

ALPO Solar Section

2008 Solar Ephemeris

Ephemeris Computed by Brad Timerson, A.L.P.O. Solar Section

CALENDAR DATE	JULIAN DATE	ROTATION NUMBER	HELIOGRAPHIC			DIAMETER (arcmin)	RA (HH:MM)	DEC (deg)
			Lo	Bo	Po			
12/30/2007	2454464.5	2065	347.49	-2.71	3.31	32.529	18:34.9	-23.21
12/31/2007	2454465.5	2065	334.32	-2.83	2.83	32.530	18:39.3	-23.14
1/ 1/2008	2454466.5	2065	321.14	-2.95	2.34	32.531	18:43.7	-23.07
1/ 2/2008	2454467.5	2065	308.03	-3.07	1.86	32.531	18:48.1	-22.99
1/ 3/2008	2454468.5	2065	294.86	-3.18	1.37	32.531	18:52.5	-22.90
1/ 4/2008	2454469.5	2065	281.68	-3.30	0.89	32.531	18:56.9	-22.81
1/ 5/2008	2454470.5	2065	268.51	-3.41	0.41	32.531	19: 1.3	-22.70
1/ 6/2008	2454471.5	2065	255.34	-3.53	-0.08	32.531	19: 5.7	-22.59
1/ 7/2008	2454472.5	2065	242.16	-3.64	-0.56	32.530	19:10.1	-22.48
1/ 8/2008	2454473.5	2065	228.99	-3.75	-1.04	32.530	19:14.5	-22.35
1/ 9/2008	2454474.5	2065	215.82	-3.86	-1.53	32.529	19:18.8	-22.22
1/10/2008	2454475.5	2065	202.65	-3.97	-2.01	32.528	19:23.2	-22.08
1/11/2008	2454476.5	2065	189.47	-4.07	-2.48	32.527	19:27.6	-21.93
1/12/2008	2454477.5	2065	176.30	-4.18	-2.96	32.526	19:31.9	-21.78
1/13/2008	2454478.5	2065	163.13	-4.28	-3.44	32.524	19:36.2	-21.62
1/14/2008	2454479.5	2065	149.96	-4.39	-3.91	32.523	19:40.5	-21.45
1/15/2008	2454480.5	2065	136.79	-4.49	-4.38	32.521	19:44.8	-21.28
1/16/2008	2454481.5	2065	123.61	-4.59	-4.85	32.519	19:49.1	-21.09
1/17/2008	2454482.5	2065	110.44	-4.69	-5.31	32.517	19:53.4	-20.91
1/18/2008	2454483.5	2065	97.27	-4.78	-5.78	32.514	19:57.7	-20.71
1/19/2008	2454484.5	2065	84.10	-4.88	-6.24	32.512	20: 2.0	-20.51
1/20/2008	2454485.5	2065	70.93	-4.98	-6.70	32.509	20: 6.2	-20.30
1/21/2008	2454486.5	2065	57.76	-5.07	-7.15	32.507	20:10.5	-20.09
1/22/2008	2454487.5	2065	44.59	-5.16	-7.60	32.504	20:14.7	-19.87
1/23/2008	2454488.5	2065	31.48	-5.25	-8.05	32.500	20:18.9	-19.64
1/24/2008	2454489.5	2065	18.31	-5.34	-8.50	32.497	20:23.1	-19.41
1/25/2008	2454490.5	2065	5.14	-5.42	-8.94	32.494	20:27.3	-19.17
1/26/2008	2454491.5	2066	351.97	-5.51	-9.37	32.490	20:31.5	-18.92
1/27/2008	2454492.5	2066	338.80	-5.59	-9.81	32.487	20:35.6	-18.67
1/28/2008	2454493.5	2066	325.63	-5.67	-10.24	32.483	20:39.8	-18.42
1/29/2008	2454494.5	2066	312.46	-5.75	-10.66	32.479	20:43.9	-18.16
1/30/2008	2454495.5	2066	299.29	-5.83	-11.09	32.474	20:48.0	-17.89
1/31/2008	2454496.5	2066	286.12	-5.90	-11.50	32.470	20:52.1	-17.62
2/ 1/2008	2454497.5	2066	272.95	-5.98	-11.91	32.466	20:56.2	-17.34
2/ 2/2008	2454498.5	2066	259.78	-6.05	-12.32	32.461	20:60.3	-17.06
2/ 3/2008	2454499.5	2066	246.61	-6.12	-12.73	32.456	21: 4.4	-16.77
2/ 4/2008	2454500.5	2066	233.44	-6.19	-13.13	32.451	21: 8.4	-16.48
2/ 5/2008	2454501.5	2066	220.27	-6.25	-13.52	32.446	21:12.5	-16.18
2/ 6/2008	2454502.5	2066	207.10	-6.32	-13.91	32.441	21:16.5	-15.88
2/ 7/2008	2454503.5	2066	193.93	-6.38	-14.29	32.436	21:20.5	-15.57
2/ 8/2008	2454504.5	2066	180.76	-6.44	-14.67	32.430	21:24.5	-15.26
2/ 9/2008	2454505.5	2066	167.59	-6.50	-15.05	32.425	21:28.5	-14.94
2/10/2008	2454506.5	2066	154.42	-6.55	-15.42	32.419	21:32.5	-14.62
2/11/2008	2454507.5	2066	141.25	-6.61	-15.78	32.413	21:36.4	-14.30
2/12/2008	2454508.5	2066	128.14	-6.66	-16.14	32.407	21:40.4	-13.97
2/13/2008	2454509.5	2066	114.97	-6.71	-16.49	32.401	21:44.3	-13.64
2/14/2008	2454510.5	2066	101.80	-6.76	-16.84	32.395	21:48.2	-13.31
2/15/2008	2454511.5	2066	88.63	-6.80	-17.18	32.388	21:52.1	-12.97
2/16/2008	2454512.5	2066	75.46	-6.84	-17.52	32.382	21:56.0	-12.63
2/17/2008	2454513.5	2066	62.29	-6.89	-17.85	32.375	21:59.9	-12.28
2/18/2008	2454514.5	2066	49.12	-6.92	-18.17	32.369	22: 3.8	-11.93
2/19/2008	2454515.5	2066	35.94	-6.96	-18.49	32.362	22: 7.7	-11.58
2/20/2008	2454516.5	2066	22.77	-7.00	-18.81	32.355	22:11.5	-11.22
2/21/2008	2454517.5	2066	9.60	-7.03	-19.12	32.348	22:15.4	-10.87
2/22/2008	2454518.5	2067	356.43	-7.06	-19.42	32.341	22:19.2	-10.50
2/23/2008	2454519.5	2067	343.25	-7.09	-19.71	32.333	22:23.0	-10.14
2/24/2008	2454520.5	2067	330.08	-7.11	-20.00	32.326	22:26.8	-9.77
2/25/2008	2454521.5	2067	316.91	-7.14	-20.29	32.319	22:30.6	-9.41
2/26/2008	2454522.5	2067	303.73	-7.16	-20.57	32.311	22:34.4	-9.04
2/27/2008	2454523.5	2067	290.56	-7.18	-20.84	32.303	22:38.2	-8.66
2/28/2008	2454524.5	2067	277.38	-7.19	-21.10	32.296	22:41.9	-8.29
2/29/2008	2454525.5	2067	264.21	-7.21	-21.36	32.288	22:45.7	-7.91
3/ 1/2008	2454526.5	2067	251.03	-7.22	-21.62	32.280	22:49.5	-7.53
3/ 2/2008	2454527.5	2067	237.86	-7.23	-21.86	32.272	22:53.2	-7.15
3/ 3/2008	2454528.5	2067	224.74	-7.24	-22.10	32.264	22:56.9	-6.77
3/ 4/2008	2454529.5	2067	211.57	-7.25	-22.34	32.256	23:0 .7	-6.38
3/ 5/2008	2454530.5	2067	198.39	-7.25	-22.56	32.248	23: 4.4	-5.99

3/ 6/2008	2454531.5	2067	185.21	-7.25	-22.79	32.239	23: 8.1	-5.61
3/ 7/2008	2454532.5	2067	172.03	-7.25	-23.00	32.231	23:11.8	-5.22
3/ 8/2008	2454533.5	2067	158.86	-7.25	-23.21	32.222	23:15.5	-4.83
3/ 9/2008	2454534.5	2067	145.68	-7.24	-23.41	32.214	23:19.2	-4.44
3/10/2008	2454535.5	2067	132.50	-7.23	-23.61	32.205	23:22.9	-4.05
3/11/2008	2454536.5	2067	119.32	-7.22	-23.79	32.197	23:26.6	-3.65
3/12/2008	2454537.5	2067	106.14	-7.21	-23.98	32.188	23:30.3	-3.26
3/13/2008	2454538.5	2067	92.95	-7.20	-24.15	32.179	23:33.9	-2.87
3/14/2008	2454539.5	2067	79.77	-7.18	-24.32	32.171	23:37.6	-2.47
3/15/2008	2454540.5	2067	66.59	-7.16	-24.48	32.162	23:41.3	-2.08
3/16/2008	2454541.5	2067	53.40	-7.14	-24.64	32.153	23:44.9	-1.68
3/17/2008	2454542.5	2067	40.22	-7.12	-24.78	32.144	23:48.6	-1.29
3/18/2008	2454543.5	2067	27.04	-7.09	-24.93	32.135	23:52.2	-0.89
3/19/2008	2454544.5	2067	13.85	-7.07	-25.06	32.126	23:55.9	-0.49
3/20/2008	2454545.5	2068	0.67	-7.04	-25.19	32.117	23:59.5	-0.10
3/21/2008	2454546.5	2068	347.48	-7.01	-25.31	32.108	00: 3.2	0.30
3/22/2008	2454547.5	2068	334.29	-6.97	-25.42	32.099	00: 6.8	0.69
3/23/2008	2454548.5	2068	321.17	-6.94	-25.53	32.090	00:10.5	1.09
3/24/2008	2454549.5	2068	307.98	-6.90	-25.63	32.081	00:14.1	1.48
3/25/2008	2454550.5	2068	294.79	-6.86	-25.72	32.072	00:17.8	1.87
3/26/2008	2454551.5	2068	281.60	-6.82	-25.81	32.062	00:21.4	2.27
3/27/2008	2454552.5	2068	268.41	-6.77	-25.89	32.053	00:25.0	2.66
3/28/2008	2454553.5	2068	255.21	-6.73	-25.96	32.044	00:28.7	3.05
3/29/2008	2454554.5	2068	242.02	-6.68	-26.02	32.035	00:32.3	3.44
3/30/2008	2454555.5	2068	228.83	-6.63	-26.08	32.026	00:36.0	3.83
3/31/2008	2454556.5	2068	215.63	-6.58	-26.13	32.016	00:39.6	4.22
4/ 1/2008	2454557.5	2068	202.44	-6.53	-26.17	32.007	00:43.3	4.60
4/ 2/2008	2454558.5	2068	189.24	-6.47	-26.21	31.998	00:46.9	4.99
4/ 3/2008	2454559.5	2068	176.05	-6.41	-26.24	31.989	00:50.6	5.37
4/ 4/2008	2454560.5	2068	162.85	-6.35	-26.26	31.980	00:54.2	5.76
4/ 5/2008	2454561.5	2068	149.65	-6.29	-26.28	31.970	00:57.9	6.14
4/ 6/2008	2454562.5	2068	136.45	-6.23	-26.28	31.961	01: 1.5	6.51
4/ 7/2008	2454563.5	2068	123.25	-6.17	-26.28	31.952	01: 5.2	6.89
4/ 8/2008	2454564.5	2068	110.05	-6.10	-26.27	31.943	01: 8.9	7.27
4/ 9/2008	2454565.5	2068	96.85	-6.03	-26.26	31.934	01:12.5	7.64
4/10/2008	2454566.5	2068	83.65	-5.96	-26.24	31.925	01:16.2	8.01
4/11/2008	2454567.5	2068	70.45	-5.89	-26.21	31.916	01:19.9	8.38
4/12/2008	2454568.5	2068	57.31	-5.82	-26.17	31.907	01:23.6	8.74
4/13/2008	2454569.5	2068	44.10	-5.74	-26.13	31.898	01:27.3	9.11
4/14/2008	2454570.5	2068	30.90	-5.66	-26.08	31.889	01:30.9	9.47
4/15/2008	2454571.5	2068	17.69	-5.59	-26.02	31.880	01:34.6	9.83
4/16/2008	2454572.5	2068	4.48	-5.51	-25.95	31.871	01:38.3	10.18
4/17/2008	2454573.5	2069	351.28	-5.42	-25.88	31.862	01:42.1	10.54
4/18/2008	2454574.5	2069	338.07	-5.34	-25.80	31.853	01:45.8	10.89
4/19/2008	2454575.5	2069	324.86	-5.26	-25.71	31.844	01:49.5	11.23
4/20/2008	2454576.5	2069	311.65	-5.17	-25.61	31.836	01:53.2	11.58
4/21/2008	2454577.5	2069	298.44	-5.08	-25.51	31.827	01:57.0	11.92
4/22/2008	2454578.5	2069	285.22	-5.00	-25.40	31.818	02:0 .7	12.26
4/23/2008	2454579.5	2069	272.01	-4.91	-25.28	31.810	02: 4.5	12.59
4/24/2008	2454580.5	2069	258.80	-4.81	-25.16	31.801	02: 8.2	12.92
4/25/2008	2454581.5	2069	245.58	-4.72	-25.02	31.793	02:12.0	13.25
4/26/2008	2454582.5	2069	232.37	-4.63	-24.88	31.784	02:15.8	13.57
4/27/2008	2454583.5	2069	219.15	-4.53	-24.74	31.776	02:19.6	13.89
4/28/2008	2454584.5	2069	205.94	-4.43	-24.58	31.768	02:23.4	14.21
4/29/2008	2454585.5	2069	192.72	-4.34	-24.42	31.760	02:27.2	14.52
4/30/2008	2454586.5	2069	179.50	-4.24	-24.25	31.752	02:31.0	14.83
5/ 1/2008	2454587.5	2069	166.28	-4.14	-24.08	31.744	02:34.8	15.13
5/ 2/2008	2454588.5	2069	153.12	-4.04	-23.89	31.736	02:38.6	15.43
5/ 3/2008	2454589.5	2069	139.90	-3.93	-23.70	31.728	02:42.5	15.73
5/ 4/2008	2454590.5	2069	126.68	-3.83	-23.50	31.720	02:46.3	16.02
5/ 5/2008	2454591.5	2069	113.46	-3.73	-23.30	31.712	02:50.2	16.31
5/ 6/2008	2454592.5	2069	100.24	-3.62	-23.09	31.705	02:54.0	16.59
5/ 7/2008	2454593.5	2069	87.01	-3.51	-22.87	31.697	02:57.9	16.87
5/ 8/2008	2454594.5	2069	73.79	-3.41	-22.64	31.690	03: 1.8	17.14
5/ 9/2008	2454595.5	2069	60.57	-3.30	-22.41	31.682	03: 5.7	17.41
5/10/2008	2454596.5	2069	47.34	-3.19	-22.17	31.675	03: 9.6	17.67
5/11/2008	2454597.5	2069	34.11	-3.08	-21.93	31.668	03:13.5	17.93
5/12/2008	2454598.5	2069	20.89	-2.97	-21.67	31.661	03:17.4	18.18
5/13/2008	2454599.5	2069	7.66	-2.86	-21.41	31.654	03:21.3	18.43
5/14/2008	2454600.5	2070	354.43	-2.74	-21.15	31.647	03:25.3	18.67
5/15/2008	2454601.5	2070	341.20	-2.63	-20.87	31.640	03:29.2	18.91
5/16/2008	2454602.5	2070	327.97	-2.52	-20.59	31.634	03:33.2	19.14
5/17/2008	2454603.5	2070	314.74	-2.40	-20.31	31.627	03:37.2	19.37
5/18/2008	2454604.5	2070	301.51	-2.29	-20.01	31.621	03:41.1	19.59

5/19/2008	2454605.5	2070	288.28	-2.17	-19.72	31.614	03:45.1	19.81
5/20/2008	2454606.5	2070	275.05	-2.06	-19.41	31.608	03:49.1	20.02
5/21/2008	2454607.5	2070	261.82	-1.94	-19.10	31.602	03:53.1	20.22
5/22/2008	2454608.5	2070	248.65	-1.82	-18.78	31.596	03:57.1	20.42
5/23/2008	2454609.5	2070	235.42	-1.70	-18.46	31.590	04: 1.2	20.62
5/24/2008	2454610.5	2070	222.18	-1.59	-18.13	31.584	04: 5.2	20.80
5/25/2008	2454611.5	2070	208.95	-1.47	-17.80	31.579	04: 9.2	20.98
5/26/2008	2454612.5	2070	195.71	-1.35	-17.46	31.573	04:13.3	21.16
5/27/2008	2454613.5	2070	182.48	-1.23	-17.11	31.568	04:17.3	21.33
5/28/2008	2454614.5	2070	169.24	-1.11	-16.76	31.562	04:21.4	21.49
5/29/2008	2454615.5	2070	156.01	-0.99	-16.40	31.557	04:25.5	21.65
5/30/2008	2454616.5	2070	142.77	-0.87	-16.04	31.552	04:29.5	21.80
5/31/2008	2454617.5	2070	129.54	-0.75	-15.67	31.547	04:33.6	21.94
6/ 1/2008	2454618.5	2070	116.30	-0.63	-15.30	31.542	04:37.7	22.08
6/ 2/2008	2454619.5	2070	103.06	-0.51	-14.92	31.538	04:41.8	22.21
6/ 3/2008	2454620.5	2070	89.82	-0.39	-14.54	31.533	04:45.9	22.34
6/ 4/2008	2454621.5	2070	76.59	-0.27	-14.16	31.529	04:50.0	22.45
6/ 5/2008	2454622.5	2070	63.35	-0.15	-13.77	31.525	04:54.1	22.57
6/ 6/2008	2454623.5	2070	50.11	-0.03	-13.37	31.521	04:58.3	22.67
6/ 7/2008	2454624.5	2070	36.87	0.09	-12.97	31.517	05: 2.4	22.77
6/ 8/2008	2454625.5	2070	23.63	0.22	-12.57	31.513	05: 6.5	22.86
6/ 9/2008	2454626.5	2070	10.39	0.34	-12.16	31.509	05:10.6	22.95
6/10/2008	2454627.5	2071	357.15	0.46	-11.75	31.505	05:14.8	23.03
6/11/2008	2454628.5	2071	343.91	0.58	-11.34	31.502	05:18.9	23.10
6/12/2008	2454629.5	2071	330.74	0.70	-10.92	31.499	05:23.1	23.16
6/13/2008	2454630.5	2071	317.50	0.82	-10.50	31.495	05:27.2	23.22
6/14/2008	2454631.5	2071	304.26	0.94	-10.08	31.492	05:31.4	23.27
6/15/2008	2454632.5	2071	291.02	1.06	-9.65	31.489	05:35.5	23.32
6/16/2008	2454633.5	2071	277.78	1.17	-9.22	31.487	05:39.7	23.36
6/17/2008	2454634.5	2071	264.53	1.29	-8.79	31.484	05:43.8	23.39
6/18/2008	2454635.5	2071	251.29	1.41	-8.35	31.482	05:48.0	23.41
6/19/2008	2454636.5	2071	238.05	1.53	-7.91	31.479	05:52.1	23.43
6/20/2008	2454637.5	2071	224.81	1.65	-7.47	31.477	05:56.3	23.44
6/21/2008	2454638.5	2071	211.57	1.76	-7.03	31.475	06:0 .5	23.44
6/22/2008	2454639.5	2071	198.33	1.88	-6.59	31.473	06: 4.6	23.44
6/23/2008	2454640.5	2071	185.09	2.00	-6.14	31.471	06: 8.8	23.43
6/24/2008	2454641.5	2071	171.85	2.11	-5.70	31.470	06:12.9	23.41
6/25/2008	2454642.5	2071	158.61	2.23	-5.25	31.468	06:17.1	23.39
6/26/2008	2454643.5	2071	145.37	2.34	-4.80	31.467	06:21.2	23.36
6/27/2008	2454644.5	2071	132.13	2.45	-4.35	31.466	06:25.4	23.32
6/28/2008	2454645.5	2071	118.89	2.57	-3.90	31.465	06:29.5	23.27
6/29/2008	2454646.5	2071	105.65	2.68	-3.44	31.464	06:33.7	23.22
6/30/2008	2454647.5	2071	92.41	2.79	-2.99	31.463	06:37.8	23.16
7/ 1/2008	2454648.5	2071	79.17	2.90	-2.54	31.463	06:41.9	23.10
7/ 2/2008	2454649.5	2071	65.99	3.01	-2.09	31.462	06:46.1	23.03
7/ 3/2008	2454650.5	2071	52.75	3.12	-1.63	31.462	06:50.2	22.95
7/ 4/2008	2454651.5	2071	39.51	3.23	-1.18	31.462	06:54.3	22.86
7/ 5/2008	2454652.5	2071	26.27	3.34	-0.73	31.462	06:58.4	22.77
7/ 6/2008	2454653.5	2071	13.03	3.44	-0.27	31.462	07: 2.5	22.67
7/ 7/2008	2454654.5	2071	359.79	3.55	0.18	31.462	07: 6.7	22.57
7/ 8/2008	2454655.5	2072	346.56	3.65	0.63	31.463	07:10.7	22.46
7/ 9/2008	2454656.5	2072	333.32	3.76	1.08	31.463	07:14.8	22.34
7/10/2008	2454657.5	2072	320.08	3.86	1.53	31.464	07:18.9	22.22
7/11/2008	2454658.5	2072	306.84	3.96	1.98	31.465	07:23.0	22.09
7/12/2008	2454659.5	2072	293.60	4.06	2.43	31.466	07:27.1	21.95
7/13/2008	2454660.5	2072	280.37	4.16	2.88	31.467	07:31.1	21.81
7/14/2008	2454661.5	2072	267.13	4.26	3.32	31.469	07:35.2	21.66
7/15/2008	2454662.5	2072	253.89	4.35	3.76	31.470	07:39.2	21.50
7/16/2008	2454663.5	2072	240.66	4.45	4.21	31.472	07:43.3	21.34
7/17/2008	2454664.5	2072	227.42	4.54	4.65	31.474	07:47.3	21.17
7/18/2008	2454665.5	2072	214.18	4.64	5.08	31.475	07:51.3	21.00
7/19/2008	2454666.5	2072	200.95	4.73	5.52	31.478	07:55.3	20.82
7/20/2008	2454667.5	2072	187.71	4.82	5.95	31.480	07:59.3	20.64
7/21/2008	2454668.5	2072	174.48	4.91	6.38	31.482	08: 3.3	20.44
7/22/2008	2454669.5	2072	161.31	5.00	6.81	31.485	08: 7.3	20.25
7/23/2008	2454670.5	2072	148.08	5.09	7.24	31.487	08:11.3	20.04
7/24/2008	2454671.5	2072	134.84	5.17	7.66	31.490	08:15.2	19.84
7/25/2008	2454672.5	2072	121.61	5.25	8.08	31.493	08:19.2	19.62
7/26/2008	2454673.5	2072	108.38	5.34	8.50	31.496	08:23.1	19.40
7/27/2008	2454674.5	2072	95.15	5.42	8.91	31.499	08:27.1	19.18
7/28/2008	2454675.5	2072	81.91	5.50	9.33	31.503	08:31.0	18.95
7/29/2008	2454676.5	2072	68.68	5.58	9.73	31.506	08:34.9	18.72
7/30/2008	2454677.5	2072	55.45	5.65	10.14	31.510	08:38.8	18.48
7/31/2008	2454678.5	2072	42.22	5.73	10.54	31.513	08:42.7	18.23

8/ 1/2008	2454679.5	2072	28.99	5.80	10.94	31.517	08:46.6	17.98
8/ 2/2008	2454680.5	2072	15.77	5.87	11.33	31.521	08:50.5	17.73
8/ 3/2008	2454681.5	2072	2.54	5.94	11.72	31.526	08:54.3	17.47
8/ 4/2008	2454682.5	2073	349.31	6.01	12.11	31.530	08:58.2	17.20
8/ 5/2008	2454683.5	2073	336.08	6.08	12.49	31.534	09: 2.0	16.93
8/ 6/2008	2454684.5	2073	322.86	6.14	12.87	31.539	09: 5.9	16.66
8/ 7/2008	2454685.5	2073	309.63	6.21	13.25	31.543	09: 9.7	16.38
8/ 8/2008	2454686.5	2073	296.40	6.27	13.62	31.548	09:13.5	16.10
8/ 9/2008	2454687.5	2073	283.18	6.33	13.99	31.553	09:17.3	15.81
8/10/2008	2454688.5	2073	269.95	6.39	14.35	31.558	09:21.1	15.52
8/11/2008	2454689.5	2073	256.79	6.44	14.71	31.564	09:24.9	15.23
8/12/2008	2454690.5	2073	243.57	6.50	15.06	31.569	09:28.7	14.93
8/13/2008	2454691.5	2073	230.35	6.55	15.41	31.574	09:32.4	14.63
8/14/2008	2454692.5	2073	217.12	6.60	15.76	31.580	09:36.2	14.32
8/15/2008	2454693.5	2073	203.90	6.65	16.10	31.585	09:39.9	14.01
8/16/2008	2454694.5	2073	190.68	6.70	16.44	31.591	09:43.7	13.69
8/17/2008	2454695.5	2073	177.46	6.75	16.77	31.597	09:47.4	13.38
8/18/2008	2454696.5	2073	164.24	6.79	17.09	31.603	09:51.1	13.05
8/19/2008	2454697.5	2073	151.02	6.83	17.42	31.609	09:54.9	12.73
8/20/2008	2454698.5	2073	137.80	6.87	17.73	31.616	09:58.6	12.40
8/21/2008	2454699.5	2073	124.58	6.91	18.05	31.622	10: 2.3	12.07
8/22/2008	2454700.5	2073	111.37	6.95	18.35	31.628	10: 6.0	11.73
8/23/2008	2454701.5	2073	98.15	6.98	18.66	31.635	10: 9.6	11.40
8/24/2008	2454702.5	2073	84.93	7.01	18.95	31.642	10:13.3	11.06
8/25/2008	2454703.5	2073	71.72	7.04	19.25	31.648	10:17.0	10.71
8/26/2008	2454704.5	2073	58.50	7.07	19.53	31.655	10:20.7	10.36
8/27/2008	2454705.5	2073	45.29	7.10	19.81	31.662	10:24.3	10.01
8/28/2008	2454706.5	2073	32.07	7.12	20.09	31.669	10:28.0	9.66
8/29/2008	2454707.5	2073	18.86	7.14	20.36	31.677	10:31.6	9.31
8/30/2008	2454708.5	2073	5.64	7.16	20.63	31.684	10:35.3	8.95
8/31/2008	2454709.5	2074	352.49	7.18	20.89	31.691	10:38.9	8.59
9/ 1/2008	2454710.5	2074	339.28	7.20	21.14	31.699	10:42.5	8.23
9/ 2/2008	2454711.5	2074	326.07	7.21	21.39	31.706	10:46.1	7.87
9/ 3/2008	2454712.5	2074	312.86	7.22	21.63	31.714	10:49.8	7.50
9/ 4/2008	2454713.5	2074	299.65	7.23	21.87	31.722	10:53.4	7.13
9/ 5/2008	2454714.5	2074	286.44	7.24	22.10	31.729	10:57.0	6.76
9/ 6/2008	2454715.5	2074	273.23	7.24	22.33	31.737	11:0 .6	6.39
9/ 7/2008	2454716.5	2074	260.02	7.25	22.55	31.745	11: 4.2	6.01
9/ 8/2008	2454717.5	2074	246.81	7.25	22.77	31.753	11: 7.8	5.64
9/ 9/2008	2454718.5	2074	233.60	7.25	22.98	31.761	11:11.4	5.26
9/10/2008	2454719.5	2074	220.40	7.25	23.18	31.770	11:15.0	4.88
9/11/2008	2454720.5	2074	207.19	7.24	23.38	31.778	11:18.6	4.50
9/12/2008	2454721.5	2074	193.98	7.23	23.57	31.786	11:22.2	4.12
9/13/2008	2454722.5	2074	180.78	7.23	23.75	31.795	11:25.8	3.74
9/14/2008	2454723.5	2074	167.57	7.21	23.93	31.803	11:29.4	3.36
9/15/2008	2454724.5	2074	154.37	7.20	24.10	31.811	11:33.0	2.97
9/16/2008	2454725.5	2074	141.16	7.19	24.27	31.820	11:36.5	2.58
9/17/2008	2454726.5	2074	127.96	7.17	24.43	31.829	11:40.1	2.20
9/18/2008	2454727.5	2074	114.75	7.15	24.59	31.837	11:43.7	1.81
9/19/2008	2454728.5	2074	101.55	7.13	24.73	31.846	11:47.3	1.42
9/20/2008	2454729.5	2074	88.41	7.10	24.87	31.855	11:50.9	1.03
9/21/2008	2454730.5	2074	75.21	7.08	25.01	31.864	11:54.5	0.65
9/22/2008	2454731.5	2074	62.01	7.05	25.14	31.873	11:58.1	0.26
9/23/2008	2454732.5	2074	48.81	7.02	25.26	31.881	12: 1.7	-0.13
9/24/2008	2454733.5	2074	35.61	6.99	25.37	31.890	12: 5.3	-0.52
9/25/2008	2454734.5	2074	22.41	6.95	25.48	31.899	12: 8.9	-0.91
9/26/2008	2454735.5	2074	9.21	6.92	25.58	31.908	12:12.5	-1.30
9/27/2008	2454736.5	2075	356.01	6.88	25.68	31.917	12:16.1	-1.69
9/28/2008	2454737.5	2075	342.81	6.84	25.77	31.927	12:19.7	-2.08
9/29/2008	2454738.5	2075	329.61	6.80	25.85	31.936	12:23.3	-2.47
9/30/2008	2454739.5	2075	316.41	6.75	25.92	31.945	12:26.9	-2.86
10/ 1/2008	2454740.5	2075	303.21	6.71	25.99	31.954	12:30.5	-3.25
10/ 2/2008	2454741.5	2075	290.01	6.66	26.05	31.963	12:34.2	-3.64
10/ 3/2008	2454742.5	2075	276.82	6.61	26.11	31.972	12:37.8	-4.02
10/ 4/2008	2454743.5	2075	263.62	6.55	26.15	31.981	12:41.4	-4.41
10/ 5/2008	2454744.5	2075	250.42	6.50	26.19	31.991	12:45.1	-4.80
10/ 6/2008	2454745.5	2075	237.23	6.44	26.23	32.000	12:48.7	-5.18
10/ 7/2008	2454746.5	2075	224.03	6.38	26.25	32.009	12:52.4	-5.56
10/ 8/2008	2454747.5	2075	210.84	6.32	26.27	32.018	12:56.0	-5.95
10/ 9/2008	2454748.5	2075	197.64	6.26	26.28	32.028	12:59.7	-6.33
10/10/2008	2454749.5	2075	184.51	6.20	26.28	32.037	13: 3.4	-6.71
10/11/2008	2454750.5	2075	171.31	6.13	26.28	32.046	13: 7.1	-7.08
10/12/2008	2454751.5	2075	158.12	6.06	26.27	32.055	13:10.8	-7.46
10/13/2008	2454752.5	2075	144.93	5.99	26.25	32.064	13:14.5	-7.83

10/14/2008	2454753.5	2075	131.73	5.92	26.22	32.073	13:18.2	-8.21
10/15/2008	2454754.5	2075	118.54	5.85	26.19	32.083	13:21.9	-8.58
10/16/2008	2454755.5	2075	105.35	5.77	26.15	32.092	13:25.6	-8.95
10/17/2008	2454756.5	2075	92.15	5.70	26.10	32.101	13:29.4	-9.31
10/18/2008	2454757.5	2075	78.96	5.62	26.04	32.110	13:33.1	-9.68
10/19/2008	2454758.5	2075	65.77	5.54	25.98	32.119	13:36.9	-10.04
10/20/2008	2454759.5	2075	52.58	5.46	25.91	32.128	13:40.6	-10.40
10/21/2008	2454760.5	2075	39.39	5.37	25.83	32.137	13:44.4	-10.76
10/22/2008	2454761.5	2075	26.19	5.29	25.74	32.146	13:48.2	-11.11
10/23/2008	2454762.5	2075	13.00	5.20	25.64	32.155	13:52.0	-11.46
10/24/2008	2454763.5	2075	359.81	5.11	25.54	32.164	13:55.8	-11.81
10/25/2008	2454764.5	2076	346.62	5.02	25.43	32.172	13:59.6	-12.16
10/26/2008	2454765.5	2076	333.43	4.93	25.31	32.181	14: 3.5	-12.50
10/27/2008	2454766.5	2076	320.24	4.84	25.19	32.190	14: 7.3	-12.84
10/28/2008	2454767.5	2076	307.05	4.74	25.05	32.199	14:11.2	-13.18
10/29/2008	2454768.5	2076	293.86	4.65	24.91	32.207	14:15.1	-13.51
10/30/2008	2454769.5	2076	280.67	4.55	24.76	32.216	14:18.9	-13.84
10/31/2008	2454770.5	2076	267.55	4.45	24.60	32.224	14:22.8	-14.17
11/ 1/2008	2454771.5	2076	254.36	4.35	24.44	32.233	14:26.8	-14.49
11/ 2/2008	2454772.5	2076	241.17	4.25	24.27	32.241	14:30.7	-14.80
11/ 3/2008	2454773.5	2076	227.98	4.14	24.08	32.249	14:34.6	-15.12
11/ 4/2008	2454774.5	2076	214.79	4.04	23.89	32.258	14:38.6	-15.43
11/ 5/2008	2454775.5	2076	201.60	3.93	23.70	32.266	14:42.5	-15.73
11/ 6/2008	2454776.5	2076	188.42	3.83	23.49	32.274	14:46.5	-16.04
11/ 7/2008	2454777.5	2076	175.23	3.72	23.28	32.282	14:50.5	-16.33
11/ 8/2008	2454778.5	2076	162.04	3.61	23.06	32.290	14:54.5	-16.62
11/ 9/2008	2454779.5	2076	148.85	3.50	22.83	32.297	14:58.5	-16.91
11/10/2008	2454780.5	2076	135.67	3.39	22.60	32.305	15: 2.6	-17.19
11/11/2008	2454781.5	2076	122.48	3.27	22.35	32.313	15: 6.6	-17.47
11/12/2008	2454782.5	2076	109.29	3.16	22.10	32.320	15:10.7	-17.74
11/13/2008	2454783.5	2076	96.11	3.04	21.84	32.328	15:14.8	-18.01
11/14/2008	2454784.5	2076	82.92	2.93	21.58	32.335	15:18.9	-18.27
11/15/2008	2454785.5	2076	69.74	2.81	21.30	32.342	15:23.0	-18.53
11/16/2008	2454786.5	2076	56.55	2.69	21.02	32.349	15:27.1	-18.78
11/17/2008	2454787.5	2076	43.37	2.57	20.73	32.356	15:31.2	-19.03
11/18/2008	2454788.5	2076	30.18	2.45	20.44	32.363	15:35.4	-19.27
11/19/2008	2454789.5	2076	17.00	2.33	20.13	32.370	15:39.5	-19.50
11/20/2008	2454790.5	2076	3.87	2.21	19.82	32.377	15:43.7	-19.73
11/21/2008	2454791.5	2077	350.69	2.09	19.50	32.383	15:47.9	-19.95
11/22/2008	2454792.5	2077	337.51	1.97	19.18	32.390	15:52.1	-20.17
11/23/2008	2454793.5	2077	324.32	1.85	18.85	32.396	15:56.3	-20.38
11/24/2008	2454794.5	2077	311.14	1.72	18.51	32.402	16:0 .5	-20.59
11/25/2008	2454795.5	2077	297.95	1.60	18.16	32.408	16: 4.8	-20.78
11/26/2008	2454796.5	2077	284.77	1.47	17.81	32.414	16: 9.0	-20.98
11/27/2008	2454797.5	2077	271.59	1.35	17.45	32.420	16:13.3	-21.16
11/28/2008	2454798.5	2077	258.40	1.22	17.09	32.426	16:17.6	-21.34
11/29/2008	2454799.5	2077	245.22	1.10	16.72	32.431	16:21.9	-21.51
11/30/2008	2454800.5	2077	232.04	0.97	16.34	32.437	16:26.2	-21.67
12/ 1/2008	2454801.5	2077	218.86	0.84	15.96	32.442	16:30.5	-21.83
12/ 2/2008	2454802.5	2077	205.68	0.72	15.57	32.447	16:34.8	-21.98
12/ 3/2008	2454803.5	2077	192.49	0.59	15.17	32.452	16:39.1	-22.13
12/ 4/2008	2454804.5	2077	179.31	0.46	14.77	32.457	16:43.5	-22.26
12/ 5/2008	2454805.5	2077	166.13	0.33	14.36	32.462	16:47.8	-22.39
12/ 6/2008	2454806.5	2077	152.95	0.20	13.95	32.467	16:52.2	-22.51
12/ 7/2008	2454807.5	2077	139.77	0.08	13.54	32.471	16:56.5	-22.63
12/ 8/2008	2454808.5	2077	126.59	-0.05	13.11	32.475	17:0 .9	-22.74
12/ 9/2008	2454809.5	2077	113.41	-0.18	12.69	32.479	17: 5.3	-22.84
12/10/2008	2454810.5	2077	100.29	-0.31	12.26	32.483	17: 9.7	-22.93
12/11/2008	2454811.5	2077	87.11	-0.44	11.82	32.487	17:14.1	-23.01
12/12/2008	2454812.5	2077	73.93	-0.56	11.38	32.491	17:18.5	-23.09
12/13/2008	2454813.5	2077	60.75	-0.69	10.94	32.495	17:22.9	-23.16
12/14/2008	2454814.5	2077	47.58	-0.82	10.49	32.498	17:27.3	-23.22
12/15/2008	2454815.5	2077	34.40	-0.95	10.04	32.501	17:31.7	-23.28
12/16/2008	2454816.5	2077	21.22	-1.07	9.58	32.504	17:36.2	-23.32
12/17/2008	2454817.5	2077	8.04	-1.20	9.12	32.507	17:40.6	-23.36
12/18/2008	2454818.5	2078	354.86	-1.33	8.66	32.510	17:45.0	-23.39
12/19/2008	2454819.5	2078	341.68	-1.45	8.20	32.512	17:49.5	-23.42
12/20/2008	2454820.5	2078	328.51	-1.58	7.73	32.515	17:53.9	-23.43
12/21/2008	2454821.5	2078	315.33	-1.70	7.26	32.517	17:58.3	-23.44
12/22/2008	2454822.5	2078	302.15	-1.83	6.79	32.519	18: 2.8	-23.44
12/23/2008	2454823.5	2078	288.98	-1.95	6.31	32.521	18: 7.2	-23.43
12/24/2008	2454824.5	2078	275.80	-2.08	5.84	32.523	18:11.6	-23.42
12/25/2008	2454825.5	2078	262.62	-2.20	5.36	32.525	18:16.1	-23.39
12/26/2008	2454826.5	2078	249.45	-2.32	4.88	32.526	18:20.5	-23.36

12/27/2008	2454827.5	2078	236.27	-2.44	4.40	32.527	18:25.0	-23.32
12/28/2008	2454828.5	2078	223.10	-2.56	3.91	32.528	18:29.4	-23.28
12/29/2008	2454829.5	2078	209.92	-2.68	3.43	32.529	18:33.8	-23.22
12/30/2008	2454830.5	2078	196.81	-2.80	2.95	32.530	18:38.2	-23.16
12/31/2008	2454831.5	2078	183.63	-2.92	2.46	32.531	18:42.7	-23.09
1/ 1/2009	2454832.5	2078	170.46	-3.04	1.98	32.531	18:47.1	-23.01
1/ 2/2009	2454833.5	2078	157.29	-3.15	1.49	32.531	18:51.5	-22.92