change
	2125							74			
	2126							75			
	2127							76			
	2128							77			

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER DATA/ALT	AREA	REMARKS
4	12-2129	12S	127E	Vertical Stereo		F/11		77	LOI S-9 LOIII S-21.5	Farside	
	2130							77			
	2131							78			
	2132							78			
	2133							79			
	2134							79			
	2135							80			
	2136	12S	120E					80	LOI S-9 LOIII S-21.5		
	2137							80			Start S/C Roll
	2138							79			
	2139							79			
	2140							78			
	2141	12S	113					78	LOI S-9 LOII S-14 LOIII S-21.5		
	2142							77			
	2143							77			
	2144							76			
	2145							76			
	2146	11S	108E					75	LOIII S-21.5 LOII S-14 LOI S-9	F.S.	
	2147							75			
	2148							74			
	2149							74			
	2150					f/8	1/250	73			Exposure Change
	2151							73			
	2152							72			
	2153							72			
	2154							71			

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	PAN MODE	OTHER COVERAGE	AREA	REMARKS
4	12-2155	10S	101E	Vertical		f/8	1/250	70	LOII S-14	SE Smyth	
	2156			Stereo				69			
	2157							69			Extra Frame
	2158							68			
	2159							67			
	2160							66			
	2161							65			
	2162							64			
	2163	09S	95E					63.5	LOII S-14	SSE Smyth	
	2164							63			
	2165							62			
	2166							61			
	2167							60			
	2168							59			
	2169							58			
	2170							58			Extra Frame
	2171							57			
	2172	09S	85E					56	LOII S-14	S Smythii	
									LOIV 27,178		
	2173							54			
	2174							53			
	2175							52			
	2176							50			
	2177							49			Extra Frame
	2178	08S	79E			f/11	1/250	48	LOIV 27,34 178	Kastner	Exposure Change
	2779							46.5		Kastner	End of V.S Pass
	2180	08S	76E	Low Oblique	Forward looking West			45	LOIV 34,39 176	Kastner	80mm lens
	2181	07S	73E	L.O.	Forward looking West			42.5	LOIV 39, 184,185	East of Kastner	T/O 65

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
4	12-2182	07S	71E	H.O. Horizon	Forward West	f/11		41	LOIV 39, 184,185		80mm lens T/065
	2183	07S	69E	H.O Horizon	Forward West			38	LOIV 39, 184,185	West of Langrenus	
	2184	08S	67E	H.O. Horizon	Forward West			37	LOIV 39, 184, 185	West of Langrenus	T/O 68
	2185	--	--					--		Earth	
	2186	--	--					--		Earth	
10(TEI)	2187	40S	110E					47		S of Tsiolkovsky	
	2188	--	--					--		Earth & Lunar Horizon	
	2189	26S	72E	H.O Horizon	South			35	LOIV 27,33, 34,38,39,46, 52,53,59,60, 64,184,185	Humboldt	T/O 58 T/O 63
	2190	20S	79E	H.O. Horizon	South			45		Humboldt	T/O 58
	2191				BLANK						Overexposed
	2192	40S	100E	H.O.	South			43	LOIV 9,10 11,12,5,6,8	Mare Australe	250mm lens
	2193	27S	90E	Low Oblique	South			50	Same as 2189	Humboldt	T/O 58 T/O 63
	2194	33S	100E		South			51	LOIV S-121,5 LOV 4,10, 11,12,27,33	Mare Australe	
	2195	26S	107E		South			61	LOI S-9 LOIII S-21,5	E. of Mare Australe	T/O 54
	2196	21S	130E	H.O. Horizon	East			68	LOI S-9 LOII S-5 LOIV 146,147	Tsilokovsky	

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
10(TEI)	2197	08S	127E	H.O. Horizon	East	f/11	1/250	80	LOI S-9	N. of Tsiolkovsky	Overexposed 250mm lens T/O 28, 29, 31, 32, 33, 35, 36, 37, 41, 44
	2198	08S	126E	H.O. Horizon	East	"	"	82	LOII S-3, S-4 LOII-S-5, S-14	N. of Tsiolkovsky	" T/O 32, 33, 33, 35, 36, 37, 41, 44
	2199	08S	127E	Low Oblique	East	"	"	825		N. of Tsiolkovsky	T/O 44, 45
	2200	11S	108E	Low Oblique	East	"	"	74	LOI S-1, S-9 LOII S-14	Farside	T/O 45
	2201	10S	100E	Near Vertical	-	"	"	68	LOI S-1, LOII S-14	East of Smythii	T/O 58
	2202	05S	90E	Near Vertical	-	"	"	60	LOI S-1, LOII S-14 LOIV 20, 27	Smythii	T/O 59
	2203	09S	68E	Near Vertical	-	"	"	37	LOI S-4	Langrenus	T/O 65 T/O 59, 68
	2204	03S	73E	NearVert.	North	"	"	43	LOIV 28, 34	Gilbert	T/O 59, 67
	2205	03N	73E	NearVert.	North	"	"	43	35, 39, 40, 46	Gilbert	T/O 59, 67
	2206	07N	74E	NearVert.	North	"	"	43	47, 53, 54, 165	Sea of Waves	T/O 66, 59, 67
	2207	07N	82E	NearVert.	Northwest	"	"	52	177, 178, 184, 185	Neper	T/O 59
	2208	09N	86E	NearVert.	Northwest	"	"	54	191, 192	Neper Goddard	
	2209	24N	100E	H.O. Horizon	North	"	"	56	LOII S-14 LOIV 17, 18, 20, 24, 165	Joliot Curve Lomonosov	
	2210	36S	85E	Low Oblique	South	"	"	40	LOIV 9, 10, 11, 12, 27, 33, 34, 38, 39	Southern Sea ABEL	
	2210	35S	90E	Low Oblique	South	"	"	42	LOI S-9 LOIV 9, 10, 11, 12, 27, 35	Mare Australe	
	2212	37S	101E	Low Oblique H.O.	South	"	"	47	"	"	T/O 52
	2213	35S	110E	Horizon	Southeast	"	"	53	"	"	T/O 52, 54
	2214	36S	116E	"	"	"	"	53	"	"	T/O 38, 49, 52

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	CAMERA COVERAGE	AREA	REMARKS
	13-2215	10°15'S	55°30'E	Low Oblique	South	f/5.6	1/250	23	LO IV F60 & 65	Colombo	TO 72
	2216	10°15'S	55°20'E	"	"	"	"	22	" "	"	"
	2217	10°00'S	53°45'E	"	"	"	"	21	" "	"	"
	2218	11°30'S	51°30'E	"	"	"	"	19	" "	"	"
	2219	11°45'S	50°45'E	"	"	"	"	19	" "	"	"
	2220	11°55'S	49°30'E	"	"	"	"	18	" "	"	"
	2221	12°30'S	48°00'E	"	"	"	"	17	" "	"	"
	2222	11°30'S	47°30'E	"	"	"	"	15	" "	"	"
	2223	11°55'S	46°30'E	"	"	"	"	14	" "	"	"
	2224	11°15'S	45°00'E	"	"	"	"	13	" "	"	"
	2225	10°45'S	44°45'E	"	"	"	"	12	" "	"	"
	2226	10°45'S	42°15'E	"	"	"	"	11	" "	"	"
	2227	12°30'S	42°30'E	"	"	"	"	10	" "	"	"
	2228	06°00'S	38°30'E	"	"	"	"	07	" "	Pyrenees Mts	Terminator
	2229	05°30'S	37°00'E	"	"	"	"	06	" "	"	shot
	2230	05°30'S	36°30'E	"	"	"	"	06	" "	"	including
	2231	06°00'S	35°30'E	"	"	"	"	04	" "	"	target
	2232	PP in darkness		Low Oblique	South	f/5.6	1/250	03	LO IV F65	"	90
	2233	"	"	"	"	"	"	03	" "	"	
	2234	"	"	"	"	"	"	02	" "	"	
	2235	"	"	"	"	"	"	02	" "	"	
	2236	"	"	"	"	"	"	02	" "	"	
	2237	"	"	"	"	"	"	02	" "	"	
	2238	"	"	"	"	"	"	02	" "	"	
	2239	"	"	"	"	"	"	02	" "	"	
	2240	"	"	"	"	"	"	02	" "	"	
	2241	"	"	"	"	"	"	02	" "	"	
	2242	"	"	"	"	"	"	02	" "	"	
	2243	15°00'S	35°00'E	High Oblique	South	"	1/250	03	" "	Fracastorius	
	2244	12°00'S	162°00'W	Low Oblique	"	"	"	10	LO II F75		TO 12
	2245	11°00'S	164°30'W	"	"	"	"	15	LO I S-3		"
	2246	15°00'S	165°00'W	High Oblique	"	"	"	12	"		"
	2247	14°00'S	167°00'W	"	"	"	"	15	"		"

Oblique Stereo

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REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	2248	18°00'S	130°00'E	Low Oblique	South	f-8	1/250	70	LO I S-9 LOIII S-21.5	Tsiolkovsky	TO 40
	2249	17°30'S	127°00'E	"	"	"	"	72	" "	"	TO 36(?)
	2250	17°00'S	126°30'E	"	"	"	"	73	" "	"	" "
	2251	17°00'S	125°00'E	"	"	"	"	74	" "	"	
	2252	20°00'S	129°00'E	High Oblique	"	"	"	71	" "	"	TO 40
	2253	20°00'S	126°30'E	"	"	"	"	70	" "	"	"
	2254	21°00'S	126°30'E	High Oblique	"	"	"	70	" "	"	"
	2255	20°00'S	124°30'E	High Oblique	"	"	"	70	" "	"	"
	2256	20°00'S	116°30'E	Low Oblique	"	"	"	72	" "	W. of "	Target 49
	2257	0°30'N	35°30'E	N.Vert.	South	f-5.6	1/250	05	LO I S-6;S-7 A-2: LO IV	Western Edge	Terminator
	2258	0°30'N	35°15'E	"	"	"	"	04	V-6; V-12	of Sea of	shot
	2259	0°30'N	39°45'E	"	"	"	"	03	LO IV 72&73	Fertility	
	2260	0°30'N	34°00'E	"	"	"	"	02		"	
	2261	0°30'N	33°30'E	"	"	"	"	01		"	
	2262	15°00'S	93°00'E	Low Oblique	"	"	"	63	LO II S-14	N.E. of Humboldt	Target 58
	2263	14°00'S	90°30'E	"	"	"	"	62	"	"	"
	2264	18°00'S	93°00'E	High Oblique	"	"	"	62	"	"	"
	2265	18°00'S	91°30'E	"	"	"	"	60	"	"	"
	2266	13°30'S	79°30'E	Low Oblique	South	f-8	1/250	47	LO IV 178		
	2267	13°30'S	78°30'E	"	"	f-8	"	46	"		
	2268	14°30'S	78°00'E	"	"	"	"	45	"		TO 63
	2269	18°00'S	79°00'E	High Oblique	"	"	"	45	"		TO 63
	2270	11°00'S	71°00'E	Low Oblique	"	"	"	39	LO IV 184		TO 65
	2271			High Oblique	west	f-5.6(?)	1/250 (?)	08	LO I S-6; S-7	Sea of	Training
	2272			"	"	"	"		LO II P-2	Tranquility	Sequence
	2273			"	"	"	"		LO IV 73, 76	" "	"
	2274			"	"	"	"	05	LO V V-5.1, V-6,	" "	"
	2275			"	"	"	"		V-9.1, V-11a,	" "	"
	2276			"	"	"	"		& 11b & V-12	" "	"
	2277			"	"	"	"		"	" "	"
	2278			"	"	"	"		"	" "	"
	2279			"	"	"	"		"	" "	"
	2280			"	"	"	"	02	"	" "	"

Principal line runs from

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	2281		42°00'E; 30°15'N to 33°30'E; 4°30'N	High Oblique	West	f-5.6(?)	1/250 (?)	02	"	Sea of	Training
	2282			Low Oblique	"	"	"		"	Tranquility	Sequence
	2283			"	"	"	"		"	"	"
	2284			"	"	"	"		"	"	"
	2285			"	"	"	"		"	"	"
	2286			"	"	"	"		"	"	"
	2287			"	"	"	"		"	"	"
	2288			"	"	"	"		"	"	"
	2289			"	"	"	"		"	"	"
	2290			"	N. West	"	"		"	"	"
	2291			"	"	"	"		"	"	"
	2292			"	"	"	"		"	"	"
	2293			"	"	"	"		"	"	"
	2294			"	"	"	"		"	"	"
	2295			"	"	"	"		"	"	"
	2296			"	"	"	"		"	"	"
	2297			"	"	"	"		"	"	"
	2298			N.Vert.	"	"	"		"	"	"
	2299			"	"	"	"		"	"	"
	2300			"	N. East	f-5.6	"	02	"	"	"
	2301			"	"	"	"		"	"	"
	2302			"	"	"	"		"	"	"
	2303			Low Oblique	"	"	"		"	"	"
	2304			"	"	"	"		"	"	"
	2305			"	"	"	"		"	"	"
	2306			"	"	"	"		"	"	"
	2307			"	"	"	"		"	"	"
	2308			"	"	"	"		"	"	"
	2309			"	"	"	"		"	"	"
	2310	06°30'S	150°30'W	Low Oblique	South	f-5.6	1/250	01	LOI S-3		Terminator
	2311	07°00'S	150°30'W	"	"	"	"	02	"		shot(farside)
	2312	08°30'S	150°30'W	"	"	"	"	02	"		

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	2313	10°30'S	149°30'W	Low Oblique	South	f-5.6	1/250	01	LOI S-3		Terminator
	2314	12°00'S	150°30'W	"	"	"	"	01	"		(farside)
	2315	13°30'S	151°00'W	"	"	"	"	01	"		
	2316	9°00'S	153°30'W	"	"	"	"	04	"		
	2317	07°00'S	159°30'W	"	"	f-5.6	"	10	LOI S-3		
	2318	04°30'S	165°30'W	"	"	"	"	17	"		TO 12
	2319	18°00'S	163°30'W	High Oblique	"	f-5.6	"	12	"		TO 10
	2320	15°00'S	170°00'W	"	SE	f-5.6		17	"		
	2321	14°30'S	174°30'E	Low Oblique	SW	"		35	LO II S-5		Target 20
	2322	15°00'S	172°30'E	"	SE	"		37	"		Target 19
	2323	15°00'S	172°00'E	"	"	"		38	"		"
	2324	17°00'S	171°00'E	"	"	"		38	"		"
	2325	17°30'S	168°00'E	"	"	"		41	"		Target 23
	2326	16°00'S	158°00'E	"	"	"		51	"		
	2327	19°00'S	144°00'E	"	SE	f-8	1/250	61	MR 121 LOIII MR 115(LO I)	E. of Tsiolkovsky	Target 28
	2328	17°00'S	140°00'E	Low Oblique	SE	f-8	1/250	57	MR 115	E. of Tsiolkovsky	Target 31(?)
	2329	PP in space		High Oblique	S West		1/250	-	LOI S-9;LOII S-14,LOIII S-21.5	looking towards Gibbs	Moon earth shot
	2330	00°00'	107°20'E	"	North		"	76	"	E.ofSmythii	to horizon
	2331	1°30'N	90°00'E	Low Oblique	North	f-8	1/250	59	LO I S-1; LO II S-14		Target 59
	2332	2°30'N	87°30'E	"	North	f-8	1/250	57	" "		(in part)
	2333	Over exposed frame, Insufficient detail to plot (High Oblique)									
	2334	PP in darkness		Low Oblique	North	f-5.6	1/250	01	LO IV 78	Northern	Terminator
	2335	11°30'N	31°00'E	Low Oblique	North	"	"	01	"	part of	(nearside)
	2336	12°00'N	31°00'E	High Oblique	North	"	"	01	"	Sea of	
	2337	15°00'N	31°30'E	"	"	"	"	01	"	Tranquility	
	2338	PP on Horizon		"	"	"	"	01	"	"	
	2339	1°00'S	54°00'E	"	West	f-5.6	1/250	25	LOI S-4&S-5	Sea of	
	2340	00°30'S	50°00'E	"	"	"	"	20	S-6,LOII S-1 LOIII P-2; LOIV 53-54, 60,61	Tranquility	
	2341	PP on Horizon		"	"	"	"	17	LOV V-3,1;V-5.1 V-6;V-8a&b		
	2342	00°30'N	38°00'E	"	"	"	"	10	LOI A-1;S-6;S-7		

Subsatellite point is about 1 degree east of Tsiolkovsky

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	2343	02°00'N	35°00'E	High Oblique	West	f-5.6	1/250	05	LO II P-2, LO III P-2		
	2344	PP on Horizon		"	Northwest	"	"	06	LO IV V.5.1, V-6 V-11a&b; V-12, V-9.1		
	2345	PP in Space		"	"	"	"	03	"		
	2346	PP in Space		"	"	f-4	1/250	01	LOIV 63,73,78	Sea of Tranquility	
	2347	PP in Space		"	West	"	"	01	LOV V-9.1	NW of Sea	
	2348	14°30'N	30°00'E	"	North	f-2.8	"	01	"	Tranquility	Terminator shot
	2349	13°00'N	30°15'E	Low Oblique	"	"		01	"	"	nearside
	2350	15°00'N	30°00'E	"	"	"		01	"	"	
	2351	PP on Horizon		"	"	"		01	"	"	
	2352		TEI	Moon Shot, 80mm lens							
	2353		"	"	" " "						
	2354		"	"	" " "						
	2355		"	"	" " "						
	2356		"	"	" " "						
	2357		"	"	" " "						
	2358		"	"	" " "						
	2359		TEI	Moon	Shot	250mm lens					
	2360		"	"	"	" "					
	2361		"	"	"	" "					
	2362		"	"	"	" "					
	2363		"	"	"	" "					
	2364		"	"	"	" "					
	2365		"	"	"	" "					
	2366		"	"	"	" "					
	2367		"	"	"	" "					
	2368		"	"	"	" "					
	2369		TEI	Earth	Shot	250mm lens					
	2370		"	"	"	" "					
	2371		"	"	"	" "					
	2372		"	"	"	" "					
	2373		"	"	"	" "					
	2374		"	"	"	" "					
	2375		"	"	"	" "					

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	2376		TEI	EARTH	SHOT	250mm lens					
	2377		"	"	"	" "					
	2378		"	"	"	" "					
	2379		"	"	"	" "					
	2380		"	"	"	" "					
	2381		"	"	"	" "					
	2382		"	"	"	" "					

APOLLO 8 - MAGAZINE F FILM S0121

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
TL	15-2535									Earth	80mm
TL	2536									"	80mm
TL	2537									"	80mm
TL	2538										
TL	2539									Earth	80mm
TL	2540									"	80mm
TL	2541									"	80mm
TL	2542									"	80mm
TL	2543									"	80mm
TL	2544									"	80mm
TE	2545									Moon	80mm
TE	2546									Moon	80mm
TE	2547									MooN	80mm
TE	2548									Moon	80mm
TE	2549									Earth	80mm Lens
TE	2550									Earth	80mm Lens
TE	2551									Earth	250mm Lens
TE	2552									"	"
TE	2553									"	"
TE	2554									"	"
TE	2555									"	"
TE	2556									"	"
TE	2557									"	"
TE	2558									"	"
TE	2559									"	"
TE	2560									"	"
TE	2561									"	"
TE	2562									"	"
TE	2563-2573									Earth	80mm Lens
TE	2574-2580									Earth	250mm Lens

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
AS8	-18-2828	8S	149W	Near Vert.	South	Unknown	1/250	0		Farside	Terminator
	2829	9S	149W	"	"	"	"	0		"	"
	2830	10S	149W	Low Oblique	"	"	"	0		"	"
	2831	11S	149W	"	"	"	"	0		"	"
	2832	15S	148W	"	"	"	"	0		"	"
	2833	-	-	High Oblique	"	"	"	-		"	"
	2834	16S	158W	"	"	"	"	8		"	
	2835	16S	171W	Low Obl.	"	"	"	20		"	
	2836	19S	179W	High Oblique	"	"	"	28		"	
	2837	16S	175E	LowOblq.	"	"	"	34		"	T/020(Partial)
	2838	14S	174E	"	"	"	"	36		"	
	2839	20S	174E	High Oblique	"	"	"	34		"	
	2840	16S	173E	Low Oblique	"	"	"	36		"	T/020(Partial
	2841	15S	172E	"	"	"	"	37		"	T/020(Partial
	2842	17S	167E	"	"	"	"	42		"	T/0 23
	2843	21S	157E	"	"	"	"	48		"	Should be checked Uncertain
	2844	15S	155E	"	East	"	"	54		"	
	2845	06S	85E	NV	-	"	"	57			T/0 59
	2846	08.5S	81E	NV	South	"	"	48			
	2847	11S	78E	NV	South	"	"	47			
	2848	14S	76E	NV	South	"	"	44		"	T/0 65
	2849	16S	75E	NV	South	"	"	42			T/0 62(Partial)
											T/0 58
	2850	-	-	High Oblique	East	"	"			Mare Nectaris	
	2851	14N	67E	Low Oblique	North	"	"	35		Mare Crisium	Slightly
	2852	Not Plotted - same area as 2853								"	Blurred
	2853	10N	72E	"	North	"	"	47		"	
	2854	03S	110E	High Oblique	East	"	"	03		E. of Symthii	
	2855	Same area as 2854									Slightly Blurred
	2856	26N	58E	High Oblique	North			20	Possible Filter	Mare Crisium	
	2857	34N	63E	"	"	"	"	20	"	"	Slightly Blurred
	2858	-	-	"	East	"	"		"	Mare Fecunditatis	
	2859	-	-	"	East	"	"			Messier Messiera	

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
	AS8-18-2860	39N	63E	High Oblique	North East	Unknown	1/250			Palus Somni	
	2861	-	-	"	"	"	"			Newcomb	T/067(Partial)
	2862	-	-	"	"	"	"			Geminus	
	2863	03N	66E	Low Oblique	North	"	"	35			
	2864	13N	65E	"	North	"	"	33			
	2865	24N	67E	High Oblique	North	"	"	30			
	2866	36N	68E	"	North	"	"	25			
	2867	-	-	"	North	"	"				PP in space
	2868	24S	95E	"	SW	"	"	55		Farside	T/O 54
	2869	16S	92E	Low Oblique	West-South	"	"	58		Farside	
	2870	04S	95E	"	South	"	"	65		Mare Smythii	T/O 56
	2871	11N	97E	High Oblique	West-North	"	"	65		Joliot-Curie	T/O 55
	2872	34N	113E	"	"	"	"	50		"	
	2873	Blurred Low Obliques of Eastern Portion of Mare Crisium									
	2874	Looking North, Not Plotted.									
	2875	-	-	High Oblique	-						Blurred
	2876	-	-	"							Blurred
	2877	Not Plotted - Mare Smythii - Blurred									
	2878	13N	64E	Low Oblique	North			33	Possible Filter	Mare Crisium	Slightly Blurred
	2879	13N	64E	"	North			33	"	"	
	2880	05S	58E	NV	South			28	"	Langrenus	Slightly Blurred
	2881	03S	56E	NV	South			28	"	"	T/O 68
	2882	-	-	High Oblique	North				"	Gauss	
	2883	Same Area As 2882							"		Exposure Change
	2884	-	-	High Oblique	Northwest			57	"	Joliot-Curie	
	2885	22N	94E	"	North				"	"	Exposure Change
	2886	-	-	"	North				"		Very high Horizon Photo
TE	2887	-	-	"	Unable to Locate						
TE	2888	-	-							Entire Moon	
TE	2889	-	-							"	Exposure Change
TE	2890	-	-						Possible Filter	"	"
TE	2891	-	-						"	"	"
TE	2892	-	-						"	"	"

REV.	FRAME	LAT	LONG	MODE	DIRECTION	F-STOP	SHUTTER SPEED	SUN ANGLE	OTHER COVERAGE	AREA	REMARKS
TE	AS8-18-2893	22N	94E						Possible Filter	Entire Moon	Exposure Change
	2894	-	-			Unknown	1/250		"	"	"
	2895	-	-						"	"	"
	2896	-	-						"	"	"
	2897	-	-						"	"	
	2898	-	-						"	"	
	2899	-	-						"	"	
	2901	-	-						"	"	
	2902	-	-						"	"	Scale Change
	2903	-	-						"		
	2904	-	-						"		
	2905	-	-						"		
	2906	-	-						"		Exposure Change
	2907	-	-						"		
	2908	-	-						"		
		Note:	Between frames 2844 and 2845 These are not numbered and or index these frames.			there are are too dark	20 very dark exposures of the to be of value,		lunar surface. no attempt	was made	to plot

MSC Form 1825
(Oct 69)(MT)

APOLLO 9, MAGAZINE AA

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC COLOR NO.	AREA DESCRIPTION	REV.	DATE	GMT	MET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	CENTER OF PHOTO ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
1	AS9-26A-3695A	Ocean, clouds, off California	78	3/8/69											
2	-3697A	Ocean, clouds, off California	"	"											
3	-3698A	California, Arizona, Mexico: Mexicali, Yuma; Salton Sea, Colorado and Gila Rivers	"	"											
4	-3699A	California, Arizona, Mexico: Mexicali, Yuma; Imperial Valley, Colorado & Gila R.	"	"											
5	-3700A	California, Arizona, Mexico: Mexicali, Yuma; Imperial Valley, Colorado & Gila R.	"	"											
6	-3701A	California, Arizona, Mexico: Yuma, Blythe; Colorado and Gila Rivers	"	"											
7	-3702A	California, Arizona; Yuma, Colorado and Gila Rivers	"	"											
8	-3703A	Arizona: Gila River from Ligurta to Gila Bend	"	"											
9	-3704A	Arizona: Gila River from Growler to Avondale	"	"											
10	-3705A	Arizona: Gila River from Gila Bend to Tempe	"	"											
11	-3706A	Arizona: south of Phoenix	"	"											
12	-3707A	Arizona: southeast of Phoenix	"	"											
13	-3708A	Arizona: mostly clouds	"	"											
14	-3709A	Arizona: mostly clouds	"	"											
15	-3710A	Arizona: mostly clouds	"	"											
16	-3711A	Arizona, New Mexico; mostly clouds	"	"											
17	-3712A	Arizona, New Mexico; mostly clouds	"	"											
18	-3713A	Arizona, New Mexico; mostly clouds	"	"											
19	-3714A	Arizona, New Mexico; mostly clouds	"	"											
20	-3715A	New Mexico; mostly clouds	"	"											
21	-3716A	New Mexico, Texas; mostly clouds	"	"											
22	-3717A	New Mexico, Texas; mostly clouds	"	"											
23	-3718A	New Mexico, Texas; El Paso; mostly clouds	"	"											
24	-3719A	New Mexico, Texas; El Paso; mostly clouds	"	"											
25	-3720A	New Mexico, Texas: Rio Grande, Salt Basin; cloudy	"	"											
26	-3721A	New Mexico, Texas: Salt Basin, Pecos River, Red Bluff Reservoir	"	"											
27	-3722A	New Mexico, Texas: Salt Basin, Pecos River, Red Bluff Reservoir	"	"											
28	-3723A	Texas: Seguin, Port Lavaca; Guadalupe and Colorado Rivers	"	"											
29	-3724A	Texas: Luling, Port Lavaca, Sealy; Guadalupe, Colorado, Brazos Rivers	"	"											
30	-3725A	Texas: Flatonia, Palacios, Houston; Colorado and Brazos Rivers	"	"											
31	-3726A	Texas: Columbus, Palacios, Houston; Colorado and Brazos Rivers	"	"											
32	-3727A	Texas: Gulf Coast, Matagorda to Galveston Bay	"	"											
33	-3728A	Texas: Gulf Coast, Matagorda to Galveston Bay	"	"											
34	-3729A	Texas: Gulf Coast, Freeport to Galveston Bay	"	"											
35	-3730A	Clouds: Pacific Ocean, off California	92	3/9/69											
36	-3731A	California: Santa Catalina, San Clemente Islands, Los Angeles	"	"											
37	-3732A	California: Santa Catalina, San Clemente Islands, coast from Los Angeles to San Diego	"	"											
38	-3733A	California: coast from Newport Beach to San Diego	"	"											
39	-3734A	California: San Diego to Salton Sea	"	"											
40	-3735A	California: Salton Sea, Imperial Valley	"	"											
41	-3736A	California: Salton Sea, Imperial Valley	"	"											
42	-3737A	New Mexico: Malpais Lava, Sacramento Mts., Rio Grande	"	"											
43	-3738A	New Mexico: Malpais Lava, Sacramento and Capitan Mts.,	"	"											
44	-3739A	New Mexico: Roswell; Capitan Mts., Pecos River	"	"											
45	-3740A	Arkansas, Louisiana, Mississippi: Miss. River, south of Greenville; Monroe	"	"											
46	-3741A	Arkansas, Louisiana, Mississippi: Miss. River, Greenville to Vicksburg	"	"											
47	-3742A	Arkansas, Louisiana, Mississippi: Miss. River, Vicksburg to Transylvania; Jackson	"	"											
48	-3743A	Mississippi: Miss. River floodplain at Yazoo City; Jackson	"	"											
49	-3744A	California: Santa Catalina, San Clemente Islands, coast from Los Angeles to San Clemente	93	"											
50	-3745A	California: coast from Huntington Beach to San Diego	93	"											
51	-3746A	California: coast from San Clemente to San Diego	"	"											
52	-3747A	California: Salton Sea, Imperial Valley	"	"											
53	-3748A	California: Salton Sea, Imperial Valley	"	"											
54	-3749A	Arizona: Tucson area, cloudy	"	"											
55	-3750A	Arizona: Tucson area, cloudy	"	"											

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Herbert A. Tiedemann

FRAME	NASA/MSC CARD NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	ORDER OF PHOTO LATITUDE	ORDER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPS 1	2	3
50	SO-268-3751A	Arizona: east of Tucson, Willcox Playa; cloudy	93	3/9/69										
[illegible]	-3752A	Arizona: east of Tucson, Chiricahua Mts., Willcox Playa; cloudy	"	"										
53	-3753A	Arizona; New Mexico: Chiricahua Mts., cloudy	"	"										
55	-3754A	Arizona; New Mexico: Chiricahua Mts., cloudy	"	"										
60	-3758A	New Mexico: Lordsburg to Deming	"	"										
61	-3759A	New Mexico, Mexico: Lordsburg to Deming, Palomes	"	"										
62	-3760A	New Mexico, Mexico: Deming; Palomes; Portrillo Mts.	"	"										
63	-3761A	Texas: Gulf Coast, Matagorda to Freeport	"	"										
64	-3762A	Texas: Gulf Coast, Matagorda to Freeport	"	"										
65	-3763A	Texas: Gulf Coast, Freeport	"	"										
66	-3764A	Clouds off mouth of Amazon River	109	3/10/69										
67	-3765A	Clouds off mouth of Amazon River	"	"										
68	-3766A	Clouds off mouth of Amazon River	"	"										
69	-3767A	Mexico: north of Pachuca, Rio Amajac	"	"										
70	-3768A	Mexico: north of Pachuca, headwaters of Rio Amajac	"	"										
71	-3769A	Mexico: Pachuca; headwaters of Rio Amajac	"	"										
72	-3770A	Mexico: Pachuca; headwaters of Rio Amajac	"	"										
73	-3771A	Mexico: Cerro Malinche, east end of Neo-Volcanic Plateau	"	"										
74	-3772A	Mexico: Orizaba, east end of Neo-Volcanic Plateau	"	"										
75	-3773A	Costa Rica: Caribbean Coast at Limon	"	"										
76	-3774A	Costa Rica: Caribbean Coast at Limon	"	"										
77	-3775A	Clouds, water off Costa Rica	"	"										
78	-3776A	Texas; nearly all clouds	120	3/11/69										
79	-3777A	Texas; nearly all clouds	"	"										
80	-3778A	Texas, nearly all clouds	"	"										
81	-3779A	South Carolina: Atlantic coast, Garden City to Carolina Beach, Cape Fear	"	"										
82	-3780A	South Carolina: Cape Fear	"	"										
83	-3781A	Atlantic Ocean, off Cape Fear, clouds	"	"										
84	-3782A	Mexico: Baja California, Ensenada to Punta Colnett	121	"										
85	-3783A	Mexico: Baja California, Punta Colnett to San Felipe; Juarez & San Pedro Martin Mts.	"	"										
86	-3784A	Mexico: Baja California, Sonoro; mouth of Colorado River	"	"										
87	-3785A	Mexico, Arizona: Mouth of Colorado, Cerro Pinacate, Great Desert	"	"										
88	-3786A	Mexico, Arizona: Ajo, Cerro Pinacate, Great Desert	"	"										
89	-3787A	Mexico, Arizona: Ajo, Rio Sonoyta, Cerro Pinacate	"	"										
90	-3788A	Mexico, Arizona: Ajo, Rio Sonoyta, Casa Grande	"	"										
91	-3789A	Mexico, Arizona: Tucson, Casa Grande	"	"										
92	-3790A	Texas: East of Lubbock, Caprock Escarpment, fork of Red River; cloud deck	"	"										
93	-3791A	Texas: around Guthrie; fork of Red River; cloud deck	"	"										
94	-3792A	Texas: Vernon, Seymour; Red River, Lake Kemp	"	"										
95	-3793A	Alabama, Georgia: Birmingham, Gadsden; Coosa River, Martin Lake	"	"										
96	-3794A	Alabama, Georgia: Anniston; Chattahoochee River, Martin Lake	"	"										
97	-3795A	Alabama, Georgia: Chattahoochee River, Atlanta	"	"										
98	-3796A	South Carolina: Atlantic Coast, Georgetown to Shallotte	"	"										
99	-3797A	South Carolina: Cape Fear	"	"										
100	-3798A	Atlantic Ocean, clouds, off Cape Fear	"	"										
101	-3799A	California: San Nicolas Island	136	3/12/69										
102	-3800A	California: San Clemente, Santa Catalina Islands, coast at San Clemente	"	"										
103	-3801A	Mexico, California: San Diego to Imperial Valley, La Quinta	"	"										
104	-3802A	Mexico, California: Arizona: Yuma Salton Sea, Imperial Valley, Colorado River	"	"										
105	-3803A	Mexico, California, Arizona: Yuma, Blythe; Colorado, Gila Rivers	"	"										
106	-3804A	Arizona: Phoenix	"	"										
107	-3805A	Arizona: Roosevelt Reservoir, San Carlos Lake, Globe	"	"										
108	-3806A	Arizona, New Mexico: Morenci; Baldy Peak, San Francisco River, Mogollon Mts.	"	"										
109	-3807A	New Mexico: Rio Grande, Caballo Reservoir, Black Mts.	"	"										
110	-3808A	New Mexico: San Andres, Sacramento, Capitan Mts., Malpais Lava	"	"										

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APOLLO 9, MAGAZINE AA

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	MAGAZINE/ROLL NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO AS 1	PHOTO AS 2	PHOTO AS 3	PHOTO AS 4
	AS9-26A-3806A	New Mexico: Roswell; Pecos River, Capitan Mts.	136	3/12/69											
2	-3807A	Texas; New Mexico: Portales	"	"											
3	-3808A	Texas: Lubbock; Caprock Escarpment, forks of the Brazos and Red Rivers	"	"							INT. NEG				
4	-3809A	Texas: West of Wichita Falls; Brazos River, Lake Kemp	"	"							INT. NEG				
5	-3810A	Texas: Wichita Falls under clouds	"	"											
6	-3811A	Texas; Oklahoma; Ft. Worth-Dallas, Lake Texoma	"	"											
7	-3812A	Texas; Oklahoma, Arkansas, Louisiana; Texarkana, Red River	"	"											
8	-3813A	Georgia; Alabama: Montgomery to Columbus, Eufala; cloudy	"	"											
9	-3814A	Georgia	"	"											
10	-3815A	Georgia: Waycross; Altamaha River	"	"											
11	-3816A	Georgia: Coast at Brunswick	"	"											
12	-3817A	Atlantic Ocean, clouds	"	"											
13	-3818A	Atlantic Ocean, clouds	"	"											
14	-3819A	Atlantic Ocean, clouds	"	"											
15	-3820A	Atlantic Ocean, clouds	"	"											
16	-3821A	Clouds, Ocean: Bomex area	137	"											
17	-3822A	Clouds, Ocean: Bomex area	"	"											
18	-3823A	Clouds, Ocean: Bomex area	"	"											
19	-3824A	Clouds, Ocean: Bomex area	"	"											
20	-3825A	Clouds, Ocean: Bomex area	"	"											
21	-3826A	Clouds, Ocean: Bomex area	"	"											
22	-3827A	Clouds, Ocean: Bomex area	"	"											
23	-3828A	Clouds, Ocean: Bomex area	"	"											
24	-3829A	Clouds, Ocean: Bomex area	"	"											
25	-3830A	Clouds, Ocean: Bomex area	"	"											
26	-3831A	Clouds, Ocean: Bomex area	"	"											
27	-3832A	Clouds, Ocean: Bomex area	"	"											
28	-3833A	Clouds, Ocean: Bomex area	"	"											
29	-3834A	Clouds, Ocean: Bomex area	"	"											
30	-3835A	Clouds, Ocean: Bomex area	"	"											

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APOLLO 9, MAGAZINE A

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME	NASA/MSC ACCESSION NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
1	AS9-19-2909	LM, S-IVB, docking approach	15	3/4/69		23:29									
2	-2910	LM, S-IVB, docking approach	15	"											
3	-2911	LM, S-IVB, docking approach	15	"											
4	-2912	LM, S-IVB, docking approach	15	"											
5	-2913	LM, S-IVB, docking approach	15	"											
6	-2914	LM, S-IVB, docking approach	15	"											
7	-2915	LM, S-IVB, docking approach	15	"											
8	-2916	LM, S-IVB, docking approach	15	"											
9	-2917	LM, S-IVB, docking approach	15	"											
10	-2918	LM, S-IVB, docking approach; clouds	15	"											
11	-2919	LM, S-IVB, docking approach; clouds	15	"											
12	-2920	LM, S-IVB, docking approach; clouds	15	"											
13	-2921	LM, S-IVB, docking approach; ocean, clouds	15	"											
14	-2922	LM, S-IVB, docking approach; ocean, clouds	15	"											
15	-2923	LM, S-IVB, docking approach; ocean, clouds	15	"											
16	-2924	LM, S-IVB, docking approach; ocean, clouds	15	"											
17	-2925	LM, S-IVB, docking approach; ocean, clouds	15	"											
18	-2926	LM, S-IVB, docking approach; ocean, clouds	15	"											
19	-2927	LM, S-IVB, docking approach; ocean, clouds	15	"											
20	-2928	LM, S-IVB, docking approach; ocean, clouds	15	"											
21	-2929	LM, S-IVB, docking approach; ocean, clouds	15	"											
22	-2930	LM, S-IVB, docking approach; ocean, clouds	15	"											
23	-2931	LM, S-IVB, docking approach; ocean, clouds	15	"											
24	-2932	LM, S-IVB, docking approach; ocean, clouds	15	"											
25	-2933	LM, S-IVB, docking approach; ocean, clouds	15	"											
26	-2934	S-IVB, LM extracted	15	"											
27	-2935	S-IVB, LM extracted	15	"											
28	-2936	S-IVB, LM extracted	15	"											
29	-2937	S-IVB, LM extracted	15	"											
30	-2938	S-IVB, LM extracted	15	"											
31	-2939	S-IVB, LM extracted	15	"											
32	-2940	S-IVB, LM extracted	15	"											
33	-2941	LM docked, S-IVB in background; ocean, clouds	15	"											
34	-2942	LM docked, S-IVB in background; ocean, clouds	15	"											
35	-2943	LM docked, S-IVB in background; ocean, clouds	15	"											
36	-2944	LM docked, S-IVB in background; ocean, clouds	15	"											
37	-2945	LM docked, S-IVB in background; ocean, clouds	15	"											
38	-2946	LM quadrant, S-IVB, Pacific Ocean, clouds off California	15	"											
39	-2947	LM quadrant, S-IVB, Pacific Ocean, clouds off California	15	"											
40	-2948	LM quadrant, S-IVB, Pacific Ocean, clouds off California	15	"											
41	-2949	LM quadrant, S-IVB, California; coast, Channel Islands	15	"											
42	-2950	S-IVB over Baja California, Southern California	15	"											
43	-2951	S-IVB over New Mexico	15	"											
44	-2952	S-IVB, prior to final ignition	15	"											
45	-2953	S-IVB, final ignition	15	"											
46	-2954	S-IVB, final ignition	15	"											
47	-2955	Moon, overexposed	15	"											
48	-2956	Moon, overexposed	15	"											
49	-2957	Moon, overexposed	15	"											
	-2958	LM docking target	15	"		23:38									
	-2959	Blurred	15	"											
	-2960	LM, south of Mississippi Gulf Coast	15	"		23:41									
	-2961	LM, over St. John's River, Florida	15	"		23:43									
	-2962	LM, south of Cape Matteras	15	"		23:44									
	-2963	LM	15	"											

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FRAME NO.	NASA/MSC FILM NO.	AS9A DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	REMARKS 1	REMARKS 2	REMARKS 3
56	AS9-19-----	Blank	15	3/4/69										
57	AS9-19-2964	LM, quadrant	15	"										
58	-2965	LM, quadrant	15	"										
59	-2966	CSM, drogue	29	3/5 69										
60	-2967	CSM, drogue	29	"										
61	-2968	LM, ocean, clouds	29	"										
62	-2969	LM, ocean, clouds	29	"										
63	-2970	LM, ocean, clouds	29	"										
64	-2971	LM, ocean, clouds	29	"										
65	-2972	LM, ocean, clouds	29	"										
66	-2973	LM, antenna, ocean, clouds	29	"										
67	-2974	Food package	29	"										
68	-2975	Earth limb	29	"										
69	-2976	Astronaut Schweickart, EVA	46	3/6/69										
70	-2977	LM gear	46	"										
71	-2978	LM gear, ocean, clouds	46	"										
72	-2979	LM gear	46	"										
73	-2980	LM gear	46	"										
74	-2981	Astronaut Schweickart EVA	46	"										
75	-2982	Astronaut Schweickart EVA	46	"										
76	-2983	Astronaut Schweickart EVA	46	"										
77	-2984	Astronaut Schweickart EVA	46	"										
78	-2985	Astronaut Schweickart EVA	46	"										
79	-2986	Texas: San Antonio, Austin, Kerrville, Fredericksburg, Lampasas	46	"										
80	-2987	Texas: Waco, Killeen, Brownwood, Coleman, Lake Buchanan	46	"										
81	-2988	Texas: Waco, Austin, San Antonio, looking west	46	"										
82	-2989	Texas: Gulf Coast, Freeport to Brownsville, view SW into Mexico	46	"										
83	-2990	Texas: Gulf Coast, Freeport to Brownsville, view SW into Mexico	46	"										
84	-2991	Texas: Gulf Coast, Matagorda Bay to Galveston Bay	46	"										
85	-2992	Louisiana: Gulf Coast, Grand Lake, White Lake, clouds	46	"										
86	-2993	CM hatch, LM gear; ocean, clouds	46	"										
87	-2994	Astronaut Schweickart, EVA	46	"										
88	-2995	Astronaut Schweickart, EVA	46	"										
89	-2996	Astronaut Schweickart, EVA	46	"										
90	-2997	Astronaut Schweickart, EVA	46	"										
91	-2998	Astronaut Schweickart, EVA	46	"										
92	-2999	Astronaut Schweickart, EVA	46	"										
93	-3000	Astronaut Schweickart, EVA	46	"										
94	-3001	Astronaut Schweickart, EVA	46	"										
95	-3002	LM gear; clouds	46	"										
96	-3003	LM gear; clouds	56	3/7/69										
97	-3004	LM gear; clouds	56	"										
98	-----	Blank												
99	-3005	Double exposure	94	3/9/69										
100	-3006	French Guiana, Brazil: coast at Cayenne	94	"										
101	-3007	Brazil: mouths of Amazon River, Oyapack River	94	"										
102	-3008	Brazil: coast at Natal	94	"										
103	-3009	Mexico: Baja California, Punta Eugenia	94	"										
104	-3010	Mexico: view south over Lago de Cuitzeo and Morelia	94	"										
105	-3011	Mexico: view south over Toluca and Mexico City	94	"										
106	-3012	Mexico: view south over Mexico City and Popocatepetl	94	"										
107	-3013	Mexico: view south over Popocatepetl into Oaxaca	94	"										
108	-3014	Mexico: view south over Popocatepetl into Oaxaca	94	"										
109	-3015	Mexico: looking south over Oaxaca	94	"										
110	-3016	Mexico: Chiapas, Pacific Coast, Sierra Madre	94	"										

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Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC COLOR NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO AS 1	PHOTO AS 2	PHOTO AS 3	PHOTO AS OT 4
11	AS9-19-3017	Mexico: Chiapas, Pacific Coast. Sierra Madre	94	3/9/69											
12	-3018	Mexico, Guatemala: Pacific Coast. Sierra Madre	94	"											
13	-3019	El Salvador, Nicaragua, Honduras: Gulf of Fonseca	94	"											
14	-3020	Nicaragua: Lago de Managua, Lago de Nicaragua, Volcan Concepcion	94	"											
15	-3021	Nicaragua: Lago de Nicaragua, Volcan Concepcion	94	"											
16	-3022	Nicaragua: Lago de Nicaragua, east end	94	"											
17	-3023	Nicaragua, Costa Rica: Mouth of Rio San Juan	94	"											
18	-3024	Amazon Basin, clouds	95	"											
19	-3025	Amazon Basin, clouds	95	"											
20	-3026	Amazon Basin, clouds	95	"											
21	-3027	Amazon Basin, clouds	95	"											
22	-3028	Amazon Basin, clouds	95	"											
23	-3029	Galapagos Islands	95	"											
24	-3030	Galapagos Islands	95	"											
25	-3031	Galapagos Islands	95	"											
26	-3032	Galapagos Islands	95	"											
27	-3033	Thailand: clouds	96	"											
28	-3034	Algeria: Tidikelt Region: dome field oil and gas area, Hedrane Escarpment	105	3/10/69											
29	-3035	Algeria: Ahaggar Mts	105	"											
30	-3036	Algeria: Ahaggar Mts.	105	"											
31	-3037	Sahara, sand, clouds	105	"											
32	-3038	Sahara, sand, clouds	105	"											
33	-3039	Sahara, sand, clouds	105	"											
34	-3040	Louisiana: Gulf Coast at Marsh Island	105	"											
35	-3041	Louisiana: Gulf Coast at Marsh Island	105	"											
36	-3042	Louisiana: Gulf Coast at Marsh Island	105	"											
37	-3043	Louisiana: New Orleans; Mississippi Delta; cloudy	105	"											
38	-3044	Louisiana: Mississippi Delta, Chandeleur Islands	105	"											
39	-3045	Louisiana: Mississippi Delta, Chandeleur Islands	105	"											
40	-3046	Florida: Gulf Coast, Panama City to Tallahassee	105	"											
41	-3047	Florida: view south over Jacksonville	105	"											
42	-3048	Florida: view southwest over Lake City	105	"											
43	-3049	Florida, Georgia: view south at Kennedy Space Center from Brunswick	105	"											
44	-3050	Mauritania: Dhar Adrar Richat Structure	106	"											
45	-3051	Mauritania: Dhar Adrar	106	"											
46	-3052	Mali: Tombouctou: Niger River	106	"											
47	-----	Spacecraft Interior, underexposed	106	"											
48	-----	Blank													
49	-----	Blank													
50	-----	Moon, out of focus													

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Herbert A. Tiedemann

FRAME NO.	NASA/MSC ORIGIN NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
1	AS9-21-3178	LM Motor - at undocking				92:39									
2	-3179	LM - First post undocking photo Range=	59	3/7/69		92:41									
3	-3180	LM, undocked from CSM Over Atlantic; Range=	59	"											
4	-3181	LM, undocked from CSM Over Atlantic; Range=	59	"											
5	-3182	LM, undocked from CSM Over Atlantic; Range=	59	"											
6	-3183	LM, undocked from CSM Over Atlantic; Range=	59	"											
7	-3184	LM, undocked from CSM Over Atlantic; Range=	59	"											
8	-3185	LM, undocked from CSM Over Atlantic; Range=	59	"											
9	-3186	LM, undocked from CSM Over Atlantic; Range=	59	"											
10	-3187	LM, undocked from CSM Over Atlantic; Range=	59	"											
11	-3188	LM, undocked from CSM Over Atlantic; Range=	59	"											
12	-3189	LM, undocked from CSM Over Atlantic; Range=	59	"											
13	-3190	LM, undocked from CSM Over Atlantic; Range=	59	"											
14	-3191	LM, undocked from CSM Over Atlantic; Range=	59	"											
15	-3192	LM, undocked from CSM Over Atlantic; Range=	59	"											
16	-3193	LM, undocked from CSM Over Atlantic; Range=	59	"											
17	-3194	LM, undocked from CSM Over Atlantic; Range=	59	"											
18	-3195	LM, undocked from CSM Over Atlantic; Range=	59	"											
19	-3196	LM, undocked from CSM Over Atlantic; Range=	59	"											
20	-3197	LM, undocked from CSM Over Atlantic; Range=	59	"											
21	-3198	LM, undocked from CSM Over Atlantic; Range=	59	"											
22	-3199	LM, undocked from CSM Over Atlantic; Range=	59	"											
23	-3200	LM, undocked from CSM Over Atlantic; Range=	59	"											
24	-3201	LM, undocked from CSM Over Atlantic; Range=	59	"											
25	-3202	LM, undocked from CSM Over Atlantic; Range=	59	"											
26	-3203	LM, undocked from CSM Over Atlantic; Range=	59	"											
27	-3204	LM, undocked from CSM Over Atlantic, Morocco Coast; Range=	59	"											
28	-3205	LM, undocked from CSM Over Morocco, Safi; Range=	59	"											
29	-3206	LM, undocked from CSM Over Morocco, El Jadida; Range=	59	"											
30	-3207	LM, undocked from CSM Over Morocco, Casablanca; Range=	59	"											
31	-3208	LM, undocked from CSM Over Morocco, Rabat; Range=	59	"											
32	-3209	LM undocked from CSM Over Morocco Middle Atlas Mts - Range=	59	"											
33	-3210	LM, undocked from CSM Clouds over Sahara; Range=	59	"											
34	-3211	LM undocked from CSM Clouds over Sahara; Range=	59	"											
35	-3212	LM undocked from CSM Clouds over Sahara; Range=	59	"											
36	-3213	LM, undocked from CSM Clouds over Sahara; Range=	59	"											
37	-3214	LM, undocked from CSM Clouds over Sahara; Range=	59	"											
38	-3215	LM undocked from CSM Clouds over Sahara; Range=	59	"											
39	-3216	LM undocked from CSM Clouds over Sahara; Range=	59	"											
40	-3217	LM undocked from CSM Clouds over Sahara; Range=	59	"											
41	-3218	LM undocked from CSM Clouds over Sahara; Range=	59	"											
42	-3219	LM, undocked from CSM Clouds over Sahara; Range=	59	"											
43	-3220	LM, undocked from CSM Clouds over Sahara; Range=	59	"											
44	-3221	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
45	-3222	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
46	-3223	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
47	-3224	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
48	-3225	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
49	-3226	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
50	-3227	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
51	-3228	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
52	-3229	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
53	-3230	LM Ascent Stage, post rendezvous; Hawaii in background; Range=	62	"											
54	-3231	LM Ascent Stage, post rendezvous; Hawaii in background; Range=	62	"											
55	-3232	LM Ascent Stage, post rendezvous; Hawaii in background; Range=	62	"											

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APOLLO 9, MAGAZINE B

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC ROLL NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
56	AS9-21-3233	LM Ascent Stage, post rendezvous; Hawaii, Mauna Loa, Mauna Kea; Range=	62	3/7/69											
57	-3234	LM Ascent Stage, post rendezvous; Hawaii, Mauna Loa, Mauna Kea; Range=	62	"											
58	-3235	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
59	-3236	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
60	-3237	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
61	-3238	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
62	-3239	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
63	-3240	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
64	-3241	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
65	-3242	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
66	-3243	LM Ascent Stage, post rendezvous; Pacific Ocean, clouds; Range=	62	"											
67	-3244	LM Ascent Stage, post rendezvous; US Pacific Coast, clouds; Range=	62	"											
68	-3245	LM Ascent Stage, jettison; Range=	64	"											
69	-3246	LM Ascent Stage, jettison; Range=	64	"											
70	-3247	LM Ascent Stage, jettison; Range=	64	"											
71	-3248	LM Ascent Stage, jettison; Range=	64	"											
72	-3249	LM Ascent Stage, jettison; Range=	64	"											
73	-3250	LM Ascent Stage, jettison; Range=	64	"											
74	-3251	LM Ascent Stage, jettison; Range=	64	"											
75	-3252	LM Ascent Stage, jettison; Range=	64	"											
76	-3253	LM Ascent Stage, jettison; Range=	64	"											
77	-3254	LM Ascent Stage, jettison, US Pacific Coast, clouds over Pacific; Range=	64	"											
78	Blank	Blank													
79	Blank	Blank													
80	-3255	Earth limb, sunrise	75	3/8/69											
81	-3256	Mexico: Jalisco, Colima, Michoacan, Pacific Coast, looking west	75	"											
82	-3257	Clouds over water	76	"											
83	-3258	Clouds over water	76	"											
84	-3259	Clouds over water	76	"											
85	-3260	Clouds over water	76	"											
86	-3261	Clouds over water	76	"											
87	-3262	Mexico: Baja California, Punta Baja, Bahia San Luis	76	"											
88	-3263	Mexico: Baja California, view north at mouth of Colorado River, Salton Sea	76	"											
89	-3264	New Mexico: White Sands, Rio Grande, Malpais Lava, Mogollon Mts.	76	"											
90	-3265	New Mexico: Pecos River, Alamogordo Reservoir, Llano Estacado; snow cover	76	"											
91	-3266	Georgia, Alabama: Atlanta; Allatoona Reservoir, Lake Sidney Lanier	76	"											
92	-3267	Georgia, Alabama: Atlanta; Allatoona Reservoir, Lake Sidney Lanier	76	"											
93	-3268	Georgia, Alabama: Atlanta; Allatoona Reservoir, Lake Sidney Lanier	76	"											
94	-3269	Georgia, North and South Carolina: Greenville; Blue Ridge Mts., Clark Hill Res.	76	"											
95	-3270	South Carolina: Charleston, Columbia; Lake Marion, Lake Moultrie	76	"											
96	-3271	North and South Carolina: Cape Fear, Cape Lookout, Pee Dee River system	76	"											
97	-3272	North Carolina: Wilmington; Onslow Bay, Cape Fear River system	76	"											
98	-3273	North Carolina: view north over Cape Hatteras at Norfolk and Delmarva Peninsula	76	"			✓	Vegetation file Color							
99	-3274	US East Coast, view north: Cape Hatteras, Norfolk, Chesapeake Bay	76	"											
100	-3275	US East Coast, view north: Cape Hatteras, Norfolk, Chesapeake Bay	76	"											
101	-3276	US East Coast, view north: Cape Hatteras, Norfolk, Chesapeake Bay	76	"											
102	-3277	Clouds over Atlantic Ocean off South Carolina	76	"											
103	-3278	Clouds over Atlantic Ocean off South Carolina	76	"											
104	-3279	CM hatch window with debris	77	"											
105	-3280	CM hatch window with debris, out of focus, underexposed	77	"											
106	-3281	CM hatch window with debris, out of focus, underexposed	77	"											
107	Blank	Blank													
108	Blank	Blank													
109	-3282	Mexico, Texas, New Mexico: Deming, El Paso, Alamogordo area	77	"											
110	-3283	Texas, Oklahoma: Ouachita Mts., Red River, Lake Texoma, Canadian River	77	"											

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Herbert A. Tiedemann

FRAME NO.	NASA/MSC SCIENCE NO.	AREA DESCRIPTION	REV.	DATE	GMT	CET	CENTER OF PHOTO. LATITUDE	CENTER OF PHOTO. LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPE 1	2	3
111	AS9-21-3284	Texas, Oklahoma: Ouachita Mts., Red River, Lake Texoma	77	3/8/69										
112	-3285	Florida, Alabama, Georgia: Gulf Coast, view south	77	"										
113	-3286	California: Santa Catalina, coast from Los Angeles to San Clemente	77	"										
114	-3287	Mexico, California, Arizona: Salton Sea area	77	"										
115	-3288	Mexico, California: view south over Imperial Valley to mouth of Colorado River	77	"										
116	-3289	Mexico: view south over northern Baja California, mouth of Colorado River	77	"										
117	-3290	Arizona: Phoenix: Gila Bend area, Maricopa Mts.	77	"										
118	-3291	Arizona: Gila River, San Carlos Lake, Willcox Playa, San Pedro River	77	"										
119	-3292	Mexico, Arizona, New Mexico: Willcox Playa to Deming, northern Chihuahua	77	"										
120	-3293	New Mexico: White Sands, Malpais Lava, Sacramento Mts.	77	"										
121	-3294	Texas, New Mexico, Llano Estacado, state line clearly discernible	77	"										
122	-3295	Texas: Lubbock: Caprock Escarpment, Llano Estacado	77	"										
123	-3296	Texas: Upper Brazos River system, Wichita and Red Rivers	77	"										
124	-3297	Texas, Oklahoma: Wichita Falls: Red River, Lake Kemp	77	"										
125	-3298	Texas, Fort Worth-Dallas: Brazos River, Lake Whitney	77	"										
126	-3299	Texas, Fort Worth-Dallas: Denton, Lavon Reservoir, Trinity River	77	"										
127	-3300	Texas, Oklahoma, Arkansas: Red River, Sabine River, Lake Texarkana	77	"										
128	-3301	Texas, Louisiana: Shreveport: Red River, Toledo Bend Reservoir	77	"										
129	-3302	Louisiana, Mississippi: Monroe, Vicksburg: Mississippi River, Ouachita River	77	"										
130	-3303	Louisiana, Mississippi: Baton Rouge, Natchez: Mississippi River, Atchafalaya R.	77	"										
131	-3304	Clouds over ocean	77	"										
132		Blank												
133	-3305	Mexico, California, Arizona: Yuma: Imperial Valley, Colorado River	92	3/9/69										
134	-3306	Mexico, Arizona: Northern Chihuahua, southern Arizona, Huachuca Mts.	92	"										
135	-3307	Mexico, Texas, New Mexico: El Paso, Rio Grande area	92	"										
136	-3308	Mexico, Texas, New Mexico: El Paso, Rio Grande area	92	"										
137	-3309	Mexico, Texas: Rio Grande, Amisted Reservoir, view south toward Coahuila	92	"										
138	-3310	Texas: San Antonio, New Braunfels	92	"										
139	-3311	Cuba: Pinar del Rio: Yucatan Channel, Gulf of Mexico	93	"										
140	-3312	Cuba: Isla des Pinos, Archipelago de los Canarreos	93	"										
141	-3313	Cuba: Oriente Province, Sierra Maestra: Haiti: Cap-a-Foux, Cap Carcasse	94	"										
142	-3314	Cuba: Oriente, Camaguey Provinces, Sierra Maestra, Guacanayabo Gulf	94	"										
143	-3315	Jamaica: Caribbean Sea	94	"										
144	-3316	Jamaica: Caribbean Sea	94	"										
145	-3317	Haiti: Massif de la Hotte, Las Cayes, Cap Carcasse	94	"										
146	-3318	Haiti, Dominican Republic: Cabo Falso, Lago de Enriquillo	94	"										
147	-3319	Venezuela, Colombia, Aruba: view south at Golf of Venezuela	94	"										
148	-3320	Venezuela, Colombia, Aruba: view south at Golf of Venezuela	94	"										
149	-3321	Venezuela: view south over Islas los Roques, Isla Orchi	94	"										
150	-3322	Venezuela: view south overPeninsula de Araya, Isla Margarita	94	"										
151	-3323	Partial Frame: Guiana coast of South America	94	"										

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(Oct 68)(OI) APOLLO 9, MAGAZINE C Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	CASE/ITEM OR ROLL NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	CENTER OF PHOTO ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPEC 1	2	3
1	AS9-22-3324	Clouds, ocean												
2	-3325	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	3/8/69										
3	-3326	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	"										
4	-3327	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	"										
5	-3328	New Mexico: headwaters of Rio Grande; snow, clouds	78	"										
6	-3329	New Mexico: Rio Grande, San Andres and Sacramento Mts., White Sands	78	"										
7	-3330	New Mexico: Roswell, Sacramento and Guadalupe Mts., White Sands	78	"										
8	-3331	New Mexico, Texas: Roswell, Carlsbad, Lubbock; Pecos River	78	"										
9	-3332	New Mexico, Texas: Roswell, Carlsbad, Lubbock; Pecos River	78	"										
10	-3333	New Mexico, Texas: Hobbs, Lubbock, Amarillo	78	"										
11	-3334	New Mexico, Texas: Odessa, Midland, Big Spring	78	"										
12	-3335	Texas, Oklahoma: Abilene; Red River	78	"										
13	-3336	Texas, Oklahoma: Abilene; Red River	78	"										
14	-3337	Texas, Oklahoma: Abilene, Ft. Worth	78	"										
15	-3338	Texas, Oklahoma: Abilene, Ft. Worth-Dallas	78	"										
16	-3339	Texas, Oklahoma: Ft. Worth-Dallas	78	"										
17	-3340	Texas: Austin to Waco	78	"										
18	-3341	Texas: Austin to Waco	78	"										
19	-3342	Texas: Matagorda Bay	78	"										
20	-3343	Cuba: North Camaguey coast at Moron; Old Bahama Channel	79	"										
21	-3344	Cuba: North Camaguey coast at Moron; Old Bahama Channel	79	"										
22	-3345	Bahamas: Andros Island, Tongue of the Ocean, Exuma Sound	79	"										
23	-3346	Bahamas: Jumento Cays	79	"										
24	-3347	Cuba: east end of Oriente Province	79	"										
25	-3348	Cuba: east end of Oriente Province	79	"										
26	-3349	Haiti: Cap-a-Foux	79	"										
27	-3350	Haiti, Dominican Republic: Port-au-Prince	79	"										
28	-3351	Haiti, Dominican Republic: Barahona; Lago de Enriquillo	79	"										
29	-3352	Haiti, Dominican Republic: Barahona, Lago de Enriquillo	79	"										
30	-3353	Pacific Ocean, clouds	79	"										
31	-3354	Pacific Ocean, clouds	79	"										
32	-3355	Pacific Ocean, clouds	79	"										
33	-3356	Pacific Ocean, clouds off Mexican coast	79	"										
34	-3357	Mexico, California: Pacific coast	79	"										
35	-3358	Mexico, California: San Diego; Salton Sea	79	"										
36	-3359	Mexico, Arizona, California: Gulf of California, mouth of Colorado River	79	"										
37	-3360	Mexico: Culiacan; Sierra Madre Occidental	79	"										
38	-3361	Mexico: coast at Matzatlan	79	"										
39	-3362	Mexico: west of Torreon, Lago de Santiaguillo	79	"										
40	-3363	Mexico: Durango	79	"										
41	-3364	Mexico: Durango and southeast	79	"										
42	-3365	Mexico: Fresnillo-Zacatecan area	79	"										
43	-3366	Mexico: Zacatecas area	79	"										
44	-3367	Mexico: Zacatecas area	79	"										
45	-3368	Mexico: east of Zacatecas	79	"										
46	-3369	Mexico, Guatemala: Sierra Madre, Pacific coast	79	"										
47	-3370	Mexico, Guatemala: Rio de la Paison, Rio Salmas, Sierra Madre	79	"										
48	-3371	Guatemala, El Salvador, Honduras: Pacific coast, mountains near San Salvador	79	"										
49	-3372	Honduras: Camayagua Mts., Lago de Yojoa, Rio Ulua	79	"										
50	-3373	Honduras, El Salvador, Nicaragua: Gulf of Fonseca	79	"										
51	-3374	Brazil: Amazon Basin, thunderclouds	80	"										
52	-3375	Brazil: Amazon Basin, thunderclouds	80	"										
53	-3376	Brazil: Amazon Basin, thunderclouds	80	"										
54	-3377	Brazil: Amazon Basin, thunderclouds	80	"										
55	-3378	Mexico: Pacific coast at Punta Galera	89	3/9/69										

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APOLLO 9, MAGAZINE C

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC CLOUD NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO AID 1	PHOTO AID 2
1	AS9-22-3324	Clouds, ocean											
2	-3325	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	3/8/69									
3	-3326	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	"									
4	-3327	Arizona, New Mexico: Mogollon Rim, Colorado Plateau; snow, clouds	78	"									
5	-3328	New Mexico: headwaters of Rio Grande, snow, clouds	78	"									
6	-3329	New Mexico: Rio Grande, San Andres and Sacramento Mts., White Sands	78	"									
7	-3330	New Mexico: Roswell, Sacramento and Guadalupe Mts., White Sands	78	"									
8	-3331	New Mexico, Texas: Roswell, Carlsbad, Lubbock; Pecos River	78	"									
9	-3332	New Mexico, Texas: Roswell, Carlsbad, Lubbock; Pecos River	78	"									
10	-3333	New Mexico, Texas: Hobbs, Lubbock, Amarillo	78	"									
11	-3334	New Mexico, Texas: Odessa, Midland, Big Spring	78	"									
12	-3335	Texas, Oklahoma: Abilene, Red River	78	"									
13	-3336	Texas, Oklahoma: Abilene, Red River	78	"									
14	-3337	Texas, Oklahoma: Abilene, Ft. Worth	78	"									
15	-3338	Texas, Oklahoma: Abilene, Ft. Worth-Dallas	78	"									
16	-3339	Texas, Oklahoma: Ft. Worth-Dallas	78	"									
17	-3340	Texas: Austin to Waco	78	"									
18	-3341	Texas: Austin to Waco	78	"									
19	-3342	Texas: Matagorda Bay	78	"									
20	-3343	Cuba: North Camaguey coast at Moron; Old Bahama Channel	79	"									
21	-3344	Cuba: North Camaguey coast at Moron, Old Bahama Channel	79	"									
22	-3345	Bahamas: Andros Island, Tongue of the Ocean, Exuma Sound	79	"									
23	-3346	Bahamas: Jumento Cays	79	"									
24	-3347	Cuba: east end of Oriente Province	79	"									
25	-3348	Cuba: east end of Oriente Province	79	"									
26	-3349	Haiti: Cap-a-Foux	79	"									
27	-3350	Haiti, Dominican Republic: Port-au-Prince	79	"									
28	-3351	Haiti, Dominican Republic: Barahona; Lago de Enriquillo	79	"									
29	-3352	Haiti, Dominican Republic: Barahona; Lago de Enriquillo	79	"									
30	-3353	Pacific Ocean, clouds	79	"									
31	-3354	Pacific Ocean, clouds	79	"									
32	-3355	Pacific Ocean, clouds	79	"									
33	-3356	Pacific Ocean, clouds off Mexican coast	79	"									
34	-3357	Mexico, California: Pacific coast	79	"									
35	-3358	Mexico, California: San Diego; Salton Sea	79	"									
36	-3359	Mexico, Arizona, California: Gulf of California, mouth of Colorado River	79	"									
37	-3360	Mexico: Culiacan; Sierra Madre Occidental	79	"									
38	-3361	Mexico: coast at Mazatlan	79	"									
39	-3362	Mexico: west of Torreon, Lago de Santiaguillo	79	"									
40	-3363	Mexico: Durango	79	"									
41	-3364	Mexico: Durango and southeast	79	"									
42	-3365	Mexico: Fresnillo-Zacatecan area	79	"									
43	-3366	Mexico: Zacatecas area	79	"									
44	-3367	Mexico: Zacatecas area	79	"									
45	-3368	Mexico: east of Zacatecas	79	"									
46	-3369	Mexico, Guatemala: Sierra Madre, Pacific coast	79	"									
47	-3370	Mexico, Guatemala: Rio de la Paison, Rio Salmas, Sierra Madre	79	"									
48	-3371	Guatemala, El Salvador, Honduras: Pacific coast, mountains near San Salvador	79	"									
49	-3372	Honduras: Camayagua Mts., Lago de Yojoa, Rio Ulua	79	"									
50	-3373	Honduras, El Salvador, Nicaragua: Gulf of Fonseca	79	"									
51	-3374	Brazil: Amazon Basin, thunderclouds	80	"									
52	-3375	Brazil: Amazon Basin, thunderclouds	80	"									
53	-3376	Brazil: Amazon Basin, thunderclouds	80	"									
54	-3377	Brazil: Amazon Basin, thunderclouds	80	"									
55	-3378	Mexico: Pacific coast at Punta Galera	89	3/9/69									

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MSC Form 1825
(Oct 68)(OT) APOLLO 9, MAGAZINE C Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC ORDER NO.	AREA DESCRIPTION	REV.	DATE	GMT	TBD	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3
56	AS9-22-3379	Mexico: Oaxaca; Sierra Madre del Sur	89	3/9/69										
57	-3380	Mexico: Oaxaca; Sierra Madre del Sur	89	"										
58	-3381	Mexico: Oaxaca; Sierra Madre del Sur	89	"										
59	-3382	Mexico: Yucatan coast, El Cuyo to Puerto Juarez	89	"										
60	-3383	Mexico: Yucatan coast, El Cuyo to Puerto Juarez	89	"										
61	-3384	Mexico: Yucatan coast, El Cuyo to Puerto Juarez	89	"										
62	-3385	Florida: Key West, Marquesas Key	89	"										
63	-3386	Morocco: El Jadida, Casablanca; Straits of Gibraltar	90	"										
64	-3387	Algeria: Western Sahara, Erg er Rawoi	90	"										
65	-3388	Algeria: Western Sahara, Erg er Rawoi	90	"										
66	-3389	Algeria: Tidikelt Region	90	"										
67	-3390	Algeria: Tidikelt Region, Algerian dome field	90	"										
68	-3391	Algeria: Tidikelt Region, Algerian dome field	90	"										
69	-3392	Algeria: Iraguene Escarpment	90	"										
70	-3393	Algeria: Iraguene Escarpment	90	"										
71	-3394	Algeria: Iraguene Escarpment	90	"										
72	-3395	Algeria: Northern Ahaggar Mts., basalt flow	90	"										
73	-3396	Algeria: Northern Ahaggar Mts., basalt flow	90	"										
74	-3397	Algeria: Tassili N' Ajjer, Tifernine dunes	90	"										
75	-3398	Algeria: eastern Ahaggar Mts., Admer Plain	90	"										
76	-3399	Algeria: Libya: Tassili N' Ajjer, Erg Taita	90	"										
77	-3400	Chad, Libya: Marzuq Sand Sea, Erg Taita	90	"										
78	-3401	Chad, Libya, Niger: Hamada Manjuen	90	"										
79	-3402	Chad, Libya, Niger: Western Tibesti Mts.	90	"										
80	-3403	Chad: Zovar, Sherda; southern Tibesti Mts.	90	"										
81	-3404	Chad: east of Tibesti Mts., Aorounga Structure	90	"										
82	-3405	Mexico	90	"										
83	-3406	Mexico, Texas: Rio Grande, Falcon Reservoir	90	"										
84	-3407	Texas: Laguna Madre, Padre Island, south of Corpus Christi	90	"										
85	-3408	Spanish Sahara, Mauritania: view south over Cap Blanc	91	"										
86	-3409	Spanish Sahara, Mauritania: view south over Cap Blanc	91	"										
87	-3410	Spanish Sahara, Mauritania: view south over Cap Blanc	91	"										
88	-3411	Spanish Sahara, Mauritania: Dhar Adrar	91	"										
89	-3412	Spanish Sahara, Mauritania: Dhar Adrar, Richat Structure	91	"										
90	-3413	Louisiana to Florida: Gulf coast; New Orleans to Fort Walton	91	"										
91	-3414	Florida: Gulf coast, Fort Walton to Apalachee Bay	91	"										
92	-3415	Georgia, Florida: view south over Brunswick, Waycross	91-92	"										
93	-3416	Georgia, Florida: Atlantic coast, view south over Savannah	92	"										
94	-3417	South Carolina, Georgia: Atlantic coast, view south over Beaufort	92	"										
95	-3418	South Carolina, Georgia: Atlantic coast, Charleston to Brunswick	92	"										
96	-3419	South Carolina, Atlantic coast, Brunswick to Georgetown	92	"										
97	-3420	South Carolina: Atlantic coast, Charleston to Shallotte	92	"										
98	-3421	Atlantic coast, westward view north of Charleston	92	"										
99	-3422	Colonel McDivitt	92	"										
100	-3423	Colonel McDivitt	92	"										
101	-3424	Atlantic Ocean: cloud eddies in lee of Cape Verde Islands	92	"										
102	-3425	Atlantic Ocean: cloud eddies in lee of Cape Verde Islands	92	"										
103	-3426	Cape Verde Islands: Braya, Fogo, Sao Tiago	92	"										
104	-3427	Cape Verde Islands: Boa Vista, Sal	92	"										
105	-3428	Cape Verde Islands: Boa Vista, Sal	92	"										
106	-3429	Cape Verde Islands: Fogo, Sao Tiago, Maio	92	"										
107	-3430	Atlantic Ocean, cloud eddies in lee of Cape Verde Islands	92	"										
108	-3431	Atlantic Ocean, cloud eddies in lee of Cape Verde Islands	92	"										
109	-3432	Cape Verde Islands	92	"										
110	-3433	California: Santa Barbara Channel, islands and coast	92	"										

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APOLLO 9, MAGAZINE C

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	ASSIGNMENT NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT ATTITUDE	SPACECRAFT LONGITUDE	PHOTO ATT. 1	PHOTO ATT. 2
111	AS9-22-3434	California: Channel Islands, coast from Santa Barbara to San Diego	92	3/9/69									
112	-3435	California: Channel Islands, coast from Santa Barbara to Oceanside	92	"									
113	-3436	California: Channel Islands, coast from Santa Barbara to Oceanside	92	"									
114	-3437	California: Salton Sea area	92	"									
115	-3438	California, Arizona, Nevada: view north over Lake Mead, Colorado Plateau; cloudy	92	"									
116	-3439	California, Arizona, Nevada: view north over Lake Mead, Colorado Plateau; cloudy	92	"									
117	-3440	Arizona, Utah: Colorado Plateau, Lake Powell; cloudy	92	"									
118	-3441	Arizona: Phoenix; Gila and Salt Rivers	92	"									
119	-3442	Arizona, Utah: Colorado Plateau, Lake Powell; cloudy	92	"									
120	-3443	New Mexico, Colorado: Colorado Plateau; cloudy	92	"									
121	-3444	New Mexico: Albuquerque: Rio Grande	92	"									
122	-3445	New Mexico: Albuquerque: Rio Grande	92	"									
123	-3446	New Mexico: view north over Albuquerque to Rocky Mts.	92	"									
124	-3447	New Mexico: view north over Albuquerque to Rocky Mts.	92	"									
125	-3448	New Mexico: Roswell: Capitan Mts.	92	"									
126	-3449	New Mexico: Roswell: Capitan Mts., Pecos River	92	"									
127	-3450	New Mexico: view north over Sangre de Cristo Mts.	92	"									
128	-3451	New Mexico: view north toward Texas Panhandle under clouds	92	"									
129	-3452	Texas: Lubbock, Plainview	92	"									
130	-3453	Texas, Oklahoma: Gainesville, Sherman, Denison; Lake Texoma	92	"									
131	-3454	Arkansas, Tennessee, Mississippi: Memphis; Mississippi River	92	"									
132	-3455	Arkansas, Tennessee, Miss.; view north Memphis to St. Louis; snow in Ill. & Mo.	92	"									
133	-3456	South Carolina, North Carolina: Atlantic coast, Charleston to Cape Hatteras; cloudy	92	"									
134	-3457	Arizona: Tucson area, under clouds	93	"									
135	-3458	Mexico, New Mexico: Deming, Columbus, Palomes area	93	"									
136	-3459	Mexico, New Mexico: Deming, Columbus, Palomes area	93	"									
137	-3460	Mexico, New Mexico, Texas: El Paso, Rio Grande, Potrillo Mts.	93	"									
138	-3461	Texas: Monahans, Odessa, Midland, Big Spring	93	"									
139	-3462	Texas: Gulf Coast, Houston to Beaumont	93	"									
140	-3463	Texas: Gulf Coast, Houston-Galveston area	93	"									
141	-3464	Texas: Gulf Coast, Freeport to Port Arthur	93	"									
142	-3465	Texas, Louisiana: Gulf Coast, Galveston to Lake Charles	93	"									
143	-3466	Florida: Keys-Dry Tortuga, Marquesas, Boca Grande Channel	93	"									
144	-3467	Florida: Keys-Marathon to Dry Tortugas	93	"									
145	-3468	Cuba: Camaguey coast at Moron; Old Bahama Channel	94	"									
146	-3469	Cuba: Camaguey coast at Moron; Old Bahama Channel	94	"									
147	-3470	Cuba: Oriente Province, Holguin; north and south coasts	94	"									
148	-3471	Cuba: Oriente Province, Guantanamo; Bahia de Nipe	94	"									
149	-3472	Haiti: northern peninsula, port-de-Paix	94	"									
150	-3473	Haiti: Golfo de Gonave	94	"									
151	-3474	Haiti, Dominican Republic: northern peninsula, Cap. Haiten	94	"									

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(Oct 68)(OT)

APOLLO 9, MAGAZINE D

Photographic Technology Laboratory

Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC CODE NO.	AREA DESCRIPTION	REV.	DATE	GMT	TET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3
1	AS9-23-3475	Japan: Ise Bay, Suruga Bay, Mt. Fujiyama	97	3/10/69										
2	-3476	Texas, Louisiana: Gulf Coast, Houston to Alexandria; Mississippi River	105	"										
3	-3477	Louisiana: Gulf Coast, Vermilion Bay, Atchafalaya Bay	105	"										
4	-3478	Louisiana, Mississippi: Gulf Coast, Lake Borne to Mobile Bay	105	"										
5	-3479	Mississippi: Gulf Coast, Biloxi to Mobile	105	"										
6	-3480	Mississippi, Florida: Mobile to Fort Walton; Mobile River	105	"										
7	-3481	Mali, Upper Volta: Tombouctou; Niger River	106	"										
8	-3482	Mali, Niger, Upper Volta: Niger River, north of Niamey	106	"										
9	-3483	Oklahoma: Ouachita Mts., McAlester to Fort Smith	106	"										
10	-3484	Oklahoma, Arkansas: Ouachita Mts., Ft. Smith-Little Rock-Hot Springs	106	"										
11	-3485	Oklahoma, Arkansas: Ouachita Mts., Dardanelle Reservoir-Little Rock	106	"										
12	-3486	Arkansas, Mississippi: Pine Bluff, Helena; Arkansas and Mississippi River	106	"										
13	-3487	Mississippi: Batesville; Sardis and Enid Reservoirs	106	"										
14	-3488	Cape Verde Islands: Sao Antao to Sao Nicolao	107	"										
15	-3489	Cape Verde Islands: Boa Vista and Sal	107	"										
16	-3490	Cape Verde Islands: Sao Tiago, Maio	107	"										
17	-3491	Senegal: Dakar	107	"										
18	-3492	Portugese Guinea, Senegal: Atlantic coast, Cape Roxo	107	"										
19	-3493	Portugese Guinea, Senegal: mouth of Corubal River	107	"										
20	-3494	Portugese Guinea, Senegal: mouth of Corubal River	107	"										
21	-3495	Sierra Leone: Atlantic coast, Bonthe to Freetown	107	"										
22	-3496	Venezuela: Caribbean coast, Curacao, Bonaire, Isla los Roques	109	"										
23	-3497	Brazil: mouths of the Amazon: cloudy	109	"										
24	-3498	Brazil: mouths of the Amazon: cloudy	109	"										
25	-3499	Brazil: Bahia de Marajo: cloudy	109	"										
26	-----	Blank	109	"										
27	-3500	Moon, out of focus	109	"										
28	-----	Blank	109	"										
29	-----	Blank	109	"										
30	-3501	Chile, Bolivia: clouds over Andes Mts. at sunset, Salar de Uyuni	110	"										
31	-3502	Peru, Bolivia: Lake Titicaca	110	"										
32	-3503	Japan: Central Honshu, Mt. Fujiyama above clouds	110	"										
33	-3504	Japan, Central Honshu, Nagoya; Mt. Fujiyama above clouds	110	"										
34	-3505	Hawaiian Islands: Oahu, Kaui, Nihau	110	"										
35	-3506	Hawaiian Islands: Oahu, Molokai, Lanai, Kahoolawe, Maui	110	"										
36	-3507	Hawaiian Islands: Oahu, Molokai, Lanai, Kahoolawe, Maui, Hawaii	110	"										
37	-3508	Hawaiian Islands: Molokai, Lanai, Kahoolawe, Maui, Hawaii	110	"										
38	-3509	Clouds	110	"										
39	-3510		110	"										
40	-3511	India, China, Burma: Himalaya and Nyenchen Thanglha Mts., Brahmaputra River	112	3/11/69										
41	-3512	India, China, Burma: Himalaya and Nyenchen Thanglha Mts., Brahmaputra River	112	"										
42	-3513	Morocco: Ouarzazate: Atlas, Anti-Atlas Mts., Oued Dra	118	"										
43	-3514	Morocco, Spain, Portugal: Straits of Gibraltar, Mediterranean Sea	118	"										
44	-3515	Morocco: coast at Oran; Spain: coast at Almeria and Cartegena	118	"										
45	-3516	Libya: Tripoli	118	"										
46	-3517	Libya: Tripoli	118	"										
47	-3518	Libya: Al Khums; Mediterranean coast east of Tripoli	118	"										
48	-3519	Libya: Benghazi	118	"										
49	-3520	Aegean Sea; Greece (Athens), Crete, Rhodes, Turkey	118	"										
50	-3521	Egypt, Israel: Nile Delta, Suez Canal, Gaza Strip	118	"										
51	-3522	Egypt, Nile River, El Faijum Depression	118	"										
52	-3523	Egypt, Saudi Arabia: Red Sea, Sinai Peninsula	118	"										
53	-3524	Egypt, Saudi Arabia: Red Sea, Sinai Peninsula	118	"										
54	-3525	Ceylon: south half of island	118	"										
55	-3526	Morocco, Spain, Portugal: Straits of Gibraltar	119	"										

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APOLLO 9, MAGAZINE C

Photographic Technology Laboratory: Richard W. Underwood
Herbert A. Tiedemann

FRAME NO.	NASA/MSC COLOR NO.	AREA DESCRIPTION	REV.	DATE	GMT	MET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT ATTITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	PHOTO ASPECT 2	PHOTO ASPECT 3
56	AS9-22-3527	Libya: Sahara, Black Haruj basalt	119	3/11/69										
57	-3528	Libya: Jebel el Gussa, northwest of Tibesti Mts.	119	"										
58	-3529	Libya: Vau en Namus, northwest of Tibesti Mts.	119	"										
59	-3530	Libya: north end of Tibesti Mts.	119	"										
60	-3531	Libya; Chad: Tibesti Mts.	119	"										
61	-3532	Libya, Egypt, Sudan: Jebel Auenat, Jebel Arkena, east of Tibesti Mts	119	"										
62	-3533	Libya, Egypt, Sudan: Jebel Auenat, Jebel Arkena, east of Tibesti Mts	119	"										
63	-3534	Sudan: Khartoum; junction of Blue and White Nile Rivers	119	"										
64	-3535	Ethiopia: Danakil Depression	119	"										
65	-3536	Ethiopia: Danakil Depression	119	"										
66	-3537	Ethiopia: Danakil area	119	"										
67	-3538	Ethiopia, French Somaliland: Danakil area	119	"										
68	-3539	Ethiopia, French Somaliland: Djibbouti	119	"										
69	-3540	French Somaliland, Somali Republic: Djibouti	119	"										
70	-3541	French Somaliland, Somali Republic: Djibouti	119	"										
71	-3542	Yemen, South Arabia: Aden; Mandab gate	119	"										
72	-3543	Florida: Gulf Coast, from Wildwood-Crystal River to Sarasota	119	"						INT NEG - COLOR				
73	-3544	Florida: Atlantic coast, Lake George, Lakeland, Kennedy Space Center	119	"										
74	-3545	Florida: Atlantic coast, Orlando, Kennedy Space Center, Daytona Beach	119	"										
75	-3546	Florida: Atlantic coast, Daytona Beach to Vero Beach	119	"										
76	-3547	Algeria: view east over Assejrad Escarpment toward Tassili N' Ajjer	120	"										
77	-3548	Kenya, Tanzania: Mt. Kilamanjaro area	120	"										
78	-3549	Tanzania: Arusha area; Lake Manyara, Lake Eyasi	120	"										
79	-3550	Farquar Group, islands north of Madagascar	120	"										
80	-3551	Alabama, Tennessee: Birmingham, Huntsville; Tennessee River, Guntersville Res	120	"										
81	-3552	Florida peninsula: view south from Jacksonville-Cross city	120	"										
82	-3553	North Carolina: Fayetteville, Lake Wacamaw	121	"										
83	-3554	North Carolina: Pamlico River, Albemarle Sound, view north to Cape Cod	121	"										
84	-3555	North Carolina, Virginia: Jacksonville to Norfolk	121	"										
85	-3556	US East Coast: Cape Hatteras to Cape Cod	121	"										
86	-3557	US East Coast: Chesapeake Bay to Cape Cod	121	"										
87	-3558	Mexico, California, Arizona, Nevada: Yuma, Mexicali; Salton Sea, Colorado River	121	"										
88	-3559	Mexico, Arizona, Cerro Pinacate, Gulf of California	121	"										
89	-3560	Arizona: Phoenix; Gila and Salt Rivers	121	"										
90	-3561	Texas: Lubbock area	121	"										
91	-3562	Texas, Oklahoma: Wichita Falls; Red River	121	"										
92	-3563	Arkansas, Mississippi, Louisiana: Greeneville, Monticello, Crossett; Miss. River	121	"										
93	-3564	Mississippi, Arkansas: Greeneville, Greenwood; Mississippi River	121	"										
94	-3565	Alabama, Mississippi, Tennessee: Florence, Jackson (Tenn.) Wheeler Lake, Tenn R.	121	"						INT. NEG (C)				
95	-3566	Alabama; Birmingham, Gadsden; Coosa River, Southern Appalachian Mts.	121	"										
96	-3567	Georgia: Atlanta, Marietta, Griffin, Cartersville, Newman, Gainesville	121	"						INT. NEG (C)				
97	-3568	South Carolina: Charleston, Beaufort; Lake Moultrie	122	"										
98	-3569	South Carolina: Atlantic coast, Charleston to Georgetown	122	"										
99	-3570	North Carolina: Atlantic coast, Wilmington to Albemarle Sound, cloudy view N	122	"										
100	-3571	New Mexico, Texas: Roswell; Pecos River, Llano Estacado; image blurred	122	"										
101	-3572	New Mexico, Texas: Llano Estacado, east of Roswell to Littlefield	122	"										
102	-3573	New Mexico, Texas: Littlefield, Plains; Llano Estacado	122	"										
103	-3574	New Mexico, Texas: Lubbock, Brownfield, Littlefield	122	"										
104	-3575	New Mexico, Texas: Lubbock, Brownfield, Littlefield	122	"										
105	-3576	Texas: Lubbock, Plainview; forks of Red River	122	"										
106	-3577	Texas: Lubbock, Plainview, Red River	122	"										
107	-3578	Texas, Oklahoma: Altus, Elk City; Red River	122	"										
108	-3579	Texas, Oklahoma: Altus, Quanchy, Elk City; Red River	122	"										
109	-3580	Texas, Oklahoma: Altus, Wichita Falls, Lawton; Red River	122	"										
110	-3581	Texas, Oklahoma: Altus, Wichita Falls, Lawton, Bowie; Red River	122	"										

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Photographic Technology Laboratory: Richard W. Underwood
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FRAME NO.	NASA/MSC CATALOG NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
111	AS9-23-3582	Texas, Oklahoma: Altus, Wichita Falls, Lawton, Bowie, Red River, Lake Texoma	122	3/11/69											
112	-3583	Texas, Oklahoma: Ft. Worth-Dallas, Denison; Lake Texoma, Red River	122	"											
113	-3584	Texas, Oklahoma: Ft. Worth-Dallas, Denison; Lake Texoma, Red River	122	"											
114	-3585	Texas: Dallas-Ft. Worth, Cleburne	122	"											
115	-3586	Texas, Oklahoma: Ft. Worth-Dallas, Red River, Lake Texoma	122	"											
116	-3587	Bahamas: Great Inagua, Caicos Islands, Turks Islands	123	"											
117	-3588	Ocean, clouds, contrail or ship wake	123	"											
118	-3589	Ocean, clouds	123	"											
119	-3590	Ocean, clouds	123	"											
120	-3591	Ocean, clouds	123	"											
121	-3592	Pacific Ocean, storm north of Hawaii	123	"											
122	-3593	Pacific Ocean, storm north of Hawaii	123	"											
123	-3594	Brazil: Baia de Marajo, ocean, clouds	124	"											
124	-3595	Astronaut Schweickart													
125	-3596	Astronaut Scott													
126	-3597	Astronaut McDivitt													
127	-3598	Astronaut Schweickart													
128	-3599	Astronaut Scott													
129	-3600	Astronaut McDivitt													
130	-----	Blank													
131	-----	Blank													
132	-----	Blank													
133	-----	Blank													
134	-----	Blank													
135	-----	Blank													
136	-----	Blank													
137	-----	Blank													
138	-----	Blank													
139	-3601	Western Australia: Broome to La Grange: Roebuck Bay	132	3/12/69											
140	-3602	Western Australia: Fitzroy River, St. George Range	132	"											
141	-3603	Western Australia: Fitzroy River, St. George Range	132	"											
142	-3604	Red Sea: Egyptian coast north of Ras Banas; Arabian coast at Al Wajh	133	"											
143	-3605	Red Sea: Arabian coast south of Jiddah	133	"											
144	-3606	Red Sea: Arabian coast south of Jiddah	133	"											
145	-3607	South Arabia: Hadramawt Plateau	133	"											
146	-3608	South Arabia: Hadramawt Plateau	133	"											
147	-3609	South Arabia: Hadramawt Plateau	133	"											
148	-3610	South Arabia: Hadramawt Plateau, Gulf of Aden	133	"											
149	-3611	Socotra Island	133	"											
150	-3612	Socotra Island	133	"											
151	-3613	Ocean, clouds	133	"											
152	-3614	Ocean, clouds	133	"											
153	-3615	Ocean, clouds	133	"											
154	-3616	Ocean, clouds	133	"											
155	-3617	Morocco, Ifni: cloud eddy off Ras Rhir	134	"											
156	-3618	Morocco: Atlas, Anti-Atlas Mts., Oued Sous	134	"											

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FRAME NO.	NASA/MSC S.L.N. NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	ORDER OF PHOTO LATITUDE	ORDER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3
1	AS9-20-3053	Astronaut Scott, CSM, EVA												
2	-3054	Astronaut Scott, CSM, EVA												
3	-3055	Astronaut Scott, CSM, EVA												
4	-3056	Astronaut Scott, CSM, EVA												
5	-3057	Astronaut Scott, CSM, EVA												
6	-3058	LM quadrant												
7	-3059	LM leg, footpad												
8	-3060	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
9	-3061	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
10	-3062	LM, CSM												
11	-3063	LM, leg, footpad												
12	-3064	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
13	-3065	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
14	-3066	LM, ladder, leg, footpad												
15	-3067	LM, CSM												
16	-3068	LM, quadrant, antenna; Pacific Ocean, clouds												
17	-3069	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
18	-3070	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
19	-3071	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
20	-3072	Astronaut Schweickart, LM, EVA												
21	-3073	Astronaut Schweickart, LM, EVA												
22	-3074	Astronaut Schweickart, LM, EVA												
23	-3075	Astronaut Schweickart, LM, EVA												
24	-3076	Astronaut Schweickart, LM, EVA												
25	-3077	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
26	-3078	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
27	-3079	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
28	-3080	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
29	-3081	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
30	-3082	Blurred, nearly blank												
31	-3083	Astronaut Scott, CSM, EVA; Pacific Ocean, clouds												
32	-3084	Through LM window, CSM, hatch open, over Baja California, La Paz												
33	-3085	Astronaut Schweickart, LM, EVA												
34	-3086	Astronaut Schweickart, LM, EVA; ocean, clouds												
35	-3087	Astronaut Schweickart, LM, EVA; ocean, clouds												
36	-3088	Astronaut Schweickart, LM, EVA; ocean, clouds												
37	-3089	Astronaut Schweickart, LM, EVA												
38	-3090	Astronaut Schweickart, LM, EVA												
39	-3091	Astronaut Schweickart, LM, EVA												
40	-3092	Astronaut Schweickart, LM, EVA												
41	-3093	Astronaut Schweickart, LM, EVA												
42	-3094	Astronaut Schweickart, LM, EVA												
43	-3095	Astronaut Schweickart, LM, EVA												
44	-3096	Astronaut Schweickart, LM, EVA												
45	-3097	Astronaut Schweickart, LM, EVA; ocean, clouds												
46	-3098	Astronaut Schweickart, LM, EVA; ocean, clouds												
47	-3099	Astronaut Schweickart, LM, EVA; ocean, clouds												
48	-3100	Astronaut Schweickart, LM, EVA; ocean, clouds												
49	-3101	Astronaut Schweickart, LM, EVA												
50	-3102	LM interior, four small lights												
51	-3103	LM interior; image blurred												
52	-3104	LM interior; image blurred												
53	-----	Blurred												
54	-----	Blurred												
55	-----	Blurred												

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PAGE NO.	NASA/NSC CODED NO.	AREA DESCRIPTION	REV.	DATE	GMT	CET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3	4
56	AS9-20-----	Blurred													
57	-----	Blurred													
58	-----	Blurred													
59	-----	Blurred													
60	-3105														
61	-3106	Chad: Tibesti Mts., Pic Tousside, Trou ou Natron	134	3/02/69											
62	-3107	Chad: Tibesti Mts., Pic Tousside, Tarzo Voon, Tarso Yega, Tarso Toon	134	"											
63	-3108	Chad: Tibesti Mts., Tarso Voon, Tarso Yega, Tarso Toon	134	"											
64	-3109	Chad: Tibesti Mts., Tarso Voon, Tarso Yega, Tarso Toon	134	"											
65	-3110	Chad: Tibesti Mts., Tarso Toon, Tarso Tieroko	134	"											
66	-3111	Sudan: Junction of Blue and White Nile Rivers at Khartoum	134	"											
67	-3112	Ethiopia: Highlands southeast of Addis Ababa	134	"											
68	-3113	Ethiopia: Highlands southeast of Addis Ababa	134	"											
69	-3114	Ethiopia: Highlands southeast of Addis Ababa	134	"											
70	-3115	Ethiopia: Lake Zwai, Lake Shala	134	"											
71	-3116	Somali Republic: coast north of Magadisco	134	"											
72	-3117	Somali Republic: coast north of Obbia	134	"											
73	-3118	US East Coast: Norfolk to New York	135	"											
74	-3119	US East Coast: Norfolk to New York	135	"											
75	-----	Blank	135	"											
76	-----	Blank	135	"											
77	-----	Blank	135	"											
78	-----	Blank	135	"											
79	-----	Blank	135	"											
80	-----	Blank	135	"											
81	-----	Blank	135	"											
82	-3120	Mexico: Guadalupe Island: cloud eddies	135	"											
83	-3121	Mexico: Guadalupe Island: cloud eddies	135	"											
84	-3122	New Mexico, Colorado, Utah: Stereo view north, Albuquerque-Denver-Salt Lake	135	"											
85	-3123	New Mexico, Colorado, Utah: Stereo view north, Albuquerque-Denver-Salt Lake	135	"											
86	-3124	South Carolina: coast, Charleston, Lake Moultrie, Lake Marion to Cape Fear	136	"											
87	-3125	US East Coast, view north, Goldsboro, N.C., to New York	136	"											
88	-3126	US East Coast, view north, Goldsboro, N.C., to New York	136	"											
89	-3127	North Carolina: coast, Jacksonville, Cape Lookout, Pamlico Sound	136	"											
90	-3128	North Carolina: coast, Cape Lookout, Cape Hatteras, Norfolk	136	"											
91	-3129	US East Coast: view north, Albemarle Sound to New York	136	"											
92	-3130	Cape Verde Islands	136	"											
93	-3131	Gulf of Guinea, clouds	136	"											
94	-3132	Gulf of Guinea, clouds	136	"											
95	-3133	California, Nevada: Sierra Nevada, San Joaquin Valley, Mojave Desert	136	"											
96	-3134	California, Nevada: Sierra Nevada, San Joaquin Valley, Mojave Desert	136	"											
97	-3135	California, Nevada, Arizona, Utah: Las Vegas, Colorado River, Lake Mead	136	"											
98	-3136	California, Nevada, Arizona, Utah: Colorado River, Lake Mead, Grand Canyon	136	"											
99	-3137	Arizona, Utah: Colorado River, Grand Canyon, Flagstaff, Humphrey's Peak	136	"											
100	-3138	Arizona, Utah: Colorado River, Grand Canyon, Humphrey's Peak, Meteor Crater	136	"											
101	-3139	Arizona, Utah: Colorado River, Grand Canyon, Humphrey's Peak, Meteor Crater	136	"											
102	-3140	Arizona, Utah: Colorado River, Grand Canyon, Humphrey's Peak	136	"											
103	-3141	New Mexico, Colorado: Albuquerque, Santa Fe: Redondo Peak, Sangre de Cristo Mts	136	"											
104	-3142	New Mexico, Colorado: Albuquerque, Santa Fe: Redondo Peak, Sangre de Cristo Mts	136	"											
105	-3143	Texas: Lubbock: Caprock Escarpment, Forks of Brazos and Red Rivers	136	"											
106	-3144	Texas: east of Lubbock, forks of Brazos and Red Rivers	136	"											
107	-3145	Texas: east of Lubbock, forks of Brazos and Red Rivers	136	"											
108	-3146	Texas, Oklahoma: Sherman: Lake Texoma, Red River	136	"											
109	-3147	East Tennessee, North Carolina, Kentucky, Virginia: view north from Georgia	136	"											
110	-3148	Georgia, South Carolina: coast from Savannah to Myrtle Beach	136	"											

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FRAME NO.	CASA NO. / ROLL NO.	AREA DESCRIPTION	REV.	DATE	GMT	MET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO AID 1	PHOTO AID 2	PHOTO AID 3
111	AS9-20-3148	South West Africa: Etosha Pan; long evening shadows	137	3/12/69										
112	-3151	South West Africa: Etosha Pan; long evening shadows	137	"										
113	-3151	South West Africa: Etosha Pan; long evening shadows	137	"										
114	-3152	Astronaut Scott; blurred												
115	-3153	Astronaut Schweickart; blurred												
116	-3154	Astronaut McDivitt												
117	-3155	Astronaut Scott; blurred												
118	-3156	Astronaut Schweickart; blurred												
119	-3157	Peru: Bahia de Sechura, Sechura Desert	139											
120	-3158	Peru: Andes Mts., Rio Maranon	140	"										
121	-3159	Peru: coast from south of Chimbote to Callao	140	"										
122	-3160	Peru: Andes Mts., Rio Huallaga, near Huanuco	140	"										
123	-3161	Peru: Andes Mts., Rio Huallaga, near Huanuco	140	"										
124	-3162	Peru: Andes Mts., Amazon Basin, Rio Huallaga, Rio Ucayali	140	"										
125	-3163	Peru: Amazon Basin, Rio Ucayali	140	"										
126	-3164	Peru: Amazon Basin, Junction Rio Tambo and Rio Urubamba	140	"										
127	-3165	Peru: Amazon Basin, Andes Mts., junction Rio Tambo and Rio Urubamba	140	"										
128	-3166	Peru: Altiplano, looking south toward Lake Titicaca	140	"										
129	-3167	Peru: Altiplano, looking south toward Lake Titicaca	140	"										
130	-3168	Peru: Altiplano, looking south toward Lake Titicaca	140	"										
131	-3169	Bolivia: Santa Cruz State, Gran Chaco, Paraguay River Basin	140	"										
132	-3170	Bolivia: Santa Cruz State, Gran Chaco, Paraguay River Basin	140	"										
133	-3171	Bolivia: Santa Cruz State, Gran Chaco, Paraguay River Basin	140	"										
134	-3172	Bolivia: Santa Cruz State, Gran Chaco, Paraguay River Basin	140	"										
135	-3173	China, India, Burma: Himalaya Range, Nyenchen Thanghla Mts., Brahmaputra River	141	"										
136	-3174	China: Mouth of Yangtze River at Shanghai, Hangchou Bay	141	"										
137	-3175	Earth limb, sunrise	141	"										
138	-3176	Egypt: Nile River, Lake Nasser	148	3/13/69										
139	-3177	Egypt: Nile River, Lake Nasser	148	"										

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FRAME NO.	CAMERA ROLL NO.	AREA DESCRIPTION	REV.	DATE	GMT	GET	CENTER OF PHOTO LATITUDE	CENTER OF PHOTO LONGITUDE	ALT.	SPACECRAFT LATITUDE	SPACECRAFT LONGITUDE	PHOTO ASPECT 1	2	3
1	AS9-24-3619	CSM, nose view												
2	-3620	CSM nose view												
3	-3621	CSM, nose view												
4	-3622	CSM nose view												
5	-3623	CSM nose view												
6	-3624	CSM nose view												
7	-3625	CSM nose view												
8	-3626	CSM oblique view												
9	-3627	CSM oblique view												
10	-3628	CSM oblique view												
11	-3629	CSM oblique view												
12	-3630	CSM oblique view												
13	-3631	CSM oblique view												
14	-3632	CSM oblique view												
15	-3633	CSM side view: horizon, clouds												
16	-3634	CSM side view horizon, clouds												
17	-3635	CSM, side view												
18	-3636	CSM side view												
19	-3637	CSM side view												
20	-3638	CSM side view												
21	-3639	CSM side view												
22	-3640	CSM side view												
23	-3641	CSM side view												
24	-3642	LM quadrant												
25	-3643	CSM nose view												
26	-3644	CSM nose view												
27	-3645	CSM nose view												
28	-3646	CSM nose view												
29	-3647	CSM, nose view												
30	-3648	CSM nose view												
31	-3649	CSM, nose view												
32	-3650	CSM, nose view												
33	-3651	CSM nose view												
34	-3652	CSM nose view												
35	-3653	CSM, nose view; Arizona, Mexico: clouds												
36	-3654	CSM nose view: Arizona, Mexico: clouds												
37	-3655	CSM, nose view: New Mexico, Rio Grande												
38	-3656	CSM, nose view: New Mexico, Rio Grande, White Sands												
39	-3657	CSM, nose view, New Mexico, Rio Grande, White Sands												
40	-3658	CSM, nose view, New Mexico, Rio Grande, White Sands												
41	-3659	CSM nose view: New Mexico, Texas: Lubbock												
42	-3660	CSM nose view: New Mexico, Texas: Lubbock												
43	-3661	LM, interior view, dark												
44	-3662	LM interior view, dark												
45	-3663	LM interior view, dark												
46	-3664	LM interior, Astronaut McDivitt: dark												
47	-3665	LM, interior, Astronaut McDivitt: dark												
48	-3666	Earth limb, sunset: blurred												
49	-----	Blank												
50	-3667	Ocean, clouds												
51	-3668	Ocean, clouds												
52	-3669	China: Yunnan, Chando Provinces: Yangtze River, Yumling, Ta-hsueh Mts.	82	3/9/69										
53	-3670	Yemen, South Arabia: Red Sea, Gulf of Aden	89	"										
54	-3671	Yemen, South Arabia: Red Sea, Gulf of Aden	89	"										
55	-3672	Yemen, South Arabia: Ras Arah to Al Aws; Jomali in background	89	"										

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PHOTO NO.	ASCENSION NUMBER	AREA DESCRIPTION	REV.	DATE	GMT	GET	OBJECT OR PHOTO CENTER LATITUDE	OBJECT OR PHOTO CENTER LONGITUDE	ALT.	SPACECRAFT HEADING	LONGITUDE	PHOTO SCALE 1	PHOTO SCALE 2
56	AS9-24-3673	Yemen, South Arabia: Aden to Ahwar; Somali in background	89	3/9/69									
57	-3674	South Arabia: Al Awa to Balhaf, Somali in background	89	"									
58	-3675	Somali Republic; Cape Guardafui, Ras Hafun, Gulf of Aden	89	"									
59	-3676	Somali Republic; northeast corner	89	"									
60	-3677	Somali Republic; Ras Hafun	89	"									
61	-3678	Morocco; Algeria; Atlas, Anti-Atlas Mts., Ksares Souk area	90	"									
62	-3679	Sudan; White Nile (foreground), Blue Nile (background)	90	"									
63	-3680	Sudan, Ethiopia; cloudy	90	"									
64	-3681	Somali Republic; coast at Mogadiscio	90	"									

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APOLLO 9, MAGAZINE G

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FRAME NO.	CAMERA DATA FILM NO.	AREA DESCRIPTION	ROLL	DATE	GMT	LAT.	LONG.	ALT.	REMARKS	IA NUMBER	EXPOSURE
1	AS9-25-3682	Lesser Antilles, Canovan to Grenada	109	3/10/69			171:25				
2	-3683	Mexico: Mexico City, Popocatepetl; east end Neo-Volcanic Plateau	110	"			172:52				
3	-3684	Mexico: Mexico City, Popocatepetl; east end Neo-Volcanic Plateau	110	"							
4	-3685	Mexico: Popocatepetl, Cerro Malinche, Orizaba	110	"					INT. NEG (C)		
5	-3686	Mexico: Cerro Malinche, Orizaba	110	"							
6	-3687	Mexico: Golfe de Tehuantepec, double exposure	110	"							
7	-3688	Mexico: Golfe de Tehuantepec, double exposure	110	"							
8	-3689		110	"							
9	-3690		110	"							
10	-3691	Honduras, El Salvador, Nicaragua: Gulf of Fonseca	110	"							
11	-3692	Panama: Isthmus of Panama, Canal Zone	111	"							
12	-3693	Colombia: Amazon Basin, clouds	111	"							
13	-3694	Colombia: Amazon Basin, clouds	111	"							
14	-3695	Colombia: Amazon Basin	111	"			172:57				
15	-3696	Light flare: magazine jammed	111	"							