

ALPO Solar Section
 2011 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			
12/30/2010	2455560.5	2105	281.67	-2.74	3.18	32.530	18:36.1	-23.19
12/31/2010	2455561.5	2105	268.49	-2.86	2.70	32.530	18:40.5	-23.12
1/ 1/2011	2455562.5	2105	255.32	-2.98	2.21	32.531	18:44.9	-23.05
1/ 2/2011	2455563.5	2105	242.14	-3.09	1.73	32.531	18:49.3	-22.97
1/ 3/2011	2455564.5	2105	228.97	-3.21	1.24	32.531	18:53.7	-22.88
1/ 4/2011	2455565.5	2105	215.79	-3.32	0.76	32.531	18:58.1	-22.78
1/ 5/2011	2455566.5	2105	202.62	-3.44	0.28	32.531	19:2.5	-22.67
1/ 6/2011	2455567.5	2105	189.45	-3.55	-0.21	32.531	19:6.9	-22.56
1/ 7/2011	2455568.5	2105	176.27	-3.66	-0.69	32.530	19:11.3	-22.44
1/ 8/2011	2455569.5	2105	163.10	-3.77	-1.17	32.530	19:15.7	-22.32
1/ 9/2011	2455570.5	2105	149.93	-3.88	-1.65	32.529	19:20.0	-22.18
1/10/2011	2455571.5	2105	136.76	-3.99	-2.13	32.528	19:24.4	-22.04
1/11/2011	2455572.5	2105	123.58	-4.10	-2.61	32.527	19:28.7	-21.89
1/12/2011	2455573.5	2105	110.41	-4.20	-3.09	32.525	19:33.1	-21.74
1/13/2011	2455574.5	2105	97.24	-4.31	-3.56	32.524	19:37.4	-21.57
1/14/2011	2455575.5	2105	84.13	-4.41	-4.03	32.522	19:41.7	-21.40
1/15/2011	2455576.5	2105	70.96	-4.51	-4.50	32.520	19:46.0	-21.23
1/16/2011	2455577.5	2105	57.79	-4.61	-4.97	32.518	19:50.3	-21.04
1/17/2011	2455578.5	2105	44.62	-4.71	-5.44	32.516	19:54.6	-20.85
1/18/2011	2455579.5	2105	31.45	-4.81	-5.90	32.514	19:58.9	-20.66
1/19/2011	2455580.5	2105	18.28	-4.90	-6.36	32.511	20:3.1	-20.45
1/20/2011	2455581.5	2105	5.10	-5.00	-6.82	32.509	20:7.4	-20.24
1/21/2011	2455582.5	2106	351.93	-5.09	-7.27	32.506	20:11.6	-20.03
1/22/2011	2455583.5	2106	338.76	-5.18	-7.72	32.503	20:15.8	-19.81
1/23/2011	2455584.5	2106	325.59	-5.27	-8.17	32.500	20:20.0	-19.58
1/24/2011	2455585.5	2106	312.42	-5.36	-8.61	32.496	20:24.2	-19.34
1/25/2011	2455586.5	2106	299.25	-5.44	-9.05	32.493	20:28.4	-19.10
1/26/2011	2455587.5	2106	286.08	-5.53	-9.49	32.489	20:32.6	-18.86
1/27/2011	2455588.5	2106	272.91	-5.61	-9.92	32.485	20:36.8	-18.60
1/28/2011	2455589.5	2106	259.74	-5.69	-10.35	32.482	20:40.9	-18.35
1/29/2011	2455590.5	2106	246.57	-5.77	-10.78	32.477	20:45.0	-18.08
1/30/2011	2455591.5	2106	233.40	-5.85	-11.20	32.473	20:49.1	-17.81
1/31/2011	2455592.5	2106	220.23	-5.92	-11.61	32.469	20:53.2	-17.54
2/ 1/2011	2455593.5	2106	207.06	-5.99	-12.02	32.464	20:57.3	-17.26
2/ 2/2011	2455594.5	2106	193.89	-6.07	-12.43	32.460	21:1.4	-16.98
2/ 3/2011	2455595.5	2106	180.72	-6.13	-12.83	32.455	21:5.5	-16.69

2/ 4/2011	2455596.5	2106	167.62	-6.20	-13.23	32.450	21:9.5	-16.40
2/ 5/2011	2455597.5	2106	154.45	-6.27	-13.62	32.445	21:13.6	-16.10
2/ 6/2011	2455598.5	2106	141.28	-6.33	-14.01	32.440	21:17.6	-15.79
2/ 7/2011	2455599.5	2106	128.11	-6.39	-14.39	32.434	21:21.6	-15.49
2/ 8/2011	2455600.5	2106	114.94	-6.45	-14.77	32.429	21:25.6	-15.17
2/ 9/2011	2455601.5	2106	101.77	-6.51	-15.14	32.423	21:29.6	-14.86
2/10/2011	2455602.5	2106	88.59	-6.57	-15.51	32.417	21:33.5	-14.54
2/11/2011	2455603.5	2106	75.42	-6.62	-15.87	32.411	21:37.5	-14.21
2/12/2011	2455604.5	2106	62.25	-6.67	-16.23	32.405	21:41.4	-13.88
2/13/2011	2455605.5	2106	49.08	-6.72	-16.58	32.399	21:45.4	-13.55
2/14/2011	2455606.5	2106	35.91	-6.77	-16.93	32.393	21:49.3	-13.21
2/15/2011	2455607.5	2106	22.74	-6.81	-17.27	32.387	21:53.2	-12.87
2/16/2011	2455608.5	2106	9.57	-6.85	-17.60	32.380	21:57.1	-12.53
2/17/2011	2455609.5	2107	356.40	-6.89	-17.93	32.374	22:1.0	-12.18
2/18/2011	2455610.5	2107	343.23	-6.93	-18.26	32.367	22:4.9	-11.84
2/19/2011	2455611.5	2107	330.06	-6.97	-18.58	32.360	22:8.7	-11.48
2/20/2011	2455612.5	2107	316.88	-7.00	-18.89	32.353	22:12.6	-11.13
2/21/2011	2455613.5	2107	303.71	-7.04	-19.19	32.346	22:16.4	-10.77
2/22/2011	2455614.5	2107	290.54	-7.07	-19.49	32.339	22:20.2	-10.41
2/23/2011	2455615.5	2107	277.36	-7.09	-19.79	32.331	22:24.0	-10.04
2/24/2011	2455616.5	2107	264.25	-7.12	-20.08	32.324	22:27.8	-9.67
2/25/2011	2455617.5	2107	251.08	-7.14	-20.36	32.317	22:31.6	-9.31
2/26/2011	2455618.5	2107	237.91	-7.16	-20.64	32.309	22:35.4	-8.93
2/27/2011	2455619.5	2107	224.73	-7.18	-20.91	32.301	22:39.2	-8.56
2/28/2011	2455620.5	2107	211.56	-7.20	-21.17	32.294	22:43.0	-8.18
3/ 1/2011	2455621.5	2107	198.38	-7.21	-21.43	32.286	22:46.7	-7.81
3/ 2/2011	2455622.5	2107	185.21	-7.22	-21.68	32.278	22:50.5	-7.43
3/ 3/2011	2455623.5	2107	172.03	-7.23	-21.92	32.270	22:54.2	-7.04
3/ 4/2011	2455624.5	2107	158.85	-7.24	-22.16	32.262	22:58.0	-6.66
3/ 5/2011	2455625.5	2107	145.68	-7.25	-22.39	32.254	23:1.7	-6.28
3/ 6/2011	2455626.5	2107	132.50	-7.25	-22.62	32.245	23:5.4	-5.89
3/ 7/2011	2455627.5	2107	119.32	-7.25	-22.84	32.237	23:9.1	-5.50
3/ 8/2011	2455628.5	2107	106.14	-7.25	-23.05	32.229	23:12.8	-5.11
3/ 9/2011	2455629.5	2107	92.96	-7.24	-23.26	32.220	23:16.5	-4.72
3/10/2011	2455630.5	2107	79.78	-7.24	-23.46	32.212	23:20.2	-4.33
3/11/2011	2455631.5	2107	66.60	-7.23	-23.65	32.203	23:23.9	-3.94
3/12/2011	2455632.5	2107	53.42	-7.22	-23.84	32.194	23:27.6	-3.55
3/13/2011	2455633.5	2107	40.24	-7.21	-24.02	32.186	23:31.3	-3.15
3/14/2011	2455634.5	2107	27.06	-7.19	-24.19	32.177	23:34.9	-2.76
3/15/2011	2455635.5	2107	13.88	-7.18	-24.36	32.168	23:38.6	-2.36
3/16/2011	2455636.5	2108	0.76	-7.16	-24.52	32.159	23:42.3	-1.97
3/17/2011	2455637.5	2108	347.57	-7.14	-24.67	32.151	23:45.9	-1.57
3/18/2011	2455638.5	2108	334.39	-7.11	-24.82	32.142	23:49.6	-1.18

3/19/2011	2455639.5	2108	321.21	-7.09	-24.96	32.133	23:53.2	-0.78
3/20/2011	2455640.5	2108	308.02	-7.06	-25.09	32.124	23:56.9	-0.39
3/21/2011	2455641.5	2108	294.83	-7.03	-25.22	32.115	00:0.5	0.01
3/22/2011	2455642.5	2108	281.65	-7.00	-25.34	32.106	00:4.2	0.40
3/23/2011	2455643.5	2108	268.46	-6.96	-25.45	32.096	00:7.8	0.80
3/24/2011	2455644.5	2108	255.27	-6.93	-25.55	32.087	00:11.5	1.19
3/25/2011	2455645.5	2108	242.08	-6.89	-25.65	32.078	00:15.1	1.59
3/26/2011	2455646.5	2108	228.89	-6.85	-25.74	32.069	00:18.8	1.98
3/27/2011	2455647.5	2108	215.70	-6.81	-25.83	32.060	00:22.4	2.37
3/28/2011	2455648.5	2108	202.51	-6.76	-25.90	32.051	00:26.0	2.77
3/29/2011	2455649.5	2108	189.32	-6.72	-25.97	32.041	00:29.7	3.16
3/30/2011	2455650.5	2108	176.13	-6.67	-26.04	32.032	00:33.3	3.55
3/31/2011	2455651.5	2108	162.93	-6.62	-26.09	32.023	00:37.0	3.94
4/ 1/2011	2455652.5	2108	149.74	-6.57	-26.14	32.014	00:40.6	4.32
4/ 2/2011	2455653.5	2108	136.54	-6.51	-26.18	32.005	00:44.3	4.71
4/ 3/2011	2455654.5	2108	123.35	-6.46	-26.21	31.995	00:47.9	5.09
4/ 4/2011	2455655.5	2108	110.15	-6.40	-26.24	31.986	00:51.6	5.48
4/ 5/2011	2455656.5	2108	97.02	-6.34	-26.26	31.977	00:55.2	5.86
4/ 6/2011	2455657.5	2108	83.82	-6.28	-26.27	31.968	00:58.9	6.24
4/ 7/2011	2455658.5	2108	70.62	-6.22	-26.28	31.959	01:2.5	6.62
4/ 8/2011	2455659.5	2108	57.42	-6.15	-26.28	31.949	01:6.2	6.99
4/ 9/2011	2455660.5	2108	44.22	-6.08	-26.27	31.940	01:9.9	7.37
4/10/2011	2455661.5	2108	31.02	-6.01	-26.25	31.931	01:13.5	7.74
4/11/2011	2455662.5	2108	17.81	-5.94	-26.23	31.922	01:17.2	8.11
4/12/2011	2455663.5	2108	4.61	-5.87	-26.19	31.913	01:20.9	8.48
4/13/2011	2455664.5	2109	351.41	-5.80	-26.16	31.904	01:24.6	8.84
4/14/2011	2455665.5	2109	338.20	-5.72	-26.11	31.895	01:28.3	9.21
4/15/2011	2455666.5	2109	325.00	-5.65	-26.06	31.886	01:32.0	9.57
4/16/2011	2455667.5	2109	311.79	-5.57	-26.00	31.877	01:35.7	9.93
4/17/2011	2455668.5	2109	298.58	-5.49	-25.93	31.868	01:39.4	10.28
4/18/2011	2455669.5	2109	285.38	-5.41	-25.85	31.859	01:43.1	10.63
4/19/2011	2455670.5	2109	272.17	-5.32	-25.77	31.851	01:46.8	10.98
4/20/2011	2455671.5	2109	258.96	-5.24	-25.68	31.842	01:50.5	11.33
4/21/2011	2455672.5	2109	245.75	-5.15	-25.58	31.833	01:54.3	11.67
4/22/2011	2455673.5	2109	232.54	-5.06	-25.48	31.825	01:58.0	12.01
4/23/2011	2455674.5	2109	219.32	-4.97	-25.36	31.816	02:1.7	12.35
4/24/2011	2455675.5	2109	206.11	-4.88	-25.24	31.807	02:5.5	12.68
4/25/2011	2455676.5	2109	192.96	-4.79	-25.12	31.799	02:9.3	13.01
4/26/2011	2455677.5	2109	179.75	-4.70	-24.98	31.790	02:13.0	13.34
4/27/2011	2455678.5	2109	166.53	-4.61	-24.84	31.782	02:16.8	13.66
4/28/2011	2455679.5	2109	153.31	-4.51	-24.69	31.774	02:20.6	13.98
4/29/2011	2455680.5	2109	140.10	-4.41	-24.54	31.766	02:24.4	14.29
4/30/2011	2455681.5	2109	126.88	-4.31	-24.37	31.757	02:28.2	14.61

5/ 1/2011	2455682.5	2109	113.66	-4.21	-24.20	31.749	02:32.0	14.91
5/ 2/2011	2455683.5	2109	100.44	-4.11	-24.02	31.741	02:35.8	15.21
5/ 3/2011	2455684.5	2109	87.22	-4.01	-23.84	31.733	02:39.7	15.51
5/ 4/2011	2455685.5	2109	74.00	-3.91	-23.65	31.726	02:43.5	15.81
5/ 5/2011	2455686.5	2109	60.78	-3.81	-23.45	31.718	02:47.4	16.10
5/ 6/2011	2455687.5	2109	47.56	-3.70	-23.24	31.710	02:51.2	16.38
5/ 7/2011	2455688.5	2109	34.33	-3.60	-23.03	31.703	02:55.1	16.66
5/ 8/2011	2455689.5	2109	21.11	-3.49	-22.81	31.695	02:59.0	16.94
5/ 9/2011	2455690.5	2109	7.89	-3.38	-22.58	31.688	03:2.8	17.21
5/10/2011	2455691.5	2110	354.66	-3.27	-22.34	31.680	03:6.7	17.48
5/11/2011	2455692.5	2110	341.44	-3.16	-22.10	31.673	03:10.6	17.74
5/12/2011	2455693.5	2110	328.21	-3.05	-21.85	31.666	03:14.6	18.00
5/13/2011	2455694.5	2110	314.98	-2.94	-21.60	31.659	03:18.5	18.25
5/14/2011	2455695.5	2110	301.76	-2.83	-21.34	31.652	03:22.4	18.50
5/15/2011	2455696.5	2110	288.59	-2.72	-21.07	31.645	03:26.4	18.74
5/16/2011	2455697.5	2110	275.36	-2.60	-20.79	31.638	03:30.3	18.98
5/17/2011	2455698.5	2110	262.13	-2.49	-20.51	31.632	03:34.3	19.21
5/18/2011	2455699.5	2110	248.90	-2.38	-20.23	31.625	03:38.2	19.43
5/19/2011	2455700.5	2110	235.67	-2.26	-19.93	31.619	03:42.2	19.65
5/20/2011	2455701.5	2110	222.44	-2.14	-19.63	31.613	03:46.2	19.87
5/21/2011	2455702.5	2110	209.21	-2.03	-19.32	31.606	03:50.2	20.08
5/22/2011	2455703.5	2110	195.98	-1.91	-19.01	31.600	03:54.2	20.28
5/23/2011	2455704.5	2110	182.74	-1.79	-18.69	31.594	03:58.2	20.48
5/24/2011	2455705.5	2110	169.51	-1.68	-18.37	31.588	04:2.3	20.67
5/25/2011	2455706.5	2110	156.28	-1.56	-18.04	31.583	04:6.3	20.85
5/26/2011	2455707.5	2110	143.04	-1.44	-17.70	31.577	04:10.3	21.03
5/27/2011	2455708.5	2110	129.81	-1.32	-17.36	31.572	04:14.4	21.21
5/28/2011	2455709.5	2110	116.57	-1.20	-17.01	31.566	04:18.4	21.37
5/29/2011	2455710.5	2110	103.34	-1.08	-16.66	31.561	04:22.5	21.53
5/30/2011	2455711.5	2110	90.10	-0.96	-16.30	31.556	04:26.6	21.69
5/31/2011	2455712.5	2110	76.87	-0.84	-15.94	31.551	04:30.7	21.84
6/ 1/2011	2455713.5	2110	63.63	-0.72	-15.57	31.546	04:34.7	21.98
6/ 2/2011	2455714.5	2110	50.39	-0.60	-15.20	31.541	04:38.8	22.12
6/ 3/2011	2455715.5	2110	37.15	-0.48	-14.82	31.537	04:42.9	22.25
6/ 4/2011	2455716.5	2110	23.98	-0.36	-14.44	31.532	04:47.0	22.37
6/ 5/2011	2455717.5	2110	10.74	-0.24	-14.05	31.528	04:51.1	22.49
6/ 6/2011	2455718.5	2111	357.50	-0.12	-13.66	31.524	04:55.3	22.60
6/ 7/2011	2455719.5	2111	344.26	0.00	-13.26	31.519	04:59.4	22.70
6/ 8/2011	2455720.5	2111	331.03	0.12	-12.86	31.515	05:3.5	22.80
6/ 9/2011	2455721.5	2111	317.79	0.24	-12.46	31.512	05:7.6	22.89
6/10/2011	2455722.5	2111	304.55	0.36	-12.05	31.508	05:11.8	22.97
6/11/2011	2455723.5	2111	291.31	0.48	-11.64	31.504	05:15.9	23.05
6/12/2011	2455724.5	2111	278.07	0.60	-11.22	31.501	05:20.1	23.12

6/13/2011	2455725.5	2111	264.83	0.72	-10.81	31.498	05:24.2	23.18
6/14/2011	2455726.5	2111	251.59	0.84	-10.38	31.495	05:28.4	23.24
6/15/2011	2455727.5	2111	238.35	0.96	-9.96	31.492	05:32.5	23.29
6/16/2011	2455728.5	2111	225.11	1.08	-9.53	31.489	05:36.7	23.33
6/17/2011	2455729.5	2111	211.87	1.20	-9.10	31.486	05:40.8	23.37
6/18/2011	2455730.5	2111	198.63	1.32	-8.67	31.483	05:45.0	23.39
6/19/2011	2455731.5	2111	185.39	1.44	-8.23	31.481	05:49.1	23.42
6/20/2011	2455732.5	2111	172.15	1.56	-7.79	31.479	05:53.3	23.43
6/21/2011	2455733.5	2111	158.91	1.67	-7.35	31.477	05:57.4	23.44
6/22/2011	2455734.5	2111	145.66	1.79	-6.91	31.475	06:1.6	23.44
6/23/2011	2455735.5	2111	132.42	1.91	-6.47	31.473	06:5.8	23.44
6/24/2011	2455736.5	2111	119.18	2.02	-6.02	31.471	06:9.9	23.42
6/25/2011	2455737.5	2111	106.00	2.14	-5.58	31.469	06:14.1	23.40
6/26/2011	2455738.5	2111	92.76	2.25	-5.13	31.468	06:18.2	23.38
6/27/2011	2455739.5	2111	79.52	2.37	-4.68	31.467	06:22.4	23.35
6/28/2011	2455740.5	2111	66.28	2.48	-4.23	31.466	06:26.5	23.31
6/29/2011	2455741.5	2111	53.04	2.59	-3.78	31.465	06:30.7	23.26
6/30/2011	2455742.5	2111	39.80	2.71	-3.32	31.464	06:34.8	23.21
7/ 1/2011	2455743.5	2111	26.56	2.82	-2.87	31.463	06:38.9	23.15
7/ 2/2011	2455744.5	2111	13.32	2.93	-2.42	31.463	06:43.1	23.08
7/ 3/2011	2455745.5	2111	0.08	3.04	-1.96	31.462	06:47.2	23.01
7/ 4/2011	2455746.5	2112	346.84	3.15	-1.51	31.462	06:51.3	22.93
7/ 5/2011	2455747.5	2112	333.60	3.25	-1.06	31.462	06:55.4	22.84
7/ 6/2011	2455748.5	2112	320.36	3.36	-0.60	31.462	06:59.6	22.75
7/ 7/2011	2455749.5	2112	307.12	3.47	-0.15	31.462	07:3.7	22.65
7/ 8/2011	2455750.5	2112	293.89	3.57	0.30	31.462	07:7.8	22.54
7/ 9/2011	2455751.5	2112	280.65	3.68	0.75	31.463	07:11.9	22.43
7/10/2011	2455752.5	2112	267.41	3.78	1.20	31.464	07:16.0	22.31
7/11/2011	2455753.5	2112	254.17	3.88	1.65	31.464	07:20.0	22.18
7/12/2011	2455754.5	2112	240.93	3.98	2.10	31.465	07:24.1	22.05
7/13/2011	2455755.5	2112	227.70	4.08	2.55	31.466	07:28.2	21.91
7/14/2011	2455756.5	2112	214.46	4.18	3.00	31.468	07:32.2	21.77
7/15/2011	2455757.5	2112	201.28	4.28	3.44	31.469	07:36.3	21.62
7/16/2011	2455758.5	2112	188.05	4.38	3.88	31.471	07:40.3	21.46
7/17/2011	2455759.5	2112	174.81	4.47	4.32	31.472	07:44.4	21.30
7/18/2011	2455760.5	2112	161.58	4.57	4.76	31.474	07:48.4	21.13
7/19/2011	2455761.5	2112	148.34	4.66	5.20	31.476	07:52.4	20.95
7/20/2011	2455762.5	2112	135.11	4.75	5.63	31.478	07:56.4	20.77
7/21/2011	2455763.5	2112	121.87	4.84	6.07	31.480	07:60.4	20.58
7/22/2011	2455764.5	2112	108.64	4.93	6.50	31.483	08:4.4	20.39
7/23/2011	2455765.5	2112	95.40	5.02	6.93	31.485	08:8.4	20.19
7/24/2011	2455766.5	2112	82.17	5.11	7.35	31.488	08:12.4	19.99
7/25/2011	2455767.5	2112	68.94	5.19	7.77	31.491	08:16.3	19.78

7/26/2011	2455768.5	2112	55.70	5.27	8.19	31.494	08:20.3	19.56
7/27/2011	2455769.5	2112	42.47	5.36	8.61	31.497	08:24.2	19.34
7/28/2011	2455770.5	2112	29.24	5.44	9.02	31.500	08:28.1	19.12
7/29/2011	2455771.5	2112	16.01	5.52	9.43	31.504	08:32.1	18.89
7/30/2011	2455772.5	2112	2.78	5.59	9.84	31.507	08:36.0	18.65
7/31/2011	2455773.5	2113	349.55	5.67	10.25	31.511	08:39.9	18.41
8/ 1/2011	2455774.5	2113	336.32	5.74	10.65	31.515	08:43.8	18.16
8/ 2/2011	2455775.5	2113	323.09	5.82	11.04	31.518	08:47.7	17.91
8/ 3/2011	2455776.5	2113	309.86	5.89	11.44	31.523	08:51.5	17.66
8/ 4/2011	2455777.5	2113	296.69	5.96	11.83	31.527	08:55.4	17.40
8/ 5/2011	2455778.5	2113	283.47	6.03	12.21	31.531	08:59.2	17.13
8/ 6/2011	2455779.5	2113	270.24	6.09	12.59	31.535	09:3.1	16.86
8/ 7/2011	2455780.5	2113	257.01	6.16	12.97	31.540	09:6.9	16.59
8/ 8/2011	2455781.5	2113	243.79	6.22	13.35	31.545	09:10.7	16.31
8/ 9/2011	2455782.5	2113	230.56	6.28	13.72	31.550	09:14.5	16.02
8/10/2011	2455783.5	2113	217.34	6.34	14.08	31.555	09:18.4	15.74
8/11/2011	2455784.5	2113	204.11	6.40	14.44	31.560	09:22.1	15.44
8/12/2011	2455785.5	2113	190.89	6.46	14.80	31.565	09:25.9	15.15
8/13/2011	2455786.5	2113	177.67	6.51	15.15	31.570	09:29.7	14.85
8/14/2011	2455787.5	2113	164.44	6.56	15.50	31.576	09:33.5	14.54
8/15/2011	2455788.5	2113	151.22	6.61	15.85	31.581	09:37.2	14.23
8/16/2011	2455789.5	2113	138.00	6.66	16.19	31.587	09:41.0	13.92
8/17/2011	2455790.5	2113	124.78	6.71	16.52	31.593	09:44.7	13.61
8/18/2011	2455791.5	2113	111.56	6.76	16.85	31.599	09:48.4	13.29
8/19/2011	2455792.5	2113	98.34	6.80	17.18	31.605	09:52.2	12.97
8/20/2011	2455793.5	2113	85.12	6.84	17.50	31.611	09:55.9	12.64
8/21/2011	2455794.5	2113	71.90	6.88	17.81	31.617	09:59.6	12.31
8/22/2011	2455795.5	2113	58.68	6.92	18.13	31.624	10:3.3	11.98
8/23/2011	2455796.5	2113	45.46	6.95	18.43	31.630	10:7.0	11.64
8/24/2011	2455797.5	2113	32.31	6.99	18.73	31.637	10:10.7	11.30
8/25/2011	2455798.5	2113	19.09	7.02	19.03	31.644	10:14.3	10.96
8/26/2011	2455799.5	2113	5.88	7.05	19.32	31.650	10:18.0	10.62
8/27/2011	2455800.5	2114	352.66	7.08	19.60	31.657	10:21.7	10.27
8/28/2011	2455801.5	2114	339.45	7.10	19.88	31.664	10:25.3	9.92
8/29/2011	2455802.5	2114	326.23	7.13	20.16	31.671	10:29.0	9.57
8/30/2011	2455803.5	2114	313.02	7.15	20.43	31.679	10:32.6	9.21
8/31/2011	2455804.5	2114	299.81	7.17	20.69	31.686	10:36.2	8.85
9/ 1/2011	2455805.5	2114	286.59	7.18	20.95	31.693	10:39.9	8.49
9/ 2/2011	2455806.5	2114	273.38	7.20	21.21	31.701	10:43.5	8.13
9/ 3/2011	2455807.5	2114	260.17	7.21	21.45	31.708	10:47.1	7.77
9/ 4/2011	2455808.5	2114	246.96	7.22	21.69	31.716	10:50.8	7.40
9/ 5/2011	2455809.5	2114	233.75	7.23	21.93	31.724	10:54.4	7.03
9/ 6/2011	2455810.5	2114	220.54	7.24	22.16	31.732	10:58.0	6.66

9/ 7/2011	2455811.5	2114	207.33	7.25	22.39	31.739	11:1.6	6.29
9/ 8/2011	2455812.5	2114	194.12	7.25	22.61	31.747	11:5.2	5.91
9/ 9/2011	2455813.5	2114	180.91	7.25	22.82	31.755	11:8.8	5.54
9/10/2011	2455814.5	2114	167.70	7.25	23.03	31.764	11:12.4	5.16
9/11/2011	2455815.5	2114	154.50	7.25	23.23	31.772	11:16.0	4.78
9/12/2011	2455816.5	2114	141.29	7.24	23.42	31.780	11:19.6	4.40
9/13/2011	2455817.5	2114	128.15	7.23	23.61	31.788	11:23.2	4.02
9/14/2011	2455818.5	2114	114.94	7.22	23.80	31.797	11:26.8	3.63
9/15/2011	2455819.5	2114	101.74	7.21	23.97	31.805	11:30.3	3.25
9/16/2011	2455820.5	2114	88.53	7.20	24.15	31.814	11:33.9	2.87
9/17/2011	2455821.5	2114	75.33	7.18	24.31	31.822	11:37.5	2.48
9/18/2011	2455822.5	2114	62.12	7.16	24.47	31.831	11:41.1	2.09
9/19/2011	2455823.5	2114	48.92	7.14	24.62	31.840	11:44.7	1.71
9/20/2011	2455824.5	2114	35.72	7.12	24.77	31.848	11:48.3	1.32
9/21/2011	2455825.5	2114	22.51	7.10	24.91	31.857	11:51.9	0.93
9/22/2011	2455826.5	2114	9.31	7.07	25.04	31.866	11:55.5	0.54
9/23/2011	2455827.5	2115	356.11	7.04	25.17	31.875	11:59.1	0.15
9/24/2011	2455828.5	2115	342.91	7.01	25.29	31.884	12:2.7	-0.24
9/25/2011	2455829.5	2115	329.71	6.98	25.40	31.893	12:6.3	-0.63
9/26/2011	2455830.5	2115	316.51	6.95	25.51	31.902	12:9.9	-1.02
9/27/2011	2455831.5	2115	303.31	6.91	25.61	31.911	12:13.5	-1.41
9/28/2011	2455832.5	2115	290.11	6.87	25.70	31.920	12:17.1	-1.80
9/29/2011	2455833.5	2115	276.91	6.83	25.79	31.929	12:20.7	-2.19
9/30/2011	2455834.5	2115	263.71	6.79	25.87	31.938	12:24.3	-2.58
10/ 1/2011	2455835.5	2115	250.51	6.74	25.94	31.947	12:27.9	-2.97
10/ 2/2011	2455836.5	2115	237.32	6.69	26.00	31.956	12:31.5	-3.35
10/ 3/2011	2455837.5	2115	224.18	6.65	26.06	31.966	12:35.2	-3.74
10/ 4/2011	2455838.5	2115	210.98	6.59	26.12	31.975	12:38.8	-4.13
10/ 5/2011	2455839.5	2115	197.79	6.54	26.16	31.984	12:42.4	-4.52
10/ 6/2011	2455840.5	2115	184.59	6.49	26.20	31.993	12:46.1	-4.90
10/ 7/2011	2455841.5	2115	171.39	6.43	26.23	32.002	12:49.7	-5.28
10/ 8/2011	2455842.5	2115	158.20	6.37	26.25	32.012	12:53.4	-5.67
10/ 9/2011	2455843.5	2115	145.00	6.31	26.27	32.021	12:57.0	-6.05
10/10/2011	2455844.5	2115	131.81	6.25	26.28	32.030	13:0.7	-6.43
10/11/2011	2455845.5	2115	118.61	6.18	26.28	32.039	13:4.4	-6.81
10/12/2011	2455846.5	2115	105.42	6.12	26.27	32.048	13:8.1	-7.19
10/13/2011	2455847.5	2115	92.22	6.05	26.26	32.058	13:11.8	-7.56
10/14/2011	2455848.5	2115	79.03	5.98	26.24	32.067	13:15.5	-7.94
10/15/2011	2455849.5	2115	65.84	5.91	26.21	32.076	13:19.2	-8.31
10/16/2011	2455850.5	2115	52.64	5.83	26.17	32.085	13:22.9	-8.68
10/17/2011	2455851.5	2115	39.45	5.76	26.13	32.094	13:26.6	-9.05
10/18/2011	2455852.5	2115	26.26	5.68	26.08	32.103	13:30.4	-9.41
10/19/2011	2455853.5	2115	13.07	5.60	26.02	32.112	13:34.1	-9.78

10/20/2011	2455854.5	2115	359.87	5.52	25.96	32.121	13:37.9	-10.14
10/21/2011	2455855.5	2116	346.68	5.44	25.88	32.130	13:41.7	-10.50
10/22/2011	2455856.5	2116	333.49	5.35	25.80	32.139	13:45.4	-10.86
10/23/2011	2455857.5	2116	320.36	5.27	25.71	32.148	13:49.2	-11.21
10/24/2011	2455858.5	2116	307.17	5.18	25.61	32.157	13:53.0	-11.56
10/25/2011	2455859.5	2116	293.98	5.09	25.51	32.166	13:56.9	-11.91
10/26/2011	2455860.5	2116	280.79	5.00	25.40	32.175	14:0.7	-12.25
10/27/2011	2455861.5	2116	267.60	4.91	25.28	32.184	14:4.5	-12.60
10/28/2011	2455862.5	2116	254.41	4.82	25.15	32.192	14:8.4	-12.93
10/29/2011	2455863.5	2116	241.22	4.72	25.01	32.201	14:12.2	-13.27
10/30/2011	2455864.5	2116	228.03	4.62	24.87	32.210	14:16.1	-13.60
10/31/2011	2455865.5	2116	214.84	4.53	24.72	32.218	14:20.0	-13.93
11/ 1/2011	2455866.5	2116	201.65	4.43	24.56	32.227	14:23.9	-14.25
11/ 2/2011	2455867.5	2116	188.46	4.32	24.39	32.235	14:27.8	-14.57
11/ 3/2011	2455868.5	2116	175.27	4.22	24.21	32.243	14:31.8	-14.89
11/ 4/2011	2455869.5	2116	162.09	4.12	24.03	32.252	14:35.7	-15.20
11/ 5/2011	2455870.5	2116	148.90	4.01	23.84	32.260	14:39.7	-15.51
11/ 6/2011	2455871.5	2116	135.71	3.91	23.64	32.268	14:43.6	-15.82
11/ 7/2011	2455872.5	2116	122.52	3.80	23.43	32.276	14:47.6	-16.12
11/ 8/2011	2455873.5	2116	109.34	3.69	23.22	32.284	14:51.6	-16.41
11/ 9/2011	2455874.5	2116	96.15	3.58	23.00	32.292	14:55.6	-16.70
11/10/2011	2455875.5	2116	82.96	3.47	22.77	32.299	14:59.6	-16.99
11/11/2011	2455876.5	2116	69.77	3.36	22.53	32.307	15:3.7	-17.27
11/12/2011	2455877.5	2116	56.59	3.25	22.28	32.315	15:7.7	-17.55
11/13/2011	2455878.5	2116	43.46	3.13	22.03	32.322	15:11.8	-17.82
11/14/2011	2455879.5	2116	30.28	3.02	21.77	32.330	15:15.9	-18.08
11/15/2011	2455880.5	2116	17.09	2.90	21.50	32.337	15:20.0	-18.35
11/16/2011	2455881.5	2116	3.91	2.78	21.22	32.344	15:24.1	-18.60
11/17/2011	2455882.5	2117	350.72	2.67	20.94	32.351	15:28.2	-18.85
11/18/2011	2455883.5	2117	337.54	2.55	20.65	32.358	15:32.4	-19.09
11/19/2011	2455884.5	2117	324.35	2.43	20.35	32.365	15:36.5	-19.33
11/20/2011	2455885.5	2117	311.17	2.31	20.05	32.372	15:40.7	-19.57
11/21/2011	2455886.5	2117	297.98	2.19	19.73	32.379	15:44.8	-19.79
11/22/2011	2455887.5	2117	284.80	2.06	19.41	32.385	15:49.0	-20.01
11/23/2011	2455888.5	2117	271.61	1.94	19.09	32.391	15:53.2	-20.23
11/24/2011	2455889.5	2117	258.43	1.82	18.75	32.398	15:57.5	-20.44
11/25/2011	2455890.5	2117	245.25	1.69	18.41	32.404	16:1.7	-20.64
11/26/2011	2455891.5	2117	232.06	1.57	18.07	32.410	16:5.9	-20.84
11/27/2011	2455892.5	2117	218.88	1.44	17.71	32.416	16:10.2	-21.03
11/28/2011	2455893.5	2117	205.70	1.32	17.35	32.422	16:14.5	-21.21
11/29/2011	2455894.5	2117	192.51	1.19	16.99	32.427	16:18.7	-21.39
11/30/2011	2455895.5	2117	179.33	1.07	16.61	32.433	16:23.0	-21.56
12/ 1/2011	2455896.5	2117	166.15	0.94	16.23	32.438	16:27.3	-21.72

12/ 2/2011	2455897.5	2117	152.97	0.81	15.85	32.444	16:31.6	-21.87
12/ 3/2011	2455898.5	2117	139.85	0.69	15.46	32.449	16:36.0	-22.02
12/ 4/2011	2455899.5	2117	126.67	0.56	15.06	32.454	16:40.3	-22.16
12/ 5/2011	2455900.5	2117	113.48	0.43	14.66	32.459	16:44.7	-22.30
12/ 6/2011	2455901.5	2117	100.30	0.30	14.25	32.463	16:49.0	-22.43
12/ 7/2011	2455902.5	2117	87.12	0.18	13.84	32.468	16:53.4	-22.55
12/ 8/2011	2455903.5	2117	73.94	0.05	13.42	32.472	16:57.7	-22.66
12/ 9/2011	2455904.5	2117	60.76	-0.08	13.00	32.476	17:2.1	-22.76
12/10/2011	2455905.5	2117	47.58	-0.21	12.57	32.481	17:6.5	-22.86
12/11/2011	2455906.5	2117	34.40	-0.34	12.14	32.485	17:10.9	-22.95
12/12/2011	2455907.5	2117	21.22	-0.47	11.70	32.488	17:15.3	-23.04
12/13/2011	2455908.5	2117	8.04	-0.59	11.26	32.492	17:19.7	-23.11
12/14/2011	2455909.5	2118	354.86	-0.72	10.82	32.495	17:24.1	-23.18
12/15/2011	2455910.5	2118	341.68	-0.85	10.37	32.499	17:28.5	-23.24
12/16/2011	2455911.5	2118	328.51	-0.98	9.91	32.502	17:33.0	-23.29
12/17/2011	2455912.5	2118	315.33	-1.10	9.46	32.505	17:37.4	-23.34
12/18/2011	2455913.5	2118	302.15	-1.23	9.00	32.508	17:41.8	-23.37
12/19/2011	2455914.5	2118	288.97	-1.36	8.54	32.511	17:46.2	-23.40
12/20/2011	2455915.5	2118	275.79	-1.48	8.07	32.513	17:50.7	-23.42
12/21/2011	2455916.5	2118	262.62	-1.61	7.60	32.516	17:55.1	-23.44
12/22/2011	2455917.5	2118	249.44	-1.73	7.13	32.518	17:59.5	-23.44
12/23/2011	2455918.5	2118	236.32	-1.86	6.66	32.520	18:4.0	-23.44
12/24/2011	2455919.5	2118	223.15	-1.98	6.18	32.522	18:8.4	-23.43
12/25/2011	2455920.5	2118	209.97	-2.10	5.71	32.523	18:12.9	-23.41
12/26/2011	2455921.5	2118	196.80	-2.23	5.23	32.525	18:17.3	-23.39
12/27/2011	2455922.5	2118	183.62	-2.35	4.75	32.526	18:21.7	-23.35
12/28/2011	2455923.5	2118	170.44	-2.47	4.27	32.528	18:26.2	-23.31
12/29/2011	2455924.5	2118	157.27	-2.59	3.78	32.529	18:30.6	-23.26
12/30/2011	2455925.5	2118	144.09	-2.71	3.30	32.529	18:35.0	-23.20
12/31/2011	2455926.5	2118	130.92	-2.83	2.82	32.530	18:39.4	-23.14
1/ 1/2012	2455927.5	2118	117.74	-2.95	2.33	32.531	18:43.9	-23.07
1/ 2/2012	2455928.5	2118	104.57	-3.06	1.85	32.531	18:48.3	-22.99
1/ 3/2012	2455929.5	2118	91.40	-3.18	1.36	32.531	18:52.7	-22.90
1/ 4/2012	2455930.5	2118	78.22	-3.30	0.88	32.531	18:57.1	-22.80
1/ 5/2012	2455931.5	2118	65.05	-3.41	0.39	32.531	19:1.5	-22.70