

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours    Elevation: 1707 meters                      Year: 2008

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Introduction to Reports Generated by Astronomy Lab

In all reports, times and dates are in standard time (not daylight savings time or summer time). Times are in 24 hour format.

Abbreviations used in reports:

AU	Astronomical Units
D	Degrees
DEC	Declination
DIST	Distance
DSO	December Solstice
E	East
FM	Full Moon
FQ	First Quarter Moon
H	Hours
ILL FR,	
ILLUM FRAC	Illuminated Fraction
JSO	June Solstice
KM	Kilometers
LE	Lunar Eclipse
LQ	Last Quarter Moon
M	Minutes
MEQ	March Equinox
MR	Moon Rise
MS	Moon Set
N	North
NM	New Moon
RA	Right Ascension
S	South, Seconds
SE	Solar Eclipse
SEQ	September Equinox
SR	Sunrise
SS	Sunset
UT	Universal Time
W	West
ZHR	Zenithal Hourly Rate

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

Calendar Report for 1/ 1/2008 to 12/31/2008

January 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:50	SR: 7:50
		SS: 17:09	SS: 17:10	SS: 17:11	SS: 17:12	SS: 17:13
		MR: 1:42	MR: 2:43	MR: 3:45	MR: 4:47	MR: 5:48
		MS: 12:25	MS: 12:50	MS: 13:18	MS: 13:53	MS: 14:36
6	7	8	9	10	11	12
SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:48
SS: 17:14	SS: 17:15	SS: 17:16	SS: 17:17	SS: 17:18	SS: 17:19	SS: 17:20
MR: 6:45	MR: 7:35	MR: 8:18	MR: 8:54	MR: 9:24	MR: 9:50	MR: 10:13
MS: 15:27	MS: 16:26	MS: 17:31	MS: 18:39	MS: 19:48	MS: 20:57	MS: 22:05
		NM: 4:38				
13	14	15	16	17	18	19
SR: 7:48	SR: 7:48	SR: 7:47	SR: 7:47	SR: 7:47	SR: 7:46	SR: 7:46
SS: 17:21	SS: 17:22	SS: 17:23	SS: 17:24	SS: 17:26	SS: 17:27	SS: 17:28
MR: 10:36	MR: 10:59	MR: 11:25	MR: 11:55	MR: 12:31	MR: 13:17	MR: 14:15
MS: 23:14	MS: None	MS: 0:25	MS: 1:39	MS: 2:56	MS: 4:12	MS: 5:25
		FQ: 12:46				
20	21	22	23	24	25	26
SR: 7:45	SR: 7:44	SR: 7:44	SR: 7:43	SR: 7:42	SR: 7:42	SR: 7:41
SS: 17:29	SS: 17:30	SS: 17:31	SS: 17:32	SS: 17:34	SS: 17:35	SS: 17:36
MR: 15:23	MR: 16:38	MR: 17:54	MR: 19:07	MR: 20:16	MR: 21:22	MR: 22:26
MS: 6:29	MS: 7:21	MS: 8:02	MS: 8:34	MS: 9:01	MS: 9:24	MS: 9:45
		FM: 6:35				
27	28	29	30	31		
SR: 7:40	SR: 7:39	SR: 7:39	SR: 7:38	SR: 7:37		
SS: 17:37	SS: 17:39	SS: 17:40	SS: 17:41	SS: 17:42		
MR: 23:28	MR: None	MR: 0:30	MR: 1:33	MR: 2:35		
MS: 10:06	MS: 10:27	MS: 10:51	MS: 11:18	MS: 11:50		
		LQ: 22:03				

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February                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
					SR: 7:36	SR: 7:35
					SS: 17:43	SS: 17:45
					MR: 3:37	MR: 4:35
					MS: 12:29	MS: 13:16
3	4	5	6	7	8	9
SR: 7:34	SR: 7:33	SR: 7:32	SR: 7:31	SR: 7:30	SR: 7:29	SR: 7:27
SS: 17:46	SS: 17:47	SS: 17:48	SS: 17:50	SS: 17:51	SS: 17:52	SS: 17:53
MR: 5:28	MR: 6:13	MR: 6:52	MR: 7:25	MR: 7:52	MR: 8:17	MR: 8:41
MS: 14:12	MS: 15:16	MS: 16:23	MS: 17:33	MS: 18:44	MS: 19:54	MS: 21:05
			NM: 20:45			
			SE: 20:56			
10	11	12	13	14	15	16
SR: 7:26	SR: 7:25	SR: 7:24	SR: 7:23	SR: 7:21	SR: 7:20	SR: 7:19
SS: 17:54	SS: 17:56	SS: 17:57	SS: 17:58	SS: 17:59	SS: 18:00	SS: 18:02
MR: 9:04	MR: 9:29	MR: 9:57	MR: 10:31	MR: 11:13	MR: 12:06	MR: 13:08
MS: 22:16	MS: 23:30	MS: None	MS: 0:45	MS: 2:01	MS: 3:14	MS: 4:20
			FQ: 20:34			
17	18	19	20	21	22	23
SR: 7:17	SR: 7:16	SR: 7:15	SR: 7:13	SR: 7:12	SR: 7:11	SR: 7:09
SS: 18:03	SS: 18:04	SS: 18:05	SS: 18:06	SS: 18:08	SS: 18:09	SS: 18:10
MR: 14:19	MR: 15:33	MR: 16:46	MR: 17:57	MR: 19:04	MR: 20:09	MR: 21:12
MS: 5:14	MS: 5:58	MS: 6:33	MS: 7:01	MS: 7:25	MS: 7:47	MS: 8:08
			FM: 20:31			
			LE: 20:29			
24	25	26	27	28	29	
SR: 7:08	SR: 7:06	SR: 7:05	SR: 7:03	SR: 7:02	SR: 7:00	
SS: 18:11	SS: 18:12	SS: 18:13	SS: 18:15	SS: 18:16	SS: 18:17	
MR: 22:15	MR: 23:18	MR: None	MR: 0:21	MR: 1:23	MR: 2:23	
MS: 8:29	MS: 8:52	MS: 9:18	MS: 9:48	MS: 10:24	MS: 11:07	
				LQ: 19:20		

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
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March 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						SR: 6:59
						SS: 18:18
						MR: 3:18
						MS: 11:59
2	3	4	5	6	7	8
SR: 6:57	SR: 6:56	SR: 6:54	SR: 6:53	SR: 6:51	SR: 6:49	SR: 6:48
SS: 18:19	SS: 18:20	SS: 18:21	SS: 18:22	SS: 18:24	SS: 18:25	SS: 18:26
MR: 4:06	MR: 4:47	MR: 5:22	MR: 5:52	MR: 6:18	MR: 6:43	MR: 7:07
MS: 12:59	MS: 14:04	MS: 15:13	MS: 16:24	MS: 17:35	MS: 18:47	MS: 20:00
					NM: 10:15	
9	10	11	12	13	14	15
SR: 6:46	SR: 6:45	SR: 6:43	SR: 6:41	SR: 6:40	SR: 6:38	SR: 6:37
SS: 18:27	SS: 18:28	SS: 18:29	SS: 18:30	SS: 18:31	SS: 18:32	SS: 18:33
MR: 7:32	MR: 7:59	MR: 8:32	MR: 9:12	MR: 10:02	MR: 11:01	MR: 12:09
MS: 21:15	MS: 22:32	MS: 23:50	MS: None	MS: 1:05	MS: 2:14	MS: 3:11
					FQ: 3:46	
16	17	18	19	20	21	22
SR: 6:35	SR: 6:33	SR: 6:32	SR: 6:30	SR: 6:28	SR: 6:27	SR: 6:25
SS: 18:34	SS: 18:35	SS: 18:36	SS: 18:38	SS: 18:39	SS: 18:40	SS: 18:41
MR: 13:21	MR: 14:33	MR: 15:43	MR: 16:50	MR: 17:55	MR: 18:59	MR: 20:02
MS: 3:57	MS: 4:34	MS: 5:04	MS: 5:29	MS: 5:51	MS: 6:12	MS: 6:33
					FM: 11:40	
			MEQ:22:48			
23	24	25	26	27	28	29
SR: 6:23	SR: 6:22	SR: 6:20	SR: 6:18	SR: 6:17	SR: 6:15	SR: 6:14
SS: 18:42	SS: 18:43	SS: 18:44	SS: 18:45	SS: 18:46	SS: 18:47	SS: 18:48
MR: 21:05	MR: 22:08	MR: 23:11	MR: None	MR: 0:11	MR: 1:08	MR: 1:58
MS: 6:55	MS: 7:19	MS: 7:48	MS: 8:21	MS: 9:02	MS: 9:50	MS: 10:45
						LQ: 14:49
30	31					
SR: 6:12	SR: 6:10					
SS: 18:49	SS: 18:50					
MR: 2:42	MR: 3:19					
MS: 11:47	MS: 12:53					

April                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		SR: 6:09	SR: 6:07	SR: 6:05	SR: 6:04	SR: 6:02
		SS: 18:51	SS: 18:52	SS: 18:53	SS: 18:54	SS: 18:55
		MR: 3:50	MR: 4:17	MR: 4:42	MR: 5:07	MR: 5:31
		MS: 14:02	MS: 15:12	MS: 16:23	MS: 17:35	MS: 18:51
						NM: 20:56
6	7	8	9	10	11	12
SR: 6:01	SR: 5:59	SR: 5:57	SR: 5:56	SR: 5:54	SR: 5:53	SR: 5:51
SS: 18:56	SS: 18:57	SS: 18:58	SS: 18:59	SS: 19:00	SS: 19:01	SS: 19:03
MR: 5:58	MR: 6:30	MR: 7:08	MR: 7:56	MR: 8:54	MR: 10:01	MR: 11:13
MS: 20:09	MS: 21:29	MS: 22:49	MS: None	MS: 0:02	MS: 1:05	MS: 1:56
						FQ: 11:32
13	14	15	16	17	18	19
SR: 5:50	SR: 5:48	SR: 5:47	SR: 5:45	SR: 5:44	SR: 5:42	SR: 5:41
SS: 19:04	SS: 19:05	SS: 19:06	SS: 19:07	SS: 19:08	SS: 19:09	SS: 19:10
MR: 12:25	MR: 13:35	MR: 14:42	MR: 15:47	MR: 16:50	MR: 17:52	MR: 18:54
MS: 2:36	MS: 3:07	MS: 3:33	MS: 3:56	MS: 4:17	MS: 4:38	MS: 4:59
20	21	22	23	24	25	26
SR: 5:39	SR: 5:38	SR: 5:36	SR: 5:35	SR: 5:33	SR: 5:32	SR: 5:31
SS: 19:11	SS: 19:12	SS: 19:13	SS: 19:14	SS: 19:15	SS: 19:16	SS: 19:17
MR: 19:57	MR: 21:00	MR: 22:01	MR: 22:59	MR: 23:52	MR: None	MR: 0:37
MS: 5:23	MS: 5:50	MS: 6:21	MS: 6:59	MS: 7:45	MS: 8:37	MS: 9:36
FM: 3:26						
27	28	29	30			
SR: 5:29	SR: 5:28	SR: 5:27	SR: 5:25			
SS: 19:18	SS: 19:19	SS: 19:20	SS: 19:21			
MR: 1:16	MR: 1:49	MR: 2:17	MR: 2:42			
MS: 10:40	MS: 11:45	MS: 12:53	MS: 14:01			
	LQ: 7:14					

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May                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				SR: 5:24	SR: 5:23	SR: 5:22
				SS: 19:22	SS: 19:23	SS: 19:24
				MR: 3:06	MR: 3:30	MR: 3:55
				MS: 15:11	MS: 16:23	MS: 17:40
4	5	6	7	8	9	10
SR: 5:21	SR: 5:19	SR: 5:18	SR: 5:17	SR: 5:16	SR: 5:15	SR: 5:14
SS: 19:25	SS: 19:26	SS: 19:27	SS: 19:28	SS: 19:29	SS: 19:30	SS: 19:31
MR: 4:25	MR: 5:00	MR: 5:44	MR: 6:39	MR: 7:45	MR: 8:58	MR: 10:13
MS: 19:00	MS: 20:21	MS: 21:41	MS: 22:51	MS: 23:48	MS: None	MS: 0:33
	NM: 5:19					
11	12	13	14	15	16	17
SR: 5:13	SR: 5:12	SR: 5:11	SR: 5:10	SR: 5:09	SR: 5:08	SR: 5:07
SS: 19:32	SS: 19:33	SS: 19:34	SS: 19:35	SS: 19:36	SS: 19:37	SS: 19:38
MR: 11:26	MR: 12:35	MR: 13:40	MR: 14:43	MR: 15:45	MR: 16:47	MR: 17:49
MS: 1:08	MS: 1:37	MS: 2:01	MS: 2:22	MS: 2:43	MS: 3:04	MS: 3:27
FQ: 20:47						
18	19	20	21	22	23	24
SR: 5:06	SR: 5:05	SR: 5:04	SR: 5:04	SR: 5:03	SR: 5:02	SR: 5:02
SS: 19:39	SS: 19:40	SS: 19:41	SS: 19:42	SS: 19:43	SS: 19:44	SS: 19:44
MR: 18:52	MR: 19:53	MR: 20:53	MR: 21:47	MR: 22:34	MR: 23:15	MR: 23:49
MS: 3:53	MS: 4:23	MS: 4:59	MS: 5:42	MS: 6:33	MS: 7:30	MS: 8:31
	FM: 19:12					
25	26	27	28	29	30	31
SR: 5:01	SR: 5:00	SR: 5:00	SR: 4:59	SR: 4:59	SR: 4:58	SR: 4:58
SS: 19:45	SS: 19:46	SS: 19:47	SS: 19:48	SS: 19:48	SS: 19:49	SS: 19:50
MR: None	MR: 0:18	MR: 0:44	MR: 1:07	MR: 1:30	MR: 1:54	MR: 2:21
MS: 9:36	MS: 10:41	MS: 11:47	MS: 12:54	MS: 14:03	MS: 15:15	MS: 16:31
		LQ: 19:58				

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June                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
SR: 4:57	SR: 4:57	SR: 4:57	SR: 4:56	SR: 4:56	SR: 4:56	SR: 4:55
SS: 19:51	SS: 19:51	SS: 19:52	SS: 19:53	SS: 19:53	SS: 19:54	SS: 19:55
MR: 2:52	MR: 3:31	MR: 4:21	MR: 5:23	MR: 6:35	MR: 7:52	MR: 9:09
MS: 17:51	MS: 19:11	MS: 20:27	MS: 21:33	MS: 22:25	MS: 23:05	MS: 23:37
		NM: 12:24				
8	9	10	11	12	13	14
SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55
SS: 19:55	SS: 19:56	SS: 19:56	SS: 19:57	SS: 19:57	SS: 19:58	SS: 19:58
MR: 10:22	MR: 11:30	MR: 12:35	MR: 13:38	MR: 14:40	MR: 15:42	MR: 16:44
MS: None	MS: 0:03	MS: 0:26	MS: 0:48	MS: 1:09	MS: 1:31	MS: 1:56
		FQ: 8:03				
15	16	17	18	19	20	21
SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:56
SS: 19:58	SS: 19:59	SS: 19:59	SS: 19:59	SS: 20:00	SS: 20:00	SS: 20:00
MR: 17:46	MR: 18:46	MR: 19:42	MR: 20:32	MR: 21:15	MR: 21:51	MR: 22:21
MS: 2:25	MS: 2:59	MS: 3:40	MS: 4:28	MS: 5:24	MS: 6:25	MS: 7:29
			FM: 10:31			
					JSO:16:59	
22	23	24	25	26	27	28
SR: 4:56	SR: 4:56	SR: 4:56	SR: 4:57	SR: 4:57	SR: 4:57	SR: 4:58
SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00
MR: 22:47	MR: 23:11	MR: 23:34	MR: 23:56	MR: None	MR: 0:21	MR: 0:49
MS: 8:34	MS: 9:39	MS: 10:44	MS: 11:51	MS: 12:59	MS: 14:11	MS: 15:27
				LQ: 5:11		
29	30					
SR: 4:58	SR: 4:59					
SS: 20:00	SS: 20:00					
MR: 1:23	MR: 2:06					
MS: 16:45	MS: 18:02					

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
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July                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		SR: 4:59	SR: 5:00	SR: 5:00	SR: 5:01	SR: 5:02
		SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 19:59
		MR: 3:01	MR: 4:09	MR: 5:25	MR: 6:43	MR: 8:00
		MS: 19:12	MS: 20:11	MS: 20:57	MS: 21:34	MS: 22:03
			NM: 19:20			
6	7	8	9	10	11	12
SR: 5:02	SR: 5:03	SR: 5:03	SR: 5:04	SR: 5:05	SR: 5:05	SR: 5:06
SS: 19:59	SS: 19:59	SS: 19:58	SS: 19:58	SS: 19:57	SS: 19:57	SS: 19:57
MR: 9:12	MR: 10:21	MR: 11:26	MR: 12:30	MR: 13:33	MR: 14:36	MR: 15:38
MS: 22:28	MS: 22:51	MS: 23:12	MS: 23:34	MS: 23:59	MS: None	MS: 0:26
			FQ: 21:35			
13	14	15	16	17	18	19
SR: 5:07	SR: 5:08	SR: 5:09	SR: 5:09	SR: 5:10	SR: 5:11	SR: 5:12
SS: 19:56	SS: 19:55	SS: 19:55	SS: 19:54	SS: 19:54	SS: 19:53	SS: 19:52
MR: 16:39	MR: 17:36	MR: 18:28	MR: 19:14	MR: 19:52	MR: 20:24	MR: 20:52
MS: 0:58	MS: 1:37	MS: 2:23	MS: 3:16	MS: 4:16	MS: 5:20	MS: 6:25
					FM: 1:00	
20	21	22	23	24	25	26
SR: 5:13	SR: 5:13	SR: 5:14	SR: 5:15	SR: 5:16	SR: 5:17	SR: 5:18
SS: 19:51	SS: 19:51	SS: 19:50	SS: 19:49	SS: 19:48	SS: 19:47	SS: 19:46
MR: 21:16	MR: 21:39	MR: 22:01	MR: 22:25	MR: 22:51	MR: 23:22	MR: 24:00
MS: 7:31	MS: 8:37	MS: 9:43	MS: 10:51	MS: 12:00	MS: 13:13	MS: 14:28
					LQ: 11:43	
27	28	29	30	31		
SR: 5:19	SR: 5:20	SR: 5:21	SR: 5:22	SR: 5:23		
SS: 19:45	SS: 19:44	SS: 19:43	SS: 19:42	SS: 19:41		
MR: None	MR: 0:48	MR: 1:48	MR: 2:59	MR: 4:16		
MS: 15:44	MS: 16:55	MS: 17:57	MS: 18:48	MS: 19:29		



Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
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August                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
					SR: 5:23	SR: 5:24
					SS: 19:40	SS: 19:39
					MR: 5:34	MR: 6:49
					MS: 20:01	MS: 20:28
					NM: 3:14	
					SE: 3:25	
3	4	5	6	7	8	9
SR: 5:25	SR: 5:26	SR: 5:27	SR: 5:28	SR: 5:29	SR: 5:30	SR: 5:31
SS: 19:38	SS: 19:37	SS: 19:36	SS: 19:34	SS: 19:33	SS: 19:32	SS: 19:31
MR: 8:01	MR: 9:09	MR: 10:15	MR: 11:19	MR: 12:23	MR: 13:26	MR: 14:29
MS: 20:52	MS: 21:14	MS: 21:37	MS: 22:00	MS: 22:27	MS: 22:57	MS: 23:33
					FQ: 13:21	
10	11	12	13	14	15	16
SR: 5:32	SR: 5:33	SR: 5:34	SR: 5:35	SR: 5:36	SR: 5:37	SR: 5:38
SS: 19:29	SS: 19:28	SS: 19:27	SS: 19:25	SS: 19:24	SS: 19:23	SS: 19:21
MR: 15:28	MR: 16:22	MR: 17:10	MR: 17:51	MR: 18:25	MR: 18:55	MR: 19:20
MS: None	MS: 0:16	MS: 1:07	MS: 2:05	MS: 3:08	MS: 4:13	MS: 5:20
						FM: 14:18
						LE: 14:10
17	18	19	20	21	22	23
SR: 5:39	SR: 5:40	SR: 5:41	SR: 5:42	SR: 5:43	SR: 5:44	SR: 5:45
SS: 19:20	SS: 19:18	SS: 19:17	SS: 19:15	SS: 19:14	SS: 19:13	SS: 19:11
MR: 19:44	MR: 20:07	MR: 20:30	MR: 20:55	MR: 21:24	MR: 22:00	MR: 22:44
MS: 6:27	MS: 7:34	MS: 8:42	MS: 9:51	MS: 11:03	MS: 12:18	MS: 13:32
						LQ: 16:51
24	25	26	27	28	29	30
SR: 5:46	SR: 5:47	SR: 5:48	SR: 5:49	SR: 5:50	SR: 5:51	SR: 5:52
SS: 19:10	SS: 19:08	SS: 19:06	SS: 19:05	SS: 19:03	SS: 19:02	SS: 19:00
MR: 23:38	MR: None	MR: 0:44	MR: 1:57	MR: 3:13	MR: 4:28	MR: 5:40
MS: 14:44	MS: 15:48	MS: 16:42	MS: 17:25	MS: 17:59	MS: 18:28	MS: 18:53
						NM: 12:59
31						
SR: 5:53						
SS: 18:59						
MR: 6:49						
MS: 19:16						

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

September 2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	SR: 5:54	SR: 5:55	SR: 5:55	SR: 5:56	SR: 5:57	SR: 5:58
	SS: 18:57	SS: 18:55	SS: 18:54	SS: 18:52	SS: 18:50	SS: 18:49
	MR: 7:57	MR: 9:02	MR: 10:07	MR: 11:12	MR: 12:15	MR: 13:16
	MS: 19:39	MS: 20:02	MS: 20:27	MS: 20:56	MS: 21:30	MS: 22:11
7	8	9	10	11	12	13
SR: 5:59	SR: 6:00	SR: 6:01	SR: 6:02	SR: 6:03	SR: 6:04	SR: 6:05
SS: 18:47	SS: 18:46	SS: 18:44	SS: 18:42	SS: 18:41	SS: 18:39	SS: 18:37
MR: 14:13	MR: 15:03	MR: 15:46	MR: 16:23	MR: 16:55	MR: 17:22	MR: 17:46
MS: 22:58	MS: 23:53	MS: None	MS: 0:53	MS: 1:57	MS: 3:04	MS: 4:11
FQ: 7:06						
14	15	16	17	18	19	20
SR: 6:06	SR: 6:07	SR: 6:08	SR: 6:09	SR: 6:10	SR: 6:11	SR: 6:12
SS: 18:36	SS: 18:34	SS: 18:32	SS: 18:30	SS: 18:29	SS: 18:27	SS: 18:25
MR: 18:10	MR: 18:33	MR: 18:59	MR: 19:27	MR: 20:01	MR: 20:42	MR: 21:34
MS: 5:18	MS: 6:27	MS: 7:38	MS: 8:50	MS: 10:06	MS: 11:22	MS: 12:35
	FM: 2:15					
21	22	23	24	25	26	27
SR: 6:13	SR: 6:14	SR: 6:15	SR: 6:16	SR: 6:17	SR: 6:18	SR: 6:19
SS: 18:24	SS: 18:22	SS: 18:20	SS: 18:19	SS: 18:17	SS: 18:15	SS: 18:14
MR: 22:36	MR: 23:46	MR: None	MR: 1:00	MR: 2:13	MR: 3:25	MR: 4:34
MS: 13:42	MS: 14:38	MS: 15:24	MS: 16:00	MS: 16:30	MS: 16:56	MS: 17:19
LQ: 22:06						
	SEQ: 8:45					
28	29	30				
SR: 6:20	SR: 6:21	SR: 6:22				
SS: 18:12	SS: 18:10	SS: 18:09				
MR: 5:41	MR: 6:46	MR: 7:52				
MS: 17:41	MS: 18:04	MS: 18:29				
	NM: 1:13					

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours    Elevation: 1707 meters                      Year: 2008

October                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
			SR: 6:23	SR: 6:24	SR: 6:25	SR: 6:26
			SS: 18:07	SS: 18:05	SS: 18:04	SS: 18:02
			MR: 8:57	MR: 10:01	MR: 11:03	MR: 12:02
			MS: 18:56	MS: 19:29	MS: 20:06	MS: 20:51
5	6	7	8	9	10	11
SR: 6:27	SR: 6:28	SR: 6:29	SR: 6:30	SR: 6:31	SR: 6:32	SR: 6:33
SS: 18:01	SS: 17:59	SS: 17:57	SS: 17:56	SS: 17:54	SS: 17:53	SS: 17:51
MR: 12:54	MR: 13:40	MR: 14:19	MR: 14:53	MR: 15:21	MR: 15:47	MR: 16:10
MS: 21:43	MS: 22:40	MS: 23:42	MS: None	MS: 0:46	MS: 1:52	MS: 2:59
		FQ: 2:06				
12	13	14	15	16	17	18
SR: 6:34	SR: 6:35	SR: 6:36	SR: 6:37	SR: 6:38	SR: 6:40	SR: 6:41
SS: 17:50	SS: 17:48	SS: 17:46	SS: 17:45	SS: 17:43	SS: 17:42	SS: 17:40
MR: 16:34	MR: 16:59	MR: 17:26	MR: 17:59	MR: 18:39	MR: 19:28	MR: 20:28
MS: 4:06	MS: 5:16	MS: 6:29	MS: 7:45	MS: 9:04	MS: 10:21	MS: 11:32
		FM: 13:04				
19	20	21	22	23	24	25
SR: 6:42	SR: 6:43	SR: 6:44	SR: 6:45	SR: 6:46	SR: 6:47	SR: 6:48
SS: 17:39	SS: 17:38	SS: 17:36	SS: 17:35	SS: 17:33	SS: 17:32	SS: 17:31
MR: 21:38	MR: 22:51	MR: None	MR: 0:05	MR: 1:16	MR: 2:24	MR: 3:31
MS: 12:33	MS: 13:22	MS: 14:02	MS: 14:33	MS: 15:00	MS: 15:23	MS: 15:46
		LQ: 4:57				
26	27	28	29	30	31	
SR: 6:50	SR: 6:51	SR: 6:52	SR: 6:53	SR: 6:54	SR: 6:55	
SS: 17:29	SS: 17:28	SS: 17:27	SS: 17:26	SS: 17:24	SS: 17:23	
MR: 4:35	MR: 5:40	MR: 6:44	MR: 7:48	MR: 8:51	MR: 9:51	
MS: 16:08	MS: 16:32	MS: 16:58	MS: 17:28	MS: 18:04	MS: 18:46	
		NM: 16:15				

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours    Elevation: 1707 meters                      Year: 2008

November                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						SR: 6:56
						SS: 17:22
						MR: 10:46
						MS: 19:36
2	3	4	5	6	7	8
SR: 6:58	SR: 6:59	SR: 7:00	SR: 7:01	SR: 7:02	SR: 7:03	SR: 7:05
SS: 17:21	SS: 17:20	SS: 17:18	SS: 17:17	SS: 17:16	SS: 17:15	SS: 17:14
MR: 11:35	MR: 12:16	MR: 12:51	MR: 13:20	MR: 13:46	MR: 14:10	MR: 14:33
MS: 20:31	MS: 21:31	MS: 22:33	MS: 23:36	MS: None	MS: 0:41	MS: 1:46
			FQ: 21:05			
9	10	11	12	13	14	15
SR: 7:06	SR: 7:07	SR: 7:08	SR: 7:09	SR: 7:11	SR: 7:12	SR: 7:13
SS: 17:13	SS: 17:12	SS: 17:11	SS: 17:10	SS: 17:10	SS: 17:09	SS: 17:08
MR: 14:57	MR: 15:23	MR: 15:53	MR: 16:30	MR: 17:16	MR: 18:13	MR: 19:22
MS: 2:53	MS: 4:03	MS: 5:17	MS: 6:35	MS: 7:55	MS: 9:12	MS: 10:20
			FM: 23:19			
16	17	18	19	20	21	22
SR: 7:14	SR: 7:15	SR: 7:16	SR: 7:17	SR: 7:19	SR: 7:20	SR: 7:21
SS: 17:07	SS: 17:06	SS: 17:06	SS: 17:05	SS: 17:04	SS: 17:04	SS: 17:03
MR: 20:37	MR: 21:53	MR: 23:07	MR: None	MR: 0:17	MR: 1:24	MR: 2:29
MS: 11:16	MS: 12:00	MS: 12:35	MS: 13:03	MS: 13:28	MS: 13:51	MS: 14:13
			LQ: 14:33			
23	24	25	26	27	28	29
SR: 7:22	SR: 7:23	SR: 7:24	SR: 7:25	SR: 7:26	SR: 7:27	SR: 7:28
SS: 17:03	SS: 17:02	SS: 17:02	SS: 17:01	SS: 17:01	SS: 17:00	SS: 17:00
MR: 3:32	MR: 4:36	MR: 5:39	MR: 6:42	MR: 7:43	MR: 8:40	MR: 9:30
MS: 14:36	MS: 15:01	MS: 15:30	MS: 16:04	MS: 16:44	MS: 17:31	MS: 18:24
				NM: 9:56		
30						
SR: 7:29						
SS: 17:00						
MR: 10:14						
MS: 19:23						

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours    Elevation: 1707 meters                      Year: 2008

December                      2008

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	SR: 7:31	SR: 7:32	SR: 7:32	SR: 7:33	SR: 7:34	SR: 7:35
	SS: 17:00	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59
	MR: 10:50	MR: 11:21	MR: 11:48	MR: 12:12	MR: 12:35	MR: 12:57
	MS: 20:24	MS: 21:26	MS: 22:29	MS: 23:32	MS: None	MS: 0:36
					FQ: 14:26	
7	8	9	10	11	12	13
SR: 7:36	SR: 7:37	SR: 7:38	SR: 7:39	SR: 7:40	SR: 7:40	SR: 7:41
SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 17:00
MR: 13:21	MR: 13:48	MR: 14:20	MR: 15:01	MR: 15:52	MR: 16:57	MR: 18:11
MS: 1:42	MS: 2:52	MS: 4:06	MS: 5:24	MS: 6:42	MS: 7:56	MS: 9:00
					FM: 9:39	
14	15	16	17	18	19	20
SR: 7:42	SR: 7:43	SR: 7:43	SR: 7:44	SR: 7:44	SR: 7:45	SR: 7:46
SS: 17:00	SS: 17:00	SS: 17:00	SS: 17:01	SS: 17:01	SS: 17:02	SS: 17:02
MR: 19:30	MR: 20:49	MR: 22:03	MR: 23:13	MR: None	MR: 0:20	MR: 1:25
MS: 9:51	MS: 10:31	MS: 11:03	MS: 11:30	MS: 11:54	MS: 12:17	MS: 12:40
					LQ: 3:31	
21	22	23	24	25	26	27
SR: 7:46	SR: 7:47	SR: 7:47	SR: 7:47	SR: 7:48	SR: 7:48	SR: 7:48
SS: 17:03	SS: 17:03	SS: 17:04	SS: 17:04	SS: 17:05	SS: 17:06	SS: 17:06
MR: 2:29	MR: 3:32	MR: 4:35	MR: 5:37	MR: 6:35	MR: 7:27	MR: 8:13
MS: 13:05	MS: 13:32	MS: 14:04	MS: 14:42	MS: 15:27	MS: 16:19	MS: 17:16
						NM: 5:24
DSO: 5:01						
28	29	30	31			
SR: 7:49	SR: 7:49	SR: 7:49	SR: 7:49			
SS: 17:07	SS: 17:08	SS: 17:08	SS: 17:09			
MR: 8:51	MR: 9:24	MR: 9:52	MR: 10:16			
MS: 18:17	MS: 19:19	MS: 20:22	MS: 21:24			

Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours    Elevation: 1707 meters                      Year: 2008

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#### Seasons Report for 2008

MEQ: 3/19/2008 22:48	Winter Length:	88.99 days
JSO: 6/20/2008 16:59	Spring Length:	92.76 days
SEQ: 9/22/2008 8:45	Summer Length:	93.66 days
DSO: 12/21/2008 5:01	Autumn Length:	89.84 days

#### Dates of Easter Report for 2008

3/23/2008

#### Lunar Eclipse Report for 2008

Lunar eclipse on 2/20/2008  
Moon rise: 17:57  
Moon set: 7:01  
Magnitude: 1.11  
Partial phase begins: 18:47  
Total phase begins: 20:04  
Time of maximum eclipse: 20:29  
Total phase ends: 20:54  
Partial phase ends: 22:11

Lunar eclipse on 8/16/2008  
Moon rise: 19:20  
Moon set: 5:20  
Magnitude: 0.81  
Partial phase begins: 12:36  
Time of maximum eclipse: 14:10  
Partial phase ends: 15:43

#### Solar Eclipse Report for 2008

Solar eclipse on 2/ 6/2008  
Sun rise: 7:31  
Sun set: 17:50  
Time of maximum eclipse: 20:56  
Eclipse is annular  
Eclipse is visible in the southern hemisphere

Solar eclipse on 8/ 1/2008  
Sun rise: 5:23  
Sun set: 19:40  
Time of maximum eclipse: 3:25  
Eclipse is total  
Eclipse is visible in the northern hemisphere

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

Planet View Info Report for 1/ 1/2008 to 12/31/2008

Mercury

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	8:35	17:43	19h20m29s	-24°18'41"	8°37'21"	0.969	1.37241
1/ 8/2008	8:47	18:14	20h09m17s	-22°13'49"	12°47'04"	0.915	1.28341
1/15/2008	8:50	18:44	20h54m32s	-18°58'31"	16°36'58"	0.798	1.15161
1/22/2008	8:41	19:04	21h29m50s	-15°04'17"	18°38'31"	0.570	0.97664
1/29/2008	8:13	18:55	21h42m32s	-12°00'45"	15°30'49"	0.241	0.78932
2/ 5/2008	7:24	18:03	21h22m56s	-11°47'49"	5°06'50"	0.018	0.66634
2/12/2008	6:35	16:58	20h51m53s	-13°57'39"	11°40'00"	0.081	0.66124
2/19/2008	6:05	16:15	20h40m28s	-15°58'16"	21°30'54"	0.278	0.74008
2/26/2008	5:52	15:59	20h51m40s	-16°45'34"	26°04'36"	0.453	0.84790
3/ 4/2008	5:49	16:01	21h16m59s	-16°16'11"	27°08'24"	0.581	0.95675
3/11/2008	5:48	16:14	21h50m09s	-14°35'44"	26°04'06"	0.677	1.05719
3/18/2008	5:48	16:35	22h27m51s	-11°49'31"	23°31'48"	0.754	1.14674
3/25/2008	5:48	17:03	23h08m36s	-8°01'55"	19°47'34"	0.823	1.22438
4/ 1/2008	5:47	17:36	23h52m10s	-3°17'14"	14°54'44"	0.891	1.28757
4/ 8/2008	5:48	18:16	0h39m00s	2°18'15"	8°50'41"	0.955	1.32949
4/15/2008	5:50	19:02	1h29m59s	8°30'30"	1°40'35"	0.998	1.33603
4/22/2008	5:54	19:53	2h25m02s	14°45'12"	6°31'26"	0.965	1.28674
4/29/2008	6:02	20:41	3h20m49s	20°01'36"	14°02'46"	0.813	1.17293
5/ 6/2008	6:10	21:15	4h11m04s	23°27'46"	19°26'39"	0.598	1.01864
5/13/2008	6:14	21:30	4h50m17s	24°57'03"	21°44'34"	0.398	0.86060
5/20/2008	6:11	21:23	5h14m57s	24°50'14"	20°30'08"	0.232	0.72294
5/27/2008	5:57	20:54	5h23m01s	23°31'17"	15°26'51"	0.101	0.61928
6/ 3/2008	5:30	20:08	5h15m38s	21°26'11"	7°04'05"	0.018	0.56020
6/10/2008	4:56	19:17	5h00m27s	19°18'07"	4°55'53"	0.009	0.55383
6/17/2008	4:23	18:36	4h49m31s	18°04'26"	13°39'28"	0.075	0.60094
6/24/2008	3:57	18:14	4h51m32s	18°15'36"	19°34'50"	0.194	0.69421
7/ 1/2008	3:42	18:12	5h09m08s	19°36'58"	21°45'56"	0.347	0.82338
7/ 8/2008	3:41	18:28	5h42m15s	21°27'22"	20°26'01"	0.534	0.97687
7/15/2008	3:57	18:56	6h30m09s	22°50'55"	15°56'58"	0.747	1.13562
7/22/2008	4:30	19:27	7h29m34s	22°44'07"	9°02'07"	0.927	1.26629
7/29/2008	5:16	19:51	8h32m22s	20°31'14"	1°52'48"	0.997	1.33664
8/ 5/2008	6:02	20:04	9h30m28s	16°35'42"	6°53'58"	0.970	1.34521
8/12/2008	6:43	20:08	10h21m07s	11°45'25"	13°13'37"	0.907	1.31161
8/19/2008	7:17	20:05	11h05m00s	6°36'58"	18°24'34"	0.838	1.25279
8/26/2008	7:45	19:58	11h43m23s	1°32'46"	22°26'38"	0.767	1.17762
9/ 2/2008	8:06	19:47	12h17m01s	-3°11'47"	25°18'03"	0.690	1.08969
9/ 9/2008	8:21	19:33	12h45m40s	-7°21'56"	26°46'16"	0.599	0.99043
9/16/2008	8:26	19:15	13h07m32s	-10°37'07"	26°17'47"	0.478	0.88202
9/23/2008	8:13	18:51	13h18m24s	-12°20'32"	22°42'05"	0.315	0.77183
9/30/2008	7:33	18:19	13h11m44s	-11°27'34"	14°08'16"	0.118	0.68201
10/ 7/2008	6:26	17:42	12h47m41s	-7°17'32"	2°01'24"	0.003	0.66145
10/14/2008	5:27	17:14	12h29m24s	-2°50'14"	13°09'03"	0.157	0.75753
10/21/2008	5:10	16:59	12h38m59s	-2°15'47"	18°12'14"	0.489	0.93908
10/28/2008	5:26	16:54	13h10m06s	-5°10'18"	16°55'57"	0.758	1.12443
11/ 4/2008	5:54	16:51	13h50m03s	-9°28'53"	13°07'18"	0.901	1.26816
11/11/2008	6:25	16:51	14h32m51s	-13°54'51"	8°44'32"	0.966	1.36544
11/18/2008	6:57	16:53	15h16m54s	-17°54'38"	4°26'40"	0.993	1.42358
11/25/2008	7:27	16:58	16h02m07s	-21°12'46"	0°39'03"	1.000	1.44918
12/ 2/2008	7:57	17:07	16h48m37s	-23°39'43"	3°43'18"	0.995	1.44585
12/ 9/2008	8:23	17:21	17h36m21s	-25°07'25"	7°34'34"	0.979	1.41444

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

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12/16/2008	8:45	17:41	18h24m49s	-25°28'25"	11°24'22"	0.947	1.35320
12/23/2008	9:01	18:06	19h12m41s	-24°36'59"	15°06'44"	0.884	1.25793
12/30/2008	9:07	18:31	19h56m51s	-22°34'06"	18°13'35"	0.762	1.12329

Venus

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	4:49	14:42	15h59m20s	-18°28'21"	38°27'33"	0.764	1.15045
1/ 8/2008	5:04	14:43	16h34m39s	-20°09'51"	37°05'06"	0.785	1.19474
1/15/2008	5:17	14:47	17h10m49s	-21°25'14"	35°40'03"	0.804	1.23760
1/22/2008	5:30	14:53	17h47m38s	-22°11'21"	34°12'38"	0.822	1.27904
1/29/2008	5:40	15:02	18h24m49s	-22°26'01"	32°43'06"	0.839	1.31907
2/ 5/2008	5:48	15:13	19h02m06s	-22°08'09"	31°11'53"	0.855	1.35758
2/12/2008	5:54	15:27	19h39m08s	-21°17'58"	29°39'09"	0.870	1.39452
2/19/2008	5:57	15:41	20h15m39s	-19°56'51"	28°04'52"	0.884	1.42991
2/26/2008	5:58	15:57	20h51m27s	-18°07'11"	26°29'04"	0.897	1.46377
3/ 4/2008	5:57	16:13	21h26m26s	-15°52'03"	24°51'54"	0.910	1.49603
3/11/2008	5:53	16:29	22h00m33s	-13°15'11"	23°13'26"	0.921	1.52656
3/18/2008	5:48	16:45	22h33m52s	-10°20'32"	21°33'32"	0.932	1.55536
3/25/2008	5:42	17:02	23h06m29s	-7°12'11"	19°52'06"	0.943	1.58243
4/ 1/2008	5:35	17:17	23h38m36s	-3°54'07"	18°09'13"	0.952	1.60767
4/ 8/2008	5:28	17:33	0h10m25s	-0°30'25"	16°24'58"	0.961	1.63092
4/15/2008	5:20	17:49	0h42m09s	2°54'50"	14°39'13"	0.969	1.65208
4/22/2008	5:13	18:05	1h14m00s	6°17'39"	12°51'56"	0.976	1.67114
4/29/2008	5:06	18:21	1h46m13s	9°34'02"	11°03'12"	0.982	1.68798
5/ 6/2008	5:00	18:38	2h19m01s	12°39'54"	9°13'10"	0.987	1.70244
5/13/2008	4:56	18:55	2h52m33s	15°31'03"	7°21'51"	0.992	1.71437
5/20/2008	4:53	19:11	3h26m55s	18°03'17"	5°29'14"	0.996	1.72373
5/27/2008	4:52	19:28	4h02m12s	20°12'35"	3°35'32"	0.998	1.73047
6/ 3/2008	4:53	19:43	4h38m22s	21°55'07"	1°41'00"	1.000	1.73446
6/10/2008	4:58	19:58	5h15m17s	23°07'32"	0°14'37"	1.000	1.73558
6/17/2008	5:05	20:10	5h52m41s	23°47'13"	2°10'20"	0.999	1.73380
6/24/2008	5:14	20:20	6h30m19s	23°52'40"	4°06'41"	0.997	1.72919
7/ 1/2008	5:27	20:27	7h07m50s	23°23'28"	6°03'08"	0.994	1.72170
7/ 8/2008	5:41	20:32	7h44m55s	22°20'27"	7°59'29"	0.990	1.71128
7/15/2008	5:57	20:33	8h21m18s	20°45'38"	9°55'39"	0.985	1.69799
7/22/2008	6:13	20:32	8h56m48s	18°41'55"	11°51'22"	0.978	1.68198
7/29/2008	6:30	20:29	9h31m21s	16°12'46"	13°46'17"	0.971	1.66332
8/ 5/2008	6:46	20:24	10h04m56s	13°22'07"	15°40'14"	0.962	1.64205
8/12/2008	7:03	20:18	10h37m40s	10°14'07"	17°33'09"	0.953	1.61827
8/19/2008	7:19	20:10	11h09m42s	6°52'58"	19°24'49"	0.942	1.59217
8/26/2008	7:35	20:02	11h41m12s	3°22'44"	21°14'56"	0.931	1.56393
9/ 2/2008	7:51	19:53	12h12m26s	-0°12'32"	23°03'22"	0.919	1.53361
9/ 9/2008	8:07	19:44	12h43m36s	-3°48'43"	24°50'06"	0.906	1.50130
9/16/2008	8:23	19:36	13h14m57s	-7°21'41"	26°34'59"	0.892	1.46718
9/23/2008	8:40	19:28	13h46m44s	-10°47'19"	28°17'46"	0.878	1.43144
9/30/2008	8:56	19:21	14h19m09s	-14°01'28"	29°58'17"	0.862	1.39415
10/ 7/2008	9:13	19:16	14h52m23s	-16°59'45"	31°36'33"	0.847	1.35535
10/14/2008	9:30	19:13	15h26m31s	-19°37'46"	33°12'26"	0.830	1.31514
10/21/2008	9:47	19:11	16h01m36s	-21°51'14"	34°45'35"	0.813	1.27370
10/28/2008	10:02	19:13	16h37m34s	-23°36'13"	36°15'46"	0.795	1.23108
11/ 4/2008	10:17	19:17	17h14m14s	-24°49'17"	37°42'53"	0.777	1.18729
11/11/2008	10:29	19:24	17h51m18s	-25°27'53"	39°06'39"	0.757	1.14236
11/18/2008	10:38	19:34	18h28m24s	-25°30'42"	40°26'30"	0.736	1.09642
11/25/2008	10:44	19:46	19h05m06s	-24°57'43"	41°41'51"	0.715	1.04955
12/ 2/2008	10:47	19:59	19h41m03s	-23°50'18"	42°52'17"	0.692	1.00175



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12/ 9/2008	10:47	20:14	20h15m53s	-22°11'03"	43°57'03"	0.668	0.95302
12/16/2008	10:44	20:28	20h49m20s	-20°03'35"	44°54'57"	0.643	0.90349
12/23/2008	10:38	20:42	21h21m15s	-17°32'02"	45°44'36"	0.615	0.85330
12/30/2008	10:30	20:56	21h51m33s	-14°40'55"	46°24'36"	0.586	0.80248

Mars

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	15:53	7:29	5h59m26s	26°56'38"	169°21'01"	0.997	0.60731
1/ 8/2008	15:15	6:51	5h49m00s	26°59'07"	160°09'35"	0.989	0.63157
1/15/2008	14:40	6:15	5h40m58s	26°56'06"	151°20'15"	0.978	0.66521
1/22/2008	14:09	5:43	5h35m49s	26°50'09"	143°07'05"	0.965	0.70699
1/29/2008	13:40	5:12	5h33m37s	26°43'18"	135°32'50"	0.952	0.75562
2/ 5/2008	13:14	4:45	5h34m15s	26°36'43"	128°36'14"	0.940	0.80993
2/12/2008	12:50	4:21	5h37m28s	26°30'48"	122°14'50"	0.929	0.86880
2/19/2008	12:29	3:58	5h42m57s	26°25'19"	116°25'04"	0.920	0.93114
2/26/2008	12:09	3:38	5h50m22s	26°19'35"	111°02'33"	0.913	0.99608
3/ 4/2008	11:52	3:19	5h59m26s	26°12'46"	106°03'19"	0.907	1.06295
3/11/2008	11:35	3:01	6h09m53s	26°03'58"	101°24'26"	0.903	1.13115
3/18/2008	11:20	2:44	6h21m31s	25°52'19"	97°03'23"	0.901	1.20006
3/25/2008	11:07	2:28	6h34m06s	25°37'04"	92°57'32"	0.899	1.26919
4/ 1/2008	10:54	2:12	6h47m28s	25°17'30"	89°04'35"	0.899	1.33824
4/ 8/2008	10:43	1:57	7h01m29s	24°53'05"	85°23'01"	0.900	1.40687
4/15/2008	10:32	1:42	7h16m02s	24°23'21"	81°51'44"	0.901	1.47470
4/22/2008	10:22	1:26	7h30m59s	23°48'00"	78°29'24"	0.903	1.54144
4/29/2008	10:13	1:11	7h46m14s	23°06'51"	75°14'44"	0.906	1.60693
5/ 6/2008	10:04	0:56	8h01m44s	22°19'45"	72°06'55"	0.909	1.67100
5/13/2008	9:56	0:40	8h17m25s	21°26'40"	69°05'28"	0.912	1.73337
5/20/2008	9:48	0:24	8h33m12s	20°27'42"	66°09'44"	0.916	1.79385
5/27/2008	9:41	0:08	8h49m03s	19°23'00"	63°18'55"	0.920	1.85238
6/ 3/2008	9:34	23:49	9h04m56s	18°12'41"	60°32'28"	0.924	1.90886
6/10/2008	9:28	23:32	9h20m50s	16°57'00"	57°50'09"	0.928	1.96310
6/17/2008	9:21	23:15	9h36m44s	15°36'16"	55°11'40"	0.932	2.01497
6/24/2008	9:15	22:58	9h52m36s	14°10'48"	52°36'29"	0.937	2.06444
7/ 1/2008	9:09	22:41	10h08m28s	12°40'54"	50°04'08"	0.941	2.11149
7/ 8/2008	9:03	22:24	10h24m19s	11°06'55"	47°34'30"	0.945	2.15598
7/15/2008	8:57	22:06	10h40m10s	9°29'17"	45°07'28"	0.950	2.19780
7/22/2008	8:51	21:48	10h56m01s	7°48'25"	42°42'40"	0.954	2.23698
7/29/2008	8:45	21:31	11h11m55s	6°04'42"	40°19'44"	0.958	2.27354
8/ 5/2008	8:40	21:13	11h27m52s	4°18'32"	37°58'34"	0.962	2.30738
8/12/2008	8:34	20:55	11h43m54s	2°30'26"	35°39'09"	0.966	2.33844
8/19/2008	8:29	20:37	12h00m02s	0°40'54"	33°21'17"	0.970	2.36674
8/26/2008	8:24	20:20	12h16m20s	-1°09'36"	31°04'41"	0.973	2.39236
9/ 2/2008	8:19	20:02	12h32m48s	-3°00'33"	28°49'14"	0.977	2.41526
9/ 9/2008	8:15	19:45	12h49m29s	-4°51'24"	26°35'01"	0.980	2.43536
9/16/2008	8:11	19:28	13h06m25s	-6°41'28"	24°21'58"	0.983	2.45276
9/23/2008	8:07	19:12	13h23m39s	-8°30'11"	22°09'54"	0.986	2.46754
9/30/2008	8:03	18:55	13h41m12s	-10°16'54"	19°58'43"	0.988	2.47971
10/ 7/2008	7:59	18:40	13h59m08s	-12°00'51"	17°48'32"	0.990	2.48924
10/14/2008	7:56	18:24	14h17m27s	-13°41'16"	15°39'28"	0.992	2.49623
10/21/2008	7:53	18:10	14h36m12s	-15°17'21"	13°31'25"	0.994	2.50082
10/28/2008	7:51	17:56	14h55m25s	-16°48'16"	11°24'18"	0.996	2.50306
11/ 4/2008	7:48	17:43	15h15m06s	-18°13'08"	9°18'19"	0.997	2.50296
11/11/2008	7:46	17:30	15h35m17s	-19°30'59"	7°13'42"	0.998	2.50063
11/18/2008	7:44	17:19	15h55m58s	-20°40'55"	5°10'33"	0.999	2.49626
11/25/2008	7:42	17:08	16h17m07s	-21°42'02"	3°09'07"	1.000	2.48995

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12/ 2/2008	7:39	16:59	16h38m44s	-22°33'27"	1°11'49"	1.000	2.48173
12/ 9/2008	7:37	16:50	17h00m47s	-23°14'16"	0°59'45"	1.000	2.47174
12/16/2008	7:33	16:43	17h23m11s	-23°43'47"	2°52'30"	1.000	2.46019
12/23/2008	7:30	16:37	17h45m54s	-24°01'22"	4°47'10"	0.999	2.44722
12/30/2008	7:25	16:32	18h08m52s	-24°06'31"	6°40'31"	0.998	2.43289

Jupiter

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	7:20	16:34	18h13m20s	-23°14'24"	6°52'05"	1.000	6.22122
1/ 8/2008	6:59	16:13	18h20m17s	-23°12'13"	12°24'26"	1.000	6.19991
1/15/2008	6:38	15:53	18h27m09s	-23°08'57"	17°57'40"	0.999	6.16815
1/22/2008	6:17	15:32	18h33m55s	-23°04'37"	23°31'52"	0.999	6.12625
1/29/2008	5:56	15:12	18h40m32s	-22°59'20"	29°07'23"	0.998	6.07460
2/ 5/2008	5:34	14:51	18h46m58s	-22°53'13"	34°44'43"	0.997	6.01354
2/12/2008	5:12	14:30	18h53m11s	-22°46'23"	40°24'07"	0.996	5.94357
2/19/2008	4:50	14:09	18h59m08s	-22°39'01"	46°05'42"	0.995	5.86534
2/26/2008	4:28	13:47	19h04m47s	-22°31'16"	51°49'53"	0.994	5.77960
3/ 4/2008	4:05	13:26	19h10m07s	-22°23'20"	57°37'20"	0.994	5.68705
3/11/2008	3:42	13:04	19h15m04s	-22°15'24"	63°28'29"	0.993	5.58850
3/18/2008	3:18	12:41	19h19m37s	-22°07'42"	69°23'34"	0.992	5.48499
3/25/2008	2:54	12:18	19h23m43s	-22°00'26"	75°23'04"	0.991	5.37756
4/ 1/2008	2:30	11:55	19h27m19s	-21°53'49"	81°27'44"	0.991	5.26724
4/ 8/2008	2:05	11:31	19h30m24s	-21°48'03"	87°38'14"	0.991	5.15518
4/15/2008	1:40	11:06	19h32m56s	-21°43'20"	93°54'53"	0.991	5.04271
4/22/2008	1:14	10:40	19h34m52s	-21°39'51"	100°18'02"	0.991	4.93117
4/29/2008	0:47	10:14	19h36m11s	-21°37'44"	106°48'24"	0.991	4.82187
5/ 6/2008	0:20	9:47	19h36m51s	-21°37'07"	113°26'34"	0.992	4.71620
5/13/2008	23:49	9:20	19h36m52s	-21°38'01"	120°12'37"	0.993	4.61571
5/20/2008	23:21	8:51	19h36m14s	-21°40'28"	127°06'27"	0.994	4.52191
5/27/2008	22:52	8:22	19h34m57s	-21°44'24"	134°08'10"	0.995	4.43614
6/ 3/2008	22:23	7:52	19h33m04s	-21°49'40"	141°17'45"	0.996	4.35981
6/10/2008	21:54	7:22	19h30m37s	-21°56'06"	148°34'29"	0.997	4.29433
6/17/2008	21:24	6:51	19h27m41s	-22°03'24"	155°57'13"	0.998	4.24088
6/24/2008	20:53	6:19	19h24m20s	-22°11'19"	163°24'57"	0.999	4.20037
7/ 1/2008	20:23	5:48	19h20m42s	-22°19'31"	170°56'37"	1.000	4.17357
7/ 8/2008	19:52	5:16	19h16m53s	-22°27'42"	178°30'00"	1.000	4.16109
7/15/2008	19:21	4:44	19h13m02s	-22°35'33"	173°54'40"	1.000	4.16313
7/22/2008	18:50	4:12	19h09m17s	-22°42'51"	166°21'45"	0.999	4.17951
7/29/2008	18:20	3:41	19h05m46s	-22°49'24"	158°51'22"	0.999	4.20987
8/ 5/2008	17:50	3:10	19h02m35s	-22°55'04"	151°25'06"	0.998	4.25363
8/12/2008	17:20	2:39	18h59m51s	-22°59'47"	144°04'33"	0.997	4.30984
8/19/2008	16:50	2:09	18h57m40s	-23°03'32"	136°50'46"	0.995	4.37730
8/26/2008	16:22	1:40	18h56m05s	-23°06'18"	129°44'07"	0.994	4.45478
9/ 2/2008	15:53	1:11	18h55m09s	-23°08'07"	122°45'01"	0.993	4.54097
9/ 9/2008	15:26	0:44	18h54m53s	-23°08'58"	115°54'00"	0.992	4.63437
9/16/2008	14:59	0:16	18h55m18s	-23°08'54"	109°11'07"	0.991	4.73341
9/23/2008	14:32	23:46	18h56m23s	-23°07'53"	102°35'55"	0.991	4.83666
9/30/2008	14:06	23:21	18h58m07s	-23°05'55"	96°07'58"	0.991	4.94274
10/ 7/2008	13:41	22:56	19h00m29s	-23°02'57"	89°47'06"	0.990	5.05018
10/14/2008	13:16	22:32	19h03m26s	-22°58'57"	83°32'59"	0.991	5.15756
10/21/2008	12:52	22:08	19h06m56s	-22°53'51"	77°24'55"	0.991	5.26364
10/28/2008	12:28	21:45	19h10m57s	-22°47'36"	71°22'11"	0.992	5.36729
11/ 4/2008	12:04	21:23	19h15m26s	-22°40'08"	65°24'28"	0.992	5.46730
11/11/2008	11:41	21:01	19h20m20s	-22°31'23"	59°31'28"	0.993	5.56258
11/18/2008	11:18	20:39	19h25m37s	-22°21'18"	53°42'34"	0.994	5.65221

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11/25/2008	10:55	20:18	19h31m14s	-22°09'52"	47°57'07"	0.995	5.73537
12/ 2/2008	10:33	19:58	19h37m09s	-21°57'01"	42°14'49"	0.996	5.81122
12/ 9/2008	10:11	19:37	19h43m19s	-21°42'45"	36°35'31"	0.997	5.87898
12/16/2008	9:48	19:17	19h49m41s	-21°27'05"	30°58'49"	0.998	5.93811
12/23/2008	9:26	18:57	19h56m13s	-21°10'02"	25°24'11"	0.998	5.98815
12/30/2008	9:04	18:38	20h02m53s	-20°51'37"	19°51'22"	0.999	6.02859

Saturn

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	21:47	11:03	10h43m18s	9°55'34"	121°21'42"	0.998	8.71918
1/ 8/2008	21:18	10:36	10h42m36s	10°01'38"	128°41'40"	0.998	8.62434
1/15/2008	20:49	10:07	10h41m34s	10°09'30"	136°06'25"	0.999	8.53890
1/22/2008	20:19	9:39	10h40m15s	10°18'56"	143°35'00"	0.999	8.46439
1/29/2008	19:50	9:11	10h38m41s	10°29'43"	151°06'42"	0.999	8.40211
2/ 5/2008	19:20	8:42	10h36m54s	10°41'34"	158°40'37"	1.000	8.35322
2/12/2008	18:49	8:13	10h34m57s	10°54'10"	166°14'48"	1.000	8.31873
2/19/2008	18:19	7:45	10h32m53s	11°07'09"	173°42'50"	1.000	8.29928
2/26/2008	17:49	7:16	10h30m46s	11°20'10"	177°33'18"	1.000	8.29514
3/ 4/2008	17:18	6:47	10h28m39s	11°32'53"	170°37'43"	1.000	8.30634
3/11/2008	16:48	6:18	10h26m36s	11°44'58"	163°09'57"	1.000	8.33274
3/18/2008	16:18	5:49	10h24m40s	11°56'05"	155°42'52"	1.000	8.37374
3/25/2008	15:48	5:21	10h22m55s	12°05'58"	148°19'28"	0.999	8.42844
4/ 1/2008	15:19	4:52	10h21m22s	12°14'25"	141°00'41"	0.999	8.49583
4/ 8/2008	14:49	4:24	10h20m04s	12°21'15"	133°47'16"	0.998	8.57474
4/15/2008	14:21	3:56	10h19m04s	12°26'18"	126°40'02"	0.998	8.66373
4/22/2008	13:52	3:28	10h18m22s	12°29'31"	119°39'22"	0.998	8.76121
4/29/2008	13:24	3:00	10h17m59s	12°30'50"	112°45'12"	0.998	8.86566
5/ 6/2008	12:57	2:32	10h17m55s	12°30'15"	105°57'26"	0.997	8.97555
5/13/2008	12:30	2:05	10h18m12s	12°27'47"	99°16'15"	0.997	9.08920
5/20/2008	12:03	1:38	10h18m48s	12°23'28"	92°41'36"	0.997	9.20495
5/27/2008	11:37	1:11	10h19m43s	12°17'23"	86°13'00"	0.997	9.32132
6/ 3/2008	11:11	0:44	10h20m56s	12°09'36"	79°49'54"	0.997	9.43690
6/10/2008	10:46	0:17	10h22m26s	12°00'11"	73°32'08"	0.997	9.55020
6/17/2008	10:21	23:47	10h24m13s	11°49'15"	67°19'25"	0.997	9.65985
6/24/2008	9:56	23:21	10h26m14s	11°36'55"	61°11'10"	0.998	9.76468
7/ 1/2008	9:32	22:55	10h28m29s	11°23'18"	55°06'38"	0.998	9.86361
7/ 8/2008	9:07	22:29	10h30m57s	11°08'28"	49°05'26"	0.998	9.95552
7/15/2008	8:43	22:03	10h33m35s	10°52'35"	43°07'18"	0.999	10.03941
7/22/2008	8:20	21:37	10h36m23s	10°35'45"	37°11'38"	0.999	10.11451
7/29/2008	7:56	21:12	10h39m19s	10°18'05"	31°17'45"	0.999	10.18012
8/ 5/2008	7:33	20:46	10h42m23s	9°59'43"	25°25'12"	0.999	10.23551
8/12/2008	7:10	20:21	10h45m32s	9°40'47"	19°33'53"	1.000	10.28009
8/19/2008	6:46	19:55	10h48m45s	9°21'25"	13°43'47"	1.000	10.31347
8/26/2008	6:23	19:30	10h52m01s	9°01'44"	7°56'04"	1.000	10.33535
9/ 2/2008	6:00	19:04	10h55m19s	8°41'53"	2°30'38"	1.000	10.34542
9/ 9/2008	5:37	18:39	10h58m38s	8°22'01"	4°22'25"	1.000	10.34348
9/16/2008	5:14	18:13	11h01m55s	8°02'17"	10°06'43"	1.000	10.32960
9/23/2008	4:51	17:48	11h05m10s	7°42'49"	16°01'45"	1.000	10.30389
9/30/2008	4:28	17:23	11h08m21s	7°23'46"	22°01'15"	1.000	10.26648
10/ 7/2008	4:04	16:57	11h11m26s	7°05'18"	28°04'24"	0.999	10.21766
10/14/2008	3:41	16:31	11h14m26s	6°47'35"	34°11'06"	0.999	10.15796
10/21/2008	3:17	16:06	11h17m17s	6°30'47"	40°21'45"	0.999	10.08799
10/28/2008	2:53	15:40	11h19m58s	6°15'02"	46°36'51"	0.999	10.00837
11/ 4/2008	2:29	15:14	11h22m29s	6°00'31"	52°56'37"	0.998	9.91992
11/11/2008	2:04	14:48	11h24m48s	5°47'23"	59°21'07"	0.998	9.82372

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11/18/2008	1:40	14:22	11h26m53s	5°35'48"	65°50'39"	0.998	9.72089
11/25/2008	1:14	13:56	11h28m42s	5°25'54"	72°25'42"	0.997	9.61260
12/ 2/2008	0:49	13:29	11h30m16s	5°17'49"	79°06'27"	0.997	9.50019
12/ 9/2008	0:23	13:03	11h31m32s	5°11'41"	85°52'47"	0.997	9.38525
12/16/2008	23:53	12:36	11h32m29s	5°07'35"	92°44'43"	0.997	9.26936
12/23/2008	23:26	12:09	11h33m08s	5°05'34"	99°42'31"	0.997	9.15411
12/30/2008	22:59	11:41	11h33m26s	5°05'41"	106°46'12"	0.997	9.04122

Uranus

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	11:09	22:29	23h07m18s	-6°27'58"	65°26'19"	1.000	20.48571
1/ 8/2008	10:42	22:03	23h08m09s	-6°22'19"	58°32'10"	1.000	20.59276
1/15/2008	10:15	21:37	23h09m08s	-6°15'55"	51°40'08"	1.000	20.69232
1/22/2008	9:49	21:11	23h10m14s	-6°08'50"	44°50'26"	1.000	20.78301
1/29/2008	9:22	20:45	23h11m25s	-6°01'09"	38°02'55"	1.000	20.86370
2/ 5/2008	8:55	20:19	23h12m42s	-5°52'56"	31°17'21"	1.000	20.93336
2/12/2008	8:28	19:53	23h14m03s	-5°44'17"	24°33'52"	1.000	20.99103
2/19/2008	8:02	19:28	23h15m27s	-5°35'18"	17°52'39"	1.000	21.03597
2/26/2008	7:35	19:02	23h16m53s	-5°26'04"	11°13'44"	1.000	21.06776
3/ 4/2008	7:09	18:37	23h18m22s	-5°16'42"	4°38'00"	1.000	21.08607
3/11/2008	6:42	18:11	23h19m51s	-5°07'16"	2°09'31"	1.000	21.09064
3/18/2008	6:15	17:46	23h21m19s	-4°57'53"	8°38'18"	1.000	21.08149
3/25/2008	5:49	17:20	23h22m46s	-4°48'39"	15°10'41"	1.000	21.05891
4/ 1/2008	5:22	16:54	23h24m12s	-4°39'38"	21°42'34"	1.000	21.02326
4/ 8/2008	4:55	16:29	23h25m34s	-4°30'57"	28°13'51"	1.000	20.97495
4/15/2008	4:29	16:03	23h26m53s	-4°22'40"	34°44'29"	1.000	20.91469
4/22/2008	4:02	15:37	23h28m07s	-4°14'53"	41°14'35"	1.000	20.84338
4/29/2008	3:35	15:11	23h29m17s	-4°07'40"	47°44'37"	1.000	20.76196
5/ 6/2008	3:08	14:45	23h30m20s	-4°01'06"	54°14'59"	1.000	20.67139
5/13/2008	2:42	14:19	23h31m17s	-3°55'15"	60°45'45"	1.000	20.57291
5/20/2008	2:15	13:52	23h32m06s	-3°50'10"	67°17'00"	0.999	20.46787
5/27/2008	1:47	13:26	23h32m49s	-3°45'54"	73°49'12"	0.999	20.35763
6/ 3/2008	1:20	12:59	23h33m23s	-3°42'31"	80°22'48"	0.999	20.24355
6/10/2008	0:53	12:32	23h33m49s	-3°40'01"	86°57'54"	0.999	20.12716
6/17/2008	0:26	12:05	23h34m06s	-3°38'28"	93°34'31"	0.999	20.01011
6/24/2008	23:54	11:37	23h34m14s	-3°37'50"	100°12'58"	0.999	19.89394
7/ 1/2008	23:27	11:10	23h34m14s	-3°38'08"	106°53'40"	0.999	19.78017
7/ 8/2008	22:59	10:42	23h34m05s	-3°39'21"	113°36'44"	0.999	19.67042
7/15/2008	22:32	10:14	23h33m48s	-3°41'29"	120°21'59"	1.000	19.56633
7/22/2008	22:04	9:46	23h33m23s	-3°44'27"	127°09'34"	1.000	19.46937
7/29/2008	21:36	9:18	23h32m50s	-3°48'13"	133°59'46"	1.000	19.38088
8/ 5/2008	21:08	8:49	23h32m10s	-3°52'42"	140°52'37"	1.000	19.30229
8/12/2008	20:40	8:21	23h31m24s	-3°57'50"	147°47'47"	1.000	19.23486
8/19/2008	20:12	7:52	23h30m32s	-4°03'29"	154°45'06"	1.000	19.17963
8/26/2008	19:44	7:23	23h29m37s	-4°09'34"	161°44'38"	1.000	19.13743
9/ 2/2008	19:16	6:54	23h28m37s	-4°15'57"	168°46'05"	1.000	19.10907
9/ 9/2008	18:47	6:25	23h27m36s	-4°22'31"	175°47'05"	1.000	19.09513
9/16/2008	18:19	5:57	23h26m34s	-4°29'07"	176°56'18"	1.000	19.09582
9/23/2008	17:51	5:28	23h25m33s	-4°35'37"	169°54'02"	1.000	19.11118
9/30/2008	17:23	4:59	23h24m33s	-4°41'54"	162°46'41"	1.000	19.14111
10/ 7/2008	16:55	4:30	23h23m36s	-4°47'49"	155°38'02"	1.000	19.18527
10/14/2008	16:27	4:01	23h22m44s	-4°53'15"	148°28'56"	1.000	19.24293
10/21/2008	15:59	3:33	23h21m56s	-4°58'05"	141°19'34"	1.000	19.31319
10/28/2008	15:31	3:04	23h21m15s	-5°02'14"	134°10'03"	1.000	19.39509
11/ 4/2008	15:03	2:36	23h20m41s	-5°05'34"	127°00'50"	1.000	19.48740

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

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11/11/2008	14:35	2:08	23h20m15s	-5°08'03"	119°52'28"	1.000	19.58862
11/18/2008	14:07	1:40	23h19m58s	-5°09'37"	112°45'05"	0.999	19.69715
11/25/2008	13:40	1:12	23h19m49s	-5°10'13"	105°38'41"	0.999	19.81144
12/ 2/2008	13:12	0:45	23h19m50s	-5°09'51"	98°33'33"	0.999	19.92976
12/ 9/2008	12:45	0:18	23h20m00s	-5°08'29"	91°30'09"	0.999	20.05021
12/16/2008	12:17	23:47	23h20m19s	-5°06'07"	84°28'38"	0.999	20.17101
12/23/2008	11:50	23:20	23h20m47s	-5°02'49"	77°28'53"	0.999	20.29046
12/30/2008	11:23	22:53	23h21m25s	-4°58'35"	70°31'00"	0.999	20.40680

Neptune

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	10:04	20:23	21h31m03s	-15°00'25"	40°20'13"	1.000	30.78544
1/ 8/2008	9:37	19:56	21h31m56s	-14°56'12"	33°25'24"	1.000	30.85834
1/15/2008	9:10	19:30	21h32m52s	-14°51'43"	26°31'34"	1.000	30.91918
1/22/2008	8:43	19:04	21h33m50s	-14°46'59"	19°38'58"	1.000	30.96712
1/29/2008	8:16	18:37	21h34m51s	-14°42'06"	12°47'31"	1.000	31.00163
2/ 5/2008	7:50	18:11	21h35m53s	-14°37'05"	5°57'07"	1.000	31.02223
2/12/2008	7:23	17:45	21h36m55s	-14°32'01"	0°55'47"	1.000	31.02860
2/19/2008	6:56	17:19	21h37m58s	-14°26'56"	7°41'36"	1.000	31.02073
2/26/2008	6:29	16:53	21h38m59s	-14°21'55"	14°28'39"	1.000	30.99886
3/ 4/2008	6:02	16:27	21h39m59s	-14°17'00"	21°14'57"	1.000	30.96333
3/11/2008	5:35	16:00	21h40m57s	-14°12'16"	28°00'27"	1.000	30.91458
3/18/2008	5:09	15:34	21h41m52s	-14°07'46"	34°44'59"	1.000	30.85338
3/25/2008	4:42	15:07	21h42m44s	-14°03'32"	41°28'36"	1.000	30.78071
4/ 1/2008	4:15	14:41	21h43m32s	-13°59'38"	48°11'41"	1.000	30.69754
4/ 8/2008	3:48	14:14	21h44m15s	-13°56'06"	54°54'25"	1.000	30.60497
4/15/2008	3:21	13:48	21h44m53s	-13°52'59"	61°36'40"	1.000	30.50436
4/22/2008	2:53	13:21	21h45m26s	-13°50'19"	68°18'30"	1.000	30.39716
4/29/2008	2:26	12:54	21h45m54s	-13°48'07"	75°00'17"	1.000	30.28481
5/ 6/2008	1:59	12:27	21h46m15s	-13°46'26"	81°42'19"	1.000	30.16878
5/13/2008	1:32	12:00	21h46m31s	-13°45'16"	88°24'31"	1.000	30.05073
5/20/2008	1:04	11:32	21h46m40s	-13°44'39"	95°06'52"	1.000	29.93237
5/27/2008	0:37	11:05	21h46m43s	-13°44'33"	101°49'43"	1.000	29.81525
6/ 3/2008	0:09	10:37	21h46m40s	-13°44'58"	108°33'23"	1.000	29.70094
6/10/2008	23:38	10:09	21h46m31s	-13°45'55"	115°17'51"	1.000	29.59112
6/17/2008	23:10	9:42	21h46m16s	-13°47'22"	122°02'59"	1.000	29.48737
6/24/2008	22:42	9:14	21h45m55s	-13°49'16"	128°49'00"	1.000	29.39110
7/ 1/2008	22:14	8:45	21h45m30s	-13°51'36"	135°36'14"	1.000	29.30362
7/ 8/2008	21:46	8:17	21h44m59s	-13°54'20"	142°24'39"	1.000	29.22629
7/15/2008	21:19	7:49	21h44m25s	-13°57'24"	149°14'02"	1.000	29.16029
7/22/2008	20:51	7:21	21h43m47s	-14°00'44"	156°04'25"	1.000	29.10651
7/29/2008	20:23	6:52	21h43m06s	-14°04'18"	162°56'06"	1.000	29.06573
8/ 5/2008	19:55	6:24	21h42m23s	-14°08'01"	169°48'59"	1.000	29.03868
8/12/2008	19:27	5:55	21h41m39s	-14°11'49"	176°42'14"	1.000	29.02583
8/19/2008	18:59	5:27	21h40m55s	-14°15'38"	176°20'46"	1.000	29.02734
8/26/2008	18:31	4:58	21h40m10s	-14°19'24"	169°25'26"	1.000	29.04320
9/ 2/2008	18:03	4:30	21h39m27s	-14°23'03"	162°28'29"	1.000	29.07334
9/ 9/2008	17:35	4:01	21h38m46s	-14°26'30"	155°30'43"	1.000	29.11736
9/16/2008	17:07	3:33	21h38m08s	-14°29'42"	148°32'23"	1.000	29.17456
9/23/2008	16:39	3:05	21h37m34s	-14°32'35"	141°33'22"	1.000	29.24414
9/30/2008	16:11	2:37	21h37m04s	-14°35'07"	134°33'38"	1.000	29.32518
10/ 7/2008	15:43	2:09	21h36m38s	-14°37'14"	127°33'30"	1.000	29.41651
10/14/2008	15:15	1:41	21h36m18s	-14°38'53"	120°33'17"	1.000	29.51670
10/21/2008	14:48	1:13	21h36m04s	-14°40'03"	113°32'54"	1.000	29.62428
10/28/2008	14:20	0:45	21h35m56s	-14°40'43"	106°32'17"	1.000	29.73775

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

11/ 4/2008	13:52	0:17	21h35m54s	-14°40'51"	99°31'40"	1.000	29.85542
11/11/2008	13:25	23:46	21h35m59s	-14°40'27"	92°31'24"	1.000	29.97546
11/18/2008	12:58	23:19	21h36m10s	-14°39'29"	85°31'31"	1.000	30.09611
11/25/2008	12:30	22:52	21h36m28s	-14°38'01"	78°31'51"	1.000	30.21569
12/ 2/2008	12:03	22:25	21h36m52s	-14°36'00"	71°32'34"	1.000	30.33239
12/ 9/2008	11:36	21:58	21h37m22s	-14°33'30"	64°34'03"	1.000	30.44442
12/16/2008	11:09	21:31	21h37m58s	-14°30'31"	57°36'23"	1.000	30.55019
12/23/2008	10:42	21:05	21h38m40s	-14°27'06"	50°39'23"	1.000	30.64825
12/30/2008	10:15	20:38	21h39m26s	-14°23'17"	43°43'06"	1.000	30.73715

Pluto

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2008	6:38	16:40	17h56m25s	-17°09'18"	12°28'03"	1.000	32.35484
1/ 8/2008	6:11	16:14	17h57m28s	-17°09'42"	18°43'23"	1.000	32.32857
1/15/2008	5:45	15:47	17h58m29s	-17°09'56"	25°18'22"	1.000	32.28865
1/22/2008	5:18	15:21	17h59m27s	-17°09'59"	32°00'52"	1.000	32.23575
1/29/2008	4:52	14:54	18h00m22s	-17°09'53"	38°47'08"	1.000	32.17072
2/ 5/2008	4:25	14:28	18h01m14s	-17°09'36"	45°35'44"	1.000	32.09444
2/12/2008	3:58	14:01	18h02m00s	-17°09'12"	52°25'43"	1.000	32.00804
2/19/2008	3:31	13:34	18h02m42s	-17°08'41"	59°16'22"	1.000	31.91289
2/26/2008	3:04	13:07	18h03m18s	-17°08'05"	66°07'28"	1.000	31.81043
3/ 4/2008	2:37	12:40	18h03m49s	-17°07'23"	72°59'03"	1.000	31.70212
3/11/2008	2:10	12:13	18h04m13s	-17°06'39"	79°50'57"	1.000	31.58954
3/18/2008	1:43	11:46	18h04m31s	-17°05'53"	86°42'46"	1.000	31.47446
3/25/2008	1:16	11:19	18h04m42s	-17°05'06"	93°34'25"	1.000	31.35862
4/ 1/2008	0:48	10:51	18h04m47s	-17°04'21"	100°26'02"	1.000	31.24363
4/ 8/2008	0:20	10:24	18h04m45s	-17°03'38"	107°17'36"	1.000	31.13121
4/15/2008	23:49	9:56	18h04m36s	-17°02'59"	114°08'43"	1.000	31.02312
4/22/2008	23:21	9:28	18h04m22s	-17°02'24"	120°59'11"	1.000	30.92096
4/29/2008	22:53	9:00	18h04m01s	-17°01'55"	127°49'02"	1.000	30.82617
5/ 6/2008	22:25	8:32	18h03m36s	-17°01'33"	134°38'06"	1.000	30.74016
5/13/2008	21:57	8:04	18h03m05s	-17°01'18"	141°25'42"	1.000	30.66430
5/20/2008	21:29	7:36	18h02m30s	-17°01'12"	148°10'50"	1.000	30.59971
5/27/2008	21:01	7:08	18h01m52s	-17°01'15"	154°51'58"	1.000	30.54728
6/ 3/2008	20:33	6:40	18h01m10s	-17°01'27"	161°25'14"	1.000	30.50780
6/10/2008	20:04	6:12	18h00m27s	-17°01'49"	167°37'56"	1.000	30.48197
6/17/2008	19:36	5:43	17h59m42s	-17°02'20"	172°35'33"	1.000	30.47017
6/24/2008	19:08	5:15	17h58m57s	-17°03'02"	172°53'17"	1.000	30.47251
7/ 1/2008	18:40	4:47	17h58m12s	-17°03'53"	168°10'22"	1.000	30.48903
7/ 8/2008	18:11	4:18	17h57m28s	-17°04'55"	162°02'21"	1.000	30.51959
7/15/2008	17:43	3:50	17h56m47s	-17°06'06"	155°32'24"	1.000	30.56376
7/22/2008	17:15	3:22	17h56m08s	-17°07'26"	148°54'32"	1.000	30.62085
7/29/2008	16:47	2:54	17h55m32s	-17°08'54"	142°12'56"	1.000	30.69014
8/ 5/2008	16:19	2:26	17h55m01s	-17°10'30"	135°29'23"	1.000	30.77075
8/12/2008	15:51	1:57	17h54m34s	-17°12'14"	128°45'00"	1.000	30.86153
8/19/2008	15:24	1:30	17h54m13s	-17°14'04"	122°00'14"	1.000	30.96115
8/26/2008	14:56	1:02	17h53m57s	-17°15'59"	115°15'04"	1.000	31.06830
9/ 2/2008	14:29	0:34	17h53m47s	-17°17'58"	108°29'32"	1.000	31.18159
9/ 9/2008	14:01	0:06	17h53m44s	-17°20'01"	101°43'58"	1.000	31.29939
9/16/2008	13:34	23:35	17h53m47s	-17°22'06"	94°58'29"	1.000	31.42003
9/23/2008	13:07	23:07	17h53m56s	-17°24'12"	88°12'53"	1.000	31.54192
9/30/2008	12:39	22:40	17h54m12s	-17°26'17"	81°26'59"	1.000	31.66344
10/ 7/2008	12:12	22:12	17h54m35s	-17°28'21"	74°41'01"	1.000	31.78287
10/14/2008	11:46	21:45	17h55m03s	-17°30'22"	67°55'08"	1.000	31.89849
10/21/2008	11:19	21:18	17h55m37s	-17°32'19"	61°09'14"	1.000	32.00881

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
 Local Time = UT - 7.00 hours Elevation: 1707 meters Year: 2008

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10/28/2008	10:52	20:51	17h56m17s	-17°34'11"	54°23'08"	1.000	32.11234
11/ 4/2008	10:25	20:24	17h57m02s	-17°35'56"	47°37'08"	1.000	32.20758
11/11/2008	9:59	19:58	17h57m52s	-17°37'34"	40°51'44"	1.000	32.29318
11/18/2008	9:32	19:31	17h58m46s	-17°39'03"	34°07'18"	1.000	32.36803
11/25/2008	9:06	19:04	17h59m43s	-17°40'24"	27°24'37"	1.000	32.43114
12/ 2/2008	8:39	18:38	18h00m43s	-17°41'35"	20°46'05"	1.000	32.48155
12/ 9/2008	8:13	18:11	18h01m45s	-17°42'35"	14°18'33"	1.000	32.51853
12/16/2008	7:46	17:45	18h02m48s	-17°43'25"	8°28'40"	1.000	32.54169
12/23/2008	7:20	17:18	18h03m53s	-17°44'04"	5°44'06"	1.000	32.55074
12/30/2008	6:54	16:52	18h04m57s	-17°44'32"	9°23'24"	1.000	32.54548

Planet Apsides Report for 2008

Earth

1/ 3/2008	Perihelion	Distance from Sun:	0.98 AU
7/ 4/2008	Aphelion	Distance from Sun:	1.02 AU

Mercury

1/27/2008	Perihelion	Distance from Sun:	0.31 AU
4/24/2008	Perihelion	Distance from Sun:	0.31 AU
7/21/2008	Perihelion	Distance from Sun:	0.31 AU
10/17/2008	Perihelion	Distance from Sun:	0.31 AU
3/11/2008	Aphelion	Distance from Sun:	0.47 AU
6/ 7/2008	Aphelion	Distance from Sun:	0.47 AU
9/ 3/2008	Aphelion	Distance from Sun:	0.47 AU
11/30/2008	Aphelion	Distance from Sun:	0.47 AU

Venus

7/11/2008	Perihelion	Distance from Sun:	0.72 AU
3/21/2008	Aphelion	Distance from Sun:	0.73 AU
10/31/2008	Aphelion	Distance from Sun:	0.73 AU

Mars

5/12/2008	Aphelion	Distance from Sun:	1.67 AU
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Jupiter

No Apsis

Saturn

No Apsis

Planet Conjunction/Opposition Report for 1/ 1/2008 to 12/31/2008

Mercury

Date	Hour	Event
2/ 6/2008	17	Inferior Conjunction
4/16/2008	0	Superior Conjunction
6/ 7/2008	17	Inferior Conjunction
7/29/2008	17	Superior Conjunction
10/ 6/2008	17	Inferior Conjunction
11/25/2008	17	Superior Conjunction

Venus

Date	Hour	Event
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Midway, UT                      Latitude: 40°31'00" N Longitude: 111°27'30" W  
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6/ 8/2008 21 Superior Conjunction (Occultation)

Mars

Date	Hour	Event
12/ 5/2008	17	Conjunction

Jupiter

Date	Hour	Event
7/ 9/2008	2	Opposition

Saturn

Date	Hour	Event
9/ 3/2008	22	Conjunction
2/24/2008	17	Opposition

Uranus

Date	Hour	Event
3/ 8/2008	17	Conjunction
9/12/2008	19	Opposition

Neptune

Date	Hour	Event
2/10/2008	19	Conjunction
8/15/2008	1	Opposition

Pluto

Date	Hour	Event
12/22/2008	2	Conjunction
6/20/2008	17	Opposition

Planet Data Report

Planet	Mean Dist From Sun (AU)	Period of Revolution	Inclination	Equatorial Diameter (km)
Mercury	0.39	88 days	7°	4880
Venus	0.72	224.7 days	3.4°	12100
Earth	1.00	365.24 days	0°	12756
Mars	1.52	687 days	1.9°	6794
Jupiter	5.20	11.86 years	1.3°	143200
Saturn	9.54	29.46 years	2.5°	120000
Uranus	19.18	84 years	0.8°	52290



Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W  
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Neptune 30.06 165 years 1.8° 50450  
 Pluto 39.44 248 years 17.2° 2200-2300

Moon Apsides Report for 1/ 1/2008 to 12/31/2008

Date	Hour	Apsis	Distance (km)	Diameter
1/ 3/2008	1	Apogee	405324	0.4914°
1/19/2008	2	Perigee	366417	0.5435°
1/30/2008	21	Apogee	404544	0.4923°
2/13/2008	18	Perigee	370224	0.5379°
2/27/2008	18	Apogee	404443	0.4924°
3/10/2008	15	Perigee	366307	0.5437°
3/26/2008	13	Apogee	405092	0.4916°
4/ 7/2008	12	Perigee	361095	0.5515°
4/23/2008	3	Apogee	405959	0.4906°
5/ 5/2008	20	Perigee	357789	0.5566°
5/20/2008	8	Apogee	406385	0.4901°
6/ 3/2008	6	Perigee	357270	0.5574°
6/16/2008	10	Apogee	406213	0.4903°
7/ 1/2008	14	Perigee	359527	0.5539°
7/13/2008	21	Apogee	405478	0.4912°
7/29/2008	16	Perigee	363885	0.5473°
8/10/2008	13	Apogee	404573	0.4923°
8/25/2008	21	Perigee	368688	0.5402°
9/ 7/2008	8	Apogee	404214	0.4927°
9/19/2008	20	Perigee	368891	0.5399°
10/ 5/2008	4	Apogee	404728	0.4921°
10/16/2008	23	Perigee	363818	0.5474°
11/ 1/2008	22	Apogee	405730	0.4909°
11/14/2008	3	Perigee	358973	0.5548°
11/29/2008	10	Apogee	406478	0.4900°
12/12/2008	15	Perigee	356587	0.5585°
12/26/2008	11	Apogee	406601	0.4898°

Meteor Showers Report for 1/ 1/2008 to 12/31/2008

Date	Meteor Shower	ZHR	RA	DEC	Illum. Frac.	Longitude
1/ 4/2008	Quadrantids	80	15h28m	50°	0.13	284°
4/11/2008	Virginids	5	14h04m	-9°	0.38	22°
4/21/2008	Lyrids	12	18h08m	32°	0.98	32°
4/27/2008	alpha-Scorpiids	5	16h32m	-24°	0.59	38°
5/ 4/2008	eta-Aquarids	35	22h20m	-1°	0.01	45°
5/11/2008	alpha-Scorpiids	5	16h04m	-24°	0.45	52°
6/ 9/2008	Ophiuchids	5	17h56m	-23°	0.41	79°
6/19/2008	Ophiuchids	5	17h20m	-20°	0.99	89°
7/ 7/2008	Capricornids	5			0.26	106°
7/14/2008	Capricornids	5	20h44m	-15°	0.88	113°
7/19/2008	alpha-Cygnids	5	21h00m	48°	0.98	118°
7/25/2008	Capricornids	5	21h00m	-15°	0.51	123°
7/28/2008	delta-Aquarids	20	22h36m	-17°	0.19	126°
7/30/2008	Piscis Australids	5	22h40m	-30°	0.04	128°
8/ 1/2008	alpha-Capricornids	5	20h36m	-10°	0.00	130°
8/ 5/2008	iota-Aquarids	8	22h10m	-15°	0.21	134°
8/11/2008	Perseids	75	3h04m	58°	0.76	140°

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8/20/2008	alpha-Cygnids	5	21h00m	48°	0.84	148°
9/ 7/2008	Piscids	10	0h36m	7°	0.51	166°
9/20/2008	Piscids	5	0h24m	0°	0.67	178°
10/12/2008	Piscids	??	1h44m	14°	0.94	200°
10/21/2008	Orionids	25	6h24m	15°	0.48	209°
11/ 2/2008	Taurids	8	3h44m	14°	0.19	221°
11/16/2008	Leonids	10	10h08m	22°	0.83	235°
12/ 8/2008	Puppids-Velids	15	9h00m	-48°	0.79	257°
12/13/2008	Geminids	75	7h28m	32°	0.98	262°
12/22/2008	Ursids	5	14h28m	78°	0.20	271°
12/25/2008	Puppids-Velids	15	9h20m	-65°	0.03	274°

Twilight Report for 1/ 1/2008 to 12/31/2008

Date	Sun		Astronomical		Nautical		Civil	
	Rise	Set	Begin	End	Begin	End	Begin	End
1/ 1/2008	7:49	17:09	6:06	18:52	6:39	18:19	7:14	17:45
1/ 8/2008	7:49	17:16	6:07	18:58	6:40	18:25	7:14	17:51
1/15/2008	7:47	17:23	6:06	19:04	6:39	18:32	7:13	17:58
1/22/2008	7:44	17:31	6:04	19:11	6:36	18:39	7:09	18:06
1/29/2008	7:39	17:40	6:00	19:18	6:32	18:46	7:05	18:14
2/ 5/2008	7:32	17:48	5:54	19:26	6:26	18:54	6:59	18:22
2/12/2008	7:24	17:57	5:47	19:33	6:19	19:02	6:51	18:30
2/19/2008	7:15	18:05	5:39	19:41	6:11	19:09	6:43	18:38
2/26/2008	7:05	18:13	5:30	19:48	6:01	19:17	6:33	18:45
3/ 4/2008	6:54	18:21	5:19	19:56	5:51	19:24	6:23	18:53
3/11/2008	6:43	18:29	5:08	20:04	5:40	19:32	6:12	19:00
3/18/2008	6:32	18:36	4:56	20:12	5:28	19:40	6:00	19:08
3/25/2008	6:20	18:44	4:44	20:20	5:16	19:47	5:49	19:15
4/ 1/2008	6:09	18:51	4:31	20:29	5:04	19:55	5:37	19:23
4/ 8/2008	5:57	18:58	4:18	20:38	4:52	20:04	5:25	19:31
4/15/2008	5:47	19:06	4:04	20:48	4:40	20:12	5:14	19:38
4/22/2008	5:36	19:13	3:51	20:58	4:28	20:21	5:03	19:46
4/29/2008	5:27	19:20	3:38	21:08	4:17	20:30	4:53	19:54
5/ 6/2008	5:18	19:27	3:26	21:19	4:07	20:39	4:43	20:02
5/13/2008	5:11	19:34	3:15	21:30	3:57	20:48	4:35	20:10
5/20/2008	5:04	19:41	3:05	21:41	3:49	20:56	4:28	20:17
5/27/2008	5:00	19:47	2:56	21:50	3:42	21:04	4:23	20:24
6/ 3/2008	4:57	19:52	2:50	21:59	3:38	21:11	4:19	20:30
6/10/2008	4:55	19:56	2:46	22:05	3:35	21:16	4:17	20:34
6/17/2008	4:55	19:59	2:45	22:09	3:34	21:20	4:17	20:37
6/24/2008	4:56	20:00	2:46	22:11	3:36	21:21	4:18	20:39
7/ 1/2008	4:59	20:00	2:50	22:09	3:39	21:20	4:21	20:38
7/ 8/2008	5:03	19:58	2:57	22:05	3:45	21:17	4:26	20:36
7/15/2008	5:09	19:55	3:05	21:58	3:51	21:12	4:31	20:32
7/22/2008	5:14	19:50	3:15	21:50	3:59	21:05	4:38	20:26
7/29/2008	5:21	19:43	3:25	21:39	4:07	20:57	4:45	20:19
8/ 5/2008	5:27	19:36	3:35	21:28	4:16	20:47	4:52	20:10
8/12/2008	5:34	19:27	3:46	21:15	4:24	20:37	5:00	20:01
8/19/2008	5:41	19:17	3:56	21:02	4:33	20:25	5:08	19:50
8/26/2008	5:48	19:06	4:05	20:49	4:41	20:13	5:15	19:39
9/ 2/2008	5:55	18:55	4:14	20:35	4:49	20:01	5:22	19:28
9/ 9/2008	6:01	18:44	4:23	20:22	4:57	19:48	5:29	19:16
9/16/2008	6:08	18:32	4:31	20:09	5:04	19:36	5:36	19:04
9/23/2008	6:15	18:20	4:39	19:56	5:12	19:24	5:43	18:52

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9/30/2008	6:22	18:09	4:47	19:44	5:19	19:12	5:50	18:40
10/ 7/2008	6:29	17:57	4:54	19:32	5:26	19:00	5:57	18:29
10/14/2008	6:36	17:46	5:01	19:21	5:33	18:50	6:04	18:18
10/21/2008	6:44	17:36	5:09	19:12	5:40	18:40	6:12	18:08
10/28/2008	6:52	17:27	5:16	19:03	5:47	18:31	6:19	17:59
11/ 4/2008	7:00	17:18	5:23	18:56	5:55	18:24	6:27	17:52
11/11/2008	7:08	17:11	5:30	18:50	6:02	18:18	6:34	17:45
11/18/2008	7:16	17:06	5:37	18:45	6:09	18:13	6:42	17:40
11/25/2008	7:24	17:02	5:43	18:42	6:16	18:10	6:49	17:36
12/ 2/2008	7:32	16:59	5:50	18:41	6:22	18:08	6:56	17:35
12/ 9/2008	7:38	16:59	5:55	18:42	6:28	18:09	7:02	17:35
12/16/2008	7:43	17:00	6:00	18:44	6:33	18:10	7:07	17:36
12/23/2008	7:47	17:04	6:04	18:47	6:37	18:14	7:11	17:40
12/30/2008	7:49	17:08	6:06	18:51	6:39	18:18	7:13	17:44